Beyond the wetland: Seasonal movements of Eastern Ribbonsnakes (*Thamnophis sauritus septentrionalis*) in Kespukwitk

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The Eastern Ribbonsnake (*Thamnophis sauritus septentrionalis*) is a species at risk in Nova Scotia, where conservation efforts have traditionally focused on providing 100-m buffers around wetland habitats they used during the active season. Limited information exists on habitat use and movements outside of wetlands, creating challenges for development of effective habitat protection measures and buffers. To address this knowledge gap, Eastern Ribbonsnakes in Kespukwitk, Nova Scotia, were monitored using radio telemetry and passive integrated transponder (PIT) tag technology. Movement data collected throughout the active season leading up to hibernation were used to examine habitat use both within and beyond wetlands. Snakes regularly moved deep into adjacent forested areas and remained active in both terrestrial and wetland habitats late into the season, including October and November. Radio telemetry also revealed use of small subterranean refugia, often associated with openings less than 2.5 cm (1 inch) in diameter. These features were highly difficult to detect during conventional field surveys and would likely have remained undocumented without telemetry data. Some snakes were observed several hundred meters from the wetland edge suggesting traditional 100-m buffers are not adequate for protecting these seasonal movements. These findings illustrate that important Eastern Ribbonsnake habitat extends beyond wetlands and includes terrestrial features that may be overlooked during habitat assessments. Improved understanding of seasonal movements and habitat use will help inform future buffer development and conservation planning for this species within Kespukwitk and across Nova Scotia.

Keywords: Eastern Ribbonsnake, habitat use, Kespukwitk, radio telemetry