

NEW MEXICO'S VOICE FOR NATIVE PLANTS



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Will you be ready for the City Nature Challenge? El Paso will be! Brush up on your iNaturalist skills to participate in this friendly competition among cities across the globe to submit the most plant observations. Wolfberry (*Lycium* spp.) Image: Kevin Floyd

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Happenings in the Bosque with the Yerba Mansa Project

by Dara Saville and Jonathan Tanis, Albuquerque Chapter

If you are a regular reader of the Native Plant Society Newsletter or attended the 2022 Annual Conference, then you have likely already heard of the Yerba Mansa Project. The Yerba Mansa Project (YMP) was founded in 2014 as a nonprofit community participatory project designed to bring people into relationship with the Albuquerque Bosque through land stewardship events and educational programs. We work in partnership with City of Albuquerque Open Space and numerous other organizations including the Native Plant Society of New Mexico, which funded our recent conservation efforts described below, and the Native Plant Society Albuquerque Chapter, which has supported editorial work on our youth-authored Plants of the Middle Rio Grande Bosque Field Guide on iNaturalist.

Our service projects are undertaken by community volunteers and include such activities as:

- ravenna grass (*Saccharum ravennae*) removal,
- native species replanting and reseeding,
- ongoing caretaking of establishing plants,
- free field programs for school classrooms,
- fundraising field programs for the general public,
- development of the free online field guide, and
- botanical population data collection with GIS integration for conservation initiatives.

Thanks to a grant from the NPSNM Jack and Martha Carter Conservation Fund, YMP has begun work documenting existing yerba mansa (*Anemopsis californica*) stands in the greater Albuquerque area (see map below). The lack of baseline population data makes it difficult to assess how this species is responding to decades of floodplain land conversion, water diversions, ground water pumping, and climate change. Floodplain desiccation also results in bosque fires that impact native riparian vegetation, providing an opportunity to monitor this plant's recovery at one of our previously documented sites.

Since yerba mansa is a native plant that prefers wetland habitats of the American Southwest and adjacent arid regions, identifying population changes over time has potentially important implications for understanding environmental change in our region. As an ecologically and culturally significant species, yerba mansa contributes to habitat health and cultural persistence. It is a contributor to riparian and ciénega ecosystem functions by aerating soil, altering soil chemistry, purifying water, and invigorating the vitality of the overall system.

Additionally, this species is a legendary herb of botanical medicine practices of the Southwest and lies at the heart of this healing tradition today. Although large stands

exist in some areas, there is evidence of population decline across its range. (For more see Dara's monographs at yerbamansaproject.org/wp-content/uploads/2021/03/Anemopsis-californica-monograph.pdf and unitedplantsavers.org/species-at-risk-list/yerba-mansa-anemopsis-californica/)

Work undertaken through the NPSNM CCF grant seeks both to enable long term monitoring of known yerba mansa stands in our area and to document vegetative changes at our restoration site. In order to establish a baseline for future yerba mansa population trend analysis, the YMP GIS team used GPS devices to record the area of each stand.

Information was collected on associated plant species, stand density and health, along with photos. These data will provide a baseline for population change studies in the future, in order to better understand how stands respond to environmental stresses and restoration practices.

Additionally, the YMP GIS team documents the ravenna grass removal and native species re-establishment work done by community volunteers at our Bosque



Three stand locations of yerba mansa (*Anemopsis californica*) in the greater Albuquerque area, outlined in white. Map prepared by Jonathan Tanis.

Restoration Field Days. We record the point locations of native plantings, polygon locations for broadcast areas seeded with a mix of native grasses and forbs, and the locations of ravena grass removals.

These data are used in a number of ways. Our volunteer maintenance team regularly visits new plantings for the first two to three years; having precise locations of recent plantings ensures that none of them are missed. Location data also allow for ongoing assessment of success rates for both planted and seeded areas. Quantitative data regarding invasive species removal and native species plantings are vital for working cooperatively with land management agencies and maintaining funding through grants. Lastly, by recording data on ravena grass locations and removals over multiple years, we

are able to analyze spatial trends in how these populations spread and respond to management practices. For a detailed account of this portion of our project, please review our NPSNM grant report for 2022.

The work of YMP demonstrates the capacity of community led organizations to engage in riparian restoration work, whilst maintaining a rigor in data collection and monitoring that matches or exceeds the standards of agency-led habitat restoration projects. The combination of relatively inexpensive recreation-grade GPS units with a nonprofit license for GIS software allows YMP to collect high quality spatial data for both research and restoration purposes. Volunteers trained in these methods contribute to a community of citizen scientists in Albuquerque and beyond who are impassioned and empowered to tend to their local ecosystems. Furthermore, these projects present a replicable and scalable model for similar community-led organizations elsewhere to engage in research-grade data collection. Most agency-led habitat restoration projects are created and monitored by practitioners from outside the local community, and monitoring of vegetation development tends to be short-term. There is therefore a distinct need and opportunity for local people to engage with their more-than-human communities through assessing the long-term success and failure of various restoration practices and techniques. ❖

Want to join us?
Connect with us locally or from afar at:
YerbaMansaProject.org

Find About Yerba Mansa and Our Project In These Publications:



Yerba Mansa Monograph



Cottonwood Forest Communique



The Yerba Mansa Project



Species at Risk Yerba Mansa

Carter Conservation Fund Awards

Every year the NPSNM Board is pleased to review and grant Jack and Martha Carter Conservation Fund (CCF) awards to projects that further the mission of the organization. While we were pleased to have a near-record number of applications in this round, we only wish that we had more resources to fund all the projects that we reviewed. The following fourteen projects received funding for 2023.

Browsing impacts on Arizona Willow (*Salix arizonica*) defense and growth. Shannon Lencioni. An NAU graduate student, Shannon will expand on observations of the effect of browsers on plant health and robustness by studying phytochemistry and growth factors. Noting that the Arizona Willow is a sensitive species, these data can provide important information for land managers.

Dripping Springs natural area garden enhancements. Patrick Nolan, Friends of the Organ Mountains-Desert Peaks.

Flora of the Brokeoff Mountains. Bryana Olmeda. A UNM graduate student, Bryana notes that the Brokeoff Mountains "represent several habitats within the Chihuahuan desert ecoregion." And: "This collections-based project allows us to see shifts in phenology, changing vegetation definitions, and evolutionary processes by carefully preserving years' worth of specimens in natural history museums."

Gypsum mosses of the Chihuahuan and Mojave Deserts. Katelyn Gobbie. A graduate student at John Carroll University, she wrote: "Gypsum soils support many endemic and endangered plant spe-

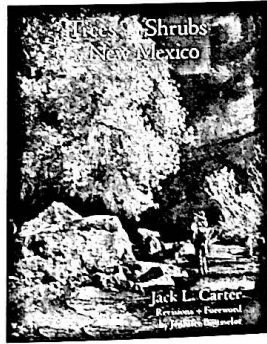
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New 2020 Edition

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**GILA
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The Gila Native Plant Society is committed to promoting the education, research, and appreciation of the native flora of the southwest; encouraging the preservation of rare and endangered plant species; and supporting the use of suitable native plants in landscaping.