

Large scale grazing management of steppe lakes in the Hortobágy

Life + project



LIFE11/NAT/HU/000924



Steppe lake grazing Project Informations

Full Title: Steppe lake grazing in Hortobágy

Project ID : LIFE11 NAT/HU/000924

Project time period: 2014. 01.01- 2020. 06.30.

Total budget: 9.762.251 EUR

Financing of European Union: 6.966.791 EUR

Financing of Hungarian Government: 468.992 EUR

Coordinating beneficiary: Hortobágyi Természetvédelmi és Génmegőrző Nonprofit Kft.

Associated beneficiaries.: Nemzeti Park Igazgatósága

Hortobágyi Természetvédelmi Egyesület

Private partners of the project: Hortobágy-Faluvéghalmi Kft.

Szászteleki Agrár Kft.

Halasközi Agrár Kft

Zám Puszta Kft.

KIZO-Farm Kft.

Szanyi Tibor

Website: www.legelotavak.hu

E-book/Project film: www.legelotavak.hu

Publish: Hortobágyi Természetvédelmi és Génmegőrző Nonprofit Kft.

4071 Hortobágy, Máta major 48.

Written by: Dinga Szabolcs



HTE | HEA
Hortobágyi Természetvédelmi Egyesület
Hortobágy Environmental Association





Of the special habitat of the Pannonian saline steppes and swamps, only one Nógrád county area has remained in the whole world. In Hungary, 1% of this county area is located here, in Hortobágy. In addition, in Hungary, you can see the exceptional treasures of this habitat, the pasture lakes, only here in Hortobágy. The aim of the tender is to eliminate renewable threats to pasture lakes and to bring these wetlands into favorable ecological status.



Since the beginning of the 20th century, Hortobágy has been affected by several conservationally unfavourable, mainly human influences. It was at this time that programs aimed at draining and wooding the Great Plains began, the development of fish ponds, pasture watering programs, which accelerated in the Communist dictatorship, intensified. Unfavorable human interventions were accompanied by a steady decline in pastures adapting to the current market situation, which accelerated after the change of regime. All these factors have worsened the ecological status of natural salt flats, intermittent water stations, so-called pastures. Mosaic areas with damaged catchment areas, dotted with open water, with extensive meadow zones, regularly grazed, slowly became swampy, and the homogeneous reed-hasty, unspoilt association became dominant. Adverse plant changes, albeit with a slight delay, were also followed by ground-nesting bird species. By the 1970s, the once-massive, Collared Pratincole (*Glareola pratincola*) and the Kentish Plover (*Charadrius alexandrinus*) had disappeared from the territory of the national park, but today the once as common birds as the Black-tailed Godwit (*Limosa limosa*), Common Redshank (*Tringa totanus*) and a Northern Lapwing (*Vanellus vanellus*) became rare. The main objective of the tender is to eliminate the threats to pasture lakes and to bring these wetlands into favorable ecological status.



WHAT IS THE PROJECT ABOUT?

All actions aim to develop the ecological conditions of Pannonic salt steppes and salt marshes (code: 1530), which is probably the most vulnerable Natura 2000 habitat type in the Carpathian Basin. Within this habitat the project focuses on the little known and often misidentified, sub macro habitat steppe pans.

WHAT IS A STEPPE PAN?

Since there isn't any final definition yet, we can only give an approximate picture with its desired state. These pans are shallow water bodies (0-1 meter deep) with various but significantly lower level of salt content and strong alkalinity in comparison with sodic lakes.

This condition can be achieved by grazing with large bodied animals, providing a mosaic of open water, exposed mudflats and a shore, covered in short grasses, that would attract thousands of birds.



Photo: Daniel Bella

WHAT IS BEING DONE TO SAVE THIS HABITAT?

1. ECOLOGICALLY SUSTAINABLE HIGH LEVEL GRAZING

By now it has become evident that for many decades improper grazing systems had been in practise, which are not suitable to preserve this valuable ecosystem, so marshy closed vegetation became dominant. In order to reach the right ecological condition - meadow zone with open water surface, we divided the project site into grazing areas. Each will be managed by individual herds, as it used to be in historic times. As a result 2720 cattles, 200 buffalos, 70 wild horses and 750 sheep will graze the steppe pans of the project sites, to develop a conservation grazing system.

2. ELIMINATION OF DIKE AND CANAL SYSTEMS

Within the framework of the project we eliminate 37 000 meters of manmade canals and dikes, which are threatening the catchment areas of the steppe lakes. After the earthworks these wetlands can restore their favourable ecological state and the extension of temporary water surfaces can increase by 100%. Along with this we expect growth in the number of ground nesting character bird species as well.

WHAT HAPPENED TO THE "PUSZTA"?

From the beginning of the 20th century more environmentally unfavourable, especially human impacts affected Hortobágy. The drainage and afforestation of the Great Hungarian Plain, building of fishponds, grassland irrigation programs had launched this time and accelerated during the communist era. Since the catchments of the area had been damaged, the mosaics of regularly grazed extensive meadow zones, scattered with open water surfaces slowly became overgrown and homogeneous bulrush and reed became dominant. These negative changes in the vegetation were followed, with a slight delay, by the decline of ground nesting bird species.



Project Area

Area data:

4 632 ha project areas

Implementers:

3 + 6 project partner



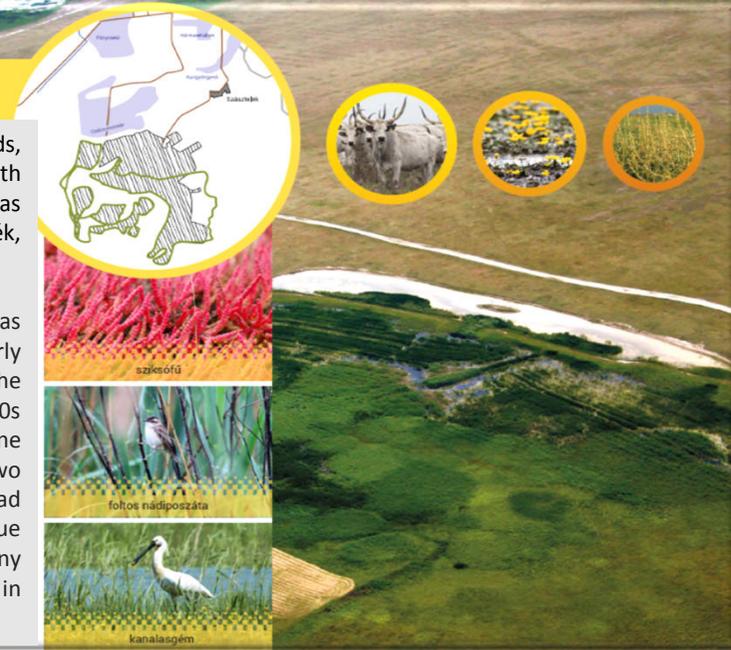
Project sites



ZÁM-PUSZTA – 1056 HA

It is an extremely mosaic habitat, blinds, and its rocky vegetation is dotted with grasslands formed on loess ridges, as well as flat, grazing lakes (Halas-fenék, Kondás-bottom, Csirés, Kenderátó).

The condition of habitats has deteriorated a lot over the last nearly half century. This was mainly due to the widespread cattle breeding in the 1970s and the regular flooding of saline meadows. The impact of these two activities is rapidly increasing the spread of homogeneous swamp vegetation. Due to the negative processes, many character species have become extinct in the area.



ANGYALHÁZA ÉS SZELENCÉS – 514 HA

The extensive saline steppes are networked by streams of water, a dense web of smaller rivers. However, its former water bodies were transformed by the decline of grazing, especially cattle farming, and the reed association gained ground on it. The irrigation canal, designed in the 1970s, drained the sheer waters, causing great damage to the condition of the habitats. The natural degradation of the wilderness was further enhanced by the presence of plantation forests along the Hortobágy River. Due to the extinction of native species, their species-poor population is now mainly alien invasive species. The combined effect of these processes led to the extinction of species that used to nest regularly in the area, such as the Collared Pratincole and the Greater Short-toed Lark.





HORTOBÁGYI-HALASTÓ ÉS KECSKÉS – 774 HA



kis lírik

The fishponds of Hortobágy were established in 1915 and then reached their final size by encircling the former steppes.



daruvonulás

The area of the lake system was part of the so-called Csúnyaföld, one of the saltiest regions of Hortobágy, and was of outstanding nature conservation significance. During the construction of the lake system, the Zoltán-fenék, the Nagy-Sziget-lapos, the Kondás-fenék, and the Zombékes-fenék.



üstökögém

The irreparable damage is somewhat compensated by the fact that the activity has created new habitat, as the lakes with abundant fish stocks are extremely important stations for crane migration and provide temporary resting places for numerous rare bird species.

Valuable wetlands and shapes can be observed in the dry steppes around the fishponds. Their water balance is affected by drainage channels and dams around the lake.



MÁTA-PUSZTA – 383 HA

Buffalo herd



szürkemarha-gulya



bibicek



The image of the paddling saline areas is interspersed with several variable pastures and the Kiskondás created with artificial dams. The latter once operated as a fishpond, providing feeding and resting grounds for hundreds of waterfront birds. The steppe is bisected in a west-east direction by a drainage channel (the Tonnás- Channel) which significantly impedes surface and groundwater movements. This greatly contributes to the deterioration of the surrounding wetlands. The design of the canal was particularly affected by the Pap-ere, and the steppe forms souther from the canal for example the the Vince-fenék, the Matyó-fenék, and the Ludas meadow. within the framework of the project, the canal has been buried, so that the natural hydrographic conditions can be restored.



Vince-kút

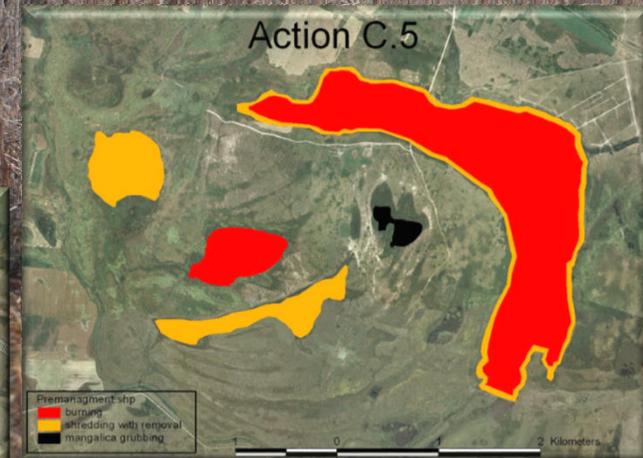
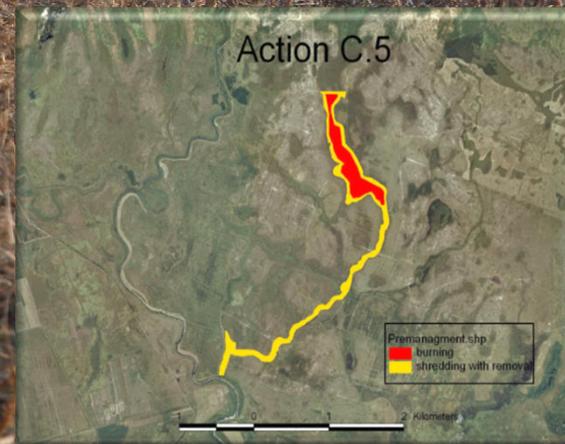
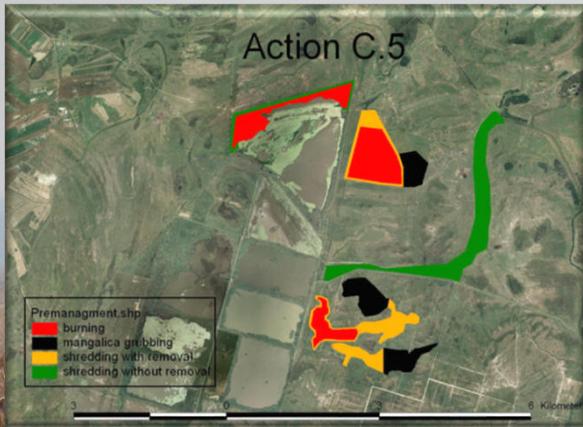


PENTE-ZUG – 98 HA

The mere northern half of the Pentezug is an important crane sleeping place, similar to the Hortobágy fishponds. this is one of the reasons for the project's focus. It was part of thousands of hectares of rice fields that once dominated the landscape. Despite the fact that rice cultivation and the artefacts that served it have largely been eliminated, the natural condition of the grasslands has deteriorated. The situation is further aggravated by the drainage canal of the Kungyörgyi fishpond crossing the project area, which continuously drains the sheer water into the Hortobágy River.



Shredding



The most important “tool” for habitat management is high-intensity ecological grazing, but in some areas of the plain, vegetation has developed where grazing alone would not have been effective. The animals no longer cope with the dry, rancid, 4-5-year-old reeds. they are only broken and trampled on in their search for food, but they only languish in the most extreme cases. In such places, the old reed reeds must first be broken with straw choppers, because the fresh reeds sprouting in place are already happy to be eaten by the cattle.

Grazing

Grazing native domestic animals such as buffalo, vernier, Hungarian grey cattle, racka sheep have a mechanical effect on the soil and vegetation during feeding and movement. Due to their different feeding habits, hoof shape, and behavior, each group of animals shapes the vegetation of the area differently. Under such conditions, only species that are resistant to disturbance can survive. These include grasses and plantains, as well as couch-driven butterflies. Grazing of different animals is a basic condition for the formation of mosaic habitat forms. The grassland associations created in this way are the ones that ensure the unique landscape and protected natural values of Hortobágy.

- **Thanks to the project we could increase the grazing stock on the project sites with 1025 cattle**



Earthmoving and civil engineering

The machines demolished the northern part of the Kondás Dam, which hinders the natural movement of water, the internal dam system of the Kiskondás area, which created isolated areas, not allowing the appearance of mere natural waters in the areas. The old unused canals that drained the water from the steppe into the Hortobágy river were also removed. At the time, for farming reasons, it was considered useful to drain rainwater, but today it has become clear that rainfall must remain purely for the sake of both natural associations and the presence of extensive, lush grassland and associated fauna and flora.

- 37,000 meters of canals to be eliminated during the project period
- New sweep well



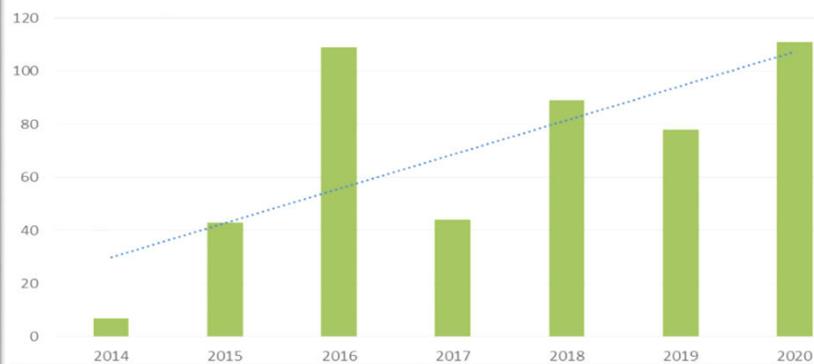
Reached Results

Pasture, native domestic animals such as buffalo, vernier, Hungarian gray cattle or racka sheep have a mechanical effect on the soil and vegetation during feeding and movement. Due to their different feeding habits, hoof shape and behavior, they shape the vegetation of the area differently.

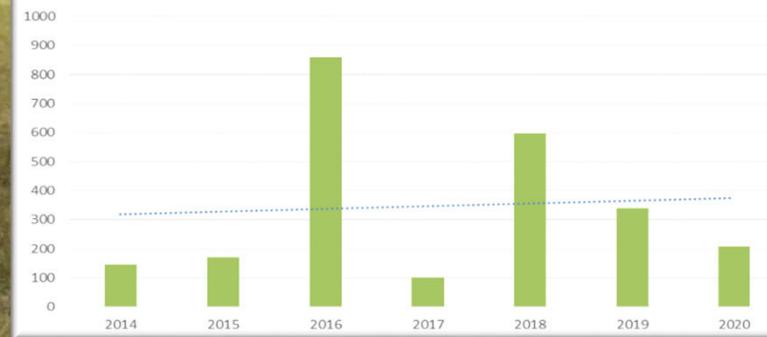
The development of the landscape is also followed by the composition of the flora and fauna. Some organisms are particularly sensitive to change, whether beneficial or detrimental to them. Within the groups, some species, so-called indicator species, are typically associated with saline steppe and swamp habitats.

We pay special attention to their occurrence and number, so we can draw conclusions about the changes in the habitat and their pace. Regular evaluation of the results, detection of possible errors contributed to the efficiency of the work at least as much as the treatment itself.

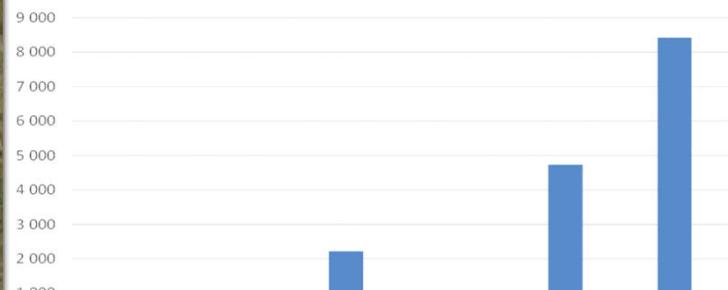
TOTAL NESTING SHOREBIRDS



TOTAL NESTING WATERBIRDS



Yearly sum of waterbirds in Csirés



Changes of the avifauna



Due to the intensive grazing applied in the project areas, the extent of the short-grass steppes increased and the coastal zones of the stagnant waters reopened. The resulting habitats serve as ideal nesting and feeding grounds for many previously endangered bird species.



Black-winged Stilt: it binds to shallow, 20-25 cm deep saline lakes and floodplains, where it can feed on its long legs by wading in the water and spending on prominent droughts.



Black-tailed Godwit is a common nesting in Hungary, as well as a regular spring and autumn migration. Among our project areas, Zám, Szelencés, Nagy-Kecskés and Máta are among the most well-known steppe gathering and migratory places of the species, as well as birds that occur in all fishponds in the area.

1



The Common Redshank is the only nesting booby species in our Hungarian saline meadows and marshes.



Eurasian Spoonbill the broken reeds break the reeds and then build a nest on it. And its nutrition binds it to shallow open waters.

Restore of the hidrology

The burial and excavation of the Nagy-rét drainage canal in the area of Szelencés-Angyalháza was also completed. A new permeable concrete structure has also been installed, which will be able to influence the water movement in the area more precisely.

The internal dam system of more than 7 kilometers on the nearly 200-hectare area of Kiskondás has been demolished. In the uniform area thus formed, ecological processes can take place much more naturally. Habitat fragments enclosed by dams that lost their function and lanes loaded with border effects have disappeared.

The dam rising on the northern side of Lake Kondás was also demolished, and its removal freed the area from a significant ecological barrier.

Among the project areas in Zám, the closure of the former rice cells on the northern border of the Csirés-rét was the largest volume process.



Construction of weels and herdmen's hutts

- 1 wintering stable for the buffalo
- Exhibition at Kungyörgy
- New sweep well
- 4 pcs Herdman's Hut
- 6 pcs wooden pen

