

LIFE+ Project Mostviertel - Wachau

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Measures on the Ybbs

WITH THE ASSISTANCE OF THE FEDERAL AND PROVINCIAL GOVERNMENTS AND THE EU

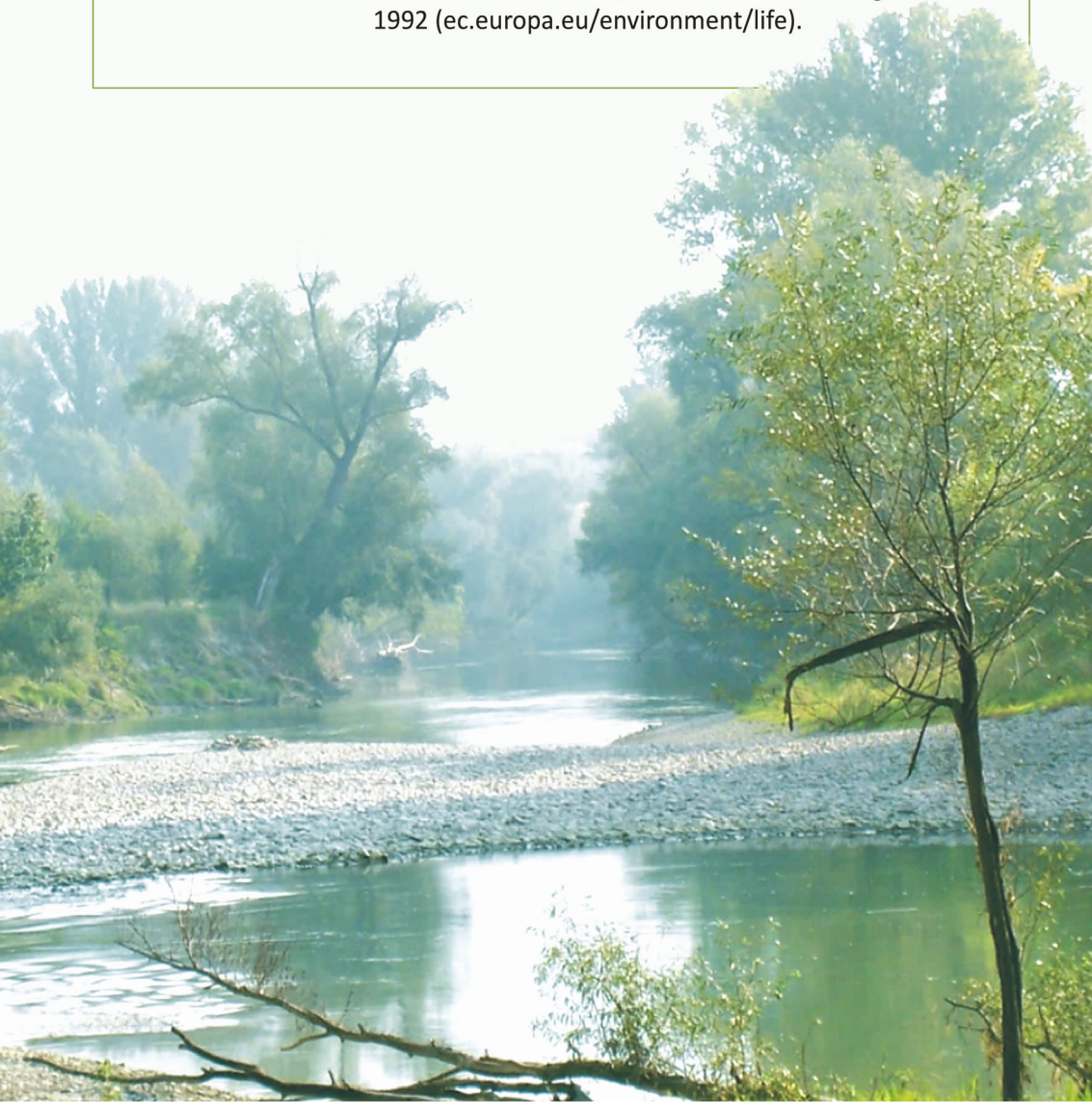




Natura 2000 is an ecological network of specially protected areas across Europe that has been created to safeguard endangered habitats and species. Its legal basis is the Habitats Directive and the Birds Directive.



The LIFE Programme is an EU instrument for funding environmental and climate protection projects. More than 4,000 projects have received a total of about EUR 3,400 billion in funding since 1992 (ec.europa.eu/environment/life).



Objectives and measures – Ybbs

Restoring habitat

The steps taken in the Mostviertel region were focused on the River Ybbs near the city of Amstetten. Just 70 years ago the Ybbs was a many-branched river rich in structures, with large gravel banks and an extensive backwater system. The Ybbs was regulated, the course straightened and an armour stone bank revetment added along the full length of the river bed. The original waterway diversity was heavily reduced as a consequence, and many typical species of flora and fauna were deprived of their habitat.

Consequently, the aim of the LIFE activities on the Ybbs was to enable greater hydrological dynamics by reconstructing the river bed, in this way supporting the reappearance of habitats typical of rivers, including gravel bars, kolks, fords, channels and calm shallow bays.

The bed of the Ybbs was widened near the villages of Winklarn and Hausmening and the city of Amstetten, and side-arms and islands were created. Additional measures were carried out in the Amstetten area to facilitate fish passage in the Ybbs, specifically at two river bottom ramps and at the weir at Greinsfurth. All of these measures are primarily aimed at preserving endangered fish species such as the grayling, the nase, the barbel and the Danube salmon.

Shortly after completion, the positive impact of the LIFE measures was verified by fish ecology monitoring and in student theses investigating the occurrence of birds and amphibians.



Little ringed plover



Hausmening side-arm

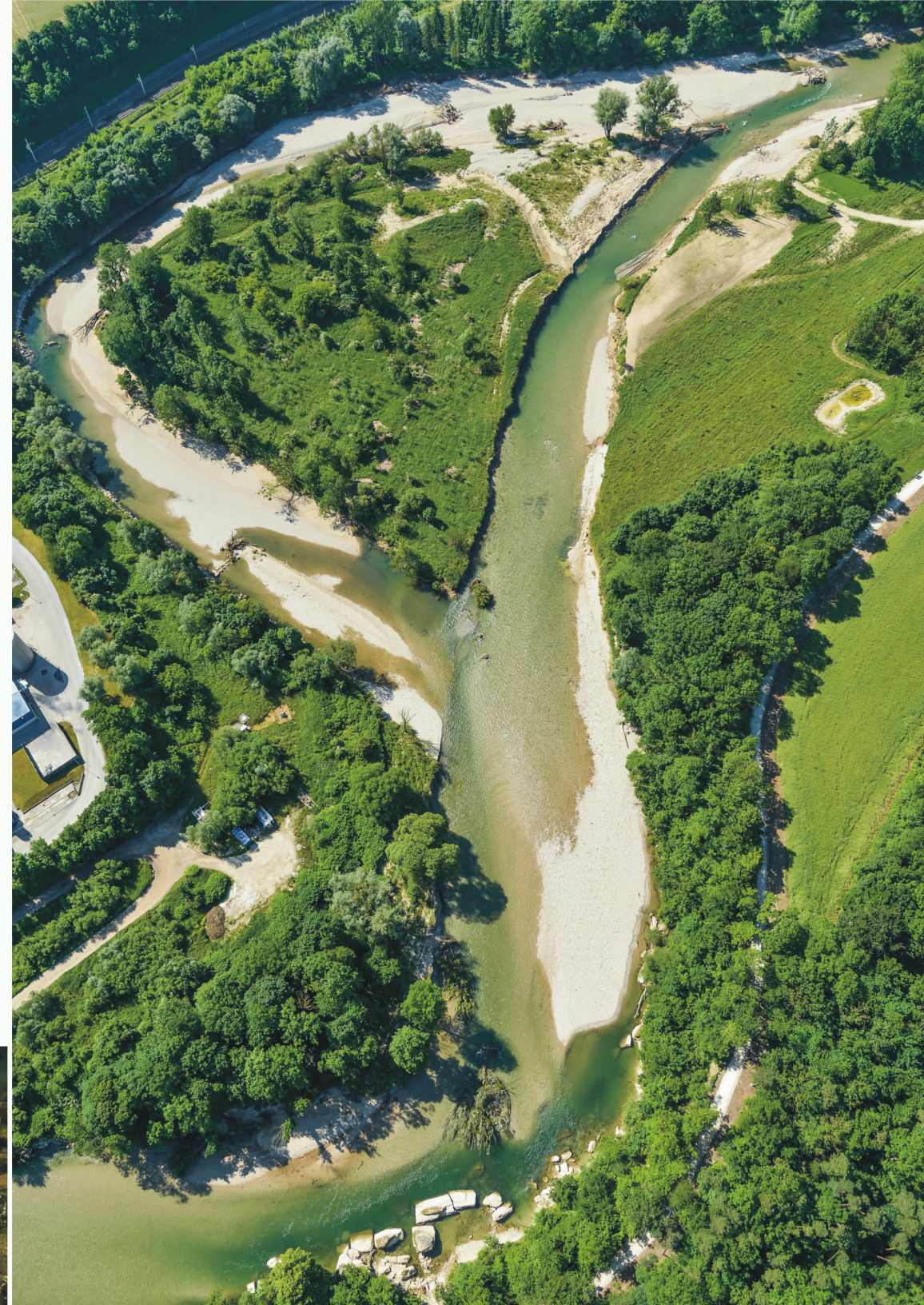
Renaturation

The initiative for the renaturation of the River Ybbs originated among fishermen, specifically a regional association dedicated to saving the Ybbs grayling. The objective was to create and initiate a variety of structures typical of rivers, by constructing a dynamic side-arm, integrating deadwood structures and creating gravel bars and shallow bays.

Endangered fish species such as the Danube salmon, the vairone and the grayling benefit from these structures at various stages of growth. Endangered birds such as the common sandpiper, the little ringed plover and the kingfisher also take advantage of the new habitat. The intention is for inherent dynamics to guide river bed evolution in future, with as little intervention as possible. Flooding on several occasions during the project has already resulted in a great diversity of habitat structures, including gravel bars, deep and shallow reaches, and steep banks.

Fish ecology monitoring has shown that the vairone (*Telestes souffia*), a small species relatively uncommon in Lower Austria, occurs in especially large numbers here.

Grayling Vairone



Distributary at Winklarn

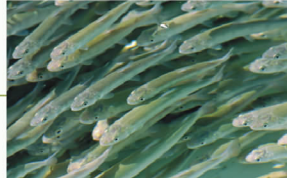
Modelled on the past

Renaturation of the Ybbs near Winklarn focused on the creation of a side-arm in order to widen the river and add a distributary. After the first flooding season, large-scale reconstruction ensued, resulting in a highly dynamic side-arm that now features excellent alluvial structures, including extensive submerged gravel bars, shallow bays and deep kolks.

Observations gathered up to now have shown two to three breeding pairs of little ringed plovers in this section. Common sandpipers, kingfishers and white-throated dippers are also sighted here. The presence of several large Danube salmon has been recorded through fish ecology monitoring activities. In addition, the total fish biomass and the wide occurrence of the grayling show that targets in terms of fast water (rheophile) species have been fully met.

A steep slope farther upstream, protected by natural forests, has been purchased and protected from commercial use. Water often springs forth at the base of the forested slope in a manner characteristic of the priority habitat type known as “petrifying springs with tufa formation”, in line with the Habitats Directive. Two small pools for amphibians were created adjacent to these springs.

Danube Salmon



Little ringed plover Nest of Little ringed plover



Greinsfurth fishway

Unhindered passage

For 100 years, following the construction of the Allersdorf power station, fish were unable to pass the eight-metre weir near the village of Greinsfurth. As part of the LIFE+ Project, the Amstetten Municipal Works Department erected a migration facility in the form of a fish pass. Today fish are once again able to migrate by passing through the 57 pools of the newly built, generously sized fishway. The route circumventing the weir runs from the headwater channel to the tailwater and enters directly beside the outlet of the residual flow turbine. The migration facility is one of the largest vertical slot passes in Austria.

In just the first year of operation, fish ecology monitoring observed five Danube salmon passing through - an impressive demonstration of how well the facility works.



Danube Salmon

Weir – insurmountable Vertical Slot fishpass



River bottom ramps at Amstetten

Passability for fish

Fish used to encounter great difficulty passing through the River Ybbs at the city of Amstetten due to two river bottom ramps. Domestic species of fish 'migrate' over distances of varying lengths, for instance to reach spawning grounds or winter shelter. It is thus essential for the survival of fish populations that they are able to migrate for these purposes.

The objective was to remodel the river bottom ramps to allow the fish to pass through again. The two ramps, 2.4 and 1.2 metres in height, were rebuilt in such a way as to allow practically every domestic species of river fish at any stage of development to pass the ramps in the bed. The converted ramps had to function in three ways, as described in the following.

A pool-type bypass on the left allows small fish and weak swimmers to pass. Stronger and larger fish can alternatively use the channel with obstacles in mid-stream, where there is less risk of jams and fish are provided with good migration conditions even at varying water levels. The even steeper ramp section on the right bank serves as a drain-off for high water as well as an additional passage facility at high water levels.

Pool bypass in detail

Channel with obstacles in detail



Widening at Amstetten

Allersdorf side-arm

Extensive measures for renaturing the Ybbs were carried out along various sections of the river within the city of Amstetten. The LIFE+ Project constructed a side-arm at Allersdorf. Here the right bank below the pedestrian bridge was modelled on a historic precedent. Large fords and gravel bars were created around this widened section, which are well suited as spawning grounds and as a larva habitat for rheophile species such as Danube salmon, nase, barbel and grayling.

Within this section of construction along the Ybbs, five amphibian pools were also created, while large floodplain properties were purchased on behalf of the city of Amstetten to prevent any forestry use in future. The property will be devoted exclusively to nature conservation in future.

Fish ecology monitoring since renaturation has shown both fish biomass and density to be substantially greater in the area where measures were taken than in the adjacent section.



Construction... friendly bulldozer



Common Sandpiper





Hausmening
side-arm



Distributary
at Winklarn



Amstetten-Allersdorf
side-arm



Amstetten-Allersdorf
side-arm



Ybbs at Hausmening

Protected assets – fauna

‘Protected assets’ refers to the species of plants and animals legally protected by the Habitats Directive or the Wild Birds Directive, and to varieties of habitats especially intended to benefit from LIFE activities. Such assets were the focus of efforts within this LIFE Project towards improving the condition in which they are maintained.

Grayling Vairone



Little ringed plover



Dice Snake



Nase



Young Danube Salmon

Danube Salmon ready to spawn



Young Common Toad



Barbel



Facts and figures

LIFE+ Project: Mostviertel-Wachau (2009 - 2014)

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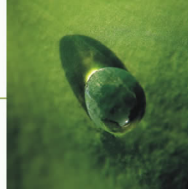
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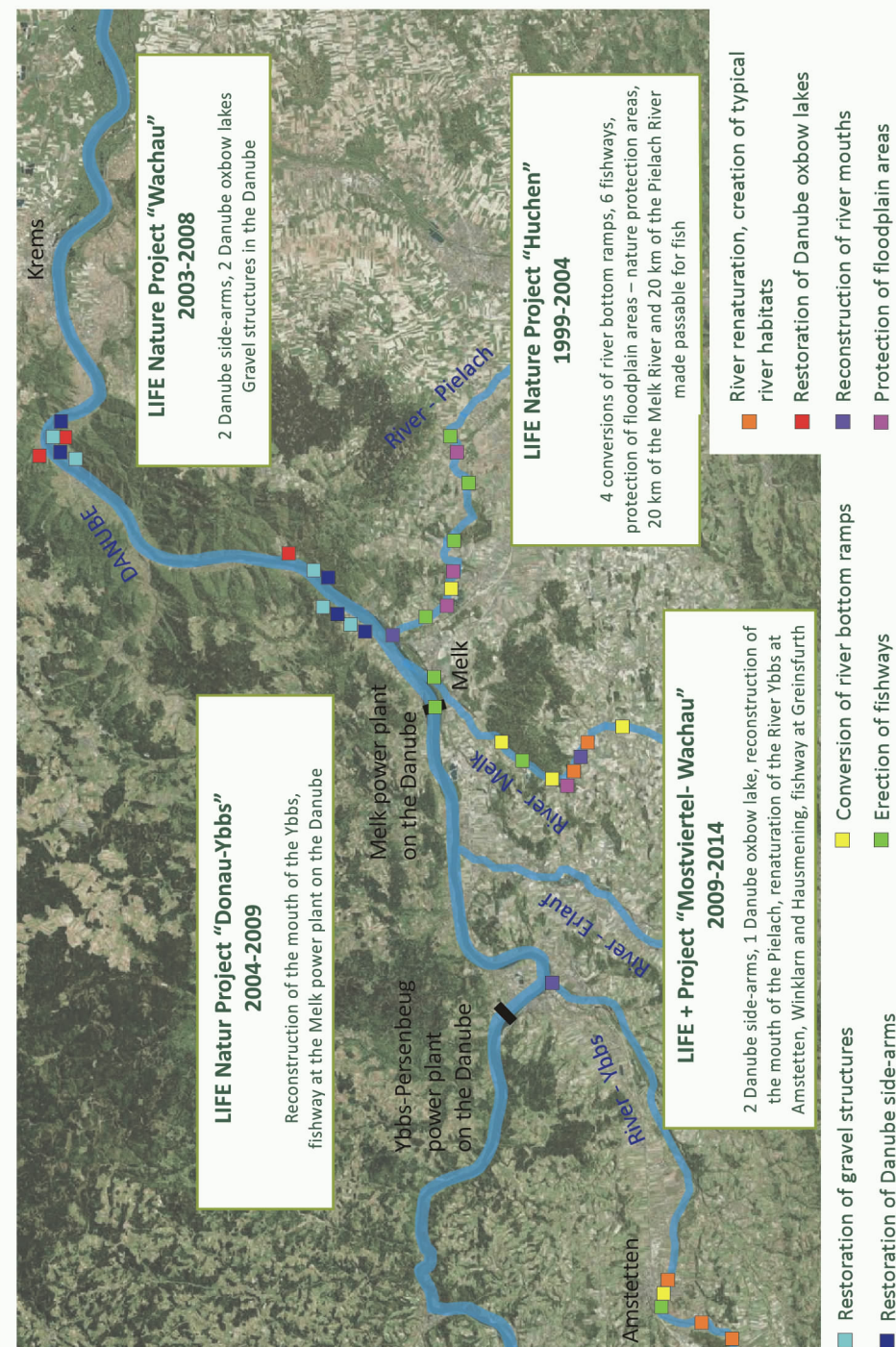
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A map showing tremendous progress



Overview of measures taken in 4 LIFE projects: "Lebensraum Huchen", "Wachau", "Vernetzung Donau-Ybbs" and "Mostviertel-Wachau"