

Project Year-End Summary Report

Title of Project: A comprehensive floristic study of the vascular plants of the Brokeoff Mountains, Otero County, New Mexico, USA

Begin answering in the shaded box right beside or below each question and it will expand to accommodate as you type. Use up to a total of two and a half pages for questions 1-8. More detailed presentations, a final report, articles or posters are welcome separately (See final instructions at the end of this form.)*

1. Organization name or Individual who received the grant: Bryana Olmeda

2. Amount of Grant: \$2000

4. Was additional outside funding obtained? (check box that applies) Yes No

Other funding source(s) if you checked "yes."

New Mexico Native Plant Society, Otero Chapter
Office of the Graduate Studies, University of New Mexico
Department of Biology, University of New Mexico
Cactus and Succulent Society of America
GRAC, University of New Mexico

5. Briefly, how was the grant money from the Carter Conservation Fund used?

Grant money was used for travel to and from the study site and for travel within. The drive to the study site is 5-6 hours and driving through the mountain range can take 1-3 hours.

6. Write an abstract or summary of the activities performed and the progress that was made this year on your project. (Save any conclusions, lessons learned, and benefits achieved for the final sections, 7&8.)

Field work was conducted between the months of March and October, for a total of 41 collection days. In total, about 1020 vascular plant collections were made across the Brokeoff Mountains. This increased the number of botanical collections by 4 times from historical collections. Additionally, potential populations of at least 8 rare plants were identified. Plant researchers and enthusiasts were included in field work and experienced the botanical diversity of the Brokeoff Mountains.

7. How does your project further a Native Plant Society mission area, namely: *plant or ecological education; conservation/restoration of native plants and/or their habitats; adds to botanical research; promotes appropriate use of native plants to conserve water, land and/or wildlife.*

A flora of the Brokeoff Mountains furthers the Native Plant Society mission on several aspects. Botanical research was achieved by increasing the number of plant collections in the area. Several common plants that have never been documented by voucher specimens are now represented by a collection. In addition to common plants being documented, eight potential rare plant populations were identified. An increase in botanical collections provides tangible evidence needed for conservation efforts and rare plant planning. The first step in identifying areas in need of protection is having an accurate representation of the flora. The

collections made this first field season brings up closer to understanding the true botanical diversity of the Brokeoff Mountains. Lastly, several people joined field work efforts and experienced the beauty of Chihuahuan Desert flora. Encouraging people to contribute in collection efforts provides a first hand educational experience with the land and plants they interact with while learning- proper collection protocol.

8. Any other conclusions., lessons learned, benefits to you, the community or the environment hopefully result from your work as assisted by this grant.

One of many lessons learned during the first field season was the true extent of how rugged and remote this landscape is. Road accessibility is much more limited than anticipated, which impacted how much collection coverage was sustainable for the nature of the landscape. It is imperative that a 4x4 vehicle is needed to cover the entire mountain range successfully. Additionally, much of the southeast corner of the mountain range is private land. Often times in trying to survey and access BLM land, there were fences blocking access to public land. Interactions with private land owners in the SE proved to be ineffective in trying to document plant diversity on private land. Furthermore, the summer of 2023 was one of the driest monsoon seasons in recent years. The delayed monsoons impacted plant phenology and provided challenges in planning field work to coincide with the sporadic and sparse precipitation. Ideally, next season will provide more precipitation in the region and areas that were heavily impacted by drought will be targeted to achieve a comprehensive survey of the mountain range. Lastly, the impact of invasive species due to ranching and grazing was evident. Although remote, much of the impact on the land is due to nearby agriculture and grazing impacts by cattle.

Final Instructions

Please send your completed form as pdf as an email attachment to cartergrantapps@gmail.com by December 1.

** To remain in good standing for any future funding from the Native Plant Society of New Mexico, we ask that you educate our membership more fully in some way. This could be an article (250 words minimum, at least 1 high resolution illustration or photo) for our newsletter, **ora** paper or electronic copy or link to a published article connected with the past year's work, **or** by making an educational and visual presentation to one of our chapters. Contact information for our 7 area chapters is found on our website at www.npsnm.org under the Chapters tab.*

What are your intentions in this regard? I plan to present results obtained from my first field season to a Native Plant Society chapter. I have not received information on which chapter would be interested in a presentation, but I would be excited to present this work at a chapter meeting and/or during the annual conference.

This year end report is submitted by (Type your name) Bryana Olmeda

My typed name is equal to my handwritten signature in testifying to the accuracy and truth of this report to the best of my knowledge today.

eMail address bolmeda@unm.edu

Date 12/01/2023

NPSNM

Carter Conservation Fund Grants

Please contact us again at cartergrantapps@gmail.com if you have any questions or alternate suggestions.