

Wildlife crossings in Finland – experience in monitoring their functionality

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The first wildlife crossing in Finland was inaugurated near Lohja in the southwestern part of the country in 2002. Since then, around fifteen major crossings on highways have been built. These passages were explored extensively in 2020.

Internationally there are several types of passages, for instance large or small rectangular concrete box culverts, multi-plate arches, wildlife pipes and amphibian tunnels, small wildlife culverts, and combined eco-passages, which contain various sizes of crossings for multiple species. Overpasses have also been categorised as:

- *landscape bridges*, which are broad (a hundred metres and more, often with a road for traffic)
- *wildlife overpasses*, which are narrower (some dozens of metres, often with limitations to human use)
- *multiuse overpasses*, human bridges which have been adapted to animal use through for instance enlarging and adding vegetation
- *canopy crossings*, which are built for species moving on the level of treetops.

This large variety of wildlife crossings does not (yet) exist in Finland; most of the wildlife crossings are combined passages, multiuse overpasses, aimed at both human and animal use.

Also bridges over waterways and some narrower crossings over highways, as well as underpasses and circular culverts (for smaller animals) can function as wildlife crossings. The overpasses in Finland are partly landscaped: on the crossings over the highways there is usually a gravel road for light traffic in addition to trees and bushes.



Wildlife crossing plan

This computer-generated image of Niitynpää crossing shows a multiuse overpass, which is the most usual type in Finland. Source: Liikennevirasto 2017. Hirvionnettomuudet vuonna 2016.

Liikenneviraston tilastoja 5



The goal of landscaping the overpasses is to create a continuation to the local vegetation and thus encourage the animals to feed, move and utilise the crossing. In any case, the structure must be adapted to the needs and habits of the animals.

One bridge in Finland was too narrow and later enlarged, but still the animals avoided it. Especially older crossings were originally built too narrow and bigger animals such as elk apparently do not feel safe using them. The use of the wildlife crossings varies according to region and human use of the corridors. Noise, the presence of humans, machines, lights and traffic quantity influence the frequency, season and time of day for animal crossings. The influences on populations and their reactions depend also on the species.

Another important factor is the vegetation. With time, trees and bushes grow and the vegetation becomes more varied if left to develop freely. Individual animals have certain preferences and learn to use the structure, while others keep away. Changes in the population might influence the quantity of animals passing; when population pressures become bigger, more animals are forced to use the crossing. There are certainly also differences in species, age of individual animals and the territorial needs (feeding, rest, breeding, migration etc.).

Further, animals need time to get used to the wildlife crossing structures. Some of the Finnish bridges are less than five years old and the animal use is smaller, while those older than six years are more frequented. The crossings over ten years old are the most popular among several species.

The time span for getting acquainted and changing routes so that they include the crossings might be between five and ten years.



Elk at a wildlife bridge

Most accidents with elk occur in the evenings and nights and during the autumn, when elk migrate between pastures. In autumn also darkness falls early and days are short in Finland.

Source: Väylävirasto 2021.

Vihersillat eläinten kulkureittinä tien yli. Eläinyhteyksien riistakameramonitorointi