



Ramsar Information Sheet

Published on 20 January 2016

Update version, previously published on 1 January 2002

Netherlands Veluwerandmeren



Designation date	29 August 2000
Site number	1242
Coordinates	52°25'45"N 5°44'28"E
Area	6 123,50 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 Veluwerandmeren is formed by three lakes situated between the dikes of polder Flevoland (reclaimed 1957) and the main land. All lakes are shallow waters of average 1 m depth to locally 5 meters. The lakes receive drainage water from the Flevopolders and some streams from the main land. The land-water transition zone is relatively underdeveloped due to an unnatural fixed water level.

Besides the extensive open water the lakes have (narrow) reed marshes and scrub vegetation at its shores, mainly at the eastern border. The site has several islands. The site has well developed submerged vegetation, which are an important feeding source for several species of herbivorous water birds.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Compiler 1

Name	Ms. A. Pel-Roest
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2.1.2 - Period of collection of data and information used to compile the RIS

From year	2013
To year	2013

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Veluwerandmeren
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2.1.4 - Changes to the boundaries and area of the Site since its designation or earlier update

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

2.1.5 - Changes to the ecological character of the Site

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

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

The Veluwerandmeren is one of the Ramsar sites in the larger area of the IJsselmeergebied. The ecological system of IJsselmeergebied is changing. Long term monitoring data indicate seven trends (Noordhuis, 2010), which may lead to changes in the ecological system of the IJsselmeergebied and the Ramsar sites concerned. These trends are:

1. Decrease in eutrophication of the water, mainly due to strong decreasing phosphate levels;
2. Improvement of the chemical contamination of the water since the eighties;
3. Increase of submerged vegetation;
4. Continued changes in fish community, though the decrease in fish biomass seems to have stopped;
5. The biomass of the Zebra Mussel (*Dreissena polymorpha*) in the bigger lakes, IJsselmeer, Markermeer and IJmeer decreased, while it increased in the smaller lakes like the Veluwerandmeren. New exotic species may replace former sites of the Zebra mussel.
6. Birds follow the availability of food. Fish eating birds are highly dependent on Smelt, which availability decreased in the bigger lakes IJsselmeer, Markermeer and IJmeer. Mussel eating birds moved from the bigger lakes to the smaller lakes, like the Veluwerandmeren, where the availability of mussels increased. The development of submerged vegetation, especially in the smaller lakes, attracts herbivorous bird species.
7. Reed lands decrease due to the permanent water level. This also has a negative impact on reed breeding birds. Nature development created new habitat for breeding birds like gulls and terns. This new habitat requests intense nature management.

These trends may lead to irreversible (positive?) changes of the natural values and the application of the criteria for the Ramsar sites concerned (see also 3.1 Ramsar Criteria and their justification).

(Update) Is the change in ecological character negative, human-induced AND a significant change (above the limit of acceptable change)	Yes <input type="radio"/>
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2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image

<1 file(s) uploaded>

Boundaries description (optional)

The three Ramsar sites 'Drontermeer', 'Veluwemeer' and 'Wolderwijd en Nuldernaauw' have been designated as one European Natura 2000-site named 'Veluwerandmeren'. A logical step as all three sites are connected and have similar ecosystems.

For this RIS-version, the Ramsar site boundary has therefore been adjusted to the Natura 2000 boundary. This means that all three Ramsar sites are now combined in one site and the name for the Natura 2000 site has been adopted.

Some recreational terrains, harbours, dikes, a sluice complex and farmland have been excluded from the site, while nature development areas to the eastern borders (like in the Drontermeer) have been included within the Ramsar site. In total this new boundary resulted in an increase of +13,8 ha.

2.2.2 - General location

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

The site is located between the provinces of Flevoland, Gelderland and Overijssel.

b) What is the nearest town or population centre?

The city of Harderwijk (population 45.650 per 1-1-2013; source CBS, Netherlands Statistics) is located at the eastern border in the middle of the site.

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): 6123.5

Area, in hectares (ha) as calculated from GIS boundaries 6124.01

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
EU biogeographic regionalization	Atlantic

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 Veluwerandmeren was 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. Please refer to Section 3.4 > Ecological Communities for a list of Habitat types (according to the interpretation manual of EU-Habitat Directive) for which the site has been designated as a SAC.

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

Criterion 5 : >20,000 waterbirds

Overall waterbird numbers:

Start year:

Source of data:











Criterion 6 : >1% waterbird population

Criterion 8 : Fish spawning grounds, etc.

Justification

The site has among others been designated as a SAC for following fish species: Spined Loach *Cobitis taenia* and Bullhead *Cottus gobio* (see criterion 2).

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

Scientific name	Common name	Criterion 2	Criterion 3	Criterion 4	IUCN Red List	CITES Appendix I	Other status	Justification
 <i>Epipactis palustris</i>	Marsh Helleborine	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National Red List - VU	
 <i>Euphorbia palustris</i>	Marsh Spurge	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National Red List - VU	
 <i>Oenanthe lachenalii</i>	Parsley Water dropwort	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National Red List - VU	
 <i>Parnassia palustris</i>	Grass of parnassus	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LC 	<input type="checkbox"/>	National Red List - VU	
 <i>Pedicularis palustris</i>	Marsh Lousewort	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LC 	<input type="checkbox"/>	National Red List - VU	
 <i>Rhizomnium pseudopunctatum</i>	rhizomnium moss	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National Red List - VU	
 <i>Riccardia multifida</i>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National Red List - EN	
 <i>Schoenoplectus lacustris</i>	Sharp Club rush	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National Red List - CR	
















National Red List category (2004)

Criterion 2. species listed under Criterion 2 which do not appear in the table.




Mushrooms:

- *Gyrodon lividus* - National Red List (EN); has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life
- *Tricholoma fulvum* - National Red List (VU); has not yet been assessed for the IUCN Red List, but is in the Catalogue of Life

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

Phylum	Scientific name	Common name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
CHORDATA/AVES	 <i>Acrocephalus arundinaceus</i>	Great Reed Warbler	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>	National Red List - EN		
CHORDATA/AVES	 <i>Anas acuta</i>	Northern Pintail	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	942	2006-2010	1.6	LC 	<input type="checkbox"/>	<input type="checkbox"/>		Criterion 4: The site is of particular importance for many breeding and non-breeding bird species of which several species gather in relatively small areas like resting species during migration and wintering periods. Criterion 6: Biographical population (non-breeding): NW-Europe	
CHORDATA/AVES	 <i>Anas clypeata</i>	Northern Shoveler	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>			
CHORDATA/AVES	 <i>Anas penelope</i>	Eurasian Wigeon	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>			
CHORDATA/AVES	 <i>Anas strepera</i>	Gadwall	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1969	2006-2010	3.3	LC 	<input type="checkbox"/>	<input type="checkbox"/>		Criterion 6: Biographical population (non-breeding): NW-Europe	
CHORDATA/AVES	 <i>Ardea alba</i>	Great Egret	<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"/>	Annex I of the EU Birds Directive	Non-breeding bird	
CHORDATA/AVES	 <i>Aythya ferina</i>	Common Pochard	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	27905	2006-2010	8	LC 	<input type="checkbox"/>	<input type="checkbox"/>		Criterion 6: Biographical population (non-breeding): NW-Europe	
CHORDATA/AVES	 <i>Aythya fuligula</i>	Tufted Duck	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	27872	2006-2010	2.3	LC 	<input type="checkbox"/>	<input type="checkbox"/>		Criterion 6: Biographical population (non-breeding): NW-Europe	

Phylum	Scientific name	Common name	Species qualifies under criterion			Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7								
CHORDATA/AVES	<i>Botaurus stellaris</i>	Great Bittern	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	National Red List - EN ; Annex I of the EU Birds Directive	Breeding bird
CHORDATA/AVES	<i>Bucephala clangula</i>	Common Goldeneye	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>		
CHORDATA/ACTINOPTERYGII	<i>Cobitis taenia</i>	Spined loach	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	National Red List - LC ; Annex II of the EU Habitats Directive	The site has among others been designated as a SAC for following fish species : Spined Loach <i>Cobitis taenia</i> and Bullhead <i>Cottus gobio</i> .
CHORDATA/ACTINOPTERYGII	<i>Cottus gobio</i>	Bullhead	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	National Red List - LC ; Annex II of the EU Habitats Directive	The site has among others been designated as a SAC for following fish species : Spined Loach <i>Cobitis taenia</i> and Bullhead <i>Cottus gobio</i> .
CHORDATA/AVES	<i>Cygnus columbianus bewickii</i>	Bewick's Swan	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1672	2006-2010	8.4		<input type="checkbox"/>	<input type="checkbox"/>	Annex I of the EU Birds Directive	Non-breeding bird Criterion 4: The site is of particular importance for many breeding and non-breeding bird species of which several species gather in relatively small areas like resting species during migration and wintering periods. Criterion 6: Biographical population (non-breeding): W-Siberia / NW-Europe
CHORDATA/AVES	<i>Cygnus olor</i>	Mute Swan	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9448	2006-2010	3.8	LC	<input type="checkbox"/>	<input type="checkbox"/>		Criterion 4: The site is of particular importance for many breeding and non-breeding bird species of which several species gather in relatively small areas like resting species during migration and wintering periods. Criterion 6: Biographical population (non-breeding): NW-Europe
CHORDATA/AVES	<i>Fulica atra</i>	Common Coot	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	48776	2006-2010	2.8	LC	<input type="checkbox"/>	<input type="checkbox"/>		Criterion 4: The site is of particular importance for many breeding and non-breeding bird species of which several species gather in relatively small areas like resting species during migration and wintering periods. Criterion 6: Biographical population (non-breeding): NW-Europe
CHORDATA/AVES	<i>Mergellus albellus</i>	Smew	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	Annex I of the EU Birds Directive	Non-breeding bird
CHORDATA/AVES	<i>Mergus merganser</i>	Common Merganser	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>		
CHORDATA/MAMMALIA	<i>Myotis dasycneme</i>	Pond bat	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				NT	<input type="checkbox"/>	<input type="checkbox"/>	National Red List - LC ; Annex II and IV of the EU Habitats Directive HD	
CHORDATA/AVES	<i>Netta rufina</i>	Red-crested Pochard	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	672	2006-2010	1.3	LC	<input type="checkbox"/>	<input type="checkbox"/>		Criterion 4: The site is of particular importance for many breeding and non-breeding bird species of which several species gather in relatively small areas like resting species during migration and wintering periods. Criterion 6: Biographical population (breeding) based on one count only: NW-Europe
CHORDATA/AVES	<i>Phalacrocorax carbo</i>	Great Cormorant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>		
MOLLUSCA/BIVALVIA	<i>Pisidium amnicum</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"/>	National Red List - VU	
CHORDATA/AVES	<i>Platalea leucorodia</i>	Eurasian Spoonbill	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	Annex I of the EU Birds Directive	Non-breeding bird

Phylum	Scientific name	Common name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
CHORDATA/ AVES	<i>Podiceps cristatus</i>  	Great Crested Grebe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>			

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
Nitellopsidetum obtusae	<input type="checkbox"/>	Plant communities of European interest	
Chara contraria	<input type="checkbox"/>	Plant communities of European interest	
Charetum asperae	<input type="checkbox"/>	Plant communities of European interest	
Lemno-Nitelletum capillaries	<input type="checkbox"/>	Plant communities of European interest	
Ranunculo fluitantis	<input type="checkbox"/>	Plant communities of European interest	
Potametum perfoliati	<input type="checkbox"/>	Plant communities of European interest	
Potametum lucentis	<input type="checkbox"/>	Plant communities of European interest	
Groenlandietum	<input type="checkbox"/>	Plant communities of European interest	
Hard oligo-mesotrophic waters with benthic vegetation of Chara spp	<input type="checkbox"/>	Habitat types for which the site has been designated as a SAC	
Natural eutrophic lakes with Magnopotamion or Hydrocharition – type vegetation	<input type="checkbox"/>	Habitat types for which the site has been designated as a SAC	

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

4.1 - Ecological character

Besides the extensive open water (approx. 92%) the Veluwerandmeren has reed marshes and scrub vegetation at its shores, mainly near the mainland. The lake has as well developed underwater vegetation. These vegetations are an important feeding source for several species of herbivorous water birds.

Plant communities of European interest that occur are:

- Nitellopsidetum obtusae
- Chara contraria
- Charetum asperae
- Lemno-Nitelletum capillaries
- Ranunculo fluitantis
- Potametum perfoliati
- Potametum lucentis
- Groenlandietum

The ecosystem services mainly refer to:

- the opportunities for water recreation.
- the ability to store fresh water (especially i.r.t. climate change).
- the ability for agriculture to take fresh water in (for irrigation or livestock drinking water) or drain it off.

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 > Lakes and pools >> O: Permanent freshwater lakes		1	5634	
Fresh water > Lakes and pools >> Tp: Permanent freshwater marshes/ pools		2	490	

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 (Mld with no dry season, warm summer)

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

The Veluwerandmeren is one of the Ramsar sites in the larger area of the IJsselmeergebied. The ecological system of IJsselmeergebied is changing. Long term monitoring data indicate seven trends (Noordhuis, 2010), which may lead to changes in the ecological system of the IJsselmeergebied and the Ramsar sites concerned.

Please refer to Section 2.1.5 Changes to the ecological character of the Site, for a list of these trends.

4.4.2 - Geomorphic setting

a) Mnimum elevation above sea level (in metres)

a) Maximum elevation above sea level (in metres)

Lower part of river basin

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

The site receives its water from the river Rhine via other lakes and the river IJssel. 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

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	

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

The Veluwerandmeren are border lakes which existed after the completion of the polder dike of Flevoland in 1957. Lake Drontermeer, lake Veluwemeer and lake Wolderwijd en Nuldernaauw form one hydrological unit. The average depth of the lakes are respectively 1,24 meters, 1,55 meters and 1,72 meters, with depths of 4 meters in shipping lanes and 9 meters in sand extraction areas. As in other parts of the IJsselmeergebied the water levels are unnatural, high in summer (NAP -0,05 to -0,10 m) and low in winter (NAP - 0,30 m).

The site receives most of its water from streams and seepage water coming from the Veluwe. In order to counter act eutrophication water from the polder Flevoland is let in, which has a low phosphate concentration.

4.4.5 - Sediment regime

Sediment regime unknown

4.4.6 - Water pH

Unknown

4.4.7 - Water salinity

Unknown

4.4.8 - Dissolved or suspended nutrients in water

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

Unknown

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

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

Surrounding area has 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:

Land use in the immediate surrounding mainly refers to farming and forestry. On a broader scale the Veluwerandmeren belong to the river Rhine-catchment where the general land-use is forestry, pasture farming, arable farming and inproductive land (high mountains).

4.5 - Ecosystem services

4.5.1 - Ecosystem services/benefits

Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Food for humans	Sustenance for humans (e.g., fish, molluscs, grains)	High
Fresh water	Drinking water for humans and/or livestock	Medium
Fresh water	Water for irrigated agriculture	Medium

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	Water sports and activities	Medium
Recreation and tourism	Picnics, outings, touring	Low
Scientific and educational	Educational activities and opportunities	Medium
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	Low

Other ecosystem service(s) not included above:

This lake forms a hydrological buffer between the old land and the lower lying polders. The surrounding land drains on the site. The site has a function in the storage of fresh water, among others for agricultural purposes during periods of drought.

Besides the extensive open water (approx. 92%) the Veluwerandmeren has reed marshes and scrub vegetation at its shores, mainly near the mainland. The lake has as well developed underwater vegetation. These vegetations are an important feeding source for several species of herbivorous water birds.

Current communications, education and public awareness (CEPA) activities include excursions and hikes.

Within the Ramsar Site: Boating 80%, Tourism and leisure 5%, Extractive operations 15%, Commercial fisheries 80%, Shipping traffic 15%, Conservation and research 1%, Water management 100%.

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

<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
Foundation/non-governmental organization/trust	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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:
The site is partly owned by Staatsbosbeheer and Natuurmonumenten, the water is state owned.
- b) in the surrounding area:
The water 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:

Main management authorities:
- Staatsbosbeheer, P.O. Box 1300, 3970 BH Driebergen, the Netherlands, tel. +31 (0)30-6926111.
- Rijkswaterstaat IJsselmeergebied, P.O. Box 600, 8200 AP, Lelystad, tel. +31 (0)320 299 111.
- Natuurmonumenten, P.O. Box 9955, 1243 ZS 's-Graveland, tel. +31 (0)35 655 99 33.

Postal address:

See above

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		<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

Energy production and mining

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

Natural system modifications

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

Pollution

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

Please describe any other threats (optional):

Within the Ramsar site (A = serious threat covering large part of the area; B = moderate threat or local threat; C = minor threat):

- Extraction industry (B - sand);
- Recreation/ tourism (B -);
- Pollution (not Industrial discharge) (B - eutrophication);
- Other: (C - Removal of submerged vegetation (Potamogeton), which causes problems for boating, would negatively affect the site's integrity;
- Extension and deepening of the shipping lane (B);

b) in the surrounding area:

- Construction (B - Increase of recreational capacity of harbours in the region and potential increase of boating).

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	Veluwerandmeren		whole

5.2.3 - IUCN protected areas categories (2008)

IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention

5.2.4 - Key conservation measures

Legal protection

Measures	Status
Legal protection	Implemented

Other:

Nothing particular

5.2.5 - Management planning

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

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

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

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

Current Scientific research and facilities:
see 5.2.7 Monitoring implemented or proposed.

Current recreation and tourism:

The IJsselmeergebied (including the Ketelmeer en Vossemeer) is very important for water recreation and tourism in the Netherlands. Organisations like HISWA (www.hiswa.nl), Watersportverbond (www.watersportverbond.nl), Vereniging voor beroepschartervaart (www.bbz-charter.nl), Sportvisserij Nederland (www.sportvisserijnederland.nl), Stichting Waterrecreatie IJsselmeer en Randmeren (www.stichtingwaterrecreatie.nl) or Stichting Verantwoord Beheer IJsselmeer (www.vbij.nl) all are important stakeholders in the field of recreation and tourism. For details on recreation types and frequency/intensity please see studies on the recreational use of the area (like Waterrecreatie Advies, 2010). In 2012 a formal code of conduct for recreation in the IJsselmeergebied was accepted by the Secretary of State of the Ministry of Economic affairs.

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? Please select a value

5.2.7 - Monitoring implemented or proposed

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

Main research in the Veluwerandmeren is carried out by Rijkswaterstaat IJsselmeergebied from the Ministry of Infrastructure and the Environment and SOVON Vogelonderzoek Nederland, the NGO for bird research in the Netherlands.

Relevant research is also carried out by the Institute for River Research, which is part of the Institute for Hydraulic Engineering (IHE, www.ihe.nl) in Delft, and the Center for Limnology (NIOO-CL, www.nioo.nl) in Nieuwersluis.

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

The number of scientific/technical references is too extended to list here. For a complete list please surf to the publication lists of the research institutes on the internet. For an arbitrary selection see below:

- Hornman, M., Hustings, F., Koffijberg, K., Kleefstra, R., Klaassen, O., van Winden, E., SOVON Ganzen- en Zwanenwerkgroep & L. Soldaat, 2012. Watervogels in Nederland 2009/2010. SOVON-rapport 2012/02, Waterdienst-rapport 12.06. SOVON Vogelonderzoek Nederland, Nijmegen.
- Janssen, John, A.M. & Joop, H.J. Schaminée, 2009. Europese Natuur in Nederland. Zee en kust Natura 2000-gebieden. KNNV-Uitgeverij, 296p.
- Ministerie van LNV, 2009. Aanwijzingsbesluit Natura-2000 gebied Veluwerandmeren.
- Rijkswaterstaat & Deltares, 2010. Noordhuis R. (ed.) Ecosysteem IJsselmeergebied nog altijd in ontwikkeling. Trends en ontwikkelingen in water en natuur van het Natte Hart van Nederland; 421p.
- Roomen, van, M.W.J, Boele A., van der Weide M.J.T., van Winden E.A.J, Zoetebier D. 2000. Belangrijke vogelgebieden in Nederland, 1993-97. Actueel overzicht van Europese vogelwaarden in aangewezen en aan te wijzen speciale beschermingszones en andere belangrijke gebieden. SOVON-informatierapport 2000/01. SOVON Vogelonderzoek Nederland, Beek-Ubbergen.
- Waterrecreatie Advies, 2010. Ontwikkeling watersport IJsselmeergebied 2010. Deelrapportages provincies Flevoland, Fryslân, Gelderland, Noord-Holland en Overijssel. 178p.
- Wetlands International, 2006. Waterbird Population Estimates – Fourth Edition. Wetlands International, Wageningen.

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:



logo Ramsar (logo Ramsar,
02-02-1971)

6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation