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# Information Sheet on Ramsar Wetlands

## (RIS) – 2009-2012 version

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### 1. Name and address of the compiler of this form:

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Designation date

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Site Reference Number

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### 2. Date this sheet was completed/updated:

September 2013

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### 3. Country:

the Netherlands

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### 4. Name of the Ramsar site:

Ketelmeer en Vossemeer

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### 5. Designation of new Ramsar site or update of existing site:

This RIS is for:

- a) Designation of a new Ramsar site ; or  
b) Updated information on an existing Ramsar site

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### 6. For RIS updates only, changes to the site since its designation or earlier update:

#### a) Site boundary and area

The Ramsar site boundary and site area are unchanged:

or

If the site boundary has changed:

- i) the boundary has been delineated more accurately ; or  
ii) the boundary has been extended ; or  
iii) the boundary has been restricted\*\*

and/or

If the site area has changed:

- i) the area has been measured more accurately ; or  
ii) the area has been extended ; or  
iii) the area has been reduced\*\*

**\*\* Important note:** If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

**b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:**

The Ketelmeer en Vossemeer 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, like the Ketelmeer en Vossemeer, 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. For criterion 6 for instance, the site only qualified for one species this period (see 14), while this has been eight species long ago in the period of 70-80's (based on Osieck 1982, Osieck & Braakhekke 1986).

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**7. Map of site:**

**a) A map of the site, with clearly delineated boundaries, is included as:**

- i) a **hard copy** (required for inclusion of site in the Ramsar List):
- ii) an **electronic format** (e.g. a JPEG or ArcView image)
- iii) a **GIS file providing geo-referenced site boundary vectors and attribute tables**

**b) Describe briefly the type of boundary delineation applied:**

Ramsar site Ketelmeer & Vossemeer has also been designated as the European Natura 2000-site Ketelmeer & Vossemeer. For this RIS-version, the Ramsar site boundary has therefore been adjusted to the Natura 2000-boundary.

In total this new boundary resulted in an increase of +1,0 ha.

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**8. Geographical coordinates** (latitude/longitude, in degrees and minutes):

52°36'N - 05°45'E

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## 9. General location:

The Ketelmeer en Vossemeer is located in the Provinces of Overijssel and Flevoland and is part of the municipalities of Dronten, Kampen and Noordoostpolder. Kampen is the nearest larger town within 2 km of the site.

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## 10. Elevation: (in metres: average and/or maximum & minimum)

NAP -5 / -1 m

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## 11. Area:

3842,9 ha

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## 12. General overview of the site:

The area of Ketelmeer and Vossemeer consists of a vast fresh water lake, sand- and mudbanks and marshes. The lakes received its present shape in 1957 after completion of the dikes around Oostelijk Flevoland. Due to its depth extensive water vegetations can only be found in the eastern part, among others reed marshes. In 1997 nature development was carried out in the Vossemeer, while in 2002 a project was started to create a more natural delta of islands and marshes covering some 1000 ha near the mouth of the IJssel river.

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## 13. Ramsar Criteria:

1 • 2 • 3 • 4 • 5 • 6 • 7 8 • 9

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## 14. Justification for the application of each Criterion listed in 13 above:

Criterion 2: The site supports vulnerable and endangered bird and fish species.

Bird species	BD Code	RL Category
Breeding		
- *Bittern <i>Botaurus stellaris</i>	A021	EN
- *Spotted Crake <i>Porzana porzana</i>	A119	VU
- Great Reed Warbler <i>Acrocephalus arundinaceus</i>	A298	EN
Non-breeding		
- *Eurasian Spoonbill <i>Platalea leucorodia</i>		
- *Caspian Tern <i>Sterna caspia</i>		
- *Smew <i>Mergus albellu</i>		
- *Bewick`s Swan <i>Cygnus bewickii</i>		

Fish			
- Barbel <i>Barbus barbus</i>	-	-	EN
- Orfe <i>Leuciscus idus</i>	-	-	NT

Criterion 5: The site regularly supports more than 20,000 wintering waterbirds: the average peak number was 21,426 for the period 2005/2006-2009/2010, which is less than the average peak number of 31,829 for the former period 1999/2000-2003/2004.

Criterion 6: Species meeting the 1% threshold (WPE-4, Wetlands International 2006):

(NB = nonbreeding, BR = breeding period 2006-2010 unless stated otherwise)

Species (UK)	Species	NB / BR	Biographical population	1% threshold	Average number of birds between 2006-2010	% at site
Gadwall	<i>Anas strepera</i>	NB	NW-Europe	600	924	1.5

The Gadwall did not meet the 1% standard in the former period of 1999-2004, when Bewick's Swan (*Cygnus columbianus*) and Tufted Duck (*Aythya fuligula*) did. However these species did not meet the standard anymore in the period of 2005-2010.

## 15. Biogeography

a) **biogeographic region:** Atlantic

b) **biogeographic regionalisation scheme** (include reference citation):  
Biogeographic regions of the EU (developed under council directive 92/43/CEE).

## 16. Physical features of the site:

The Ketelmeer en Vossemeer are so-called border lakes, formed by the building of the dikes of the reclaimed IJsselmeer polders. These lakes form a hydrological buffer between the old land and the lower lying polders. The lake shores concern mainly basalt dikes without vegetation. The average depth of the lake Ketelmeer is 2,9 meters. Lake Vossemeer consists of a channel and a shallow area with a depth less than a meter. The site is connected to the larger lake IJsselmeer and consequently the water levels are managed in summer at -0,20 m and in winter at -0,40 m. The eastern part of the lake has a considerable fluctuation in water level due to the influence of the wind. The soil of the Vossemeer is more sandy than lake Ketelmeer while the water depth, besides the channel, is generally less than 1 m deep.

## 17. Physical features of the catchment area:

The lakes receive their water from the river Rhine via other lakes and the river IJssel. The surface area of the Rhine catchment is 185.000 km<sup>2</sup>. Geologically and geomorphologically it consists mainly of Quarternary, Paleozoic and Mesozoic sediments and Tertiary mountains. The general soil types are: Alluvial, Brown forest soils and montane soils. The climates according to Köppen are rainy (Cbf) and montane (EH).

## 18. Hydrological values:

The Ketelmeer receives most of its water from the river IJssel, but water flows also from lake Zwartee Meer in the north east. Water from lake Drontermeer is discharged into the Vossemeer. The lake forms a hydrological entity with lake IJsselmeer.

## 19. Wetland Types

a) **presence:**

Marine/coastal: A • B • C • D • E • F • G • H • I • J • K • Zk(a)

Inland: L • M • N • **O** • P • Q • R • Sp • Ss • **Tp** • Ts • U • Va •  
Vt • W • Xf • Xp • Y • Zg • Zk(b)

Human-made: 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • Zk(c)

**b) dominance:**

O (80%), Tp (20%).

**20. General ecological features:**

The site consists of a vast fresh water lake (approx. 80%), sand- and mudbanks and marshes. Due to its depth extensive water vegetations can only be found in the eastern part, among others reed marshes. The lakes are especially important for water bird species. Also the Sea Eagle (*Haliaeetus albicilla*) which is breeding in the surroundings, can often be observed foraging at the site.

A plant community of European interest that occurs is: *Ranunculo fluitantis-Potametum perfoliati*

The ecosystem services mainly refer to: the opportunities for shipping and water recreation and the collection and retention of fresh water for agricultural purposes a.o.

**21. Noteworthy flora:**

Fields of Longleaf pondweed *Potamogeton nodosus*.

**22. Noteworthy fauna:**

A selection of species of the National Red List (RL) that occur in the site Ketelmeer & Vossemeer.

Species(group)	HD Code	HD Annex	RL Category
Fish			
- Barbel <i>Barbus barbus</i>	-	-	EN
- Orfe <i>Leuciscus idus</i>	-	-	NT

Species of the European Bird Directive (BD) for which the site Ketelmeer & Vossemeer has been designated as a Natura 2000-site and their status on the National Red List (RL). Species marked with an \* are protected under Annex I.

Bird species	BD Code	RL Category
Breeding		
- *Bittern <i>Botaurus stellaris</i>	A021	EN
- *Spotted Crake <i>Porzana porzana</i>	A119	VU
- Great Reed Warbler <i>Acrocephalus arundinaceus</i>	A298	EN
Non-breeding		
- Great Crested Grebe <i>Podiceps cristatus</i>	A005	N/A
- Great Cormorant <i>Phalacrocorax carbo</i>	A017	N/A
- *Eurasian Spoonbill <i>Platalea leucorodia</i>	A034	N/A
- *Bewick's Swan <i>Cygnus bewickii</i>	A037	N/A
- Bean Goose <i>Anser fabalis rossicus</i>	A039	N/A
- White-fronted Goose <i>Anser albifrons</i>	A041	N/A
- Greylag Goose <i>Anser anser</i>	A043	N/A
- Gadwall <i>Anas strepera</i>	A051	N/A
- Common Teal <i>Anas crecca</i>	A052	N/A
- Northern Pintail <i>Anas acuta</i>	A054	N/A
- Common Pochard <i>Aythya ferina</i>	A059	N/A
- Tufted Duck <i>Aythya fuligula</i>	A061	N/A
- *Smew <i>Mergus albellu</i>	A068	N/A
- Common Merganser <i>Mergus merganser</i>	A070	N/A
- Osprey <i>Pandion haliaetus</i>	A094	N/A

- Common Coot <i>Fulica atra</i>	A125	N/A
- Black-tailed Godwit <i>Limosa limosa</i>	A156	N/A
- *Caspian Tern <i>Sterna caspia</i>	A190	N/A

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### 23. Social and cultural values:

**a) Describe if the site has any general social and/or cultural values e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values:** See 25. Current land use.

**b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning? No**

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### 24. Land tenure/ownership:

**a) within the Ramsar site:**

Part of the site is owned by Staatsbosbeheer (88 ha), the water is state owned.

**b) in the surrounding area:**

The water (IJsselmeer, Zwarte Meer, Drontermeer) is state owned, while on land there are several private owners.

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### 25. Current land (including water) use:

**a) within the Ramsar site:**

Boating 90%, extractive operations 10%, commercial (small scale) fisheries 90%, shipping traffic 10%, water management 100%.

**b) in the surroundings/catchment:**

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

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### 26. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

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

- Aquaculture/ fisheries (B - );
- Recreation/ tourism (B - pleasure navigation);
- Selective logging/ cutting (B - reed cutting eastern foreshore);
- Pollution (not Industrial discharge) (B - eutrophication);
- Construction of a sludge-depot (B).

**b) in the surrounding area:**

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

## 27. Conservation measures taken:

### a) List national and/or international category and legal status of protected areas, including boundary relationships with the Ramsar site:

- Special Protection Area (Birds Directive 79/409/EEC, 2000)
- Natura 2000-site

### b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site:

Ia ; Ib ; II ; III ; IV ; V ; VI

### c) Does an officially approved management plan exist; and is it being implemented?:

The Ramsar site matches 100% with the designation for Natura 2000.

The process for the Natura 2000-management plan has been started.

### d) Describe any other current management practices: Nothing particular

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## 28. Conservation measures proposed but not yet implemented:

Boat fishing and canoeing have a significant impact on the nature conservation goals. Negotiations are pending on zoning measures (closure of part of the site) for these recreation types.

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## 29. Current scientific research and facilities:

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

Main research in the Ketelmeer en Vossemeer 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](http://www.ihe.nl)) in Delft, and the Center for Limnology (NIOO-CL, [www.nioo.nl](http://www.nioo.nl)) in Nieuwersluis.

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## 30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:

There is a bird observation hide within the site.

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## 31. 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](http://www.hiswa.nl)), Watersportverbond ([www.watersportverbond.nl](http://www.watersportverbond.nl)), Vereniging voor beroepschartervaart ([www.bbz-charter.nl](http://www.bbz-charter.nl)), Sportvisserij Nederland ([www.sportvisserijnederland.nl](http://www.sportvisserijnederland.nl)), Stichting Waterrecreatie IJsselmeer en Randmeren ([www.stichtingwaterrecreatie.nl](http://www.stichtingwaterrecreatie.nl)) or Stichting Verantwoord Beheer IJsselmeer ([www.vbij.nl](http://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, Agriculture and Innovation.

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## 32. Jurisdiction:

Territorial: Municipalities of Noordoostpolder, Kampen, Dronten; Functional jurisdiction (conservation purposes): Ministry of Economic Affairs, Agriculture and Innovation.

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### 33. Management authority:

Main management authorities:

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

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### 34. 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 Ketelmeer en Vossemeer.
- 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.
- Osieck, E.R., 1982. Belangrijke watervogelgebieden in Nederland. Limosa 55: 43-44.
- Osieck, E.R., Braakhekke W.G., 1986. Aanvullingen en verbeteringen op de lijst van belangrijke waterrijke vogelgebieden in Nederland. Limosa 59: 75-81.
- 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.

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