

Ramsar Information Sheet

Text copy-typed from the original document.

1. Date this sheet was completed: 01.06.1997

2. Country: Estonia

3. Name of wetland: **Nigula Nature Reserve**
(in Estonian: *Nigula Looduskaitseala*)

4. Geographical co-ordinates: 58°00'N 24°40'E

5. Altitude: 55-60 m above sea level

6. Area: 4651 ha

7. Overview:

Extensive bog complex with one lake (18 ha), many pools and hollows. Deciduous forests are surrounding the bog.

8. Wetland type: M O Tp U Xf Xp

9. Ramsar Criteria: 1a, 2b, 3c

10. Map of site included: Yes

11. Name and address of compiler:

Agu Leivits, Arne Ader and Enn Vilbaste: Nigula Nature Reserve, Pärnu St. 2, EE 3622 Kilingi-Nomme, Pärnu County, Estonia.

Lauri Lutsar, Estonian Fund for Nature, PO Box 245, Tartu EE2400, Estonia.

Margus Ots, Estonian Ornithological Society, PO Box 227, Tartu EE2400, Estonia

12. Justification of criteria selected under point 9:

1a - it is a particularly good representative example of a natural or near-natural wetland, characteristic of the appropriate biogeographical region

2b - it is of special value for maintaining the genetic and ecological diversity of a region because of the quality and peculiarities of its flora and fauna

3c - regularly supports >1% of the individuals in a population of *Anser albifrons* and *Anser fabalis*.

13. General location:

Pärnu County; 40 km south-southeast from Pärnu (52,000 inhabitants).

14. Physical features:

Nigula mire complex (2342 ha, length 9.5 km, width 3.5 km) is situated on the south-western slope of the Sakala upland. The mire can be divided into three parts. The western massive is the oldest of the three. Its development started at the end of the preboreal climatic period (10,200 - 9,300 years ago).

The younger northern and eastern massifs have been separated from it with four "bog-islands".

The landscape relief is relatively flat. Bogs were developed during paludification from two periglacial lakes. The depth of the peat layer is up to 8 m, with average of 3.5 m. The peat, which contains 85 - 90% water, is mainly formed from little decomposed *Sphagnum*. The pH of the water in hollows is 4.2, in pools 4.6 and 5.1 in the lake. A relict lake (17.9 ha) lies in the eastern part of the bogs. Around 13% of the total bog area is made up of smaller or larger pools - over 370 or 60 ha in total. Precipitation for the whole year is 600-650 mm, total of positive temperatures 2200-2300 °C.

15. Hydrological values:

The wetland complex plays an important role in the recharge and discharge of groundwater, and maintenance of water quality in south-western Estonia.

16. Ecological features:

In the Nigula mire the open hollow-rich bog (55%), the pool-rich bog (30%) and the dwarf shrub-rich pine bog (15%) can be found. The “bog-islands” have been surrounded with a narrow strip of mesotrophic bog (fen). The bog is surrounded mainly with deciduous forests. Also some broad-leaved forests (>100 ha) can be found there.

17. Noteworthy flora:

The plant communities are typical for West-Estonian bogs (Baltic Coast Bog Province). The moss layer consists mainly of *Sphagnum fuscum*, *S. rubellum*, *S. balticum* and *S. magellanicum*. Dwarf shrub and grass layers mainly consist of *Calluna vulgaris* and *Eriophorum vaginatum*, in some places *Trichophorum caespitosum*. Also *Ledum palustre*, *Andromeda polifolia*, *Empetrum nigrum*, *Oxycoccus palustris*, *Rhynhospora alba*, *Drosera anglica* and *D. rotundifolia* are common. Rare species including *Cypripedium calceolus*, *Corallorhiza trifida* and *Cardamine bulbifera* occur in forests on Bog islands. Some mushrooms are found here - *Grifola fondosa*, *Polyporus tuberaster* and *Inonotopsis subiculosus* - are included in the Red Data Book of Europe.

18. Noteworthy fauna:

Birds:

a) in the mire: *Pluvialis apricaria* (30-70 pairs), *Tringa glareola* (15-37 pairs), *Numenius phaeopus* (< 10 pairs), *Lanius excubitor* (1-3 pairs), *Circus pygargus* (1), *Grus grus* (3-5 pairs, ca 300 specimens in summer flocks), *Lagopus lagopus*; stopover during autumn migration for *Anser fabalis* and *Anser albifrons* (30,000-40,000); feeding area for *Aquila chrysaetos*, *Falco peregrinus*, *Gavia arctica*;
b) in forests: *Ciconia nigra* (1), *Aquila pomarina* (1), *Strix uralensis* (5), *Dendrocopus leucotos* (5);
c) in surrounding agricultural land: *Crex crex* (20-30 pairs).

Mammals live mainly in marginal parts of the mire (incl. *Ursus arctos*, *Canis lupus*, *Alces alces*, *Lutra lutra*, *Lynx lynx*, etc.).

19. Social and cultural values:

The mire has very good possibilities for environmental education and excursions as there is a 6.8 km footpath going through different mire biotopes and bog island. The bog has been stationary research area of investigating the production of *Oxycoccus palustris* in different paludification successions. Nigula is the only long-term monitoring site for mire birds in Estonia; since 1968 breeding bird counts have been organised there every spring.

20. Land tenure/ownership of:

- a) site: State and private land.
- b) surrounding area: State and private land.

21. Current land use/principal human activities:

- a) site: Scientific work; excursions (the number of participants has been limited).
- b) Surroundings/catchment: Extensive agriculture, human population is low.

22. Factors adversely affecting the site's ecological character, including changes in land use and development projects:

- a) site: Invasion of pines into new areas of the open bog due to better nutrition conditions in an ombrotrophic site due to increased atmospheric pollution.
- b) Surroundings/catchment: Intensification of forestry; drainage.

23. Conservation measures taken:

Nigula Nature Reserve was established in 1957. (2730 ha, incl. bog area 2040 ha). To the present, the area of protected area was enlarged to 4580 ha which includes a mire complex of 2342 ha. The new protection rules were approved of by the Estonian Governmental Regulation No. 358 of 30 Nov. 1995, published in Riigi Teataja I 1995, 91, 1859). Amelioration, land improvement, peat digging and in most of the area forest management are prohibited. Designated IBA in 1989 (proposed categories in 1996: A1, A4).

24. Conservation measures proposed but not yet implemented:

According to Estonian Governmental Regulation No. 48 of 4 March 1997 the management plan has to be completed by 2002. Work is being carried out since January 1997 with Estonian and Latvian

NGO's and authorities to carry prepare a cross-border protection area of the entire mire complex including Nigula and the neighbouring bogs to the east (Kodaja and Rongu bogs), large areas of which are Latvian territory.

25. Current scientific and research facilities:

The Nature Reserve has a field-station with office and research facilities and accommodation for 20+ visitors. Three main directions of scientific research have been developed: (1) long-term monitoring of mire bird numbers (since 1968), (2) productivity of mire plants (cranberry, *Sphagnum* spp.), (3) dynamics between forest and mire. A bird station in Kabli is also part of Nigula facilities.

26. Current conservation education:

Excursion along the 6.8 km footpath. Informational brochure about the area, a special pamphlet describing the footpath route and a booklet about cranberry cultivation. Used as a research station for practical training of university students.

27. Current recreation and tourism:

Excursions to the Nature Reserve (numbers of visitors limited, especially during breeding time of the birds).

28. Jurisdiction:

Häädemeeste Commune, Pärnu County, EE3633

Tali Commune, Pärnu County, EE3641

Estonian Ministry of Environment, Department of Nature Conservation and Wildlife Management, Tompuiestee 24, EE0100, Tallinn, Estonia

29. Management authority:

Nigula Nature Reserve. 2 Pärnu Street, EE3622 Kilingi-Nomme, Pärnu County, Estonia

30. Bibliographical references:

Irtd, A. , Vilbaste, A. 1974. Bird Fauna of the Nigula peat bog. -In: Estonian wetlands and their life. Estonian contributions to the IBP No. 7, pp. 214-219, Tallinn.

Leivits, A. 1990. Long-term dynamics of the breeding bird community in the Nigula mire: a 20-year study in south-western Estonia. -In: Bird censuses and atlas studies. Proc. 11th International Conference on Bird Censuses and Atlas Work, pp. 249-431, Prague.

Ilomets, M. 1982. The productivity of Sphagnum communities and the rate of peat accumulation in Estonian bogs. -In: Estonian contributions to the IBP No. 9, pp. 102-116, Tallinn.

Ruus, E. 1975. Study of the dynamics between forest and mire in the Nigula Nature Reserve. -In: Eesti NSV Riiklike Looduskaitsealade teaduslikud tööd No. 2, pp. 104-119, Tallinn (in Estonian with English summary).

Vilbaste, H. 1990. Number dynamics of the breeding birds of the forests of South-west Estonia. (in Russian with English summary). -In: Renno, O. (ed.), Communications of the Baltic Commission for the Study of Bird Migration, vol. 22, p. 102-117.

Vilbaste, H., Leivits, A. 1990. Programmes for long-term observation for dynamics of bird populations in the Nigula Nature Reserve. (in Russian with English summary). -In: Renno, O. (ed.), Communications of the Baltic Commission for the Study of Bird Migration, vol. 22, p. 64-83.

Vilbaste, H., Vilbaste, J., Ader, K. 1995. Cranberry - The Grape of the North. Tallinn, 16 pp.