



New Hampshire Natural Heritage Bureau

Division of Forests & Lands - DNCR
172 Pembroke Road, Concord, NH 03301
(603) 271-2214 www.nhdfl.org

To: Commissioner Sarah L. Stewart
Via: Will Guinn, Acting Director Forests & Lands
From: Sabrina Stanwood, Administrator
Date: June 9, 2020
Subject: Rare plant observations in 2019 at Mount Sunapee Resort

This report summarizes surveys of rare plant populations at the Mt. Sunapee ski area conducted in 2019 by Natural Heritage Bureau (NHB) staff on two dates: July 11 and September 24.

The July visit was conducted to search for Loesel's wide-lipped orchid (*Liparis loeselii*), a state-threatened herbaceous plant. This species was first documented from Mt. Sunapee in 1998, when 17 plants were found growing in seepy conditions near the base of a ski slope just west of the Spruce Triple Chair Lift. However, despite very specific and detailed directions, subsequent surveys had been unable to relocate these plants.

The July 11 survey once again was unable to relocate the orchid at the original location. However, in expanding the search area, NHB staff were able to find a single flowering individual at a new location, near the base of the Elliot Slope. Following this unexpected find, NHB administrator Sabrina Stanwood communicated with staff at Mt. Sunapee to provide recommendations to help ensure that the orchid had adequate time to produce mature seed prior to the site being mowed.

The annual monitoring the population of greater fringed-gentian (*Gentianopsis crinita*) has occurred since it was first discovered at Mt. Sunapee in 2015. The 2018 survey found over 200 flowering stems of the gentian, a tenfold increase over the 2017 survey. During the 9/24/19 survey, 11 flowering stems were observed.

The reason for the large fluctuations in the flowering stem count is uncertain, but is likely related to the plant's life cycle. Greater fringed-gentian is a biennial species, meaning that plants generally live for two years. In the first year after germination, the plants typically occur as a low rosette of leaves, inconspicuous among other vegetation. In the second year, the plant sends up a flowering stalk, producing one or more blooms. After the flowering period is complete, numerous tiny seeds are released, and the plant dies. Because of this two-year cycle, it is possible that large numbers of flowering plants are only visible every other year, but further surveys will need to be conducted to confirm this pattern. If this hypothesis is correct, there should be a significant increase in the number of flowering stems in 2020.

As noted in previous reports, because greater fringed-gentian is not a perennial species, it requires that plants disperse seeds in order for the population to persist at a given location. However, because this species flowers so late in the season, the seeds are typically not mature until at least mid-October.



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NHB recommends continued delayed mowing in the areas outlined in red on the map on page 4 of this report. The collaborative efforts of the staff at the Mt. Sunapee resort to manage the site in a way that both benefits the rare plants and allows for the effective and efficient management of the ski area is appreciated.

Thank you,

Sabrina

Loesel's wide-lipped orchid (*Liparis loeselii*) in flower on July 11, 2019.



Loesel's wide-lipped orchid with seed capsules on September 24, 2019.





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A single greater fringed-gentian (*Gentianopsis crinita*) flower, growing amid the orchid “nodding ladies'-tresses” (*Spiranthes cernua*), on September 24, 2019.



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