

# 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.

---

### 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)

FOR OFFICE USE ONLY.

DD MM YY

--	--	--

Designation date

--	--	--	--	--	--	--	--

Site Reference Number

---

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

20 February 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.

Soomaa

---

### 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 – Soomaa National Park.

---

**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.

58°25'N 25°05'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 south-western Estonia, in Pärnu and Viljandi Counties, 30 km northwest of Viljandi and 40 km east of Pärnu.

---

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

15 - 30 m

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

**12. General overview of the site:**

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

Soomaa is an extensive, flat area of five large bog complexes separated by unregulated rivers with floodplain meadows, alluvial forests and wooded meadows and surrounded by extensive forests, including swamp forests and carrs. Being the most representative and valuable part of the remaining large wilderness area in southwest Estonia, the wetland is important as a nesting biotope of mire birds and the stopover site for migrating birds.

**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 non-forested and forested peatlands, freshwater swamp forests, freshwater lakes, permanent rivers as well as the whole mosaic wetland complex, characteristic of the Boreal Biogeographical region. The site is the most valuable part of the extensive wilderness area remaining in SW Estonia. Kuresoo Bog is one of the two best survived large bogs in Estonia, its species diversity is among the highest. Annual floods of Halliste River and its tributaries are of international importance.

Wetland habitats presented in Soomaa and listed in Annex I of the Habitat Directive are active raised bogs (\*7110), transition mires and quaking bogs (7140), bog woodland (\*91D0), Fennoscandian deciduous swamp woods (\*9080), northern boreal alluvial meadows (6450), lakes (Natural dystrophic lakes and ponds - 3160), rivers and streams (Water courses of plain to montane levels with the *Ranuncalion fluitantis* and *Callitriche-Batrachion* vegetation - 3260) and also alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (91E0) and riparian mixed forests of *Quercus robur*, *Ulmus laevis*, *Fraxinus excelsior* along the great rivers (91F0).

The wetland complex playing substantial hydrological, biological and ecological role in the region is identified both as an IBA and Natura 2000 site, as well as an international level core area in the Pan European Ecological Network and PAN Parks wilderness area.

**Criterion 2**

The site supports a big number of vulnerable and endangered species of EU and national conservation interest. Recorded birds of the Annex I of the Bird Directive include Golden Eagle *Aquila chrysaetos*, Black Stork *Ciconia nigra*, Black Grouse *Tetrao tetrix*, Lesser Spotted Eagle *Aquila pomarina*, Spotted Eagle *Aquila clanga*, Corncrake *Crex crex*, Great Snipe *Gallinago media*, Plover *Pluvialis apricaria*, Wood Sandpiper *Tringa glareola*, Montagu's Harrier *Circus pygargus*, Dunlin *Calidris alpina schinzii*, Merlin *Falco columbarius* and Common Crane *Grus grus* as well as White-backed Woodpecker *Dendrocopos leucotos*, Tree-toed Woodpecker *Picoides tritactylus* and Capercallie *Tetrao urogallus*.

*Aquila chrysaetos*, *Ciconia nigra*, *Aquila pomarina*, *Aquila clanga*, *Gallinago media*, and also Willow Grouse *Lagopus lagopus* and Flying Squirrel *Pteromys volans* are highly endangered and strongly protected (I category) in Estonia. See also point 22.

The species listed in the Annexes II and IV of the Habitat Directive are Otter *Lutra lutra*, *Myotis dasycneme*, *Pteromys volans*, *Euphydryas maturna*, *Lycaena dispar* and *Unio crassus*; species listed in the Annex II are *Cinna latifolia*, *Cypripedium calceolus*, *Pulsatilla pratensis*.

### **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 and peatland forests, which contain a significant proportion of characteristic species (e.g. *Sphagnum* mosses), as well as floodplain meadows and floodplain forests.

Characteristic species important for maintaining the biological diversity of the Boreal Biogeographical Region are:

Plants: Sword Lily *Gladiolus imbricatus*, Siberian Iris *Iris sibirica*, Lady's Slipper *Cypripedium calceolus*, Marsh Club Moss *Lycopodiella inundata*, Stonecrop *Sedum telephium* and *Sphagnum* sp.

Birds: Corncrake *Crex crex*, Golden Eagle *Aquila chrysaetos*, Whimbrel *Numenius phaeopus*, Golden Plover *Pluvialis apricaria*, Wood Sandpiper *Tringa glareola*, Dunlin *Calidris alpina schinzii*, Merlin *Falco columbarius*, Willow Grouse *Lagopus lagopus*, Montagu's Harrier *Circus pygargus*, Great Snipe *Gallinago media*.

Mammals: Wolf *Canis lupus*, Brown Bear *Ursus arctos*, Lynx *Lynx lynx*, Otter *Lutra lutra*, Beaver *Castor fiber*, Flying Squirrel *Pteromys volans*.

### **Criterion 4**

The site supports several animal species at a critical stage in their life cycles, being a nesting biotope of mire birds and the stopover site for migrating birds (Bewick's Swan *Cygnus columbianus bewickii* – see criterion 6 - and Common Crane *Grus grus* – during spring migration approximately 1000 ind.).

The globally near-threatened *Crex crex* Corncrake is common (50-100 pairs) in floodplain meadows.

The species composition of extensive bogs (especially Kuresoo Bog) is one of the most representative in Estonia, including Whimbrel *Numenius phaeopus* (more than 100 pairs; a quarter of Estonia's population), Golden Eagle *Aquila chrysaetos* (3-4 pairs), Willow Grouse *Lagopus lagopus* (one of two vital populations in Estonia), Plover *Pluvialis apricaria* (ca 150 pairs), Wood Sandpiper *Tringa glareola* (10-15% of birds out of the total number in Estonia nest here), Montagu's Harrier *Circus pygargus* (5-7p), Common Crane *Grus grus* (20-30 pairs). The forests support good populations of birds which include Black Stork *Ciconia nigra* (3-4 pairs), Lesser Spotted Eagle *Aquila pomarina* (5-6 pairs), White-backed Woodpecker *Dendrocopos leucotos* and Capercallie *Tetrao urogallus*.

The site is a refuge for animals with large habitat requirements, being a breeding site for Wolf and Lynx and a hibernation site for Brown Bear.

### **Criterion 6**

Wetland regularly supports 2,5-10% of the individuals of the NW European (non-br) population of Bewick's Swan *Cygnus columbianus bewickii* (during the autumn migration approximately 500 and during spring migration approximately 2000 ind.).

### **Criterion 8**

It is an important spawning ground for the fish Pike *Esox lucius*.

---

**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. Wettenberg, 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 site is of natural origin. After the region was freed from the glacier (about 13,000 years ago) a local ice lake was formed between the Sakala Upland and the glacier, after the retreat of which (about 10,000 years ago) paludification started in remaining low waterbodies. Devonian sandstone bedrock is covered by sand and lake sediments and with peat. The depth of the peat layer is 3 - 6 m, reaching a maximum of 9.5 m. The bogs of Soomaa have the highest marginal slope in Estonia (up to 6 m).

In the extremely flat and low area with clayey soils (Eutric Gleysols and Dystric Histosols dominate) the surface water flow away with difficulties causing floods and high ground water table supporting the paludification process. The absolute amplitude of the water level fluctuations is 5.7 m.

Transitional area from the sub-maritime climate to more continental climate of inland Estonia. Mean annual temperature is +4,5-5 °C (in July +16,6 °C and in February -6,6 °C) Mean annual precipitation is 740 mm. Snow cover lasts in average 98 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).

The wetland is a part of an inland paludified lowland which forms the Soomaa landscape region (1545 sq.km). In sparsely populated region 70% of the land is covered by forests, less than 20% is used in agriculture. Climate is transitional from sub-maritime to sub-continental type.

---

**18. Hydrological values:**

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

The runoff is regulated naturally by bogs and forests. The site is important for groundwater recharge and discharge, water quality and for flood control.

---

## 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 Xf Ts W Tp M O Ss 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.

The peatland areas are composed of 75% of bogs (which are of transition type between maritime and continental; mainly open-grass bogs and dwarf-shrub bogs; partly pine bogs), 20% of transition bogs, and 5% of fens (which due to lack of drainage, have survived in their original state). There is one dystrophic relic lake (6 ha) and numerous bog-pools. The forests wedged between bogs and flooded over by the river waters several times a year are wet, or moist, swamp and floodplain forests. Both the alluvial meadows and forests on the riverbanks are of great botanical value. In the floodplain forests there grow soft-leaved elms (rare in Estonia), ashes, oaks, limes, elms and a character species of the growth site - the Hop *Humulus lupulus*. The unique swamp forests (carrs) surround the site.

---

## 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.*

In total, 524 vascular plant species have registered.

The rich flora of floodplain meadows includes endangered Sword Lily *Gladiolus imbricatus*, Siberian Iris *Iris sibirica* and *Sedum telphium*.

In dry pine forests on dunes extremely rare Sand Milk Vetch *Astragalus arenarius* grows.

---

## 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.*

Birds: The globally near-threatened Corncrake *Crex crex* is common (50-100 pairs) in floodplain meadows.

The species composition of extensive bogs (especially Kuresoo Bog) is one of the most representative in Estonia, including Whimbrel *Numenius phaeopus* (more than 100 pairs; a quarter of Estonia's population), Golden Eagle *Aquila chrysaetos* (3-4 pairs), Willow Grouse *Lagopus lagopus* (one of two vital populations in Estonia), Plover *Pluvialis apricaria* (ca 150 pairs), Wood Sandpiper (*Tringa glareola* 10-15% of birds out of the total number in Estonia nest here), Montagu's Harrier *Circus pygargus* (5-7p), Common Crane *Grus grus* (20-30 pairs).

The forests support good populations of birds which include Black Stork *Ciconia nigra* (3-4 pairs), Lesser Spotted Eagle *Aquila pomarina* (5-6 pairs), White-backed Woodpecker *Dendrocopos leucotos* and Capercaillie *Tetrao urogallus*.

Mammals: 36 species of mammals have been counted, including Wolf *Canis lupus* (1-2 packs), Lynx *Lynx lynx* (12-15), Brown Bear *Ursus arctos* (5-6), Otter *Lutra lutra*, Beaver *Castor fiber* and Flying Squirrel *Pteromys volans*.

---

### 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:

Many archaeological findings are known from the area. Local features such as the extensive mires and regular flooding rivers have shaped a local lifestyle. Characteristic is the adaptation of local architecture to overflowing, building of suspension and temporary bridges, and the use of archaic, single tree boats - dugouts.

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: about 90% of the site is state-owned land

b) in the surrounding area: state and private land

---

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

a) within the Ramsar site: the location and the extensive floods have not favored intensive economic activities. Less than 70 permanent inhabitants. Land use consists of extensive forestry and small-scale agriculture allowed only in a quarter of the territory. In recent years nature tourism has become the main field of activity.

b) in the surroundings/catchment: land is used for forestry (especially to the west and south) and agriculture (especially to the east).

---

**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: No big threats are posed to ecological character of the wetland due to the protection regime and appropriate management activities. Threat lies in the overgrowth of floodplain meadows with scrub, also 35% of the floodplains are managed.

b) in the surrounding area: threats can arise from water pollution from agricultural fertilisers, forestry, and the drainage of agricultural and forested lands

---

**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.

Soomaa was declared a national park by the Estonian Parliament on 8 December 1993, safeguarding the whole wilderness complex. According to the protection rules the territory is divided into different zones with varying degree of allowed human activity. Every kind of economic activity is prohibited in almost three quarters of the territory.

The area is identified an Important Bird Area and Natura 2000 site (both a SCI and a SPA). Since 16 October 2009 Soomaa National Park is certified as PAN Parks wilderness area.

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?:

A management plan for the years 2012-2021 is implemented in December 2011.

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.

During the preparation of the management plan thorough inventories were carried out and 20 special reports were drafted. According to the management plan scientific monitoring and research activities occur on a regular basis with an emphasis on monitoring of floodplain meadows to evaluate the management effectiveness of management: botanical research of rare plants, monitoring of spring and



autumn migration of birds, counting of birds of floodplain meadows (especially *Crex Crex* and *Gallinago media*) and peatlands, also monitoring of mammals: elk, roe deer, bear, wolf, lynx and small predators.

The visitor's centre in Tõramaa also acts as the research station for large carnivores (especially wolf and lynxes) and supporting activities of quest researchers in national park.

---

### **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.

A visitors' centre was constructed in Kõrtsi-Tõramaa in 1998. There are 10 study and hiking trails, several of these are supplied with viewing towers or platforms and board walks in the wetland. A photo album, maps and several booklets have been prepared providing general and conservation information. A memorial museum to the composer Mart Saar is located at Hüpasaare (northeastern part) where a nature trail has also been established.

Local newsletter "Jõhvikas" (Cranberry) is published regularly by NGO "Friends of Soomaa".

Since 2009 the 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.

Since its establishment as a national park, tourism load has increased. Yearly approximately 9000-10000 visitors are registered in visitor's centre. The floods attract many visitors. The area is attractive for nature tourism and in 2009 it received the European Destination of Excellence (EDEN) award. There is a network of local entrepreneurs certified by PAN Park offering sustainable and high quality services for visitors. It is also an important area for traditional seasonal berry picking (*Oxycoccus palustris* and *Rubus chamaemorus*) as well as mushrooms.

---

### **32. Jurisdiction:**

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

Territorial: 6 municipalities: Suure-Jaani and Kõpu municipalities of Viljandi County; Tori, Vändra and Paikuse municipalities of Pärnu County.

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

---

### **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, Viljandi-Pärnu Region (Vana-Järve, Häädemeeste Parish, Estonia)

Mr. Sulev Vare ([sulev.vare@keskkonnaamet.ee](mailto:sulev.vare@keskkonnaamet.ee)), director of the Pärnu-Viljandi Region of Environmental Board

---

### **34. Bibliographical references:**

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

**Kalamees, A.** (ed.) 2000. Important Bird Areas in Estonia. – Eesti Loodusfoto, Tartu, 114 pp.

**Kukk, T.** (toim.) 1994. XVII eesti loodusuurijate päeva ettekannete kokkuvõtte. Tipu, 11.-12. Juuni 1994: Soomaa Rahvusparki loodus. - Eesti Loodusuurijate Selts, Tartu, 99 lk. (in estonian)

**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.

**Soomaa Rahvuspark.** 1999. Special issue devoted to the Soomaa National Park. - Eesti Loodus, 10 (in estonian with english summaries).

**Valk, U.** (ed.) 1988. Eesti sood. Estonian Peatlands. Tallinn, 344 pp. (in estonian, with english and russian summaries)

---

Please return to: **Ramsar Convention Secretariat, Rue Mauverney 28, CH-1196 Gland, Switzerland**

Telephone: **+41 22 999 0170** • Fax: **+41 22 999 0169** • e-mail: **ramsar@ramsar.org**