

FOSTERING POPULATION GROWTH OF KESTREL (FALCO TINNUNCULUS) IN AGRICULTURAL AREAS

Summary

A decline in the population of many bird species has been observed (Eurostat 2020). A good opposite example is the common kestrel in the southern part of Hungary (Baranya-county), where the farmers, nature conservation experts and the ornithologists protects the kestrel population with combined forces, for a decade now.

The need

In the last decade, intensive agriculture has become increasingly widespread. Thanks to the agri-digitalisation and precision agriculture this sector is starting to become more industrial. The goal for the farmers is the same: each year get more yields from a given field, using up to dates technologies.

One of the major challenges for crop farmers (mostly for no-till, min till farmers) is the increasingly widespread common vole (*microtus arvalis*). In the latest years their presence was a determining factor in many farmers yields. Due to the climatic changes, no tillage agriculture and the regulatory environment, their numbers skyrocketed, often leading to the formation of a gradation. (D. Roos, 2019)

By cause of intensive agriculture, the number of field protecting tree strips is decreasing. That's affecting the kestrel population negatively since they don't build their own nests, mostly occupying nests built by different crow species (for example the hooded crow (*corvus cornix*)).



The benefits

This co-operation - started by the Foundation on Nature Values of Baranya (FNVB) - shows that different AKIS members, with different goals in mind (foundations, farmers, companies) can work together smoothly. It's a great example set by the parties involved.

Crop farmers benefit greatly from the increase in kestrel populations for rodent control. It is a well-known fact, that kestrels can be a great help against various pests, for example the common vole. The consumption of breeding pairs and broods reduces the damage caused by the rodents. (FNVB, 2024).

Another great asset of the birds is their role as nature's indicators (Lederer 2020), and by monitoring them we can see that their annual population, and the success of the breeding season are indicative of the population trends of the common vole (FNVB, 2024).



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trans4num solution

The best solution that is also proved by many researches is to install nesting crates for the common kestrel. As mentioned before they aren't building their own nests and they are very exposed to the environmental changes (E. Baltag, 2014). Our solution is to provide artificial nests for them to nest successfully.

According to the report of the Foundation on Nature Values of Baranya, after installing the kestrel boxes, there has been a rapid growth in the population indicating that the local problem was mainly caused by a lack of nesting sites.


“In the last ten years we have been able to increase the breeding pairs at least tenfold by placing the nests.” The last five years shows, that after the collapse of a common vole gradation, we can see a decrease in the common kestrel individual numbers. That indicates that beside the nesting places, the number of the prey animals is also a big factor in the population trends.

Another nature based solution regarding this topic is a biological rodent management. The kestrel is a natural predator to the common vole. The larger the kestrel population, the better they can control the vole population, which means farmers can use less rodenticide, which is essential for sustainable farming.



What were the challenges / limitations in the implementation process?

- The biggest challenge is to get the different AKIS members to be open
- to working together, to listen to each other's perspectives and to
- develop a common plan of action.



What kind of resources do you need to implement the proposed solution?

- The willingness of the involved parties to cooperate is as important as
- a resource as it is as a challenge. Good communication between them is
- essential. In addition to these two very important resources,
- cooperation will also need funds to finance the project.

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More information

- FÖTE Bóly Zrt. yearly report (2024)
- Foundation on Nature values of Baranya yearly report (2024)
- Birds and Wildlife, Kestrel
- <https://mme.hu/magyarorszagmadarai/madaradatbazuis-faltin>
- Eurostat, Birds Populations on the decline (2020)
- E. Baltag, V. Pocora, L. E. Bolboaca, L. Sfică, Habitat use of common kestrel (Falconiformes: Falconidae) during winter season, from Eastern Romania (2014)
- D. Roos, C. Caminero, B. Arroyo, X. Lambin, Unintentional effects of environmentally-friendly farming practices: Arising conflicts between zero-tillage and a crop pest, the common vole (Microtus arvalis) (2019)
- Agroforum Online
- Birdphotography.hu

