

Impact of the Proposed I-69 Corridor on Bobcat (*Felis rufus*) Habitat in Southwestern Indiana

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“Habitat loss is known to be the main cause of the current global decline in biodiversity, and roads are thought to affect the persistence of many species by restricting movement between habitat patches” (Eigenbrod, Hecnar et al. 2008). This research looks at the impact of the I-69 corridor being built in Southwestern Indiana on Bobcat habitat (*Felis rufus*) identified through the use of remote sensing and GIS. Bobcats are solitary animals that require steep, forested areas with plenty of cover for both themselves and the small mammals they prey upon. Identifying where Bobcats are likely is the first step in knowing the impact on their diversity in Southwestern Indiana. In this research, we used the 2012 National Agriculture Imagery Program (NAIP) imagery for each of the 47 counties in this study, along with the 2005 IndianaMap Elevation Model (DEM) data, both obtained from the Indiana Geospatial Portal (gis.iu.edu). These were combined with the cities and town, interstate, and highway shapefiles from the IndianaMap website (indianamap.org), and then classified and assigned suitability values to highlight high, medium, and low probability locations for Bobcats within the study area. The I-69 corridor shapefile was then added and the reduction in habitat calculated to show the impact the corridor will have on existing Bobcat habitat. The methods used in this research project can be used by State and other agencies to evaluate the impact on not only Bobcat habitat, but adapted to other species as well.

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Eigenbrod, F., et al. (2008). "Accessible habitat: an improved measure of the effects of habitat loss and roads on wildlife populations." *Landscape Ecology* **23**(2): 159-168.