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THE YERBA MANSA PROJECT: COMMUNITY-DRIVEN NATIVE PLANT RESTORATION IN THE RIO GRANDE BOSQUE

By Dara Saville

Riparian habitats are among the most altered and endangered ecosystems (Brinson et al., 1981; Crawford et al., 1996), creating concern for native riparian plant communities. This is particularly true in the arid American West, where water is carefully allocated, rivers often run dry, and floodplain vegetation is disconnected from water sources. Additionally, flood control measures, modern development, invasive non-native plants, and climate change converge to threaten native plant populations. The Rio Grande Bosque is one such mosaic of ecosystems, home to a diverse collection of native medicinal plants, including the iconic yerba mansa (*Anemopsis californica*) and matriarchal cottonwood (*Populus tremuloides*) trees. Watson (1908 & 1912) noted that yerba mansa and cottonwoods alternated as the dominant plants, and yerba mansa created an expansive 'turf'. Currently, these plant communities are in decline as cottonwoods relent to more drought tolerant species such as salt cedar (*Tamarix* spp.) and Russian olive (*Elaeagnus angustifolia*), and yerba mansa's wetland habitats become scarce. During the last 150 years the Rio Grande Bosque has seen a 60% replacement of the entire system with agriculture and urban development, river flows decreasing to 1/6 of their historic levels, large-scale reduction in channels and wetlands, the invasion of many non-native species, increased wild-fires, and dramatic decline in the reproduction of native keystone species (USACE, 2003).

In areas where large-scale restoration work is underway, there are opportunities for native plants to rebound. Many of these projects, however, do not engage in effective replanting of native species or long-term monitoring of vegetation recovery (Folstad-Shah et al., 2007). I saw an opportunity to restore yerba mansa and other native plants in the Rio Grande Bosque where large-scale restoration work to create new wetland habitat was completed by the US Army Corps of Engineers (USACE) years earlier. Native plant diversity was, nevertheless, low in the new wetlands, and non-native plants covered significant areas of prime habitat. This is how the Yerba Mansa Project (YMP) was born. The YMP is an all-volunteer, community-driven native plant restoration and education project undertaken with the support of managing government agencies (City of Albuquerque Open Space and USACE) on public lands within the Rio Grande Valley State Park. In order to sustainably implement such a project it has been essential that we engage in efforts that identify, organize, and enact change in collaborative and replicable ways. The following methodology used by the YMP provides one example of a citizen-driven restoration project on public lands.

1. Evaluate habitats

Choose a place you love that is a reasonable distance from your home and visit it often. Find out what research or restoration work has already been done and consult with knowledgeable people in the area. Document observations about the plant communities and compare to historical surveys.

2. Outline a problem

What specifically can be done to make a difference for the native plants in the selected habitat? Will the existing conditions (e.g., amount/proximity of water) allow for viable restoration?



Bosque Restoration Field Crew members receiving training on how to remove invasive Ravenna Grass from a native Coyote Willow stand.

3. **Engage with management agencies**
Identify and establish relationships with individuals at managing government agencies. There may be multiple agencies with which contact should be made.
4. **Collect data**
Identify what plants could be successful additions to the existing native plant community and specific locations where they are most likely to thrive. Collect baseline data to enable periodic evaluation and long-term monitoring of your work.
5. **Form a plan and write a proposal**
Write a plan outlining specific methodology and goals. Submit to the appropriate agencies for approval.
6. **Organize volunteers and cultivate partnerships**
Reach out to your community through like-minded businesses, organizations, institutions, or environmental groups to recruit volunteers. Form supporting partnerships by becoming more actively engaged where you live. Make a website so people can learn about your project and progress.
7. **Enact your plan**
Start doing what you planned to do. Plan and promote your first event.
8. **Collect more data and evaluate your work**
Return regularly to the restoration site. Document observations, collect new data, and compare results to the baseline.
9. **Adjust your plan based upon results**
What have you learned from your work so far? Revise your plan as needed to overcome unexpected problems or improve methodology.
10. **Repeat this process**
Restoration of native plants is a long-term experimental process. Continue to learn, increase community outreach, and conduct careful fieldwork.

If we dream of living in a place with healthy plant communities, we can actively make that happen. Community-driven restoration projects are one way to protect and revive the native medicinal plants we love. The first two field seasons of the YMP (700 field service hours) have produced a dramatic reduction in non-native ravenna grass (*Saccharum ravennae*), recovery of native plants, reestablishment of yerba mansa through live planting, reseeding native grasses and medicinal forbs, collection of baseline GIS data, ongoing educational outreach, and the establishment of a collaborative community project. ■

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Bosque Restoration Field Crew members planting a new colony of Yerba Mansa along the Rio Grande.

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