



Dog-assisted flying squirrel surveys in urban areas and clear-cut sites

Dog-assisted flying squirrel survey in the project

Dog-assisted flying squirrel surveys were studied in the Flying squirrel LIFE project. During the initial years of the project (2019–2020), the method was tested in the Rekijoki Natura 2000 area. The area was surveyed using both traditional human-based method and dog-assisted survey method. The dog-assisted surveys aimed to examine the practical application of the method, the dogs' ability to detect flying squirrel droppings, and their working behaviour, as well as to compare the effectiveness of human-only surveys with those supported by dogs. The observations and results provided indications that the use of dogs enhances the field work and improves the detection of droppings, especially when the vegetation is dense and in autumn when leaf and organic debris covers the ground.

Dog-assisted survey on notification of forest use sites

Dog-assisted surveys were also tested in various environments. In autumn 2023 and spring 2024, forest properties with previous flying squirrel observations and newly submitted notification of forest use were surveyed with the help of trained dogs. The primary cutting method in the notifications was clear-cutting. Two forest properties from the regions of Southwest Finland and Satakunta were included in the test. Participation in the surveys was voluntary for landowners and timber buyer, and the survey costs were covered by the project. The landowner may authorize the timber buyer to submit the notification of forest use.

One of the sites was located in Southwest Finland, where the notification of forest use concerned an area of 14.3 hectares, with clear-cutting as the planned logging method. The site had been surveyed a year earlier, and a breeding and resting site of the flying squirrel had been observed on the property. One area within the same property was identified as suitable habitat for the flying squirrel, but no observations were made during the previous survey. The dog-assisted survey aimed to cover this area (approximately 5.5 hectares) to verify whether flying squirrels were present.

The second site was located in Satakunta, where the notification of forest use concerned an area of 53.7 hectares. Approximately 70% of the area was planned for clear-cutting, with the remainder designated for thinning. One part of the property had a previous flying squirrel observation dating back over 20 years. The forest property as a whole was still considered suitable habitat for the flying squirrel, and the survey aimed to verify the species' presence in the area.

In both cases, the dog-assisted survey confirmed the presence of flying squirrels on the respective forest properties. For the property in Southwest Finland, the timber buyer revised the forest plan to take the flying squirrel into account. The original plan considered east-west connectivity, but based on the new observations, the connectivity was also strengthened toward the north, where suitable habitat for the flying squirrel exists.

For the property in Satakunta, the landowner expressed interest in voluntary forest conservation, which would be eligible for compensation under the METSO programme. The funding for the current METSO programme period has been fully allocated, and the next programme period is expected to begin in 2026. The landowner is aware of this timeline.

Dog-assisted surveys can help refine observations and provide a clearer picture of flying squirrel presence in the surveyed area. This was evident both in the surveys conducted during 2019–2020 and in the forest use notification sites. One challenge in using dog-assisted surveys is likely their higher cost compared to surveys conducted without dogs. Additionally, dog-assisted surveys cannot be mandated for specific sites, but the possibility of using dog-assisted surveys can be communicated during advisory work. During the Flying squirrel LIFE project, dog-assisted surveys have remained a relatively new method, and the number of providers offering such surveys is still limited.

Dog-assisted survey in urban sites

In urban sites, the aim was to combine data obtained from radio collar tracking and dog-assisted surveys. The goal was to survey two locations, one in Jyväskylä and the other in Espoo. In both sites, flying squirrel monitoring was planned using radio telemetry.

The target site in Jyväskylä was the Seminaarimäki campus area. Flying squirrels have been observed in the campus area, and satellite collaring was intended to provide a more detailed understanding of the movement of the flying squirrel or squirrels in the area. Nest boxes for flying squirrels have been installed in the park. The aim was to investigate how dog-assisted surveys could provide information on the movement of flying squirrels. Observations made by dogs were to be compared with the results of collar tracking. However, the area was uninhabited in 2024, so the original idea of collar tracking was not feasible. The dog-assisted inventory now provided information on the types of observations a dog can make in an area that have had breeding individuals in previous years but was uninhabited during the inventory year. The dog marked several dropping trees in an area where only a few old droppings were found among the organic debris. These had not been observed by a previous human surveyor. In total, the dog marked nine dropping trees and indicated several nesting trees. With the help of the dog, it was possible to obtain the same kind of information about the use of the area during an uninhabited year as in years when the area was inhabited and surveyed by humans.

In the Espoo site, the goal was to determine whether flying squirrels use the Suvisilta pedestrian bridge to cross the Länssiväylä highway. The bridge has relatively high railings, some of which are made of wood, potentially making it easier for flying squirrels to grip. Data from the radio-tracking would indicate whether the squirrels had crossed the highway, and dog-assisted survey team could be deployed within a day or two to survey the bridge area. The dogs might detect flying squirrel scent on the bridge structures, providing stronger confirmation of the crossing point. Time and budget were allocated for two visits. The City of Espoo was responsible for commissioning the radio-tracking. The collaring was planned for February–March, with the monitoring period covering April to July.

An attempt to collar flying squirrels was made in February 2024. Unfortunately, only one individual was successfully collared, and the study was discontinued due to the approaching breeding season. A second attempt was planned for autumn of the same year. However, due to personnel reasons the City of Espoo was unable to assign a coordinator for the renewed collaring effort, and the study was not carried out. The dog-assisted survey was not conducted, as there was no radio-tracking data available for comparison.

Dog-assisted flying squirrel survey

The dog-assisted survey method was explored in the project in the Rekijoki area during 2019–2020.

In addition to Rekijoki, the method was also tested in urban environments and in connection with notification of forest use.

On notification of forest use sites, dog-assisted surveys were voluntary for landowners. The survey costs were covered by the project.

Read more about the dog-assisted survey method:
<https://www.doria.fi/handle/10024/185133>

Writer: Jenny Gustafsson
ELY Centre for
Southwest Finland



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