

What is the impact of human co-use of wildlife overpasses on the use of these crossing structures by wildlife?

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Abstract: In the highly fragmented landscapes of the Netherlands, currently the pressure of both the public and recreational interest groups intensifies to open up wildlife passages for recreational co-use. The most frequently expressed request is to allow hikers, bikers and horseback riders to pass across wildlife overpasses. The national and provincial government is often reluctant to approve such requests as yet it is not clear what the impact of recreational co-use will be on the use of these crossing structures by wildlife. The objective of our study was to assess whether the use of wildlife overpasses by medium-sized and large mammals is affected by recreational co-use. We chose two wildlife overpasses where recreational co-use is currently allowed – overpass Zanderij Crailoo en overpass Slabroek - and monitored the use by both mammals and humans for over one year. The monitoring aimed primarily to assess which species use the crossing structures, to assess the frequency of crossings, and to assess the behaviour of the animals while crossing. The results were compared with data on the use of wildlife overpasses strictly for wildlife elsewhere in the country. Furthermore, we studied whether there is a correlation between the crossing frequency of humans and the crossing frequency of the animals as well as the time of the day that the animals use the overpass. After all, it may be true that animals are more reluctant to use the overpass on days when the number of recreational crossings is high and/or that they appear later on the overpass on such days. Hence we tested the following hypotheses: (1) Recreational co-use of wildlife overpasses will affect the species composition of animals that make use of the crossing structure. (2) Recreational co-use of wildlife overpasses will affect the crossing frequency of the species that make use of the crossing structure. (3) Recreational co-use of wildlife overpasses will affect the behaviour of the animals while crossing. (4) Recreational co-use of wildlife overpasses will affect the time of the day that animals use the crossing structure. Furthermore, we addressed the question how, in case recreational co-use does affect the use by wildlife, the impacts can be mitigated.