



Ramsar Information Sheet

Published on 10 January 2017

Update version, previously published on 1 January 2002

Netherlands

Markermeer & IJmeer



Designation date	29 August 2000
Site number	1245
Coordinates	52°24'54"N 05°07'24"E
Area	68 463,40 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

A stagnant freshwater lake separated from Lake IJsselmeer by the closing of the Houtribdijk in 1976, in the east bordered by the reclaimed polders Oostelijk and Zuidelijk Flevoland (1957, 1968). The water level is kept higher during summer than in winter to provide water for farming. In the east it is adjacent to wetlands like Oostvaardersplassen and Lepelaarsplassen in the reclaimed polder Zuidelijk Flevoland. Submerged water vegetations exist in vast areas. Stoneworth vegetations exist in shallow and sheltered parts, like the Gouwzee. The area is especially important for the protection of 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)	Markermeer & IJmeer
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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 delineated more accurately	<input checked="" type="checkbox"/>
(Update) The boundary has been extended	<input type="checkbox"/>
(Update) The boundary has been restricted	<input type="checkbox"/>
(Update) B. Changes to Site area	the area has increased
(Update) The Site area has been calculated more accurately	<input checked="" type="checkbox"/>
(Update) The Site has been delineated more accurately	<input checked="" type="checkbox"/>
(Update) The Site area has increased because of a boundary extension	<input type="checkbox"/>
(Update) The Site area has decreased because of a boundary restriction	<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?	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) Changes resulting from causes operating beyond the site's boundaries?	<input checked="" type="checkbox"/>
(Update) Changes consequent upon site boundary reduction alone (e.g., the exclusion of some wetland types formerly included within the site)?	<input type="checkbox"/>
(Update) Changes consequent upon site boundary increase alone (e.g., the inclusion of different wetland types in the site)?	<input 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 Markermeer & IJmeer is one of the Ramsar sites in the larger area of the IJsselmeergebied. The ecological system of the 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. 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, 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 14).

(Update) Is the change in ecological character negative, human-induced AND a significant change (above the limit of acceptable change) Yes

2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image

<1 file(s) uploaded>

Boundaries description (optional)

The two Ramsar sites 'Markermeer' and 'IJmeer' have also been designated as one European Natura 2000-site named 'Markermeer & IJmeer'. A logical step as both sites are actually one big site.

For this RIS-version, the Ramsar site boundary has therefore been adjusted to the Natura 2000-boundary, meaning that both Ramsar sites are now combined in one site. The boundary near the residential area IJburg in the southwest of the IJmeer has been delineated more accurately, while some harbours in the northeast of the Markermeer are excluded from the Ramsar site.

In total this new boundary resulted in an increase of 63.4ha.

2.2.2 - General location

a) In which large administrative region does the site lie? Provinces of Flevoland and Noord-Holland

b) What is the nearest town or population centre? south of Enkhuizen (population 18.315 per 1-1-2013), west of Lelystad (population 75.778 per 1-1-2013) and Almere (population 195.213 per 1-1-2013) and northeast of Amsterdam (population 799.278 per 1-1-2013). (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): 68463.4

Area, in hectares (ha) as calculated from GIS boundaries 68473.96

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
EU biogeographic regionalization	Atlantic

Other biogeographic regionalisation scheme

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

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

<no data available>

Criterion 2 : Rare species and threatened ecological communities

Criterion 3 : Biological diversity

Justification

The Markermeer & IJmeer 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 habitat type (Annex I of HD) and SPA for a number of bird species that are not on Annex I of the BD.

Habitat type (according to interpretation manual of EU-Habitat Directive) for which the site has been designated as a SAC:
 - H3140 Hard oligo-mesotrophic waters with benthic vegetation of Chara spp

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 an important function as a spawning, nursery and feeding ground for a range of fish species and it has among others been designated as a SAC for the conservation of 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>Oenanthe lachenalii</i> 	Parsley Water dropwort	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National Red List (2004) - VU	

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

Phylum	Scientific name	Common name	Species qualifies under criterion			Species contributes under criterion			Pop. Size	Period of pop. Est.	% occurrence ¹⁾	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5								
Birds																

Phylum	Scientific name	Common name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
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"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>		
CHORDATA/AVES	 <i>Anas penelope</i>	Eurasian Wigeon	<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"/>	48558	2006-2010	3.2		<input type="checkbox"/>	<input type="checkbox"/>		Non-breeding Biogeographic population: W-Siberia/ NW-NE Europe
CHORDATA/AVES	 <i>Anas strepera</i>	Gadwall	<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"/>					<input type="checkbox"/>	<input type="checkbox"/>		
CHORDATA/AVES	 <i>Anser anser</i>	Greylag Goose	<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"/>		
CHORDATA/AVES	 <i>Aythya ferina</i>	Common Pochard	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	32020	2006-2010	9.1	LC	<input type="checkbox"/>	<input type="checkbox"/>		Criterion 4: See text box below Criterion 6: Non-breeding Biogeographic population: NW-Europe
CHORDATA/AVES	 <i>Aythya fuligula</i>	Tufted Duck	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	46129	2006-2010	3.8	LC	<input type="checkbox"/>	<input type="checkbox"/>		Criterion 4: See text box below Criterion 6: Non-breeding Biogeographic population: South-/West-Europe
CHORDATA/AVES	 <i>Aythya marila</i>	Greater Scaup	<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"/>		
CHORDATA/AVES	 <i>Branta leucopsis</i>	Barnacle Goose	<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"/>	Annex I of the EU Birds Directive	non-breeding
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"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>		
CHORDATA/AVES	 <i>Chlidonias niger</i>	Black Tern	<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"/>	Annex I of the EU Birds Directive	non-breeding
CHORDATA/AVES	 <i>Fulica atra</i>	Eurasian Coot	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18022	2006-2010	1	LC	<input type="checkbox"/>	<input type="checkbox"/>		Criterion 4: See text box below Criterion 6: Non-breeding Biogeographic population: NW-Europe
CHORDATA/AVES	 <i>Hydrocoloeus minutus</i>	Little Gull	<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"/>	Annex I of the EU Birds Directive	non-breeding
CHORDATA/AVES	 <i>Mergellus albellus</i>	Smew	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	504	2006-2010	1.3	LC	<input type="checkbox"/>	<input type="checkbox"/>	Annex I of the EU Birds Directive	non-breeding Biogeographic population: NW/Central-Europe
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"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>		
CHORDATA/AVES	 <i>Netta rufina</i>	Red-crested Pochard	<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"/>		
CHORDATA/AVES	 <i>Phalacrocorax carbo</i>	Great Cormorant	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9959	2006-2010	2.6	LC	<input type="checkbox"/>	<input type="checkbox"/>		Non-breeding Biogeographic population: Northern/ Central Europe
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"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	Annex I of the EU Birds Directive	non-breeding
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"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>		non-breeding
CHORDATA/AVES	 <i>Sterna hirundo</i>	Common Tern	<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 (2004) - VU ; Annex I of the EU Birds Directive	breeding
Fish, Mollusc and Crustacea																		
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 type="checkbox"/>	<input checked="" type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	Annex II of the EU Habitats Directive ; (National Red List (2004) - LC)	

Phylum	Scientific name	Common name	Species qualifies under criterion			Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7								
MOLLUSCA/ GASTROPODA	<i>Lithoglyphus naticoides</i> 		<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 (2004) - VU	
MOLLUSCA/ BIVALVIA	<i>Pisidium amnicum</i> 	Greater European Peaclam	<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 (2004) - VU	
MOLLUSCA/ BIVALVIA	<i>Pisidium hibernicum</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 (2004) - VU	
MOLLUSCA/ GASTROPODA	<i>Theodoxus fluviatilis</i> 		<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 (2004) - VU	
Others																	
CHORDATA/ MAMMALIA	<i>Myotis dasycneme</i> 	Pond Myotis; 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"/>	Annex II and IV of the EU Habitats Directive ; (National Red List (2009) - LC)	

1) Percentage of the total biogeographic population at the site

Justification criterion 4

The site is of particular importance for many breeding and non-breeding bird species (see criterion 2, 3 and 6), of which several species gather in relatively small areas like large resting groups of Common Pochard *Aythya ferina*, Tufted Duck *Aythya fuligula* and Common Coot *Fulica atra* during winter time in the south of the site.

Justification criterion 5

The site regularly supports more than 20,000 wintering waterbirds: the average peak number was 104.696 for the period 2005/2006-2009/2010, which is slightly less than the average peak number of 109.806 for the period 1999/2000-2003/2004 (source: Sovon, Dutch Centre for Field Ornithology).

Justification criterion 6

Compared to the period of 1992-98 (previous updated RIS version) the Smew now also meets the 1% standard, while Gadwell and Greater Scaup do not meet the 1%-standard anymore. The seven trends described under 6b are an important factor in the change of bird populations within the IJsselmeergebied.

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
H3140 - Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp	<input type="checkbox"/>		Annex I of EU Habitats Directive

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

4.1 - Ecological character

The Markermeer & IJmeer is a permanent freshwater lake. Submerged water vegetations exist in vast areas. Stone worth vegetations exist in shallow and sheltered parts, like the Gouwzee. Water birds exist in great numbers especially during winter time.

Plant communities of European interest that occur are:

- Charetum hispidae
- Charetum asperae
- Nitellopsidetum obtusae
- Potametum perfoliati
- Potametum lucentis
- Ranunculo fluitantis

The ecosystem services mainly refer to:

- the wetlands potential 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 to 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	67094	
Fresh water > Marshes on inorganic soils >> Tp: Permanent freshwater marshes/pools		2	1369	

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).

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 lake belongs to the catchment of the river Rhine. 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

Mneral

(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 rainfall	<input type="checkbox"/>	No change
Water inputs from surface water	<input type="checkbox"/>	No change

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

Lake Markermeer & IJmeer were separated from the IJsselmeer by the Houtribdijk in 1975. This dike was built for land reclamation purposes (polder Markerwaard). This plan however has never been carried out. Lake Markermeer and IJmeer are one stagnant freshwater lake. The average depth is 3,9 meters, but in sand extraction areas the depth can be over 30 meters. For agricultural purposes the water level is high in summer (NAP – 0,20) and low in winter (NAP – 0,40 m). Water is supplied by several sources: rain, flow from the lakes Gooimeer and Eemmeer, water inlet for lake IJsselmeer, discharge water from the provinces Flevoland and North-Holland and by the river Vecht. Lake Markermeer drains via Lake IJmeer and the North Sea Channel into the North Sea. Water is also sluiced into lake IJsselmeer. The soil mainly consists of clay. The lake shores concern mainly basalt dikes without vegetation.

4.4.5 - Sediment regime

Sediment regime unknown

4.4.6 - Water pH

Unknown

4.4.7 - Water salinity

Fresh (<0.5 g/l)

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

Unknown

4.4.8 - Dissolved or suspended nutrients in water

Unknown

<no data available>

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)	High
Fresh water	Drinking water for humans and/or livestock	High
Fresh water	Water for irrigated agriculture	High

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Maintenance of hydrological regimes	Storage and delivery of water as part of water supply systems for agriculture and industry	High

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Picnics, outings, touring	High
Recreation and tourism	Water sports and activities	High
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	High

Other ecosystem service(s) not included above:

a) within the Ramsar site:
Boating 100%, Tourism and leisure 100%, Extractive operations 20%, Commercial fisheries 90%, Shipping traffic 20%, Conservation and research 100%, Water management 100%.

Hydrological values:
The surrounding polders (located below sea level) drain into the IJmeer and Markermeer which are discharged into the North Sea Channel (to the North Sea) or to lake IJsselmeer. The site is important for the provision of fresh water during drought or storage of water during wet periods.

b) in the surroundings/catchment:
The Markermeer & IJmeer is situated near the expanding cities of Amsterdam in the west and Almere in the east. Besides the ongoing urbanisation, the main land-use around the lake is still agriculture.
On a broader scale the Markermeer belongs to the river Rhine-catchment where the general land use is forestry, pasture farming, arable farming and inproductive land (high mountains).

Within the site:

Outside the site:

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"/>
Foundation/non-governmental organization/trust	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

a) within the Ramsar site:
Small part of the site is owned by Staatsbosbeheer (3 ha), the water is state owned.

b) in the surrounding area:
The water (IJsselmeer) 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
(1) Rijkswaterstaat IJsselmeergebied
(2) Staatsbosbeheer

Postal address:

(1) P.O. Box 600, 8200 AP, Lelystad, tel. +31 (0)320 299 111.
(2) P.O. Box 1300, 3970 BH Driebergen, the Netherlands, tel. +31 (0)30-6926111.

5.2 - Ecological character threats and responses (Management)

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

Human settlements (non agricultural)

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Housing and urban areas	Medium impact		<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change
Commercial and industrial areas	Medium impact	Low 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
Dredging			<input checked="" type="checkbox"/>		<input type="checkbox"/>	

Transportation and service corridors

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

Biological resource use

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

Please describe any other threats (optional):

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

a) within the Ramsar site:

- Aquaculture/ fisheries (B -);
- Lake Aquaculture/ fisheries (B - entanglement in fish nets);
- Extraction industry (mining) (C - sand);
- Industrialization and urbanization (B - wind turbines and several building plans);
- Infrastructure (C - commuter transport);
- Recreation/ tourism (B - pleasure navigation and increase of cycle paths);
- Pollution (not Industrial discharge) (B - eutrophication);
- Construction (C – Plan to construct islands for the expansion of the city of Almere);
- Recreation/tourism (B- plans to increase the capacity of recreational harbours in the Markermeer).

b) in the surrounding area:

- Construction (B - From 1996 onwards major urbanization activities (IJburg) took place on man-made islands just outside the site boundary close to Amsterdam);
- Disturbance from recreation/tourism (B – recreation in relation to IJburg);
- Construction (C – enlargement of Lelystad Airport).

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	"Markermeer & IJmeer" (SPA and SAC)		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

Other:

The Ramsar site matches 100% with the designation for Natura 2000.
The process for the Natura 2000-management plan has been started.

Other current management practices:
Nothing particular

Conservation measures proposed but not yet implemented:
Plans for a more natural development of the Markermeer & IJmeer (see www.markermeerijmeer.nl) to stimulate the ecological values.

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:

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-habitattypes and species.

Most research and monitoring is carried out by the Institute for Inland Water Management and Waste 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 Hydrolic 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 Markermeer & IJmeer.
- 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

<1 file(s) uploaded>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



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

6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation