

Evaluation of florpyrauxifen-benzyl on invasive hybrid watermilfoil in a central Minnesota lake

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ABSTRACT

Eurasian watermilfoil (*Myriophyllum spicatum* L.) and hybrid watermilfoil (*Myriophyllum spicatum* L. × *Myriophyllum sibiricum* Kom.; HWM hereafter) are invasive submersed aquatic plants that cause recreational and ecological disturbances in many North American waterways. In Minnesota, these problematic invasive species are primarily managed to maintain open water and to prevent spread in and among lakes. The principal management tools utilized in the state are selective herbicide treatments or mechanical cutting of the invasive plant. In spring 2018, a new selective auxin-mimic herbicide, florpyrauxifen-benzyl, was trialed and evaluated for efficacy in controlling HWM. This management effort represented the first time florpyrauxifen-benzyl was utilized in a public waterbody in Minnesota. Changes were examined in invasive and native plant frequency from June to 1 yr after treatment in two 4.9-ha study plots treated at 5.79 µg L⁻¹. Aquatic vegetation surveys were conducted pre- and posttreatment to assess the efficacy of the herbicide treatment in a localized area of dense HWM growth. Changes in native aquatic plant species presence were measured and overall showed few to no declines, whereas HWM decreased from 72 to 1% and 58 to 8% after treatment and remained low 1 yr after treatment. In both instances, florpyrauxifen-benzyl adequately controlled HWM and is an effective partial-lake treatment tool that should be considered for invasive milfoil management.

Key words: aquatic plant management, Eurasian watermilfoil, herbicide treatment, *Myriophyllum spicatum*, *Myriophyllum spicatum* × *Myriophyllum sibiricum*.

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