

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

Available for download from http://www.ramsar.org/ris/key_ris_index.htm.

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

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

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

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Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

X January 2012

3. Country:

Estonia

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.

AGUSALU

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

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:

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 (Agusalu Nature Reserve).

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°05'N 27°32' E

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 located in north-eastern Estonia, in Ida-Viru County; 20-40 km SE of its administrative center Jõhvi (appr. 11 500 inhabitants), 20-50 km SW of Narva (appr. 65 500 inhabitants).

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

25-60 m

11. Area: (in hectares)

11 000 ha

12. General overview of the site:

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

The site is a part of Estonia's largest mire complex (Agusalu-Puhatu) consisting of bogs, transition mires and fens. Coniferous as well as alluvial deciduous forests are surrounding the mire.

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

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 particularly good representative of natural and near-natural transition mires, bogs and paludifying forests as well as the whole mosaic wetland complex, characteristic of the biogeographical region.

Wetland habitats occurring in Agusalu Nature Reserve and listed in the Annex I of the Council Directive 92/43/EEC are active raised bogs (*7110), transition mires and quaking bogs (7140), bog woodland (*91D0), Fennoscandian deciduous swamp woods (*9080), natural dystrophic lakes and ponds (3160). The wetland complex plays a substantial hydrological, biological and ecological role in the region and it is identified both as an IBA and Natura 2000 site.

Criterion 2

The site is a part of an extensive wilderness area (Agusalu-Puhatu wetland complex) that still remains in northeast Estonia and it supports an appreciable assemblage of rare, vulnerable and endangered species of plants and animals, some of them occurring in great numbers or densities.

It supports the following bird species of EU conservation interest, listed on Annex I of Council directive 2009/147/EC: Black-throated Diver *Gavia arctica*, White-tailed Eagle *Haliaeetus albicilla* (1 p), Golden Eagle *Aquila chrysaetos* (1 p), Hen Harrier *Circus cyaneus* (0-1p), Montagu's Harrier *Circus pygargus* (1-5p), Hazel Hen *Bonasa bonasia* (numerous), Black Grouse *Tetrao tetrix*, Capercaillie *Tetrao urogallus* (>20 lekking males), Common Crane *Grus grus* (15-20 p), Corncrake *Crex crex* (1-2p), Spotted Crake *Porzana porzana* (0-2p), Golden Plover *Pluvialis apricaria* (40-80 p), Ruff *Philomachus pugnax* (0-1p), Wood Sandpiper *Tringa glareola* (50-100p), Eagle Owl *Bubo bubo* (0-1p), Ural Owl *Strix uralensis* (>5p), Short-eared Owl *Asio flammeus*, Nightjar *Caprimulgus europaeus* (>20p), Black Woodpecker *Dryocopus martius* (>10p), Red-breasted Flycatcher *Ficedula parva* (10-20p), Red-backed Shrike *Lanius collurio* (10-20).

Highly endangered and nationally strongly protected (I protection category) are Golden Eagle, White-tailed Eagle and Ruff, but also Willow Grouse *Lagopus lagopus* and Flying Squirrel *Pteromys volans* (the latter also listed in Annexes II and IV of the Council Directive 92/43/EEC).

Additional information on protected species of plants and animals is provided in points 21 and 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 and transitional bogs and peatland forests, which contain a significant proportion of species (e.g. *Sphagnum* mosses) adapted to special environmental conditions of oligotrophic peatland environment.

Criterion 4

The site supports animal species at a critical stage in their life cycles as refuge for animals with large habitat requirement – large mammals including Wolf *Canis lupus*, Lynx *Lynx lynx* and Brown Bear *Ursus arctos*. The site is the most important breeding place in Estonia for Greenshank *Tringa nebularia* (20-30p) and one of the most important Estonian breeding sites for the following species: Black-throated Diver *Gavia arctica* (0-1p), Willow Grouse *Lagopus lagopus* (5-10), Jack Snipe *Lymnocyrtus minimus* (0-5p) and Black Grouse *Tetrao tetrix* (>100 lekking males). See also point 22.

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

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. Wettengel, 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.

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 landscape relief is flat, rising gradually from northeast to southwest. The highest point of the site is situated on one of the long and relatively high mineral "islands" within mires. The whole mire complex has been formed due to the paludification of both ancient lakes and mineral land (thin lacustrine mud layer is found in places). The peat deposition has an average depth of 1 – 4 m, reaching a maximum of 7.8 m. Climate is more boreal than in most of Estonia (except southeastern Estonia). Average temperatures range from -7° - -7,5°C in February to +17° - +17,5°C in July. The average rainfall is 500-550 mm and permanent snow cover lasts 110-115 days.

17. Physical features of the catchment area:

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

Briefly described in p. 16.

18. Hydrological values:

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

The Agusalu mire complex plays an important role in the recharge and discharge of groundwater and maintenance of water quality in northeast Estonia. Location in the neighborhood of hydrologically spoiled area (due to oil-shale mining) gives the area a special hydrological importance.

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: Xp, U, Xf, O, Tp, M, 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.

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.

Agusalu nature reserve is a part of an extensive wilderness area in northeast Estonia characterized by different open mire types - bogs, transition mires, fens. Within mires, heath and dry boreal pine forests are situated on relatively high narrow and long mineral ridges ("islands") called 'kriiva's or 'griva's (derived from the local Russian dialect). Mires are surrounded by different types of forests including boreal taiga site types, swamp forests and ombrotrophic bog forests (bog woodland).

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.*

Of mire plant communities, different subtypes of transition mires on a relatively large surface are of highest value. Bogs are represented by all subtypes (heath moor, hummock bog, hollow-ridge bog, pool bog). Part of deciduous swamp woods and quite some forests on "kriivas" and other mineral humps in mires (boreal taiga site types) as well as most of bog woodland are of almost no human influence.

Protected and/or included in the Estonian Red Data Book plant species are represented by *Lycopodiella inundata*, Common Spotted Orchid *Dactylorhiza fuchsii*, Heath Spotted Orchid *Dactylorhiza maculata*, Broad-leaved Helleborine *Epipactis helleborine*, Creeping Lady's-tresses *Goodyera repens*, Lesser Twayblade *Listera cordata*, Bog Orchid *Malaxis paludosa*, *Diphasiastrum complanatum*, Eight-stamened Waterwort *Elatine hydropiper*.

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.*

Nationally protected birds are represented by Goshawk *Accipiter gentilis* (0-1p), Great Grey Shrike *Lanius excubitor* (3-5p), Black-tailed Godwit *Limosa limosa* (20-30p), Curlew *Numenius arquata* (5-10p), Whimbrel *Numenius phaeopus* (40-70p), Redshank *Tringa totanus* (1-5p) and Lapwing *Vanellus vanellus* (40-70p).

Local mammal list includes Wolf *Canis lupus*, Beaver *Castor fiber*, Otter *Lutra lutra*, Lynx *Lynx lynx* and Brown Bear *Ursus arctos*.

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:

Scientific value connected to the presence of various characteristic mire types; traditional berry-picking (mainly *Oxycoccus palustris*);

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:

24. Land tenure/ownership:

a) within the Ramsar site: mainly state-owned land; private land forms ca 10% of the total area

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

25. Current land (including water) use:

a) within the Ramsar site: small-scale forestry in less strictly protected buffer zones of the protected area; picking of berries and mushrooms.

b) in the surroundings/catchment: forestry, oil-shale mining

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: almost none - the relatively strict protection regime guarantees survival of most plant and animal communities. Former forest amelioration ditches (situated only in some places in the eastern part of the site) will not be renewed. Some fens were used for hay-making in the past but not during the last 60 years.

b) in the surrounding area: gradual move of oil-shale pits towards the area; intensification of forestry; drainage.

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.

The area was proclaimed Agusalu Mire Reserve in 1981; in 1997 it was renamed Agusalu Landscape Reserve and new protection rules were approved by the Government of Estonia. In 2007 the area was renamed Agusalu Nature Reserve.

The site is identified both as an IBA and Natura 2000 site. The boundaries of Ramsar site nearly coincide with the boundaries of IBA (the area of IBA is bigger - 11 968 ha) and Natura 2000 site (two Species protection Sites for Capercaillie are not included to the Ramsar site).

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?:

The management plan has been drafted and will be approved in 2012.

d) Describe any other current management practices:

28. Conservation measures proposed but not yet implemented:

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

29. Current scientific research and facilities:

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

Inventories of mire birds were carried out in 2001 and 2007. No permanent scientific research in the area; no facilities.

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.

No facilities since the majority of the area is strictly protected. Information booklet has been published. Since 2009 visiting management is the responsibility of the State Forest Management Centre.

31. Current recreation and tourism:

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

Mires are used as cranberry-picking areas.

32. Jurisdiction:

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

Territorial: Ida-Viru County: Illuka, Alajõe and Vaivara municipalities of Ida-Viru 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, Viru Region (Pargi 15, 41537 Jõhvi, Estonia)

Mr. Jaak Jürgenson, director of the Viru Region of Environmental Board

jaak.jurgenson@keskkonnaamet.ee, phone: +372 3324400

34. Bibliographical references:

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

Kumari, A. 1966. The bird population of the Alutaguse bogs and boggy swamps. - *Eesti Loodus* 2: 113-115 (in Estonian, with English summary).

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.

Orru, M. 1995. Estonian mires. Eesti Geoloogiakeskus, Tallinn. 240 pp. (In Estonian, with English summary).

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 Strategy". Eesti Loodusfoto, Tartu. 166 + xxviii pp.

Randla, T. 1975. On the peculiarity of the bird fauna of the Puhatu wetland. - *Loodusevaatlusi* 1974 I: 116-118 (in Estonian, with English summary).

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