Hamster Population Monitoring: strength, weakness and perspectives towards a new method

Since 2000, in the context of National Action Plans (NAPs) for the common hamster, the Office National de la Chasse et de la Faune Sauvage (ONCFS) has been tasked with the annual survey of the abundance and distribution range of hamster populations in France. The method is based on the spring census of common hamster burrows in 100% of crops considered favorable to the species (alfafa, cereals and meslin). 4 teams of 5 staff members monitor the plots every 3m in alfafa and 10 m in cereals.

In spring 2019, a first study was conducted to test alternative methods for monitoring hamster population: the use of drones and wildlife detection dogs. The aims were to
1) check the detectability and identification of hamster burrows with a drone or a dog, and
2) to estimate the human cost of these alternative methods.

The use of drone was time consuming (mean 3h17 per ha compared to 2h53 per ha for a human in the conventional method). This is partly due to the time spent to find indices on the photo, which could ultimately be automated with a specific program. Moreover, 98 indices had to be checked in the fields but only 52% of the hamster burrows found by the three methods were found by the drone.

Using a wildlife detection dog seems more efficient in time (1h10 per ha) and 74% of the total burrows were marked by the dog. Furthermore, we checked the indices the dog showed (by visual inspection and camera traps if needed) and found that at least 95% of the indices found by dogs were hamster burrows.

This preliminary study showed that these methods enabled us to detect hamster burrows. Further experiments should be conducted in the following years, i.e. test the methods in low hamster density plots, use of these methods for absence/presence surveys, check if the abundance index obtained is a good estimate for the number of burrows…

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