

Effectiveness of road and railway bridges for reindeer and wildlife movements



– an ongoing project

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The barrier problem

Large roads and railways, intensive traffic and fences may create barriers for ungulates, with potential impact on:

individual fitness – population demography – genetic diversity

Particularly problematic in areas with seasonal migrations – animals are blocked from reaching crucial seasonal areas and resources.

Problematic for the reindeer husbandry:

- obstacles during driving of large herds,
- extra efforts to retrieve animals from the “wrong” side,
- loss of odd individual animals to neighbor districts or unknown fates.



Picture shows moose stopped by fenced highway E4 near Haparanda, despite fauna bridge nearby.

Management goal: Safe passages for animals

The Swedish Transport Administration (STA) aims at providing safe passages for reindeer and other large ungulates where major transport infrastructures intersect with important animal migration routes and movement corridors.

Our project

Question

How should passages for ungulates be designed to fulfil the ecological and practical requirements in a cost-efficient way?

- Dimensions (width, height, length, levels, slopes etc)
- Substrate and vegetation
- Location
- Disturbances and combined use



Method

Camera monitoring of existing bridges over and under roads and railways:

- 12+ bridges in Norrbotten county
- ranging from mountain to forest and lowland
- various dimensions and design
- some are constructed specifically for reindeer
- some are bridges for roads or streams



More about the project

- Runs 2018-2020
- Cooperation between university, road manager (STA), and five reindeer husbandry districts (Gabna, Laevas, Gällivare, Kalix, Liehittäjä)
- Funded by STA
- Coordinated by the Swedish Biodiversity Centre at SLU

Project homepage:

<http://triekol.se/triekol-iii/sp3/>

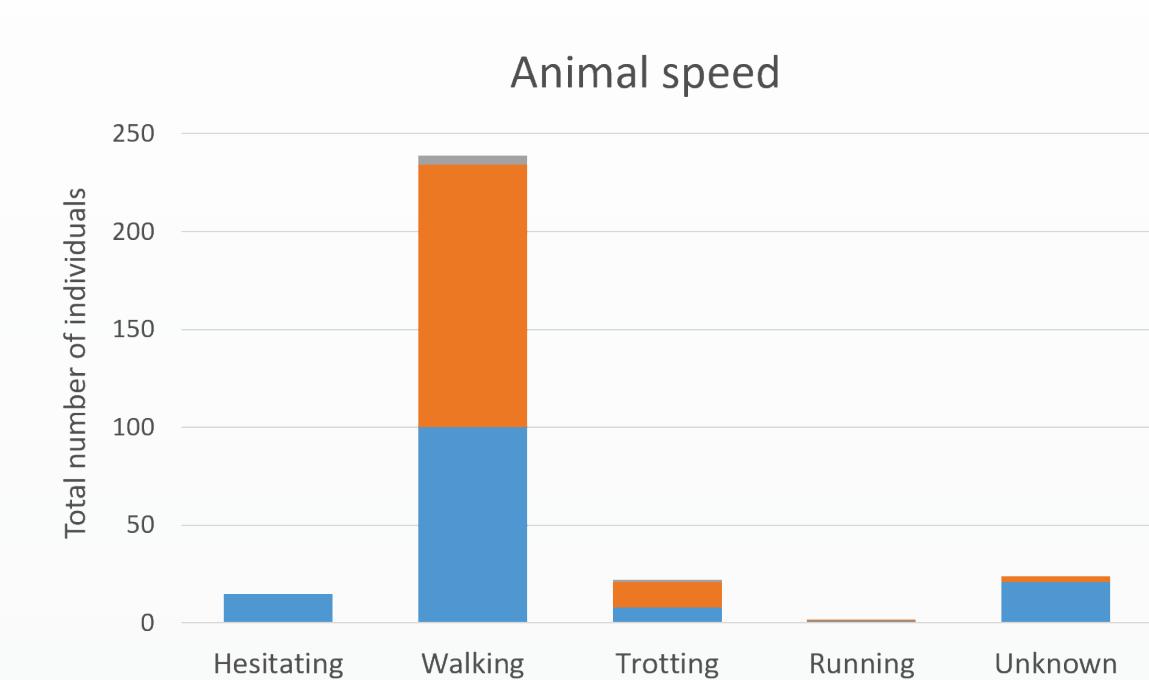
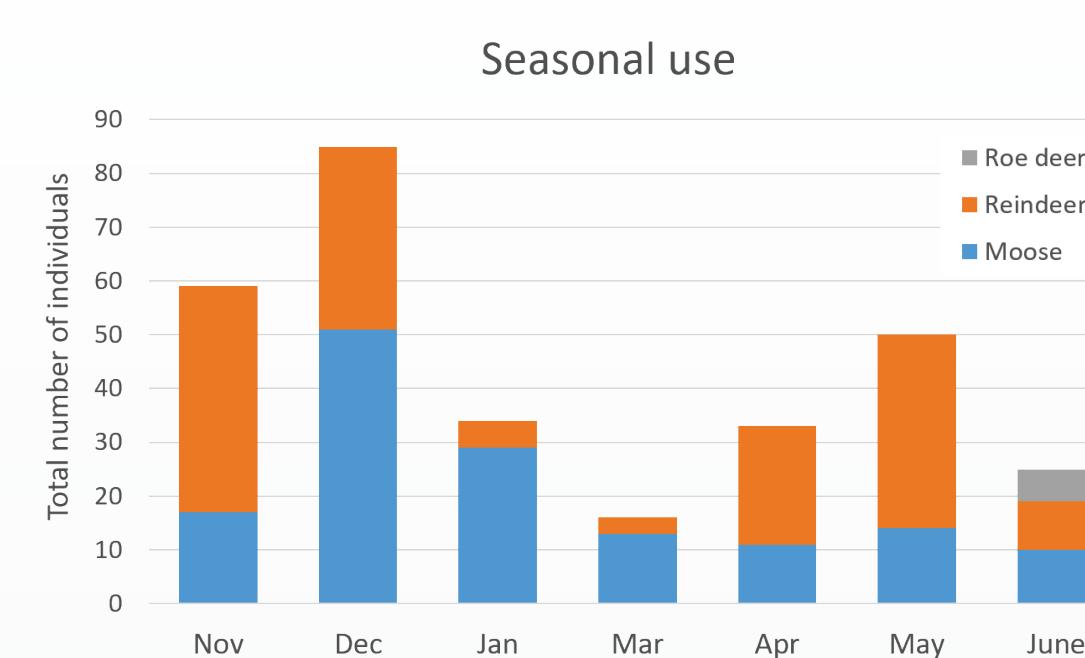
STA's management goal (“Riktlinje landskap”):

<https://www.trafikverket.se/contentassets/7716aab03f0c427da48a85803038d995/riktlinje-landschap.pdf>

From STA on reindeer husbandry:

<https://www.trafikverket.se/for-dig-i-branschen/miljo---for-dig-i-branschen/natur-kultur-och-landskap/for-dig-som-jobbar-inom-rennaringen/>

Preliminary data from one bridge (Sattaoja)



Sattaoja, Haparanda



Mertainen, Kiruna



Kåtaträskvägen, Haparanda



Råtsi, Kiruna

