

Effects of Bush Honeysuckle, *Lonicera maackii*, on the Habitat Use of the Eastern Box Turtle,
Terrapene carolina

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Abstract

Bush Honeysuckle (*Lonicera maackii*) is one of the most invasive plant species in North America and is especially problematic in urban parks and preserves. Invasive plant species are recognized as a major problem in ecosystems across Kentucky because they out-compete native plant species, alter soil chemistry and disrupt the structure of forest communities. We studied the habitat use of the eastern box turtle (*Terrapene carolina*) in relation to distribution and density of bush honeysuckle in Blackacre State Nature Preserve; Louisville, KY. Radio-telemetry was used to locate turtles and compare the microhabitat use of turtle locations to the microhabitat of randomly located points. Bush honeysuckle density was observed to be significantly lower in turtle locations compared to density in random points. Thermoregulatory needs and reduced food abundance may cause eastern box turtles to avoid areas of high bush honeysuckle density. High density of bush honeysuckle within the forest structure causes disruptions in food supply and thermoregulation for the turtles. The turtles preferred to occur within the vicinity of hiking trails, as turtles were found significantly closer to trails than random points. Hiking trails create artificial canopy gaps which box turtles may use for thermoregulation.