## **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:

Prof. Dr. Gert Michael Steiner,

Institute of Ecology and Conservation Biology, University of Vienna,

Althanstr. 14, A-1090 Vienna, Austria

DI Gerald Plattner,

Nature Protection Unit of the Austrian Federal Forests (ÖBf AG)

Pummergasse 10-12

A-3002 Purkersdorf

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

15, 12, 2004

## 3. Country:

Austria

#### 4. Name of the Ramsar site:

Bayerische Wildalm and Wildalmfilz

#### 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):

11° 48' E. 47° 35' 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: Tyrol, District: Kufstein, Commune: Brandenberg, Location: Wildalm, nearest large town: Innsbruck

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

1430 - 1470 m

#### **9.** Area: (in hectares)

119,585 ha (mires), 132,566 ha (whole site)

#### 10. Overview:

The site is a combination of a big fen area covering the whole bottom and the slopes of a Polje (Karst depression with a natural brook that vanishes into a Ponor) and a saddle bog connected by fens and wet meadows. The southern slope of the saddle is also covered by fens. The fens are mostly calcareous except for the bottom of the Polje where they tend to

be more acidic. The mire concentration in this area is caused by a complicated geology with a mixture of marl (Kössener Schichten), dolomite (Hauptdolomit), different sorts of limestone (Plattenkalk, Jurakalk, Kreidegesteine, Rhätkalke) and glacier deposits combined with the typical suboceanic mountain climate of the northernmost chains of the Limestone Alps (nearest station Jenbach: 530 m, 8,4° C, 1177 mm). The Bayerische Wildalm and Wildalmfilz area is situated on the border between two biogeographical regions, the Northern Prealps and Flysch Zone (Bayerische Wildalm) and the Northern Limestone Alps (Wildalmfilz). The northernmost part of the Bayerische Wildalm belongs to Bayaria/Germany.

#### 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).

(1) (	2 3	4	5	6	7	8

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

**Criterion 1:** The Bayerische Wildalm and Wildalmfilz area is the biggest peatland concentration in the state of Tyrol. The mires show all typical features of mire types representative for the Limestone Alps. All objects are near-natural or natural, only affected by some cattle grazing.

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

**Criterion 3:** The mires of Bayerische Wildalm and Wildalmfilz represent most of the plant communities typical for both the biogeographical region of the Northern Limestone Alps as well as the Prealps and Flysch Zone and therefore add an important part to the biodiversity of the region. Typical examples of plant species not ooccurring outside peatlands are Carex limosa, Carex lasiocarpa, Drosera intermedia, Drosera rotundifolia, Epipactis palustris and numerous moss species.

**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:** <u>Bayerische Wildalm</u>: Northern Alps Northern Prealps and Flysch Zone Sonnwendjoch, <u>Wildalmfilz</u>: Northern Alps Northern Limestone Alps Rofangruppe
- **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, Karte 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 Bayerische Wildalm Polje is a Karst depression with a natural brook that vanishes into several small and one big Ponor (swallow hole). The bottom of the Polje is covered completely by a fen which is hydrologically controlled by both water coming from the sloping fens along the Polje slopes and periodical floods of the brook. This happenes

usually in spring during the snow melt period when the Ponor is unable to let the whole amount of water pass through. In the past this inundations even caused a periodical lake. The slopes of the Polje are built up by different kinds of calcareous bedrock (Hauptdolomit in the Northwest, Rhätkalke in the the South and Plattenkalk in the Northeast) and the bottom is marl (Kössener Schichten). The Polje lies exactly at a transversal tectonic disturbance that separates the Hauptdolomit from the limestone and marl formations (Dietmair 2001).

A series of Dolines (small Karst depressions), most of them containing either small fens or wet meadows, connect the Bayerische Wildalm Polje with the Wildalmfilz saddle where the largest bog of Tyrol has developed mainly on glacier deposits. Two creeks have their origins in this bog, the Filz-Bach heading to the West and the Sattelbach to the East. Possibly the Sattelbach also gets the water coming from the Bayerische Wildalm Polje (Dietmair 2001).

## 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 of the Bayerische Wildalm is the Halser Spitze, which is part of the Mangfall Mountains and situated in the Northwest of the Polje. The prevailing land use there is forestry and some cattle grazing on the pastures around the Polje.

For the Wildalmfilz and the fens south of it the catchment area is the Guffert Peak, a part of the Rofan Mountains. Again, the land use there is forestry and pasturing. In both cases the soil is a Rendzina except for the parts where marl is the bedrock. There Pseudogley or Gley soils prevail in the depressions and around seepage zones and Brown Earth in dry parts.

The climate is comparably humide, a suboceanic mountain climate typical for the northernmost chains of the Northern Alps (nearest station Jenbach: 530 m, 8,4° C, 1177 mm).

#### 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. Groundwater recharge and improvement in the limestone massif.

## 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:



#### **Inland:**



#### **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.

Zk (b) Karst system

U Mires

M Brooks

## 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 water regime of the Bayerische Wildalm described in Pt. 14 the hydrogenetic mire type of the fen on the Polje bottom is outstanding. It is and have always been a mixture of paludification mire, terrestrialisation mire and inundation mire. But the hydrology has changed during the last century. Floods and the formation of a lake in spring became rarer. This might be caused by or a combination of land use in the past (up to the 19<sup>th</sup> century the forests of the region have been overused in order to provide enough fuel for the salt production in Hall and cattle grazing was more intensive), the development of the mire itsself (the upgrowing peat body positions the mire surface in a highth where the floods can not longer reach it), a change in the runoff regime through the Ponors and of course the climate change. At present, the vegetation indicates both inclining precipitation influence resulting in bog initials and acid fen communities as well as ongoing influence of groundwater maintaining communities typical for extremely wet calcareous fens (large areas of Bog Sedge Community subassociation of Drepanocladus revolvens).

The hydrological conditions of the Wildalmfilz are much easier. The saddle bog has developed from a paludification mire, a typical situation in the Alps. The groundwater influence at present is restricted to the Lagg zone along the mire margin in the South where a big sloping fen (calcareous percolation mire), the Wildalmmoos, borders on the bog.

Plant communities of the mires of Bayerische Wildalm:

Sphagnetum magellanici (Peatmoss Community), Eriophoro vaginati-Trichophoretum cespitosi (Harestail Cotton-grass-Deergrass Community), Caricetum limosae (Bog Sedge Community), Caricetum rostratae (Bottle Sedge Community), Caricetum nigrae (Common Sedge Community) on the bottom of the Polje and Caricetum davallianae (Davall Sedge Community) in the spring and percolation mires of the slopes.

Plant communities of the mires of Wildalmfilz and Wildalmmoos:

Pino mugo-Sphagnetum magellanici (Mountain Pine-Peatmoss Community), Sphagnetum magellanici (Peatmoss Community), Eriophoro vaginati-Trichophoretum cespitosi (Harestail Cotton-grass-Deergrass Community), Caricetum limosae (Bog Sedge Community), in the bog and Caricetum rostratae (Bottle Sedge Community), Caricetum

nigrae (Common Sedge Community), Caricetum davallianae (Davall Sedge Community) and Drepanoclado revolventis-Trichophoretum cespitosi (Brownmoss-Deergrass Community) in the surrounding fens.

.Annex I Habitat: Type 7110 (Active raised bogs)

## 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.

See table 1 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.** 

No information available.

## 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.

The Bayerische Wildalm and Wildalmfilz was only used for forestry, grazing and hunting. As the use of the area as pasture is a very old right of the farmers they are reluctant to give up these rights, but the Tyrolean law offers the possibility to concentrate pasturing outside forests and wetlands.

#### 22. Land tenure/ownership:

- (a) within the Ramsar site: Austrian Federal Forestry (ÖBf AG)
- (b) in the surrounding area: Austrian Federal Forestry (ÖBfAG)

#### 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 in the past. Since 2002 most of the mire area is free of cattle grazing due to a fence built by the ÖBf AG.

(b) in the surrounding area:

None

## 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.

As all mires of Tyrol the site is protected ex lege by the conservation law and the land owner, the Austrian Federal Forests (ÖBf AG), guarantees that there will be no peat extraction in future, no drainage of the mires, no building of forestry roads affecting them, sustainable forest management in the marginal forests and, as trusted by the building of a fence around the area in 2002, to keep the mires free of grazing and trampling. Certified forestry (Pan European Forest Certification PEFC 2001/02) and pasturing in the area outside the mires will continue without any restrictions, but following the wise use principles of the Ramsar Convention. Hunting will continue also in the Ramsar site. The nomination of the Bavarian part of the Bayerische Wildalm is in preparation. Cooperation partner is Mr. Loferer from the Bavarian Forestry Office Kreuth.

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

e.g. management plan in preparation; official proposal as a legally protected area, etc. *At present no further conservation measures are necessary.* 

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

e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.: *none* 

#### 28. Current conservation education:

e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.: An information folder "Wandern und Bergsteigen umweltfreundlich im Rofan und um die Blauberge" published by the Section Kaufering of the DAV (German Alpinr Society – Deutscher Alpenverein e.V.) and the establishment of a mountain byke route.

#### 29. Current recreation and tourism:

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity. *Hiking, mountain byking (no information about frequency available)* 

#### 30. Jurisdiction:

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

Office of the Tyrolean Government,

#### 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 Egon Fritz

Österreichische Bundesforste AG (ÖBf AG)

Forstbetrieb Oberinntal

Lendgasse 10

e-mail: egon.fritz@bundesforste.at forstbetrieb-oberinntal@bundesforste.at

6060 Hall in Tirol

Revierleiter Georg Walcher and Andreas Strudl Österreichische Bundesforste AG (ÖBf AG) Forstbetrieb Kramsach Lände 195g A-6233 Kramsach

## 32. Bibliographical references:

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

Dietmair, G. (2001): Kare, Karst und Poljen. Geologisch-geomorphologische Beobachtungen im Ammergebirge und im südlichen Mangfallgebirge. Ber. Naturwiss. Ver. F. Schwaben e.V. Bd. 105: 9-40, Augsburg.

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 Bayerische Wildalm and Wildalmfilz

 Table 1: Plant species list of the mires of Bayerische Wildalm and Wildalmfilz

		ist of the fillres of Bayerise.			
Vascular and spore plants					
Aconitum napellus		Aconitum lycoctonum		Agrostis canina	
Agrostis tenuis		Ajuga reptans		Alchemilla hybrida	
Alchemilla vulgaris		Allium schoenoprasum		Alnus glutinosa	
Alnus incana		Andromeda polifolia	3	Angelica sylvestris	
Anthoxanthum odoratum		Aposeris foetida		Aster bellidiastrum	
Astrantia major		Athyrium filix-femina		Avenella flexuosa	
Bartsia alpina		Bellis perennis		Briza media	
Calluna vulgaris		Caltha palustris		Calycocorsus stipidatus	
Cardamine amara		Carex canescens		Carex davalliana	
Carex echinata		Carex ferruginea		Carex flacca	
Carex flava		Carex hostiana	3	Carex lasiocarpa	2
Carex lepidocarpa		Carex limosa	3	Carex nigra	
Carex pallescens		Carex panicea		Carex paniculata	
Carex pauciflora	3	Carex paupercula	3	Carex pilosa	
Carex pulicaris	2	Carex rostrata		Centaurea jacea	
Chaerophyllum hirsutum		Cirsium oleraceum		Cirsium palustre	
Cirsium rivulare		Clinopodium vulgare		Crepis aurea	
Crepis paludosa		Dactylorhiza fuchsii		Dactylorhiza incarnata	3
Dactylorhiza maculata		Dactylorhiza majalis		Danthonia decumbens	
Deschampsia cespitosa		Drosera intermedia	2	Drosera rotundifolia	3
Epilobium montanum		Epilobium palustre		Epilobium parviflorum	
Epipactis palustris	3	Equisetum fluviatile		Equisetum palustre	
Equisetum sylvaticum		Equisetum telmateia		Eriophorum angustifolium	
Eriophorum latifolium		Eriophorum vaginatum		Eupatorium cannabinum	
Euphrasia minima		Euphrasia rostkoviana		Festuca pratensis	
Festuca rubra		Filipendula ulmaria		Frangula alnus	
Galeopsis tetrahit		Galium album		Galium anisophyllum	
Galium boreale		Galium palustre		Galium uliginosum	
Gentiana asclepiadea		Gentiana purpurea		Geranium sylvaticum	
Geum rivale		Glyceria plicata		Gymnadenia conopsea	
Gymnocarpium dryopteris		Hieracium lactucella		Homogyne alpina	
Huperzia selago		Juncus acutiflorus	3	Juncus alpino-articulatus	
Juncus articulatus		Juncus effusus		Juncus filiformis	
Juncus inflexus		Juniperus communis		Knautia drymeia	
Lathyrus pratensis		Leontodon hispidus		Leucanthemum ircutianum	
Linum catharticum		Listera ovata		Lotus corniculatus	

Luzula campestris		Luzula sylvatica		Lychnis flos-cuculi	
Lycopodiella inundata	2	Lysimachia nemorum		Maianthemum bifolium	
Malaxis monophyllos		Melampyrum paludosum		Mentha aquatica	
Mentha arvensis		Mentha longifolia		Menyanthes trifoliata	3
Molinia caerulea		Myosotis palustris		Nardus stricta	
Parnassia palustris		Pedicularis palustris	3	Petasites albus	
Phragmites australis		Phyteuma orbiculare		Phyteuma spicatum	
Picea abies		Pinguicula vulgaris		Pinus mugo	
Plantago lanceolata		Platanthera bifolia		Poa alpina	
Polygala alpina		Polygonum bistorta		Polypodium vulgare	
Potentilla erecta		Potentilla palustris		Primula elatior	
Primula farinosa		Prunella grandiflora		Prunella vulgaris	
Ranunculus aconitifolius		Ranunculus acris		Ranunculus montanus	
Ranunculus nemorosus		Ranunculus repens		Rhinanthus alectorolophus	
Rhinanthus minor		Rumex alpinus		Salix aurita	
Scabiosa lucida		Scheuchzeria palustris	2	Scirpus sylvaticus	
Selaginella selaginoides		Senecio alpinus		Senecio ovatus	
Sesleria uliginosa	3	Silene dioica		Soldanella montana	
Solidago gigantea		Solidago virgaurea		Sorbus aucuparia	
Sorbus chamae-mespilus		Succisa pratensis		Thelypteris palustris	3
Tofieldia calyculata		Trichophorum alpinum		Trichophorum cespitosum	
Trifolium montanum		Trifolium pratense		Trollius europaeus	
Tussilago farfara		Vaccinium gaultherioides		Vaccinium myrtillus	
Vaccinium oxycoccos	3	Vaccinium uliginosum	3	Vaccinium vitis-idaea	
Valeriana dioica		Veratrum album		Veronica arvensis	
Viola biflora		Viola palustris			

Mosses, liverworts and lichens	S				
Atrichum undulatum		Aulacomnium palustre		Barbilophozia barbata	
Barbilophozia lycopodioides		Bazzania trilobata		Brachythecium rivulare	
Bryum pallens		Bryum pseudotriquetrum	3	Bryum schleicheri	
Calliergon stramineum		Calliergon trifarium	3	Calliergonella cuspidata	
Calypogeia muelleriana		Calypogeia sphagnicola	3	Campylium stellatum	
Cetraria islandica		Climacium dendroides		Conocephalum conicum	
Cratoneuron filicinum		Cratoneurum commutatum		Dicranodontium denudatum	
Dicranum scoparium		Dicranum undulatum		Drepanocladus exannulatus	
Drepanocladus revolvens	3	Eurhynchium striatum		Fissidens adianthoides	3
Gymnocolea inflata		Homalothecium nitens		Hylocomium splendens	
Lophocolea bidendata		Lophozia bidentata		Marchantia polymorpha	
Mylia anomala		Philonotis calcarea		Philonotis fontana	

Philonotis tomentella		Plagiochila asplenoides		Plagiomnium affine	
Plagiomnium undulatum		Pleurozium schreberi		Polytrichum commune	
Polytrichum formosum		Polytrichum strictum		Ptilidium ciliare	
Rhizomnium magnifolium		Rhizomnium pseudopunctatum	3	Rhizomnium punctatum	
Rhytidiadelphus loreus		Rhytidiadelphus squarrosus		Riccardia latifrons	
Riccardia multifida		Riccardia pinguis	3	Scapania nemorea	
Scapania paludicola	3	Scapania paludosa	4	Sphagnum angustifolium	
Sphagnum capillifolium		Sphagnum compactum		Sphagnum cuspidatum	3
Sphagnum fallax	3	Sphagnum girgensohnii		Sphagnum magellanicum	
Sphagnum majus	3	Sphagnum palustre		Sphagnum papillosum	3
Sphagnum russowii		Sphagnum subsecundum	3	Sphagnum tenellum	2
Sphagnum teres	3	Sphagnum warnstorfii	3	Splachnum ampullaceum	2
Thuidium delicatulum		Thuidium tamariscinum			

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