



Conservation and Management of Freshwater Wetlands in Slovenia – WETMAN

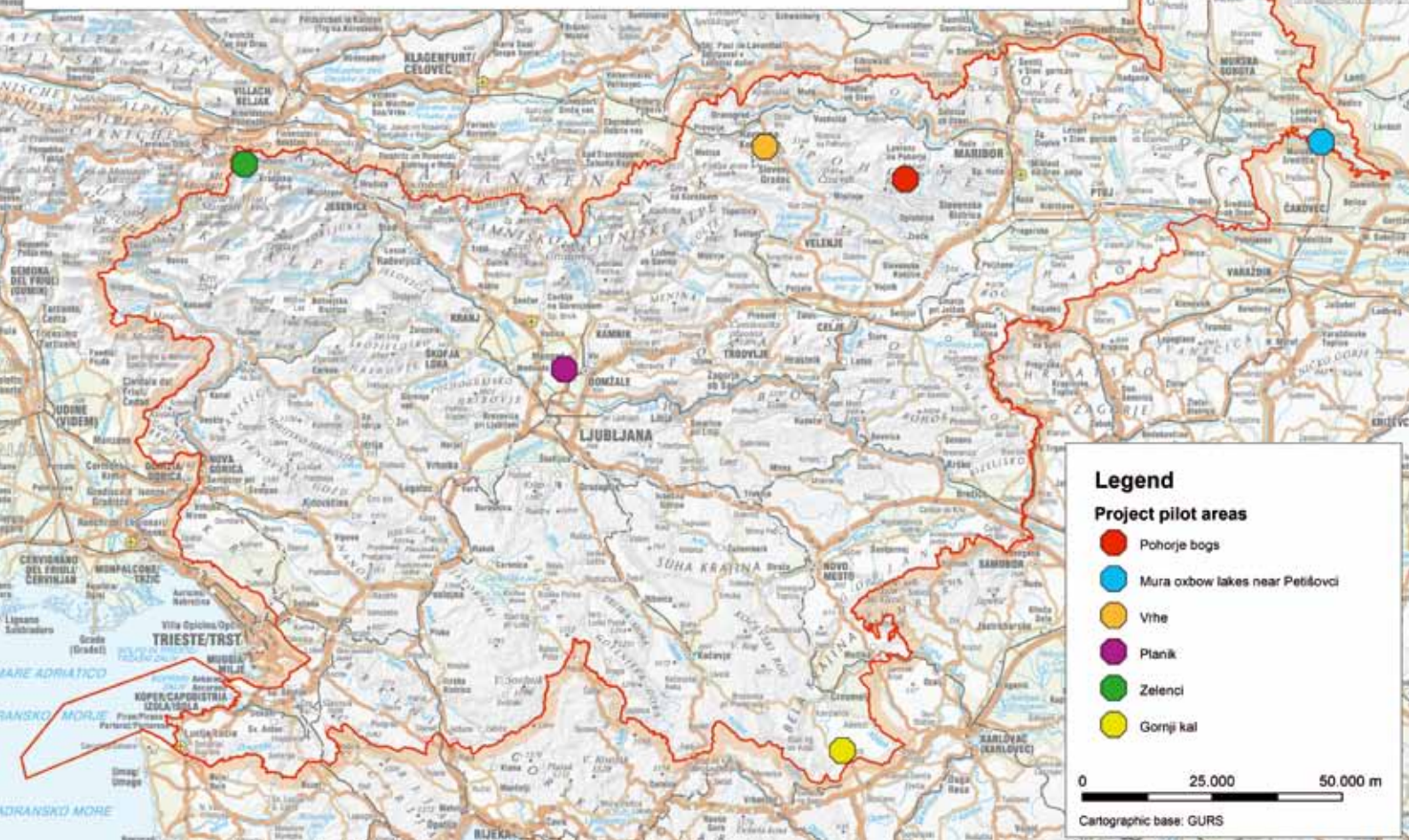
(LIFE 09NAT/SI/000374)



PROJECT LIFE+ WETMAN

CONSERVATION AND MANAGEMENT OF FRESHWATER WETLANDS IN SLOVENIA

MAP OF PROJECT PILOT AREAS





WETLANDS

Wetlands are areas whose soil is either seasonally or permanently saturated with water. These include permanent or temporary swamps, lowland bogs, peat bogs and other naturally or artificially created watery surfaces with stagnant or moving water.

The water found in wetlands can be saltwater, freshwater or brackish. In wetlands we also find plants and animals that require water or humid soil in order to grow and propagate.

Almost 2 percent of Slovenia's surface is covered by wetlands. Our largest and most interesting wetlands are Ljubljansko barje, Cerkniško jezero, Sečoveljske soline, Zelenci, the bogs of Pohorje and Pokljuka, the oxbow lakes and groves along Mura, Krakovski gozd, Dobova, Jovsi ob Sotli and Škocjanske jame. But these are only the largest and the best known ones. Most wetlands in Slovenia are small, which makes them all the more vulnerable.

Wetlands are extremely important: they affect the water dynamics of the area, prevent draught and erosion, purify water and air, affect the weather conditions and are a true treasure trove of biotic diversity.

However, wetlands are often considered an insignificant, redundant and inferior part of nature. That is why in the past, numerous wetlands were drained, filled in or otherwise destroyed. In the second half of the 19th century this led to the destruction of more than 40% of the wetlands in Slovenia. Wetlands are a habitat for a number of plant and animal species who depend on them. As they disappear, these species become endangered as well.

Loss of biotic diversity is not the only negative consequence of draining wastelands – we are also losing the ecosystem services that the wetlands provide us with.



THE PROJECT

The goal of the project **Conservation and Management of Freshwater Wetlands in Slovenia - WETMAN** is to improve the condition of six Slovene wetlands that are also designated as Natura 2000 sites. The project Pilot areas are: Pohorje bogs, Zelenci, Mura oxbow lakes near Petišovci, Planik, Vrhe and Gornji kal (a group of three ponds namely Krivače, Kršeljivec and Hrast in Bela krajina.). These areas represent different types of wetlands (bogs, fens, mires, oxbow lakes, wet meadows, bog forest and ponds) which were not properly maintained in the past.

The project will last from 1st February 2011 until 1st February 2015 and will fund nature conservation activities in individual pilot areas. These activities and establishing a sustainable management of the pilot areas will significantly contribute to preserving the wetlands of Slovenia.



PROJECT PILOT AREAS

POHORJE is a mountain range in the north-eastern part of Slovenia, consisting mostly of silicate rock. The impervious ground leads to water stagnation, resulting in formation of typical peat bogs with small lakes, surrounded in places by peat spruce forests. The project pilot area consists of two separate units: a greater area around Lovrenška jezera and Ribniško barje, and the area between Črno jezero in the south and the peat bogs of Klopni vrh in the north.

ZELENCI is a wetland near Podkoren in Upper Carniola, also known as the source of Sava Dolinka. Here, we can find small lakes with bubbling underwater springs, water pockets and the meandering stream of Sava Dolinjka, as well as a transition mire and a bog mire.

MURA OXBOW LAKES NEAR PETIŠOVCI are part of the floodplain along river Mura, Slovenia's largest river with a lowland character. Mura is surrounded by preserved floodplain forests, parallel riverbeds, oxbow lakes and extensive wet meadow complexes. We will carry out field activities on three oxbow lakes: Nagy Parlag, Petišovsko jezero (Csiko Legelo) and Muriša.

The pilot project area of **GORNJI KAL** is located in the southern part of Bela krajina and includes three Karst ponds with fields, meadows, orchards and patches of forests located in between. Going from west to east they are Krivača and Gornji kal, while Kršeljavec, located at the eastern edge of the area, is currently dry and overgrown. In the past, almost every village in White Carniola had several such ponds, which were mostly

used as drinking water for livestock and for washing the laundry, while today their primary function is nature conservation.

PLANIK is a marshy Karst depression located at the foot of Dobeno (near Mengeš). Three brooks flow into the valley, one of them being the Ručigaj brook. At the head of the valley water gathers in a wetland, a lowland bog. The wetland is surrounded by extensive wet meadows and a forest.

In the vicinity of the settlement **VRHE** near Slovenj Gradec, next to the Selčnica brook headwaters, there are several marshy surfaces. A large patch of this area is covered by a swamp forest, while on certain smaller clearings the forest did not develop due to water stagnation. This is predominantly a lowland bog.



PROJECT WETMAN OBJECTIVES

Problems, project activities and expected results

In the past, people have drained numerous wet meadows and forests in order to increase farmland and improve forestry. The changes to the water regime have caused the wetlands to be overgrown shrubbery, which are slowly turning into forests. Through the project activities we will try to improve the conditions of wetlands in project pilot areas and help conserve the basic functions that wetlands provide to nature and humans. This will improve the living conditions for a number of endangered animal and plant species.

The greatest challenge will be improving the hydrological conditions of pilot wetlands, which will reduce future overgrowing of the areas.

By constructing barriers on water dykes we plan to improve the hydrological conditions of the peat bogs of Klopni vrh, Javorski vrh and Lovrenc na Pohorju. This will also result in improvement the habitats of Capercaillie and Black Grouse.

In Zelenci we will restore the filled in riverbed in order to recreate the former hydrological regime. We will construct a gravel barrier at Čošeljnov graben, which will limit further filling of Zelenci.

In the pilot area of Gornji kal we will restore the filled pond Kršeljavec and improve the conditions of ponds Krivača and Gornji kal with the purpose of improving the habitat of the European pond turtle.

Parts of Mura oxbow lakes near Petišovci will be deepened, thus improving the living conditions for the





fish Umbra krameri, the European pond turtle, the amphibians Bombina bombina and Triturus carnifex, and the Leucorrhinia pectoralis dragonfly.

Due to degraded conditions in the project pilot areas (drainage, abandoning their use) wetlands are becoming overgrown increasingly fast, so we will be removing the overgrowth in all pilot areas.

In the project areas Planik and Vrhe we plan to remove the trees and shrubbery from the habitats of the endangered fen orchid. Combined with improving the hydrological conditions this will contribute to conservation of wet meadows, which are also a habitat for a number of other endangered plants.



In the past, people introduced various invasive nonindigenous species (fishes, reptiles) to rivers, oxbows and sinkhole ponds. As these creatures propagate successfully, they threaten our autochthonous species, as they compete with them for their living space. Within the framework of our project, we shall attempt to build people's awareness as to dangers brought to nature by nonindigenous species.



From the waters in the area of Gornji kal and Mura oxbows near Petišovci we shall try to remove all non-native species.

Long term preservation of wetlands will be ensured by implementing guidelines for management of pilot areas into sectoral management plans (forestry plans, fishing, hunting and breeding plans, water management plans). The project will be carried out in cooperation with land owners and the local population.

More and more people spend their free time outdoors. There are many options to choose from. Some are more suitable (hiking), others less. Riding ATVs or snowmobiles, but also intensive gathering of forest fruits (blueberries, raspberries and mushrooms) can directly destroy the natural habitats of various species or prevent animals from nesting, feeding or reproducing.



By guiding the visitors (construction of footpaths in Zelenci and on Pohorje) over certain parts of the area we will prevent the negative impact of tourism on target species and habitats.

Population awareness about the importance of wetlands is fairly low, so we will carry out a number of informational and awareness raising actions, one of which will be the shooting of a documentary.





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