

Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.

Note 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. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Bureau. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of maps.

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

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Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

20 March 2003

3. Country: Estonia

4. Name of the Ramsar site:

Laidevahe Nature Reserve

5. Map of site included:

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

a) **hard copy** (required for inclusion of site in the Ramsar List): yes -or- *no*

b) **digital (electronic) format** (optional): yes -or- *no*

6. Geographical coordinates (latitude/longitude):

58°18'15" N, 22°49'13"E

7. General location:

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

The Laidevahe Nature Reserve is located on the southern coast of Saaremaa Island, West-Estonia. The area borders with Sakla village in the N and Sandla village in the W. The latter settlement is situated 20 km ENE from Kuressaare (16 200 inhabitants), the municipal center of the Saaremaa County.

8. Elevation: (average and/or max. & min.)

0 - 10 m above sea level

9. Area: (in hectares)

2424

10. Overview:

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

Laidevahe area is a mosaic wetland complex with the diversity of coastal and aquatic habitats including lagoons, coastal lakes, more than 40 small islands, coastal meadows and reed-beds. Between wet areas also patches of terrestrial communities as fresh boreo-nemoral (broadleaved) forests, alvars and dry meadows can be found.

The wetland has its specific significance for breeding and migrating birds and spawning fish.

11. Ramsar Criteria:

Circle or underline 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).

1 • 2 • 3 • 4 • 5 • 6 • 7 • 8

12. Justification for the application of each Criterion listed in 11. 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).

1 - the site is a particularly good representative of natural and near-natural coastal brackish lagoons, shallow freshwater lakes, shallow marine waters and seasonally flooded coastal meadows as well as the whole mosaic coastal wetland complex representative for the Boreal Biogeographical Region

2 - the site supports a number of vulnerable and endangered species which are under state protection (*Haliaeetus albicilla* White-tailed Eagle of I protection category, lot of bird species of II and III protection category; 31 protected plant species) or listed in the Red Data Book of Estonia

3 - the site supports populations of plant and animal species important for maintaining the biological diversity of the Boreal Biogeographical Region.

Plants: *Samolus valerandii* (Brookweed), *Berula erecta* (Lesser Water-parsnip), *Herminium monorhis* (Musk Orchid), *Bromus beneckenii* (Lesser Hairy-brome);

Fish: *Salmo salar* (Atlantic Salmon); *Salmo trutta trutta* (Sea Trout);

Birds: *Branta leucopsis* (Barnacle Goose), *Calidris alpina schinzii* (Dunlin), *Anas strepera* (Gadwall).

6 - wetland regularly supports 1.3% of the individuals of the N Russia/E Baltic breeding population of *Branta leucopsis* Barnacle Goose (4500 ind.) during spring staging and 1% of the individuals of the Baltic breeding population of *Calidris alpina schinzii* Dunlin (40 ind.) during migration staging and breeding

8 - wetland is an important source of food, spawning ground and nursery for several fish species - *Scardinius erythrophthalmus* (Rudd), *Carassius carassius* (Crucian carp), *Tinca tinca* (Tench), *Esox lucius* (Pike), *Perca fluviatilis* (Perch), *Blicca bjoerkna* (White bream), *Alburnus alburnus* (Bleak), *Rutilus rutilus* (Roach), *Anguilla anguilla* (Eel), *Gobio gobio* (Gudgeon), *Gasterosteus aculeatus* (Three-spined stickleback), *Leuciscus idus* (Ide), *Leuciscus leuciscus* (Dace).

13. 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: Boreal

b) biogeographic regionalisation scheme (include reference citation): Map of Biogeographical Regions of Europe serving the Habitats Directive of the European Community (Council Directive 92/43/EEC) and the Emerald network under the Bern Convention

14. 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 of the area is formed by Upper-Silurian (Gotlandium) limestone. The Quaternary deposits are of insignificant thickness, and in places they have been completely washed away. After the end of glaciations landrise (tectonic uplift) about 2.5 mm per year has had a great influence on the development of the contemporary coastal zone. Inland waterbodies (coastal lakes and the Laidevahe Bay) are shallow with water depth 0.5- 3 m (average 1-2 m). There is the outflow into the sea..

Climate is maritime. The average rainfall is 650 mm per year, the mean January temperature -3.0° C and mean July (August) temperature 16.0° C.

A shallow coastal sea makes up 15% , bays and coastal lakes up to 20% of the whole area of the wetland complex. In addition up to 40% of the terrestrial area is flooded in spring.

15. Physical features of the catchment area:

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

The flat and low-lying area belongs to the region of Lowland of West Estonian (Moonsund) archipelago. The catchment of the Lõve River falling into the Laidevahe Bay is 16 000 ha. The bedrock is formed by Silurian limestone, the Quaternary cover is mainly loamy till. Soils are thin loamy Rendzic Leptosols, Gleyic Podzols and young coastal soils.

Climate is maritime with precipitation 650 mm per year and mean January temperature of - 3.0° C and mean July (August) temperature of 16.0° C.

16. Hydrological values:

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

The waters are rich in biogenic materials, the lagoon system with its reed-beds acts as a sediment trap. There are thick layers of curative mud in the bottom of the relict lakes.

17. 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: J, O, A, Ts, M, P

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.

18. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site.

The site is a complex of shallow bays and relict lakes with small islets, vast reedbeds, coastal meadows and saltmarshes. There are more than 40 islands and islets in the area. When the level of water is low, mud-flats are exposed and several islands are connected to each other. The area contains one of the best-preserved seminatural coastal meadow complexes in Estonia (especially from the viewpoint of bird protection). Also different non-wetland habitats with high nature conservation value (broad-leaved forests and alvar patches with juniper copses) are distributed in higher and more calcareous coastal areas. Large patches of former meadows are overgrown with *Phragmites*.

A diverse selection of migratory waterbirds use the site for staging and/or breeding.

19. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. 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 coastal meadows and rich paludified grasslands with typical plant communities are rich in rare plant species, orchids in particular. At present 541 plant species is registered in the area, from which 31 species are under state protection.

The paludified coastal fen communities - *Cladietum marisci* (the community of Saw Grass) and *Primulo-Seslerietum* (the community of Blue Moor Grass and Primrose) belong to the list of endangered plant communities in Estonia.

The broad-leaved deciduous forests growing on higher ground are relicts of former milder climate periods.

20. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. 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.*

The most important bird species:

a) **breeding:** *Anas strepera* Gadwall (150 pairs), *Aythya fuligula* Tufted Duck (200-250), *Aythya ferina* Pochard (30-40), *Cygnus olor* Mute Swan (55-65), *Podiceps cristatus* Great Crested Grebe (75-90), *Podiceps griseigena* Red-necked Grebe (10-20), *Podiceps auritus* Slavonian Grebe (15-25), *Calidris alpina schinzii* Dunlin (10-15), *Charadrius hiaticula* Great Ringed Plover (25-30), *Sterna hirundo* Common Tern (70-90), *Sterna paradisaea* Arctic Tern (150-200) *Chlidonias niger* Black Tern (20-30),

Porzana parva Little Crane (2-3), *Rallus aquaticus* Water Rail (10-15), *Haliaeetus albicilla* White-tailed Eagle (1).

b) migration stop-over (max. numbers in 1994-1999): *Branta leucopsis* Barnacle Goose (4500), *Clangula hyemalis* Long-tailed Duck (5000), *Anas strepera* Gadwall (500), *Anas acuta* Pintail (300), *Anas penelope* Wigeon (2500), *Fulica atra* Coot (2500), *Cygnus olor* Mute Swan (500).

At least 29 species of fish can be found (20 species in bays and 26 in sea).

21. Social and 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.

Commercial value of annual catch of local fisheries is low. Traditional practices as cattle and sheep breeding and hay harvesting on coastal meadows are in decline. The Pihla Horse Breeding Station possesses nearly 60 horses of Estonian breed (an ancient race which is in danger of extinction and has been included in the UNO FAO of the world's endangered breeds), particularly characteristic of West-Estonian coastal areas.

Tourism and recreation activities are developing. The area has a historical value. Famous historical monuments close-by are Püha Church and Valjala Castle.

22. Land tenure/ownership:

(a) within the Ramsar site: The agricultural land (including seminatural coastal meadows) belongs predominantly to the private owners; forest is mostly restituted to private owners, smaller plots are owned by state. The municipalities are interested to keep some pieces of land of recreational value. Plots not restituted or privatized before the deadline (22.09.1999) were stated as a municipal land or sold by auction.

(b) in the surrounding area: predominantly private lands.

23. Current land (including water) use:

(a) within the Ramsar site:

Population: ca 30 inhabitants. Agriculture: small-scale farming, including limited grazing on seminatural meadows and reed-cutting. Cattle and sheep breeding have been traditional practices. Subsistence fishing and hunting. Bird hunting is not a widespread custom among local people although the potential for wildfowling has been high. Small-scale forestry.

(b) in the surroundings/catchment:

Small-scale agriculture and forestry. Commercial fishing.

24. 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:

The most important new factor in nature management is ongoing privatization of land. The biodiversity can decrease due to the overgrowth of coastal meadows caused by decrease in grazing and mowing. A potential threat is an increasing impact and disturbance from commercial activities (forestry, too intensive fishing, reed-harvesting,) and recreation (tourism, hunting). Extent of waterfowl by-catch in fishing nets should be studied.

(b) in the surrounding area:

pollution of municipal origin (Valjala); excessive human disturbance and overfishing.

25. Conservation measures taken:

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

The area is a part of the West-Estonian Archipelago Biosphere Reserve (WEBR), which was founded in 1990 and included in the International List of Biosphere Reserves in the same year. Laidevahe-Siiksaare area has been designated as a core area of the WEBR. Rules of the use of the coastal strip have been set up in the Government Decree on Shore Protection in 1992. This decree protects the shorebelt 200-300 m of coastline from several land-based activities (buildings, pollution etc.).

In 1998 the site was designated as an Important Bird Area (EE 021).

Master plan (a general planning, which is supporting 'green' development of local municipalities) of Laidevahe Nature Reserve was accepted by Valjala and Pihla Municipalities in 2001.

Laidevahe Nature Reserve was established in 5 November 2002 by the decree of the Estonian Government.

26. Conservation measures proposed but not yet implemented:

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

Management plan of the Laidevahe Nature Reserve will be drafted by 1 June 2003.

27. Current scientific research and facilities:

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

Several botanical inventories have been carried out. Regular monitoring of breeding and migrating waterfowl is going on. No field or other station at the site.

28. Current conservation education:

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

Establishment of ecotourism facilities is going on (parking lots, walking paths, watching towers).

Estonian Native Horse Conservation Society and Society for the Protection of SeminatURAL communities have initiated special voluntary work camps to restore and manage coastal meadows and pastures.

29. Current recreation and tourism:

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

These activities have increased during the last 4-5 years. Most of the visitors make short stops in sites of cultural and natural values.

30. Jurisdiction:

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

Territorial: Valjala Commune, Saaremaa County;
Pihla Commune, Saaremaa County.

Functional: Ministry of Environment, Department of Nature Conservation

31. 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 Department of Saaremaa County, Raekoja 1a, 93814 Kuressaare, Estonia.

32. Bibliographical references:

scientific/technical references only. If biogeographic regionalisation scheme applied (see 13 above), list full reference citation for the scheme.

- Klaos, K. 1993. Lääne-Eesti Saarestiku Biosfäärikaitseala Laidevahe tuumala flora ja vegetatsioon. Tartu Ülikool. Tartu. Lõputöö: 44 lk. (Flora of Laidevahe core area of the West-Estonian Biosphere Reserve).
- Kuresoo, A., Kukk, T. & Luigujõe L. 1998. Zooloogilis-botaaniline inventeerimine Laidevahe-Siiksaare kaitseala moodustamiseks Lõuna-Saaremaal. 38 lk. (Zoological-botanical inventory of Laidevahe-Siiksaare area /Southern-Saaremaa/).
- Kuresoo, R., Kuresoo, A., Luigujõe, L., Vetemaa, M., Eschbaum, R., Lotman, A., Tamm, A., Truumaa, T. & Kikas, T. 2000. Laidevahe looduskaitseala üldplaneering. Tartu. 54 lk. (Master Plan of Laidevahe Nature Reserve).
- Leibak E. & Lutsar L. 1996. Estonian coastal and floodplain meadows. ELF Library 2. Tallinn. 247 p.
- Mäemets, A. 1977. Eesti NSV järved ja nende kaitse. "Valgus". Tallinn. 263 lk. (Estonian lakes and their protection).
- Ojaveer E. (ed.) 1995. Ecosystem of the Gulf of Riga between 1920 and 1990. Estonian Academy Publishers. Tallinn. 277 p.
- Szeliga-Mierzyewski, W. 1995. Die Vögelwelt der Insel Oesel. - H.-J. Winkhardt, Gustav-Mahler-Str. 26, D-70195 Stuttgart.
- Trei, L. 1998. Siiksaare ümbruse rannikujärvede haudelinnustikust 1997. - Linnurada 1998/1: lk.7-14 (Breeding birds of the Siiksaare coastal lakes in 1997, Saaremaa).

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