



New York Flora Association Newsletter Winter 2018

Editor's Note: Each year NYFA provides monetary awards to promote botanical research within the state, and it is always interesting to read about what botanical studies are going on in NY. This issue contains two such reports from this year's grant recipients, as well as a number of other interesting and varied articles to help us through these cold days. Just as this issue was about to go to press, we received notice that David Werier's *Catalog of Vascular Plants of NYS* has been published, see page 18, where we also ask for nominations for the 2018 Plant Conservationist Award. If you haven't already renewed your NYFA membership, see page 19. Happy winter to all, and thanks to all who contributed!

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34 Years Later: Vegetation Change in the Adirondack Alpine Zone of New York

by Monica Dore, SUNY Oneonta

The alpine zone of the Adirondack Park consists of just 20 treeless summits. These small areas are home to diverse communities of plants well adapted to the harsh climatic conditions on these exposed summits, which include strong winds and unpredictable temperature changes (Ketchledge and Leonard 1984, Robinson et al. 2010).

Until the mid-twentieth century much of the vegetation on these alpine summits was severely impacted by hiker trampling and subsequent erosion caused by wind. In an effort to stabilize soils and prevent further erosion, Dr. Edwin H. Ketchledge conducted revegetation projects atop a few of the Adirondack summits during the 1980's (Ketchledge and Leonard 1984). Additionally, he helped found the Adirondack Summit Steward program in 1989 as a means to educate the public and prevent further vegetative damage (Robinson et al. 2010). To determine the success of these revegetation projects, and to monitor possible changes in species composition, E.H. Ketchledge and Brian T. Fitzgerald established 11 permanent transects on four summits in the MacIntyre Range in 1984. Three 30-meter transects were established on each of the alpine summits of Algonquin, Iroquois, and Wright, and two transects were established on the summit of Boundary Peak. Using the point-intercept method, these transects have been resurveyed approximately

every ten years since their establishment (Robinson et al. 2010).

This summer, we made several trips to the Adirondacks to resample the transects. In addition to using the point-intercept method, three of the transects were sampled using the line-intercept method and a series of 1m² quadrats. These additional methods were added to provide a broader data set to understand species composition and species associations. In addition, utilizing quadrat sampling and line-intercept sampling will make our data more comparable to similar studies being conducted by the Appalachian Mountain Club on alpine summits in the White Mountains of New Hampshire.

Unfortunately, we were not able to sample all of the 11 transects, as we could not find the bolts to three of them. These bolts, one on Algonquin Peak, one on Boundary Peak, and one on Wright Peak, were lost, potentially due to over 20 years of harsh climatic conditions. However, it is also possible that these bolts have been hidden by lush vegetation. Preliminary analyses of the data collected this summer indicate that there has not been a significant change in the total cover or frequency of vegetation on the transects since they were last surveyed in 2007. However, shifts in species composition reported in Robinson et al. (2010) appear to still be occurring. In particular, an overall shift from lichen and bryophyte cover to vascular plants is apparent (Robinson et al. 2010). More detailed analysis of the data, along with comparisons between the three sampling methods will likely elucidate additional patterns.

Summit stewards reported contact with 31,625 hikers this season, a four-fold increase since the Summit Steward Program began 28 years ago (Goren and White 2017). With the increasing popularity of the high peaks region, and with the growing threat of climate change, continued monitoring of the alpine communities is vital. With proper monitoring and management, and the continued support of the Adirondack Summit Steward Program, the Adirondack alpine summits will be available for people to enjoy for years to come.

Acknowledgements:

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References:

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Line intercept sampling.





Quadrat sampling.



Project area.

