



Wetlands reclaimed

Tysslingen and Venakärret 2012-2018



Länsstyrelsen
Örebro län





SPOTTED CRAKE, *Porzana porzana*, is one of the bird species whose habitat has been improved through the Reclaim project.

The Reclaim Project

Just like its name implies the project wants to take something back, restore something to an earlier natural state, to rescue something. The goal of the Reclaim project is to restore two overgrown wetlands, to reverse existing negative trends, to create long-term sustainability for plants and to animals. The project was carried out during 2012–2018 by the County Administrative Board in Örebro County, Sweden, with funding from the EU environmental action programme LIFE and the Swedish Environmental Protection Agency.

Restoration of two wetlands

The project has been performed in two overgrowth-threatened wetlands in Örebro County, Sweden – the mineral-rich fen Venakärret and the nutrient-rich lake Tysslingen. Through clearing, cutting, mowing, and removal of vegetation, as well as creation of an infrastructure favoring modern and rational conservation methods, project actions have made significant improvements towards sustainability for the wetlands and their management. To highlight the values of these wetlands and to bring more awareness towards modern conservation efforts, the project has also worked with public information through meetings, production of dissemination materials, on-site noticeboards, and accessibility improvements for visitors.



The project was performed in two Natura 2000-areas in Örebro County, Sweden: Venakärret and Tysslingen.

IMPLEMENTED ACTIONS IN SELECTION:

25 hectare tree cutting	5 000 m fencing
16 hectare shrub and tree clearing	1 100 m wooden foot path and trail
55 hectare grassland mowing	2 viewing platforms
245 hectare stump/tussock removal	1 picnic and fire place
9 hectare open water creation	1 nature exhibition
2 000 m bank and wall structures	21 information signs
5 700 m management and access roads	22 habitat and species surveys





What is a wetland?

Just like the name wetland implies, it's a place where water and land meets. The water can come from many different sources, such as streams, springs, rivers, lakes, precipitation or any regularly flooding body of water.

Wetland functions

Wetlands have a significant importance in the landscape. To say the least they provide habitat to a series of wetland associated species. With their ability to buffer heavy rainfalls and flooding events they also help reduce the risk for flooding within other areas of the landscape. Furthermore, wetlands naturally clean and purify water, and peat-forming fens and mosses store large amounts of carbon.



90% of the regions original wetlands have now disappeared

Threats to the wetland

Overgrowth, drainage, acidification, and climate change are some of the reasons why large areas of wetlands have disappeared in just the past few hundred years. The negative impacts of these losses are big: loss of habitat to wetland species, greenhouse gas emissions to the atmosphere, and reduced flood control.



The ruff *Philomachus pugnax* likes to rest in the wet meadows

Water purslane *Lythrum portula*

The wet meadows at Älgesta, in Tysslingen. This grassland is annually flooded and is maintained through grazing and mowing. The red-listed plant water purslane, *Lythrum portula*, thrives on the regularly flooded and grazed surface in the foreground of this picture. The water purslane, along with much of the birdlife, would disappear if grazing and flooding stopped.

Water purslane *Lythrum portula*





Tysslingen is most known for the thousands of whooper swans, *Cygnus cygnus*, that rest here each spring. However, bird diversity is high year-round at the lake. Project efforts have focused on improving the habitats for waders, ducks, and other birds that use the wet meadows for resting and nesting.

Tysslingen, a nutrient-rich floodplain lake

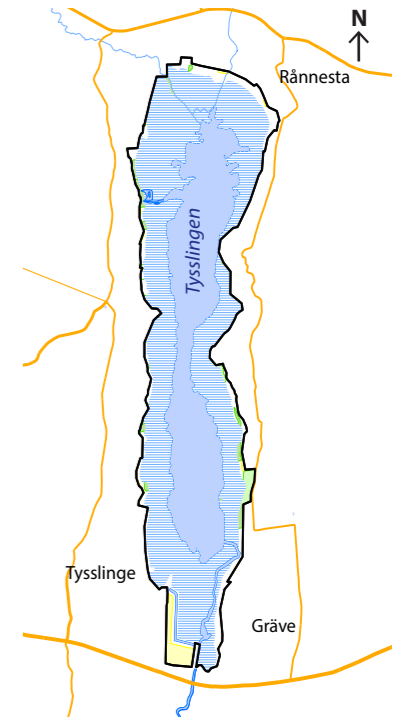
Lake Tysslingen is situated on the flat plains below the slopes of Kilsbergen. The lake and surrounding wetlands are the remains of a sea bay formed after the last ice age. Through continuous water dynamics, where spring flooding was followed by dry summers and rainy autumns, the wetlands in the area were naturally kept open.

The wetland that almost disappeared

With the great population boom of the 19th century many of the regions wetlands were converted into arable land. Human water regulations disrupted natural water dynamics. When mowing and grazing practices stopped during the 20th century, shrubs and reeds started to overgrow the remaining wetlands.

Nature conservation opens it up again

It was soon apparent that all species previously thriving in these areas had greatly been reduced or completely disappeared. Through a collaborate effort by landowners and nature conservationists a process to restore the open wet meadows were initiated in the 1980's. With the Reclaim project several improvements have been made to allow for this process to continue. In addition, to favor ducks and waders, new open water surfaces have been created and a water catching wall has been built to extend the period of spring flooding.

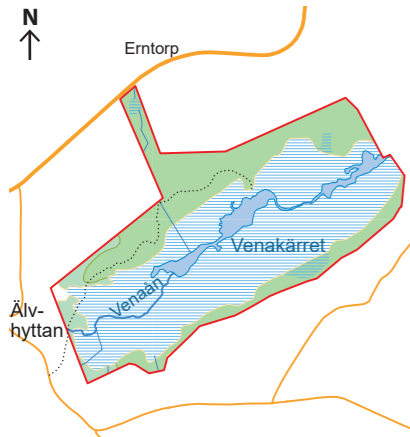


Tysslingen is located 12 km west of Örebro. Parts of the lake and adjacent wet meadows are protected as a nature preserve.

MORE RUFFS IN TYSSLINGEN

It's been many years since the Ruff, *Philomachus pugnax*, bred at Tysslingen, but each year a few still stop to rest here during their migration to breeding sites in northern Sweden and Finland. Following recent restoration efforts, the number of resting Ruffs has increased in Tysslingen. Maybe they will breed here again, in the future?





Venakärret is located in Älvhyttan, almost 20 km south-west of Nora. The entire fen is now protected as a nature preserve.

Venakärret – an extremely rich fen

Venakärret is situated next to the village of Älvhyttan and is known as an alkaline fen, or a rich fen. It gets the name from the soil being rich in minerals. In particular calcium is abundant. Therefore, rich fens often have a specialized and diverse flora. Here you will find several species of orchids, sedges, and mosses which are usually very uncommon elsewhere.

Haymaking meadows

The species rich Venakärret has long been used for haymaking. The regional demand for hay was high due to the extensive use of animals during the region's mining era. The entire fen and its surrounding areas can be seen designated for haymaking on old economic maps. The parts closest to the village were used for haymaking into the 1950s. Since then the fen has been left untouched, reeds and trees have slowly crept further into the fen, at the expense of many of the fen's special plants and mosses.

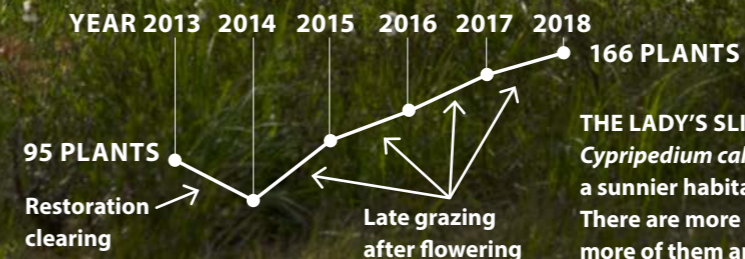
Conservation efforts

After years of overgrowth the fen can almost not be seen because of all the trees, but thanks to the efforts of the Reclaim project Venakärret has once again become a visible part of the village. Today, cows graze the restored areas, and the meadows close to the village are kept open through mowing. Specific actions have been performed to favor some of the species adapted for the fen, such as the tiny Geyer's whorl snail.



MORE SUN AND WARMTH FOR THE MARSH FRITILLARY

The marsh fritillary, *Euphydryas aurinia*, is dependent on the devil's-bit plant for its growth cycle. It also wants areas that are open, sun-exposed, but with wind-reducing vegetation. By clearing previously overgrown areas, but strategically leaving clusters of vegetation, the marsh fritillary has been given a much-improved habitat. In the past few years it has been observed propagating in new parts of the wetlands.



THE LADY'S SLIPPER ORCHID, *Cypripedium calceolus*, now has a sunnier habitat in Venakärret. There are more plants growing and more of them are blooming.



Grazing animals are important for keeping wetlands open and diverse. Through their grazing and trampling they create conditions favoring low growing plants over taller ones. This creates a more diverse flora, with lots of smaller plants, rather than a few tall ones.



A stream has been made passable, as part of the new access and inspection route at Tysslingen.



Conservation through grazing

Tysslingen and Venakärret are both supplied with a steady stream of nutrients from contributing waterways. Plant life thrives from this. Humans have taken advantage of this by mowing the meadows and using the hay to feed our livestock. However, with the developments and changes seen to agricultural practices in the last century wetlands are no longer profitable. Without grazing and mowing, combined with human water regulations, the long continuation of open wetlands started to get overgrown with trees and reeds.

Efforts for efficient grazing

A large part of the actions in the project have been about creating favorable grazing conditions. Long-ago-abandoned pastures have been prepared for grazing again, improvements for transport and oversight of animals and animal accessibility to hard-to-reach pastures have been made, and equipment to compliment grazing has been aquired. More specifically this has included cutting and clearing of vegetation, fencing, building access roads, and strengthening bank walls for animals to walk on.



Conservation 2.0 – production of habitats

Restoring a wetland back to its natural state is rarely an easy task. In most cases it would require restoring all historical conditions for that wetlands natural water cycle, which likely would result in a series of undesirable effects on areas surrounding the wetland. Modern conservation efforts are therefore mainly focused on simulating the disturbances from historical farming practices and flooding events. The purpose of the project has been to restore and reverse the overgrowth problem in two wetlands. With modern equipment at our disposal and adaptations made to fit modern agricultural methods, we have created the conditions for sustainable and modern nature conservation. Venakärret and Tysslingen are prepared for the future, where humans and nature are working side-by-side again.

Platform with information sign at the resting site in Venakärret.



Outdoor activities and information

The Reclaim project has not only worked on restoring two wetlands so that its birds, critters, and plants will find their way back. An important goal has also been to make both wetlands accessible to us humans.

Trails, viewing platforms and information

The once so-hard-to-reach-and-even-harder-to-cross Venakärret has been equipped with a partially wooden foot-trail and a viewing platform from where visitors can enjoy a full view of the fen. At Tysslingen a new viewing platform has been built and a nature exhibit has been made in an abandoned but now restored electrical station. At both wetlands different information signs tell visitors about the plants, animals, and history for both areas.

Meetings and guided tours

During the project several information meetings and guided tours have been arranged for both areas. Landowners, neighbors, and people from the general public have been invited to these events.

Guided tour during a theme day in Tysslingen.



Project results

*"Better accessibility promotes outdoor activities" **

Black tern, Chlidonias niger

300 %

increase in the slender green feather-moss, *Hamatocaulis vernicosus*, in inspected areas of Venakärret

*"The more tourists the area attracts, the better opportunities for local business" **

15 %

increased knowledge of Natura 2000 and its contents *

31 %

increased economic importance of the project areas to local entrepreneurs *

*"If this project is managed well, it will have a great impact on how conservation is handled in the future" **

18 %

increased knowledge of the EU's conservation programme LIFE *

200 hectares of improved wetlands

20 %

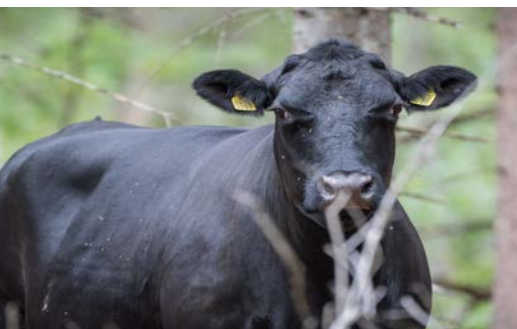
increase in positive attitude to conservation work in the project areas *

29 %

increase in visitor frequency in the project areas (once per month or more)*

*"These areas become a natural destination for those who like outdoor life and they have a lot to offer, which means that tourism and local businesses can benefit even further" **

* Results and quotes from socio-economic surveys in 2014 and 2018 among land owners, local residents etc. with links to the project areas.



What happens after the project?

Both project areas have a history of overgrowth which has had a negative impact on their natural values. During the Reclaim project a wide variety of improvement measures have been performed, laying the foundation for a future sustainable management and conservation effort. But how will the project results live on? What will prevent the same thing from happening again?

Nature preserves with clear plans for the future

As part of the project a specific plan for how project results will live on after the project has been developed, an After-LIFE Conservation Plan. The single most significant condition that will keep Tysslingen and Venakärret open wetlands in the future is the fact that they are both protected as nature preserves. This means that the Swedish Government, through the County Administrative Board in Örebro, has the practical and financial responsibility for the management of these two wetlands. Each nature preserve has its own specific management plan, based on its own individual purposes, that specifies its management needs. For Tysslingen and Venakärret these will be based on the monitoring efforts, conservation measures, reports, management plans and experiences gained during the Reclaim project.



The tiny Geyer's whorl snail, *Vertigo geyeri*, which thrives in rich fens, has been given a brighter future in Venakärret thanks to the Reclaim project.

LAYMAN'S REPORT LIFE RECLAIM

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LIFE

LIFE is the EU's financial instrument supporting environmental, nature conservation and climate action projects throughout the EU.



NATURA 2000

Natura 2000 is the largest coordinated network of protected areas in the world. It offers a haven to Europe's most valuable and threatened species and habitats.



Länsstyrelsen
Örebro län



Örebro County administrative board
(Länsstyrelsen i Örebro län)
Stortorget 22, 701 86 Örebro
+ 46 10 224 80 00
orebro@lansstyrelsen.se
www.lansstyrelsen.se/orebro