## **Get Wild: Preserving our precious Alpine wildflowers**

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Emily Griffoul Get Wild



An arctic Alpine forget-me-not is pictured June 18 near Straight Creek above the Eisenhower-Johnson Memorial Tunnels. Photo by Emily Griffoul

Summer is here in the Alpine areas of Colorado!

If you are out exploring these newly snow-free peaks, keep an eye out for some of the spectacular Alpine plants in bloom, including moss campion (Silene acaulis), silky phacelia (Phacelia sericea var. sericea), white marsh marigold (Caltha leptosepala), arctic Alpine forget-me-not (Eritrichium nanum var. elongatum), white globeflower (Trollius albiflorus), Alpine kittentails (Besseya alpina) and Alpine primrose (Primula angustifolia).

These beautiful flowers are just a few of the many interesting plants that live in the Alpine, some of which are endemic to our state, meaning they aren't found anywhere else. Alpine areas are defined as places above tree line, which occurs at about 11,400 feet in Colorado. The plants that live in these areas are adapted to the long, cold winters and extremely short growing season. Adaptations include insulating hairs, cushion-forming growth patterns, succulent leaves and big, showy flowers to attract pollinators during their abbreviated bloom season.

At Betty Ford Alpine Gardens, located at 8,200 feet in elevation in Vail, we are uniquely positioned to conserve Alpine biodiversity as part of conservation work outside of the natural environment and to spearhead conservation efforts of this special habitat. Our conservation work is guided by the North American Botanic Garden Strategy for Alpine Plant Conservation, a blueprint for understanding and protecting the Alpine environments of the U.S., Canada and Mexico with a focus on the role of botanic gardens.

Alpine areas are particularly vulnerable to changes in plant distribution, composition and richness in response to the growing threat of climate change, which is projected to have amplified effects at higher elevations. As Alpine areas warm, lower-elevation plant species are able to move into these previously inhospitable habitats and outcompete the higher-elevation Alpine plants. The Alpine plants then have to migrate up into cooler, higher elevation areas, but they are limited by the fact that our tallest mountains cap out at about 14,400 feet. Therefore, it is critical to understand the current distributions of Alpine plants and monitor any changes through time. Our team conducts floristic inventories, or detailed documentation of which plants are found at each site, as well as collects specimens and seeds over the course of the summer.

Seed collecting and banking is an important component of conservation because it allows us to preserve a portion of the species' genetics in case of a future extirpation event as well as to study the germination strategies of these Alpine species. The specimens serve as a record of the species from which seeds were collected, and they are housed at the Kathryn Kalmbach Herbarium at Denver Botanic Gardens. The seeds we collect are cleaned and counted with the bulk of each collection sent to the National Lab for Genetic Resource Preservation in Fort Collins, a world-renowned seed vault and research institution that is part of the U.S. Department of Agriculture. A small portion of each collection is kept to be stored in our future seed bank at Betty Ford Alpine Gardens, and a very small amount is sent to some of our collaborators at other botanical gardens to be grown in their collections as an additional backup population.

Want to get involved in Alpine conservation? Keep an eye out for our upcoming EcoFlora Project, where you can submit your observations of Alpine plants to our project on iNaturalist. We are looking forward to engaging our citizen scientist community to help us understand and document the diversity of Alpine plants in our beautiful and botanically rich state.

"Get Wild" publishes on Fridays in the Summit Daily News. Emily Griffoul is a conservation scientist with Betty Ford Alpine Gardens. Learn more at <a href="mailto:BettyFordAlpineGardens.org">BettyFordAlpineGardens.org</a>.



**Emily Griffoul** 



Moss campion is pictured June 23 between Fourmile Creek and Horseshoe Mountain in Park County.

Photo by Emily Griffoul

White marsh marigold is pictured June 18 Eisenhower-Johnson Memorial Tunnels. Photo by Emily Griffoul













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