



Integrated Pest Management Plans for Himalayan Balsam and Garlic Mustard

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Executive Summary

Invasive species are organisms that occur outside of their natural range and can cause significant negative impacts to native biodiversity, economy, and society, including human health. Therefore, invasive plants are considered a serious threat locally, nationally and globally and are a concern to policy makers, city planners, conservationists, the general public and others. In Alberta, 75 invasive weeds are listed in the Alberta Weed Control Act which need to be controlled (noxious weeds) or destroyed (prohibited noxious weeds). The City of Edmonton (COE) is committed to controlling any regulated weed species present in the City as outlined in its Environmental Strategic Plan, *The Way We Green*. This is one of several ways Edmonton aims to achieve sustainable resource development within the City while increasing resilience against any natural disturbances. This work connects to an identified need for a supporting plan for an integrated pest management strategy under *The Way We Green* as well as more strongly defined administrative roles and responsibilities for integrated pest management at the City of Edmonton. The University of Alberta is also committed to focusing its research on evolving sustainability issues for management implication and policy recommendation. This converging interest paired these two institutions to collaborate on six applied research projects through the pioneer program 'Sustainability Scholars' in 2015. This is one of the six projects, aimed at the development of Edmonton's first ever integrated pest management plan for two invasive weeds – Himalayan balsam and garlic mustard.

Himalayan balsam is the most widespread prohibited noxious weed in the City, whereas garlic mustard is very problematic to control. Immediate control of these two species is crucial to stop further spread. Currently, there are no formal control guidelines for these regulated species available to the City of Edmonton. In addition to public land, the City's administration is also required to oversee the control of regulated weeds on private properties. Public education is the key to controlling invasive weeds on private properties and developing a well-informed, knowledgeable society. As such, the objectives of this project were to develop integrated pest management plans for these two prohibited noxious weeds for the COE and the development of communication materials for residents. In addition, distribution maps were also produced to assist in decision making with regard to overall control operation planning and choosing site specific best control option. Commitment to regular monitoring of invasive weed populations, including phenological events, is crucial not only to achieve the management goals but also to allow for adaptive pest management plans. More strongly defined administrative roles and responsibilities in pest management would help to ensure proper execution of these management plans.