MA-30-16-0011-16
Project Director: Dr. Matthew Albrecht
Project Period: 2016-10-1 to 2019-10-31

Project Summary

The Missouri Botanical Garden's Shaw Nature Reserve restored a 60 acre degraded Whitmire Woodland Natural Area as part of its mission to exhibit and interpret the biodiversity and natural communities of Missouri. The primary goals of the project were to remove a dense infestation of invasive amur honeysuckle and other exotic shrubs, thin undesirable canopy trees, reestablish native grasses and forbs, and develop a web application to track and evaluate restoration progress. Project results included a dramatic reduction in exotic shrub cover throughout the project area and a 125% average increase in native plant diversity in vegetation monitoring plots. Tree canopy cover was reduced to an average of 60% across the project area, which increased understory light availability and shifted microclimatic conditions from being shaded and moist to more open and drier. Improved environmental conditions resulted in the successful implementation of two prescribed burns in Years 1 and 2, which accelerated the recovery of this fire-dependent native plant community and prevented regrowth of exotic species. In Year 2, customized seed mixes were developed and sown into each of three subunits in the project area and included over 80 lbs. of seed representing 89 species of native wildflowers and grasses. A fully operational restoration web-app (RWA) was developed and used by project staff to track and manage project activities and results, and is now being used similarly in other natural areas throughout the Shaw Nature Reserve. Two woodland restoration workshops for private landowners and land management agencies featured the Whitmire Woodland project site. Other project beneficiaries include the visitors who come to experience and learn about the natural communities of Missouri, students who participate in the research and study of Ozark native ecosystems, and early-childhood education programs that focus on nature-based activities.