

# NATIVE PLANT SOCIETY OF NEW MEXICO

## 2017 Grants Program Final Report

### Tribal Youth 2017 Native Seed Collection Crew

Institute for Applied Ecology

December 29, 2017

---

#### Project Overview

In 2017, the Native Plant Society of New Mexico (NPSNM), the US Forest Service (USFS), and the National Park Service (NPS) awarded funding to the Southwest Program of the Institute for Applied Ecology (IAE) to provide native species education and conservation skills training through a career pathways program that employs Tribal Youth on the IAE seed collection crew. These early career opportunities can lead to a more skilled future environmental workforce. The seed crew learned basic botany and field skills, and simultaneously built a network of contacts/mentors within the conservation community. Seed collection provides the perfect opportunity to engage youth in meaningful conservation work and build plant identification and seed handling skills. In future years, experienced workers can become leaders and mentors for others, as we saw this year when a returning seed collector became our seed crew leader. Their work has resulted in a tangible product that will be increased to support more broad landscape restoration. Ultimately, with increased availability of native seed and better documentation of native plant communities, this work will benefit the restoration community, NPSNM, and native species in NM.



## Milestones and Accomplishments

### Employment

In May of 2017, two botany field technicians were hired from the Santo Domingo Pueblo in north-central New Mexico. Victoria Atencio was hired to lead this two-person team, as she brought leadership skills and past experience from working on our seed collection crew in 2016. Victoria earned a bachelor's degree in Wildlife Ecology from New Mexico State University in 2016, but during her time on the seed collection crew, has fallen in love with plants. Shane Pacheco was hired for his first field season working in the environmental field, as he puts himself through school at the Santa Fe Community College. Shane is working on a Criminal Justice degree, with a minor in Biological Sciences, as he aspires to work as a game warden in the future. His work on the seed crew helped to solidify the importance of native plants and the plant community to wildlife habitats. Shane worked on our seed collecting crew until classes resumed in August, while Victoria continues to work at IAE in a new capacity including launching a new program to provide seed collection workshops to local pueblos.

### Mentoring Program

In June of 2017, IAE collaborated with the Bureau of Land Management to facilitate intensive, immersive field trainings for the tribal youth seed collection crew, as well as the botany crews at the Carlsbad Field Office, the Santa Fe Field Office, and the Taos Field Office. The training included a practical review of the Seeds of Success protocols, soils sampling, and a botanical foray that reviewed the use of dichotomous keys in the field. The youth worked with professional botanists to develop plant identification and keying skills, learned protocols for scouting and seed collection, voucher specimen collection, soil characterization, digital mapping of populations and record-keeping, seed cleaning, and field safety.



Additional mentoring opportunities were made available to our seed crews. In June, as a follow-up to the field training, the crews toured the herbarium at the University of New Mexico. In July, we welcomed Dr. Olivia Messinger Carril to our office in Santa Fe to provide a pollinator field identification workshop to the crew. In August, IAE hosted a tour of the greenhouse and production fields at the Pueblo of Tesuque and a tour of the Los Lunas Plant Materials Center for seed collection crews.



## Site Documentation

Collection data was recorded both digitally and on paper data sheets for posterity and to create duplicate, back-up records. Collection and scouting sites have been digitally compiled and organized in a Microsoft Access database. This format allows for simple reports to be run on species, sites, dates collected, and many other variables. The crews expanded our site list considerably in 2017, such that future collections in the Arizona/New Mexico Plateau, Arizona/New Mexico Mountains, and Southern Rockies will be easier to plan and implement, according to records of existing species populations and accurate geospatial data.

With each collection, we collected vouchers to confirm field identification. There were a total of 107 vouchers collected alongside our Seeds of Success (SOS) collections. For each SOS collection, 3 vouchers were collected, and the vouchers were sent to one of three different locations: the Smithsonian, the University of New Mexico herbarium, or the BLM New Mexico State Office. For each of our Southwest Seed Partnership collections, 1 voucher was collected. We have 64 total vouchers from these collections, and they are housed at the BLM New Mexico State Office.

## Seed Availability

In 2017, our seed crews made 201 unique collections in New Mexico. 131 of these collections contained greater than 10,000 seeds, and were sent to our project collaborators with the Seeds of Success program at the Bend Seed Extractory. Seed from each of these collections will be stored as a conservation collection in a long-term germplasm repository, and additional remaining seed will be sent back to us for use in seed production efforts. 70 of these collections were done strictly for the Southwest Seed Partnership, and will be cleaned at the IAE seed cleaning facilities. Nine (9) high priority species (*Asclepias subverticillata* – Arizona/New Mexico Plateau, *Bouteloua curtipendula* – Arizona/New Mexico Plateau, *Bouteloua gracilis* – Arizona/New Mexico Plateau, *Cleome serrulata* – Arizona/New Mexico Plateau, *Dalea candida* – Arizona/New Mexico Plateau, *Elymus elymoides* – Arizona/New Mexico Plateau, *Heterotheca villosa* – Arizona/New Mexico Plateau, *Xanthisma spinulosum* – Arizona/New Mexico Plateau, *Thermopsis montana* – Southern Rockies) from 2 ecoregions have sufficient population diversity to be considered for production in 2018-19.

## Outreach

### Poster Presentations

September 15, 2017, Taos, NM. BLM botany intern, Sam Larkin, showcased a poster for the 2017 native seed collection crew at the **Native Plant Society of New Mexico Annual Meeting**. This poster highlighted the accomplishments that were made possible by the generous grant that supported our 2017 Tribal Youth native seed collection crew.

October 7, 2017 Santo Domingo Pueblo, NM. IAE botany field technician, Victoria Atencio presented the Tribal Youth Native Seed Collection program at the **Santo Domingo Environmental Fair**. By sharing our program with members of the pueblo, she has expanded the program to further engage tribal communities in the coming years.

November 10, 2017 Amy Biehl High School, Albuquerque, NM. Victoria Atencio presented her work on the native seed collection crew at the **Green Job Fair**.

December 6, 2017 Albuquerque, NM. BLM botany intern, Sam Larkin, again showcased a poster for the 2017 native seed collection crew at the **Society for Ecological Restoration – Southwest Chapter Annual Meeting**. This poster highlighted the final accomplishments from the 2017 field season, and was received by a wide variety of environmental professionals from across the southwestern states.

## Oral Presentations

The following oral presentations by Melanie Gisler (IAE Southwest Program Director) and Shawn Stone (Southwest Seed Partnership Coordinator). Each included a 10-50 minute discussion of the native plant seed collection and production program coordinated by IAE.

January 18, 2017 Las Cruces, NM. **Las Cruces BLM Field Office/Manager Meeting**

March 1-2, 2017 Roswell, NM. **Roswell and Carlsbad BLM Field Office/Manager Meetings**

February 14, 2017 Washington DC, **National Native Seed Conference**

April 26, 2017 **Southwest Seed Partnership Annual Stakeholder Meeting**

September 15, 2017 Taos, NM **Native Plant Society of New Mexico Annual Meeting**

October 24, 2017 Ruidoso, NM. **Lincoln Forest BioMeeting**

November 29, 2017 Albuquerque, NM. **US Forest Service BioMeeting**

December 6, 2017 Albuquerque, NM. **Society for Ecological Restoration – Southwest Chapter Annual Meeting**

December 7, 2017 Albuquerque, NM. **Society for Ecological Restoration – Southwest Chapter Annual Meeting**

## Southwest Seed Partnership Committees

IAE coordinates the **Southwest Seed Partnership (SWSP)**, a public-private partnership that works together to address the need for building an adequate supply of native plant materials for restoration success in the southwest. Within the Southwest Seed Partnership, there are several committees, which work together to address the challenges associated with meeting the need for seed. The Steering Committee, composed of Zoe Davidson (BLM), Kathryn Kennedy (USFS), Jennifer Owen-White (US Fish & Wildlife Service), Jeanine Foley (NPS), Molly McCormick (US Geological Survey), Melanie Gisler (IAE), and Shawn Stone (IAE) met on December 5, 2017 in order to review the 2017 accomplishments and help guide efforts into the future. The efforts identified for continued development included the Tribal Youth Native Seed Collection Crew, and how we will coordinate that program in 2018 and advance it in the future. The Steering Committee also functions as a review committee that evaluates the work and progress of the SWSP, including our native seed collection program.

### Next steps

Seed collected in 2016 and 2017 is being aggregated according to seed transfer zones. Once appropriate amounts of seed are consolidated, they will be given to seed growers in the southwest to grow out. These grow outs will increase the amount of native, locally-adapted seed available for restoration practitioners in the southwest. IAE is currently engaged with a number of growers to start production of seed in 2018 for at least 5 native plant species. The next step is to support these growers through native species production and cultivation hurdles that could arise.

Thanks to the success of the Tribal Youth crew in 2016 and 2017, IAE has been able to secure funding from the Forest Service to support another tribal seed collection crew in 2018 that would work in southern New Mexico focusing on the Gila Forest, Lincoln Forest, and Chihuahuan Desert. We are

looking forward to continuing this program to employ Native youth and provide career opportunities for the next generation of land stewards.

#### Grant Provisions

IAE is pleased that the tribal youth native seed collection project has created many opportunities to help promote and market the good work of the Native Plant Society of New Mexico. It has been our pleasure to acknowledge this partnership support by the NPSNM during meetings and conferences where this program has been presented. A newsletter article has been provided to NPSNM that further acknowledges support of the seed collection project.

#### Financial Disclosure

A \$1,500 grant from the 2017 NPSNM Grant Program was matched by the Santa Fe Chapter of the Native Plant Society (\$1,500) for a total of \$3,000. This funding covered the cost of intern labor (supporting 6 weeks of a 10+ week program for one intern) during the summer of 2017. This funding was also critical in providing the necessary matching funds requirements for a Challenge Cost Share grant awarded by the Forest Service. Through this Challenge Cost Share the Forest Service contributed \$27,000 for project coordination, materials, travel, and to support an additional intern. National Park Service funds acquired in the fall of 2017 allowed for us to hire a part-time intern to clean seed over the winter, and the amount of that support totaled \$7,500. Volunteer scouters and seed collectors, including the Native Plant Society, contributed dozens of hours of In-Kind labor. Private donations covered costs of seed cleaning equipment. IAE contributed additional matching funds to the project for travel, supplies, coordination, and outreach.

#### Acknowledgements

We would like to express our gratitude to the Native Plant Society of New Mexico for sponsoring the Tribal Youth Native Seed Collection Intern and supporting this valuable conservation training and native seed development project.