

**LPWWRF: COMPARATIVE USE OF *PHRAGMITES AUSTRALIS* AND OTHER
HABITATS BY BIRDS, AMPHIBIANS, AND SMALL MAMMALS
AT LONG POINT, ONTARIO**

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The recent expansion of an exotic genotype of *Phragmites australis* throughout many coastal wetlands of the lower Great Lakes has caused concern that it will reduce floral and faunal biodiversity. Few studies, however, have documented use of exotic *Phragmites* stands by wildlife. We surveyed birds, amphibians, and small mammals in various stand sizes of *Phragmites*, *Typha* spp., and marsh meadow at Long Point, Lake Erie, Ontario during 2001 and 2002. Avian point counts showed that stands of exotic *Phragmites* had fewer rails, waterfowl, and breeding Swamp Sparrows (*Melospiza georgiana*) than did stands of *Typha* or marsh meadow. Large stands of exotic *Phragmites*, however, had a high abundance of Red-winged Blackbirds (*Agelaius phoeniceus*) and Common Yellowthroats (*Geothlypis trichas*) and provided habitat for Least Bitterns (*Ixobrychus exilis*), swallows (Family Hirundinidae), juvenile Swamp Sparrows, and Marsh Wrens (*Cistothorus palustris*). Use of exotic *Phragmites* by Virginia (*Rallus limicola*) and Sora Rails (*Porzana carolina*) was limited to stand edges. Stand interiors of exotic *Phragmites* were used by Red-winged Blackbirds, Common Yellowthroats, and Tree Swallows (*Tachycineta bicolor*). Stands of exotic *Phragmites* did not affect migrating birds and may provide winter shelter for Black-capped Chickadees (*Poecile atricapillus*), American Tree Sparrows (*Spizella arborea*), and Dark-eyed Juncos (*Junco hyemalis*). Pitfall traps showed that Fowler's Toads (*Bufo woodhousii fowleri*) did not use large stands of exotic *Phragmites* and use by Northern Leopard Frogs (*Rana pipiens*) was limited. Small stands of exotic *Phragmites* had more amphibians [primarily juvenile toads (*Bufo* spp.)] than did small stands of *Typha* and marsh meadow in mid-summer. Interior traps in large stands of exotic *Phragmites* had fewer amphibians than did edge traps in *Phragmites* and traps in *Typha* and marsh meadow. Species richness of amphibians, however, was similar in all three habitats. Overall, all small stands, regardless of habitat type, had more individuals and higher species richness of amphibians than did large stands. Although only four species of small

mammals were captured, large stands of exotic *Phragmites* had higher abundance and species richness of small mammals than did large stands of *Typha* and marsh meadow. Continued expansion of large stands of exotic *Phragmites* in coastal marshes at Long Point may negatively affect Swamp Sparrows, rails, waterfowl, Northern Leopard Frogs, and Fowler's Toads, but may benefit Least Bitterns, Red-winged Blackbirds, warblers (Family Parulidae), Meadow Voles, and shrews (Family Soricidae). However, given the current distribution of exotic *Phragmites* stands at Long Point and its current rate of expansion (50 % per year) (see Wilcox et al., Journal of Great Lakes Research 2003), management options may be warranted in order to preserve habitat heterogeneity. Because this study was conducted during low water levels, we recommend that studies continue to investigate use of *Phragmites* by vertebrates, particularly waterfowl, rails, bitterns, Fowler's Toads, Green Frogs, and Bullfrogs during higher water levels. These studies, in conjunction with a management strategy focused on interspersed habitats, will maintain wetland integrity at Long Point and increase understanding of the effects of *Phragmites* expansion on these animals.