

# Information Sheet on Ramsar Wetlands (RIS) – 2009-2012 version

Available for download from [http://www.ramsar.org/ris/key\\_ris\\_index.htm](http://www.ramsar.org/ris/key_ris_index.htm).

*Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8<sup>th</sup> Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX.22 of the 9<sup>th</sup> Conference of the Contracting Parties (2005).*

## Notes for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 14, 3rd edition). A 4th edition of the Handbook is in preparation and will be available in 2009.
3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

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

Estonian Wetland Society  
Pärnu mnt 40, Häädemeeste, 86001 Pärnumaa, Estonia  
Kai Kimmel (kkimmel@hot.ee)

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DD MM YY

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Designation date

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Site Reference Number

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

January 2012

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### 3. Country:

Estonia

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### 4. Name of the Ramsar site:

The precise name of the designated site in one of the three official languages (English, French or Spanish) of the Convention. Alternative names, including in local language(s), should be given in parentheses after the precise name.

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

This RIS is for (tick one box only):

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

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

#### a) Site boundary and area

The Ramsar site boundary and site area are unchanged:

or

If the site boundary has changed:

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

and/or

**If the site area has changed:**

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

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

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

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**7. Map of site:**

Refer to Annex III of the *Explanatory Note and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

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

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

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

e.g. the boundary is the same as an existing protected area (nature reserve, national park, etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The boundary is the same as an existing protected area (Leidissoo Nature Reserve)

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

Provide the coordinates of the approximate centre of the site and/or the limits of the site. If the site is composed of more than one separate area, provide coordinates for each of these areas.

59°06' N, 23°44' E

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**9. General location:**

Include in which part of the country and which large administrative region(s) the site lies and the location of the nearest large town.

The site is situated in north-western Estonia, in Lääne County, 60 km southwest from Tallinn.

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

13 – 22 m above sea level

**11. Area:** (in hectares)

8 178 ha

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## 12. General overview of the site:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

Leidissoo mire is a part of an extensive wilderness area that still remains in northwest Estonia. The large and particularly mosaic wetland complex supports high variety of mire types and habitats and plays a significant role in the hydrological balance of the region.

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## 13. Ramsar Criteria:

Tick the box under each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11). All Criteria which apply should be ticked.

1 • 2 • 3 • 4 • 5 • 6 • 7 8 • 9

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

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

### Criterion 1

The site is a good representative of the following habitat types listed in the Annex I of the EU Habitat Directive: active raised bogs (7110), transition mires and quaking bogs (7140), bog woodland (91D0), Fennoscandian deciduous swamp woods (9080), calcareous fens with *Cladium mariscus* and species of the *Caricion davallinae* (7210) and alkaline fens (7230) characteristic of the Boreal Biogeographical region. The wetland complex plays a substantial hydrological, biological and ecological role in the region and is identified both as IBA and Natura 2000 site.

### Criterion 2

The site supports a number of rare, vulnerable and endangered species. Bird species listed on Annex I of the EU Bird Directive include: Black Stork *Ciconia nigra*, Golden Eagle *Aquila chrysaetos*, Short-toed Eagle *Circus gallicus* (0-1p), Hen Harrier *Circus cyaneus* (2p), Marsh Harrier *Circus aeruginosus* (3p), Golden Eagle *Aquila chrysaetos* (1-2p), Merlin *Falco columbarius* (0-1p), Montagu's Harrier *Circus pygargus* (15-20p), Marsh Harrier *Circus aeruginosus*, Hen Harrier *Circus cyaneus*, Merlin *Falco columbarius*, Hazel Grouse *Bonasia bonasia*, Black Grouse *Tetrao tetrix* (150-200 males), Capercaillie *Tetrao urogallus*, Common Crane *Grus grus* (25-30p), Spotted Crake *Porzana porzana* (>4p), Corn Crake *Crex crex* (>2p), Golden Plover *Pluvialis apricaria* (10-20p), Wood Sandpiper *Tringa glareola* (10-20p), Ural Owl *Strix uralensis*, Nightjar *Caprimulgus europaeus*, Black Woodpecker *Dryocopus martius*, White-backed Woodpecker *Dendrocopos leucotos*, Tree-toed Woodpecker *Picoides tridactylus*, Barred Warbler *Sylvia nisoria* (>3p), Red-breasted Flycatcher *Ficedula parva* and Red-backed Shrike *Lanius collurio*.

Golden Eagle, Short-toed Eagle and Black Stork are highly endangered and strongly protected (I protection category) in Estonia. See also point 22.

### Criterion 3

The site supports particular elements of biological diversity that are rare or particularly characteristic of the Boreal biogeographic region such as untouched naturally open raised bogs, transitional bogs and fens and populations of plant and animal species important for maintaining the biological diversity of the region.

Plants: Great Fen-sedge *Cladium mariscus*, Sweet Gale *Myrica gale*, Narrow-leaved Marsh-orchid *Dactylorhiza russovi*, endemic Alpine Saw-wort *Saussurea alpina* subsp. *esthonica*, etc.

Birds: Merlin *Falco columbarius*, Willow Grouse *Lagopus lagopus*, etc.

Mammals: Wolf *Canis lupus*, Moose *Alces alces*, Lynx *Lynx lynx*, Brown Bear *Ursus arctos* .

The site is one of the most important (top 5) breeding places in Estonia for Montagu's Harrier *Circus pygargus* (the most prevalent breeding population in Estonia), Hen Harrier *Circus cyaneus*, Willow Grouse *Lagopus lagopus*, Black Grouse *Tetrao tetrix*, Common Crane *Grus grus* and Parrot Crossbill *Loxia pytyopsittacus*.

This is also one of the few places in Estonia where Short-toed Eagle *Circaetus gallicus* is regularly seen.

#### **Criterion 4**

The site supports animal species at a critical stage in their life cycles being a refuge for animals with large habitat requirements such as wolf and lynx (breeding site) and brown bear (hibernation site). The site is important breeding place for birds - see also justification of criterion 3 and point 22.

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**15. Biogeography** (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

**a) biogeographic region:**

A: Boreal Biogeographic region according to the EEA

B: terrestrial area Sarmatic mixed forests

freshwater area Southern Baltic Lowlands temperate floodplain rivers and wetlands

**b) biogeographic regionalisation scheme** (include reference citation):

A: EEA, European Environment Agency,

[http://www.eea.europa.eu/publications/report\\_2002\\_0524\\_154909](http://www.eea.europa.eu/publications/report_2002_0524_154909)

B: Olson, D. M., E. Dinerstein, E.D. Wikramanayake, N.D. Burgess, G.V.N. Powell, E.C. Underwood, J.A. D'amico, I. Itoua, H.E. Strand, J.C. Morrison, C.J. Loucks, T.F. Allnutt, T.H. Ricketts, Y. Kura, J.F. Lamoreux, W.W. Wetzel, P. Hedao, & K.R. Kassem. 2001. Terrestrial Ecoregions of the World: A New Map of Life on Earth. - *BioScience* 51:933-938.

Abell, R., Thieme, M. L., Revenga, C., Bryer, M., Kottelat, M., Bogutskaya, N., Coad, B., Mandrak, N., Contreras Balderas, S., Bussing, W., Stiassny, M., Skelton, P., Allen, G., Unmack, P., Naseka, A., Ng, R., Sindorf, N., Robertson, J., Armijo, E., Higgins, J., Heibel, T.J., Wikramanayake, E., Olson, D., Lopez, H. L., Reis, R. E., Lundberg, J.G., Sabaj Perez, M.H., Petry P., 2008, Freshwater Ecoregions of the World: A New Map of Biogeographic Units for Freshwater Biodiversity Conservation. - *BioScience* 58: 403-414.

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**16. Physical features of the site:**

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

The bedrock is formed by Silurian limestone. Sand, clay and thin lacustrine mud (in some places) underlie the peat layer. The peat deposition has a depth of 1 – 3 m, reaching a maximum of 4.5 m.

Average temperatures range from -5°C in February to +17°C in July. The average rainfall is 745 mm and evaporation is 450 mm.

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**17. Physical features of the catchment area:**

Describe the surface area, general geology and geomorphological features, general soil types, and climate (including climate type).

The wetland is located in the north-western part of the West Estonian Lowland landscape region characterized by flat relief. Together with the neighbouring Läänemaa Suursoo wetland complex the Leidissoo Nature Reserve forms an extensive wilderness area in northwest Estonia.

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### 18. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

The Leidissoo mire plays an important role in the recharge and discharge of groundwater, and maintenance of water quality in northwest Estonia.

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### 19. Wetland Types

#### a) presence:

Circle or underline the applicable codes for the wetland types of the Ramsar “Classification System for Wetland Type” present in the Ramsar site. Descriptions of each wetland type code are provided in Annex I of the *Explanatory Notes & Guidelines*.

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

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

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

#### b) dominance: U, Xp, W, Xf, Tp, 9

List the wetland types identified in a) above in order of their dominance (by area) in the Ramsar site, starting with the wetland type with the largest area.

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### 20. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

Leidissoo mire is a fine-structured mosaic wetland complex of different mire types. The most typical are *Myrica gale*-dominated species-rich minerotrophic open fens. Bog communities are found in the western part of the Leidissoo, in the southern part *Cladium mariscus* fen occurs and in the north-eastern part, a heath moor is situated. The open mire is surrounded by different types of forests among which different boreal taiga site types, swamp forests and ombrotrophic bog forests occur.

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### 21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14, Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

The most typical for Leidissoo are poor fens with Sweet Gale *Myrica gale* and transitional mire plant communities. A relatively large (ca 100 ha) Great Fen-sedge *Cladium mariscus* fen occurs in southern part of the reserve. Some small patches of endangered rich fen communities with endemic Alpine Saw-wort *Saussurea alpina* subsp. *esthonica* are located in edge areas of mire complex.

Of rare plant species *Carex irrigua*, Marsh Clubmoss *Lycopodiella inundata*, Narrow-leaved Marsh-orchid *Dactylorhiza russowi*, Fragrant Orchid *Gymnadenia conopsea*, Early Marsh-orchid *Dactylorhiza incarnata* and several other orchid species can be mentioned.

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## 22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

Endangered birds recorded in the mire include Willow Grouse *Lagopus lagopus* (1-3p), Snipe *Gallinago gallinago* (150-200p), Black-tailed Godwit *Limosa limosa* (5-6p), Curlew *Numenius arquata* (5-10p), Whimbrel *Numenius phaeopus* (1-5 p), Great Grey Shrike *Lanius excubitor* (4p) and Parrot Crossbill *Loxia pytyopsittacus* (>5p).

Mammals living mainly in the marginal parts of the mire and forested mineral islands include Moose *Alces alces*, Brown Bear *Ursus arctos*, Wolf *Canis lupus*, and Lynx *Lynx lynx*.

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## 23. Social and cultural values:

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

The site is an important area for the traditional berry-picking (*Oxycoccus palustris* and *Rubus chamaemorus*) and small-scale hunting (*Alces alces*). Earlier times fen areas were used for hay making.

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning?

If Yes, tick the box  and describe this importance under one or more of the following categories:

- i) sites which provide 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) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
- iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
- iv) sites where 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:

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## 24. Land tenure/ownership:

a) within the Ramsar site: mainly state-owned, some (mostly marginal) parts belong to private owners

b) in the surrounding area: both private and state land

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

a) within the Ramsar site: picking of berries and mushrooms, small-scale hunting, forestry, - all in comparatively low intensity.

b) in the surroundings/catchment: forestry, small-scale farming and peat-extraction (Niiby bog)

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

a) within the Ramsar site: Before the site was taken under protection, peat extraction has repeatedly been applied by peat extraction companies.

b) in the surrounding area: Threats to the site from outside are now being posed by the intensification of forestry and drainage of surrounding areas.

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**27. Conservation measures taken:**

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

In particular, if the site is partly or wholly a World Heritage Site and/or a UNESCO Biosphere Reserve, please give the names of the site under these designations.

Leidissoo Nature Reserve was established in 5 November 2002 by the decree of the Estonian Government, the protection rules were renewed in 2005.

The area is identified as part of an Important Bird Area by BirdLife International. Since 1 May 2004, Leidissoo nature reserve has been designated as Natura 2000 area: together with neighbouring Läänemaa Suursoo Mire it forms Suursoo-Leidissoo SCI and SPA.

b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate):

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

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

According to the work-plan of the Environmental Board the management plan up to 2020 (for Leidissoo Nature Reserve and Läänemaa Suursoo Landscape Reserve) will be prepared in 2012.

d) Describe any other current management practices:

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

e.g. management plan in preparation; official proposal as a legally protected area, etc.

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**29. Current scientific research and facilities:**

e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

Research activities focus on of the censuses of breeding birds as the wetland is included to the list of the state monitoring stations of mire birds.

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

e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

There is no visitor center and other facilities (nature trails) for visitors are also lacking. Since 2009 the visiting management is the responsibility of the State Forest Management Centre.

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**31. Current recreation and tourism:**

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

Hunting and berry picking is the most typical recreation activities in the area. Although there is a potential for nature tourism, there is no nature trails or information materials at the moment.

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### 32. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.

Territorial: Noarootsi, Nõva and Oru Municipalities of Lääne County

Functional: Environmental Board under the Ministry of Environment (Narva mnt 7a, 15172 Tallinn, ESTONIA)

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### 33. Management authority:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Environmental Board, Hiiu-Lääne-Saare region (Penijõe 90305, Lihula Parish, ESTONIA)

Mrs. Kaja Lotman, director of the Hiiu-Lääne Saare Region of Environmental Board

[kaja.lotman@keskkonnaamet.ee](mailto:kaja.lotman@keskkonnaamet.ee), phone: +372 472 4223

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### 34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

**Leivits, A., Ojaste, I., Tammekänd, I., Lelov, E., Randla, T., Vilbaste, E., Leibak, E.** 2001. A survey of breeding birds of the Leidisoo Mire System in 2000. – *Linnurada* 2001: 3-18.

**Lõhmus, A., Kalamees, A., Kuus, A., Kuresoo, A., Leito, A., Leivits, A., Luigujõe, L., Ojaste, I., Volke, V.** 2001. Bird species of conservation concern in the Estonian protected areas and important bird areas. *Hirundo Supplementum* 4: 37-167.

**Luhamaa, H., Ikonen, I., Kukk, T.** 2001. Seminatural Communities of Lääne County, Estonia. – Pärändkoosluste Kaitse Ühing, Tartu-Turku. 96 pp. + App

**Orru, M.** 1995. Estonian mires. Eesti Geoloogiakeskus, Tallinn. 240 pp. (in Estonian).

**Paal, J., Ilomets, M., Fremstad, E., Moen, A., Børset, E., Kuusemets, V., Truus, L., Leibak, E.** 1998. Estonian wetlands inventory 1997. Publication of the project "Estonian Wetlands Conservation and Management". Eesti Loodusfoto, Tartu. 166 + 28 pp.

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