How hunting and legal regulations shape ecological connectivity in the alpine region

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Summary

The Research Institute of Wildlife Ecology (FIWI) is a project partner in ALPBIONET2030 – Integrative Alpine wildlife and habitat management for the next generation, a project co-financed by the European Regional Development Fund through the Interreg Alpine Space programme. This project seeks to analyze ecological connectivity impacts on the major wide-ranging game species in the context of the (predominant) hunting systems in the Alpine region.

The dispersal of wide-ranging wildlife species is dependent on ecological connectivity across natural and human induced barriers. Most of these species are considered game animals and are managed under various hunting systems. These hunting systems differ throughout the Alpine region, as they are subject to legislation and are influenced by regional traditions. Wildlife management strategies and applied hunting methods can strongly influence seasonal movement and spatial distribution patterns of game species.

Whereas the detection of changes in wildlife populations rest firmly on applied monitoring schemes, the ability to react and adapt management strategies is heavily dependent on legislative frameworks. Therefore, hunting systems may inherently constitute barriers to connectivity. We use spatial analysis including geodata such as administrative hunting management units, hunting ban areas, feeding areas and species distribution data in combination with habitat and barrier models to analyze the possible effects of the diverse hunting systems and hunting times on connectivity.

In a best-case scenario, we also want to integrate existing telemetry data sets in order to analyze spatial temporal behavior of Alpine ungulate species with regards to various previously developed barrier-models.

A recent collective publication of 35 European ungulate experts emphasized the growing need for science-based management of wildlife, as new challenges such as climate change will likely further aggravate wildlife conflicts (Apollonio et al. 2017). Modern wildlife management requires cooperative cross-border management and knowledge of the effects of key human interventions into wildlife populations.

References

Apollonio, Marco; Belkin, Vladimir V.; Borkowski, Jakub; Borodin, Oleg I.; Borowik, Tomasz; Cagnacci, Francesca et al. (2017): Challenges and science-based implications for modern management and conservation of European ungulate populations. In Mamm Res 62 (3), pp. 209–217. DOI: 10.1007/s13364-017-0321-5.

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