



Ramsar Information Sheet

Published on 20 May 2020

Update version, previously published on : 1 January 2008

Estonia Sookuninga



Designation date	27 December 2007
Site number	1748
Coordinates	58°00'14"N 24°49'31"E
Area	5 869,00 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

Sookuninga together with another Estonian Ramsar Site, Nigula, and Ziemelu Purvi Ramsar Site in Latvia form the first Estonian transboundary wetland - North Livonian Ramsar Site. Sookuninga is formed to protect vast mire areas and surrounding biotopes as well as habitats for protected species. There are six large raised bog massifs in Sookuninga area: Tõrga, Rakste, Ruunasoo, Sandre, Sookuninga and Rongu bogs. These bogs are the oldest in South Western part of Estonia. The areas are known for the yields of cranberries and cloudberry but they have major importance in water protection. Several large Estonian and Latvian rivers get their start in this site (Reiu, Rannametsa, Ura). The site protects the breeding grounds of 19 important bird species and migratory feeding sites for three species and it supports several endangered mammal populations.

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
Postal address	Suurküla 21
E-mail	marika.kose@emu.ee
Phone	+37256561373

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)	Sookuninga
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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? Yes (likely)

(Update) Are the changes Positive Negative Positive & Negative

(Update) Positive % 1

(Update) Negative % 1

(Update) No information available

(Update) Optional text box to provide further information

Since criteria 5 and 6 do not longer apply to the site, as there are changes in migratory bird numbers using the area, we have to admit there is a change. However, the site has maintained all other ecological qualities, there is no change. It can be explained, that the conditions around the Ramsar area have become also suitable for migratory waterbirds and they are more evenly distributed in the whole area.

(Update) Changes resulting from causes operating within the existing boundaries?

(Update) Changes resulting from causes operating beyond the site's boundaries?

(Update) Changes consequent upon site boundary reduction alone (e.g., the exclusion of some wetland types formerly included within the site)?

(Update) Changes consequent upon site boundary increase alone (e.g., the inclusion of different wetland types in the site)?

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

The quality of landscapes has improved and birds can stop also around the Ramsar site.

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

2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image

<1 file(s) uploaded>

Former maps

Boundaries description

Boundaries overlap with Sookuninga Nature Conservation Area borders

2.2.2 - General location

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

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	Active raised bogs, undrained bog margins, transitional mires and deciduous swamp woods participate in water retention processes, feed rivers and control floods and waterlevels.
Other ecosystem services provided	Berries such as cranberries and cloudberries. Biodiversity.

- Criterion 2 : Rare species and threatened ecological communities

- Criterion 3 : Biological diversity

Justification	The Sookuninga site is very remote, wild and therefore hosts rare and endangered species. The site protects the breeding grounds of 19 important bird species and migratory feeding sites for three species and it supports several endangered mammal populations.
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- Criterion 4 : Support during critical life cycle stage or in adverse conditions

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 virginianum</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	EN in Red Data Book of Estonia	Crit 2, 3: Endangered in Estonia, very rare in Europe.

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

Phylum	Scientific name	Common name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence ¹⁾	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
Birds																		
CHORDATA / AVES	<i>Aquila chrysaetos</i>	Golden Eagle	<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	1 breeding pair. Criterion 4: breeding.
CHORDATA / AVES	<i>Aquila pomarina</i>	Lesser Spotted Eagle	<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"/>	3	2013-2017			<input type="checkbox"/>	<input type="checkbox"/>	EU Birds Directive, Annex I	3 breeding pairs. Criterion 4: 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	1 breeding pair. Criterion 4: breeding.
CHORDATA / AVES	<i>Cygnus cygnus</i>	Whooper Swan	<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 Birds Directive, Annex I	Migratory
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"/>	4	2013-2017		LC	<input type="checkbox"/>	<input type="checkbox"/>	EU Birds Directive, Annex I	4 breeding pairs. Criterion 4: breeding.
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"/>	2	2013-2017		LC	<input type="checkbox"/>	<input type="checkbox"/>	EU Birds Directive, Annex I	2 breeding pairs. Criterion 4: breeding.
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"/>	1	2013-2017		LC	<input type="checkbox"/>	<input type="checkbox"/>	EU Birds Directive, Annex I	breeds in open mires. Criterion 4: 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"/>	10	2013-2017		LC	<input type="checkbox"/>	<input type="checkbox"/>	EU Birds Directive, Annex I	It only breeds on open mires Criterion 4: breeding.
CHORDATA / AVES	<i>Tetrao urogallus</i>	Western Capercaillie	<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"/>	17	2013-2017		LC	<input type="checkbox"/>	<input type="checkbox"/>	EU Birds Directive, Annex I	17 cocks. Criterion 4: 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"/>	10	2013-2017		LC	<input type="checkbox"/>	<input type="checkbox"/>	EU Birds Directive, Annex I	10 bp. Criterion 4: breeding.
Others																		
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"/>	3			NT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	in EU Habitats Directive Annex II and IV	3 pairs , Criterion 4: breeding.
CHORDATA / MAMMALIA	<i>Myotis dasycneme</i>	pond bat; Pond Myotis	<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"/>				NT	<input type="checkbox"/>	<input type="checkbox"/>	in EU Habitats Directive Annex II and IV	data not available. Criterion 4: 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
Bog woodland (91D0)	<input checked="" type="checkbox"/>		EU Habitats Directive Annex I priority habitat
Active raised bogs (7110)	<input checked="" type="checkbox"/>	6 raised bog complexes	EU Habitats Directive Annex I priority habitat
Fennoscandian deciduous swamp woods (9080)	<input checked="" type="checkbox"/>	undrained bog margins	EU Habitats Directive Annex I priority habitat
Transition mires and quaking bogs (7140)	<input checked="" type="checkbox"/>	on bog margins	EU Habitats Directive Annex I habitat
rivers and creeks (3260)	<input checked="" type="checkbox"/>	small rivers starting from bogs	EU Habitats Directive Annex I habitat
Northern Boreal alluvial meadows (6450)	<input checked="" type="checkbox"/>	Around the rivers and creeks starting from bogs	EU Habitats Directive Annex I habitat
Natural dystrophic lakes and ponds (3160)	<input checked="" type="checkbox"/>	bog lakes	EU Habitats Directive Annex I habitat

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

4.1 - Ecological character

Sookuninga and Nigula Ramsar Sites in Estonia and Ziemelu Purvi Ramsar Site in Latvia form the first Estonian transboundary wetland - North Livonian Ramsar site. Sookuninga Site is formed to protect vast mire areas and surrounding biotopes (wet forests, open semi-natural grasslands) as well as specific habitats for protected species. There are six large raised bog massifs in Sookuninga area: Tõrga, Rakste, Ruunasoo, Sandre, Sookuninga and Rongu bogs. These bogs are the oldest in South Western part of Estonia. The areas are known for the yields of cranberries and cloudberry but they have major importance in water protection. Several large Estonian and Latvian rivers get their start in this site (in Estonia Reiu, Rannametsa, Ura). The Site protects the breeding grounds of 19 important bird species and migratory feeding sites for three species and it supports several endangered mammal populations. The area is a habitat complex with mires, forests, wooded pastures and fields, all supporting the breeding and feeding of the various bird and animal species. The area was drained in last century but restoration works have been planned and partly implemented to block the drainages and restore wet habitats.

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	0.0065	
Fresh water > Lakes and pools >> Tp: Permanent freshwater marshes/ pools		2	62	Representative
Fresh water > Marshes on peat soils >> U: Permanent Non-forested peatlands		1	1476	Representative
Fresh water > Marshes on peat soils >> Xp: Permanent Forested peatlands		1	1435	Representative

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	0.183	

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

Other noteworthy plant species

Scientific name	Common name	Position in range / endemism / other
<i>Carex disperma</i>		
<i>Carex magellanica irrigua</i>		
<i>Gymnadenia conopsea</i>		
<i>Neottia nidus-avis</i>		
<i>Scapania undulata</i>		
<i>Sphagnum lindbergii</i>		

4.3.2 - Animal species

Other noteworthy animal species

Phylum	Scientific name	Common name	Pop. size	Period of pop. est.	%occurrence	Position in range / endemism/other
CHORDATA/AVES	<i>Anser albifrons</i>	Greater White-fronted Goose				
CHORDATA/AVES	<i>Anser fabalis</i>	Bean Goose				
CHORDATA/AVES	<i>Lanius excubitor</i>	Great Grey Shrike; Northern Shrike				
CHORDATA/AVES	<i>Tringa totanus</i>	Common Redshank				
CHORDATA/AVES	<i>Vanellus vanellus</i>	Northern Lapwing				

4.4 - Physical components

4.4.1 - Climate

Climatic region	Subregion
D: Mbist Mid-Latitude climate with cold winters	Dfb: Humid continental (Humid with severe winter, no dry season, warm summer)

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.

Ura, Rannametsa and Reiu rivers start in this site.

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

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

This site is formed of six mire complexes and holds precipitation water and feeds rivers and groundwater.

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 site itself: i) broadly similar ii) significantly different

- 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)	Low
Wetland non-food products	Livestock fodder	Low

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Maintenance of hydrological regimes	Groundwater recharge and discharge	Medium
Pollution control and detoxification	Water purification/waste treatment or dilution	Medium
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	Low
Spiritual and inspirational	Cultural heritage (historical and archaeological)	Low
Spiritual and inspirational	Aesthetic and sense of place values	Low
Scientific and educational	Long-term monitoring site	Medium
Scientific and educational	Major scientific study site	Medium
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	Medium

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	Medium
Nutrient cycling	Carbon storage/sequestration	High
Pollination	Support for pollinators	Low

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 semi-natural communities such as open landscapes (meadows) are maintained by local farmers. These are breeding grounds for migratory and breeding birds.

- 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"/>

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 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 type="checkbox"/>		<input checked="" type="checkbox"/>	
Canalisation and river regulation			<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
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			<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
Unspecified			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	

Please describe any other threats (optional):

the area is remote and almost no inhabitants.

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			

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
Improvement of water quality	Partially implemented
Hydrology management/restoration	Partially implemented

Species

Measures	Status
Threatened/rare species management programmes	Partially implemented

Human Activities

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

5.2.6 - Planning for restoration

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

5.2.7 - Monitoring implemented or proposed

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

Animal species: Otter, beaver.

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

Eesti Ornitholoogiaühing, 2011. Metsise (Tetrao urogallus) kaitse tegevuskava 2012-2016. Tartu.
Mesipuu, M. 2010. Virgiinia võtmeheina (Botrychium virginianum (L.) SW.) kaitse tegevuskava 2010-2019.
Leivits, A. 2005. Riikliku keskkonnaseire alamprogrammi "Eluslooduse mitmekesisuse ja maastike seire" projekti "Madalsoode ja rabade linnustik" 2005. aasta lepingu nr T5062PKPK05/EPKPK048305 täitmise lõpparuanne. Nigula Looduskaitseala Administratsioon.
Vellak, K., Ingerpuu, N., Leis, M., Roosma, A. 1996. Andmeid Rongu ja Kodaja sookaitsealade soontaimede, sammalde ja suursamblike floora kohta. Tartu Ülikool, Zooloogia ja Botaanika Instituut. Tartu
Ilomets, M. (Vastutav täitja) 2005. Euroopa Regionaalarengu Fondi meetme 4.2 projekt 4.0204- 0107 „Sooserva elupaikade taastamine Põhja-Liivimaa linnualal I etapp“. Ruunasoo hüdroloogilise seisundi ja tootumistingimuste selgitamine ning taimkatte analüüsid. TLÜ Ökoloogia Instituut. Tallinn.
Seeberg Kitneaes, K. 2006. Sookuninga (EE) and Northern bog (LV). Harmonizing management planning for twp transborder Natura 2000 sites.
Timm, U. 2006. Lendorava inventuur
Viht, E., Randla, T. 2001. Metsis. Kaitsekorralduskava

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:



Sookuninga (Herdis Fridolin, 17-12-2009)

6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Transboundary Designation letter

<1 file(s) uploaded>

Date of Designation