

## **Population dynamics of garlic mustard (*Alliaria petiolata*): A new invader to Alberta's central parkland subregion**

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### *Poster Presentation Abstract:*

Garlic mustard (*Alliaria petiolata*), a highly invasive biennial plant species, was first discovered in Alberta in 2010. It is present in two urban ravines in Edmonton and one in St. Albert. Introduced from Europe, this invasive species can be found in 37 US states and 7 Canadian provinces. This species rapidly invades forest ecosystems by dominating native vegetation. Garlic mustard is a threat to Edmonton's River Valley due to its highly interconnected nature and the many native flora and fauna that inhabit this area. Understanding the population dynamics of an invasive species is critical to making informed management decisions. Previous research on the population dynamics of garlic mustard in other regions has reported high mortality in the first year and low second year mortality. The goal of our project was to assess garlic mustard mortality in its first and second year of growth within Edmonton's central parkland sub region. To assess first year mortality fifteen 0.5 m<sup>2</sup> quadrats were established in spring and monitored with biweekly counts over the first growing season in 2014 and 2015. To assess second year mortality fifteen 0.5 m<sup>2</sup> quadrats were established in fall and then relocated in spring and monitored with biweekly counts over the second growing season in 2013-2014 and 2014-2015. Overall, first year mortality was 27% in 2014 and 2015 and second year mortality was 31% and 47%, respectively. This research will contribute to a broader understanding of the population dynamics of this species and may inform management decisions.

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