



# Ramsar Information Sheet

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Update version, previously published on : 15 December 2014

## Netherlands

### Krammer-Volkerak



Designation date	4 September 1995
Site number	747
Coordinates	51°36'10"N 04°13'47"E
Area	6 159,00 ha

## Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

## 1 - Summary

### Summary

The Ramsar site Krammer-Volkerak measures 6159 ha hectares. The Volkerak lake in its present form is a "closed inlet" in which many of the characteristics of the former intertidal area "Krammer-Volkerak" have been preserved (deep central channel with steep embankments and connecting shallows with less steep embankments and dry flats). The site (6159 ha) now forms a single water body with the Eendracht and the Ramsar site Zoommeer (approximately 2000 ha). Within a few months the water became fresh and the level was fixed at 0 cm NAP (New Amsterdam Level). As a result, approximately 1775 ha of the former intertidal area became permanently dry. Bank erosion due to the fixed level was stopped by the construction of foreshores, and in the period 1989-99 some forty islands were created, with a total surface area of approximately 80 ha. The site no longer receives substantial amounts of water from the Hollandsch Diep Ramsar site, but from the Brabant rivers Mark and Dintel.

The succession of the vegetation is still ongoing and due to the slowness of the desalination of the soil, the role of saline pioneer species is still significant in some flat areas. Developments in breeding and migratory birds such as geese are highly reflective of vegetation succession, with a temporary emergence of pioneers such as bare ground breeders (plovers, terns) and grass and seed eaters. The developments in the water are strongly driven by high and increasing nutrient contents (with accompanying fish).

Main ecosystem service is the opportunity of the (non-tidal) area for shipping on the route from Antwerp (Belgium) to Rotterdam (NL), the two main ports in the region. Besides there are opportunities for (water) recreation and the ability for agriculture to take fresh water in (for irrigation or livestock drinking water) or drain it off.

## 2 - Data & location

### 2.1 - Formal data

#### 2.1.1 - Name and address of the compiler of this RIS

##### Responsible compiler

Institution/agency	Wageningen Environmental Research
Postal address	PO Box 47 6700 AA Wageningen The Netherlands

##### National Ramsar Administrative Authority

Institution/agency	Ministry of Agriculture Nature and Food Quality
Postal address	Bezuidenhoutseweg 73 P.O. Box 20401 2500 EK The Hague The Netherlands

#### 2.1.2 - Period of collection of data and information used to compile the RIS

From year	2015
To year	2020

#### 2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Krammer-Volkerak
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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 type="radio"/> No <input checked="" type="radio"/>
(Update) B. Changes to Site area	No change to area
(Update) For secretariat only: This update is an extension	<input type="checkbox"/>

#### 2.1.5 - Changes to the ecological character of the Site

(Update) 6b i. Has the ecological character of the Ramsar Site (including applicable Criteria) changed since the previous RIS?	No
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## 2.2 - Site location

### 2.2.1 - Defining the Site boundaries

b) Digital map/image  
<1 file(s) uploaded>

Former maps	0
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##### Boundaries description

The boundary of the Ramsar site is equal to the Natura 2000-site with the same name. In 2014 the Site boundary was delineated more accurately and aligned with the Natura 2000 boundary, reducing the area by 219 hectares.
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### 2.2.2 - General location

a) In which large administrative region does the site lie?	Zeeland, Noord-Brabant, Zuid-Holland
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b) What is the nearest town or population centre?	Several villages, especially within the municipality of Steenbergem with a population of 24.310 in 2021 (Source: CBS, Netherlands Statistics).
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### 2.2.3 - For wetlands on national boundaries only

RIS for Site no. 747, Krammer-Volkerak, Netherlands

a) Does the wetland extend onto the territory of one or more other countries? Yes  No

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

2.2.4 - Area of the Site

Official area, in hectares (ha):

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

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
EU biogeographic regionalization	Atlantic

Other biogeographic regionalisation scheme

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

### 3 - Why is the Site important?

#### 3.1 - Ramsar Criteria and their justification

<no data available>

Criterion 2 : Rare species and threatened ecological communities

Criterion 3 : Biological diversity

Justification

The Krammer-Volkerak is designated as a Natura 2000 site (both SAC and SPA) and can therefore be considered important for maintaining the biodiversity of the Atlantic biogeographic region. Besides the species mentioned under criterion 2, the site has also been designated as a SAC for a range of habitat types (Annex I of Habitats Directive, see section 3.4) and SPA for a number of bird species that are not on Annex I of the BD.

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

Optional text box to provide further information

The Ramsar site is also part of the Natura 2000 network in the European Union. It is designated as a Special Protection Area (SPA) for the functions that it provides to specific breeding and non-breeding bird species (e.g. migratory, hibernating, sleeping, resting, foraging). The site is also designated as a Special Area of Conservation (SAC) for specific non-bird species (and habitat types, see section 3.4).

For detailed information please see Natura 2000 data sheet:  
<https://natura2000.eea.europa.eu/Natura2000/SDF.aspx?site=NL1000021>  
<https://www.natura2000.nl/gebieden/zeeland/krammer-volkerak>

Criterion 5 : >20,000 waterbirds

Overall waterbird numbers

80,405

Start year

2015

End year

2020

Source of data:

Sovon, Dutch Centre for Field Ornithology

Optional text box to provide further information

Start season 2015/2016. End season 2019/2020. Peak numbers for all five seasons > 20,000. Average 80,405 individuals.

Criterion 6 : >1% waterbird population

Optional text box to provide further information

The 1% waterbird population thresholds are based on the 7th Edition of the Conservation Status Report (CSR7).

Criterion 8 : Fish spawning grounds, etc.

Justification

The site is also designated as a Special Area of Conservation (SAC) for fish species and is part of the Natura 2000 network within the European Union.

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

Phylum	Scientific name	Criterion 2	Criterion 3	Criterion 4	IUCN Red List	CITES Appendix I	Other status	Justification
<b>Plantae</b>								
TRACHEOPHYTA/ LILIOPSIDA	<i>Dactylorhiza incarnata</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National RL category: VU	
TRACHEOPHYTA/ LILIOPSIDA	<i>Epipactis palustris</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>	National RL category: VU	
TRACHEOPHYTA/ MAGNOLIOPSIDA	<i>Oenanthe lachenalii</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	National RL category: VU	

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

Phylum	Scientific name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
		2	4	6	9	3	5	7	8								
<b>Others</b>																	
CHORDATA/ MAMMALIA	<i>Microtus oeconomus</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	Microtus oeconomus ssp. arenicola	The site is also designated as a Special Area of Conservation (SAC) for this species and is part of the Natura 2000 network within the European Union.
<b>Fish, Mollusc and Crustacea</b>																	
MOLLUSCA/ GASTROPODA	<i>Assiminea grayana</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	National red list species	
CHORDATA/ ACTINOPTERYGII	<i>Cobitis taenia</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>		The site is also designated as a Special Area of Conservation (SAC) for this species and is part of the Natura 2000 network within the European Union.
<b>Birds</b>																	
CHORDATA/ AVES	<i>Anas acuta</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1246	2015/16-2019/20	2.1	LC	<input type="checkbox"/>	<input type="checkbox"/>	National red list species	Reference population: North-west Europe. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	<i>Anas clypeata</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4995	2015/16-2019/20	7.7	LC	<input type="checkbox"/>	<input type="checkbox"/>	National red list species	Reference population: North-west & Central Europe (win). The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	<i>Anas crecca</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1559	2015/16-2019/20	0.3	LC	<input type="checkbox"/>	<input type="checkbox"/>	National red list species	Reference population: crecca, North-west Europe. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	<i>Anas penelope</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4041	2015/16-2019/20	0.3	LC	<input type="checkbox"/>	<input type="checkbox"/>	National red list species	Reference population: Western Siberia & NE Europe/NW Europe. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	<i>Anas strepera</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7019	2015/16-2019/20	5.8	LC	<input type="checkbox"/>	<input type="checkbox"/>		Reference population: strepera, North-west Europe. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.

Phylum	Scientific name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
		2	4	6	9	3	5	7	8								
CHORDATA/AVES	<i>Anser anser</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10209	2016/17-2019/20	1.1	LC	<input type="checkbox"/>	<input type="checkbox"/>		Reference population: anser, NW Europe/South-west Europe. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/AVES	<i>Anser serrirostris</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	313	2015/16-2019/20	0.1		<input type="checkbox"/>	<input type="checkbox"/>		Reference population: rossicus, West & Central Siberia/NE & SW Europe.
CHORDATA/AVES	<i>Ardea alba</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	135	2015/16-2019/20	0.2	LC	<input type="checkbox"/>	<input type="checkbox"/>	National red list species	Reference population: alba, W, C & SE Europe/Black Sea & Mediterranean.
CHORDATA/AVES	<i>Aythya ferina</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4022	2015/16-2019/20	2	VU	<input type="checkbox"/>	<input type="checkbox"/>		Reference population: North-east Europe/North-west Europe. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/AVES	<i>Aythya fuligula</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18739	2015/16-2019/20	2.1	LC	<input type="checkbox"/>	<input type="checkbox"/>		Reference population: North-west Europe (win). The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/AVES	<i>Branta bernicla</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9759	2015/16-2019/20	0.8	LC	<input type="checkbox"/>	<input type="checkbox"/>		Reference population: bernicla, Western Siberia/Western Europe. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/AVES	<i>Branta leucopsis</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	485	2015/16-2019/20	0.2	LC	<input type="checkbox"/>	<input type="checkbox"/>		Reference population: Russia/Germany & Netherlands. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/AVES	<i>Bucephala clangula</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1689	2015/16-2019/20	0.1	LC	<input type="checkbox"/>	<input type="checkbox"/>	National red list species	Reference population: clangula, North-west & Central Europe (win). The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/AVES	<i>Charadrius alexandrinus</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4	2015/16-2019/20	0	LC	<input type="checkbox"/>	<input type="checkbox"/>	National red list species	Reference population: alexandrinus, West Europe & West Mediterranean/West Africa. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/AVES	<i>Charadrius hiaticula</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	38	2015/16-2019/20	0	LC	<input type="checkbox"/>	<input type="checkbox"/>	National red list species	Reference population: psammodromus, Canada, Greenland & Iceland/W & S Africa. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/AVES	<i>Circus aeruginosus</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	Annex I of the European Bird Directive	The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/AVES	<i>Cygnus columbianus bewickii</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	135	2015/16-2019/20	0.6		<input type="checkbox"/>	<input type="checkbox"/>		Reference population: bewickii, Western Siberia & NE Europe/North-west Europe. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/AVES	<i>Cygnus olor</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4098	2015/16-2019/20	2	LC	<input type="checkbox"/>	<input type="checkbox"/>		Reference population: North-west Mainland & Central Europe. Data by SOVON, Centre for Field Ornithology. Data for five seasons are available, all of which qualify for the 1% criterium.

Phylum	Scientific name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
		2	4	6	9	3	5	7	8								
CHORDATA/AVES	<i>Falco peregrinus</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	National red list species	The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/AVES	<i>Fulica atra</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25150	2015/16-2019/20	1.6	LC	<input type="checkbox"/>	<input type="checkbox"/>		Reference population: atra, North-west Europe (win). The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/AVES	<i>Ichthyaetus melanocephalus</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	90	2015/16-2019/20	0		<input type="checkbox"/>	<input type="checkbox"/>		Reference population: W Europe, Mediterranean & NW Africa. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/AVES	<i>Larus argentatus</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	852	2015/16-2019/20	0.1	LC	<input type="checkbox"/>	<input type="checkbox"/>		Reference population: argentatus, North & North-west Europe.
CHORDATA/AVES	<i>Larus fuscus</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2295	2015/16-2019/20	0.4	LC	<input type="checkbox"/>	<input type="checkbox"/>		Reference population: intermedius, S Scandinavia, Netherlands, Ebro Delta, Spain.
CHORDATA/AVES	<i>Limosa limosa</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	60	2015/16-2019/20	0.1	NT	<input type="checkbox"/>	<input type="checkbox"/>	National red list species	Reference population: limosa, Western Europe/NW & West Africa. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/AVES	<i>Mergus serrator</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	633	2015/16-2019/20	0.7	LC	<input type="checkbox"/>	<input type="checkbox"/>	National red list species	Reference population: North-west & Central Europe (win). The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/AVES	<i>Pandion haliaetus</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>		The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/AVES	<i>Phalacrocorax carbo</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5188	2015/16-2019/20	0.8	LC	<input type="checkbox"/>	<input type="checkbox"/>		Reference population: sinensis, Northern & Central Europe. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/AVES	<i>Platalea leucorodia</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	318	2015/16-2019/20	2	LC	<input type="checkbox"/>	<input type="checkbox"/>		Reference population: leucorodia, West Europe/West Mediterranean & West Africa. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/AVES	<i>Pluvialis apricaria</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	641	2015/16-2019/20	0.1	LC	<input type="checkbox"/>	<input type="checkbox"/>	National red list species	Reference population: altifrons, Northern Europe/Western Europe & NW Africa.
CHORDATA/AVES	<i>Podiceps auritus</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8	2015-16-2019/20	0	VU	<input type="checkbox"/>	<input type="checkbox"/>		Reference population: auritus, North-east Europe (small-billed). The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/AVES	<i>Podiceps cristatus</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5119	2015/16/2019/20	0.8	LC	<input type="checkbox"/>	<input type="checkbox"/>		Reference population: cristatus, North-west & Western Europe. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/AVES	<i>Podiceps nigricollis</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	599	2015/16-2019/20	0.3	LC	<input type="checkbox"/>	<input type="checkbox"/>		Reference population: nigricollis, Europe/South & West Europe & North Africa.



Phylum	Scientific name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
		2	4	6	9	3	5	7	8								
CHORDATA/ AVES	<i>Recurvirostra avosetta</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	428	2015/16-2019/20	0.5	LC	<input type="checkbox"/>	<input type="checkbox"/>		Reference population: Western Europe & North-west Africa (bre). The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	<i>Sterna hirundo</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	341	2015/16-2019/20	0	LC	<input type="checkbox"/>	<input type="checkbox"/>	National red list species	Reference population: hirundo, Northern & Eastern Europe (bre). The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	<i>Sternula albifrons</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4	2015/16-2019/20	0	LC	<input type="checkbox"/>	<input type="checkbox"/>	National red list species	Reference population: albifrons, Europe north of Mediterranean (bre). The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	<i>Tadorna tadorna</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1637	2015/16-2019/20	0.7	LC	<input type="checkbox"/>	<input type="checkbox"/>		Reference population: North-west Europe. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	<i>Tringa totanus robusta</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	79	2015/16-2019/20	0		<input type="checkbox"/>	<input type="checkbox"/>	National red list species	Reference population: robusta, Iceland & Faroes/Western Europe. The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.
CHORDATA/ AVES	<i>Tringa totanus totanus</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	66	2015/16-2019/20	0		<input type="checkbox"/>	<input type="checkbox"/>	National red list species	Reference population: totanus, Northern Europe (breeding). The site is also designated as a Special Protection Area (SPA) for this species and is part of the Natura 2000 network within the European Union.

1) Percentage of the total biogeographic population at the site

Bird data are provided by SOVON, Dutch Centre for Field Ornithology.

The 1% waterbird population thresholds are based on the 7th Edition of the Conservation Status Report (CSR7).

### 3.4 - Ecological communities whose presence relates to the international importance of the site

Name of ecological community	Community qualifies under Criterion 2?	Description	Justification
Lowland hay meadows ( <i>Alopecurus pratensis</i> , <i>Sanguisorba officinalis</i> )	<input type="checkbox"/>		The site is also designated as a Special Area of Conservation (SAC) for this habitat type and is part of the Natura 2000 network within the European Union.
Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	<input type="checkbox"/>		The site is also designated as a Special Area of Conservation (SAC) for this habitat type and is part of the Natura 2000 network within the European Union.
Humid dune slacks	<input type="checkbox"/>		The site is also designated as a Special Area of Conservation (SAC) for this habitat type and is part of the Natura 2000 network within the European Union.
Dunes with <i>Salix repens</i> ssp. <i>argentea</i> ( <i>Salicion arenariae</i> )	<input type="checkbox"/>		The site is also designated as a Special Area of Conservation (SAC) for this habitat type and is part of the Natura 2000 network within the European Union.
Dunes with <i>Hippophae rhamnoides</i>	<input type="checkbox"/>		The site is also designated as a Special Area of Conservation (SAC) for this habitat type and is part of the Natura 2000 network within the European Union.
Atlantic salt meadows ( <i>Glaucopuccinellietalia maritimae</i> )	<input type="checkbox"/>		The site is also designated as a Special Area of Conservation (SAC) for this habitat type and is part of the Natura 2000 network within the European Union.
<i>Salicornia</i> and other annuals colonizing mud and sand	<input type="checkbox"/>		The site is also designated as a Special Area of Conservation (SAC) for this habitat type and is part of the Natura 2000 network within the European Union.

[Optional text box to provide further information](#)

The site is also designated as a Special Area of Conservation (SAC) for the habitat types listed above and is part of the Natura 2000 network within the European Union.

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

### 4.1 - Ecological character

A former tidal estuary of the Rhine/Maas river system, but nowadays a 20-km long stagnant freshwater lake, including some islets. After the closing off from the sea the salty tidal environment changed into a freshwater environment without tidal influences. The lowest parts are permanently under water, the higher parts are permanently dry. However in the Volkerakmeer many of the characteristics of the former tidal estuary are still present, such as the deep central channel with steep slopes and adjacent shallow waters with less steep slopes and shallow submerged sand and mud flats.

The changes in the abiotic environment have led to big changes in ecological communities. The original vegetations in the water have disappeared. On land, the vegetation succession is still ongoing and despite the slow process of desalination, large parts of the shores of the lake are now devoid of salinity and the plant communities of saline conditions are ever decreasing.

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

Area of great importance for breeding and migrating birds. Furthermore it is an important breeding area for birds of scarcely covered sand flats and scarcely covered banks with adjacent shallow waters. These habitats are also important for gulls and terns.

### 4.2 - What wetland type(s) are in the site?

#### Marine or coastal wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
H: Intertidal marshes		2	678	

#### 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	4620	
Fresh water > Lakes and pools >> Tp: Permanent freshwater marshes/pools		3	554	
Fresh water > Marshes on peat soils >> Xp: Permanent Forested peatlands		4	308	

### 4.3 - Biological components

#### 4.3.1 - Plant species

<no data available>

#### 4.3.2 - Animal species

<no data available>

### 4.4 - Physical components

#### 4.4.1 - Climate

Climatic region	Subregion
C: Moist Mid-Latitude climate with mild winters	Cfb: Marine west coast (Mild with no dry season, warm summer)

The climate according to Köppen is rainy (Cbf).

#### 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.

Except for periods of drought, the Volkerakmeer no longer receives substantial amounts of water from the Hollands Diep. Most of the water now comes from small rivers from Noord-Brabant (Mark and Dintel).

#### 4.4.3 - Soil

Mineral

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

Organic

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

No available information

Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes  No

Please provide further information on the soil (optional)

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

#### 4.4.4 - Water regime

Water permanence

Presence?	Changes at RIS update
Usually permanent water present	

Source of water that maintains character of the site

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

Water destination

Presence?	Changes at RIS update
Marine	No change

Stability of water regime

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

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

As a result the area changed from a saltwater and tidal estuary into a freshwater lake with a more or less stable water table. The water level fluctuates with rain, river discharges and evaporation between NAP - 0,10 m in summer and NAP + 0,15 m in winter. The maximum depth of the site is 24 m. The morphology of the site still has the typical characteristic of a tidal system.

#### 4.4.5 - Sediment regime

Sediment regime unknown

Please provide further information on sediment (optional):

The erosion of the shores, a result of the fixed water table, was stopped by the creation of foreshore protection structures ("vooroevers") and in 1989-99 some forty islands were constructed, with a total surface of around 80 ha.

#### 4.4.6 - Water pH

Unknown

Please provide further information on pH (optional):

Probably no change although the pH of the water was not exactly known at the time of completing this database.

#### 4.4.7 - Water salinity

Fresh (<0.5 g/l)

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

Unknown

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

Eutrophic

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

Unknown

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

The water quality is improving although the dissolved or suspended nutrients in water were not exactly known at the time of completing this database.

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

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

Surrounding area has greater urbanisation or development

Surrounding area has higher human population density

Surrounding area has more intensive agricultural use

Surrounding area has significantly different land cover or habitat types

### 4.5 - Ecosystem services

#### 4.5.1 - Ecosystem services/benefits

##### Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Food for humans	Sustenance for humans (e.g., fish, molluscs, grains)	Medium

##### Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Maintenance of hydrological regimes	Groundwater recharge and discharge	
Hazard reduction	Flood control, flood storage	Medium

##### Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Nature observation and nature-based tourism	Medium
Recreation and tourism	Water sports and activities	Medium
Recreation and tourism	Picnics, outings, touring	Medium
Recreation and tourism	Recreational hunting and fishing	Medium
Scientific and educational	Major scientific study site	Medium
Scientific and educational	Educational activities and opportunities	Medium
Scientific and educational	Long-term monitoring site	High

##### Supporting Services

Ecosystem service	Examples	Importance/Extent/Significance
Biodiversity	Supports a variety of all life forms including plants, animals and microorganisms, the genes they contain, and the ecosystems of which they form a part	High

Other ecosystem service(s) not included above:

Main ecosystem service is the opportunity of the (non-tidal) area for shipping on the route from Antwerp (Belgium) to Rotterdam (NL), the two main ports in the region.

Commercial fisheries 35 - 65%, Angling 5 - 35%, Shipping traffic 5 - 35%, Nautical sports 35 - 65%, Water management >95%.

Excursions and hikes

Ongoing biodiversity monitoring is one of the obligatory activities in relation to the designated Natura 2000-habitat types and/or species. SOVON, the Dutch Bird Research Organisation, coordinates for instance a continues national bird monitoring program in which it cooperates with 7000 volunteers, research institutes and organisations in the monitoring of birds throughout the Netherlands (among which the Krammer-Volkerak).

Rijkswaterstaat ([www.rws.nl](http://www.rws.nl)) and Deltares ([www.deltares.nl](http://www.deltares.nl)) are the main institutes doing research within the Krammer-Volkerak.

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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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

##### within the Ramsar site:

The site is partly owned by Staatsbosbeheer (3050 ha), Natuurmonumenten (702 ha) and Zeeuws Landschap (600 ha). The remainder is state (Dienst der Domeinen, Ministerie van Financiën) and private ownership.

##### in the surrounding area:

Surrounding area: the water (Grevelingen, Haringvliet, Hollands Diep) 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 (Ministry of Infrastructure and Environment)
2. Staatsbosbeheer, see: <https://www.staatsbosbeheer.nl/Natuurgebieden/krammer-volkerak>
3. Natuurmonumenten, see: <https://www.natuurmonumenten.nl/natuurgebieden/dintelse-gorzen>
4. Het Zeeuwse Landschap, see: <https://www.hetzeeuwselandschap.nl/natuurgebieden/plaat-van-de-vliet>

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

See websites mentioned above.

Postal address:

1. Rijkswaterstaat Dienst Zeeland, PO Box 5014, 4330 KA Middelburg, the Netherlands, +31 (0)118 672200.
2. Staatsbosbeheer head office, P.O. Box 2, 3800 AA Amersfoort, the Netherlands, tel. +31 (0)30-6926111
3. Natuurmonumenten head office, P.O. Box 2166, 3800 CD Amersfoort, the Netherlands, tel. +31 (0)33 47 97 000
4. Zeeuws Landschap: P.O. Box 25, 4450 AA Heinkenszand, tel. +31 (0)113-569110

E-mail address:

[info@staatsbosbeheer.nl](mailto:info@staatsbosbeheer.nl)

## 5.2 - Ecological character threats and responses (Management)

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

#### 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	Low impact	<input checked="" type="checkbox"/>	No change	<input checked="" 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	Low impact	Low impact	<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

#### Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Recreational and tourism activities	Medium impact	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
Agricultural and forestry effluents	High impact	High impact	<input checked="" type="checkbox"/>	No change	<input checked="" type="checkbox"/>	No change

### 5.2.2 - Legal conservation status

#### Regional (international) legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
EU Natura 2000	Krammer-Volkerak	<a href="https://www.natura2000.nl/gebied/en/zeeland/krammer-volkerak">https://www.natura2000.nl/gebied/en/zeeland/krammer-volkerak</a>	whole

#### National legal designations

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

#### Non-statutory designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Important Bird Area	Krammer-Volkerak	<a href="http://datazone.birdlife.org/site/factsheet/1204">http://datazone.birdlife.org/site/factsheet/1204</a>	whole
Other non-statutory designation	KBA Krammer-Volkerak	<a href="http://www.keybiodiversityareas.org/site/factsheet/1204">http://www.keybiodiversityareas.org/site/factsheet/1204</a>	whole

### 5.2.3 - IUCN protected areas categories (2008)

- Ia Strict Nature Reserve
- Ib Wilderness Area: protected area managed mainly for wilderness protection
- II National Park: protected area managed mainly for ecosystem protection and recreation
- III Natural Monument: protected area managed mainly for conservation of specific natural features
- IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention
- V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation
- VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems

### 5.2.4 - Key conservation measures

#### Legal protection

Measures	Status
Legal protection	Implemented

#### Habitat

Measures	Status
Habitat manipulation/enhancement	Implemented

#### Species

Measures	Status
Threatened/rare species management programmes	Implemented

#### Human Activities

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

### 5.2.5 - Management planning

Is there a site-specific management plan for the site? 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:

<https://www.bij12.nl/onderwerpen/natuur-en-landschap/natura-2000-beheerplanner/114-krammer-volkerak/>

The planning period of the Natura 2000 management plan will be six years. Before the end of the term of the management plan, an integral evaluation will follow on the basis of monitoring, which provides information for the next management plan.

URL of site-related webpage (if relevant): <https://www.natura2000.nl/gebieden/zeeland/krammer-volkerak>

### 5.2.6 - Planning for restoration

Is there a site-specific restoration plan? No, but a plan is being prepared

Further information

Restoration measures will be an integral part of the Natura 2000-management plan.

### 5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Birds	Implemented
Plant community	Implemented
Animal community	Implemented

Ongoing biodiversity monitoring is one of the obligatory activities in relation to the designated Natura 2000-habitat types and/or species. SOVON, the Dutch Bird Research Organisation, coordinates for instance a continues national bird monitoring program in which it cooperates with 7000 volunteers, research institutes and organisations in the monitoring of birds throughout the Netherlands (among which the Krammer-Volkerak). Rijkswaterstaat ([www.rws.nl](http://www.rws.nl)) and Deltares ([www.deltares.nl](http://www.deltares.nl)) are the main institutes doing research within the Krammer-Volkerak.

## 6 - Additional material

### 6.1 - Additional reports and documents

#### 6.1.1 - Bibliographical references

The site equals the Natura 2000-boundaries. For up-to-date information and references about the site see <https://www.natura2000.nl/gebieden/zeeland/krammer-volkerak>.

#### 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:



- ( Chiel Jacobusse, - )

#### 6.1.4 - Designation letter and related data

Designation letter

<2 file(s) uploaded>

Date of Designation | 1995-09-04