Buffers for bats: a complex issue

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Land protection measures such as buffers are used to conserve and protect habitat for threatened species. Buffer-based approaches can be appealing from a conservation or stewardship perspective because they are relatively straightforward to understand and implement. However, buffers may be less practical for species with large-scale habitat requirements and for species that rely on multiple habitat types throughout their life cycle. Further, there is the challenge of designing effective buffers when there are knowledge gaps for a species. Bats are a particularly complex taxon, with species in Canada using networks of roosts during the active and hibernation seasons that may be separated by many kilometres, and with limited capacity for GPS-tracking due to their small body size. Drawing on existing recommendations and the scientific literature, we developed a set of resources on beneficial management practices to support Nova Scotia bat species to provide a starting point for better recognizing their complex and unique landscape-scale habitat needs in the context of private land stewardship. Bat buffers and landscape protection must consider regular roost-switching among dozens of trees found hundreds of meters apart, indicating the large areas of surrounding habitat bats depend on. Given these habitat needs, we suggest that applying buffer-based habitat protection for bats can be challenging in practice, particularly for species with complex and dynamic habitat needs. Further research is needed to better understand if buffer-based approaches can be effectively applied under these circumstances and how they can be integrated with broader landscape-scale habitat protection.

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