Title: Tracking Wetland Regeneration: A Long-term Assessment of Vegetation Dynamics Post-*Phragmites australis* Suppression

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The invasion and spread of invasive plants such as *Phragmites australis* ssp. *australis* greatly threatens wetland biodiversity. To suppress *P. australis* in Lake Erie coastal marshes, large areas were treated with herbicide and dead stems were mowed/rolled. The Waterloo Wetland Lab started a long-term monitoring program to track the efficacy of this suppression through the changes in vegetation community. Regrowth of vegetation in this area relied solely on the seedbank or nearby plant communities. Initially, plots were overrun with secondary invasions – other invasive species. Fortunately, vegetation in plots started to transition to an abundance of native plant species approximately 3-5 years post-herbicide suppression. Subsequently, we have shifted our focus to evaluating how closely treated plots are beginning to resemble plant communities in “reference plots” – areas never invaded by *P. australis*. Our objective is to determine whether the vegetation in our treated plots is mirroring reference conditions or is transitioning into a novel plant community type. We will continue to the monitor the vegetation community by performing a percent cover analysis. We hope that the results of this work will help us better understand plant community dynamics post-herbicide suppression and evaluate our goals of restoring a healthy native plant community.

Key words: restoration, revegetation, *Phragmites australis*, plant community dynamics