

Ecological Impacts of Transportation Network on Wildlife, Key Biodiversity Areas and Protected Areas of Turkey

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Keywords: Turkey, Key Biodiversity Areas, fragmentation, mammals, transportation network

Poster Presentation

Transportation infrastructure effects wildlife populations and may result in habitat fragmentation, loss of critical wildlife habitats and populations. Road network may act as a barrier for wildlife populations but also act as a vector to spread different kinds of pollution (chemical, light, noise etc.) as well as wildlife diseases, invasive and alien species. Turkey is unique in Europe by being located between Europe and Asia and being at the junction of 3 global biodiversity hotspots: Mediterranean, Caucasus and Irano-Anatolian. In addition, there are 305 Key Biodiversity Areas (KBAs), out of which 95 have global importance for mammals. KBAs are selected by using standard, globally applicable criteria considering the distribution and population of species for species groups: Mammals, amphibians, reptiles, birds, freshwater fish, butterflies, dragonflies and plants. Key Biodiversity Areas also consider the susceptibility of habitats to fragmentation in species context therefore KBA concept is relevant to transportation infrastructure. The transportation in Turkey heavily depends on road network which currently includes 62.023 km of roads and 10.991 km of railway. The road network and traffic intensity is increasing since Turkey is a developing country with a young and increasing population relative to the countries in Europe. The effect of current road network on habitats and wildlife populations is unknown due to lack of research and national policy for transportation focuses on mainly improving the current roads and establishing new ones. Therefore, there is a need to assess the current road network in relation to its role in fragmentation of wildlife populations and habitats. From this point of view, we present an overview of the major ecological impacts of transportation infrastructure upon wildlife and their habitats, with a particular focus on the distribution of key species groups and Key Biodiversity Areas and protected areas of Turkey.