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.

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DD MM YY
Designation date Site Reference Number

1. **Name and address of the compiler of this form:**
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2. **Date this sheet was completed/~~updated~~:**
   28. 10. 2003

3. **Country:**
   Austria

4. **Name of the Ramsar site:**
   Mires of the Überling

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*
   b) digital (electronic) format (optional): *yes*

6. **Geographical coordinates** (latitude/longitude):
   13° 51' – 13° 55' E, 47° 10' – 47° 11' 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.
   Country: Austria, State: Salzburg, District: Tamsweg, Commune: Tamsweg (also nearest large town), Location: Überling

8. **Elevation:** (average and/or max. & min.)
   1540 - 1770 m

9. **Area:** (in hectares)
   116.640 ha (mires), 264.977 ha (whole site)

10. **Overview:**
    The Überling mountain is the most outstanding mire hot spot of the Alps: 40 mires in an area of 35 km². The Überling has been formed by a branch of the Mur glacier. The relief consists of soft ridges and shallow depressions, the silicious bedrock is covered with glacier clay and moraine material. The subalpine continental climate is similar to boreal conditions and outstanding for the Alps (695 mm, 4,2° C in 1000 m). Together, this pysical conditions are ideal for mire formation and development in this area. Due to the

climate the mires of the Überling are Aapa mires, and, except for on the neighbouring Schwarzenberg, this mire type is absent in the Alps. As the moraines contain some base-rich material, the vegetation is very divers. Almost all plant communities appearing on Alpine mires are represented.

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).

O

1	2	3	4	5	6	7	8

12. Justification for the application of each Criterion listed in 11. above:

Criterion 1: *The Überling is the biggest peatland concentration in the Alps. The mires show all typical features of mire types representative for the boreal zone. Except for one site, which has been drained to turn it into a pasture, all objects are near-natural or natural, only affected by some cattle grazing.*

Criterion 2: *The plant communities of the mires and marginal forests are endangered as almost all wetland communities in Central Europe.*

Criterion 3: *The mires of the Überling represent a large number of plant communities typical for the boreal zone and therefore add an important part to the biodiversity of the region. Examples for plant species not growing outside peatlands are Betula nana (Dwarf Birch), Carex pauciflora (Few-flowered Sedge), Drosera anglica (Great Sundew), Drosera intermedia (Oblong-leaved Sundew) and Drosera rotundifolia (Round-leaved Sundew), Menyanthes trifoliata (Bogbean), Swertia perennis (Bog Swertia), Trientalis europaea (Chickweed Wintergreen), Vaccinium microcarpum (a Cranberry species) and numerous moss species e.g. Sphagnum spp. (Peatmoss) and Drepanocladus spp. Outstanding for the biogeographical region of the Alps is the occurence of the boreal species Betula nana (Dwarf Birch), Trientalis europaea (Chickweed Wintergreen) and Vaccinium microcarpum (a Cranberry species) as well as of the Empetro hermaphroditi-Sphagnetum fusci (Crowberry-Brown Peatmoss Community).*

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: *Central Alps – Niedere Tauern – Murauer Berge*

b) biogeographic regionalisation scheme (include reference citation): *Steiner, G.M. (1992) Österreichischer Moorschutzkatalog. Grüne Reihe des Bundesministeriums für Umwelt, Jugend und Familie Bd. 1, 509 pp, Moorkarte 1:500.000, styria medien service, Graz.*

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.

The bedrock of the Überling is a phyllitic mica shale partly covered by moraine and glacier clay. The slopes are subdivided by the glacier into steps with shallow depressions and moraines along the margins. Originally the depressions have been filled with lakes.

At present these lakes are completely terrestrialised, only one lake remained almost completely covered by a floating mat. The peatlands on the different steps are connected by their hydrology: The water from the upper mires passes through the moraines and form spring fens on the lower steps being the main water resource for the percolation mires (mainly Aapa mires) there. Close to the margins these percolation mires develop into transitional mires or even bogs. This is caused by the fact that the percolating water looses its nutrients on the way through the mire. Peatmoss growth is enforced under these conditions, which finally leads to bog formation.
The climate is continental subalpine (695 mm, 4,2° C in an altitude of 1000 m).

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 catchment area is the same as the site.

16. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.
Retention of precipitation especially after thunderstorms or heavy rainfall.

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	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:

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.
None forested peatlands; Freshwater lakes > 8 ha; Wet forests

18. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site.
Due to the extraordinary site conditions a large number of mires (for the names see map "Mires of the Überling" and table 1) have developed at the Überling mountain. The most outstanding feature is the fact, that many of these peatlands belong to the boreal Aapa mire type, a mire type, which is unique in the Alps. But also outstanding spring fens and terrestrialisation mires can be found – eg. the Gstreikel Moos is the biggest floating mat in the Alps! As the bedrock is acid, but the moraines contain some calcareous material, most of the vegetation types distributed in Alpine mires are represented there. Together with the presence of a large number of hydrogenetic mire types, the Überling represents not only a hot spot with regard to the number of peatlands, but also to their diversity.

Table 1: *The Mires of the Überling*

Name	***Size ha***	***Altitude m***	***Mire type(s)***
Vorderwaldmoos	*12,861*	*1580 - 1600*	*Mountain pine bog consisting of three parts connected by wet forest*
Gstreikel Moos	*27,497*	*1600 -1620*	*Complex of mountain pine bog, transitional mire and the largest floating mat (terrestrialisation mire) of the Alps*
Moor am Zechnergraben	*4,459*	*1520 - 1540*	*Acid paludification mire*
Ötzboden	*1,827*	*1540*	*Mountain pine bog*
Überling Moos	*32,459*	*1680 – 1700*	*Aapa mire - spring fens, percolation mire, transitional mire, bog*
Moor W Überlinghütte	*3,928*	*1720*	*Mountain pine bog only parts in the Ramsar area*
Moor SE Überlinghütte	*16,575*	*1710*	*Aapa mire - spring fens, percolation mire, transitional mire, bog - the rehabilitation of the western part has started in 2000*
Moor auf der Schattseite	*1,046*	*1730 - 1750*	*Aapa mire - spring fens, percolation mire, transitional mire, bog - a smaller part not inside the Ramsar area*
Großes Schattseitenmoor	*13,980*	*1700 - 1750*	*Mountain pine bog consisting of two parts connected by wet forest*
Moor N Überlinghütte	*1,918*	*1700*	*Mountain pine bog*
	116,640	***1520 - 1750***	

Due to bedrock and hydrological conditions the vegetation of the mires is as diverse as the mires themselves.
The typical plant communities in the different mire types are:
terrestrialisation mires *- Caricetum limosae (Bog Sedge Community) and Caricetum rostratae (Bottle Sedge Community)*
paludification mires *- Caricetum nigrae (Common Sedge Community)*
spring fens *- Caricetum paniculatae (Greater Tussock Sedge Community), Montio-Philonotidetum fontanae (a moss community)*
percolating mires *– Caricetum davallianae (Davall Sedge Community), Campylio-Caricetum dioicae (Campylium-Dioecious Sedge Community), Caricetum nigrae (Common Sedge Community) and Menyantho-Sphagnetum teretis (Bogbean-Peatmoss Community),*
transitional mires *- Drepanoclado-Trichophoretum cespitosi (Drepanocladus-Deergrass Community), Caricetum limosae (Bog Sedge Community), Eriophoro vaginati-Trichophoretum cespitosi (Harestail Cotton Grass-Deergrass Community), Empetro hermaphroditi-Sphagnetum fusci (Crowberry-Brown Peatmoss Community) and Sphagnetum magellanici (Peatmoss Community)*
bogs *- Eriophoro vaginati-Trichophoretum cespitosi (Harestail Cotton Grass-Deergrass Community), Empetro hermaphroditi-Sphagnetum fusci (Crowberry-Peatmoss Community) and Pino mugo-Sphagnetum magellanici (Mountain Pine-Peatmoss Community).*

The mires of the Überling are all near-natural except for one bog-site, the "Moor SE Überlinghütte", which has been drained in the 19th century to change it into a pasture, the other sites are more or less affected by cattle grazing respectively trampling. In a joint project of the land owners, the Austrian Federal Forests (ÖBf-AG), the Institute of Ecology and Conservation Biology of the Vienna University (IECB) and the WWF-Austria initiated and financed by the ÖBf-AG, a management plan has been carried out in order to improve the conditions for the "Moor SE Überlinghütte", which is an outstanding example of private nature conservation activities in Austria. In 1999 a fence was built around the site and in autumn 2000 94 dams were built into the drains.

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.**

Outstanding for the biogeographical region of the Alps is the occurence of the boreal species Betula nana (Dwarf Birch), Trientalis europaea (Chickweed Wintergreen) and Vaccinium microcarpum (a Cranberry species) as well as of the Empetro hermaphroditi-Sphagnetum fusci (Crowberry-Brown Peatmoss Community).

See also table 2 in the supplementary information - noteworthy are all species listed in the Red Data Book.

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.**

See tables 3 and 4 - noteworthy are all species listed in the Red Data Book, the Habitat's Directive or the Bird's Directive.

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. *None*

22. Land tenure/ownership:

(a) within the Ramsar site: *Austrian Federal Forestry (ÖBf AG)*

(b) in the surrounding area: *Austrian Federal Forestry (ÖBf AG), private landowners*

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

(a) within the Ramsar site:

Certified forestry (Pan European Forest Certification PEFC 2001/02) outside the mires, hunting and pasturing

(b) in the surroundings/catchment:

Certified forestry (Pan European Forest Certification PEFC 2001/02), hunting and pasturing

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:

Pasturing (not yet everywhere excluded)

(b) in the surrounding area:

Pasturing

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.

All mires in Salzburg are ex lege proteted by § 24 of the nature conservation law and the "Großes Schattseitenmoor" is nominated as a Natura 2000 site. For the drained site mentioned under point 18 (Moor SE Überlinghütte) a rehabilitation project was started in 2000 (see pt. 18) and a fence was built around the site in 1999 to exclude the cattle. The ÖBf AG paid for all these actions. Furthermore the ÖBf AG guarantees that there will be no peat extraction, no drainage in mires, no building of forestry roads affecting them, extensive forestry in the marginal forests and, if possible, to keep the mires free of grazing and trampling. Certified forestry (Pan European Forest Certification PEFC 2001/02), hunting and pasturing in the area outside the mires will continue without any restrictions, but following the wise use principles of the Ramsar Convention.

26. Conservation measures proposed but not yet implemented:

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

A reasonable part of the Überling mires are in private ownership and not yet part of the Ramsar site. In the next few years the Ramsar site should be extended over the whole mountain range of the Überling and cattle grazing should be completely removed from the mires. At present other conservation measures are not necessary.

27. Current scientific research and facilities:

e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.: *Permanent water level recorders*

28. Current conservation education:

e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.: *An information booklet about the mire rehabilitation project is in print*.

29. Current recreation and tourism:

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

30. Jurisdiction:

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

Office of the County Government of Salzburg, Dept. 13, 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.

DI Herwig Müller
Österreichische Bundesforste AG (ÖBf AG)
A-5580 Tamsweg, Austria

32. **Bibliographical references:**

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

Krisai, R. (1966): Pflanzensoziologische Untersuchungen in Lungauer Mooren. Verh. Zool. Bot. Ges. Wien 105/106: 94 – 136, Vienna.

Krisai, R. (1986): Untersuchungen zur Vegetation und Genese Lungauer Moore. Ein Vorbericht. Sauteria 1: 51 – 64, Salzburg.

Krisai, R., Burgstaller, B., Ehmer-Künkele, U., Schiffer, R. & Wurm, E. (1989): Die Moore des Ost-Lungaues. Sauteria 5, 240 pp., Kartenband, Salzburg.

Niklfeld, H. (1999): Rote Listen gefährdeter Pflanzen Österreichs. Grüne Reihe des Bundesministeriums für Umwelt, Jugend und Familie Bd. 10: 292 pp., styria medien service, Graz.

Steiner, G.M. (1992): Österreichischer Moorschutzkatalog. Grüne Reihe des Bundesministeriums für Umwelt, Jugend und Familie Bd. 1, 509 pp, Karte 1:500.000, styria medien service, Graz.

Supplementary Information on the Mires of the Überling

Table 2: Plant species list of the Überling mires

Vascular and Spore Plants					
Agrostis canina		*Alchemilla vulgaris agg.*		*Andromeda polifolia*	**3**
Anthoxanthum odoratum		*Arnica montana*		*Aster bellidiastrum*	
Bartsia alpina		*Betula nana*	**2**	*Betula pendula*	
Betula pubescens		*Briza media*		*Calluna vulgaris*	
Caltha palustris		*Cardamine pratensis agg.*		*Carex canescens*	
Carex davalliana		*Carex echinata*		*Carex flava*	
Carex lasiocarpa	**2**	*Carex limosa*	**3**	*Carex nigra*	
Carex panicea		*Carex paniculata*		*Carex pauciflora*	**3**
Carex rostrata		*Chaerophyllum hirsutum agg.*		*Cirsium palustre*	
Crepis aurea		*Crepis paludosa*		*Dactylorhiza incarnata*	**2**
Dactylorhiza maculata		*Dactylorhiza majalis*		*Deschampsia cespitosa*	
Drosera anglica	**2**	*Drosera intermedia*	**2**	*Drosera rotundifolia*	**3**
Empetrum hermaphroditum		*Equisetum palustre*		*Equisetum sylvaticum*	
Eriophorum angustifolium		*. Eriophorum latifolium*		*Eriophorum vaginatum*	
Festuca rubra agg		*Galium palustre*		*Galium uliginosum*	
Geranium sylvaticum		*Homogyne alpina*		*Huperzia selago*	
Juncus alpinoarticulatus		*Juncus effusus*		*Juniperus communis*	
Larix decidua		*Leontodon hispidus*		*Linum catharticum*	
Lotus corniculatus		*Luzula campestris*		*Luzula multiflora*	
Lychnis flos-cuculi		*Lycopodiella inundata*	**2**	*Melampyrum paludosum*	
Menyanthes trifoliata	**3**	*Molinia caerulea*		*Myosotis scorpioides*	
Nardus stricta		*Parnassia palustris*		*Pedicularis palustris*	**3**
Persicaria bistorta		*Phyteuma orbiculare*		*Picea abies*	
Pinguicula alpina		*Pinguicula vulgaris*		*Pinus mugo*	
Plantago media		*Potentilla erecta*		*Potentilla palustris*	
Primula farinosa		*Pseudorchis albida*		*Ranunculus acris*	
Rhododendron ferrugineum		*Salix aurita*		*Scheuchzeria palustris*	**2**
Swertia perennis		*Tofieldia calyculata*		*Trichophorum alpinum*	
Trichophorum cespitosum		*Trifolium badium*		*Trifolium pratense*	
Triglochin palustris		*Vaccinium microcarpum*	**2**	*Vaccinium myrtillus*	
Vaccinium oxycoccos	**3**	*Vaccinium uliginosum*		*Vaccinium vitis-idaea*	
Valeriana dioica		*Veratrum album*		*Viola palustris*	

Mosses, Liverworts and Lichens					
Aulacomnium palustre		*Brachythecium mildeanum*		*Bryum pseudotriquetrum*	
Calliergon stramineum		*Calliergonella cuspidata*		*Calypogeia sphagnicola*	
Campylium stellatum		*Cladonia arbusula*		*Cladonia rangiferina*	
Climacium dendroides		*Cratoneuron commutatum*		*Dicranella palustris*	
Dicranum bergeri		*Dicranum scoparium*		*Drepanocladus exannulatus*	
Drepanocladus revolvens		*Gymnocolea inflata*		*Hylocomium splendens*	
. Philonotis fontana		*Plagiomnium affine agg*		*Pleurozium schreberi*	
Polytrichum juniperinum		*Polytrichum strictum*		*Rhytidiadelphus triquetrus*	
Riccardia chamaedryfolia		*Sphagnum angustifolium*		*Sphagnum capillifolium*	
Sphagnum compactum		*Sphagnum contortum*	**2**	*Sphagnum cuspidatum*	**3**
Sphagnum fallax	**3**	*Sphagnum fuscum*	**3**	*Sphagnum magellanicum*	
Sphagnum majus	**3**	*Sphagnum palustre*		*Sphagnum papillosum*	**3**
Sphagnum russowii		*Sphagnum subsecundum*	**3**	*Sphagnum teres*	**3**
Sphagnum warnstorfii	**3**	*Thuidium delicatulum*		*Tomentypnum nitens*	**3**

The number after the name gives the degree of endangerment from the Red Data Book (Niklfeld 1999):
1 = endangered to become extinct, 2 = highly endangered, 3 = endangered, 4 = potentially endangered

Table 3: Birds observed at the Überling (data from Dr. Susanne Stadler, DI August Wessely, DI Günter Jaritz, Werner Kommik and ÖBf Tamsweg)

Species	**status**	**RDB**	**BD**
Bonasia bonasia	BV	4	I
Tetrao tetrix	BV	3	I
Tetrao urogallus	BV	3	I
Dryocopus martius	BV		I
Anthus trivialis	BV		
Emberiza schoeniclus	DZ		
Remiz pendulinus	DZ	3	
Locustella naevia	BV?, DZ	4	
Actitis hypoleucos	DZ	2	
Tringa ochropus	DZ	B.2	
Tringa nebularia	DZ		
Gallinula chloropus	BV		
Tachybaptus ruficollis	DZ		

RDB: Red Data Book of Endangered Animals in Austria (Gepp, 1994): 1: very much endangered 2: much endangered, 3: endangered, 4: potentially endangered, B.2: endangered breeding guests
BD...Birds Directive Appendix I
FFH: Habitat and Species Directive Appendix II, IV
status: potentially breeding (BV), migration guests (DZ)

Table 4: Amphibians and Reptiles observed at the Überling (data from Dr. Susanne Stadler, DI August Wessely, DI Günter Jaritz, Werner Kommik and ÖBf Tamsweg)

Species	**RDB**	**FFH**
Triturus alpestris	3	
Rana temporaria	3	IV
Bufo bufo	3	
Lacerta vivipara vivipara	3	

RDB: Red Data Book of Endangered Animals in Austria (Gepp, 1994): 1: very much endangered 2: much endangered, 3: endangered, 4: potentially endangered, B.2: endangered breeding guests
FFH: Habitat and Species Directive Appendix II, IV
status: potentially breeding (BV), migration guests (DZ)