
Human-animal conflicts and social dimension

Comparative analysis of expert and citizen science reveals differences in occurrence patterns of lynx and wolf in Lower Saxony, Germany

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DOI: 10.20315/evmc.2025.037

Protective legislation, improved public opinions, and measures fostering the coexistence of large carnivores in our anthropogenic landscapes have aided the re-establishment of wolves and lynx in Germany. As their return is accompanied by conflicts, much effort is put into observing the recolonization process throughout the country. Our study focuses on contrasting two different data-gathering approaches for monitoring carnivore presence in Lower Saxony, Germany: (i) the official monitoring approach, which combines public reports that are validated by experts with systematic methods, such as scat searches; (ii) an annual wildlife survey in the form of a questionnaire sent to hunting district owners and leaseholders, requesting information on several hunting and wildlife-related topics, including the presence of both large carnivore species in their districts.

Though both approaches have their strengths and weaknesses, a preliminary evaluation of wolf data published in 2017 showed high spatial congruence between the datasets gathered from these two methods. This suggests that their combined use could potentially yield more accurate information on species occurrences. However, this preliminary evaluation focused only on wolves and was only done for the first two years in which questions related to carnivore presence were incorporated within the wildlife survey. We therefore compared the information of both approaches on the occurrences of lynx and wolf in terms of their general agreement, their spatial patterns, and also their temporal dynamics using an internal classification scheme. Similar information was provided by both approaches regarding the general development of lynx and wolf occurrences across Lower Saxony. However, spatial differences were mainly found at the periphery of their confirmed distribution ranges. Regarding temporal dynamics, the wildlife survey provides information about two years ahead of the official monitoring programs. The species-related differences in the accuracy of our classification system may be attributed to different attitudes towards the two species. Ultimately, our findings suggest that both monitoring approaches are complementary and the assessment of species occurrences should involve insights from both datasets.