

Return to nature.

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The Rhine island within the "Petite Camargue" conservation area lies about 10 kilometers down the Rhine from Basel in the Alsace region. This former arable land is the subject of a rewilding project that aims to turn it into a self-sustaining area of meadows and woodland with the support of researchers from the University of Basel.

Alluvial landscapes such as those on the Rhine island are rare in Central Europe. In the absence of flooding, fire or large herbivores, the area would require regular mowing to prevent it from gradually turning into forest — with the accompanying disappearance of plant and animal communities that are adapted to open alluvial landscapes. With this in mind, Konik horses and Scottish Highland cattle were introduced to the island in 2018 as part of a research program under the supervision of Professor Valentin Amrhein.

Amrhein's doctoral student Lilla Lovász is studying how the grazing of horses and Highland cattle affects the flora and fauna of the alluvial landscape and especially its bird population. Over a period of several years, she aims to observe the resulting changes in the 32-hectare study area.



The horses and Highland cattle wear tracking devices so that Lovász can track which areas the animals use at what time of the year and how intensely they use them. She also conducts regular surveys of the bird population.

The zoologist uses the data she has collected to study the relationship between the abundance of birds and the presence of horses and cattle at specific locations on the island. On an ongoing basis, she analyzes the results in consultation with Valentin Amrhein. (right)





Between June and August, Lovász and her colleagues also document the flora on the island in order to examine the changes in vegetation due to the rewilding process and the influence of the large herbivores.



Lovász placed marker stones in the ground so that the survey locations could be found again. It is vital that the researchers always analyze exactly the same location so that the data can be compared. GPS data are too imprecise because they vary slightly from one measurement to another. The orange color makes it easier to find the stones, which have often become overgrown over the course of the year. In total, there are 80 such stones spread across the island. (left)

One-square-meter quadrats are used to survey the vegetation at predefined locations. Among other things, the researcher documents the most abundant plant species, the average height and the cover of the plants. By doing so, she hopes to determine the impact of the herbivores on the vegetation.



In the four years that Lilla Lovász has been conducting research on the Rhine Island, she has already observed a change in the biological community. Birds such as starlings or skylarks — whose populations are declining in Europe as a result of intensive farming practices — have returned to the island and have so far managed to hold on. She believes that this is connected with the introduction of the Konik horses and Highland cattle.



Lilla Lovász from the Department of Environmental Sciences investigates at the Research Station Petite Camargue Alsacienne the impact of grazing on birds and plants in an alluvial landscape.



Valentin Amrhein is head of the Research Station Petite Camargue Alsacienne and Adjunct Professor of Zoology at the University of Basel.