

# Marsh interspersions and muskrat (*Ondatra zibethicus*) habitat use

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## Abstract

Muskrat (*Ondatra zibethicus*) populations have been declining in North America for decades. The precise cause of these widespread declines has not yet been identified. Over a similar timeframe, wetlands across large regions of North America have been experiencing an invasion of cattails (*Typha*). Non-native *T. angustifolia* readily hybridizes with native *T. latifolia* to produce *T. x glauca*, which tends to dominate over parental species and other wetland plants alike. *T. x glauca* invasions are associated with many negative consequences for wetlands, including a reduction in biodiversity, open water habitat, and interspersions of water and vegetation. Muskrats are strongly tied to wetlands, especially where there is a high degree of interspersions of water and emergent vegetation. Therefore, a widespread reduction in interspersions caused by *T. x glauca* invasions may be contributing to widespread muskrat population declines. We sought to understand the impact of reduced marsh interspersions on fine-scale muskrat habitat use which will shed more light on broad-scale population trends. We measured intensity of habitat use by muskrats in a large, *Typha*-dominated marsh in south-central Ontario using remote cameras, stratifying camera placement along a gradient of marsh interspersions. We found no correlation between interspersions and intensity of use, suggesting that factors other than interspersions may drive intensity of use. Our study site, like most marshes in the region, was highly dominated by *T. x glauca*. Further research is needed to determine the impact of *T. x glauca* invasions on muskrats, as well as the cause of widespread muskrat declines. Keywords: muskrats, intensity of use, camera traps, invasive species, *Typha*, wetlands

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