CauseSpec: a database of global terrestrial vertebrate cause-specific mortality

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Abstract. As wildlife populations continue to decline worldwide, human-caused mortality of terrestrial vertebrates is of increasing importance. However, there is a limited understanding of how direct anthropogenic mortality compares in magnitude to natural mortality. Here, we present CauseSpec, a database of global terrestrial vertebrate cause-specific mortality. We compiled studies that used telemetry to monitor terrestrial vertebrates and determine cause of death. We distinguished between anthropogenic and natural mortality and also documented the specific mortality source where possible (e.g., harvest, vehicle collision, predation, and starvation). This database consists of 1,134 studies that collectively monitored the fates of 123,747 individual animals. From this, there are 43,998 deaths of known cause among 307 species. It is an updated version of the data set used in Hill et al. (2019) and will continue to be updated in the future. These data can be combined with data on species morphology and behavior to examine how species attributes influence susceptibility to various mortality sources. Our database also includes the geographic coordinates of the study site so that site attributes can be included in analyses. We also distinguish between adults and juveniles where possible, allowing for age-specific mortality analyses. Study start and end dates are available as well so that analyses of temporal changes in mortality are possible. Last, users can select all cause-specific mortality studies from a single species to perform a species-level analysis. The data set will allow users to circumvent a literature search, facilitating more rapid publication of large-scale vertebrate mortality studies and elucidating mortality patterns of terrestrial vertebrates around the world. There are no copyright or proprietary restrictions. We would like researchers to cite this paper if the associated database is used to find studies of interest for analysis.

Key words: amphibian; bird; cause-specific mortality; mammal; reptile; telemetry.

The complete data set is available as Supporting Information at: [http://onlinelibrary.wiley.com/doi/10.1002/ecy.2865/suppinfo].