

Agency/Organization: US Geological Survey

Project Name: Clark County Rare Plant Propagation Research Phase II

Project Number: 2021-USGS-2075A

Reporting Period: April 1, 2026 – June 30, 2026

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QUESTION 1: What did you accomplish during this reporting period? How did these accomplishments help you reach the goal of your project? If relevant, what indicators or benchmarks were used to determine your progress?

We scouted two populations of *Eriogonum viscidulum* (ERVI) in early April 2026. At both the Upper Muddy River and Toquop Wash populations, we were able to bag inflorescences of plants for conservation seed collection (mesh bag tied above basal rosette and secured to ground). We are waiting for all plants to senesce and in early July 2025, we will finish collecting matured inflorescences (M28). Collected seeds will be after-ripened in the USGS shade house under prevailing summer temperatures in preparation for cleaning and germination trials prior to delivery to the County in September (D22 and D33).

We continued to monitor germination of *Arctomecon californica* (ARCA) seeds collected in 2023 by Kelsey Graham (USDA) and incubated under controlled chamber conditions for a second round of germination based on the most successful treatment combinations from our initial trials with seed collected in 2022. We continued to transplant germinants from the treatment chambers and grow plants in the USGS greenhouse to produce nursery stock (D20) and test soils for propagation.

We completed watering experimental plots within the Muddy River and California Wash populations of *Astragalus geyeri* var. *triquetrus* (ASGET) in early March 2026 to promote seedling emergence at historic occurrences. Similar to 2024 efforts, we surveyed for plants on plots and in adjacent habitat for seed conservation collections. Once plants began to senesce in early May, we bagged ASGET plants to capture mature fruits at California Wash and collected bags in mid to late May 2026. Seeing early signs of minimal plant emergence and zero reproduction at Muddy River this spring, we obtained permission from BLM and NDF to collect fruits at a nearby population, Weiser Wash. We learned about emergence at this site during mid-spring, so watering plots were not installed as for Muddy River and California Wash populations. We are currently cleaning fruits from California Wash and Weiser Wash populations and sorting seeds in the USGS laboratory to fulfill conservation collections for the County (D23). After ASGET senesced, we also removed all *Brassica tournefortii* that may have benefitted from irrigation within the experimental watering plots, as per our permit with BLM.

In mid-April 2026, we conducted a one-year assessment of the *Penstemon albomarginatus* (PEAL) cuttings that were propagated by our subcontractor (Utah State University graduate student) from three of the four populations in Clark County in late March 2024 (Ivanpah, Hidden Valley, and Jean). We out-planted the propagated plants at our USGS common garden site north of Searchlight, Nevada – which is in a similar climate zone to Jean, Nevada – in

January 2025 (M21). All cuttings were caged to exclude small mammals and randomized in a 4-level microhabitat experiment at the time of planting.

In mid-April, we revisited the *Cylindropuntia multigeniculata* (CYMU) plants propagated from joint cuttings and planted into habitat at Blue Diamond Hill during mid-December 2025 (M27). All cuttings were caged to exclude small mammals at the time of planting, and we watered all plants with 1 gal of water each during this field visit.

These Milestones are instrumental in field and greenhouse work and developing our final deliverables for this project.

QUESTION 2: What, if any, problems were encountered? Briefly describe those problems and the manner in which they were dealt.

Seedling emergence at Muddy River was very low this year, and we located very few germinants for a suitable seed conservation collection. By the end of March, those seedlings grew very little and did not reproduce. Concurrent to tracking this population, we learned that seedlings did emerge at the Weiser Wash population – 5.5 miles northwest of the Muddy River population – and we visited the site to determine if seedling emergence met our needs for this project in terms of seed (D23) and seedbank collection (D25). Finding sufficient seedlings that were still early in phenology, we obtained permission from BLM and Nevada Division of Forestry to amend our permits to cover research activities at this population.

QUESTION 3: What, if any, proposed activities were not completed? Briefly describe those activities, the reasons they were not completed and your plans for carrying them out.

None.

QUESTION 4: What is the calculated percent of work completed?

We are approximately 40% toward project completion.

QUESTION 5: Do you foresee any upcoming problems with future project activities? If so, how do you propose to overcome those problems?

None anticipated.

QUESTION 6: Is there anything else you want to tell the DCP about this project?

We have nothing additional to note concerning this project.

QUESTION 7: What was produced during the reporting period?

During the reporting period, we produced this Quarterly Progress Report (D32).