S2: Supplementary Material 2: The assessment criteria for reviewed papers.

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| **CATEGORY** | **ATTRIBUTE** | **DETAIL** |
| **General** | Study type  | One or more of the following categories could be chosen: review, data, conceptual. |
|  | Publication type | One of the following categories could be chosen: journal name, thesis, book chapter, conference proceedings, report. |
| **Location** | **Country** | One or more of the 54 African countries and their five sub-regions, as defined by the African Union (Central, East, north, southern and West Africa; United Nations Statistics Division, 2017). Some studies were generic and referred to broader regions of the continent, e.g., sub-Saharan Africa.  |
|  | C**ity/region** | The specific sub-national region or city where the study was undertaken. In some cases, studies were countrywide, in which case, we stated ‘national’.  |
|  | **Biome** | The description from the text of the biome was included. Where biomes were not described, the authors used GIS to identify the biome (Olson et al. 2004). |
|  | **Geographic coordinates** | The location of the study with coordinates from the text were included. When coordinates were not provided, we estimated these based on the written description of the location of the study. |
|  | **Landscape** | One or more of the following categories could be chosen: rural (includes natural, wilderness, or farmland, but can also include mining or protected areas), urban (includes urban, suburban and industrial), mixed (includes urban and rural). |
|  | **Protected area**  | Was the research undertaken in a protected area? Yes/No. |
| **Taxonomic information** | **General** | The general area of study. One or more of the following categories could be chosen: animals (includes both vertebrates and invertebrates), plants (includes all species within the plant kingdom), ecosystems (includes areas that do not fit into either Animalia or Plantae, such as, bushmeat, land-use change, soil, water). |
|  | **Organism group** | The broad taxonomic group/s that the study covered, e.g., amphibians, reptiles, birds, mammals, plants, insects. |
|  | **Species** | The specific species that were studied. Up to six species could be specified in the data. The species was given ‘general’ if >6 were listed. |
| **Infrastructure information** | **Linear infrastructure** **type** | One or more of the following categories could be chosen if they were mentioned in addition to road: road, rail, power line, pipeline, fence line. |
|  | **Purpose of linear infrastructure** | What is the purpose of the linear infrastructure? One or more of the following categories could be chosen: general (includes utilisation by members of the public, e.g., district, regional and national roads), tourism, industry (includes mining and logging), agricultural, not given. |
|  | **Road surface**  | One or more of the following categories could be chosen: paved, unpaved, not given. |
|  | **Road density/country** | Number of publications conducted in each country against the road density (in km of road/ 100 km2, calculated using the Global Roads Open Access Data Set (CIESIN and ITOS 2013) in that country. |
|  | **Measured traffic volume** | Did the study measure traffic volume? Yes/No. |
| **Study design** | **Study aim** | An outline of the aims, questions or hypotheses that were tested. If no aims were given, a ‘not given’ was reported. Not all aims were explicitly outlined in some of the papers and were therefore drawn from the text. |
|  | **Study focus on linear infrastructure** | Was the linear infrastructure a primary or secondary focus of the study?  |
|  | **Explanatory variables** | Was the linear infrastructure a primary or secondary explanatory variable?  |
|  | **Human attitudes** | Did the study investigate human attitudes and/or human behaviour? Yes/No. |
|  | **Was an intervention tested?** | Was an intervention tested? Yes/No. |
|  | **What was the design of the study?** (Salafsky at al., 2002). | One or more of the following categories could be chosen: observational, correlative, natural experiment, manipulative experiment, site comparison, replicated study and the nature of the replication, controlled site, paired site, randomised study, before-and-after trial. |
| **Impacts** | **What was the direct impact of the linear infrastructure on biodiversity?** | One or more of the following categories could be chosen: creating a barrier that impacts animal movement, fragmenting the landscape, causing a mortality due to a collision, generating pollution, impacting the function (positively/negatively) of the roadside habitat, impacting the behaviour of animals near or crossing roads, creating an off-road impact. |
|  | **What was the indirect impact of the linear infrastructure on biodiversity?**  | One or more of the following categories could be chosen: influencing the extent and impact of illegal and/or legal harvest, creating changes in the landscape, facilitating the spread of alien and invasive species, impacting the distribution/abundance of species. |
| **Recommendations and quality of evidence** | **What specific actions do the authors recommend, based directly on the evidence collected in their study?**  | Did the study make any recommendations and were these recommendations based on evidence from the paper? If they were, then each recommendation was listed and categorised by using the Open Standards Conservation Actions Classification v 2.0 (Conservation Measures Partnership 2016; see Supplementary Material 2). Once classified, each recommendation was then assessed based on the quality of evidence (Salafsky at al., 2002): I Strong evidence obtained from at least one properly designed, randomised controlled trial of appropriate size II-1 Evidence from well-designed controlled trials, no randomisation II-2 Evidence from comparison of differences between sites, with and without (controls) a desired species or community II-3 Evidence obtained from multiple time series or from dramatic results in uncontrolled experimentsIII Opinions of respected authorities based on qualitative field evidence, descriptive studies, or reports of expert committeesIV Evidence inadequate owing to problems of methodology, e.g., sample size, length or comprehensiveness of monitoring, or conflicts of evidenceNC Unable to tell the quality of evidence from the paper. |