

# 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.*

## Moor- und Seenlandschaft Keutschach-Schiefling

FOR OFFICE USE ONLY.

DD MM YY

Designation date Site Reference Number

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

State of Carinthia

Mag. Klaus Krainer

Arge NATURSCHUTZ

Gasometergasse 10

A-9020 Klagenfurt

Tel.: 0463/329666

Fax: 0463/329666-4

E-Mail: [office@arge-naturschutz.at](mailto:office@arge-naturschutz.at)

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

13.12.2004

### 3. Country:

Republic of Austria

### 4. Name of the Ramsar site:

Moor- und Seenlandschaft Keutschach-Schiefling

### 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):

14°04'10' – 14°13'54''E; 46°34'14'' – 46°36'07''N

### 7. General location:

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

Ca. 5 km SW of Klagenfurt (provincial capital).

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

507 m – 615 m NN

### 9. Area: (in hectares)

542,72

## 10. Overview:

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

The Keutschach lake-valley is situated in the community of Keutschach am See and Schiefling am See between the hills of Pyramidenkogel (850 m) and Friedelhöhe (739) in the North and the Sattnitz (921 m) in the South. It is a part of the Sattnitz-Rücken, and influenced by the Würm ice-age (10.000 B.C.). In the 12,5 km long valley exist four greater lakes (Keutschacher See, Hafnersee, Rauschelesee, Bassgeigensee), some ponds (Penkensee, Klingensteiner Teich, Hirsnig-Teich, Wuksch-Teich) and a mosaic of various wetland-types, as tall sedge and herb communities, wet grassland, elements of raised bog, damp meadows, tree-dominated swamps, black elder swamp forests, birch tree and willow tree swamp forests. The site consists of 10 single areas, some of them are connected with small brooks or rivers, from West to East: "Roach-Moor", "Farrendorfer Moor", "Rakouza-Moor", "Hafnersee", "Penkensee", "Keutschacher See", "Dobeinitz Moor", "Bassgeigensee", "Rauschelesee", "Reauz Moor".

The site supports numerous nationally rare species of plants (for instance orchids and carnivorous plants) and provides habitats for internationally endangered butterflies (*Maculinea*).

## 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).

<u>1</u>	<u>2</u>	3	<u>4</u>	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).

### Criterion 1

Bordering of some ponds the vegetation consists of calcareous marsh with *Cladium mariscus* and *Caricion davallianae* listed as Priority habitat type in Annex I of FFH Directive (7210).

In some areas the vegetation consists of calcareous lowland moors with carnivorous plants as *Drosera* listed as habitat type in Annex I of FFH Directive (7230).

Large areas of the Ramsar site consist of bog woods as black elder swamp forest, willow bushes (swamp forest) and birch swamp listed as Priority habitat type in Annex I of FFH Directive (91D0).

### Criterion 2

In the Keutschacher Seental exists an important population in Carinthia of the very endangered butterfly species *Maculinea nausithous* (listed in FFH Directive Annex II, 1061).

There are also some endangered herb communities such as moor grass meadows (listed in FFH Directive Annex I, 6410) and calcareous lowland moors) with many rare species, such as the carnivorous *Drosera* and *Liparis loeselii* (listed in Annex II of FFH Directive), *Betula humilis* and various *Carex* species as *C. chordorrhiza*.

In the pond live many endangered amphibians, such as *Hyla arborea*, *Bombina variegata*, also the rare *Vertigo moulinsiana* and *Unio crassus* (*Bombina*, *Vertigo* and *Unio* are listed in Annex II of the FFH Directive, 1193, 1016 and 1032).

The reeds are habitats of many specific breeding birds, such as *Ixobrychus minutus*, *Locustella luscinioides* and *Emberiza schoeniclus*, also *Lanius collurio* and *Alcedo atthis* were recorded (*Ixobrychus*, *Lanius* and *Alcedo* are listed in Annex I of the Directive on the conservation of wild birds, A022, A338 and A229).

#### Criterion 4

The unfrozen lakes are important for many waterbirds to spend the winter such as *Podiceps cristatus* and various ducks. The ponds and lowland moors with reeds are important places to rest for birds of passage or for specific breeding birds (see Annex 1).

#### **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:**

Alpine biogeographic region, according to the EU classification system (AT 211).

##### **b) biogeographic regionalisation scheme** (include reference citation):

Eastern Alps, Sattnitz: southwest of the provincial capital Klagenfurt.

#### **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.

Glacial activities in the Würm-ice age (10.000 years B.C.) formed the valley with many postglacial lakes which includes the present Keutschacher See, Rauschelesee, Hafnersee und Bassgeigensee. Keutschacher See (1,4 km<sup>2</sup>, max. depth 15,6 m); Hafnersee (15,94 ha, max. depth 10 m), Penkensee (5,16 ha), Bassgeigensee (ca. 1,5 ha, max. depth 6 m), Rauschelesee (19,1 ha, max. depth 12 m).

The western and central area of the valley is drained through the Keutschacher See towards north into the Wörther See. Only in the east a small ridge forms a watershed and drains the eastern part of the valley towards east. 30 years ago the building of a sewerage systems started. Today the lakes offers drinking water quality.

#### **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 valley is situated 1,5 km south of the Wörther See, Carinthian's largest lake, in the Klagenfurter central area. Between the Wörther See (in the north) and the Drau river (in the south) the Sattnitz represents a ca. 950 m high ridge.. The climatic situation is influenced by the Wörther See and the Drau river: it is characterized by middle precipitation and many foggy days in autumn and winter. In winter the lakes are frozen. This area is tied up in the most important tourism regions in Carinthia.

#### **16. Hydrological values:**

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

The Keutschach valley is made by the ice-age and serves as a vast natural water storage. In the eastern part, between Dobeinitz Moor and Bassgeigensee exists a watershed influenced by the ice age. On the north slope of the Sattnitz many rivers have their sources. A quite important distinctive feature of the valley is a very beautiful ca. 12 m high waterfall which is hidden in the wood and dries out during longer draught period. In the past many drainage ditches were built for the cultivation of the moist meadows. After cultivation ended, the ditches become overgrown and the gradual formation of wetland has been observed. The formation of wetland in the outline areas prohibits a cultivation and supports the shrub invasion.

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

#### Human-made:

<u>1</u>	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.

#### Wetland-types (433,14)

O: 166,81 ha

U: 150,45 ha

Xf: 107,98 ha

1: 4,32 ha

M: 1,88 ha

W: 1,6 ha

Tp: 0,10 ha

#### Non Wetland types (109,58 ha)

Woodland, meadows, pastures, fields

## 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 lakes and ponds as Rauschelesee, Bassgeigensee and Hafnersee with macrophytes, large areas of tall sedge and reeds (*Typha latifolia*, *Phragmites australis*). The Dobeinitzmoor, east of the Keutschacher See, with *Cladium* and *Phragmites australis*.

Till the end of the 1960ies most of the moist meadows (small sedge reeds, moor grass meadows) were cultivated regularly for horse-hay and litter. Then many of them were non-cultivated anymore and this allowed for the growth of tall perennial herbs, reeds (*Phragmites australis*) and bushes with black elders (*Alnus*), birches (*Betula*), willow-trees (*Salix*) and pines (*Pinus sylvestris*), some of them were also afforested.

Many animal specialists, such as butterflies (*Maculinea*), insects and birds need the various wetland plant communities, shells, snails, amphibians and dragonflies need the ponds and other open water areas for reproduction. In the Ramsar site exist two amphibian migration routes, which have been protected for many years by volunteers (Fence-bucket-method).

## 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.**

In the lakes and ponds grows macrophytes such as *Potamogeton* sp., *Myriophyllum* sp. and *Nymphaea alba*.

In the wetland areas there are 8 various carnivore plants, four *Drosera* species (*Drosera anglica*, *D. rotundifolia*, *D. intermedia* D x *obovata*) three *Utricularia* species, and *Pinguicula vulgaris*.

Reeds of *Typha latifolia*, *T. angustifolia* and *Cladium mariscus* (*Cladietum marisci*).

In the black elder swamp woods the rare *Calla palustris* and *Dryopteris cristata*.

In transitional bogs *Betula humilis*, *Carex chordorrhiza* and *C. limosa*.

Small sedge reed, moor grass meadows and wet meadows with *Epipactis palustris*, *Liparis loeselii*, *Dactylorhiza incarnata*, *D. majalis*, *Gentiana pneumonanthe*, *Trichophorum alpinum*, *Carex davalliana*, *Primula farinosa*, *Pedicularis palustris*, *Sanguisorba officinalis*.

## 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.**

In the wetlands and their surroundings more than 60 species of snails and 10 species of shells are recorded, some of them are very rare in Carinthia, such as *Vertigo moulinsiana* (FFH Directive, Annex II, 1016) and *Macrogastera badia*. The butterfly *Maculinea nausithous*, a very rare European species, exists in a very good population. The unfrozen lakes are important for many waterbirds to spend the winter. More than 10 amphibian species are recorded, such as *Hyla arborea*, *Bombina variegata*, *Triturus carnifex* and *Rana dalmatina*. Snakes, fishes, spiders, grasshoppers, dragonflies, bugs, cicadas, beetles and many more are represented with many species and specialists.

## 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.

In the Keutschach lake the only pile-village of Carinthia with about 300 piles dating back to the New Stone Age (2.500 bis 2.000 B.C.) were found. In the municipality (local authority) of Keutschach there are some pottery workshops.

In the western part of the municipality of Schiefpling there are on the 772 m high Kathreinkogel relics of the 3.000 years old settlement as well as the ruins of an early Christian church.

## 22. Land tenure/ownership:

(a) within the Ramsar site:

Private Owners

NGO's (Naturschutzbund Kärnten, Kärntner Tierschutzverein)

Municipality of Keutschach and Schiefpling

Local catholic church

Government of Carinthia

(b) in the surrounding area:

Private Owners

Municipality of Keutschach and Schieffling

Local catholic church

Government of Carinthia

### **23. Current land (including water) use:**

(a) within the Ramsar site:

Extensive hunting. Fishing. Intensive and extensive farming (agriculture, grassland, horse and cow pasture). Summer tourism. Extensiv Forestry. The Ramsar site is not inhabited (all houses are outside).

(b) in the surroundings/catchment:

Intensive and extensive farming (agriculture, grassland, horse and cow pasture), forestry (timber production), hunting, tourism, sport, estates.

### **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:

Until 30 years ago the moor meadows had been mown. When many farmers stopped mowing great areas of the litter meadows, they turned into natural shrub because of the missing extensive agriculture or they afforested the meadows.

The greater lakes (Rauschelesee, Keutschacher See and Hafnersee) are used for bathing and fishing, the smaller lakes (Bassgeigensee, Penkensee) and ponds only are used for fishing.

(b) in the surrounding area:

On the greater lakes (Keutschacher See, Rauschelesee and Hafnersee) exist camping areas and bathing beaches. The estates partly extend to the Ramsar site, especially on the northern bank of the Keutschach See there are many houses.

In the south rock walls and forested slopes extend to the Ramsar site; forestry is possible only in the flat woods.

### **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 Keutschach valley is legally protected as conservation area (Landesgesetzblatt für Kärnten, 7. April 1970, LGBl. 74/1970 i.d.F. LGBl. 86/1971), but the western part of the Ramsar site is not protected. All wetlands in Carinthia are protected by the Carinthian nature law, § 8 (LGBl 74/1986 i.d.d.g.F.).

In the surrounding area exist many protected areas:

- nature conservation area Spintik-Teiche (LGBl 18/1959 i.d.F LGBl 84/1971).
- Conservation area Pyramidenkogel (LGBl. 73/1970)
- Conservation area Rauth (LGBl. 72/1970)
- Conservation area Treimischer Teich (LGBl. 70/1970)
- Conservation area Schrottkogel (LGBl. 71/1970)

A management plan was developed during the works for the Ramsar project „Keutschach-Schieffling“, it is an essential part of the Ramsar map.

## **26. Conservation measures proposed but not yet implemented:**

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

A management plan was developed. It is the basis for the planned measures: e.g. woodland burning, mow of wetland meadows, protection of habitats of *Maculinea nausithous*.

## **27. Current scientific research and facilities:**

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

Maps of biotops exist of both municipalities, they were the basis for the Ramsar map. Special scientific research exists of the lakes and ponds and geology, butterfly species as *Maculinea*, snails and shells.

From the municipality of Keutschach has existed a map of geotops since 2004.

## **28. Current conservation education:**

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

Along a biking trail some illustrated charts of typical plants, animals and habitats were put up by the section Schiefeling of Naturfreunde Internationale Austria. In summer 2004 some guided tours were started. A special folder about the Keutschacher Seental was published by the Naturfreunde Internationale Austria. A special program for nature education 2005 is developed at the moment. Working groups of both municipalities developed a touristic concept for nature experience and nature education. In 2005 an independent nature conservation organisation will be founded.

## **29. Current recreation and tourism:**

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

The great lakes (Rauschelesee, Keutschacher See and Hafnersee) are used for bathing and camping. Many trails for hiking and biking exist, a biking trail takes you from Velden am Wörthersee through the Keutschach valley to Klagenfurt.

## **30. Jurisdiction:**

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

Amt der Kärntner Landesregierung, Abt. 8W (Naturschutz), Mießtaler Straße 1, 9020 Klagenfurt (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.

Arge NATURSCHUTZ

Gasometergasse 10

A-9020 Klagenfurt

Tel.: 0463/329666

Fax: 0463/329666-4

E-Mail: [office@arge-naturschutz.at](mailto:office@arge-naturschutz.at)

### **32. Bibliographical references:**

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

BÜRO FÜR ANGEWANDTE ÖKOLOGIE (1993): Biotopkartierung Kärnten: Gemeinde Schiefling am See. Unveröff. Endbericht im Auftrag des Amtes der Kärntner Landesregierung, Abt. 20 Landesplanung. Klagenfurt.

GEMEINDE KEUTSCHACH AM SEE (ed.) (2003): Keutschach am See – eine Chronik. Mit Fachbeiträgen von 10 Autoren. 272 S. Verlag J. Heyn, Klagenfurt.

GLASER, F. (1996): Frühchristliche Denkmäler in Kärnten. 112 S. Universitätsverlag Carinthia Klagenfurt.

HARTL, H. & H. SAMPL (1976): Die Schutzgebiete: Das Keutschacher Seental. Naturschutz in Kärnten 1. Hrsg. Vom Amt der Kärntner Landesregierung, Verfassungsdienst. Klagenfurt.

INSTITUT FÜR ANGEWANDTE ÖKOLOGIE (1994): Kulturlandschaftsprogramm Kärnten: Regionales Feucht- und Magerwiesenprogramm Keutschacher Seental. Regionales Magerwiesenprogramm: Gemeinde Keutschach. Gemeinde Schiefling am See. Band 1. Unveröff. Bericht im Auftrag des Amtes der Kärntner Landesregierung, Abt. 20 Landesplanung. Klagenfurt.

LICHTENECKER, A. (2004): Natura Trails: Im Keutschacher Seental. Hrsg. von Naturfreunde Internationale Wien.

OEHLKE, M. (2004): Kulturlandschaftsprojekt Kärnten: Das Geotop-Kataster der Gemeinde Keutschach am See. Unveröff. Bericht im Auftrag der Arge NATURSCHUTZ, Klagenfurt.

SCHWARZ, C. (1994): Biotopkartierung Kärnten: Gemeinde Keutschach am See. Band 1: Biotopförderungsprojekt Keutschach am See. Band 2: Kärntner Kulturlandschaftsprogramm. Unveröff. Bericht im Auftrag des Amtes der Kärntner Landesregierung, Abt. 20 Landesplanung, Klagenfurt.