

Agency/Organization: US Geological Survey

Project Name: Clark County Rare Plant Propagation Research Phase II

Project Number: 2021-USGS-2075A

Reporting Period: October 1, 2025 – December 31, 2025

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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?

In mid-November, we conducted a final assessment (M26) of *Cylindropuntia multigeniculata* (CYMU) plants propagated from Gold Butte joint cuttings and planted in early November 2024 into habitat (M19). All cuttings were caged to exclude small mammals and randomized in a two-level watering (frequent versus infrequent) \times 2 level microhabitat (nurse plant versus open) experiment at the time of planting.

In early December, we planted CYMU plants propagated from Blue Diamond Hill joint cuttings collected in late spring 2020 during Phase I of this project into habitat (M27). All cuttings were caged to exclude small mammals and given 1 gallon of supplemental water at the time of planting. Prior to planting, we assessed and measured the CYMU cuttings to help understand the impact of outplanting size on survival. Based on a comparison of the 1-year post-planting health assessments for cuttings planted in spring (M11) and fall (M19) 2024 at Gold Butte, we decided to plant in late fall. Although the seasonal planting factor did not reach the level of statistical significance, fewer plants were in poor health status 1 year after fall outplanting than were in poor health status 1 year after spring outplanting.

We continued to monitor germination of ARCA seeds collected in 2023 by Kelsey Graham (USDA) for a second round of germination based on the most successful treatment combinations from our initial trials with seed collected in 2022. We continue to transplant germinants from the treatment chambers and grow plants in the USGS greenhouse to test soils for propagation.

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.

None.

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 33% 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 (D26).