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:

FOR OFFICE USE ONLY.

DD MM YY

Designation date | Site Reference Number

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2. Date this sheet was completed/updated:

July 2013

3. Country:

Sweden

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.

Gustavsmurarna-Tröskens rikkärr

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** ☒;.
Included in the GIS file for all Swedish Ramsar sites version 2013.

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 site consists of four separate areas, because outside these areas the amount of wetlands is much lower. The boundary is the same as for existing nature reserves and a nature reserves under preparation.

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.

60°37'N 17°19'E (Central point)

Area 1. (Gustavsmurarna) 60°36'N 17°20'E.
Area 2. (Brännan) 60°36'N 17°19'E.
Area 3. (Tröskens rikkärr and Grinduga) 60°37'N 17°18'E.
Area 4. (Långhällskogen) 60°35'N 17°20'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 near the east coast of the middle part of Sweden, 160 km north of Stockholm. The site belongs to the county of Gävleborg (population 276 200) and lies 12 km south of the town of Gävle (municipality population 95 600).

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

Average 10 metres

11. Area: (in hectares)

In all 653 hectares comprising of four parts.

1. Gustavsmurarna 74 hectares
2. Brännan 15 hectares
3. Tröskens rikkärr including Grinduga 482 hectares
4. Långhällskogen 82 hectares

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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.

The site is characterised by marshlands at almost the same elevation as the shallow lake Trösken. Most of the fens are topogenous and considerably wet with high sedge stands that pass over to reed or rush areas along the shores of the lake and connecting brooks. A large number of the fens are alkaline fens with several rare and threatened orchids as well as a rich and interesting insect fauna. There are also good examples of undisturbed swamp woods and old herb-rich spruce forests.

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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 contains representative wetlands types for the EU boreal region including Forested peatlands (Xp), Non-forested peatlands (U), Permanent freshwater lakes (O) and Freshwater springs (Y). The soils have some calcareous intent that makes the area rich in habitats (rich fens, calcerous wet forests) that are not so common in the boreal region except in a few part of the region. Such big open calcareous fens are unusual in this part of the boreal region.

Criterion 2: The site supports many nationally threatened or red-listed species including particularly large populations of one-leaved bog-orchid *Microstylis monophylla* (VU) and fen orchid *Liparis loeselii* (VU). The very rare ground beetles *Chlaenius sulcicollis* (VU) and *Chlaenius quadrisulcatus* (VU) are recently found on a number of localities in the area. Some other nationally redlisted species at the site are *Scapania apiculata* (EN), *Scapania carinthiaca* (EN), Mountain oakmoss lichen *Evernia divaricata* (VU), Honeycombed lichen *Menegazzia terebrata* (VU), and Megalaria lichen *Megalaria grossa* (VU).

Criterion 3: The population of one-leaved bog-orchid *Microstylis monophylla* (VU) contains almost certainly over 1000 individuals and the fen orchid *Liparis loeselii* (VU) population consists of more than 10 000 individuals. These, as well as the populations of mentioned ground beetles, are probably the largest in Sweden and should be regarded as important for maintaining biodiversity in a long-term perspective both in Sweden and in the EU boreal region.

Criterion 4: The site supports bird species at a critical stage of their life cycle. There are a number of wetland and taiga birds breeding or present in the area, (see details under 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:

Boreal

b) biogeographic regionalisation scheme (include reference citation):

European Environment Agency 2003. Europe's environment: the third assessment, p 231. Environmental assessment report no 10. Luxembourg: Office for Official Publications of the European Communities

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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 area is very flat and is situated on an old bedrock plain (the subcambrian peneplain) that consists of crystalline rocks - mainly gneiss. The bedrock is almost completely covered by glacial till, which in lower parts contains limestone or calcareous clays. The calcareous content strongly influences the vegetation and flora. The hydrology in the area above Lake Trösken is only slightly affected by man and the important groundwater movements and water quality is undisturbed. The water quality of Lake Trösken is strongly influenced by water that is conducted to the lake from the River Dalälven. This has made the water more coloured and maybe slightly more nutrient-rich. This might have increased the overgrowth of the lakeshores and reed belts close to the fens. The hydrology of the wetland in the separate areas is undisturbed and devoid of ditches.

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 catchment area is 116 km². The soils in the catchment area comprises of 94 % till, 4 % peat and 1.5 % bare rocks. The geology is the same as in the site. The climate is influenced by cyclones from the Atlantic, but summers are warm and winters cold with a normally consistent snow cover. The vegetation period is 180 days. The precipitation is 600-700 mm and average July temperature is 15 C°.

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

In many areas the hydrology is intact and there are no ditches. Outside the site the water regime is somewhat modified, which also influence the site indirectly. There aren't any investigations done about hydrological values, but the site probably supports sedimentation of humus particles and water purification. The peatlands store and sequestrates carbon.

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 • <u>O</u> • P • Q • R • Sp • Ss • Tp Ts • <u>U</u> • Va •
Vt • W • Xf • <u>Xp</u> • <u>Y</u> • Zg • Zk(b)

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

b) dominance:
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.

U, O, Xp, Y

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 site contains wetland of the boreal region, including the EU Habitats Directive habitats Alkaline fens (7230), Fennoscandian deciduous swamp woods (9080) and Natural eutrophic lakes with Magnopotamion or Hydrocharition type vegetation (3150). The main habitat is rich fen (130 hectares) and mostly extreme rich types with vegetation dominated by sedge. The fens are mostly topogenous and in more or less at the same level as the water of Lake Trösken. In wet fen areas sedges occurs mixed with reed. Important with especially rich flora is parts with *Schoenus ferrugineus, Carex hostiana* and *Carex lepidocarpa*. The marsh helleborine *Epipactis palustris*, early marsh-orchid *Dactylorhiza incarnata*, and fen orchid *Liparis loeselii* are particularly common in this vegetation. There are also open waters as well as shallow water with mixed overgrown reed and rush vegetation. Swamp forests cover small areas in several places.

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 area supports several nationally red listed species for example: One-leaved bog-orchid *Microstylis monophyllus* (VU), Fen orchid *Liparis loeselii* (VU)*, Lady's slipper orchid *Cypripedium calceolus**, Rattlesnake fern *Botrychium virginianum* ssp europaeum (EN), Wood fescue *Festuca altissima* – (VU), Neckera moss *Neckera pennata* (NT), *Scapania apiculata* (EN), *Scapania carinthiaca* (EN), *Scapania glaucocephala* (DD), Slender green feather moss *Hamatocaulis vernicosus* (NT) *, Green shield-moss *Buxbaumia viridis* * -, Mountain oakmoss lichen *Evernia*

divaricata – (VU), Honeycombed lichen *Menegazzia terebrata* – (VU), Kidney lichen *Nephroma laevigatum* – (NT) and Megalaria lichen *Megalaria grossa* – (VU).

* Species protected in the Habitats directive 92/43/EEC Annex 2 or 4

Several species are not red listed but rare and typical for rich fens and used as indicators for nature protection. Examples are: *Schoenus ferrugineus* - Bog-rush, *Ophrys insectifera* - Fly orchid, *Primula farinosa* - Bird's-eye primrose, *Epipactis palustris* - Marsh helleborine, *Dactylorhiza traunsteneri* - Narrow-leaved marsh-orchid, *Carex appropinquata*, *Carex capillaries*, *Carex hostiana*, *Carex lepidocarpa*, *Carex flacca* and *Equisteum scirpoides* - Dwarf scouring rush.

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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 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.*

Several nationally red-listed species are known from the area, for example: *Vertigo geyeri* – Geyer's whorl snail (NT)*, *Chlaenius sulcicollis* (EN), *Chlaenius quadrisulcatus* (VU), *Dytiscus latissimus* * and *Leucorrhinia pectoralis* *

Breeding bird species are for example: Crane *Grus grus**, Osprey *Pandion haliaetus*, Ural owl *Strix uralensis**, Capercaillie *Tetrao urogallus** and Black woodpecker *Dryocopus martius**. Other bird species are for example: Honey buzzard *Pernis apivorus* (EN)*, White-tailed eagle *Haliaeetus albicilla* (NT)*, Spotted Crake *Porzana porzana* (VU)*, Bittern *Botaurus stellaris* (NT)*.

* Species in the Birds Directive 79/409/EEC Annex I or Habitats Directive 92/43/EEC Annex 2 or 4

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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:

Until year 1000 Lake Trösken was a shallow bay of the Baltic Sea. At this time the area was probably important for fishing and hunting. The earliest trace of human activities in the surroundings is from Bronze Age. The small village Grinduga (population 100 individuals) was established in the beginning of medieval age. Later settlements from the 19th centuries are known but are now abandoned.

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:

The whole site is state-owned.

b) in the surrounding area:

Private owned

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25. Current land (including water) use:

a) Within the Ramsar site:

Today the area is used mainly for nature conservation including some research and monitoring. The site is also used for hunting and open-air activities. Forestry has been important, but since the area has been acquired for nature conservation purposes this has stopped.

b) In the surroundings/catchment:

Mainly forestry, but also hunting and recreation. There are areas offering summer cottages or permanent living in other parts around the lake.

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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:

Former land use with extensive grazing and haymaking kept the fens more open and reduced bush and tree vegetation. There are now signs of increasing reed vegetation in open fens and re-vegetation by bushes and trees in dryer parts.

b) In the surrounding area:

The water quality of Lake Trösken is strongly influenced by water that is conducting to the lake from the river Dalälven. This has affected the plant life in the water. Water plants that were recorded from the lake in the 19th century (e.g *Potamogeton compressus* and *P. friesii*) have disappeared and formerly unknown water plants at the site (e.g *Myriophyllum verticilatum* and *Potamogeton obtusifolius*) have established.

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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.

The whole area is listed as being of national importance for nature conservation. Four parts of the area are protected as nature reserves: Gustavsmurarna (74 hectares), Brännan (15.7 hectares) established in 2006, Långhällskogen (82 hectares) established 2008 and Tröskens rikkärr (459 hectares) established in 2012. Large parts of the area have been included in the Natura 2000 network as the sites: SE0630161 Matyxsjön (28 hectares), SE0630160 Gustavsmurarna (74 hectares), SE0630195 Bultbomurarna (124 hectares), SE0630194 Brännan (15 hectares), SE0630242 Grinduga (30 hectares) and SE0630257 Långhällskogen (82 hectares).

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?:

There are approved management plans for the established nature reserves and the Nature 2000 sites which are being implemented. There are draft management plans for the planned nature reserve.

d) Describe any other current management practices:

There has been restoration of the old farmland and the village Grinduga and some other parts have been extensively graced in the last 20 years.

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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.

A planned nature reserve is Grinduga (23 hectares). There is also a proposal to forbid drainage at the site that will strengthen the protection for the areas that aren't protected as nature reserves yet.

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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.

Minor research projects are conducted. Some plant species are surveyed regularly.

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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 a nature trail at the village Grinduga with information booklets of the area. A new nature trail within the new reserve Tröskens rikkärr is under construction.

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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.

There are about 300 visits per year in the old village Grinduga and some less visitors at the wetlands (app. 100 visits per year).

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

County Administrative Board of Gävle, 801 70 Gävle, SWEDEN

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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.

County Administrative Board of Gävle, 801 70 Gävle, SWEDEN
Tel. +46 26 17 10 00. E-mail: gavleborg@lansstyrelsen.se (to the registry).

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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.

Bottenfaunainventering i Gävleborgs län 1986-1988. Länsstyrelsen 1992.
Fördjupad naturinventering av tre linjesträckningar mellan Älvkarleby och Bomansberget. Beijer, Björn-Axel 1993. Banverket.
Fördjupad naturinventering av linjesträckningen UA4 mellan Älvkarleby och Bomansberget. Fasth T, Bengtsson O, Andersson L 1994. Banverket.
Grinduga – Viälvens naturreservat – inventeringsrapport, 2000, Länsstyrelsen i Gävleborg.
Grinduga by – natur och kulturhistoria i ett ålderdomligt odlingslandskap, Beijer, Björn-Axel 1996. Skriftserien Natur & Kultur i Gävle.
Gärdefors, U. (ed.) 2010. Rödlistade arter i Sverige 2010 - The 2010 Red List of Swedish Species. Artdatabanken, SLU, Uppsala.
Inventering av träsksammetslöpare i Gävleborgs län 2006, Isaksson D, Länsstyrelsen Gävleborg, rapport 2007:13.
Lummerbäcken – inventeringsrapport, 2003, Länsstyrelsen i Gävleborg.
Långhällskogen – inventeringsrapport, 2003, Länsstyrelsen i Gävleborg.
Myrar i Sandviksregionen, södra Gästrikland, Björkbäck, F. 1970. SNV PM 703.
Myrskyddsplan för Sverige, Naturvårdsverket rapport 5669 2007.
Skyddsvärda myrar i Gävleborgs län, Länsstyrelsen i Gävleborg 1985.
Skyddsvärda vattendrag i Gävleborg, Länsstyrelsen 1992.
Inledande naturinventering av UA5. Ståhl, P & Fasth T 1995. Banverket, mellersta regionen.
Snäckor i rikkärr (Cochlicopa nitens, Vertigio geyeri, Vertigo angustior och Perforatella bidentata) i Gävleborgs län 2006, von Proschwitz T. Länsstyrelsen Gävleborg, rapport 2007:14.
Värdefull natur i Gävleborg, Länsstyrelsen i Gävleborg 1997.

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