

**San Diego Association of Governments
Rare Dune Species Restoration Project
Nature Collective
Quarterly Progress Report
Reporting Period: October 1, 2024 – December 31, 2024
Submission Date: January 15, 2024
SANDAG Contract Number: S1125507**

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Rare Coastal Dune Species Habitat Restoration Project – 2024 Q4 Progress Report

Quarterly Status Report Overview

During this reporting period Nature Collective staff continued with seed collection efforts throughout the project boundary. We installed container plants at Seaside Terrace Dune and spread seed throughout the project boundary with volunteers.

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Work Performed this Period:

1. Task 1- Seed Collection & Propagation

During this quarter we continued with seed collection throughout the project boundary. We collected seed from 10 different species. Table 1 shows the quantities collected in grams and pounds in 2024. We are 75% complete with seed collection and propagation efforts.

Table 1. Total Seed Collected in 2024

Species	Common name	Total (g)	Total (lbs)
<i>Abronia maritima</i>	sticky sand verbena	2192.94	4.835
<i>Abronia umbellata</i>	pink sand verbena	16.4	0.036
<i>Acmispon prostratus</i>	Nuttall's acmispon	1541.14	3.398
<i>Ambrosia chamissonis</i>	beach bur	1470.16	3.241
<i>Atriplex leucophylla</i>	beach saltbush	22.6	0.050
<i>Camissoniopsis lewisii</i>	Lewis' evening-primrose	8.5	0.019
<i>Chaenactis glabriuscula var. orcuttiana</i>	Orcutt's yellow pincushion	10.7	0.024
<i>Eriogonum parvifolium</i>	seacliff buckwheat	203	0.448
<i>Lupinus concinnus</i>	bajada lupine	1	0.002
<i>Nemacaulis denudata var. denudata</i>	coast woolly heads	302.41	0.667
Total		5768.85	12.718

2. Task 2- Work & Monitoring Plan

This task has been completed.

3. Task 3- Seeding & Planting

During this quarter NC staff held a volunteer event to install 1-gallon container plants at Seaside Terrace Dune. Additionally, the volunteers spread seed throughout the project boundary. Table 2 below shows the plant palette, these container plants were either grown at our nursery or with our partner, San Diego Botanic Garden.

Table 2. 1-gallon Containers Planted at Seaside Terrace Dune

Species	Common name	Quantity
<i>Abronia maritima</i>	sticky sand verbena	7
<i>Abronia umbellata</i>	pink sand verbena	3
<i>Ambrosia chamissonis</i>	beach bur	28
<i>Eriogonum parvifolium</i>	sea cliff buckwheat	60
Total		98

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Photo 1. Volunteers installing container plants



Photo 2. A recently planted and watered sea cliff buckwheat



Photo 3. Volunteers spreading and raking seed



Photo 4. Volunteer irrigating container plant

Spatial data on the planting and seeded areas can be found in Appendix A, Map D: Planting and Seeding Areas.

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Table 3 shows the seed mixes used at different sites. Species and quantities for each seed mix were carefully selected after analyzing site characteristics. We focused on areas where we saw low cover of the rare plant species during spring 2024 surveys.

Table 3. Fall 2024 Seed Mixes

Seed Mix #1 - CLS Foredune/Crest	
Species	Quantity (g)
<i>Abronia martima</i>	1880.94
<i>Ambrosia chamissonis</i>	1063.16
<i>Eriogonum parvifolium</i>	192
Mix Total	3136.1
Seed Mix #2 - CLS Backdune	
Species	Quantity (g)
<i>Acmispon prostratus</i>	153.18
<i>Eriogonum parvifolium</i>	69
<i>Nemacaulis denudata var. denudata</i>	120.43
Mix Total	342.61
Seed Mix #3 - STD Planting Area	
Species	Quantity (g)
<i>Acmispon prostratus</i>	92.1
<i>Artiplex leucophylla</i>	12
<i>Chaenactis glabriuscula var. orcuttiana</i>	65.5
<i>Eriogonum parvifolium</i>	150
<i>Nemacaulis denudata var. denudata</i>	10
Mix Total	329.6
Seed Mix #4 - WBD South	
Species	Quantity (g)
<i>Abronia umbellata</i>	17.2
<i>Acmispon prostratus</i>	312.4
<i>Camissoniopsis lewisii</i>	12.4
<i>Chaenactis glabriuscula var. orcuttiana</i>	7.2
<i>Croton californicus</i>	5.4
<i>Lupinus concinnus</i>	0.5
<i>Nemacaulis denudata var. denudata</i>	8.5
Mix Total	363.6
Seed Mix #5 - WBD South	
Species	Quantity (g)
<i>Abronia umbellata</i>	20
<i>Acmispon prostratus</i>	853.17
<i>Camissoniopsis lewisii</i>	1.6
<i>Chaenactis glabriuscula var. orcuttiana</i>	3.5
<i>Croton californicus</i>	5.4
<i>Lupinus concinnus</i>	0.5
<i>Nemacaulis denudata var. denudata</i>	174.4
Mix Total	1058.57
Total Seed Spread (g)	5230.48

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4. Task 4- Maintenance

During this quarter we continued with irrigation of previously installed container plants. Due to the lack of precipitation, we have not had to conduct weed control efforts. We are 40% complete with the maintenance task.

5. Task 5- Monitoring

Monitoring did not take place during this quarter. We are approximately 35% complete with the monitoring task.

6. Task 7- GOIN Program

Our next GOIN event will take place in February 2025. We are 50% complete with the GOIN task.

7. Task 8- Administrative

Stevie Steele, Ecologist/Project Manager, oversaw and participated in daily planning, project management, invoicing, monitoring and restoration tasks during this period. We are approximately 45% complete with this task.

Work Anticipated Next Period

We will continue with irrigation of new plantings and weed control using hand and chemical removal methods. We will host two GOIN events with our education staff.

Issues to Note

As stated in previous quarterly reports- after project planning began, we determined that we will more than likely not be able to meet two of our performance measures including "*Atriplex coulteri* – 200 individuals restored" and "*Phacelia stellaris*" – 200 individuals restored". However, we anticipate restoring 400+ individuals of *Chaenactis orcuttiana ssp. glabriuscula* (Orcutt's yellow pincushion) to replace those performance measures. Orcutt's yellow pincushion is listed at California Rare Plant Rank 1B.1 – "Plants rare, threatened, or endangered in California and elsewhere; seriously threatened in California" and has only 20 presumed extant occurrences in California (CNPS, RPP 2023). We do not expect to meet the original performance measures due to the lack of seed available to ethically collect as well as the difficult germination requirements.

Photographs & Figures

All maps are included in Appendix A following this report.

Performance Measures



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Performance Measu

Appendix A: Maps

Map B: Photo Monitoring Points



Photo Monitoring Points - September 2023

Map C: Transect Monitoring Locations



Transect Monitoring Locations - September 2023

Map D: Planting and Seeding Areas



Planting and Seeding Areas - November 2024