

Bobcats use of fire-created edges in the central Appalachians, VA

In the Appalachians, Bobcats (*Lynx rufus*) are known to selectively use the dense vegetation found in early successional and edge habitat, where prey populations (deer, rabbits, and voles) are greater and there is more cover for ambush hunting. Closed-canopy forests dominate the landscape, but largescale prescribed burns (>500 acres) on the George Washington and Jefferson National Forests in Virginia have created significant openings where high-intensity fires burned (Lorber and others 2018; also our newsletter [#3, 2018](#)). David McNitt et al. published a paper, “[Influence of forest disturbance on bobcat resource selection in the central Appalachians](#)” to investigate bobcat habitat use in a landscape dominated by interior forest, but that included fire-created openings, open fields (pasture, hay-fields, wildlife openings), timber harvest openings, as well as the edge habitat associated with each type.

Study Location and Methods:

- Ridge and Valley Province, western half of Bath County, Virginia, where more than 50% of the land is federal - George Washington NF.
- In GIS, the landscape was classified into habitats that included interior forest and the openings and edges associated with fields, high-intensity fire, and timber harvest.
- 9 bobcats were fitted with GPS collars that recorded their location every 4 hours, for a period of 6 to 12 months for most individuals.
- From the location data, several resource selection models were created to describe bobcat habitat use within their home ranges.

Key Findings:

- Based on the amount of habitat types in a home range, bobcats preferentially used edge compared to forest interior. Bobcats also preferred edges over the interior portions of the openings.
- One model showed that when both field-edge and fire-edge habitat occur in the same bobcat home range, the fire-created edge habitat was selected more often. The authors suggest that the more irregular-shaped edges of fire-openings created more favorable habitat than the more linear field-edges and harvest edges.
- The authors state: “Our work builds on knowledge that prescribed fire can benefit wildlife, and specifically adds to the understanding that canopy mortality resulting from mixed-severity burns is an important component for some species”.

