

Recovery strategy for Long's Braya, *Braya longii*, and Fernald's Braya, *Braya fernaldii*, in Canada

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Long's Braya, *Braya longii*, is an endangered brassicaceous plant specific to the limestone barrens of Newfoundland. This habitat is ranked critically imperiled globally, nationally, and provincially. This plant is threatened by the diamondback moth, *Plutella xylostella*, which migrate annually from the southern United States to lay eggs and feed on Long's Braya.



The objectives of this project are to: determine host-finding mechanisms by testing behavioural and electrophysiological responses to compounds found in Long's Braya. These compounds will be used for mass trapping attempts during the migratory season.



Insect rearing

In this greenhouse, cabbage plants are being grown to maintain a colony of *P. xylostella*. Both cabbage and Long's Braya are brassicaceous plants, thus the larvae are able to complete their life cycle with similar success on both species. Once the cabbages are at the 6-8 leaf stage, they are transferred to a cage holding *P. xylostella* larvae which feed and pupate on the cabbage leaves.



The following methods will be used to assess attractant efficacy on *P. xylostella*:

Behavioural bioassay

Behavioural responses to host plant compounds will be assessed through the use of a choice experiment in a Y-tube wherein the *P. xylostella* is exposed to two compounds and will move toward its preferred odour.



Electroantennogram

Used to assess antennal sensitivities to single known compounds. This method is ideal for determining sensitivities to compounds of interest at varying concentrations

