

RESTORING A RARE OAK FOREST TYPE WITH ARTIFICIAL REGENERATION

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A forest restoration project was initiated in 2018 in urban northern Virginia with the intent to use artificial regeneration of oak species on a 21-acre site with little to no natural regeneration. The goal of the project was to restore a globally rare, oak-dominated forest type with a high diversity of herbaceous plants. The project objective was to establish future canopy trees and enhance herbaceous plant diversity. Methods included a shelterwood cut; best practices in nonnative invasive plant control; woody competition control; control of white-tailed deer (*Odocoileus virginianus*) herbivory by using electric fencing; use of enhanced bare root planting stock; development of contractor and nursery relationships; and intensive project management. Three separate planting events took place by using standard or enhanced bare root planting stock. Planting goals were to achieve 800 tree seedlings per acre. The first two plantings occurred in 2020, used standard planting stock and experienced a survival rate of 34 percent after 1 year. The second planting occurred in December 2021, used enhanced planting stock and experienced a survival rate of 65 percent after 1 year. Volunteer seedling presence was facilitated by use of the electric deer fence. In 2022 after 1 year, the site averaged 646 desirable trees per acre, of which 420 were plantings and 226 were volunteers. Data were collected in year two (fall of 2023) and results are forthcoming.

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