Eradication of invasive alien plants in the southern Nyírség area of the Hortobagy National Park Directorate

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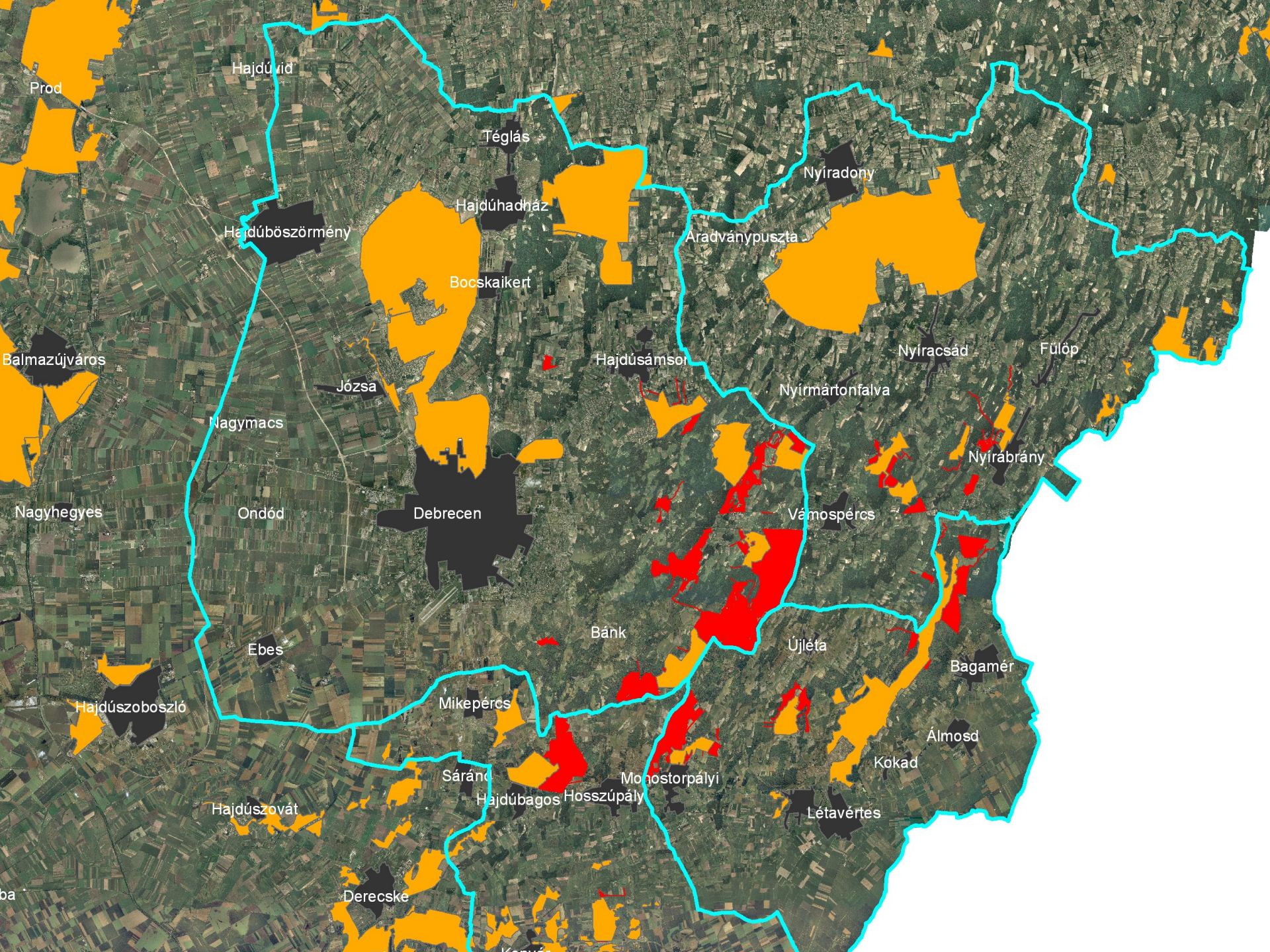
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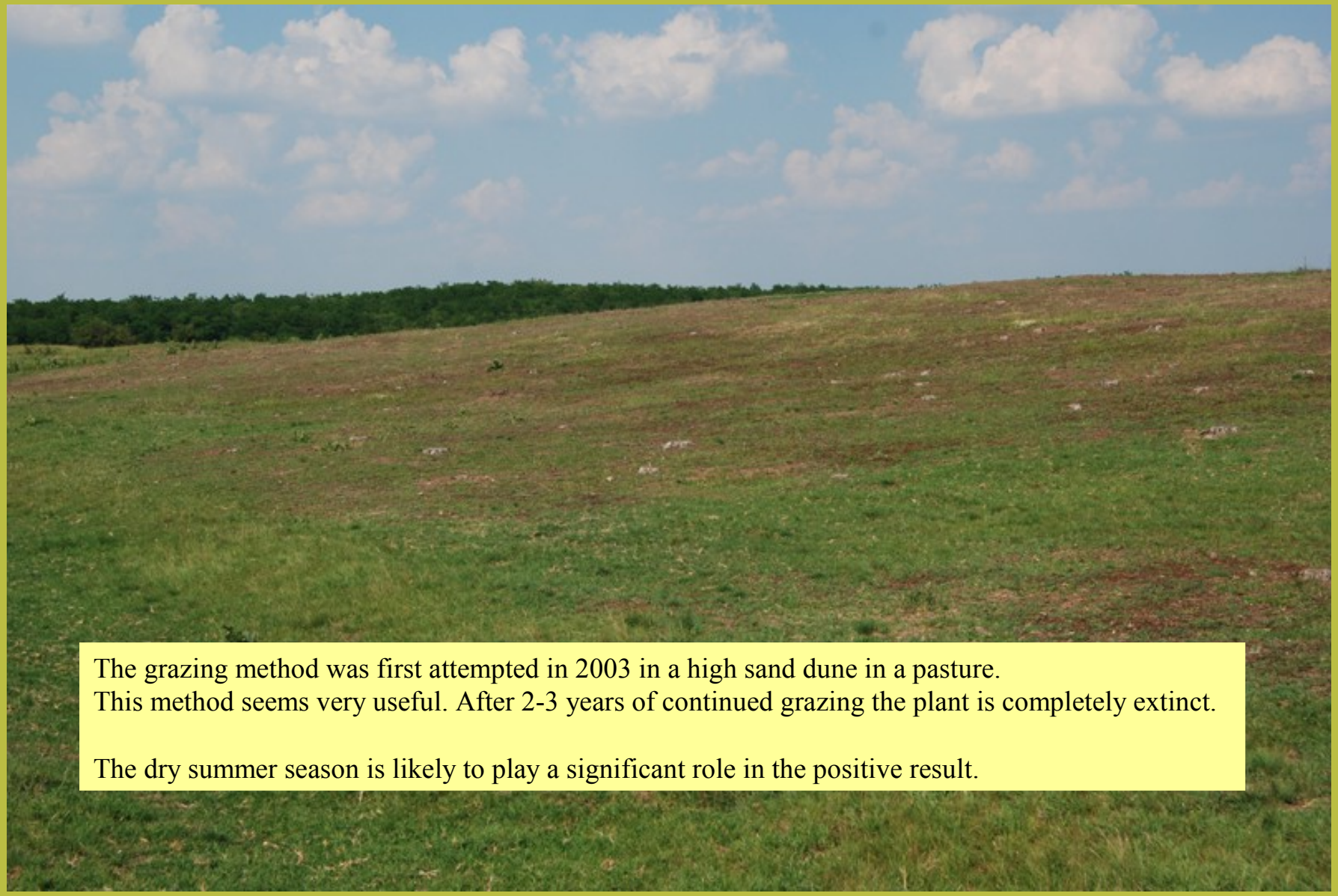
Hajdúvid
Téglás
Nyíradony
Hajdúhadház
Hajdúböszörmény
Aradványpuszta
Bocskaikert
Balmazújváros
Hajdúsámson
Nyíracsád
Fülöp
Józsa
Nyírmártonfalva
Nagymacs
Nyírábrány
Nagyhegyes
Ondód
Debrecen
Vámospércs
Bánk
Újléta
Ebes
Bagamér
Hajdúszoboszló
Mikepércs
Álmosd
Kokad
Sáránd
Monostorpályi
Hajdúbagos
Hosszúpály
Hajdúszovát
Létavértes
Derecske

Eradication of black locust
(Robinia pseudoacacia)

Grazing

- Grazing animals, mainly sheep and cattle, can eat the fresh sprouts of the BL when its thorns are soft.
- Grazing is started inmediately after the clearcutting of the threes and carryed out permanetly.
- Ideally, the branches must be collected after the clearcutting because the grazing animals tend to avoid thorny branches lying on the ground.
- It is important to consider that it can be useful to cut the stumps down to ground level. When the grazing is suspended for a while you can eliminate the newly growing sprouts by using a forestry mulcher.



The grazing method was first attempted in 2003 in a high sand dune in a pasture.
This method seems very useful. After 2-3 years of continued grazing the plant is completely extinct.

The dry summer season is likely to play a significant role in the positive result.

Chemical injection

There are a lot of places where the grazing is not possitle. E.g. in valuable native forests or on the habitats of certain protected plants, or on non-grazed grassland. In these cases we try to controll BL by chemical injection.

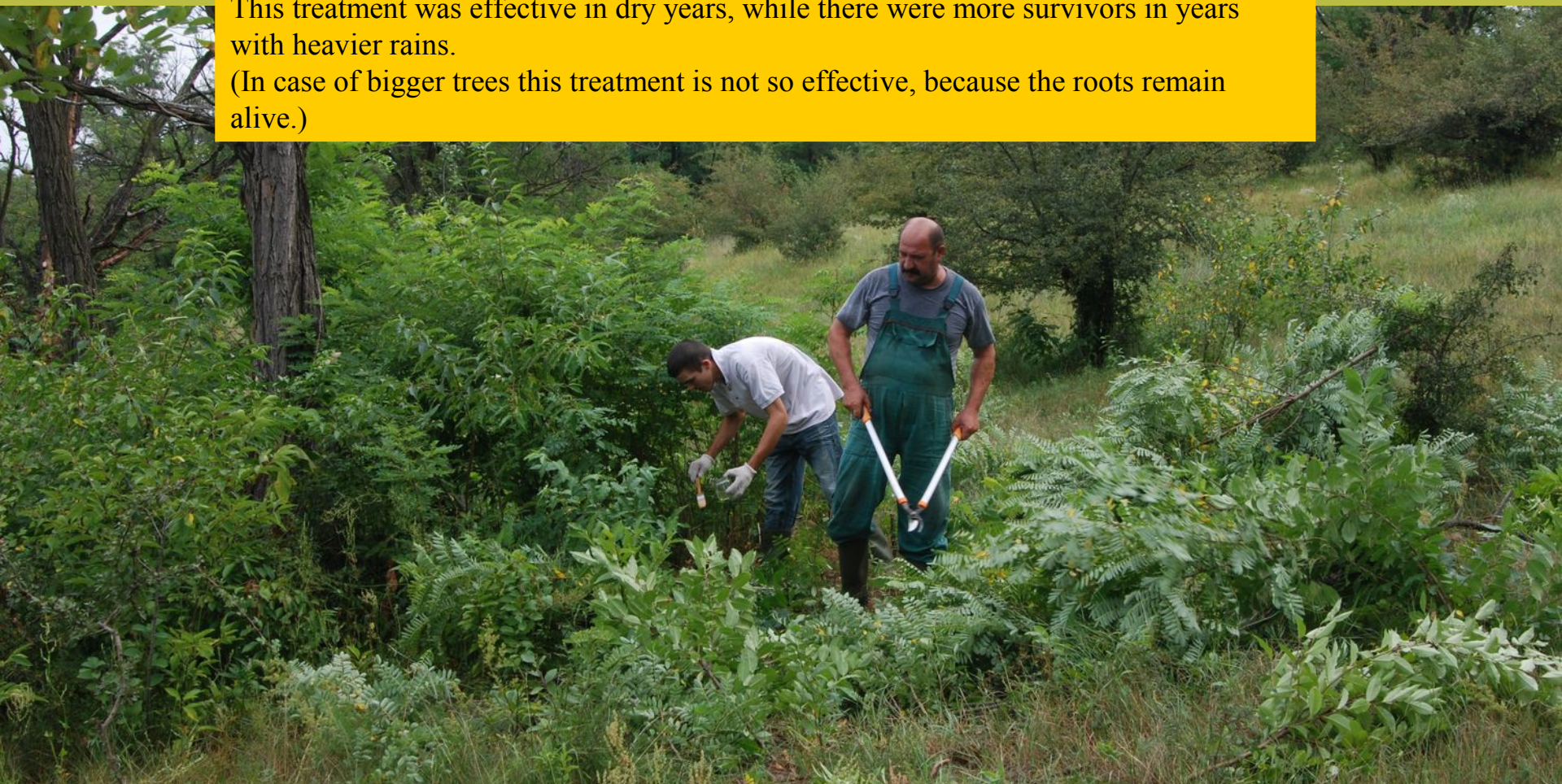
- Holes are drilled diagonally downwards to the trunks, 10-15 cm apart.
- The herbicides are distributed into the drill holes with a plastic spray flask.
- We use glyphosat containing herbicides e.g. Medallon Premium, Fozát 480, Glyfos.
- Our drills are powered by portable generator and we also have battery-powered drills.

The effect of the treatment can be seen within one-and-a-half or two weeks.
For some reason some threes always survives the first treatment. Therefore, we wait a couple of months, then performing another treatment before cutting.
The best result were achived in the second half of the summer and in the autumn.
Result was similar in case of concentrated herbicide and 1:1 dilution.

Cut stump herbicide method

This method is used for treating thin sprouts (3-4 cm), often as a complement to the previously mentioned methodes.
After trimming the sprouts, the cut surface is treated with the same concentrated chemicals used in the drilling by a simple paintbrash.

This treatment was effective in dry years, while there were more survivors in years with heavier rains.
(In case of bigger trees this treatment is not so effective, because the roots remain alive.)



Foliar spraying

Spraying of BL is only used in exceptional cases e.g. to complete the result of other eradication methods, or in case of unexpected lack of grazing, and in reforestation sites where the work was carryed out with complete soil preparatin.

- Chemicals were used in 3,5-5% dilution in accordance with instructions of users manual and with the addition of adhesives (Nonit).
- Treatment was performed under low pressure with larger droplet size to minimise the risk of spray drift and maximise accuracy.

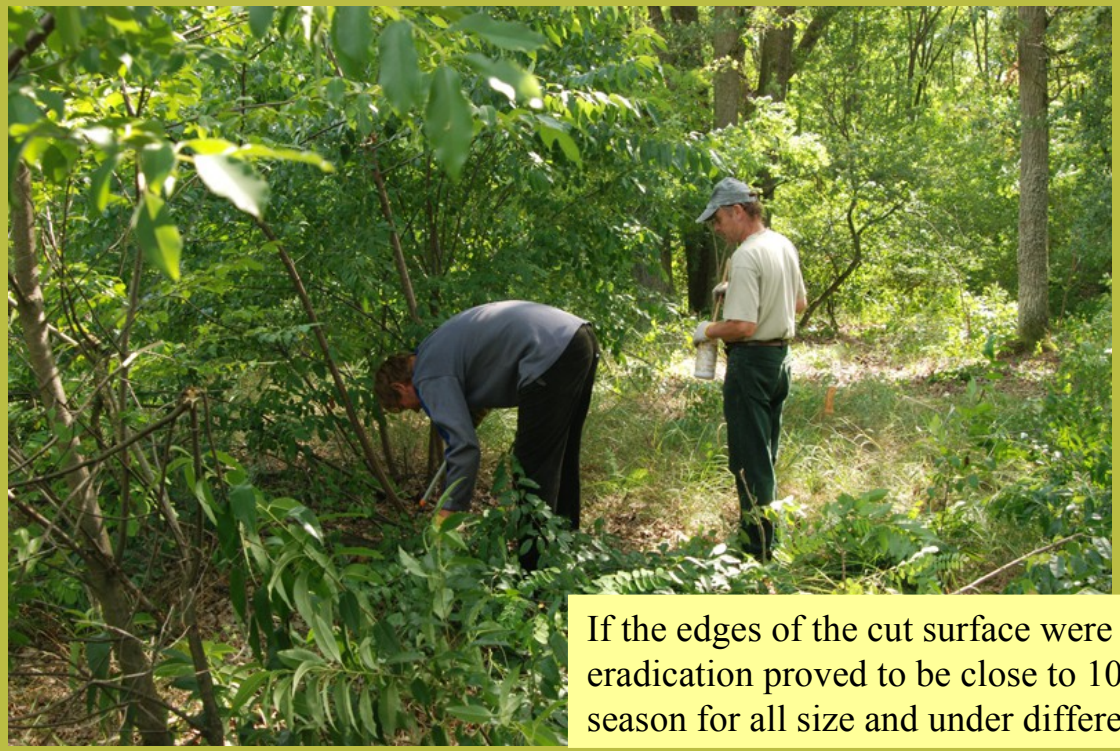
It proved effective.

Control of black cherry *(Prunus serotina)*

Cut stump herbicide method

The cut stump herbicide treatment of black cherry started in 2002 in sand steppe oak forest patches, which serve as the habitat of the Hungarian iris. This is a plant species of community importance.

The treatment is the same as in case of BL with one difference. We use it on bigger trees too.



If the edges of the cut surface were painted with chemical precisely, the eradication proved to be close to 100% throughout the entire vegetation season for all size and under different precipitatio conditions.

Girdling of the bark

In this case we cut a ring in the bark of the tree, we cut the phloem and cambium. Two types of tools are used for this work. One is a sawchain tool, but our workers (who are mainly public workors) often preferred machete or a two-handled knife.

We tested the efficiency of chain-barking in case of 1 ring and 2 rings. As you can expect, the two ringed type was the winner. The bigger threes often grew over the single ring.
The trees treated in February did not dry out until the biginning of the summer.
Long water shoots appeared under the rings, which also dried out following the deth of the canopy.
We had some problem with the weather again. The water shoots below the rings did not dry out in rainy years. The lower section of the trees survived, however the canopy was died. Therefore, furter treatment is needed.

Chemical injection

The chemical injection in the drill holes was also used in case of BC with positive results.
It was much more effective then in case of BL. There were no survivors even in case of bigger trees.

Foliar spraying

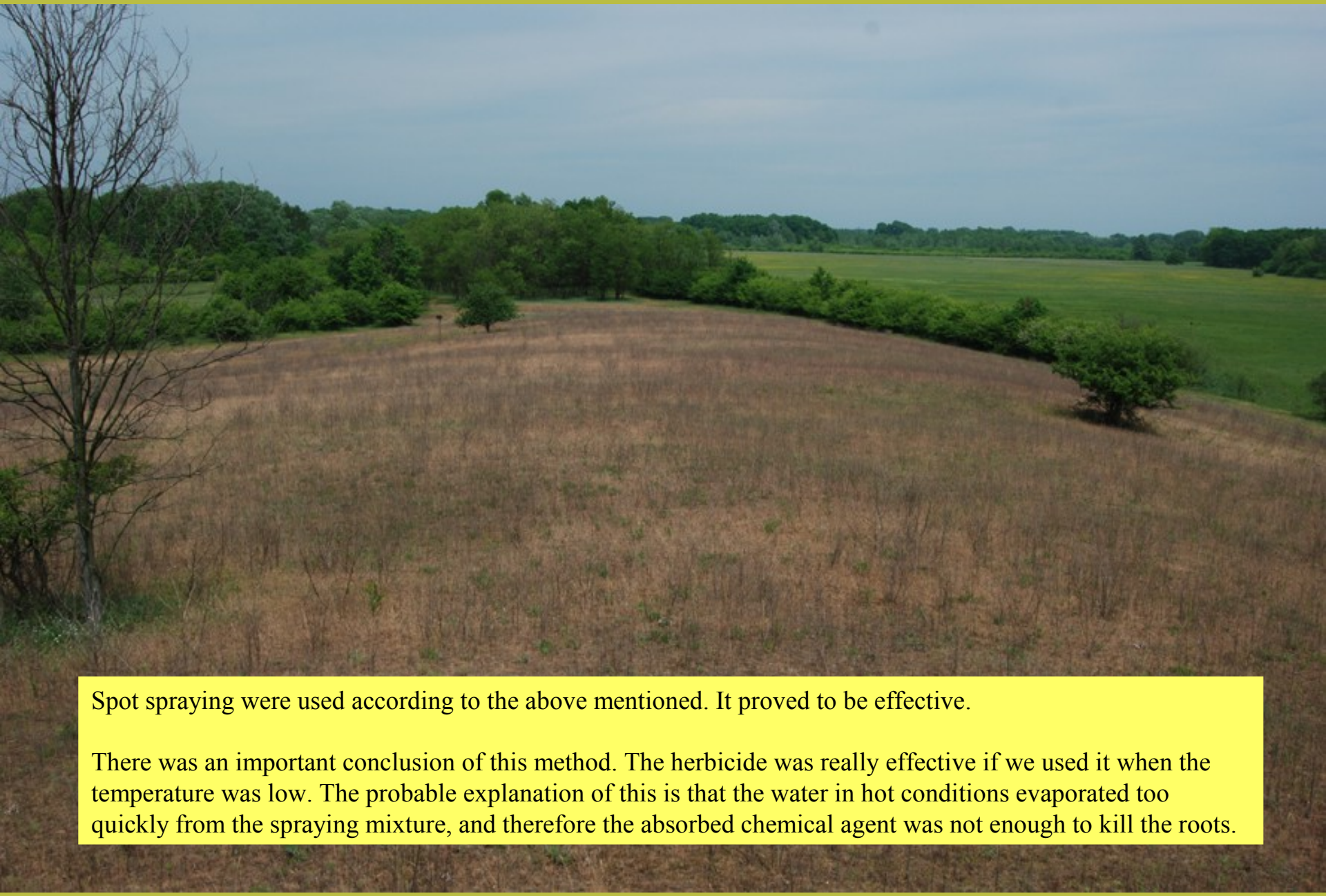
This was used similar exceptional cases as in BL, and was carryed out the same way.
It proved similarly effective too. The usage of adhesives is much more important, because its leaves are very hard and leather-like.

Manual uprooting

Control of common milkweed

(Asclepias syriaca)

We first tried to control common milkweed in the 1990s by mechanical means. One relatively dense population was mowed or treated by a mulcher over a period of ten years. Treatments were initially performed annually, and then twice a year. This purely mechanical method was completely ineffective. The densiti of the population have changed from year to year, but without any clear trend. Considering this long term result, we turned to the cemichal control.



Spot spraying were used according to the above mentioned. It proved to be effective.

There was an important conclusion of this method. The herbicide was really effective if we used it when the temperature was low. The probable explanation of this is that the water in hot conditions evaporated too quickly from the spraying mixture, and therefore the absorbed chemical agent was not enough to kill the roots.


Thank you!