

Teacher's Guide



Dear Educator,

Ecology North developed this resource with funding from the Northwest Territories Species Conservation and Recovery Fund. It contains fun and interactive ways to educate students about Hairy Braya and the threats affecting them. These activities are ideal for grades 1-6.

Name: Hairy Braya

Scientific Name: *Braya pilosa*

Status in Canada: Endangered

Status in the NWT: Threatened

The conservation and recovery goal for Hairy Braya is:

“To ensure survival of Hairy Braya in the wild for at least the next 100 years.”

-Recovery Strategy for Hairy Braya in the Northwest Territories

Why Hairy Braya Matters

This plant grows in the NWT and nowhere else in the world. It is our responsibility to care for Hairy Braya and to keep it safe. We don't yet know what role it plays in the wider ecosystem or why it may be important, but we know that ecosystems are healthier and can adapt to change more easily (including climate change) when all parts are intact. Each species has a role to play, no matter how small it is.

Appearance

Hairy Braya (*Braya pilosa*) is a rare flowering plant that belongs to the mustard family (Brassicaceae). The stems grow from a tuft of leaves at the base of the plant and have clusters of white flowers. Hairy Braya grows between 4.5-12cm tall with rounded fruit and very long “styles” (a reproductive part of the plant that looks like a spike on top of the fruit). Hairy Braya plants can live for 10-12 years!

Habitat

Hairy Braya grows in an area of the Northwest Territories that remained ice-free during the last ice age. It has apparently been unable to expand its range into surrounding areas since the ice receded. Places like Cape Bathurst that were not covered by glaciers during the last ice age tend to be “biodiversity hotspots” with high species diversity and species that are rare or unique, like Hairy Braya.

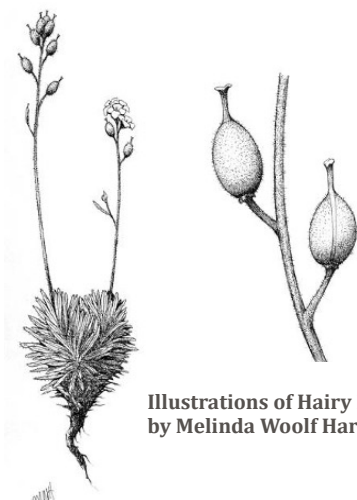
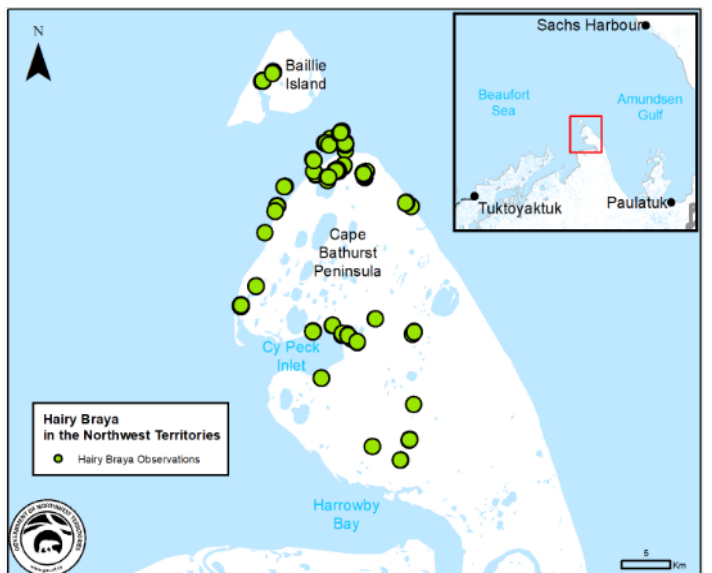
Hairy Braya occurs on coastal bluffs and dry uplands. It grows best on bare soils without grass or other plants. When an area is trampled by caribou and muskox hooves or dug up by grizzly bear, it can provide ideal conditions for Hairy Braya seedlings to set root!

Distribution

Hairy Braya is only found in the Northwest Territories. There are 19 known locations (as of 2022) on the northern portion of Cape Bathurst Peninsula and nearby Baillie Island in the Inuvialuit Settlement Region.



Hairy Braya from the type locality (Photo by J. Harris)



Illustrations of Hairy Braya, by Melinda Woolf Harris

Preservation Efforts

Hairy Braya's genome (its unique genetic blueprint) has been sequenced. Hairy Braya's specimens are preserved at the Canadian Museum of Nature, which stores more than a million specimens of plants. To learn more, visit this link.





Hairy Braya (Photo by P.Sokoloff)



Eroding coastal bluffs with melting permafrost (Photo by J.Harris)

Population Size

There are an estimated 25,000 to 50,000 Hairy Braya plants in the entire world - and all of them are in the Northwest Territories. All 19 known sites occur within a very limited area of only 457km².

Threats and Limiting Factors

Hairy Braya has specialized habitat requirements and its ability to expand its range appears to be limited. It needs bare soil for its seeds to grow. Patches of suitable habitat are often separated from each other by large areas of wet tundra and Hairy Braya does not compete well with other plant species when establishing or colonizing new areas.

The main threat to Hairy Braya is rapid erosion of habitat along the coast (currently estimated at 8 to 10m per year).

How can we protect the Hairy Braya?



Researchers collected seeds to store in a “seed bank.” This way, even if all of the Hairy Braya plants disappear from the land, new plants could be grown in the future.



The shoreline of the Cape Bathurst Peninsula where Hairy Braya grows is being monitored for changes and impacts from erosion.



Hairy Braya Fruits (Photo by P. Sokoloff)

Positive Influences



Most known individuals of Hairy Braya are found inland and in areas protected from erosion, in habitats that appear to be stable.



Development is restricted on the Cape Bathurst Peninsula. The area is Inuvialuit private land and it is also home to the calving grounds of the Cape Bathurst caribou herd. It is managed very carefully by the Inuvialuit government. This limits direct threats from human activity.

Activity

Disturbance Tag

We have learned the ideal conditions for the Hairy Braya to set root can come after a disturbance. To play, split the group into grizzly bears digging, caribou stomping and Hairy Braya seedlings ready to set root, with majority of the students in the Hairy Braya group.

The objective for the bears and caribou is to “tag” the Hairy Braya seeds. When a seed is tagged, it sets roots and blooms (like freeze tag). Set a time limit of one minute for the game. When the time is up, a wave comes crashing in and the untagged Hairy Braya are washed out to sea. Repeat!

Additional Information

NWT Species At Risk:
Hairy Braya Fact Sheet



CBC Article: Rediscovery of the Hairy Braya



Resources

www.nwt-speciesatrisk.ca

Information about species at risk in the NWT and their management plans. Includes photos and maps.

www.nwt-sciencefocus.ca

Ecology North’s educator resource hub for lesson plans and activities, including more related to Species at Risk.

Check out “Hunting the Hairy Braya”

This video is all about the Hairy Braya survey in 2022. They discovered several new plant locations!



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