Recommendation for the Designation of
Virginia Roundleaf Birch
Betula lenta L. var. *uber* Ashe
as a Virginia Species of Greatest Conservation Need

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The Virginia Department of Wildlife Resources, with support from the Virginia Department of Conservation and Recreation-Division of Natural Heritage, recommends the addition of Virginia Roundleaf Birch (*Betula lenta* L. var. *uber* Ashe) to Virginia's list of Species of Greatest Conservation Need as a tier 1-A species (Appendix 1).

Justification

Species Summary
Betula lenta var. *uber* (Virginia Roundleaf Birch; G5T1Q/S1, Fed LT/State LE) (Appendix 2) was listed as Federally Endangered by the U.S. Fish and Wildlife Service in April 1978 due to its extreme rarity, overcollection, and habitat management needs (USFWS 1978). Its legal status was later downgraded to Threatened (USFWS 1994). This member of the Birch Family (Betulaceae) is known from one population in the world, composed of very few naturally occurring trees and additional experimental plantings. It is ranked G1 (critically imperiled) by NatureServe and the Natural Heritage Network, meaning it is at a very high risk of extinction on a global scale (NatureServe, 2023). The lone population consisted of 11 trees in the mid-1980s and just one tree as of 2017. However, experimental plantings totaling over 1,400 trees were successfully established nearby in the 1980s on adjacent U.S. Forest Service property. The notoriety of this extremely rare and enigmatic species led to a surprising amount of poaching from the natural population, enough for extirpation to be a real possibility given the small population size. The species occurs in a disturbed, second-growth forest along a creek and is apparently shade-intolerant. Some of the decline in numbers and reproduction documented in this population may be induced by forest succession, indicating a need for management. Management of the experimental populations is focused on controlling surrounding vegetation for this same reason (USFWS 1994).

Trends

The species was discovered in 1914 and described soon afterward but no information on population size or condition was provided at the time (Ashe 1918). When rediscovered by Doug Ogle in 1975, 41 trees were found (Ogle and Mazzeo 1976). Only 26 remained in 1977, 11 in 1990, 8 in 2003, and in 2017 only one individual was seen (Davis 2006, Bresowar 2020, USFWS 1994). Since the species thrives only in relatively open habitats or young forests, forest succession along Cressy Creek may be partly responsible for suppressing the original population. The experimental populations established in the mid-1980s have been successful by comparison; a total of over 1,400 trees in 21 colonies existed in 1992. Researchers continue to monitor these colonies and manage vegetation to benefit the species, including the encouragement of seed production (USFWS 1994).

Conservation Action

It is extremely unlikely that additional wild populations of *B. lenta* var. *uber* will be found. Actions should continue to focus on management and propagation.

It is important to promote seedling establishment of the species. This can be done by creating small openings and exposing mineral soil adjacent to adult trees (Davis 2006). As part of this effort, nearby Sweet Birch (*Betula lenta*) of reproductive age should be removed to prevent genetic swamping and the establishment of hybrid offspring (Davis 2006).

Given the extreme rarity of the species in the wild, ongoing efforts to propagate, reproduce, and spread the species over a larger geographic area are the most effective methods for conserving it. Updated information on the success of these planted populations is needed. Management of the original colony may not be possible due to very low population numbers and private ownership. But since part of the original population boundary lies on U.S. Forest Service property, restoration of additional trees to the area is possible. Any efforts to plant *B. lenta* var. *uber* at the original site or elsewhere have to be paired with a commitment to maintaining the surrounding vegetation in an early-successional state.

Summary

Betula lenta var. *uber* (Virginia Roundleaf Birch) is proposed for inclusion in the Virginia State Wildlife Action Plan as a tier 1-A species due to its extreme rarity, restricted range, and management needs.

This species occurs only in the Mount Rogers Planning District Commission.

References

Ashe, W. W. (1918). Notes on *Betula*. Rhodora 20: 63-64.

Bresowar, G.E. 2020. Report of research activities and findings: AFLP analysis of populations of *Betula uber*, *Betula lenta*, and *Betula allegheniensis* at Jefferson National Forest, USFS. Emory and Henry College, Emory, VA.

Davis, E. 2006. Virginia Round-Leaf Birch *Betula uber* (Ashe) Fernald 5-Year Review. U.S. Fish and Wildlife Service (USFWS), Virginia Field Office, Gloucester. 11pp plus attachment.

NatureServe. 2023. NatureServe Explorer [web application]. NatureServe, Arlington, Virginia. https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.157815/Betula_uber [Accessed: Mar. 30, 2023].

Ogle, D.W. and P.M. Mazzeo. 1976. Betula uber, the Virginia round-leaf birch, rediscovered in Southwest Virginia. Castanea 41 (3) pp.248-256.

United States Fish and Wildlife Service (USFWS). April 12, 1978. Determination that 11 plant taxa are endangered species and 2 plant taxa are threatened species. Federal Register Vol 43 (81): 17910-17916.

United States Fish and Wildlife Service (USFWS). November 16, 1994. Reclassification of the Virginia round-leaf birch (*Betula uber*) from endangered to threatened. Federal Register 59 (220): 59173-59177.

*Rank Tier 1-A based on the species' G1 and S1 rankings, Federally Threatened Status, and Very High conservation concern ranking in RSGCN; on the ground conservation strategies have been identified and some implemented.