

## Characterization of Habitat Attributes Associated with Wild Pig-Vehicle Collision Locations

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**ABSTRACT:** Over the past decade, the frequency of wild pig (*Sus scrofa*)-vehicle collisions (WPVCs) and number of human fatalities associated with these accidents in the United States has increased concurrent with the expanding populations of this invasive species. To better understand this widespread and growing human safety threat, we quantified habitat attributes associated with 311 WPVC locations involving 370 wild pigs that occurred between 1983 and 2012 at the Savannah River Site in west-central South Carolina. At each collision site we measured the distance to the nearest wetland and stream, as well as the composition of habitats both immediately surrounding the accident location (100 m radius) and within an average home range buffer for wild pigs in our study area (1,699 m radius). We then contrasted habitat attributes associated with collision sites with those from randomly selected locations along the same roads to identify habitat characteristics contributing to a higher incidence of these accidents at both local and landscape-level scales. WPVCs were non-randomly distributed across both spatial scales measured, with collisions occurring more frequently in areas of preferred habitat for this species. Specifically, collisions occurred in areas closer to streams and containing less pine forest than random locations at both spatial scales evaluated. However, collisions did not occur exclusively in areas of preferred habitats, likely reflecting the generalist foraging strategies of this species. These data will aid in the development of wild pig collision mitigation measures to reduce the frequency of such accidents and their impacts in areas of high wild pig densities, and suggest that management efforts to reduce vehicle collisions with pigs should be focused in areas where roadways bisect preferred habitats such as streams and riparian areas.

**Key Words:** habitat, vehicle collisions, wild pigs

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