LIFE Lech – Dynamic River System Lech

LIFE15 NAT/AT/000167

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Project description:

Background

The Tyrolean Lech River, with its huge banks of gravel and broad zones of lowland riparian forest, is among the last rivers in the northern Alps that remain more or less in a natural state. For over 60 km, the highly braided (multi-channelled) river occupies a gravel bed that is up to 100 m wide in parts. The river's course is constantly changing due to erosion and deposition. In Austria, including the border stretch with Germany, its dynamically braided course forms large-scale gravel and sand bars, and it still features unimpaired wild stretches. It is among the most threatened type of landscapes in Central Europe.

Floods and increasing pressure from human activities in the valley, however, have necessitated hydrological regulation measures. In certain sections these hydrological works have severely narrowed the riverbed. The construction of debris traps across the streams and growing exploitation of gravel have also contributed to a deepening of the riverbed and a lowering of the water table. The consequent disappearance of flooding and forests that are regularly submerged has adversely affected numerous species associated with gravel banks, including the German tamarisk (*Myricaria germanica*), the pink-winged grasshopper (*Bryodemella tuberculata*) and the little ringed plover (*Charadrius dubius*).

From 2001 to 2007 the Tyrolean Lech Natura 2000 site was the focus of a LIFE project, Wild River Landscape Tyrolean Lech (Tiroler Lech – Wild river landscape of the Tyrolean Lech, LIFE00 NAT/A/007053). The project was a first successful step towards the reintroduction of natural dynamics into the river habitat. Continuation of works, however, is required to ensure the lasting success of habitat and species conservation.

Objectives

The LIFE Lech project aims to conserve the natural dynamics of the Lech river system and surrounding riparian landscapes, along with its characteristic habitats and species. Specifically, it aims to protect and develop the dynamically shaped gravel bars, which have been declining since the Lech regulation in the 20th century. Bank stabilisation structures will be removed, the river widened, side streams created and groynes shortened, thus affording spaces for the river to redevelop its natural dynamics. The upper reaches, in particular, possess great potential for the development of the gravel bars and pioneer habitats, which provide necessary living conditions for several highly specialised and endangered species.

The project also aims to stop the deepening of the river bed and thus stabilise groundwater levels. This measure will preserve the surrounding riparian landscape along with Alpine river habitats and alluvial forest priority habitat and species, such as the Siberian bluet (*Coenagrion hylas*), the stone crayfish (*Austropotamobius torrentium*), the white-clawed crayfish (*Austropotamobius pallipes*), the northern crested newt (*Triturus cristatus*) and the European bullhead (*Cottus gobio*).

Another goal is to improve the way the visitors are managed in the area. Better and targeted information and awareness raising should help protect the breeding areas of disturbance-sensitive bird species (e.g. common sandpiper (*Actitis hypoleucos*) and little ringed plover (*Charadrius dubius*)) and at the same time increase the acceptance of the Natura 2000 network of sites among local people.

Expected results:

- The purchase and development of dynamically shaped river habitats on 4.3 ha of alluvial land;
- Creation of 11 river restoration sections, with a total of 10 km of 'soft' banks (without stabilisation structures);
- Development of 25 ha of dynamically shaped river areas – Alpine river habitats listed in Annex I of the Habitats Directive as additional habitats for species dependent on gravel bars (e.g. the common sandpiper, the little ringed plover and grasshoppers such as the speckled grasshopper (*Bryodemella tuberculata*));
- Stable populations of the common sandpiper (*Actitis hypoleucos*), the little ringed plover, and the highly specialised grasshopper, speckled grasshopper (*Bryodemella tuberculata*);
- Two water bodies created offering improved living conditions for amphibians (the northern crested newt (*Triturus cristatus*), the European tree frog (*Hyla arborea*) and the natterjack toad (*Epidalea calamita*) along with the Frey's Damselfly (*Coenagrion hylas*);
- Two water bodies created offering improved living conditions for crayfish, such as the stone crayfish (*Austropotamobius torrentium*), and the white clawed crayfish; and
- Two water bodies created offering improved living conditions for small fish (the European bullhead (*Cottus gobio*) and the common minnow (*Phoxinus phoxinus*)).
- Two habitats which are offering improved living conditions for the dwarf cattail (*Typha minima*).

Environmental issues addressed:

Themes:

- Habitats – Freshwater

Keywords:

- Freshwater ecosystem, river

Target EU Legislation:

- Nature protection and Biodiversity
- Directive 92/43 - Conservation of natural habitats and of wild fauna and flora- Habitats Directiv ...

Target species:

- Common sandpiper (*Actitis hypoleucos*)
- White-clawed crayfish (*Austropotamobius pallipes*)
- Stone crayfish *(Austropotamobius torrentium*)
- Little ringed plover (*Charadrius dubius*)
- Siberian bluet (*Coenagrion hylas*)
- European bullhead (*Cottus gobio*)
- Northern crested newt (*Triturus cristatus)*

Target Habitat types:

- 7240 – Alpine pioneer formations of the *Caricion bicoloris-atrofuscae*
- 91E0 – Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae)"
- 3140 – Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.
- 3230 – Alpine rivers and their ligneous vegetation with *Myricaria germanica*

Natura 2000 sites:

- SCI AT3309000 Tiroler Lech
- SCI DE8430303 Falkenstein, Alatsee, Faulenbacher- und Lechtal
- SPA DE8330471 Ammergebirge mit Kienberg und Schwarzenberg sowie Falkenstein

Beneficiaries:

Coordinator:	Bundwasserbauverwaltung Tirol, Baubezirksamt Reutte
Type of organisation:	Regional authority
Description:	The Bundeswasserbauverwaltung Tirol, Baubezirksamt Reutte, is responsible for all water-engineering tasks in the district of Reutte. This institution was a project partner in an earlier Austrian LIFE project (LIFE00 NAT/A/007053).
Partners:	Wasserwirtschaftsamt Kempten, Germany Amt der Tiroler Landesregierung, Abteilung Umweltschutz, Austria

Administrative data:

Project reference:	LIFE15 NAT/AT/000167
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EU contribution:	3,655,932.00 €
Project location:	Tirol (Österreich)