

*Braya longii* (Long's braya), *Braya fernaldii* (Fernald's braya), and  
Disturbance on Newfoundland's Great Northern Peninsula

by  
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**Abstract:** *Braya longii* (Long's braya) and *Braya fernaldii* (Fernald's braya) are small arctic-alpine plants which grow only on the limestone barrens of northern Newfoundland. They thrive in areas which are subjected to small-scale disturbance, such as frost heaving, because it prevents other plants from establishing in preferred *Braya* habitat. *Braya longii* and *B. fernaldii* also grow well in areas that have been disturbed slightly by anthropogenic activity. Unfortunately, extensive limestone quarrying on Newfoundland's Great Northern Peninsula has destroyed a significant amount of *Braya* habitat and, as a result, a very limited number of small populations still exist. In 1997, COSEWIC designated *Braya longii* as endangered and *Braya fernaldii* as threatened.

In this study the temporal change in anthropogenic disturbance at each study site is investigated through the use of a Geographic Information System. The results generated by this method indicate that the amount of man-made disturbance on the Northern Peninsula has increased dramatically over the last 50 years. This information is necessary to emphasize the need to protect *Braya* populations from further large-scale anthropogenic disturbance. This study also uses population density measurements to examine the effect of different levels of disturbance (anthropogenic and natural) on the vitality of *Braya* populations. Such information may provide an understanding of the preferred habitat of *Braya* which may aid in the future management of these populations.