



The LIFE-Project

“Conservation strategies for woodland and river in the Gesäuse“ 2005 - 2011

The National Park Company was accompanied by the LIFE program „Gesäuse“ right from the start. After two years of preparation and five and a half years of hard work, this period had been finished in 2011. Nearly all tasks being important for the National Park could be charged or finished with a financial support of 50 percent from the European Commission. Altogether, 2.400.000 Euro were used to assist the region. This little „layman’s report“ gives you a summary of all the natural conservation objectives we were able to accomplish within the large funding framework of LIFE.

In the area „Zwischenmäuer“ („Between-the-walls“) of the Johnsbach valley, forest management and river restoration take place side by side.



Restoration of the pristine

The structure of the LIFE Project

<http://www.nationalpark.co.at/nationalpark/de/life.php>

LIFE is the abbreviation for „*L'Instrument Financier pour l'Environment*“ since 1992 – it is easy to translate.

„LIFE-Nature“ is a part of this framework and supports the management of highly protected species (birds and flora-fauna-habitat directive = VSR and FFH annexes, e.g. bear, eagle, lynx) and from NATURA 2000 areas.

Life was not established exclusively as a funding instrument for National Parks. Nevertheless the institution must be able to contribute the second half of the money.

All LIFE III – nature – projects do show

a logical structure: Part A means the elaboration of management plans, parts C and D (Non)recurring management.

Work in the field like dredgers digging holes for amphibians or chainsaws creating sparse vegetation refers to these two categories. Part E means „Public awareness and dissemination of results“ and part F the monitoring of actions and project administration.

The special feature of the National Park LIFE program was the strategic partnership with the Austrian Service for Torrent and Avalanche Control (WLW, Liezen), with the Department 19b, Federal Flood Prevention Agency (Fachabteilung 19b, Graz) and with the Styrian Federal Forest Agency (Steiermärkische Landesforste, Admont).

Main Target I: The Enns and the Palten River (A1, C1, E1, E4, F1)

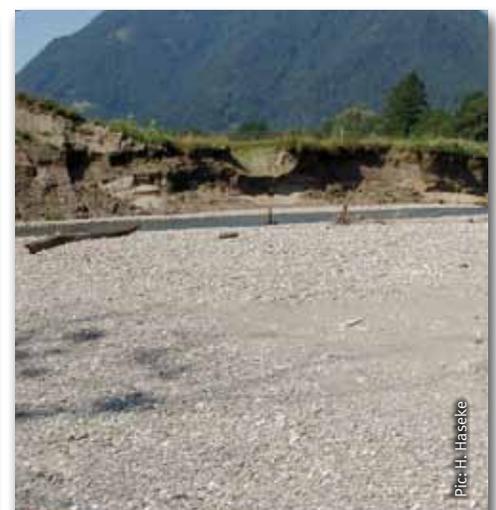
At the mouth of the little river Palten into the Enns (Selzthal), heavyweight diggers were deployed in October, 2006. One of our partners, the Federal Flood Prevention Agency (Schutzwasserbau, Fachabteilung 19b), formed a new large-scaled habitat on the „Paltenspitze“. The agency and the BBL Liezen rebuilt old stream reaches on an area of five hectares, witnesses of the ancient wild, furcating Enns. The former strictly regulated banks are now tender and widened, ready to be reformed by the floods.

The planning was performed by a working group of the University of Natural Resources and Life Sciences (BOKU Vienna). They also coordinated the development of the „Enns



Pic: H. Haseke

What had been a horse meadow in the year 2006 (a „historical view“ in the meantime)...



Pic: H. Haseke

... had been dredged and is now part of the river habitat.



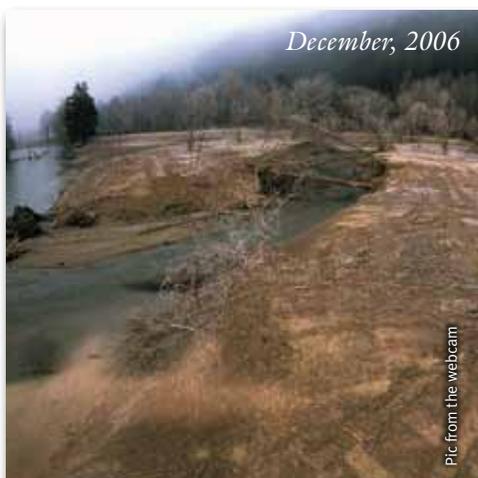
Pic: H. Haseke

river landscape: Paltenspitz



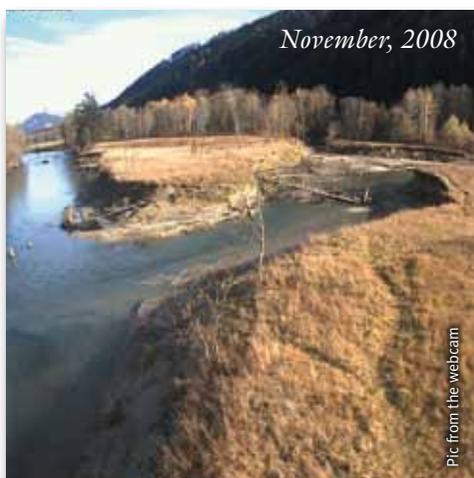
Pic: H. Haseke

Digging of a new stream reach in October, 2006. All in all, we had to move more than 30.000 cubic metres of soil and sand.



December, 2006

Pic from the webcam



November, 2008

Pic from the webcam



April, 2010

Pic from the webcam

The development of the river landscape Paltenspitz is impressively shown by the Webcam which was expanated from 2006 to september 2010. New mouth of the Palten river in December, 2006... in November, 2008... and in April, 2010.



Pic: H. Haseke

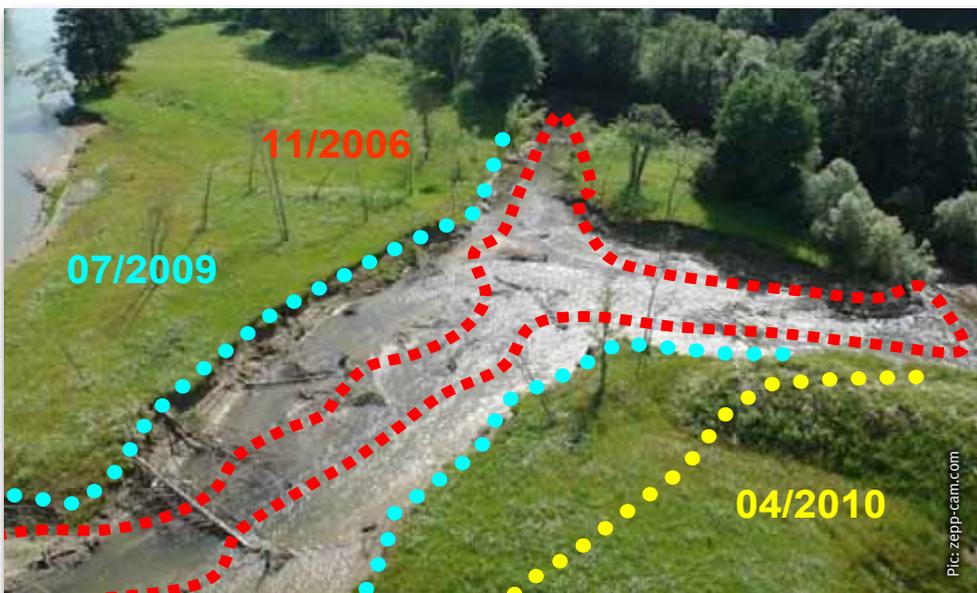
The habitat, which develops on the Paltenspitz, increases the Natura 2000 quality of the Styrian Ennstal, and also ameliorates the quality of life for the inhabitants and their guests.

masterplan“. It contains the management plan of the area along the Enns river from the western styrian border to the National Park. The implementation of some parts of this study is the subject of a LIFE+ project which starts in 2011.

Much lower investment, but also clear effects: the second Enns river regeneration took place amidst the National Park. The re-opening of the flood channel brought back the water to the „Lettmairau“, a former riparian forest, which for the last centuries had been totally dry and only flooded during very high river stages.

The Info-Folder „Paltenspitz“ is at the National Park’s information centres and also online as a PDF file available;

directly on the ground, you will be informed by a presentation board. (Only german version!)



Pic: zepp-cam.com

At this picture shot by a balloon-transported camera, we drafted the development at November 2006, July 2009 and April 2010.

Main Target II: Johnsbach (A2, C2, E1, E2, E4, E5, F2)

The Johnsbach creek is the most important afflux to the Enns in the National Park area. The tributary is only 15 kilometres long, but from the springs high in the mountains to the Enns mouth near the inn



Pic: H. Haseke

Altogether, three diggings were necessary to bring the water back through the white-willow-floodplain Lettmairau with the Nationalpark nature trail.



Focus

“LIFE-Enns”:

Im Gseis 8 / 2007

www.nationalpark.co.at/nationalpark/de/life-gewaesser-ennsleitlinie.php

Focus

LIFE-Ennsleitlinie:

Im Gseis 11 / 2008

www.nationalpark.co.at/nationalpark/de/life-gewaesser-palten.php

Download Ennsleitlinie:

www.np-gesaeuse.at/download/forschung/LIFEo5NAT_A_78_A1_MMP-ENNS_gesamt_2008lo.pdf

Download Info-Folder Paltenspitz:

http://www.np-gesaeuse.at/download/aktuelle_folder/LIFE_ProjektFolder_Paltenspitz.pdf



Pic: Hubert Wolf

River Landscape

“Bachbrücke”, the creek overcomes 1.400 metres of altitude difference.

In his upper parts, the Johnsbach creek joins some little spring runnels from the rocky slides, from sources in the mountain forests and the pasture grounds. Then it flows gently through the gorgeous little village that is also called „Johnsbach“. At the narrow gorge of „Silberreith“, the Johnsbach enters the National Park with the spectacular canyon “Zwischenmäuer” (between the walls).

Dolomite and limestone formations are forming a frantic scenery of rocks, which elevate more than 1000 metres. Because of the dolomite facies, the torrent rolls down immense masses of gravel in the case of floods. During the last centuries, the street had been destroyed again and again due to the immense impact of gravel.

In the 1950´s, the Johnsbach was tamed with enormous struggles. Ecology wasn't an important topic back then. The result



Pic: H. Haseke

As the monitoring proved, we successfully established a nursery ground for the fish fauna in the Enns.



Pic: Ernst Kren

The Enns master plan tries to preserve one of central Europe's most beautiful river landscapes.



Pic: Ernst Kren

was a monotonic runner, restrained by dozens of transverse groins, fragmented by high concrete drops. Although the Johnsbach creek has been a very important stream for spawning, it was no longer attractive to fish in the Enns and hardly to get over...

After fifty years of the successful taming of the Johnsbach, the restoration of the linings was necessary. But the circumstances had been changed. The nature conservation was now a powerful new player, represented by Naturazoo and the National Park

management. Thus, a discussion about the primordial undertaking was started, and the maintenance and repair of the river buildings changed with the LIFE support to a restoration. The exemplary restoration program was developed by the partners of the WLV (Austrian Service for Torrent and Avalanche Control) as a synthesis of ecological function and protection system. The new concept: Adjustment of the river slope and avoiding of high steps, effectuated by the building of broad, but flat ground sills. Furthermore, the creek is



Pic: H. Haseke (2005), ArchivWLV (1951)



Pic: Archiv WLV

The Johnsbach area "Zwischenmäuer" ("between the walls") at the end of the 1950's near the location "Hellichter Stein" ("bright stone")

The river Johnsbach between 1950 and 2006. Not completely unnatural, but widely straightened and lacking of structural diversity.





Pic: it-wms.com (Webcam Nationalpark)

For the nature lover, the lining of the Johnsbach seemed to be too hard and too overdone. But if you take a look at this flooding during a thunderstorm at the July 20th 2007, you might think differently.



Pic: H. Haseke

The torrent is set free and gets back its naturalness - step by step.



Pic: Archiv Nationalpark

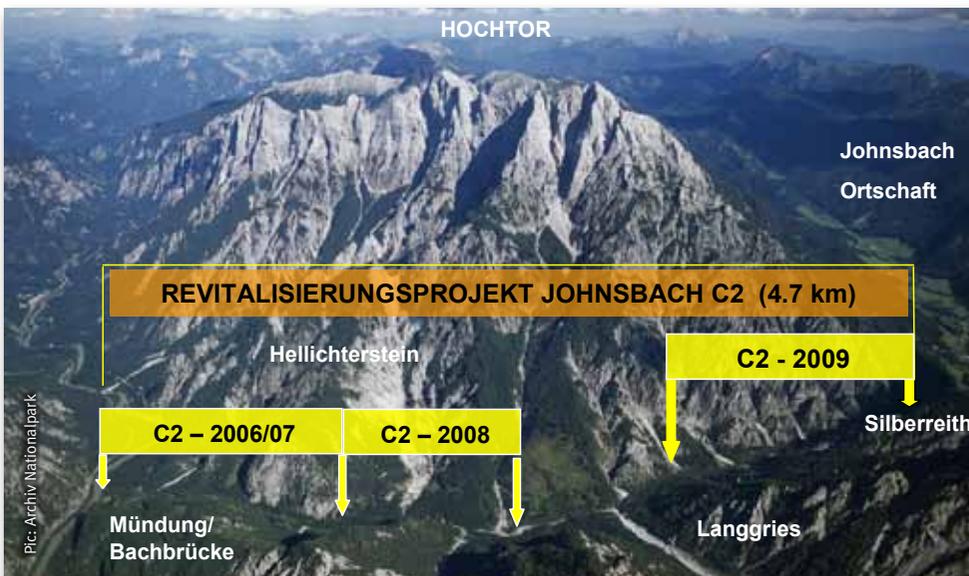
The asphalt mixer in „Gseug“, a tributary of the Johnsbach in the heart of the National Park, in July 2006. The mining has been stopped in 2009, and the last relics as bitumen road coatings were removed in 2010. Now, the dynamic detrital streams are able to start functioning and delivering the bedloads into the Johnsbach.

released between the widely extended sills. The old sills had a monotone broadness of twelve metres, the current ones are much more diverse and extend to 50 metres. The water still has to pour in at defined points, but is no longer arrested in a stretched channel. In this way, the Johnsbach is now able to rebuild a wide range of gravel banks, furcations and shores. It is undisturbed by further human impacts.

There is one technical problem remaining at the moment: Some steps are still slightly too high and too steep as well. This is due to the deficit of dynamic gravel, which is the result of the long-lasting excavation in the Johnsbach valley. The former extraction of material from the riverbed is now finished, so by and by the river will fill up the riverbed with gravel from its headwaters.



Pic: H. Haseke (2009)



Pic: Archiv Nationalpark

The Johnsbach-„Zwischenmüer (Between the Walls)“ with the LIFE stages of construction.



Pic: H. Haseke (2009)

We tried to improve the passability up to the end of the LIFE program. One possibility was to fix trees in the creek to accumulate gravel.



Photo: G. Kump

Several sills remain too high because of the lack of dynamic bedload and the erosion of the riverbed which had been disturbed during the construction phase. This might be a problem for weak fish like the brook lamprey.



*April 2007:
Construction of ground sills*



*May 2007:
The work at site is finished*



*September 2007:
The gravel densifies*



*August 2008:
After a flood the situation is better.*



*July 2009:
Yet, the gravel is still compressive*



*April 2010:
Trees were set to support the accumulation of gravel in the riverbed.*



Focus "Johnsbach":

Im Gseis 6 / 2006

www.nationalpark.co.at/nationalpark/de/life-gewaesser-johnsbach.php

Download Info-Folder Johnsbach:

www.np-gesaeuse.at/download/aktuelle_folder/NP_LIFE_Johnsbach.pdf



The Info-Folder „Johnsbach“ is available at the information points of the Nationalpark for free. Directly in the area a presentation board gives general information concerning the LIFE-project.



Pic: H. Haseke

The comparison is manifestly: Lower passage near „Gseng“ in 2005...



Pic: H. Haseke

... and after the renaturation 2007.



Pic: H. Haseke

In the year 2005, the passage below the „Hellichterstein“ was a urgent case of restructuring



Pic: H. Haseke

... but since 2007, it has converted to a visitor area and towards a natural open air bath.



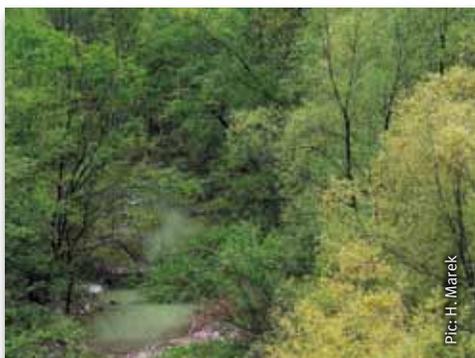
Pic: H. Haseke

Kids playing at the Johnsbach



Pic: Archiv Nationalpark

Inverted world: The well coloured hardwood should be on the rise towards the valley, but in the „Gstatterbodener Kessel“, the forest is still highly dominated by the spruce.



Pic: H. Marek

The right habitat-matching forest has many faces: According to the site position and sea level, it will be a riparian forest...



Pic: Archiv Nationalpark

... or a mountain-mixed-stand with beech, spruce and fir...



Pic: H. Haseke

... but in fact, monotonous spruce forests like this one are currently covering hundreds of hectares of the National Park.

Main Target III: The forest ecosystem management in the protected area (A3, C4, E1, E4, F3, F4, F5)

The forest is the main habitat in the National Park. In its various specifications, it covers fifty percent of the protected area. This is the reason why the chary renaturalization of the former forests into site-adapted woodlands is one of the most important aims of the National Park corporate purpose. The work is carried out by the professionals of the „Steiermärkische Landesforste (Styrian Federal Forest Agency)“. Unfortunately, several areas of the mountain forest are still dark, dense spruce stands, often lacking any structure and generally in a bad state. It must be said that common spruce (*Picea abies*) is a native part of the mountain forest. However, artificial monocultures do generate a lot of problems, such as weak stability and liability to bark beetles. Therefore it is very important to adept these unnatural forests into species-rich and textured habitats. The first priority is given to the forests at the bottom of the valleys, because there the percentage of the spruce should be the lowest and also because nowadays pristine woodlands are rarely found in low lying areas. The intervention in adolescent stands is particularly important. The so-called „rivalry control“ works as follows: A lot of spruces are cut off to enable other tree



Pic: H. Haseke

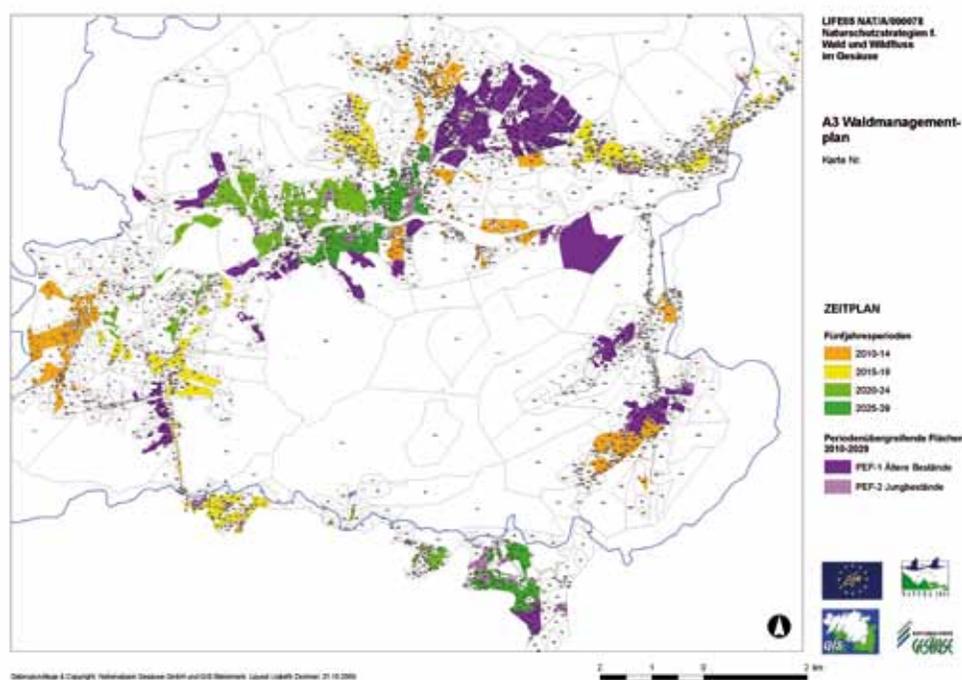
If the stand is just adolescent, a fast intervention is able to ensure good success.



Pic: zep-cam.com

In the Jobnsbach valley the effects of the „forest transformation“ can be well observed. There we carried out the reduction of spruce synchronous to the WLV river project.

www.nationalpark.co.at/nationalpark/de/life-waldmanagement.php



The Forest Management Plan displays the urgency and the time frame for the corrections.

species to establish themselves. The cut trees mostly remain in the area. As we have seen so far, this method is very promising. This is the main target of LIFE habitat forestry. The method is expensive, but it ensures a great benefit for the protection of endangered species and the development of the habitat. If the trees are very juvenescent, its wood cannot be sold.

LIFE as a „turbo“ for the management of natural forests

In our Forest Management Plan, we list an array of spruce stands where it appears supporting other tree species is imperative. In the management timesheet over 600 hectares are listed as „urgent“. During the regular LIFE programme, we already dealt with 195 hectares. By the beginning of 2011 an additional 120 hectars will have been completed – again funded by LIFE. These stands are mainly situated in the valleys or the “back slope” areas. The woodland management in the National Park is very different from the conventional forestry, most notably in the handling of deadwood: As much wood as possible remains in the forest, and all the standing deadwood is treated with care. Not everyone agrees, but it ensures the living conditions for diverse and often rare and endangered species.

Don't worry! The spruce will survive

If you apply the traditional methods of the Austrian forestry on the nature conservation work with careful consideration, one will achieve successful results. Sustainability is after all an acknowledged aim of the Austrian forestry law. It is therefore always necessary to achieve the correct composition of the tree species in our woodlands. The spruce is an essential part of the lower mountain forest with a contingent of approximately 30% +, but not 100% as it is the case with many forests nowadays. In this case, the spruce needs to be trimmed, but not to be eradicated. Upgrowing undisturbed, *Picea abies* is one of the most impressive tree species in our forests, living for as long as 400 years and more.



Pic: H. Haseke

LIFE leftovers of spruce at the „Krapflalm“. For once, we used the harvester and succeeded to finance a part of the action by selling wood.



Pic: zepp-cam

Nature itself is active: In Winter 2006 storm Paula caused a record in the amount of dead wood at the Krapflalm



Pic: H. Haseke

Getting used to dead wood as a quality criterium is not always that easy.



Pic: D. Kreiner

Wonderful development in an open spruce forest at Haslau



Pic: H. Haseke

Very strong trees in the Hinterwinkel - the spruce is among them.



Pic: J. Pötscher

The ideal of the National Park virgin forest – at some locations, it yet seems to be reality.



Pic: H. Haseke

At other sites, it may take longer. This natural juvenescence, composed by fir, spruce, beech and maple, is a great starting position for future development.



Pic.: J. Pötscher

There is a lot of precious habitats in the pasture grounds.



Pic.: H. Haseke

*The yellow-bellied toad *Bombina variegata* is protected in the European Union and spawns in little pasture pools. In the Gesäuse area they are a rarity.*



Pic.: H. Haseke

If cattle lingers around spring reaches, the habitat should be fenced in....

LIFE Target IV: The alps in the National Park (A4, C5, C6, F6)

Most of the mountain pastures originate from „pristine grassland“. This means the open areas above the timber line do contain plenty of flowers and wild herbs. Agricultural pioneers collected the seeds and disseminated them in lower clear-cut areas. From the perspective of ‘nature conservation’, this method has resulted in new biotopes and a considerably augmented biodiversity.

During the LIFE project, we elaborated the management tools for 718 hectares of alpine pastures. Over 7% of these grasslands are considered exceedingly sensitive, most of which are wetlands and rough pasture. The constitutive „Pasture Nature Protection Plan“ should reassure that the actions listed in the management plan will be realized. Some of the objectives in the LIFE programme have already been achieved (focus points: Sulzkaralm and Haselkaralm):

- Mowing of areas with monotonous weeds like *Rumex alpinus*
- Cutting of areas overgrown with bushes
- Restoration of watering places and water troughs
- Fencing of sensitive habitats like springs and pools
- Creation of enclosures and roundup of the cattle

Without any action by the farmers, the pasture grounds will be reconquered by the forest. This means that once in a while these areas need to be relieved from bushes and shrubs. During the LIFE program, we successfully reduced the scrubs at two former alps, which helped sustain the habitats in which black grouse are known to live in, (*Tetrao tetrix*): Wolfbauernhochalm (Zinödl) and Eggeralm (near Ennstaler Hütte)

LIFE-Target V: Management of targeted species and habitats, Visitor management, Monitoring (A5, C3, D1, D2, E1, E2, E3, E4, F1-F6)

The management of the so-called “target species” and their habitats is an essential part of the LIFE Program. It is evident that LIFE should give special attention to the highly endangered plants, animals and their living spaces. The taxa and habitats are listed in the annexes of the Habitats Directive (FFH) and the Birds Directive (VSR) of the European Union.

In the National Park Gesäuse, we find 25 habitats listed in the directive. Six of them have the state “priority”, e.g. forests in floodplain areas and in gorges. In the habitat network, there are 19 bird species, 11

non-avifauna animals and three plant/moss species, all listed in the EU directives. Regarding these numbers we must not forget that there are a lot of Natura2000 sites and LIFE projects targeting only one or two EU habitats and/or protected species.

All the LIFE actions in the forest, in the Alps, the rivers or in connection with tourism are attuned to the needs of the endangered species. During and after the realisation, we have to challenge the success of our measures. This is called “audit”, and if repeated, “monitoring”. For example, we try to count and evaluate the fish population in a river before and after a restoration project, for example the Johnsbach, or the different species of woodpeckers after a spruce cutting which had produced a lot of deadwood.

How to get on the bad side: Visitor Management (A5, D2, E3, E4)

In general, there is not much incompatibility between visitors, tourists and the National Park government. Some conflict potentially remains with regards to the rafting activities on the Enns river and ski hiking. To deal with these issues, we developed a detailed visitors management plan, including many empirical facts. Information in thematic booklets (e.g. „Fair Play“) and at information points aim to encourage guests to respect the needs of the wild animals and plants and to avoid the problem areas. This, for example, may be especially significant during breeding season or the winter months. As usual in the big IUCN protected territories, the National Park employs a number of rangers and field supervisors to grant the natural conservation compliance, the use of the correct trails and the respect of the “no-go-areas”.

Benefits for species

The concept of the amendment and enlargement of distinct habitats postulates that the plants and animals, which depend essentially on these sites, also benefit from these actions. For example, the cutting and „lightening“ of spruce thickets in action C4, near well structured forests, should improve the situation of woodpeckers and longhorn beetles. The renaturation and widening of hard obstructed stream reaches at the river Enns and the Johnsbach creek in action C1 and C2 will raise the attractiveness for the authentic water fauna.

Additionally, we carried out a directly targeted species beneficiary program: The stocking of some 10.000 endangered young little Cyprinide „Strömer“



Pic: H. Haseke

... to avoid that it looks like this in the near future.



Pic: L. Zechner



Pic: T. Kerschbaumer

For the black grouse it is important to maintain the ancient meadows especially due to their sparsity. Below you see a rock ptarmigan (Lagopus mutus)



Pic: T. Kerschbaumer



Pic: Archiv Nationalpark

Our one and only FFH insect: The Rosalia longicorn (*Rosalia alpina*)



Pic: H. Marek

The Lady's Slipper orchid (*Cypripedium calceolus*) is one of Austria's most impressive orchids.



Pic: T. Kerschbaumer

The National Park – is it also the living space for the black grouse ...



Pic: Ernst Kren

...or, as usual, only a sports field for the „Lord of the creation“?

(*Varione, Leuciscus souffia*). Although we used the assistance of top experts from the university BOKU in Vienna, bought the fish cluster from an original Enns breed and searched with care to locate the most convenient sites, we do not know yet if our efforts were successful.

Fighting against Neobiota

The most dangerous members of the „herbal invasion army“ coming from overseas are really appealing: The Canadian Goldenrod (*Solidago canadensis*), the Japanese Knotweed (*Fallopia japonica*) and the Himalayan Balsam (*Impatiens glandulifera*) have been imported, cultivated in gardens and disseminated into the natural areas. Because of their enormous growing and competitive capacities, the alien plants are pushing all other elements of floral life aside, and in large regions, the situation seems lost. In the National Park, the plants are invading mainly areas along streets, railways and river banks; so it is possible to eradicate or to contain them. It is alarming though that the Goldenrod and the Himalayan Balsam seem to be leaving the valley and are preparing to invade the forest-free areas in the mountains. A few invasive species have reached altitudes of 1000 metres – they are about to enter the alpine pasture grounds and avalanche drains, which are full of rare endemic species.

During the LIFE IAS (invasive alien species) project, we gained some important experience. We noticed that this campaign only makes sense if carried out with maximum consistency, precision and staff continuity. The actions are continuing with the target to eradicate the alien species completely from the sensitive habitats and to control and contain them along roads and railways.



Pic: H. Haseke

A swarm of young Variones, on the eve of their release into the Enns river.



Pic: H. Haseke

Nearly everyone in Styria, even the National Park has to fight against invasive alien plant species (IAS)



Pic: A. Kranz

The European otter is one of the winners of the riverside renaturations – Lutra lutra re-immigrates currently to the Styrian Enns valley.



Pic: H. Haseke

A story of success: the grassland and the riparian forest around the Johnsbach river mouth are clean!



Pic: T. Zimmermann

Do we want the native flora like this.



Pic: H. Haseke

...or should we accept that several vegetation units in the National Park will soon appear like this?

Strategies for forests and streams in the Gesäuse area

EU-Project:	LIFE Nature Project "LIFE Gesäuse"
Duration of the project:	2005 to 2010
Total costs:	€ 2.363.205
Support of the EU:	50 Percent
Project Leader:	National Park Gesäuse GmbH
Partners in the Project:	Styrian Federal Forest Agency Austrian Service for Torrent and Avalanche Control (WLV) Federal Flood Prevention Agency (FA 19B)
Project area 1:	Natura 2000-area "Ennstaler Alpen/Gesäuse"
Total area 1:	14.530 hectares, Elevation: 480 to 2369 metres above sea level
Project area 2:	Natura 2000-area "Wörschachener Moos und ennsnahe Bereiche"
Total area 2:	1620 hectares, Elevation: 620 to 630 metres above sea level

Further information is available at the responsible administration agencies:

National Park Gesäuse GmbH., Weng: Project Leader
+43 3613 21000

Styrian Federal Forest Agency, Admont: Forest's and Wild animal's Management
+43 3613 2403

Information Desk of the National Park Gesäuse, Admont: Tourism
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Austrian Service for Torrent and Avalanche Control (WLV), Liezen
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The Gesäuse and the waterside of the Enns river between Selzthal and the valley Gesäuse are parts of the European Natura 2000 network. It contains some of the most endangered species and biotope types within Europe. In the linked system of Natura 2000 all 27 countries do work together to preserve Europe's prosperity in animal and plant species, as well as wilderness.

LIFE-Nature projects are management programs for Natura 2000 Protected areas. Since 1992 LIFE does cofunding environmental initiatives within the European Union and some third countries between the Mediterranean and the Baltic Sea.

