San Diego Association of Governments
MISSION TRAILS SAN DIEGO THORNMINT RESTORATION AND ENHANCEMENT PROJECT
Mission Trails Regional Park Foundation
Annual Report
Project Period: October 1, 2023, to September 30, 2024
SANDAG Contract Number: S1125506

Executive Summary

The Mission Trails San Diego Thornmint Restoration and Enhancement Project (project) is located in Mission Trails Regional Park in the City of San Diego, CA. This restoration program addresses the immediate needs of the San Diego thornmint (*Acanthomintha ilicifolia)* within the park's Fortuna Mountain Area, where loss and degradation of existing clay lens habitat has occurred due to an increase of invasive plant species and drought. This project is designed to benefit sensitive species and associated vegetation communities through activities such as dethatching of dried weeds, applying follow-up herbicide treatment to control non-natives, installing fencing and signage, and collecting and redistributing native seed to expand occupied habitat and introduce thornmint to new and historic locations with suitable friable clay soil. Vegetation monitoring and focused monitoring surveys are also being implemented for the San Diego thornmint in the treatment areas.

This project is focused on restoring and enhancing degraded habitat for San Diego thornmint. The species is classified as federally threatened, state endangered, and a narrow endemic covered species under the *City of San Diego MSCP [Multiple Species Conservation Program] Subarea Plan* (City of San Diego 1997), and listed as a sensitive species (Category SO) under the *Management and Monitoring Strategic Plan for Conserved Lands in Western San Diego County: A Strategic Habitat Conservation Roadmap* (MSP) (SDMMP and TNC 2017). Under the MSP, Category SO refers to species whose persistence of one or more significant occurrences within the MSP plan area is at high risk of loss without immediate management action above and beyond that of daily maintenance activities.

According to the MSP, the goal for San Diego thornmint is to "Maintain large populations, enhance small populations, and establish new populations of San Diego thornmint or pollinator habitat to buffer against environmental stochasticity, maintain genetic diversity, and promote connectivity, thereby enhancing resilience within and among Management Units over the long-term (>100 years) in native habitats" (SDMMP and TNC 2017, pg. V2D.1-2).

Although the work is still in progress, the preliminary assessment of the Year 1 project results indicates that the project performance measures are being achieved. Approximately 1,221 thornmint germinated and grew at Site 1 in 2024.

Approximately 1.5 acres of San Diego thornmint habitat has been treated for non-native species at the four restoration sites, including control of the three target weed species: purple false brome (*Brachypodium distachyon*), prickly sow thistle (*Sonchus asper*), and tocalote (*Centaurea melitensis*). The absolute cover of each of the target species is 1 percent or less; as such, the project has met its Year 1 goals.

Native seeds, including thornmint, were collected in Year 1 for later dispersal.

Contents

Project Background

The following section summarizes the Mission Trails San Diego Thornmint Restoration and Enhancement Project (project).

Project Setting

- Project Site Size: Proposed 1.4 acres (actual 1.5 acres).
- Preserve Name: Mission Trails Regional Park.
- Preserve Location: Mission Trails Regional Park is located in the south-central portion of San Diego County.

The need and how the project pertains to the goals specified in the *Management and Monitoring Strategic Plan for Conserved Lands in Western San Diego County: A Strategic Habitat Conservation Roadmap* (MSP) (SDMMP and TNC 2017). This project is focused on restoring and enhancing approximately 1.4 acres of degraded habitat for San Diego thornmint (*Acanthomintha ilicifolia).* The species is classified as federally threatened, state endangered, and a narrow endemic covered species under the *City of San Diego MSCP [Multiple Species Conservation Program] Subarea Plan* (City of San Diego 1997), and listed as a sensitive species (Category SO) under the MSP (SDMMP and TNC 2017).

The project is located in Mission Trails Regional Park in the City of San Diego, CA. This program addresses the immediate needs of the San Diego thornmint within the park's Fortuna Mountain Area (CNDDB EO 33; MOM OccID ACIL_4MTRP021) and (EO 35; MOM OccID 4MTRP022), where loss and degradation of existing clay lens habitat has occurred due to an increase of invasive plant species and drought. This project is designed to benefit sensitive species and vegetation communities through activities such as applying herbicide treatment to control non-natives, installing fencing and signage, collecting and redistributing native seed to expand occupied habitat and introduce thornmint to new locations with suitable friable clay soil, monitoring vegetation, and conducting focused monitoring surveys for the San Diego thornmint within the treatment areas.

In addition to being a species covered under the City of San Diego's (City's) MSCP, San Diego thornmint also has a California Native Plant Society (CNPS) rare plant ranking of 1B.1 (rare, threatened, or endangered in California and elsewhere; seriously endangered in California) (CNPS 2024). Populations of San Diego thornmint are substantially declining throughout San Diego County. Extant populations are threatened by pressures from urban development, habitat disturbance, and invasion of non-native species, with as many as one-third of historical occurrences believed to be extirpated (CNPS 2024). San Diego thornmint is restricted to clay lens

microhabitats, which limits the establishment of new populations due to the lack of such habitat remaining in San Diego (Reiser 2001).

Management Strategic Plan Goal
According to the MSP, the goal for San Diego thornmint is to "Maintain large populations, enhance small populations, and establish new populations of San Diego thornmint or pollinator habitat to buffer against environmental stochasticity, maintain genetic diversity, and promote connectivity, thereby enhancing resilience within and among Management Units over the long-term (>100 years) in native habitats" (SDMMP and TNC 2017, pg. V2D.1-2).

Project Location and Site Description
The four San Diego thornmint restoration locations are located in Mission Trails Regional Park (see Figures 1–5 in Appendix 1). The proposed restoration area totals 1.4 acres, broken up for each of the four restoration sites as follows:

- Site 1: 0.5 acres
- Site 2: 0.19 acres
- Site 3: 0.57 acres
- Site 4: 0.14 acres

However, revised mapping of the four sites after implementation indicates the restoration sites total 1.5 acres, as follows:

- Site 1: 0.51 acres
- Site 2: 0.19 acres
- Site 3: 0.55 acres
- Site 4: 0.26 acres

Methods/Approach
The methodologies used in conjunction with this project are similar to those used to successfully expand and increase the population of thornmint within approximately 0.5 acres at Site 1 in Mission Trails Regional Park between 2018 and 2020, and in Rice Canyon in the City of Chula Vista between 2011 and 2014. The invasive control program includes intensive weed control efforts by hand, timely weed whipping, and use of herbicide by workers specifically trained to recognize native and non-native plants so that focused control efforts can be implemented. An annual native seed collection and dispersal program is included in the project scope of work.

Project Goals

The goals and objectives of Year 1 restoration efforts included reducing non-native weed cover at the four sites. This was done to improve growing conditions and

reduce competition for San Diego thornmint at the Site 1 occupied location and was also intended to prepare the other three sites for future thornmint seed dispersal in the fall of 2024.

The project is being assessed on the following performance measures:

1. **Habitat Restoration.** Restore 1.4 acres of herbaceous native dominated clay lens San Diego thornmint habitat.
2. **Sensitive Plant Species.** Restore at least 90 percent of the following sensitive species: San Diego thornmint(*Acanthomintha ilicifolia*) – 1 occurrence restored.
3. **Invasive Plant Treatment/Removal.** Treat or remove at least 90 percent of the following invasive plant species: purple false brome (*Brachypodium distachyon*), prickly sow thistle (*Sonchus asper*), and tocalote (*Centaurea melitensis*) – 1.4-acre area treated or removed.
4. **Fencing and Signage Installation.** Repair or install at least 90 percent of the following: Fencing – 170 feet repaired or installed; Signage – 1 repaired or installed.

Year 1 Project Results

While the work is ongoing, initial evaluations of the Year 1 project outcomes indicate that the performance measures are being met. Approximately 1.5 acres of San Diego thornmint habitat is in the process of being restored. In Year 1, we observed 886 thornmint in the natural population and counted 335 plants in the previously seeded areas. A total of approximately 1,221 thornmint germinated and grew at Site 1 in 2024. A total of one thornmint occurrence was restored in Year 1.

Annual rainfall during the first year of the project (December 2023 through August 2024) was above normal by just over 2.5 inches (Table 1). Approximately 1.5 acres of San Diego thornmint habitat has been treated for non-native species at the four restoration sites, including control of the three invasive target weed species purple false brome, prickly sow thistle, and tocalote. The vegetation monitoring survey conducted after weed treatment implementation was complete for the season, showed that the absolute cover of each of the invasive target species was 1 percent or less; therefore, the project has met its Year 1 weed cover goal.

Approximately 170 linear feet of t-post and barbless wire fence was installed by the maintenance crew at Site 3 to protect the habitat from trampling. A sign, stating the area behind the fence at Site 3 is closed, was also installed. Additional fencing was installed at Site 1 in early May 2024 to protect the germinated thornmint from herbivory by rabbits. In anticipation of potential herbivory in the future at Sites 2, 3, and 4, fences were installed in September 2024 to protect areas to be seeded with thornmint in the fall of 2024. Native seeds, including thornmint, were collected in Year 1 for later dispersal.

In addition to San Diego thornmint, other sensitive species that have benefitted from the project weeding effort includes San Diego goldenstar (*Bloomeria clevelandii*), small-flowered morning glory (*Convolvulus simulans*), and coast barrel cactus (*Ferocactus viridescens*).

Work Performed by Task

Task 1 – Field Assessment
Budget: $1,375 (from grant agreement)
Spent: $1,295 (to date)
Match for Task: $0.00

On December 4, 2023, prior to conducting the field assessment at the four restoration sites, the project biologist coordinated with Environmental Science Associates (ESA) geographic information system (GIS) staff to prepare field maps. On December 6, the ESA biologists conducted field assessments at the four restoration sites to finalize the project boundaries and to plan for initiation of implementation tasks. Areas best suited for restoration and enhancement were identified and the site boundaries were adjusted when deemed appropriate by the project biologist. Areas best suited for restoration included open areas with low shrub cover located within friable soils.

Percent complete: 100%

Task 2 – Vegetation Monitoring
Budget: $1,630 (from grant agreement)
Spent: $1,608.25 (to date)
Match for Task: $0.00

On December 4, 2023, ESA GIS staff prepared field maps by digitizing the hard copy maps provided by Mission Trails Foundation staff, so the ESA biologist could navigate and identify the boundaries of the restoration sites. On December 6, the ESA biologist conducted baseline vegetation monitoring at each of the four restoration sites. On June 10, 2024, the ESA biologist conducted repeat vegetation monitoring at each of the restoration sites. These repeat vegetation monitoring data were collected after the non-native maintenance was completed for the Year 1 season. These data will be used to compare the conditions of the vegetation prior to implementation with the vegetation at the end of the Year 1 and subsequent years, as well as at the end of the project. On July 16, 2024, ESA prepared the vegetation data for analysis.

The vegetation monitoring results are presented and summarized in Tables 2–7 (Appendix 2). After invasive control implementation in Year 1, all four restoration sites had low absolute non-native weed cover of 1 percent or less (see Table 3). Monitoring showed that Site 3 had the greatest native species diversity with 23 species (see

Table 6), followed by Site 1 with 19 species (see Table 4), Site 4 with 11 species (see Table 7), and Site 2 with 8 native species (see Table 5).

Percent Complete 100%

Task 3 – Photo Monitoring
Budget: $1,705 (from grant agreement)
Spent: $1,672 (to date)
Match for Task: $0.00

On December 4, 2023, ESA GIS staff prepared field maps and loaded them onto a tablet so the ESA biologists could establish and map the locations of photo points at each of the restoration sites. On December 5, prior to going into the field, the ESA project biologist organized photo points taken previously at Site 1 between 2018 and 2021, so the photo points could be repeated for this new project. On December 6, ESA biologists visited each of the four restoration sites to take photo points prior to implementation to be compared throughout the life of the project. On June 10, 2024, the ESA biologist visited each of the four restoration sites to repeat the photo points after the primary weed treatment efforts were completed for the first growing season. On July 11, 2024, the ESA biologist revisited Site 1 to retake the photo set of after-maintenance photos due to framing issues with the first set of photos originally taken on June 10. Photo points showing before and after implementation changes are presented in Appendix 4.

Percent complete: 100%

Task 4 – Dethatch
Budget: $7,678 (from grant agreement)
Spent: $5,878.84 (to date)
Match for Task: $0.00

From December 18 to 20, 2023, the Habitat West maintenance crew used line trimmers to cut the accumulated thatch at the restoration sites. The dried plant material was cut, raked into piles, then collected, and disposed of off-site at a green waste facility.

Percent complete: 100%

Task 5 – Fence and Sign Installation
Budget: $3,083 (from grant agreement)
Spent: $2,859.44 (to date)
Match for Task: $0.00

On December 19, 2023, approximately 170 linear feet of t-post and barbless wire fence were installed by the maintenance crew at Site 3 to protect the habitat from trampling. Between May 7 and 9, 2024, the maintenance crew installed protective fencing around seedling thornmint plants at Site 1. Approximately 300 feet of

hardware cloth fencing was installed around 18 separate patches of thornmint to protect them from rabbit herbivory. The newly installed fences conformed to the extent of the existing thornmint plants, so the fencing patterns varied in size and shape depending on the area occupied by the thornmint. On May 7, 2024, a Mission Trails Regional Park Ranger installed a park sign that reads "Sensitive Habitat Keep Out" on the fence at Site 3.

On September 3 and 4, 2024, additional protective fencing was installed at Sites 1–4 prior to dispersing San Diego thornmint seeds in the fall of 2024. Approximately 400 feet of hardware cloth fencing was installed at the four restoration sites. The installed fences were generally rectangular in shape.

Percent complete: 100%

Task 6 – Weed Treatment
Budget: $21,895 (from grant agreement)
Spent: $20,624.30 (to date)
Match for Task: $0.00

On January 31, 2024, the maintenance crew visited all four sites to start weed control efforts for this growing season. Non-native grasses and herbs were sprayed using glyphosate. Hand weeding around native species, such as purple needlegrass (*Stipa pulchra*) and blue-eyed grass (*Sisyrinchium bellum*), was performed at Site 3.

On March 14, 2024, the maintenance crew conducted focused hand weeding around the San Diego goldenstar population at Site 3. The crew also sprayed non-native grasses such as purple false brome and herbaceous species such as tocalote and prickly sow thistle, which are the invasive species targeted for control efforts. Other non-native species present at the site were also hand pulled or sprayed with herbicide.

On March 15, 2024, the crew visited Sites 1 and 2. Non-native grasses and herbs were sprayed using glyphosate. Invasives species, including purple false brome, tocalote, and prickly sow thistle were targeted at both Sites 1 and 2. Focused hand weeding around native species such as San Diego thornmint and blue dicks bulbs (*Dipterostemon capitatus*) was also conducted at Site 1.

On April 4, 2024, the maintenance crew visited all four sites to continue weed control efforts. Non-native grasses and herbs were sprayed using glyphosate. Hand weeding was conducted around native species including San Diego thornmint at Site 1. Hand weeding was also performed around purple needlegrass, blue-eyed grass, and San Diego goldenstar at Site 3. Hand weeding was also conducted around small-flowered morning glory plants at Site 4.

On April 25, 2024, the maintenance crew conducted focused hand weeding around the San Diego thornmint at Site 1 and the San Diego goldenstar population at Site 3.

At the April maintenance visit at Site 1, small amounts of water was provided to the thornmint seedlings immediately after hand weeding was completed to settle the soil around the plants to prevent wilting. Approximately 1 gallon of water per patch of thornmint was provided using a garden watering can. At Sites 2 and 3, the crew also sprayed non-native grasses and target invasive species such as purple false brome, tocalote, and prickly sow thistle. On April 26, 2024, non-native species present on Site 3 were also hand pulled or cut using weed whips.

On May 7, 2024, non-native grasses and herbs were sprayed using glyphosate at Site 4. On May 8, 2024, invasives including purple false brome, tocalote, and prickly sow thistle were sprayed at Site 3. On May 9, 2024, focused hand weeding around native species such as purple needlegrass, blue-eyed grass, and San Diego goldenstar was also conducted at Site 3.

On June 7, 2024, non-native grasses and herbs were sprayed with glyphosate at Sites 1 and 4. Hand weeding was conducted at all four sites.

As recommended in the final Year 3 (2020) report from the previous Mission Trails thornmint grant, selective shrub thinning was performed. On September 3 and 4, 2024, selective shrub thinning and late-season cleanup of non-natives was performed at all four restoration sites. The shrub species thinned were primarily broom baccharis (*Baccharis sarothroides*) along with some coast goldenbush (*Isocoma menziesii*). These shrub species are prolific seeders that are wind dispersed and therefore easily colonize open ground.

Percent complete: 100%

Task 7 – Seed Collection and Redistribution
Budget: $1,881 (from grant agreement)
Spent: $1,852.50 (to date)
Match for Task: $0.00

Native seeds were collected for redistribution into the four restoration sites on the following dates: May 8, 20, and 21, 2024; June 17 and 24, 2024; July 12 and 28, 2024; and August 8 and 16, 2024. Species collected included purple needlegrass, small-flowered morning glory, purple clarkia (*Clarkia purpurea*), hairy sun cup, (*Camissoniopsis hirtella*), and blue-eyed grass. A portion of the collected thornmint seed was dispersed into fenced cages on September 14, 2024, at Sites 1 and 4. Additional seeds will be redistributed later in the fall of 2024 (Year 2-October–December).

Percent complete: 100%

Task 8 – Focused San Diego Thornmint Survey
Budget: $958 (from grant agreement)
Spent: $915 (to date)
Match for Task: $0.00

On May 20, 2024, the ESA biologist conducted thornmint counts in coordination with Sara Allen of the City of San Diego. The count was performed at the same time the City was completing the annual thornmint inspect and manage (IMG) survey. The ESA biologist mapped the distribution of thornmint at Site 1 and also checked for thornmint plants at the three other restoration sites. No thornmint were observed at Site 2, 3, or 4. At Site 1, a total of 335 thornmint were counted in the previously seeded population (2018–2020) and 886 thornmint were counted in the natural population, for a total of approximately 1,221 thornmint in Year 1.

Percent complete: 100%

Task 9 – Reporting
Budget: $7,239 (from grant agreement)
Spent: $7,077.00 (to date)
Match for Task: $0.00

ESA prepared the first quarterly report with project photos and submitted it to the Mission Trails Foundation on January 18, 2024.

ESA prepared the second quarterly report with project photos and submitted it to the Mission Trails Foundation on April 13, 2024. A draft figure for Site 1 was prepared by ESA GIS staff, and thornmint count data were submitted to Sara Allen at the City of San Diego on May 23, 2024.

ESA prepared the third quarterly report with project photos prepared and submitted it to the Mission Trails Foundation on July 18, 2024. Additional draft site figures were created and revised on July 12 and 15, 2024, and September 20, 2024.

Percent complete: 100%

Table 8
Report Submittal Dates

Quarterly Report Period	Date Submitted to the Foundation
October 1 to December 31, 2023	January 18, 2024
January 1 to March 31, 2024	April 13, 2024
April 1 to June 30, 2024	July 18, 2024
Annual Report, Includes Summary Reporting from October 1, 2023, to September 30, 2024	October 18, 2024

Task 10 – Misc Consultant Expenses
Budget: $2,650.42
Spent: $2.343.57 (to date)
Match for Task: $0.00

Expenses included dump truck fee, dumping fee, fence materials, and herbicide.

Task 11 – Administrative MTRP Foundation

Budget: $8,000
Spent: $1760.66 (to date)

Expenses included staff time for reporting, documentation, and project coordination with the contractors.

Annual Conclusions

Year 1 preliminary results for San Diego thornmint counts at Site 1 indicate that the population remains viable. A total of 1,221 thornmint plants were counted in Year 1. There were 335 plants that grew from the seeding efforts from the previous grant and 886 plants that grew in the natural (fenced) population. A total of one thornmint occurrence was restored in Year 1.

Herbivory of the seeded population was becoming a problem in late April 2024, so the project biologist, in coordination with the Mission Trails Foundation staff, instructed the maintenance crew to install protective fences around the patches of seeded thornmint to prevent further herbivory.

Non-native cover was low at the end of the Year 1 weed-control efforts, with the observed absolute cover of all three of the target non-native species at 1 percent or less. This was the case at all four restoration sites. Overall weed cover after the first year of implementation at all four sites was 1 percent (see Table 3 in Appendix 2).

To reduce and prevent future herbivory at thornmint seeding Sites 2–4, additional protective fencing was installed in Year 1 in early September 2024. This fencing effort is intended to prevent rabbits from accessing thornmint seedlings in the future (Year 2). Native seeds, including thornmint, were collected in Year 1 for later dispersal.

In summary, the Year 1 goals for the project have been met.

Work in future years will include continued intensive weed control efforts, monitoring of vegetation each season, repeat photo monitoring, and seed collection. Focused thornmint monitoring surveys will be conducted by the project biologist again in Year 2 at Sites 2 and 3.

Photographs & Figures

Figures 1–5 are presented in Appendix 1. General photographs of the crew working, site conditions, and plant species are presented in Appendix 3. Before- and after-implementation repeat photo point photos are presented in Appendix 4.

Geographical Information Systems Data

GIS data will be submitted to the client with the Annual Report.

Performance Measures

The project's performance measures are presented in Appendix 5. The explanation of the numbers on the performance spreadsheet includes the following. The total acreage restored in Year 1 was approximately 1.5 acres. The Year 1 total count of thornmint plants at Site 1 was 1,221 individuals. All three of the target weed species—purple false brome, prickly sow thistle, and tocalote—were reduced to a cover value of 1 percent or less at all four restoration sites. A total of 170 linear feet of fence was installed at Site 3, and one sign stating that the area is closed was also installed.

References Cited

CNPS (California Native Plant Society). 2024. Rare Plant Inventory (online edition, v9.5). Accessed September 23, 2024. https://www.rareplants.cnps.org.

City of San Diego. 1997. *City of San Diego MSCP Subarea Plan*. March 1997.

Reiser, C.H. 2001. *Rare Plants of San Diego County*. Imperial Beach, CA: Aquifir Press.

SDMMP and TNC (San Diego Management and Monitoring Program and The Nature Conservancy). 2017. *Management and Monitoring Strategic Plan for Conserved Lands in Western San Diego County: A Strategic Habitat Conservation Roadmap*. Volumes 1–3. Prepared for the San Diego Association of Governments.

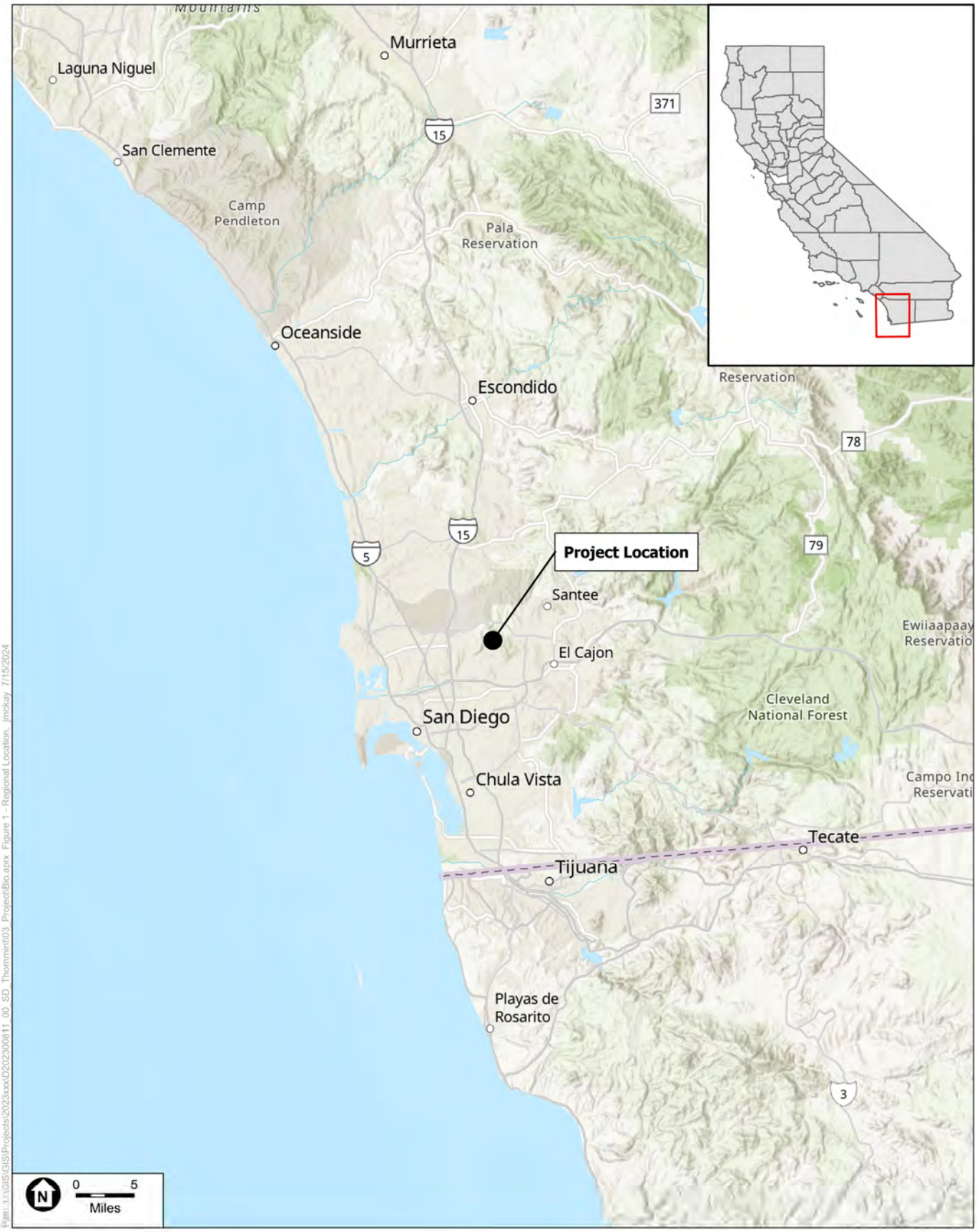
List of Appendices

APPENDIX 1

SAN DIEGO ASSOCIATION OF GOVERNMENTS

MISSION TRAILS SAN DIEGO THORNMINT RESTORATION AND ENHANCEMENT PROJECT

Mission Trails Regional Park Foundation
Year 1 Annual Report - Figures 1–5
Reporting Period: October 1, 2023-September 30, 2024
Submission Date: October 21, 2024
SANDAG Contract Number: S1125506

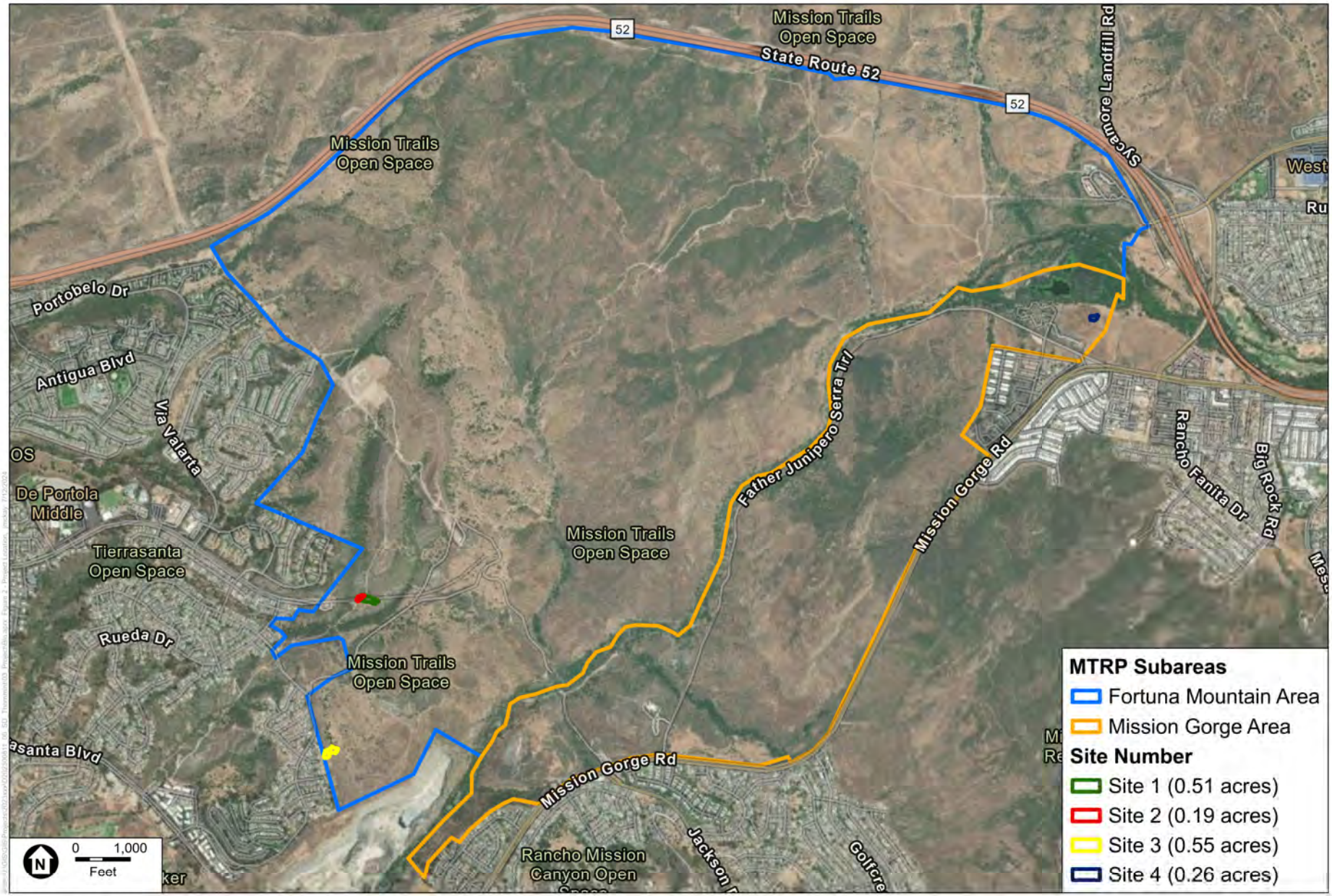


SOURCE: ESA, 2024.

San Diego Thornmint Restoration Project

Figure 1
Regional Location

ESA

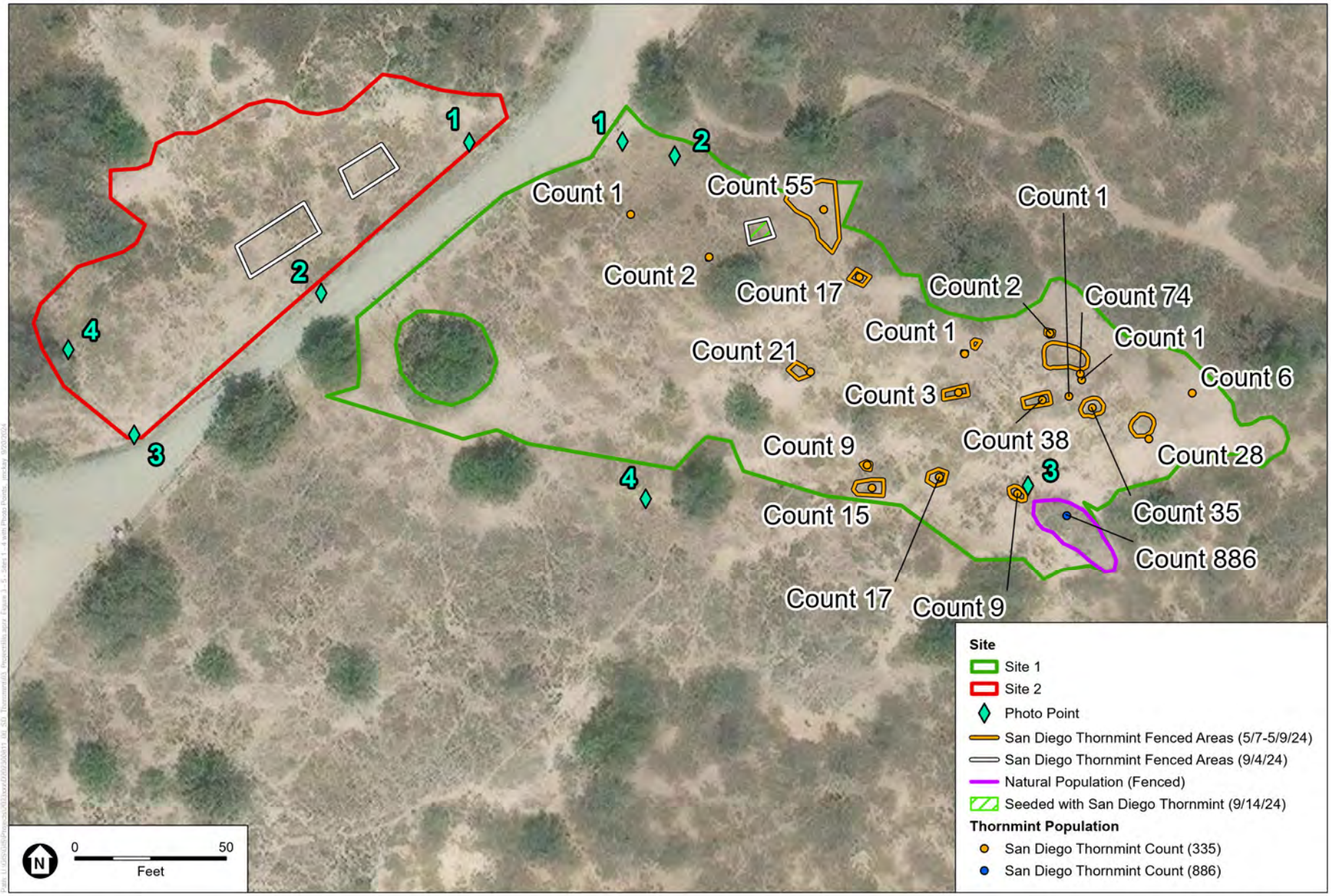


SOURCE: ESA, 2024.

San Diego Thornmint Restoration Project

Figure 2
San Diego Thornmint Restoration Project Location

ESA

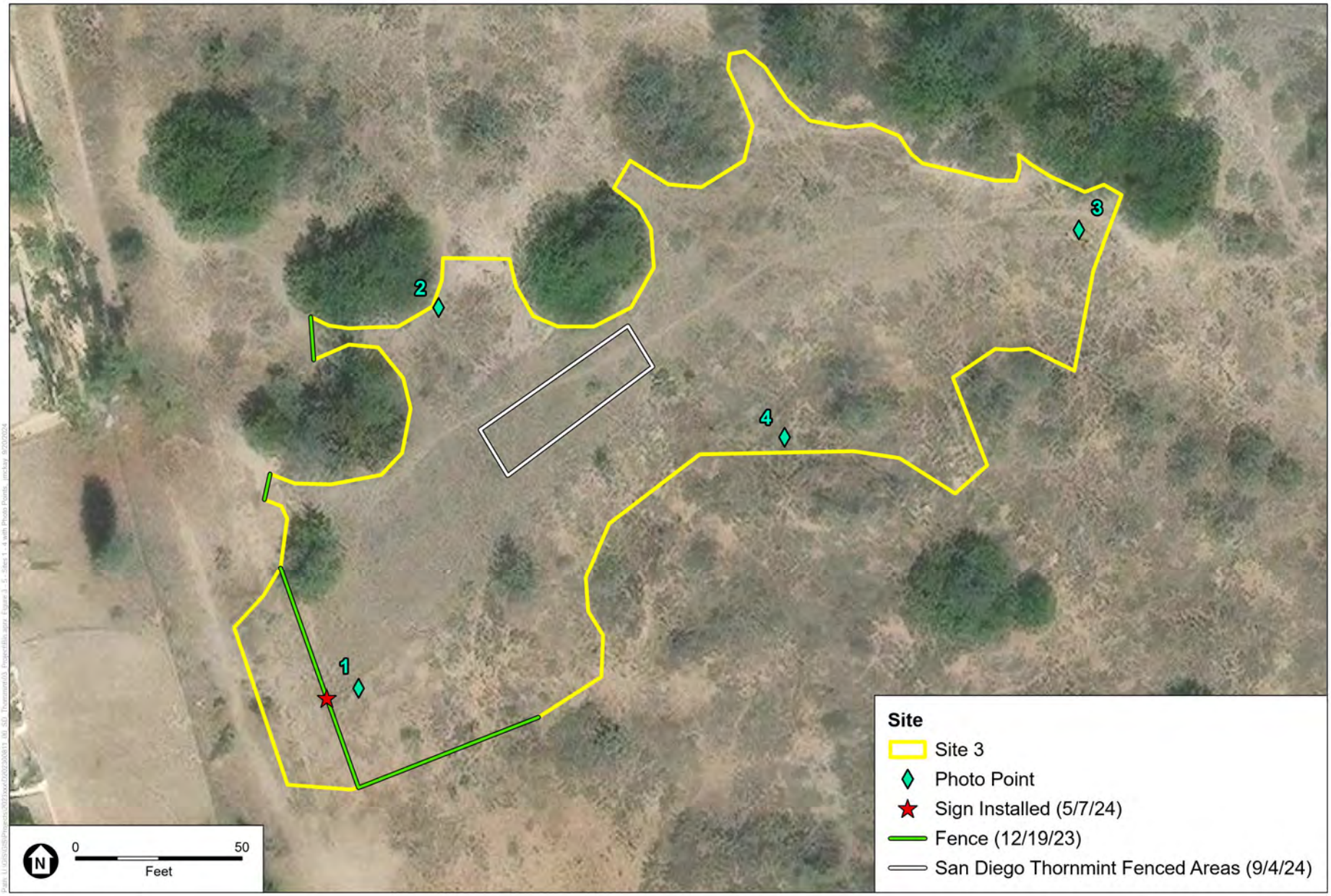


SOURCE: ESA, 2024.

San Diego Thornmint Restoration Project

Figure 3
Sites 1 and 2 with Photo Points

ESA

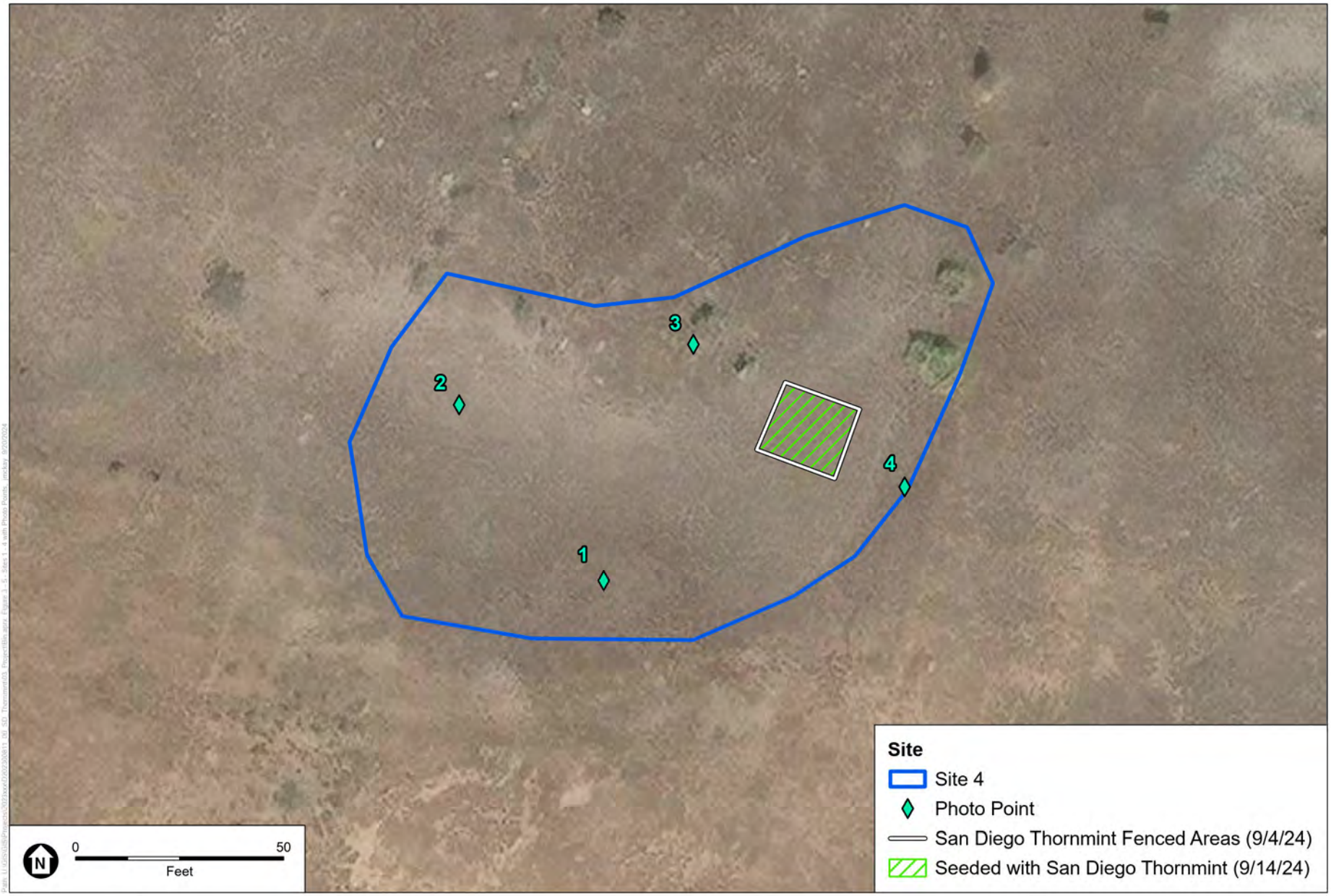


SOURCE: ESA, 2024.

San Diego Thornmint Restoration Project

Figure 4
Site 3 and Photo Points

ESA



SOURCE: ESA, 2024.

San Diego Thornmint Restoration Project

Figure 5
Site 4 and Photo Points

ESA

APPENDIX 2

SAN DIEGO ASSOCIATION OF GOVERNMENTS

MISSION TRAILS SAN DIEGO THORNMINT RESTORATION AND ENHANCEMENT PROJECT

Mission Trails Regional Park Foundation
Year 1 Annual Report - Tables 1–7
Reporting Period: October 1, 2023-September 30, 2024
Submission Date: October 21, 2024
SANDAG Contract Number: S1125506

Table 1 December 2023 through August 2024 Rainfall Compared to Normal Rainfall – Montgomery Field			
Month	**Precipitation (inches)[a]**	**Normal Rainfall (inches)[b]**	**Difference (inches)**
2023			
December	0.65	1.61	-0.96
2023 Project Total	**0.65**	**1.61**	**-0.96**
2024			
January	3.46	2.32	+1.14
February	4.56	2.65	+1.91
March	2.73	1.63	+1.10
April	0.44	0.77	-0.33
May	0.11	0.28	-0.17
June	0.00	0.06	-0.06
July	T	0.07	-0.07
August	0.01	0.01	0.00
2024 Project Total	**11.31**	**7.79**	**+3.52**
Grand Total	***11.96***	***9.40***	***+2.56***

SOURCES:

a. National Oceanic and Atmospheric Administration (NOAA) 2024 – Montgomery Field
b. NOAA 2024 Historic Averages – Montgomery Field

ABBREVIATION: T = Trace Amount

Table 2 Pre-implementation Vegetation Monitoring Results		
Vegetation Type	**Absolute**	**Relative (Vegetative Only)**
Site #1		
Total cover (herbs and shrubs)	92%	100%
Native cover	61%	66%
Non-native cover	31%	34%
Native grass cover	0%	0%
Shrub cover	17%	18%
Bare ground	8%	NA
Site #2		
Total cover (herbs and shrubs)	97%	100%
Native cover	8%	8%
Non-native cover	89%	92%
Native grass cover	0%	0%
Shrub cover	8%	8%
Bare ground	3%	NA
Site #3		
Total cover (herbs and shrubs)	90%	100%
Native cover	13%	14%
Non-native cover	77%	86%
Native grass cover	1%	1%
Shrub cover	9%	10%
Bare ground	10%	NA
Site #4		
Total cover (herbs and shrubs)	94%	100%
Native cover	92%	98%
Non-native cover	2%	2%
Native grass cover	0%	0%
Shrub cover	1%	1%
Bare ground	6%	NA

Table 3 Post-implementation Vegetation Monitoring Results		
Vegetation Type	**Absolute**	**Relative (Vegetative Only)**
Site #1		
Total cover (herbs and shrubs)	25%	100%
Native cover	24%	96%
Non-native cover	1%	4%
Native grass cover	0%	0%
Shrub cover	21%	84%
Bare ground	74%	NA
Site #2		
Total cover (herbs and shrubs)	18%	100%
Native cover	17%	94%
Non-native cover	1%	5%
Native grass cover	0%	0%
Shrub cover	17%	94%
Bare ground	82%	NA
Site #3		
Total cover (herbs and shrubs)	23%	100%
Native cover	22%	96%
Non-native cover	1%	4%
Native grass cover	3%	13%
Shrub cover	19%	82%
Bare ground	67%	NA
Site #4		
Total cover (herbs and shrubs)	36%	100%
Native cover	35%	97%
Non-native cover	1%	3%
Native grass cover	1%	3%
Shrub cover	31%	86%
Bare ground	69%	NA

Table 4 Site 1 Plant Species List and Percent Cover					
				Percent Cover	
Scientific Name	**Common Name**	**Family**	**Native/ Introduced**	**Pre-imp 12.6.23**	**Post-imp 6.10.24**
Monocots					
Brachypodium distachyon	**purple false brome**	Poaceae	I	15	0.2
Bromus madritensis	compact brome	Poaceae	I	0.1	0.2
Dicots					
Acanthomintha ilicifolia	San Diego thornmint	Lamiaceae	N	0.1	0.5
Acmispon glaber	deerweed	Fabaceae	N	0.1	0.2
Artemisia californica	California sagebrush	Asteraceae	N	0.1	0.2
Astragalus trichopodus	locoweed	Fabaceae	N	0.1	0.1
Baccharis sarothroides	broom baccharis	Asteraceae	N	1	1.5
Brassica nigra	black mustard	Brassicaceae	I	0.1	0.0
Centaurea melitensis	**tocalote**	Asteraceae	I	15	0.0
Convolvulus simulans	small-flowered morning glory	Convolvulaceae	N	0.1	0.1
Deinandra fasciculata	fascicled tarweed	Asteraceae	N	44	0.1
Erodium botrys	long-billed filaree	Geraniaceae	I	0.1	0.2
Euphorbia polycarpa	smallseed sandmat	Euphorbiaceae	N	0.1	0.2
Gutierrezia californica	matchweed	Asteraceae	N	0.1	0.0
Harpagonella palmeri	Palmer's grapplinghook	Boraginaceae	N	0.1	0.2
Heteromeles arbutifolia	toyon	Rosaceae	N	1	1
Isocoma menzeisii	goldenbush	Asteraceae	N	8	9

Table 4 Site 1 Plant Species List and Percent Cover					
				Percent Cover	
Scientific Name	**Common Name**	**Family**	**Native/ Introduced**	**Pre-imp 12.6.23**	**Post-imp 6.10.24**
Lepidium spp.	peppergrass	Brassicaceae	N	0.1	0.0
Logfia gallica	narrow leaf cottonrose	Asteraceae	I	0.1	0.2
Lysimachia arvensis	scarlet pimpernel	Primulaceae	I	0.1	0.1
Malosma laurina	laurel sumac	Anacardiaceae	N	2	3
Opuntia littoralis	prickly pear	Cactaceae	N	0.1	0.2
Peritoma arborea	bladderpod	Cleomaceae	N	0.1	0.5
Rhus integrifolia	lemonade berry	Anacardiaceae	N	2	3
Salsola tragus	Russian thistle	Chenopodiaceae	I	0.1	0.0
Salvia mellifera	black sage	Lamiaceae	N	2	3
Sonchus asper	**prickly sow thistle**	Asteraceae	I	0.1	0.1
Sonchus oleraceus	sow thistle	Asteraceae	I	0.4	0.0
Zeltnera venusta	canchalagua	Geraniaceae	N	0.0	1

ABBREVIATIONS: N = Native; I = Introduced

NOTE: **Bold** = target weed species

Table 5 Site 2 Plant Species List and Percent Cover					
				Percent Cover	
Scientific Name	**Common Name**	**Family**	**Native/ Introduced**	**Pre-imp 12.6.23**	**Post-imp 6.10.24**
Monocots					
Brachypodium distachyon	**purple false brome**	Poaceae	I	25	0.1
Bromus madritensis	compact brome	Poaceae	I	0.1	0
Stipa pulchra	purple needle grass	Poaceae	N	0.0	0.1
Dicots					
Artemisia californica	California sagebrush	Asteraceae	N	0.5	5
Astragalus trichopodus	locoweed	Fabaceae	N	0.1	0.1
Baccharis sarothroides	broom baccharis	Asteraceae	N	3	3
Brassica nigra	black mustard	Brassicaceae	I	4	0
Centaurea melitensis	**tocalote**	Asteraceae	I	60	0.1
Gutierrezia californica	matchweed	Asteraceae	N	0	1
Hazardia squarrosa	saw-thoothed goldenbush	Asteraceae	N	0.1	0.1
Isocoma menziesii	goldenbush	Asteraceae	N	2	6
Malosma laurina	laurel sumac	Anacardiaceae	N	2	2
***Sonchus* spp.**	**sow thistle**	Asteraceae	I	0.1	0.1

ABBREVIATIONS: N = Native; I = Introduced

NOTE: **Bold** = target weed species

Table 6 Site 3 Plant Species List and Percent Cover					
				Percent Cover	
Scientific Name	**Common Name**	**Family**	**Native/ Introduced**	**Pre-imp 12.6.23**	**Post-imp 6.10.24**
Lycophytes					
Ophioglossum californicum	adder tongue	Ophioglossaceae	N	0	0.1
Selaginella cinerascens	ashy spike-moss	Selaginellaceae	N	0.2	0.2
Monocots					
Allium haematochiton	red skin onion	Alliaceae	N	0	0.2
Bloomeria clevelandii	Cleveland's goldenstar	Themidaceae	N	0.1	1
Brachypodium distachyon	**purple false brome**	Poaceae	I	0	1
Bromus diandrus	ripgut grass	Poaceae	I	10	0
Bromus hordeaceus	soft chess	Poaceae	I	30	0
Bromus madritensis	compact brome	Poaceae	I	30	0
Calochortus splendens	splendid mariposa lily	Liliaceae	N	0	0.1
Festuca myuros	rattail fescue	Poaceae	I	2	0.1
Sisyrinchium bellum	blue-eyed grass	Iridaceae	N	0.1	5
Stipa pulchra	purple needle grass	Poaceae	N	0.3	3
Dicots					
Acmispon glaber	deerweed	Fabaceae	N	0.1	0.5
Artemisia californica	California sagebrush	Asteraceae	N	1	3
Baccharis sarothroides	broom baccharis	Asteraceae	N	2	5
Brassica nigra	black mustard	Brassicaceae	I	3	0
Centaurea melitensis	**tocalote**	Asteraceae	I	2	0.1

Table 6 Site 3 Plant Species List and Percent Cover					
				Percent Cover	
Scientific Name	**Common Name**	**Family**	**Native/ Introduced**	**Pre-imp 12.6.23**	**Post-imp 6.10.24**
Convolvulus simulans	small flowered bindweed	Convolvulaceae	N	0	0.1
Deinandra fasciculata	fascicled tarweed	Asteraceae	N	3	1
Eriogonum fasciculatum	California buckwheat	Polygonaceae	N	0.1	0.1
Erodium botrys	long-billed filaree	Geraniaceae	I	0.1	0
Ferocactus viridescens	coast barrel cactus	Cactaceae	N	0.1	0.1
Galium aparine	common bedstraw	Rubiaceae	N	0.1	0.1
Gutierrezia californica	matchweed	Asteraceae	N	0.1	0.1
Isocoma menzeisii	goldenbush	Asteraceae	N	0.5	1
Logfia gallica	yerba impia	Asteraceae	I	0	0.1
Lysimachia arvensis	scarlet pimpernel	Primulaceae	I	0	0.1
Malosma laurina	laurel sumac	Anacardiaceae	N	4	4
Opuntia littoralis	prickly pear	Cactaceae	N	0.5	0.5
Pseudognaphalium biolettii	cudweed	Asteraceae	N	0.1	0
Rhus integrifolia	lemonade berry	Anacardiaceae	N	1	2
Sonchus asper	**prickly sow thistle**	Asteraceae	I	0.1	0
Stephanomeria virgata	tall wreath plant	Asteraceae	N	0.1	0.1
Zeltnera venusta	canchalagua	Geraniaceae	N	0	1

ABBREVIATIONS: N = Native; I = Introduced

NOTE: **Bold** = target weed species

Table 7 Site 4 Plant Species List and Percent Cover					
				Percent Cover	
Scientific Name	**Common Name**	**Family**	**Native/ Introduced**	**Pre-imp 12.6.23**	**Post-imp 6.10.24**
Monocots					
Avena sp.	wild oat	Poaceae	I	0.2	0
Bromus hordeaceus	soft chess	Poaceae	I	0	0.1
Carex/Cyperus spp.	sedge	Cyperaceae	N	0	0.1
Distichlis spicata	saltgrass	Poaceae	N	0	0.5
Stipa pulchra	purple needlegrass	Poaceae	N	0	0.1
Dicots					
Baccharis sarothroides	broom baccharis	Asteraceae	N	1	1
Centaurea melitensis	**tocalote**	Asteraceae	I	0.2	0.1
Clarkia purpurea	purple clarkia	Onagraceae	N	0	0.1
Convolvulus simulans	small flowered morning glory	Convolvulaceae	N	0.2	30
Deinandra fasciculata	fascicled tarweed	Asteraceae	N	90	0.1
Erigeron bonariensis	horseweed	Asteraceae	I	0	0.1
Erodium botrys	long-billed filaree	Geraniaceae	I	1	0.1
Euphorbia spathulata	reticulate-seed spurge	Euphorbiaceae	N	0	0.1
Helminthotheca echioides	bristly ox-tongue	Asteraceae	I	0.2	0
Logfia gallica	yerba impia	Asteraceae	I	0	0.1
Lysimachia arvensis	scarlet pimpernel	Primulaceae	I	0.2	0.1
Lythrum hyssopifolia	purple loosestrife	Lythraceae	I	0.2	0.1
Malvella leprosa	alkali weed	Malvaceae	N	0.3	3

Table 7 Site 4 Plant Species List and Percent Cover					
				Percent Cover	
Scientific Name	**Common Name**	**Family**	**Native/ Introduced**	**Pre-imp 12.6.23**	**Post-imp 6.10.24**
Pseudognaphalium palustre	cudweed	Asteraceae	N	0	0.1
Silene gallica	pink catchfly	Caryophyllaceae	I	0	0.1
Sonchus spp.	**sow thistle**	Asteraceae	I	0	0.1
Zeltnera venusta	canchalagua	Geraniaceae	N	0	0.1

ABBREVIATIONS: N = Native; I = Introduced

NOTE: **Bold** = target weed species

APPENDIX 3

SAN DIEGO ASSOCIATION OF GOVERNMENTS

MISSION TRAILS SAN DIEGO THORNMINT RESTORATION AND ENHANCEMENT PROJECT

Mission Trails Regional Park Foundation
Year 1 Annual Report - General Project Photos
Reporting Period: October 1, 2023-September 30, 2024
Submission Date: October 21, 2024
SANDAG Contract Number: S1125506

Photo 1: Site 1 Crew Dethatching Date 12.18.23

Photo 1: Site 3 Crew Removing Debris Date 12.20.23

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 3
General Project Photos 1 and 2

ESA

Photo 3: Site 3 Crew Installing Fence Date 12.19.23

Photo 4: Site 3 Newly Installed Fence Date 12.20.23

D2023008 11.00 - Mission Trails SD Thornmint Restoration\05 Graphics-GIS-Modeling-USE AZURE\Illustrator\Attachment 4

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 3
General Project Photos 3 and 4

ESA

Photo 5: Site 2 Crew Spraying Date 1.31.24

Photo 6: Site 3 After Hand Weeding Blue-eyed Grass Date 1.31.24

SOURCE: ESA, 2024

Photo 7: Site 4 Crew Spraying Date 1.31.24

Photo 8: Site 4 Newly Germinated Thornmint Seedlings Date 2.16.24

SOURCE: ESA, 2024

Photo 9: Site 4 Invasive Green Garden Snail Date 3.6.24

Photo 10: Site 3 Crew Hand Weeding San Diego Goldenstar Date 3.14.24

SOURCE: ESA, 2024

Photo 11: Site 1 Crew Hand Weeding Thornmint Date 3.15.24

Photo 12: Site 1 Crew Hand Weeding and Weed Whipping Date 4.4.24

SOURCE: ESA, 2024

Photo 13: Site 3 Crew Weed Whipping Non-natives Date 4.4.24

Photo 14: Site 4 Crew Hand Weeding Area Dominated by Small-flowered Morning Glory Date 4.4.24

SOURCE: ESA, 2024

Photo 15: Site 1 Crew Hand Weeding San Diego Thornmint Date 4.25.24

Photo 16: Site 3 Crew Spraying Non-natives Date 4.25.24

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 3
General Project Photos 15 and 16

ESA

Photo 17: Site 3 Red skinned onion 3.14.24

Photo 18: Site 3 Blue-eyed Grass and San Diego Goldenstar Date 4.26.24

D202300811.00 - Mission Trails SD Thornmint Restoration\05 Graphics-GIS-Modeling-USE AZURE\Illustrator\Attachment 4

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 3
General Project Photos 17 and 18

ESA

Photo 19: Site 3 Fly Visiting San Diego Goldenstar Flower 4.26.24

Photo 20: Site 1 San Diego Thornmint After Herbivory Date 4.25.24

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 3
General Project Photos 19 and 20

ESA

Photo 21: Site 1 Crew Installing Protective Fencing Date 5.7.24

Photo 22: Site 1 Crew Installing Protective Fencing Date 5.7.24

SOURCE: ESA, 2024

Photo 23: Site 3 Splendid Mariposa Lily Date 5.8.24

Photo 24: Site 3 Coast Barrel Cactus Date 5.9.24

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 3
General Project Photos 23 and 24

ESA

Photo 25: Site 3 Sign After Installation by Park Ranger Date 5.8.24

Photo 26: Site 1 Flowering San Diego Thornmint with Beetle Date 5.18.24

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 3
General Project Photos 25 and 26

ESA

Photo 27: Site 1 Flowering San Diego Thornmint After Fencing Date 6.23.24

Photo 28: Site 1 California Bumblebee Visiting Thornmint 7.5.24

SOURCE: ESA, 2024

Photo 29: Site 1 Crew Thinning Broom Baccharis 9.3.24

Photo 30: Site 2 Crew Thinning Broom Baccharis 9.3.24

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 3
General Project Photos 29 and 30

ESA

Photo 31: Site 3 Crew Thinning Broom Baccharis 9.3.24

Photo 32: Site 4 Crew Installing Protective Fence 9.3.24

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 3
General Project Photos 31 and 32

ESA

Photo 33: Site 2 Crew Installing Protective Fence 9.4.24

Photo 34: Site 3 Crew Installing Protective Fence 9.4.24

SOURCE: ESA, 2024

APPENDIX 4

SAN DIEGO ASSOCIATION OF GOVERNMENTS

MISSION TRAILS SAN DIEGO THORNMINT RESTORATION AND ENHANCEMENT PROJECT

Mission Trails Regional Park Foundation
Year 1 Annual Report - Before and After Repeat Photos
Reporting Period: October 1, 2023-September 30, 2024
Submission Date: October 21, 2024
SANDAG Contract Number: S1125506

Photo 1: Photo Point 1 Site 1 photo 1 before implementation Date 12.6.23

Photo 2: Photo Point 1 Site 1 Photo 1 after implementation Date 7.11.24

D202300811.00 - Mission Trails SD Thornmint Restoration\05 Graphics-GIS-Modeling-USE AZURE\Illustrator\Attachment 4

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 4

Before and After Repeat Photos 1 and 2

ESA

Photo 3: Photo Point 2 Site 1 photo 1 before implementation Date 12.6.23

Photo 4: Photo Point 2 Site 1 Photo 1 after implementation Date 7.11.24

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 4

Before and After Repeat Photos 3 and 4

ESA

Photo 5: Photo Point 3 Site 1 photo 1a before implementation Date 12.6.23

Photo 6: Photo Point 3 Site 1 Photo 1a after implementation Date 7.11.24

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 4

Before and After Repeat Photos 5 and 6

ESA

Photo 7: Photo Point 3 Site 1 photo 1b before implementation Date 12.6.23

Photo 8: Photo Point 3 Site 1 Photo 1b after implementation Date 7.11.24

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 4

Before and After Repeat Photos 7 and 8

ESA

Photo 9: Photo Point 4 Site 1 photo 1 before implementation Date 12.6.23

Photo 10: Photo Point 4 Site 1 Photo 1 after implementation Date 7.11.24

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 4
Before and After Repeat Photos 9 and 10

ESA

Photo 11: Photo Point 1 Site 2 photo 1 before implementation Date 12.6.23

Photo 12: Photo Point 1 site 2 photo 1 after implementation Date 6.10.24

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 4
Before and After Repeat Photos 11 and 12

ESA

Photo 13: Photo Point 2 Site 2 photo 1 before implementation Date 12.6.23

Photo 14: Photo Point 2 site 2 photo 1 after implementation Date 6.10.24

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 4

Before and After Repeat Photos 13 and 14

ESA

Photo 15: Photo Point 3 Site 2 photo 1 before implementation Date 12.6.23

Photo 16: Photo Point 3 site 2 photo 1 after implementation Date 6.10.24

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 4
Before and After Repeat Photos 15 and 16

ESA

Photo 17: Photo Point 4 Site 2 photo 1 before implementation Date 12.6.23

Photo 18: Photo Point 4 site 2 photo 1 after implementation Date 6.10.24

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 4
Before and After Repeat Photos 17 and 18

ESA

Photo 19: Photo Point 1 Site 3 photo 1a before 1 implementation Date 2.6.23

Photo 20: Photo Point 1 site 3 photo 1a after implementation Date 6.10.24

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 4
Before and After Repeat Photos 19 and 20

ESA

Photo 21: Photo Point 1 Site 3 photo 1b before implementation Date 12.6.23

Photo 22: Photo Point 1 site 3 photo 1b after implementation Date 6.10.24

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 4
Before and After Repeat Photos 21 and 22

ESA

Photo 23: Photo Point 2 Site 3 photo 1 before implementation Date 12.6.23

Photo 24: Photo Point 2 site 3 photo 1 after implementation Date 6.10.24

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 4

Before and After Repeat Photos 23 and 24

ESA

Photo 25: Photo Point 3 Site 3 photo 1 before implementation Date 12.6.23

Photo 26: Photo Point 3 site 3 photo 1 after implementation Date 6.10.24

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 4
Before and After Repeat Photos 25 and 26

ESA

Photo 27: Photo Point 4 Site 3 photo 1 before implementation Date 12.6.23

Photo 28: Photo Point 4 site 3 photo 1a after implementation Date 6.10.24

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 4

Before and After Repeat Photos 27 and 28

ESA

Photo 29: Photo Point 4 Site 3 photo 1b before implementation Date 12.6.23

Photo 30: Photo Point 4 Site 3 photo 1b after implementation Date 6.10.24

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 4
Before and After Repeat Photos 29 and 30

ESA

Photo 31: Photo Point 1 Site 4 photo 1a before implementation Date 12.6.23

Photo 32: Photo Point 1 site 4 photo 1a after implementation Date 6.10.24

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 4
Before and After Repeat Photos 31 and 32

ESA

Photo 33: Photo Point 1 Site 4 photo 1b before implementation Date 12.6.23

Photo 34: Photo Point 1 site 4 photo 1b after implementation Date 6.10.24

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 4

Before and After Repeat Photos 33 and 34

ESA

Photo 35: Photo Point 2 Site 4 photo 1 before implementation Date 12.6.23

Photo 36: Photo Point 2 site 4 photo 1 after implementation Date 6.10.24

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 4

Before and After Repeat Photos 35 and 36

ESA

Photo 37: Photo Point 3 Site 4 photo 1 before implementation Date 12.6.23

Photo 38: Photo Point 3 site 4 photo 1 after implementation Date 6.10.24

D20230811.00 - Mission Trails SD Thornmint Restoration\05 Graphics-GIS-Modeling-USE AZURE\Illustrator\Attachment 4

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 4
Before and After Repeat Photos 37 and 38

ESA

Photo 39: Photo Point 4 Site 4 photo 1 before implementation Date 12.6.23

Photo 40: Photo Point 4 site 4 photo 1 after implementation Date 6.10.24

SOURCE: ESA, 2024

Mission Trails San Diego Thornmint Restoration and Enhancement Project

Appendix 4
Before and After Repeat Photos 39 and 40

ESA

APPENDIX 5

SAN DIEGO ASSOCIATION OF GOVERNMENTS

MISSION TRAILS SAN DIEGO THORNMINT RESTORATION AND ENHANCEMENT PROJECT

Mission Trails Regional Park Foundation
Year 1 Annual Report - Project Performance Spreadsheet
Reporting Period: October 1, 2023-September 30, 2024
Submission Date: October 21, 2024
SANDAG Contract Number: S1125506

Environmental Mitigation Program

Land Management Grant Program: Performance Measures

Contract #S1125506, Mission Trails Regional Park Foundation, Mission Trails San Diego Thornmint Restoration and Enhancement Project																																
Habitat Type & Size		Habitat Restoration			Sensitive Animal Species Management				Sensitive Plant Species Enhanced/Restored (E/R)				Invasive Plant Treatment/Removal (T/R)				Invasive Animal Species Removal				ence Repair/Installation (R/I) & Signage Repair/Installation (R						Outreach Events & Volunteer Hours					
Habitat Type	Acres Managed	Proposed Total Habitat Restoration (ac)	Total Habitat Restored (ac)	Total Habitat Restored %	MSP Animal Species by Habitat Type	Proposed Acres Managed for MSP Animal Species	Total Acres Managed for Sensitive Animal Species	Percent of Proposed Acres Managed for Sensitive Animal Species	MSP Plant Species by Habitat Type	Proposed Total MSP Sensitive Plant Species Occurrences E/R by Species	Total Sensitive Plant Species Occurrences E/R by Species	Perecent of Proposed Sensitive Plant Species Occurrence E/R	Type of Invasive Plant Species by Habitat Type	Proposed Acres Managed of Invasive Plant Species T/R	Total Acres Managed for Invasive Plant Species	Percent Proposed Acres Invasive Plant Species T/R	Type of Invasive Animal Species	Total Invasive Animal Species Observed	Total Invasive Animal Species Removed	Percent Observed Invasive Animal Species Removed	Proposed Total Fencing R/I (ft)	Total Fencing R/I (ft)	Percent of Proposed Total Fencing R/I	Proposed Total Signage R/I	Total Signage R/I	Percent Proposed Total Signage R/I	Proposed Total Outreach Events	Total Outreach Events	Percent Proposed Total Outreach Events	Proposed Total Volunteer Hours	Total Volunteer Hours	Percent of Proposed Total Volunteer Hours
Clay Lens-Thornmint See Explanation in the Quarterly Report 1	1000	1.40	1.50	107%				0%	San Diego thornmint (*Acanthominth a ilicifolia*)	1.00	1221.00	100%	Purple false brome (*Brachypodium distachyon*), Prickly sow thistle (*Sonchus asper*), Tocalote (*Centaurea melitensis*)	1.4	3	214%				0%	170.00	170.00	100%	1.0	1.0	100%	3.00		0%	40.00		0%
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