



# Ramsar Information Sheet

Published on 29 April 2020

Update version, previously published on : 1 January 2008

## Estonia

### Nigula



Designation date	5 June 1997
Site number	910
Coordinates	58°00'43"N 24°40'26"E
Area	6 430,90 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

Nigula Nature Conservation Area is an extensive wetland and forest complex. 34% (2,191 ha) of the area is covered by mires, different forest habitat types (incl. wet forests) are covering 46% (2,065 ha) and agricultural lands (cereal crop fields and grasslands) 20% of the area (according to Estonian Base Map 1:10 000).

Core of the nature conservation area, Nigula mire (2,342 ha) is a typical West-Estonian type plateau bog with a relatively open and flat central part divided into two separate units by a row of mineral islands. The site is important as a good representative of mire wetland types characteristic for Baltic Coast Bog Province and as a stopover site for several migration birds. It is among the first protected bogs in Estonia, protected since 1957.

## 2 - Data & location

### 2.1 - Formal data

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

##### Compiler 1

Name	Marika Kose
Institution/agency	Estonian University of Life Sciences
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##### Compiler 2

Name	Kai Kimmel
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Phone	+3725289685

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

From year	2012
To year	2017

#### 2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Nigula
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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  No

(Update) B. Changes to Site area No change to area

#### 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

## 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 boundaries on Nigula Ramsar site are the same as Nigula Nature Conservation Area. It has a border with Sookuninga Ramsar Site.

### 2.2.2 - General location

a) In which large administrative region does the site lie?	Pärnu
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b) What is the nearest town or population centre?	Tali
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### 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

idem No

d) Transboundary Ramsar Site name:

#### 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	boreal

### 3 - Why is the Site important?

#### 3.1 - Ramsar Criteria and their justification

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

Hydrological services provided	The mire complex is located on the watershed of the several small rivers and plays an important role in the recharge and discharge of groundwater, and maintenance of water quality in southwest Estonia.
Other ecosystem services provided	Biodiversity. Climate change mitigation. Recreation and education - Nature trail. Cranberry picking area.
Other reasons	The site is a good representative of active raised bogs (7110 Annex I Habitat Directive), transition mires and quaking bogs (7140), bog woodland (91D0), Fennoscandian deciduous swamp Woods (9080), and natural dystrophic lakes (3160) characteristic of the Boreal Biogeographical region. The mosaic wetland complex plays a substantial hydrological, biological and ecological role in the region, identified both as IBA and Natura 2000 site, as well as International level Core area in the Pan European Ecological Network. Nigula Bog is well known as a reference site for raised bog studies.

- Criterion 2 : Rare species and threatened ecological communities

- Criterion 3 : Biological diversity

Justification	The site supports a number of vulnerable and endangered species which are under protection and/or listed in the Red Data Book of Estonia. Highly endangered and strongly protected (I protection category) are <i>Pteromys volans</i> Flying Squirrel, <i>Ciconia ciconia</i> Black Stork, <i>Aquila pomarina</i> , Lesser-Spotted Eagle, <i>Lagopus lagopus</i> Willow Grouse, <i>Botrychium virgianum</i> Rattlesnake Fern (the largest population in Estonia), <i>Metzgeria conjugata</i> (only population in Estonia). Dragonfly species <i>Sympecma paedisca</i> and <i>Anax imperator</i> listed in the Red Data Book of Estonia and <i>Leucorrhinia albifrons</i> listed in list of protected species of III category.
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- Criterion 4 : Support during critical life cycle stage or in adverse conditions

- Criterion 5 : >20,000 waterbirds

Overall waterbird numbers	30 000
Start year	2010
Source of data:	Estonian Ornithological Society Standard DAtabase

#### 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>Botrychium multifidum</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	EN in Red Data Book of Estonia	Rear species growing only in wetland related habitats
<i>Botrychium virginianum</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	EN in Red Data Book of Estonia	The plant is very rare in the country
<i>Carex disperma</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	VU in Red Data Book of Estonia	
<i>Cinna latifolia</i>	Slender Wood-reed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Habitats Directive Appendix II; EN in Red Data Book of Estonia	The plant is found in bog islands,
<i>Cyperidium calceolus</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>	Listed in Appendix II of Habitat Directive	
<i>Hammarbya paludosa</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>	VU in Red Data Book of Estonia	Very rare
<i>Metzgeria conjugata</i>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	CR in Red Data Book of Estonia	

Nigula is important in maintaining the geographic range of a plant species and communities, common to raised bogs and supports rare/ endangered species.

### 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 <sup>1)</sup>	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
<b>Birds</b>																		
CHORDATA / AVES	<i>Accipiter nisus</i>	Eurasian Sparrowhawk	<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"/>	4	2013-2017		LC	<input type="checkbox"/>	<input type="checkbox"/>	EU Birds Directive Annex I	Wetland related species, 4 breeding pairs
CHORDATA / AVES	<i>Anser albifrons</i>	Greater White-fronted Goose	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15000	2013-2017			<input type="checkbox"/>	<input type="checkbox"/>		Migratory
CHORDATA / AVES	<i>Anser erythropus</i>	Lesser White-fronted Goose	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	250	2013-2017			<input type="checkbox"/>	<input checked="" type="checkbox"/>	EU Birds Directive Annex I	Migratory
CHORDATA / AVES	<i>Aquila pomarina</i>	Lesser Spotted Eagle	<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"/>	1	2013-2017			<input type="checkbox"/>	<input type="checkbox"/>	EU Birds Directive Annex I	Breeding
CHORDATA / AVES	<i>Caprimulgus europaeus</i>	European Nightjar	<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"/>	150	2013-2017			<input type="checkbox"/>	<input type="checkbox"/>	EU Birds Directive Annex I	breeding
CHORDATA / AVES	<i>Ciconia ciconia</i>	White Stork	<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"/>	10	2013-2017		LC	<input type="checkbox"/>	<input type="checkbox"/>	EU Birds Directive Annex I	Breeding
CHORDATA / AVES	<i>Circus pygargus</i>	Montagu's Harrier	<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"/>	1	2013-2017		LC	<input type="checkbox"/>	<input type="checkbox"/>	EU Birds Directive Annex I	Typical species for wetlands. 1 breeding pair
CHORDATA / AVES	<i>Grus grus</i>	Common Crane	<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"/>	6	2013-2017		LC	<input type="checkbox"/>	<input type="checkbox"/>	EU Birds Directive Annex I	only in open bogs
CHORDATA / AVES	<i>Lanius collurio</i>	Red-backed Shrike	<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"/>	8	2013-2017		LC	<input type="checkbox"/>	<input type="checkbox"/>	EU Birds Directive Annex I	typical open bog species

Phylum	Scientific name	Common name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence <sup>1)</sup>	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
CHORDATA / AVES	<i>Numenius phaeopus</i>	Whimbrel	<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"/>	5	2013-2017		LC	<input type="checkbox"/>	<input type="checkbox"/>	EU Birds Directive Annex I	Open wet habitats
CHORDATA / AVES	<i>Pernis apivorus</i>	European Honey Buzzard	<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"/>	8	2013-2017			<input type="checkbox"/>	<input type="checkbox"/>	EU Birds Directive Annex I	breeding
CHORDATA / AVES	<i>Pluvialis apricaria</i>	European Golden Plover; European Golden-Plover	<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"/>	40	2013-2017		LC	<input type="checkbox"/>	<input type="checkbox"/>	EU Birds Directive Annex I	Only in open bogs
CHORDATA / AVES	<i>Tetrao urogallus</i>	Western Capercaillie	<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"/>	40	2013-2017			<input type="checkbox"/>	<input type="checkbox"/>	EU Birds Directive Annex I	breeding
CHORDATA / AVES	<i>Tringa glareola</i>	Wood Sandpiper	<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"/>	34	2013-2017		LC	<input type="checkbox"/>	<input type="checkbox"/>	EU Birds Directive Annex I	only open bogs in Estonia. 34 breeding pairs
<b>Others</b>																		
CHORDATA / MAMMALIA	<i>Alces alces</i>	Moose	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	20			LC	<input type="checkbox"/>	<input type="checkbox"/>		Breeding
CHORDATA / MAMMALIA	<i>Canis lupus</i>	Gray Wolf	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5			LC	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Breeding
CHORDATA / MAMMALIA	<i>Lutra lutra</i>	European Otter	<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"/>	2			NT	<input checked="" type="checkbox"/>	<input type="checkbox"/>		in rivers. 2 pairs
CHORDATA / MAMMALIA	<i>Lynx lynx</i>	Eurasian Lynx	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2			LC	<input type="checkbox"/>	<input type="checkbox"/>		Breeding
CHORDATA / MAMMALIA	<i>Pteromys volans</i>	Siberian Flying Squirrel	<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"/>	EU Habitats Directive Annex II and IV	
CHORDATA / MAMMALIA	<i>Ursus arctos</i>	Grizzly Bear; Brown Bear	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2			LC	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Breeding

1) Percentage of the total biogeographic population at the site

### 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
Transition mires and quaking bogs	<input checked="" type="checkbox"/>	Priority habitat in EU	EU Habitats Directive Annex I habitat
Active Raised Bogs	<input checked="" type="checkbox"/>	Priority habitat in EU	EU Habitats Directive Annex I habitat
natural dystrophic lakes and ponds	<input type="checkbox"/>	Bog pools	
Bog Woodlands	<input checked="" type="checkbox"/>	Priority habitat in EU	EU Habitats Directive Annex I habitat

Optional text box to provide further information

The area is relatively undrained, in good hydrological condition, remote and unpopulated. Therefore it has all habitats and their ecosystem services functioning fairly well.

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

### 4.1 - Ecological character

Nigula Nature Conservation Area is an extensive wetland and forest complex with a relict lake (~18 ha) in its eastern border. Peatlands (Nigula Mire) cover 37 % (2,342 ha) of the territory of the Nigula Nature Conservation Area. Nigula mire is a typical West-Estonian type plateau bog with a relatively open and flat central part divided into two separate units by a row of mineral islands. The open hollow-rich bog comprises 55%, pool-rich bog 30% and dwarf shrub-rich pine bog 15% of the total mire area.

Around 13% of the total bog area is made up of over 370 smaller or larger pools, comprising some 60 ha in total. The mineral “bog-islands” found in the mire are surrounded by a narrow strip of mesotrophic bog (fen). The bog is surrounded by mixed deciduous forest. Some broad-leaved forests (more than 100 ha) can also be found here.

Mire formation began as a result of infilling and overgrowing of a post-glacial lake, first in the western and then in the eastern unit during the Boreal period. The incline on the edges is most spectacular along the western edge of the bog, where the bog surface may rise up to three meters within twenty meters.

In the eastern part, a good place to observe the rise is near the observation tower, where the slope is 1.5m per ten meters. The steep slopes are caused by the influence of climate, clayey ground and outflow of surface water.

At first view, the bog plateau resembles hummocky grassland, but in early summer the visitor can see fields of cotton-grass, and later the area is covered by the violet flowers of heather - a nice surprise on these wet grounds.

Peat mosses (Sphagnum) turn the bog into a sponge that retains the water from the rain and snow that fall on the bog. Twenty-four species of peat moss have been identified so far, the colourful variety of these mosses covers the hummocks as well as the edges of the dark bog pools. As a result of peat moss decomposition, a peat layer of up to eight meters has been formed. The age of the peat massifs is rather impressive considering the small annual increase of the peat layer (from 0.8 to 1.5 mm). The annual increase, however, has varied widely through the history of the bog, from 0.3 -0.7 mm at the beginning of the boreal climatic period to a maximum of 2.5 mm per year in the subboreal period (4800-2800 years ago). Since then, the yearly peat layer growth has decreased and today does not exceed 1.1 millimeters per year.

Signs of bog fires have been found during the peat studies. In the eastern part of the bog, these signs lie at depths of 0.7, 1.7 and 1.8 meters and in the western part at depths of 4.3 and 4.7 meters. The oldest fires date back to the Atlantic climatic period 7800-4800 years ago.

### 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 > Flowing water >> M: Permanent rivers/ streams/ creeks		4		
Fresh water > Lakes and pools >> O: Permanent freshwater lakes		3	20	
Fresh water > Lakes and pools >> Tp: Permanent freshwater marshes/ pools		2	54	Representative
Fresh water > Marshes on peat soils >> U: Permanent Non-forested peatlands		1	1814	Representative
Fresh water > Marshes on inorganic soils >> W: Shrub-dominated wetlands		4		
Fresh water > Marshes on inorganic soils >> Xf: Freshwater, tree-dominated wetlands		4		
Fresh water > Marshes on peat soils >> Xp: Permanent Forested peatlands		1	589	

#### Human-made wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
2: Ponds		4		
9: Canals and drainage channels or ditches		4	2	

#### Other non-wetland habitat

Other non-wetland habitats within the site	Area (ha) if known
Forests	

## 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
D: Moist Mid-Latitude climate with cold winters	Dfb: Humid continental (Humid with severe winter, no dry season, warm summer)

Boreal

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 wetland is located in the watershed of Salatsi, Lemme, Häädemeeste and Rannametsa Rivers and forms a part of a paludified inland lowland (Metsepole Lowland, 258 sq.km).

4.4.3 - Soil

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

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 / snowfall	<input checked="" type="checkbox"/>	No change
Water inputs from groundwater	<input type="checkbox"/>	No change

Water destination

Presence?	Changes at RIS update
Feeds groundwater	No change
To downstream catchment	No change

Stability of water regime

Presence?	Changes at RIS update
Water levels largely stable	No change

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

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.

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)	Low
Wetland non-food products	Livestock fodder	Medium

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Maintenance of hydrological regimes	Groundwater recharge and discharge	High
Pollution control and detoxification	Water purification/waste treatment or dilution	Low
Climate regulation	Regulation of greenhouse gases, temperature, precipitation and other climatic processes	High

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Nature observation and nature-based tourism	High
Spiritual and inspirational	Cultural heritage (historical and archaeological)	Low
Spiritual and inspirational	Aesthetic and sense of place values	High
Scientific and educational	Long-term monitoring site	High
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	High
Scientific and educational	Educational activities and opportunities	High
Scientific and educational	Major scientific study 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
Soil formation	Accumulation of organic matter	High
Nutrient cycling	Carbon storage/sequestration	High
Pollination	Support for pollinators	Medium

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

Description if applicable

The maintenance of wooded meadows and agricultural grasslands (supporting wetland related predators) depends on local farmers. Wooded meadows and grasslands are semi-natural habitats which need mowing or grazing for survival, without support from local communities the grasslands and meadows will overgrow with bushes and lose their biodiversity.

- 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

#### 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):

22% private land, 78 % State owned land

#### 5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:

Estonian Environmental Board, Lääne region

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

Kadri Hänni, Senior Nature Conservation Specialist

Postal address:

Roheline 64, Pärnu EE80010, Estonia

E-mail address:

kadri.hanni@keskkonnaamet.ee

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

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

#### Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Drainage			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	

#### Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Wood and pulp plantations			<input checked="" type="checkbox"/>		<input type="checkbox"/>	

#### Biological resource use

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Logging and wood harvesting			<input type="checkbox"/>		<input checked="" type="checkbox"/>	
Unspecified			<input checked="" type="checkbox"/>		<input type="checkbox"/>	

#### Human intrusions and disturbance

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

#### Natural system modifications

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Unspecified/others			<input type="checkbox"/>		<input checked="" type="checkbox"/>	
Vegetation clearance/land conversion			<input checked="" type="checkbox"/>		<input type="checkbox"/>	

#### Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Air-borne pollutants			<input checked="" type="checkbox"/>		<input type="checkbox"/>	

## 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	Nigula Nature area		whole
EU Natura 2000	North-Livonian Bird area		partly

## National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
nature reserve			whole

## Non-statutory designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Important Bird Area			

## 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
Hydrology management/restoration	Implemented

## Human Activities

Measures	Status
Communication, education, and participation and awareness activities	Implemented
Research	Implemented
Livestock management/exclusion (excluding fisheries)	Implemented

## 5.2.5 - Management planning

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

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

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

There is a Nigula Research centre in Vanajärve. Lots of scientific research, educational programs and student courses are held. There is a nature trail and two lookout towers in Nigula bog.

### 5.2.6 - Planning for restoration

Is there a site-specific restoration plan? Yes, there is a plan

#### Further information

Restoration works have been started but not finished yet.

### 5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Birds	Implemented
Plant community	Implemented
Soil quality	Implemented
Animal species (please specify)	Implemented

The following 10 monitoring programs are in Nigula Ramsar site: Vulnerable plant and moss species, Fen and bog birds, Wintering bird survey, Geese, swans and crane monitoring, Birds of prey, Forests and forest soil monitoring, Tetrao urogallus monitoring, Eagles and black stork monitoring, night butterflies communities.

## 6 - Additional material

### 6.1 - Additional reports and documents

#### 6.1.1 - Bibliographical references

Nigula looduskaitseala kaitsekorralduskava 2015-2024, Keskkonnaamet 2015

#### 6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)

<no file available>

ii. a detailed Ecological Character Description (ECD) (in a national format)

<no file available>

iii. a description of the site in a national or regional wetland inventory

<no file available>

iv. relevant Article 3.2 reports

<no file available>

v. site management plan

<1 file(s) uploaded>

vi. other published literature

<no file available>

#### 6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



Nigula Bog ( *Herdis Fridolin,*  
01-08-2016 )

#### 6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Transboundary Designation letter

<1 file(s) uploaded>

Date of Designation 1997-06-05