

# A GENETIC CONSERVATION PROGRAM FOR THE ENDANGERED MAPLELEAF OAK (*QUERCUS ACERIFOLIA*) IN THE SOUTHEASTERN UNITED STATES

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In 2020, we initiated a gene conservation program for mapleleaf oak (*Quercus acerifolia*), an endangered oak species on the International Union for Conservation of Nature Red List, endemic to the Ouachita National Forest (NF) in Arkansas. This program is based at the Stephens Lake Park Arboretum, part of the City of Columbia Parks and Recreation Department in Columbia, MO. Our approach to conserving this species is unique, and we firmly believe, applicable to additional Red Listed *Quercus* species growing on NFs across the Southeastern United States. The uniqueness of our approach is based on establishment of spatially distinct *ex situ* populations that accurately reflect the *in situ* subpopulation structure of the species. To accomplish this, we established grafts representing both wild trees and individuals held in botanic gardens and arboreta. In the latter case, we grafted individuals that were both source-identified in the wild and known to contribute to the overall genetic diversity of the species, based on genetic analyses. To date, we have assembled 52 clonal accessions. By 2026, all clones will be repropagated and established at the Mt. Ida Genetic Resources Management Area in the Ouachita NF in westcentral Arkansas. This new orchard will facilitate future restoration efforts for this species. Nine other Red Listed oak species are native to the Southeastern United States and found on 14 different NFs across 10 States. We will apply our experiences with *Q. acerifolia* to develop parallel programs for these species.

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