Project Roadkill: Linking European Hare vehicle collisions with landscape-structure using datasets from citizen scientists and professionals

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Road networks can implicate lots of negative effects for wildlife. One of the most important indication for strong landscape fragmentation are roadkills, i.e. collisions between motorised vehicles and wild animals. A species that is often involved in roadkills is the European hare (Lepus europaeus). European hare populations are in decline throughout Europe since the 1960s and classified as "potentially endangered" in the Red Data Book of Austria. Therefore, it is striking that in the hunting year 2013/14, 19,343 hares were killed on Austrian roads translating to 53 hare roadkills each day, or rather about two per hour. We hypothesized, that (I) hare-vehicle-collisions occur as an aggregation of events (hotspot), (II) the surrounding landscape influences the number of roadkilled hares and (III) roadkill data from citizen science projects and data from professionals (e.g. hunters, police) are convergent. Investigations on the surrounding landscape of the scenes of accidents will be carried out using land cover data derived from Landsat satellite images. Information on road kills are based on datasets from two different sources. One dataset stems from the citizen science project "Roadkill" (www.citizen-science.at/roadkill) where participants report roadkill findings via a web application. The second dataset is from a project where roadkill data were collected by the police and by hunters. Besides answering our research questions, findings of this project also allow the location of dangerous roadkill hotspots for animals and could be implemented in nature conservation actions.