# Auburn University 2023 *Sarracenia oreophila* conservation project

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Keywords: endangered species, habitat restoration, conservation, flora of Alabama
Received: 27 July 2023
https://doi.org/10.55360/cpn524.pt849

Abstract: During March 2023, 23 people worked to rehabilitate 6 wetlands in North Alabama containing a variety of rare plants. Each site contains species listed as threatened or endangered under the Endangered Species Act of 1973. These species are Green Pitcher Plants, *Sarracenia oreophila*, Giant Whorled Sunflowers, *Helianthus verticillatus*, and White Fringeless Orchids, *Platanthera integrilabia*.

During March 2023, 23 people worked to rehabilitate 6 wetlands in North Alabama containing a variety of rare plants. Each site contains species listed as threatened or endangered under the Endangered Species Act of 1973. These species are Green Pitcher Plants, *Sarracenia oreophila*, Giant Whorled Sunflowers, *Helianthus verticillatus*, and White Fringeless Orchids, *Platanthera integrilabia*. Actions at each site varied depending on the specific needs of the species present at that site along with the wishes of the property owners. Actions include cutting and removing brush, trees, and other vegetation from the bog areas, prescribed burning, and creation and maintenance of fire breaks, helping seedlings by manually clearing last year's leaf litter from their area, and removal of non-native invasive plant species. Since 2018, this project has been scheduled to coincide with Auburn University's Spring Break to give students in the Delta Chapter of the Alpha Phi Omega service fraternity an opportunity to do something meaningful in the plant community. This year, like the others, was a resounding success.

The effort to manage the smaller populations of *S. oreophila* in Alabama was spearheaded by the Alabama Chapter of The Nature Conservancy (TNC) in the 1980's and 90's. The group also invested themselves in the management of larger populations, other species including *S. alabamensis*, and well-known Alabama locations like Splinter Hill Bog. Since then, the Alabama Chapter of TNC has scaled up their efforts and now uses a variety of methods, especially prescribed fire, to achieve landscape level management of thousands of acres of natural areas in the state.

The Alabama Chapter of TNC has been an active member of the Alabama Plant Conservation Alliance (APCA) since its inception in 2008. It is through this relationship that the Alabama Chapter of TNC and Auburn University's Davis Arboretum were able to collaborate with the APCA's *S. oreophila* committee to establish site specific management objectives based on the U.S. Fish and Wildlife Service's recovery plan for *S. oreophila*. These were reviewed by the Service's lead biologists for *S. oreophila*, *H. verticillatus*, and *P. integrilabia* before any actions on the ground began.

The plans were individually proposed to landowners, including the state of Alabama's Department of Conservation and Natural Resources, to find out which stakeholders were willing to participate in the proposed recovery measures for the pitcher plants on their property. The willing parties are the ones whose properties are now involved in this project. We started with a single site

on private property in 2011 and began work at a second site on public land in 2015. The work at the second site received funding through Section 6 of the U.S. Endangered Species Act in 2019. This allowed for the purchase of tools which have been utilized annually to expand the impact of the funding to support the recovery of multiple species at multiple sites. Between 2019 and 2023, the scope of the project has expanded to include 9 locations, 4 on private property and 5 on state lands. This expansion was made possible by the repeated efforts of the staff of Auburn University's Davis Arboretum and the student volunteers.

To make the work effective requires an understanding of the long-term goals and the status of progress at a given site. At a glance, a site might seem overgrown when in reality site managers are intentionally letting fuel loads increase in order to increase the intensity of a future prescribed fire. Well-meaning vigilante conservation actions can actually set back years-long efforts underway by professionals, or worse yet, go against the wishes of property owners. This can result in a complete loss of legal access to the plants, which can lead to the loss of entire populations of rare plants.

The work undertaken at these sites only goes forward after both the volunteers and the professionals involved are extensively trained. The tools utilized are dangerous and the remote locations require team members to train in programs like the National Outdoor Leadership School's Wilderness First Responder certification course. Our workers have spent years training at the Arboretum before they join us in the field.

In the years since graduating, former students have continued to participate and assumed leadership roles at significant expense of their time and resources. This year, for the first time, the project received funds from the International Carnivorous Plant Society's Conservation Fund to cover lodging for volunteers and Arboretum staff during the workdays, food for the workers, and part of the travel cost for the event organizer. Even though the volunteers were still rolling out sleeping bags to

Still smiling at the end of a day of work at a bog in Dekalb County, Alabama.

cram nearly a dozen people into a single cabin some nights, the boost to morale was huge. On the long trek back to the vehicles after a long day's work, it meant a lot to the team to have a dinner from the International Carnivorous Plant Society to go back to. Thank you for your support.

Site List

Site 1: Dekalb County, *S. oreophila* Primary
Site 2: Dekalb County, *S. oreophila* Experimental outplanting 2
Site 3: Marshall County, *S. oreophila* 1
Site 4: Marshall County, *S. oreophila* 2
Site 5: Dekalb County, *S. oreophila* Primary outlier
Site 6: Dekalb County, Orchid Bog
Site 7: Dekalb County, *S. oreophila* Experimental outplanting 1
Site 8: Dekalb County, *H. verticillatus*
Site 9: Cherokee County, *H. verticillatus*

Narrative

**3 March 2023**: Brush cutter work to remove sprouts from cut stumps within a roadside population of *H. verticillatus* at Site 9. Travel day, check-in, orientation, planning meeting.

**4 March 2023**: The cabin crew finalized the menu for the week, made plans and a grocery list, and then went shopping. The rest of the group split up between surveying Site 1 and 2 and work at Site 5. Site 5 is on privately owned land, and large groups are not conducive to the landowner's

Prescribed fire is one of the best management tools for *Sarracenia* in the wild.

preferences. A small strike force went over in the morning and ran the brush cutters around the 8 *S. oreophila* at the site. Lower limbs were pruned off trees around the bog to increase light at the ground.

In the afternoon the entire group went to Site 8 to monitor the growth and survival of experimental outplanting of *H. verticillatus*. Ten small rhizome divisions were planted 26 months ago. Seven of the plantings are extant and have expanded to dense clusters 50-75 cm across. Workers removed invasive species and cleared area around the plantings.

**5 March 2023**: The group worked a long day at Sites 3 and 4 in Marshall County. These sites were over an hour drive from camp. Last year, 800 $m^2$ was cleared and dragged away from the *S. oreophila* at Site 4. This year, gas powered brush cutters were used to take the resprouting stumps down to the ground.

At Site 3 the hole in the canopy was expanded from 780 $m^2$ to 1203 $m^2$. The understory was removed in an additional 2396 $m^2$ of adjacent woods. This increases the total area of available habitat at Site 3 to 3599 $m^2$ over 3 years of management of this site after a lapse of approximately 20 years. The estimate of lapse in management is based on counts of the growth rings in the encroaching woods at the site. All debris cut down was dragged out by hand and stacked in tight piles away from the bog area.

**6 March 2023**: This day was spent at Sites 1, 2, and 6. The 3 sites are within a 2.5-hectare burn unit. The group was divided into strike teams to accomplish specific objectives within the burn unit. One team cut down the brush and trees recruited in the last year at the *S. oreophila* bogs at Site 1 & 2. Another team cut up the trees that had fallen over the firebreak and expanded the width of the majority of the break to allow an ATV to access the area to patrol the fire line or perform rescue operations. Another team ran leaf blowers to clear the fire break to bare dirt for a minimum width of 2 m. Clearing at Site 6 for *Platanthera integrilabia* is slow due to a dense and very wet understory

A flush of spring growth on *Sarracenia oreophila* in Dekalb County, Alabama.

and took most of the afternoon. A team opened the canopy at an interior location within the unit that holds standing water for part of the year in hopes that this will develop into habitat available for *S. oreophila*.

**7 March 2023**: The first part of the day the group eliminated Chinese Privet from around our camp, which is less than 150 m from a streamside occurrence of *S. oreophila* where the plants are growing in a sandy riverbank. The group was happy for this distraction while they waited for the weather parameters to fall within the required limits specified in the burn plan to apply the prescribed fire for which they had spent the previous day preparing. The relative humidity and wind speed both dropped to acceptable levels late in the morning, and the crew relocated and commenced with a controlled burn of Sites 1, 2, and 6. Several of the volunteers had never participated in a burn, so the day was very educational. The burn went according to plan with no damage to person or property.

**8 March 2023**: This day was spent at Site 7, an experimental outplanting of *S. oreophila*. This site is an outplanting of seedlings grown from seeds collected from a population 8 km away. Sawyers managed hazard trees, took down 5 mature upper canopy trees, and girdled several others to increase light levels at the ground and reduce competition for water. Brush cutters and volunteers with loppers cut back the resprouts and recruits from last year's clearing. All teams worked to cut a new fire break around the bog for future prescribed burns.

**9 March 2023**: The group spent the morning eliminating Chinese Privet from around the camp. The project concluded for the year after lunch, and the team dispersed for their homes across 8 different Southeastern states. All team members look forward to making the project a success again in 2024.

Spring in a bog in Dekalb County, Alabama, with *Sarracenia oreophila*, *Osmunda cinnamomea*, and *Rhododendron canescens*.