



Weidmoos *A Bird Paradise*



LIFE Project
Habitat Management in the
Weidmoos Bird Reserve

www.weidmoos.at



LIFE Project Weidmoos *A great success*

There can be no better evidence of the success of the Weidmoos LIFE project than a walk through the bog, with its revitalised variety of animals and plants. Over recent years a natural treasure – and with it a valuable recreation area for the people of Salzburg – has been created from what was an industrial wasteland, thanks to the combined forces of many helpers and volunteers.

Without the dedication of the local people, and especially the Association Torferneuerungsverein Weidmoos, the Mountain Guards, the landowners and the representatives of the local communities of Lamprechtshausen and St. Georgen, this project would not have been possible. The area, now full of vegetation, is unrecognisable compared to its state before the beginning of the LIFE project. It has been shown that even “second-hand Nature” can provide such incredible variety. That the other plans for the area – landfill site, airport, industrial park – could have become a reality, now seems unimaginable to us.

In our positions as member of the Regional Government responsible for environmental protection, mayor, and Chair of the “Torferneuerungsverein Weidmoos”, we would like to thank everybody who has contributed to the success of this project. In addition, the excellent collaboration between those concerned on site and staff at Salzburg’s Nature Protection Department, and in particular Bernhard Riehl, has led to an especial success.

Mayor Ing. Johann Griefner
Chair Torferneuerungsverein Weidmoos

Member of Regional Government
Sepp Eisl

Mayor Fritz Amerhauser
Vice-chair Torferneuerungsverein Weidmoos



Photos: R. Lindner, P. Buchner

The Weidmoos *A bird paradise* *made by Man*

The Weidmoos was originally an extensive raised bog. For many decades, peat was extracted here on an industrial level. When the last peat was cut in 2000, Nature started to dominate the area once more. What came to be created was a mosaic of ponds, reeds and willow bushes, providing many rare species of bird with an ideal habitat.

The Weidmoos gradually became a bird habitat of European significance. Over 150 species of bird have been identified so far, of which some are endangered on a European level. One falling into this category is the White-spotted Bluethroat, which is often to be seen at the Weidmoos, whilst the Marsh Harrier preys over the extensive reeded areas, and rare waders and waterfowl such as the Common Snipe and the Spotted Crake rear their young here. Wood Sandpipers, Ruffs and other migrating birds use the Weidmoos as an important stopover site. For this reason, the Weidmoos was made part of the Europe-wide Natura 2000 network of protected areas. In 2006 it was declared a nature reserve (Natur- und Europaschutzgebiet), in accordance with the “Salzburger Naturschutzgesetz” (Nature Protection Law).

After the considerable interference caused by peat extraction, the Weidmoos could not be simply left to its own. Otherwise the drained land would have sooner or later become a uniform wooded area. Therefore, a LIFE project, entitled “Habitat Management in the Weidmoos Bird Reserve” was undertaken between 2003 and 2007. The aim of this EUR 1.21m project was to maintain the Weidmoos as a bird habitat through targeted restoration measures, whilst at the same time rendering it more of an experience for visitors.

Formed by glaciers

The landscape of the Weidmoos was formed by glaciers during the Ice Age. In the dips scored by the moving glaciers and behind the morainic walls, large lakes were left behind as the glaciers melted. At the close of the last Ice Age about 18,000 years ago, the retreat of the large glaciers from the foothills of the Alps left behind an extensive area of lakeland.

A landscape thousands of years old

The area covered by today's Weidmoos was the site of one such lake, at the bottom of which large deposits of clay collected. This lake-clay continues to prevent rain-water from seeping underground. After the River Salzach had cut through the terminal moraine, the water level fell and the lake became land over the course of time. Peat mosses took over and gradually a peat-bog was created. Over thousands of years, the peat mosses formed an ever-thickening layer of peat. In this way, a continental raised bog was created, with a 6-metre-thick layer of peat. Right up until the 18th century, the peatland between Ibmer Moor, the Weidmoos and the Bürmooser Moor formed the largest connected system of bogs in Austria, extending approximately 2000 hectares.

The area between Weidmoos, Ibmer Moor and Bürmoos must have looked much like this wide-spread bogland in Latvia (Kemeris), before human intervention altered the landscape forever.



Cartography: H. Cuggenberger

Approximately 18,000 years ago, the ice-age Salzach glacier stretched far into the northern foothills of the Alps. The retreat of the glaciers at the end of the Ice Age left behind a wide-ranging lakeland area. Many of these lakes dried up and formed bogs. Alongside the area of peatland between Ibm and Bürmoos, a range of other peatland areas developed in the Bavarian-Salzburg Alpine foothills. On the map, the original peatland areas are marked brown, though many of them have disappeared through peat extraction and cultivation. The extent of the glaciers during the last Ice Age is marked light blue.

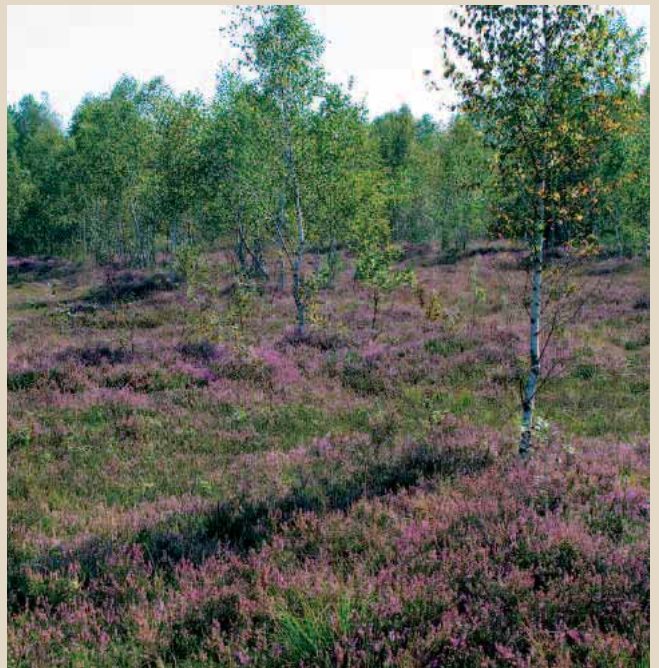


Photo: B. Riehl



Photos: R. Hofrichter, A. Ausobsky, R. Lindner

After over **150 years of peat extraction**, there remains but a fraction of the former raised bog. In these areas, one can still find typical raised bog plants, such as various peat mosses (sphagnum), sundew, bog-rosemary, cranberries and cotton-grass. These remnants of the original Weidmoos can be seen along the newly constructed themed footpath in the southern part of the Weidmoos.



Widespread peat extraction transformed the Weidmoos into an industrialised landscape (Aerial shots of the extraction sites from 1978).

Peat extraction at the Weidmoos

Up until well into the 18th century, the Weidmoos was, like other large systems of boglands in the foothills of the Alps, an almost inaccessible region feared by daunted humans. Only a few dared undertake the route into the bog.

In 1700, Archbishop J.E. Graf von Thun ordered for “... all bogs within the jurisdiction of the area before the mountains to be described and reclaimed.” It would take almost a hundred years, however, before cultivation of the bog commenced, in 1790.

Peat, provider of energy

The start of industrialisation and the increasing demand for fuel which came with it caused widespread interest in the combustible material known as peat. Peat was of particular interest to the recently established glass industry in Bürmoos. The raw materials for glass production lay right at their doorstep: lime in Haunsberg, sand from the River Salzach and peat from the bog. As well as glass production, the manufacture of bricks would also use peat as combustible fuel. After the collapse of the glass industry, peat ceased to be extracted as from 1930.

Even in those difficult times, peat retained its significance and became an important source of income for many people. Peat fields which had been mined were cultivated and transformed into pastures and agricultural fields.

The industrialisation of peat extraction

In 1947, the “Österreichische Stickstoffwerke AG Linz”, an Austrian company based in Linz specialising in chemicals, commenced the production of combustible peat and peat dust on an industrial scale. The raised bog became an industrial landscape. Until 1959, the peat was collected using two large bucket dredgers, which were later replaced by cutting extraction techniques. Today, only a small fraction of the bog remains.



Photo: Archiv Torfvereinigungsbereich

After the collapse of the glass industry in the 1930s, peat was once again extracted for household use. In the years following the Second World War in particular, many families leased peat fields in order to extract combustible fuel. The peat extracted covered not only that required for the family's own use, but was also sold, thereby providing the family with some income. The traditional manual cutting of peat was almost completely abandoned by the mid-1960s.

One of Salzburg's **last remaining manual peat digs** to be in active use can be found in Weidmoos. It is now used for personal use and traditional purposes. As it is located in an already very dry and “overgrown” area of the Weidmoos, it does not constitute a danger to sensitive habitats. In this picture you can see the blocks of turf laid out for drying.



Photo: A. Ausobsky



Photos: Archiv Torferneuerungsverein



In peat extraction by cutting, the peat was cut up into layers just a few centimetres thick and turned over by the “riffler” until dry and harvestable. The peat was then pushed into rows using an “agglomerator”. A narrow-gauge railway – the so-called “Bockerlbahn” – was constructed to transport the peat to the converting plant in Bürmoos.

From the mid-1950s onwards, peat was extracted solely for the production of garden potting soil.

From industrial wasteland to LIFE project

After peat extraction ceased in 2000, only a small fraction of the former raised bog remained. Most of the Weidmoos had the appearance of an industrial wasteland. There was great pressure to redevelop the fallow-lying site. Suggestions for its future use ranged from the establishment of a landfill site, to the building of an airport, to the construction of a golf course and hotel.

Whilst people were discussing ideas as to the site's future use, Nature re-conquered the Weidmoos. Reeds spread along the length of the drainage channels and in the old peat digs, whilst willows also took root. Over the years, a multi-faceted mosaic of water, reeded areas, willows and open areas of peat developed, and therewith a bird habitat of a type rarely found today in a densely populated central Europe.



A bird habitat, significant on a European level emerged

Attempts to give the Weidmoos back to Nature have been made since the 1980s. The thrust of plans of that time were to have Nature, relaxation, hunting and extensive cultivation working side by side. At the centre of the former peat extraction area, a peatland stream was to be created, and the existing ponds kept. With the exception of some afforestation, these ideas did not get past the planning stage.

Initial research into the Weidmoos bird population in 2000 and 2002 showed that some of Europe's rarest species of bird had found a place to fall back. There was evidence of the presence of numerous breeding birds – such as the Bluethroat, the Marsh Harrier, the Spotted Crake and the Little Bittern – which benefit from the highest level of protection on a European scale. The Weidmoos was also found to be an important stopover site for many migratory birds (ducks, wading birds, storks etc.) on their way south. As a result of these discoveries, the Weidmoos was incorporated into the Europe-wide Natura 2000 network of protected areas (SPA).



Photo: blickwinkel/M. Woilke

With 20 to 30 breeding pairs the Weidmoos is home to one of Austria's largest populations of the **White-spotted Bluethroat**, which is protected on a European level.

The traces of the peat extraction industry are gradually being eroded with the encroachment of Nature. The Weidmoos has, however, been permanently transformed into a new landscape.



Photo: Ch. Ragger/REVITAL

The European Championship stadium helps the Weidmoos

An important step came in 2000, when nature protection compensation measures were undertaken as a result of the construction of a new stadium in Salzburg/ Klessheim. This involved the purchase of about 80 of the 136 hectare bird reserve for nature protection purposes. In this way, the future use of the site was bound by property law.

In 2002, Salzburg's Nature Protection Department contracted REVITAL, a civil engineering consultancy firm, to develop a Natura 2000 management plan. The plan addressed necessary measures pertaining to the development of the Weidmoos within its nature protection remit. The management plan was finalised with valued contributions from the populations of Lamprechtshausen and St. Georgen and from landowners. It was at that stage that the "Torferneuerungsverein Weidmoos" (Weidmoos New Peat Association) was formed, whose objective is the maintenance and improvement of the Weidmoos and who has energetically supported the LIFE project.



Photo: R. Hofrichter

Natura 2000 Europe's nature for you



The Weidmoos is part of the European Natura 2000 Network. It has been designated because it hosts some of Europe's rarest bird species. All 27 countries of the EU are working together through the Natura 2000 network to safeguard Europe's natural heritage for the benefit of all.

The basis of Natura 2000 are two EU environmental directives: the so-called "fauna-flora-habitat" directive (Council directive 92/43/EEC of 21st May 1992) and the bird protection directive (Council directive 79/409/EEC of 2nd April 1979).

The Weidmoos under threat of becoming overgrown

Today's Weidmoos is not a natural habitat, but rather a man-made one. The destruction of the raised bog through peat extraction cannot be rolled back in a foreseeable timeframe. Restoration measures cannot therefore recreate the original raised bog. In fact the "second-hand habitats" are to be maintained in the long term as locations for breeding, feeding and resting for birds. In order to achieve this however, the Weidmoos cannot simply be left to its own.

Temporary bird paradise

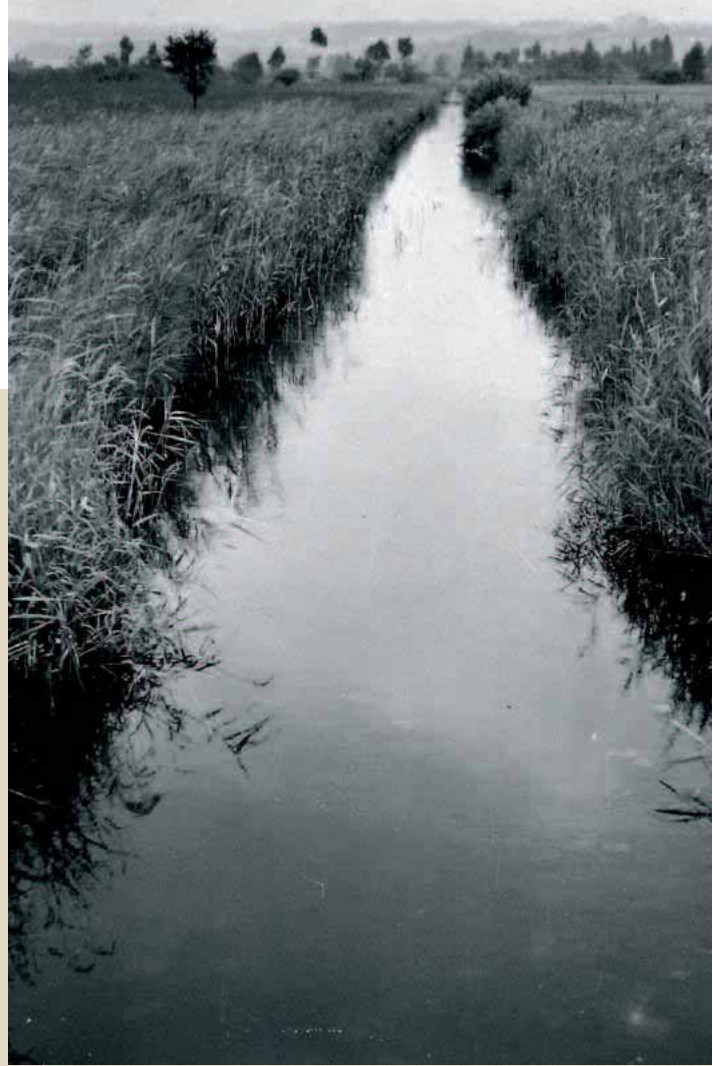
The bird habitats which were formed after the end of peat extraction would have only been a temporary paradise. The large area of drained bog threatened to become overgrown with bushes over the years, and eventually to become a wooded area. The habitats

which are so important to the birds, such as the reeds, water bodies, individual bushes and open peatland would have disappeared in the medium term – and with them many species of bird.

In order to keep the Weidmoos for the birds for ever more, a specific structuring and conservation of the habitats (known as "habitat management") was required. The main task in this respect was the "re-waterlogging" of the central area of the Weidmoos. For this to occur, drainage ditches had to be closed off, and new ponds created through the construction of dams. In the outer areas, bush growth had to be prevented by mowing the meadows once a year. All these measures ensure that most of the Weidmoos remains open, and thereby continues to attract waterfowl and birds which breed in reeded areas and meadows.



The **drainage channels** constructed in the course of peat extraction had caused the Weidmoos to dry out. This process had led to the threat of the Weidmoos becoming wooded.



Photos: Ch. Ragger/REVITAL, Archiv Torferneuerungsverein



Photo: A. Ausobsky
Illustration: E. Pratter

The Weidmoos in May 2005

Just a few years after the cessation of peat extraction activities, Weidmoos had become a mosaic of water, reeds and willow bushes – a fascinating “second-hand” habitat and a home for rare species of bird.



Scenario: The Weidmoos in 2025 without active habitat management

The extensively drained area has transformed itself into a relatively uniform woodland. The majority of resident birds, who rely on a landscape littered with water bodies and moist areas, has disappeared.

The aim of the LIFE project entitled “Habitat Management in the Weidmoos Bird Reserve” was to maintain the Weidmoos as a significant bird habitat for present and future generations through active restoration measures, whilst at the same time making it visitor-friendly.

The LIFE project

The funding for the required habitat management was secured via the EU-supported LIFE project. Numerous projects submitted entries – in Autumn 2002 – to the Europe-wide competition for LIFE-programme funding. The Weidmoos project was able to overcome this hurdle despite strong international competition. This success was an important foundation for the implementation of the planned measures.

Project partners

The LIFE project was initiated and implemented by the Salzburg Nature Protection Department along with the Association Torferneuerungsverein Weidmoos and the Lamprechtshausen and St. Georgen local councils.

Financing

The project budget for 2003 to 2007 was EUR 1.21m. The project was funded by the European Commission (50% “LIFE”), the Salzburg Regional Government – Nature Protection (44%), the Federal Ministry for Agriculture, Forestry, Environment and Water Management (3%), the Lamprechtshausen and St. Georgen local councils (1% each) and the Association Torferneuerungsverein Weidmoos (1%).

From the beginning, the LIFE project was effected with the close support of the populations of Lamprechtshausen and St. Georgen, the land-owners and those authorised to use the land. A range of informational presentations was undertaken in the communities and on site during the course of the project.

On 22nd July 2004, the official **ground-breaking ceremony** took place at the Weidmoos. Sepp Eisl (member of the regional government, responsible for nature protection), inaugurated the construction work.



Photos: Ch. Ragger/REVITAL (2), B. Riehl, F. Neumayr/LPB



Photo: Ch. Ragger/REVITAL

Project's aims for Nature ...

The main aim of the LIFE project was the safeguarding of the protected species of bird living at the Weidmoos. To ensure the conservation of the Weidmoos as an area for breeding, migration and overwintering, land was purchased for nature protection purposes, and specific flooding measures and the creation of new water bodies were undertaken, as was the optimisation of meadow use.

... and for Man

The LIFE project also committed itself to making the Weidmoos visitor-friendly. A themed footpath, an information centre and a viewing tower should make it possible to experience the Weidmoos with minimal impact to the birds.



LIFE

LIFE is a promotional program of the EU to support nature conservancy projects in Natura 2000 areas.

36 Austrian-based projects have been funded through "LIFE Nature" since 1996, with a total project fund of over EUR 101 m (as of March 2006). An overview of all these projects can be found on the Life Ministry website: <http://umwelt.lebensministerium.at/article/archive/7159>

The LIFE project entitled: "Habitat Management in the Weidmoos Bird Reserve" was the second LIFE project in Salzburg, the first being the "Wenger Moor" project. A third such project received acceptance and was commenced in 2006, in the Natura 2000 area of Untersberg foreland (Vorland) in the locality of Großgmain.

Information on other Salzburg LIFE projects:

Untersberg-foreland: www.untersberg-vorland.at

Wenger Moor: www.salzburg.gv.at/themen/nuw/natur-schutz/naturprojekte/wengermoor.htm

Land acquisition for the protection of Nature

The purchase of land or the lease of land use rights was one of the important pre-requisites for the implementation of the planned measures. Even prior to the start of the LIFE project, 80 hectares within the Natura 2000 site were purchased in 2000 within the scope of a prescribed nature protection compensation measure. As part of the LIFE project further 46 hectares were purchased (or appropriate land use rights were obtained). The new owners of the purchased land were the local councils, whereby the use of the land for nature protection purposes was ensured in terms of property law. Through the close collaboration of the local councils and the landowners, the implementation of the necessary water-logging measures was ensured.



Photo: B. Riehl

Support from Landowners

More than 20 landowners sold their part of the Weidmoos – or set it aside for nature protection – to the Lamprechtshausen and St. Georgen local councils for the purpose of the conservation of this unique habitat.

Many thanks go to: Josef Eder, Johann and Maria Kirnstedter, Jana Kölblinger, Johannes Kölblinger and Julia Vogl-Fernheim-Kölblinger, Katharina Lehmayr, Christoph Leitl, Cornelia Leitl, Florian Leitl, Martin Leitl, Sabine Leitl, Franz Rieseneder, Elisabeth Berger-Sandhofer, Dagmar Dabernig, Marlene Dabernig, Heinrich Gassner, Georg and Beate Weilbuchner, Stefan Reiter, Elisabeth Hauser, Frieda Kirnstedter, Franz and Maria Schmidlechner, Dietmar Leopolder, Nicole Leopolder, Michaela Leopolder, Herbert Lindner, Rupert und Elisabeth Wimmer, Günter Winter, Anita Renzl, Franz and Edith Hochradl, Berta and Martin Hitzginger.

The commitment shown by Anita Renzl should be highlighted at this juncture. She donated the entire sum paid for her land to the Association Torferneuerungsverein Weidmoos for conservation purposes.



Orthophoto (2002), Salzburger Landesregierung, FMM – Forest Mapping Management

The purchase of land and land use rights was an essential prerequisite for the implementation of the habitat restructuring measures. 80 hectares had already been bought by the end of 2000 (grey areas). A further 46 hectares were purchased (or appropriate land use rights obtained) within the scope of the LIFE project (light green areas). The red line indicates the boundary of the Weidmoos Natura 2000 site.



Water for the Weidmoos

Between 2003 and 2006, the Weidmoos was transformed into a temporary “**environmental building site**”. Because of the Weidmoos’ soft soil substrate, all the building work required the use of special equipment which would not be in danger of sinking into the bog. In-situ clay was used for the construction of the dam structures, which was the first time this method had been used in Europe.

In order to permanently preserve the quality of habitat for bird species resident to the Weidmoos, it was essential to alter the post-extraction state of the site, so that an open landscape with numerous bodies of water and moist areas would remain.

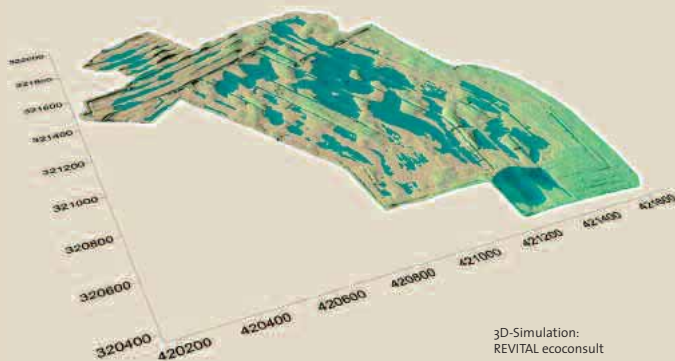
The most important measure to ensure the long-term conservation of the Weidmoos as an open landscape – and therefore as a valuable bird habitat – is the so-called “re-waterlogging” of the site. Rainwater can be retained in the area by closing drainage channels and through the construction of dams, all of which will lead to the creation of new ponds.

The Weidmoos itself had the ideal building material for these dams: the clogging clay substrate (lacustrine clay) could be retrieved and used on site. The remaining layer of peat was removed and the dams poured in on top of the clay substrate and thickened. Most of the dams are relatively low-level (at 50cm – 1.5m) and therefore fitted in so well to the surrounding land that just one or two years after installation (when they have naturally vegetated) they cannot be seen against the original landscape.

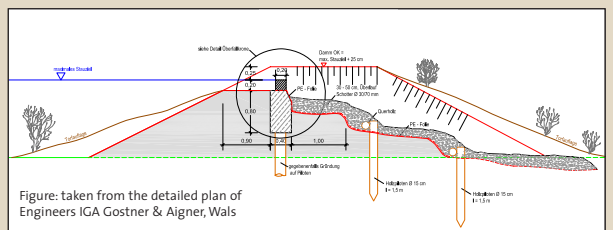
In order to regulate water levels, overflow systems were built in. This ensured that surplus water can, after heavy precipitation, flow towards the Moosach to the north of the Weidmoos, without damage being caused. Small-scale landscaping of the banks of existing and new water bodies created flat bank areas and water transition zones.



Photos: Ch. Ragger/REVITAL



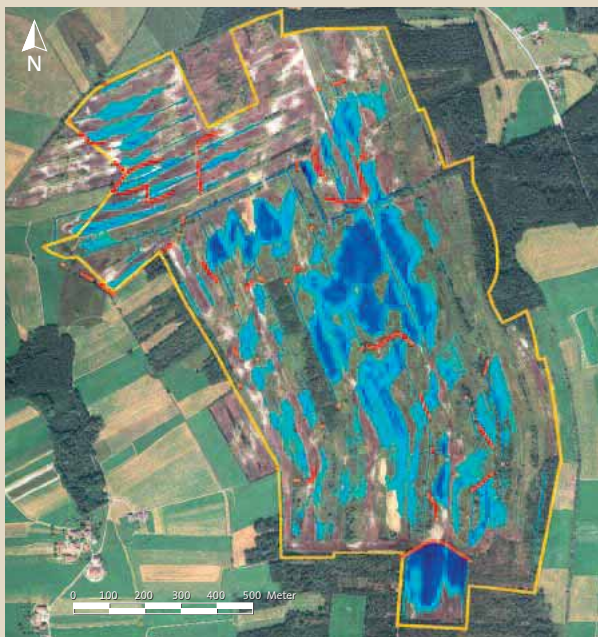
The waterlogging measures were planned in detail and their effect simulated with the aid of a **3D computer model** based on laser-scanned measurements.



A total of **50 dams** were erected at the Weidmoos. The plan shows a cross-section through Dam no. 1, the largest of those constructed. It dams the water for the pond in the southern section of the Weidmoos, near the information centre. The overflow in this and other dams gives the desired water level and ensures that, after heavy precipitation, surplus water can run off without causing damage. Water from the Weidmoos eventually runs into the Moosach.



Photo: B. Riehl



Orthophoto (2002): Land Salzburg, FMM – Forest Mapping Management, 3D-Modellierung: REVITAL Zivilttechniker GmbH

Waterlogging measures

As part of the LIFE project, 50 dam constructions were put up, totalling approximately 2,500 metres in length. This corresponded to a total volume of 21,000 m³ of clay. 28 overflow structures were integrated into the dam to regulate the water level. In this way, more than 30 hectares of new water bodies and moist areas were created.

In order to have as low an impact as possible on the Weidmoos' birds, the construction work was undertaken outside of breeding time. Furthermore, the construction works were split over two years so as to ensure that at least a part of the Weidmoos would remain unaffected during the construction works.

The red lines on this plan show the location of the constructed dams. The newly created water bodies are marked blue. Yellow line: boundary of the Natura 2000 site. Detailed plans like this were the basis for the legal permission of the measures by the Salzburg Water and Forest Authority.

Recurring maintenance

In order to maintain the quality of the Weidmoos bird habitat, regular recurring maintenance measures have to be undertaken, in addition to the re-waterlogging. The following measures were, and will continue to be regularly undertaken:

Mowing of the meadows and the reeded areas

Regular mowing is necessary in order to prevent the meadows and reeded areas becoming overgrown with trees etc. This mowing is specially adapted to the needs of the bird species found here. Farmers from the surrounding land mow the meadows between July 15th and the end of September every year. A total of approximately 30 hectares of meadow are now regularly used on the Weidmoos.

During every year that the LIFE project ran, a meeting was held with the farm managers with the aim of discussing and optimising these measures as regards the meadows.

Maintenance of vegetation-free areas

Once a year, and in selected zones, vegetation-free areas are created using the “bog crawler-mobile’s” levelling plate or using a cutter. In this way, vegetation-free and low-vegetation areas – so important for the Bluethroat – will remain in the long term.

Tending of trees etc.

So as to prevent the newly created water bodies and the meadows becoming overgrown with trees and bushes, specific trees etc. must be removed on a regular basis. Only in this way can the open character of the Weidmoos be kept. The aim is not to completely remove all types of tree and bush, but rather the long-term conservation of a multi-faceted mosaic of various habitats.



The maintenance measures for the meadows were – **within the scope of the LIFE project** – planned in detail and finalised over the course of the years. For example, different meadow areas get mown at different dates. The basis for the maintenance work was, in all cases, the maintenance objectives laid out in the management plan. The earliest mowing dates are shown on the map with different colours: violet – 15th July; green – 1st August; orange – 15th August; red – 1st September.

Map: REVITAL Ziviltechniker GmbH
(part of the meadow management plan)



Photo: M. Weiß



Photo: R. Kaiser

The regular ripping-up of the ground creates the vegetation-free surfaces which are so important for some species of bird. In the foreground: the "bog crawler", a piece of equipment previously deployed for peat extraction. LIFE funding enabled the crawler to be adapted for nature protection purposes. In the background one can see the recently turned areas, now free of vegetation.

Regular mowing is a decisive factor in preventing the Weidmoos from becoming overgrown with bushes. Pictured: Jakob Hofbauer, one of the indefatigable volunteers involved in the execution of maintenance measures.

Many people help to maintain the Weidmoos

The necessary maintenance measures are only possible with the energetic assistance of numerous people and organisations: Peter and Veronika Armstorfer, Vinzenz and Frieda Hochradl, Josef and Martina Hangöbl, Martin Gradl, Klaus and Barbara Fersterer, Franz Hochradl, Monika and Gottfried Rehr, Elisabeth and Johann Spitzauer and Markus Költringer-Winter all mow the meadows in accordance with the given guidelines with admirable application. The local hunting group supports the Association Torferneuerungsverein Weidmoos with diverse tree-cutting measures.

Nature Experience at the Weidmoos

After the conservation of bird habitats, the second aim of the LIFE project was to make the Weidmoos visitor-friendly. To this end, it was made possible – in the southern part of the Weidmoos – to visit the area without disturbing the bird habitats. In the meantime the Weidmoos has become a well known attraction for nature loving visitors.



A new themed footpath invites you to learn about a unique bird world and about the variety of bird habitats. The visitor is informed as to the creation and ecology of the Weidmoos over the 1.5km path, as well as the history of peat extraction and the bird species which are characteristic of the Weidmoos. The highlights of the themed footpath are the “bird observation hides”, the bog platform and the peat cutting site.

The information centre houses an exhibition, presenting a variety of information concerning the Weidmoos and the LIFE project. (Opening times and further information at www.weidmoos.at). It is also the focal point for all related events and activities (such as the grand opening, pictured).



Photo: Gemeinde Lamprechtshausen

A 12-metre-high viewing tower offers impressive views over the Weidmoos and also excellent bird-spotting opportunities. With the appropriate equipment (field glasses, spotting scope) it is possible to observe both popular bird species and, with a bit of patience, rarities such as the Little Bittern or various wading birds.



Photos: Ch. Ragger/REVITAL

As part of the LIFE project, a former peat-workers' hut was converted into an information centre.



Visit the Weidmoos!

The Weidmoos is located approx. 20km north of the city of Salzburg. It is well signposted from both Lamprechtshausen and St. Georgen.

For detailed directions, information centre opening times and further information regarding the Weidmoos and the LIFE project can be found at www.weidmoos.at.

Two information folders, two posters and one film (on DVD) were also produced as part of the project. The DVD (EUR 7.90), folders and posters can be obtained via the Association Weidmoos Torferneuerungsverein Weidmoos or the Nature Protection Department (Contact refer to page 29).

Visible results!

The aim of the LIFE project was the long-term conservation of the Weidmoos as a breeding, migration and overwintering site for a range of bird species which had become rare on a European level. As the project-related monitoring has demonstrated, this objective was met 100% successfully. The waterlogging measures ensured that exactly those water and moist habitats were created which are necessary for the conservation of these species. The ornithological surveys demonstrated that the new habitats were adopted by many endangered species of bird. In this manner, it was not only possible to secure the habitat of the species specified in the LIFE project: habitats for many incoming species were also created. Almost every year species which are new to the area can be observed. Particularly noteworthy was the presence of Little Bitterns and Great Bitterns during the breeding season in 2005 and 2007! The Bluethroat population seems to have decreased somewhat, but is still considerable. Two pairs of March Harriers were breeding at the Weidmoos through the entire duration of the project.

The Weidmoos also gained in significance for many other bird species, thanks to the LIFE project. For example, many types of duck now breed at the Weidmoos. Species such as the Little Grebe and the Water Rail are now typical of the Weidmoos. Even rare reed-dwellers, such as the Great Reed Warbler found a new habitat at the Weidmoos.

The essential basis of this success story is the close collaboration and trust shown by the Nature Protection Department, the Association Torferneuerungsverein, the local councils, landowners, farmers and hunters. A big thank you goes to all those who have worked to make the project such a success. This successful co-operation within the LIFE project has demonstrably contributed to the Weidmoos being accepted as a nature reserve and to the idea behind "Natura 2000" in general. The swarm of visitors who turn up to excursions and other events at the Weidmoos demonstrates this.



Photo: Ch. Raagor/REVITAL

Representatives from the EU and from the Federal Ministry for Agriculture, Forestry, Environment and Water Management came to the Weidmoos once a year in order to get an impression of the project's progress.



Photo: K. Michor/REVITAL

In November 2006, **nature protection experts** visited the Weidmoos as part of a LIFE conference. The Weidmoos had been chosen as a best practice example for restoration projects.



The Weidmoos is changing

Thanks to the successful restoration measures, what was an industrial wasteland has been transformed into a diverse habitat with water, reeded areas and a rich patchwork of plants. The re-waterlogging and the recurring maintenance work ensure that this important habitat for rare birds will remain in the long term. In order to achieve this, the following has been undertaken:

- 46 hectares were purchased or leased as a pre-requisite for later measures,
- 50 dams, with a combined length of around 2,5km were built, which required 21,000m³ of clay,
- more than 30 hectares of ponds and moist areas were newly created,
- 30 hectares of meadow were established and mowing methods optimised



Photo: Torferneuerungsverein Bürmoos

Aerial view of the Weidmoos shortly after the cessation of peat extraction in 2000.

Birds at the Weidmoos significant on a European scale

The Weidmoos is a bird habitat of European significance.

The diverse mosaic of water bodies, muddy areas and reeds provides many species of bird with ideal conditions for breeding and resting. Comparable habitats have all but disappeared in our densely populated and heavily utilised landscape.

Over 150 species of bird have so far been confirmed, some of which are endangered on a European level. One of the latter group is the White-spotted Bluethroat, which can frequently be found at the Weidmoos. Marsh Harriers prey over the extensive reeded areas, whilst rare wading birds and waterfowl such as the Common Snipe and the Spotted Crake raise their young here. The Weidmoos is an important stopover site for Wood Sandpipers, Ruffs and other migratory birds. Winter sees the arrival of, amongst others, the Grey Shrike, the Hen Harrier and the Great Egret. The effects of the restoration process on the birds were documented using detailed monitoring techniques. The Weidmoos has become one of the best documented bird habitats in Salzburg.



Photo: R. Nestelbacher

The ornithologist Norbert Pühringer (pictured, left), Martin Brader and Christian Ragger (pictured, right, with his son David) have documented the changes to the bird populations annually.

Two pairs of **Marsh Harriers** (1) regularly breed at the Weidmoos. They build their nests in the extensive reeded areas of the central part of the Weidmoos.

Water Rails (2) are very secretive relatives of the more well-known Coot. They breed in the reed thickets of the Weidmoos.

Wood Sandpipers (3) are birds which breed on northern European boglands. They are regularly seen at the Weidmoos on their way to and from their overwintering sites.

The **Great Bittern** (4) and the **Little Bittern** (12) are two species of bird which are particularly endangered and therefore protected on a European level. Both species have been observed breeding at the Weidmoos on a number of occasions.

Curlews (5) use the meadows as breeding grounds and raise their young here.

Little Ringed Plovers (6) breed on the vegetation-free edges of the banks. Two pairs have been observed at the Weidmoos.

Redshanks (7) were native to the Wallersee Lake until well into the 1960s. In 1966, this breeding event finished, which makes the spotting in June 2007 of Redshanks in the Weidmoos even more significant.

The meadows of the Weidmoos are the breeding grounds of several pairs of **Snipes** (8). They have become very rare in our heavily used landscape.

Several pairs of **Garganey** (9) breed at the Weidmoos ponds.

Great Egrets (10) were rare guests to the Salzburg area up until just a few years ago. The only other place in Austria where they breed is at the Neusiedlersee Lake. Now up to 20 Great Egrets are often seen at the Weidmoos over the winter months.

Grey Shrikes (11) were previously widespread, but were forced out of many regions because of changing land use. Grey Shrikes are partial migrants, which means that only birds from northern breeding grounds fly south in the winter, whilst others overwinter at their breeding grounds. A number of individuals regularly spend the winter at the Weidmoos.



1



2



3



4



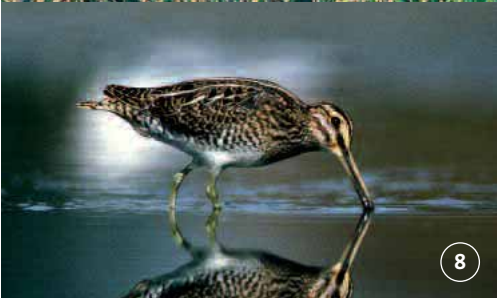
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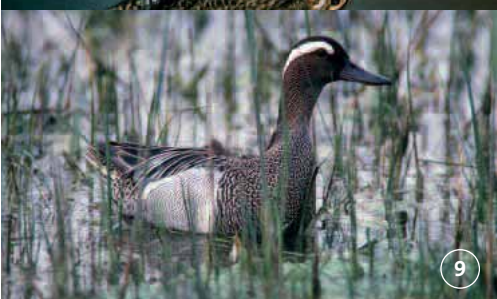
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10



11



9



12

The Weidmoos habitat

Photos: R. Hofrichter (1, 2, 3, 6, 8),
A. Ausobsky (4, 5, 7), R. Kaiser (9)

The Weidmoos is not only an extraordinarily valuable habitat for many bird species. It is also a perfect retreat for many other animal and plant species. Water frogs, tree frogs and other amphibians inhabit the flat, richly textured pools. Various species of dragonfly lay their eggs in the ponds at the Weidmoos.



Photos: Ch. Ragger/REVITAL

Roland Kaiser documented in detail – as part of the LIFE project – changes in vegetation. To this end, testing areas were measured to the centimetre using GPS and documented by aerial shots with the aid of balloon platforms.

Over the duration of the project, and alongside the ornithological, botanical and hydrological observation programmes undertaken as part of the project, numerous other studies of the Weidmoos' animal and plant world were carried out. For example, the herpetological working group of the Haus der Natur and of the University of Salzburg undertook a comprehensive study of all amphibians and reptiles present. Patrick Gros and Gernot Embacher of the entomological working group documented the butterflies and dragonflies of the area. In her master's thesis Roswitha Pöckl, from the University of Salzburg, documented the fauna of the new ponds in the Weidmoos.

The Weidmoos is home to 8 species of amphibians and 5 reptile-species. The water frog population (7) has grown enormously. The call of the Tree Frog (1) fills the evening air. Yellow-bellied Toads moved into the newly constructed pools straight after work had finished. Grass Snakes (6) can be seen silently gliding through the water on the hunt for food.

Evidence has been found of over **21 species of dragonfly** over the course of the last few years. In 2005, one species, the Western Clubtail, was even discovered for the first time in Salzburg. Pictured: Beautiful Demoiselle (8), White-legged Damselfly (2), Broad-bodied Chaser (3).

Although just a small section of **raised bog remains**, one can still observe there a large variety of peat mosses and typical raised bog plants such as the sundew (5).

New species of animal and plant are constantly being found at the Weidmoos. Over 300 plant species have been identified in botanical research, of which some are species under threat of extinction such as Lösel's Twayblade (9), Yellow Galingale, Large Pink, Epipactis and Military Orchid.



Life after LIFE



The LIFE project enabled the essential pre-requisites for the long-term development of the Weidmoos. Of course, after the end of the LIFE project, the Weidmoos still cannot be left to its own.

The Torferneuerungsverein Weidmoos is a local organisation which will take on the future care for the Weidmoos. This includes the maintenance of the visitor facilities as well as an annual check on the functionality of the dam structures and overflows. The Association will continue to be supported by the local councils of Lamprechtshausen and St. Georgen, as well as by the Salzburg Nature Protection Department.

Mayor Johann Grießner (left) and Mayor Fritz Amerhauser (right) head the Association Weidmoos Torferneuerungsverein.

The mowing of the meadows will hence be supported by agri-environment funding (ÖPUL – Österreichisches Programm zur Förderung einer umweltgerechten Landwirtschaft).

Because of the dynamic development of the still-young habitats at the Weidmoos, the animal and plant species composition will also change. Continued monitoring will no doubt document further exciting developments.



Photo: R. Nestelbacher

Association Torferneuerungsverein Weidmoos



Photo: R. Kaiser

The **Torferneuerungsverein Weidmoos** was founded in 2000. The aim of the Association is to care for and develop the landscape at the Weidmoos. Landowners, local hunters, representatives of the Lamprechtshausen and St. Georgen local councils and members of the general public interested in nature are represented. Chair of the Association is Mayor Johann Griebner (Lamprechtshausen), Vice-chair is Mayor Fritz Amerhauser (St. Georgen).

The Association Torferneuerungsverein Weidmoos purchased two “bog-crawlers” and a bog-digger in 2001 for the habitat-structuring measures. It was possible to adapt this equipment to conservation ends within the scope of the LIFE project. The Torferneuerungsverein Weidmoos is furthermore in a position to guarantee the necessary landscape maintenance measures when the LIFE project ceases. All work will of course be agreed in the appropriate manner with the Nature Protection Department.

The Torferneuerungsverein Weidmoos also operates the information centre and organises information events and excursions in and around the Weidmoos.

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The Weidmoos LIFE project

All the people who contributed



During the course of the LIFE project 30 project team meetings and 6 meetings of the advisory board and more than 75 information events (including excursions and presentations) were held. The project's success was only made possible by so many people co-operating with such enthusiasm and commitment.

Project team Johann Grießner (Mayor of Lamprechts-hausen), Fritz Amerhauser (Mayor of St. Georgen), Bernhard Riehl, Christian Ragger, Isolde Althaler, Kurt Bamberger, Silvia Höflmaier, Andreas Hofer, Gunter Jentsch, Alexander Leitner, Christian Ragger, Uli Seidel, Susanne Stadler, Michael Walder, Manfred Weiß, Walter Wendtner

Project advisory board Salzburger Landesumweltanwaltschaft, Johann Brunauer, Hannes Augustin, Hemma Gressel, Robert Krisai, Friedrich Reichl, Gudrun Strauß-Wachsenegger, Johann Reschenhofer, Thomas Mörtelmaier

Experts Josef Renner, Michael Glück, Andreas Unterweger, Josef Gautsch

Scientific Monitoring Roland Kaiser (Vegetation), Roland Haab (Hydrology), Nobert Pühringer, Martin Brader and Christian Ragger (Ornithology)

Planning, building supervision, publicity Christian Ragger/ REVITAL Ziviltechniker GmbH (Landscape-ecological planning and building supervision, project assistance), Büro IGA (Technical planning and building supervision), Michael Walder (Viewing tower and information centre), Robert Lindner/naturwerk, Eric Pratter, Anja Eder (Publicity resources), Norbert Winding, Gunter Jentsch (themed footpath)

Construction firms Fa. Esterbauer (Timber structures – viewing tower), Fa. Thalmayr (Re-waterlogging work) and many more

Film team Robert Schabetsberger, Ingo Eichlberger

Other advisors and collaborators Franz Mayer, Jakob Hofbauer, Georg Weber, Wilhelm Günther, August Wessely, Robert Eckschlager, Robert Thaller, Peter Buchner, Karl and Maria Schweichhart, Albert Ausobsky, Kurt Leininger, Reinhard Nestelbacher, Anna Wieser, Herbert Höflmaier, Ortsbäuerinnen von St. Georgen and Holzhausen

Patrons European Commission (Enrico Nogara), Federal Ministry for Agriculture, Forestry, Environment and Water Management (Enrica Seltenhammer-Malina)

Project – Controlling (contractors by the European Commission) Felix Bergmann (Astrale GEIE – PARTICIP GMBH), Marco Fritz (Ecosystems Ltd./Nature link International GEIE)



Photos: Ch. Ragger (3), Augustin, Riehl (4)

Sponsors Fa. Sauer, Fa. Schiedl, Fa. Meindl, Fa. Haas

Mountain Guards Georg Giglmayr, Adolf Stadler, Franz Geisler, Hans Langmann and many more

Meadow management Peter and Veronika Armstorfer, Vinzenz and Frieda Hochradl, Josef and Martina Hangöbl, Martin Gradl, Klaus and Barbara Fersterer, Franz Hochradl, Monika and Gottfried Rehrl, Elisabeth and Johann Spitzauer, Markus Költringer-Winter

Landowners Dietmar Leopolder, Johann and Maria Kirnstedter, Jana Kölblinger, Johannes Kölblinger, Julia Vogl-Fernheim-Kölblinger

Former landowners Josef Eder, Katharina Lehmayr, Christoph Leitl, Cornelia Leitl, Florian Leitl, Martin Leitl, Sabine Leitl, Franz Rieseneder, Elisabeth Berger-Sandhofer, Dagmar Dabernig, Marlene Dabernig, Heinrich Gassner, Georg and Beate Weillbuchner, Stefan Reiter, Elisabeth Hauser, Frieda Kirnstedter, Franz and Maria Schmidlechner, Nicole Leopolder, Michaela Leopolder, Herbert Lindner, Rupert and Elisabeth Wimmer, Günter Winter, Anita Renzl, Franz and Edith Hochradl, Berta and Martin Hitzginger

Hunters association Josef Zauner, Gottfried Riefler, Matthias Lepperdinger and many more

Decision makers Sepp Eisl (Member of the Regional Government), Kurt Trenka, Karin Drechsel and Erik Loos (Salzburg Regional Government – Nature Protection), Reinhold Mayer (Head of the District Government), Karin Rainer-Wenger (Local Water and Forest Authority)

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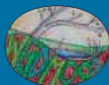
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Torferneuerungsverein
Weidmoos



Gemeinde
Lamprechtshausen



Gemeinde
St. Georgen

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ZOBODAT - www.zobodat.at

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

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