

San Diego Association of Governments (SANDAG)
Memorandum of Understanding (MOU) #5004552 - Amendment 6

Strategic Control of Invasive Weed Species
1st Quarter Report - FY 2023-24: Report #35 for Project

July 1st, 2023 – September 30th, 2023

Project: County of San Diego, Department of Agriculture, Weights & Measures (AWM) –
Strategic Removal of Invasive Weed Species

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Project:

Invasive plants are considered one of the biggest threats to endangered species and their habitats. A strategic plan for managing non-native invasive plant species in San Diego County was completed in 2012 through a SANDAG contract to the Conservation Biology Institute (CBI) (<http://sdmmp.com>). The Invasive Plant Strategic Plan (IPSP) is designed to develop a strategic approach towards the eradication and management of invasive plants in the San Diego region. The IPSP is meant to work in conjunction with the Management Strategic Plan for Conserved Lands in Western San Diego County (MSP) ([Management Strategic Plan](#)).

This Scope of Work will require the contractor to focus on the management of invasive plants identified in Levels 1, 2, and 3 of the IPSP. The following tasks have been identified as necessary to implement this effort:

This quarterly report covers work funded through the SANDAG Contract, which allowed work to occur from July 1st to September 30th 2023.

TASK 1 – Invasive Plant Species Coordinator:

Level of Effort: (25%) of overall contract

Right of Entry (ROE) work and coordination with property owners and crews:

Coordination with property owners, land managers and AWM crew occurred throughout the quarter. This supported work this quarter and preparation for the next quarter.

The coordinator worked on multiple species at sites across the county:

Current work sites were visited and assessed. These included: Limonium, Ward's weed, yellow star thistle, myoporum acuminatum and spotted knap weed.

Regulatory permits:

No new work.

Report preparation:

The quarterly report was prepared and submitted. Work on the contract completion report also occurred.

Mapping and occurrence data:

Reviewing iNaturalist Early Detection Rapid Response (EDRR) observations (confirming and correcting IDs), as well as mapping and surveying for new populations occurred. GIS coverage of all sites was updated (points). GIS coverage of all work was updated (polygons).

Work plan:

Work crew species and sites to be treated was updated.

TASK 2 – AWM: Invasive Plant Level 1 Management

Level of Effort: (<10%) of overall contract.

Level 1 Management Species are EDRR targets that were **not known to occur** in the county when the IPSP was written (2012).

Crews surveyed and treated no level 1 species this quarter. Maps for site show treated areas (red polygons) and surveyed areas as white lines which track pathways used by crews to survey and control plants. AWM Integrated Pest Control (IPC) carried out optimal plant control, either hand pulling or using pesticide applications, protected the natural environment by preventing off-site movement of pesticides, and utilized Best Management Practices (BMPs) that prevented unintentional discharges to surface waters. For each site, AWM IPC followed the following procedures:

1. Identified the pest species to be treated.
2. Reviewed site conditions, such as soil texture, slope, standing water, irrigation or storm drains.
3. Identified and avoided streamside management areas and surface waters to prevent drift and application of pesticides not labeled for aquatic use onto surface waters.
4. Identified most appropriate method of control based on integrated pest management methods, designed to minimize the scale and number of pesticide applications.
5. Applied the least persistent and least toxic pesticide that effectively mitigates the target pest.

Table 1. Summary of treatments performed by AWM on Level 1 species this quarter.

Scientific Name	Common Name	# of Sites Worked	Acres Treated	Acres Surveyed	Plants Controlled
<i>none</i>					

TASK 3 – AWM: Invasive Plant Level 2 Management.

Level of Effort: (>40%) of overall contract

Level 2 Management Species are EDRR targets that were of limited distribution in the county when the IPSP was written (2012).

Crews surveyed and treated five invasive weed species (French Broom, Spotted Knapweed, Algerian Sea Lavender, European Sea Lavender, and Yellow Starthistle) at sixteen sites this quarter. AWM IPC made optimal pesticide applications, protected the natural environment by preventing off-site movement of pesticides, and utilized Best Management Practices (BMPs) that prevented unintentional discharges to surface waters. For each site, AWM IPC followed the following procedures:

1. Identified the pest species to be treated.
2. Reviewed site conditions, such as soil texture, slope, standing water, irrigation or storm drains.
3. Identified and avoided streamside management areas and surface waters to prevent drift and application of pesticides not labeled for aquatic use onto surface waters.
4. Identified most appropriate method of control based on integrated pest management methods, designed to minimize the scale and number of pesticide applications.
5. Applied the least persistent and least toxic pesticide that effectively mitigates the target pest.

Table 2. Summary of treatments performed by AWM on Level 2 species this quarter.

Scientific Name	Common Name	# of Sites Worked	Acres Treated	Acres Surveyed	Plants Controlled
<i>Centaurea solstitialis</i>	Yellow Starthistle	6	2.4	15	1,850
<i>Centaurea stoebe</i>	Spotted Knapweed	2	2.2	6.5	2,650
<i>Genista monspessulana</i>	French Broom	1	1.3	5.6	4,600
<i>Limonium duriusculum</i>	European Sea Lavender	2	0.4	1.4	4,000
<i>Limonium ramosissimum</i>	Algerian Sea Lavender	5	1.9	4.5	10,400

Centaurea solstitialis, Yellow Starthistle:



Table 3. Summary of treatments performed by AWM on *Centaurea solstitialis* (Yellow Starthistle).

Site Name	Common Name	# of Work Cycles	Acres Treated	Acres Surveyed	Plants treated
Site #2, Mission Trails	Yellow Starthistle	1	0.7	2.0	1,050
Site #4, Wynola	Yellow Starthistle	1	0.1	1.5	10
Site #5, Sycamore Canyon, San Diego	Yellow Starthistle	1	0	3.0	0
Site #8, Mendenhall, Palomar	Yellow Starthistle	1	1.1	8.0	380
Site #13, Japatul, Ariza	Yellow Starthistle	1	0.3	0.5	350
Site #16, Mesa Grande	Yellow Starthistle	1	0.2	2.0	60

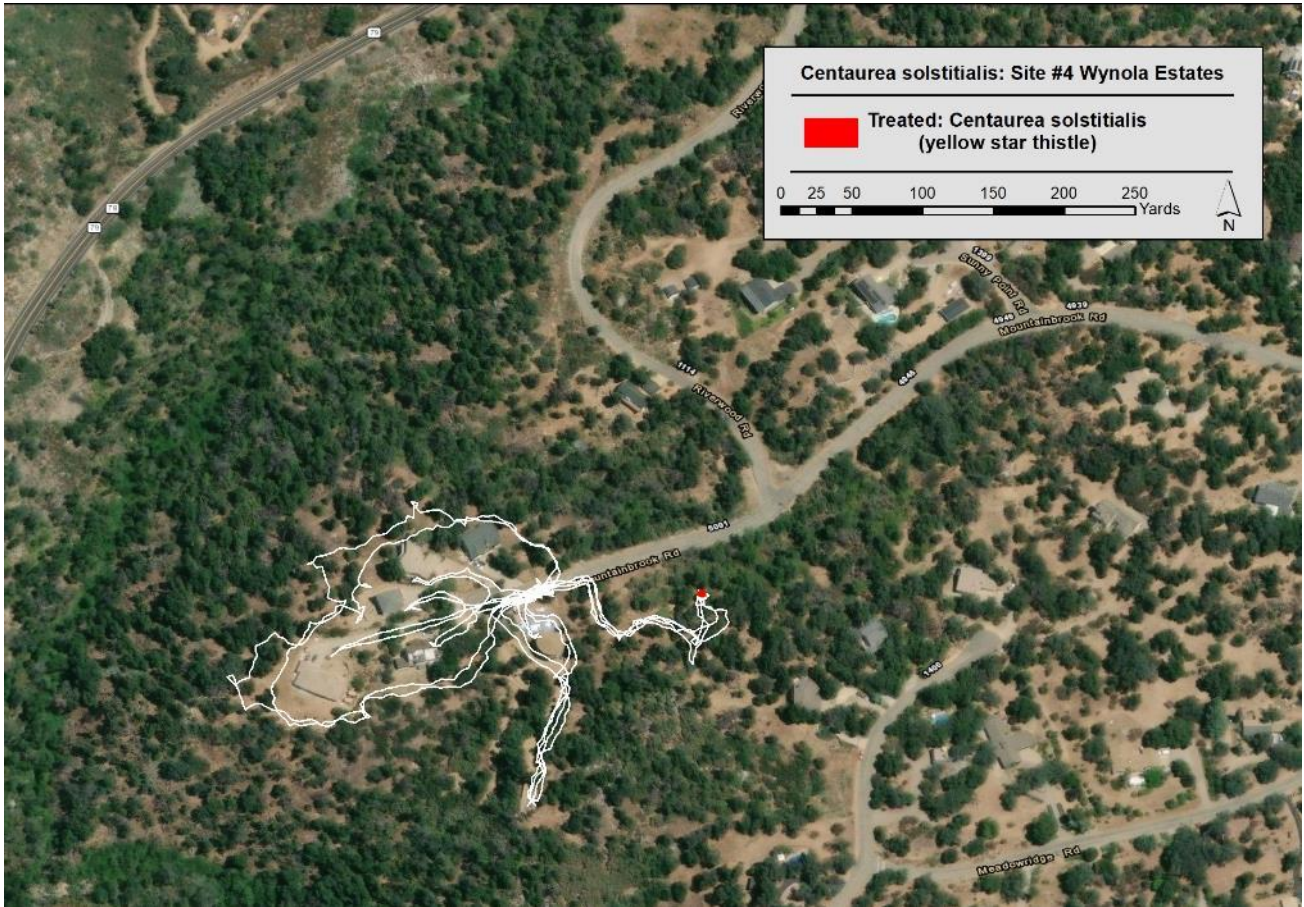
***Centaurea solstitialis*, Yellow Starthistle: Site #2, Mission Trails**

1,050 plants were found during surveys. A crew of one to two individuals visited the site over five day from June 30th to July 11th 2023. No plants were pulled in 2022, early May might have been to early for treatment last year.



Centaurea solstitialis, Yellow Starthistle: Site #4, Wynola

10 plants were found during surveys. A crew of two individuals visited the site over one day on July 17th 2023. Thirty-five plants were pulled in 2022.



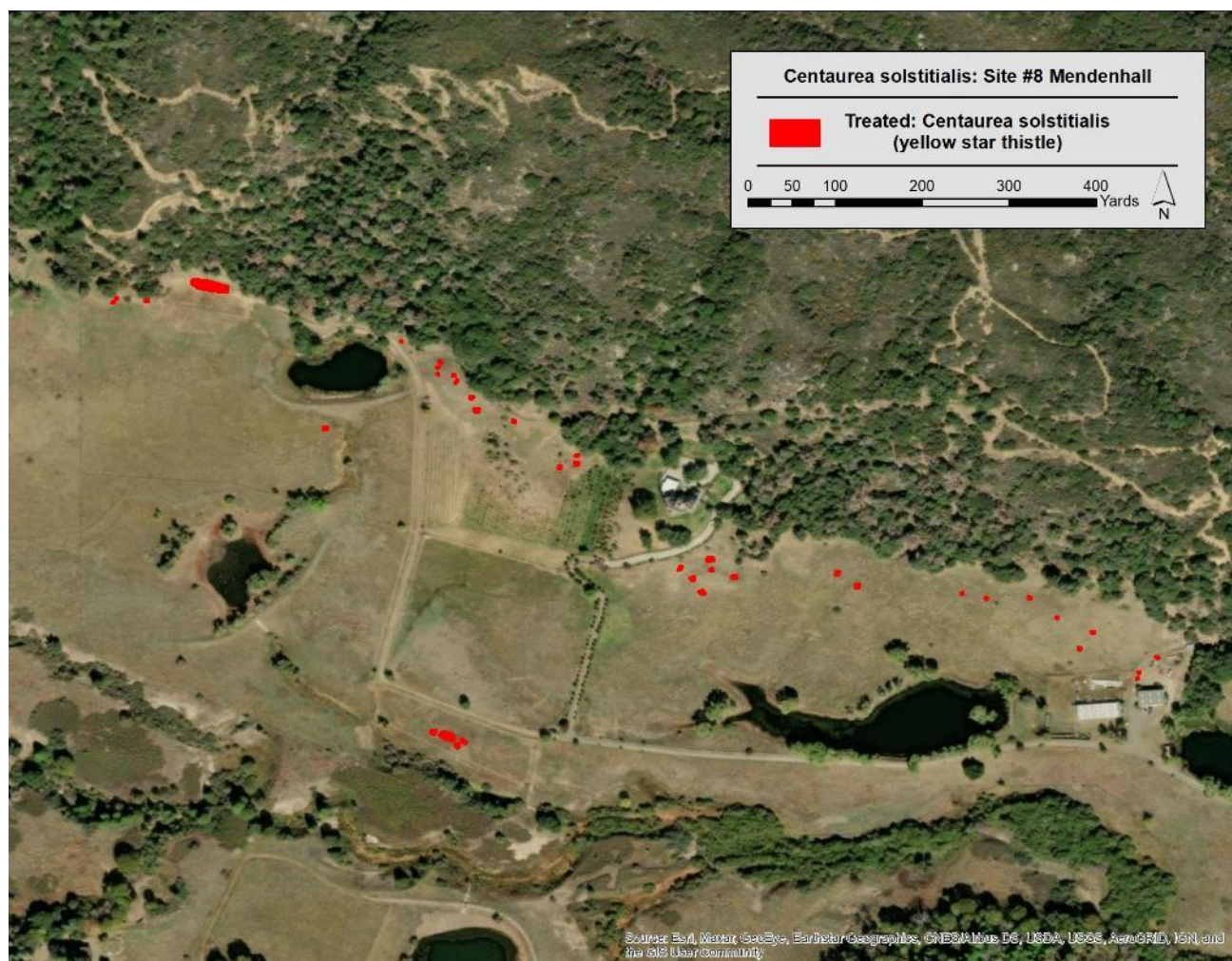
Centaurea solstitialis, Yellow Starthistle: Site #5, Sycamore Canyon

No plants were found during surveys for the second year. A crew of one individual visited the site over two days on July 11 and 12th 2023. 2 plants were pulled in 2021.



Centaurea solstitialis, Yellow Starthistle: Site #8 Mendenhall

380 plants were found and either pulled or treated with a post emergent herbicide during treatment of the site. A crew of two individuals visited the site over six days between July 19th through August 1st 2023. 265 plants were controlled in 2022 and 1,005 plants were controlled in 2021.



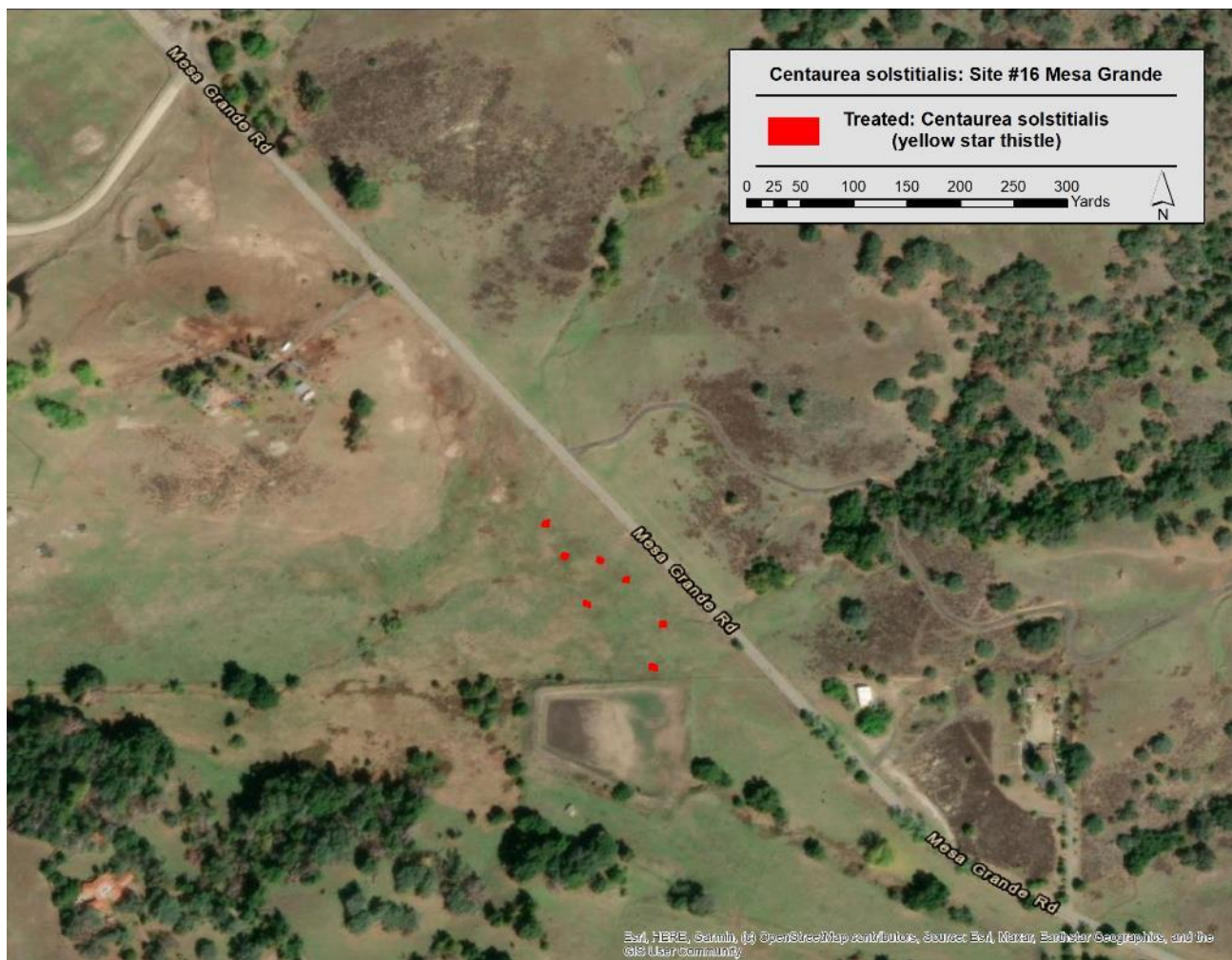
Centaurea solstitialis, Yellow Starthistle: Site #13 Japatul

350 plants were found and treated. A crew of one individual visited the site on July 13 and 14th 2023. Part of the site could not be accessed; the property owner is being contacted to obtain an ROE agreement. 204 plants were controlled in 202 and 115 plants were controlled in 2021.



Centaurea solstitialis, Yellow Starthistle: Site #16 Mesa Grande

60 plants were removed by hand. A crew of two individuals visited the site on July 18th 2023. 5 plants were controlled in 2022.



Centaurea stoebe, Spotted Knapweed:

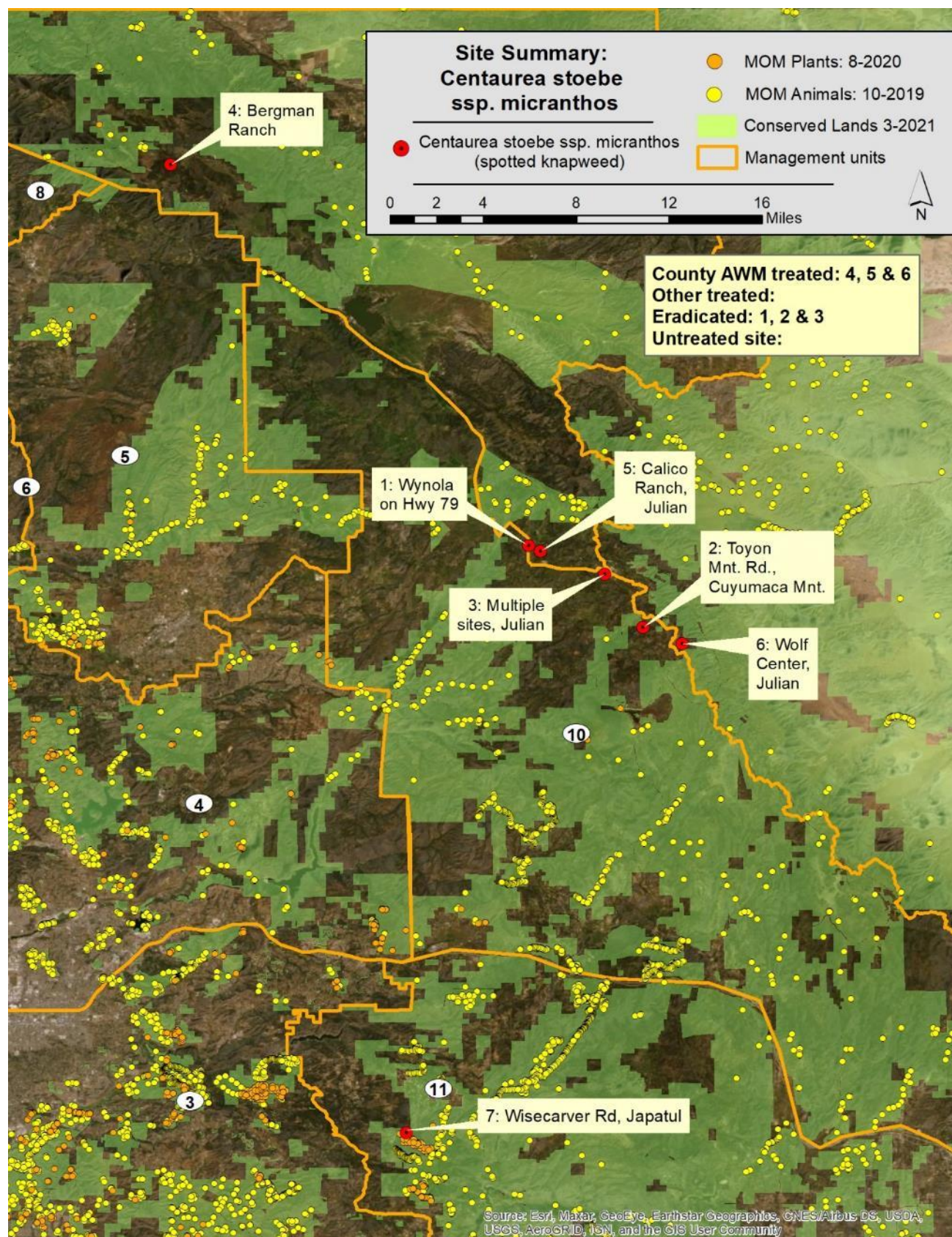


Table 4. Summary of treatments performed by AWM on *Centaurea stoebe* (Spotted Knapweed).

Site Name	Common Name	# of Visits	Acres Treated	Acres Surveyed	Plants treated
Site #5 Calico Ranch	Spotted Knapweed	1	0.2	1.3	50
Site #6, Wolf Center	Spotted Knapweed	1	2.0	5.2	2,600

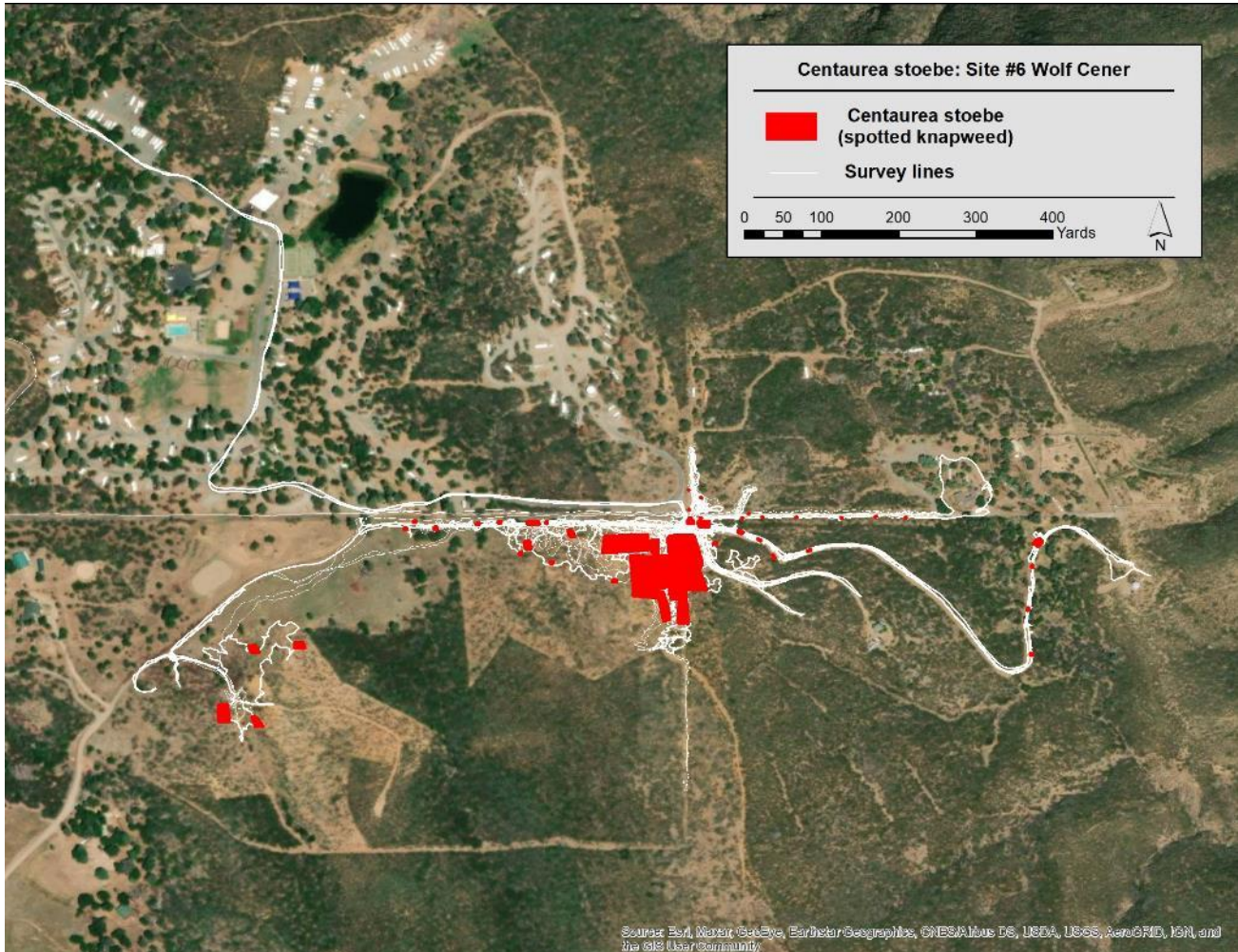
***Centaurea stoebe*, Spotted Knapweed: Site #5 Calico Ranch, Julian**

50 plants were treated with a post emergent on one day of surveying on August 2nd 2023. 39 plants were controlled in 2022 and 100 plants were controlled in 2021.

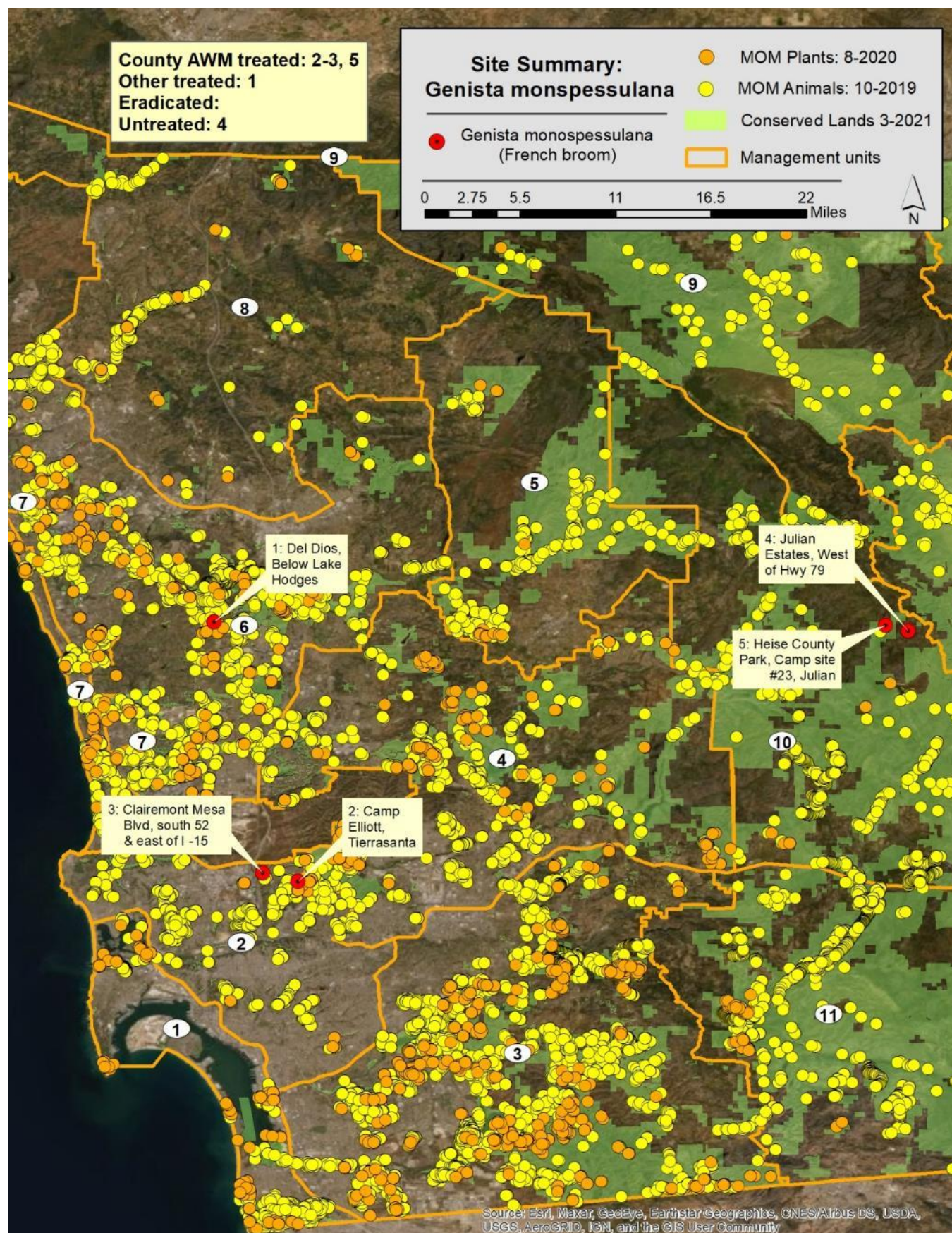


Centaurea stoebe, Spotted Knapweed: Site #6 Wolf Center, Julian

2,500 plants were treated by a crew of two over six, between August 8th and August 22rd 2023. Multiple treatment methods were used including hand pulling some mature plants and post emergent treatment. Additionally granular pre-emergent was used to help suppress the seedbank. 1,184 plants were controlled in 2022 and 1,870 plants were controlled in 2021.



Genista monspessulana, French Broom:

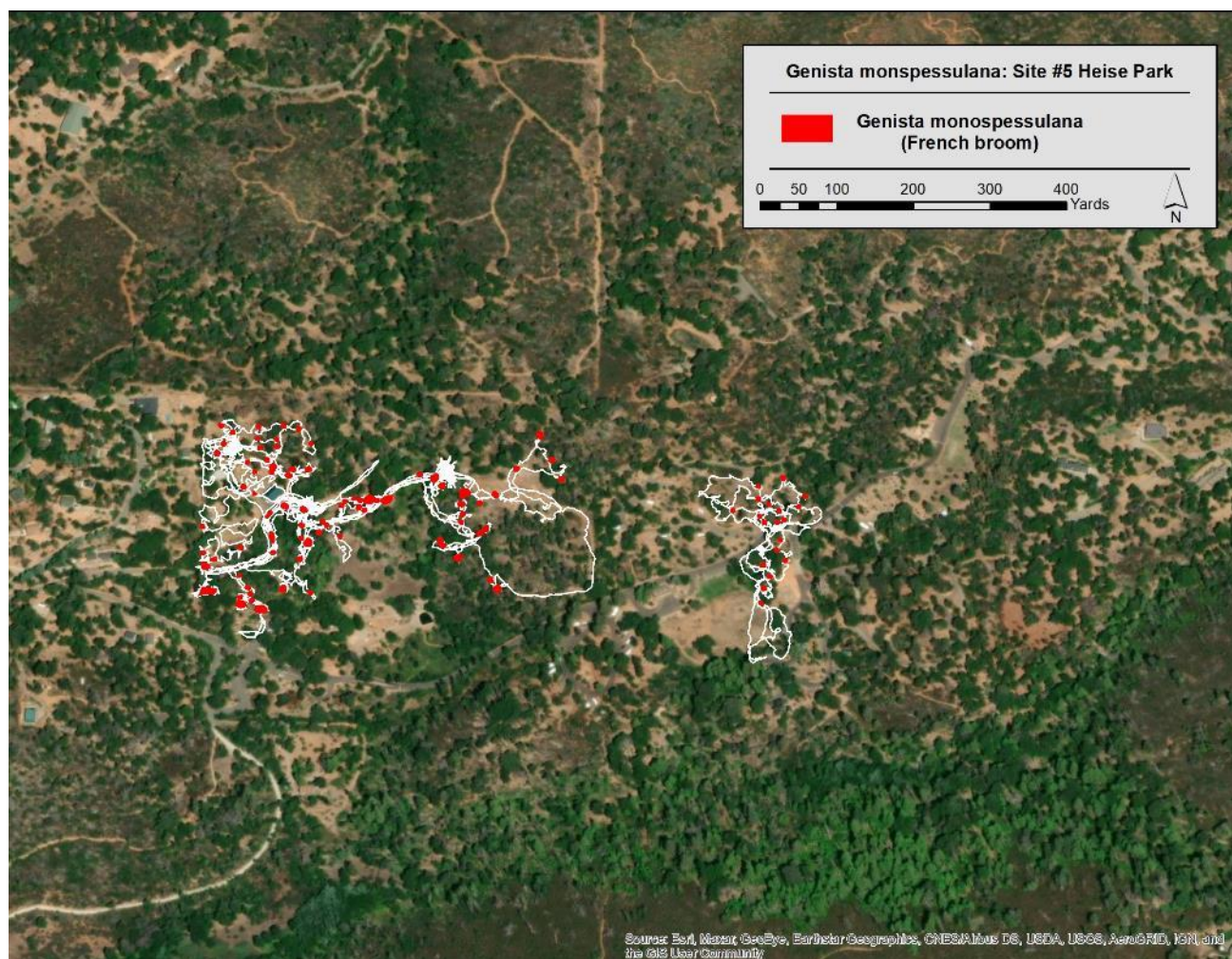


***Genista monspessulana*, French Broom: Site #5 Heise County Park, Julian.**

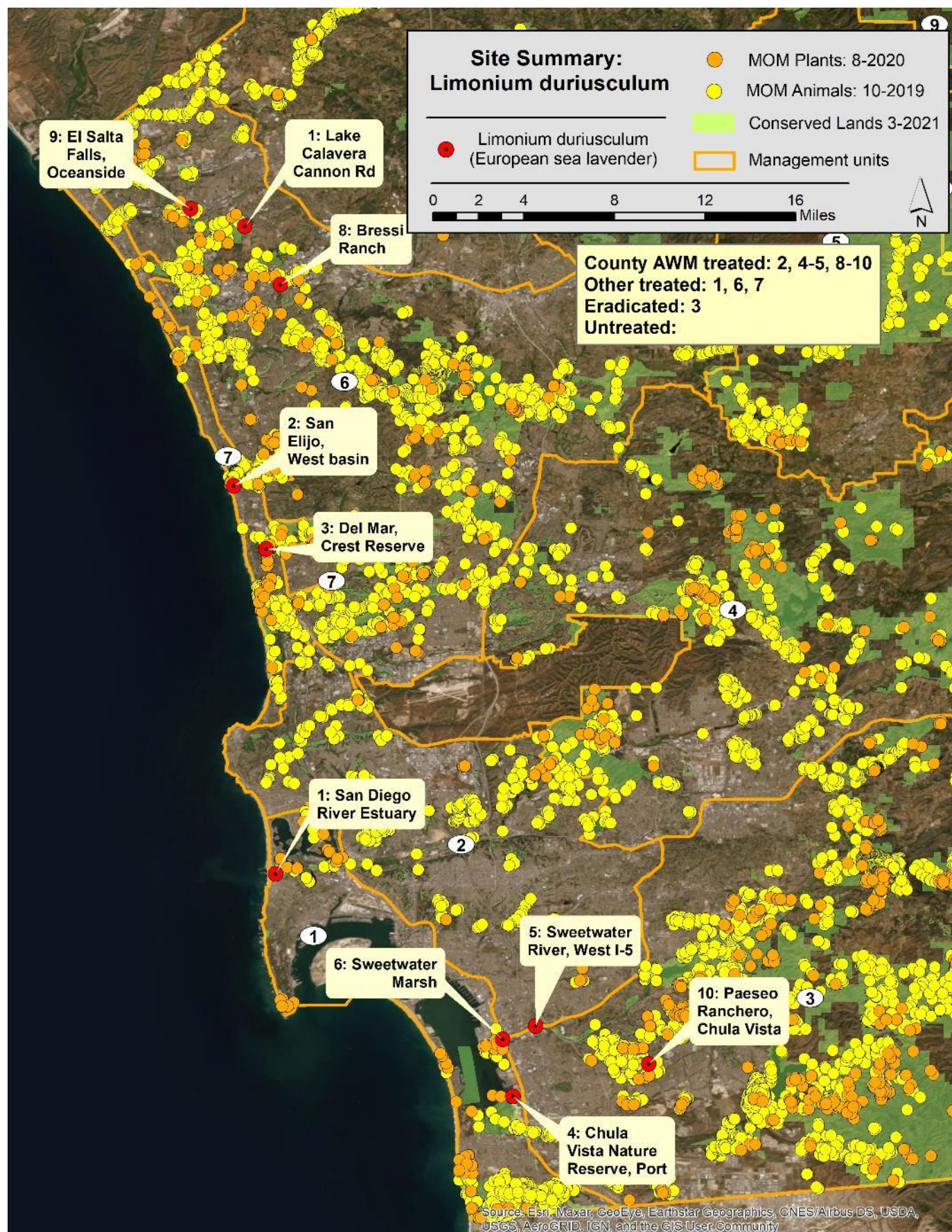
Table 8. Summary of treatments performed by AWM on *Genista monspessulana*, French Broom.

Site Name	Common Name	# of Work Cycles	Acres Treated	Acres Surveyed	Plants treated
Site #5 Heise County Park	French Broom	1	1.3	5.6	4,600

4,600 scattered seedlings and small plants were foliar treated with triclopyr. A crew of two individuals worked five days August 24th to 29th 2022. 1,518 plants were controlled in 2022 and 2,335 plants were controlled in 2021.



Limonium duriusculum, European Sea Lavender:



Limonium duriusculum, European Sea Lavender: Site #2 Solana Beach

Table 9. Summary of treatments performed by AWM on *Limonium duriusculum* (European Sea Lavender).

Site Name	Common Name	# of Work Cycles	Acres Treated	Acres Surveyed	Plants treated
Site #2 Solana Beach	European Sea Lavender	1	0	0.4	0

No plants were found during a survey on 9-19-2023. 18 plants were controlled in 2022.



Limonium duriusculum, European Sea Lavender: Site #10 Paseo Ranchero, Chula Vista

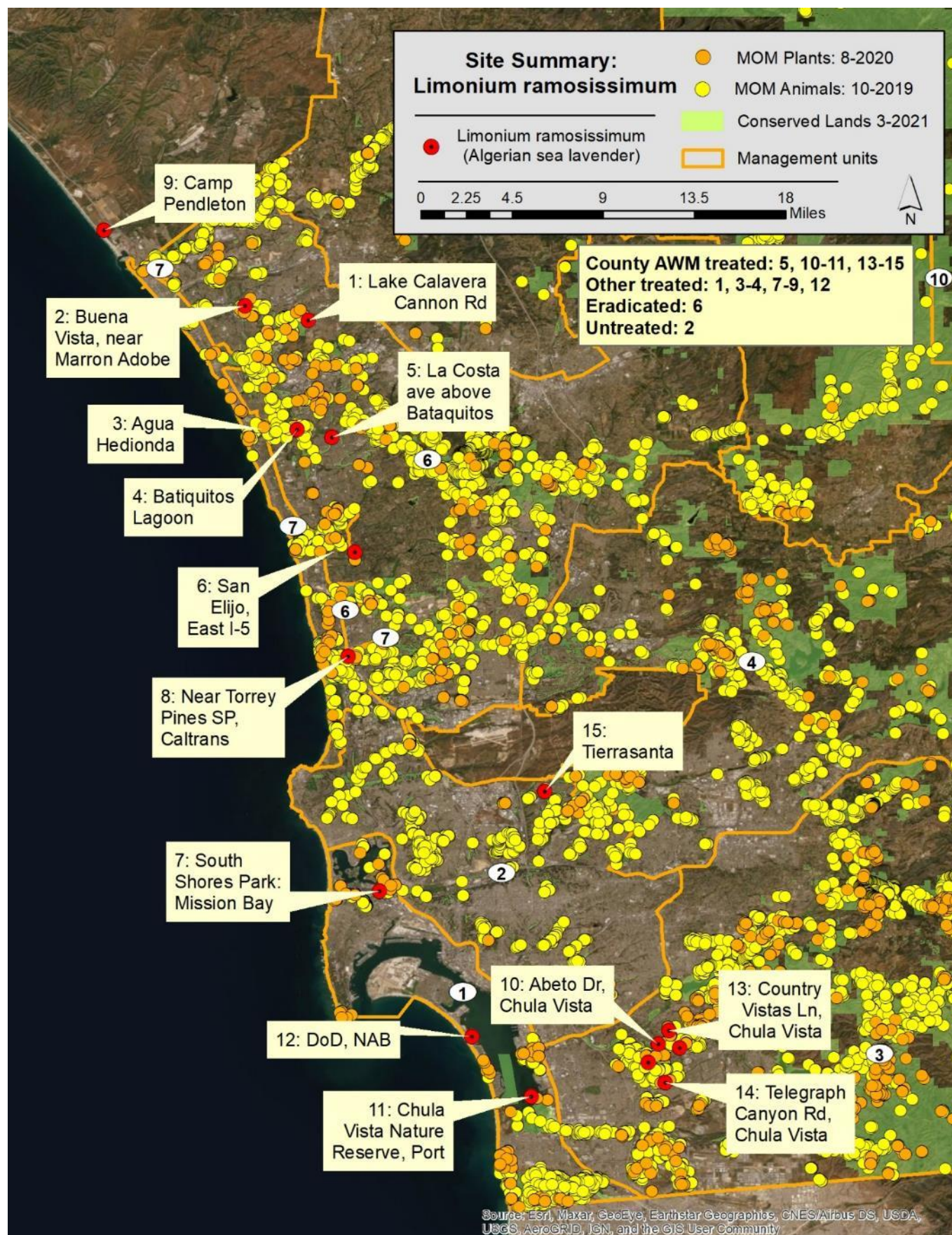
Table 11. Summary of treatments performed by AWM on *Limonium duriusculum* (European Sea Lavender).

Site Name	Common Name	# of Work Cycles	Acres Treated	Acres Surveyed	Plants treated
Site #10 Paseo Ranchero, Chula Vista	European Sea Lavender	1	0.3	1.2	4,000

4,000 plants were foliar treated by a crew of one individual on two days, September 22nd and 25th 2023. 1,100 plants were treated in 2022 and 5,000 plants were treated in 2021.



Limonium ramosissimum, Algerian Sea Lavender:



Limonium ramosissimum, Algerian Sea Lavender: Site #5 La Costa Ave Carlsbad

Table 12. Summary of treatments performed by AWM on *Limonium ramosissimum* (Algerian Sea Lavender).

Site Name	Common Name	# of Work Cycles	Acres Treated	Acres Surveyed	Plants treated
Site #5 La Costa, Carlsbad	Algerian Sea Lavender	1	0.2	0.7	800

800 scattered seedlings and small plants were foliar treated with glyphosate and imazapyr. A crew of one individual worked one day September 19th, 2023. 350 plants were controlled in 2022 and 2,000 plants were treated in 2021.



Limonium ramosissimum, Algerian Sea Lavender: Site #10 Abeto Dr, Chula Vista

Table 13. Summary of treatments performed by AWM on *Limonium ramosissimum* (Algerian Sea Lavender).

Site Name	Common Name	# of Work Cycles	Acres Treated	Acres Surveyed	Plants treated
Site #10 Abeto Dr, Chula Vista	Algerian Sea Lavender	1	0.8	1.6	7,500

7,500 scattered seedlings and small plants were foliar treated with glyphosate, and imazapyr. A crew of one individual worked four days August 28th to September 1st 2023. 1,500 plants were controlled in 2022 and 800 plants were controlled in 2021.



Limonium ramosissimum, Algerian Sea Lavender: Site #13 Country Vistas Estates, Chula Vista

Table 14. Summary of treatments performed by AWM on *Limonium ramosissimum* (Algerian Sea Lavender).

Site Name	Common Name	# of Work Cycles	Acres Treated	Acres Surveyed	Plants treated
Site #13 Country Vistas Estates, Chula Vista	Algerian Sea Lavender	1	0.3	2.0	550

2,300 scattered seedlings and small plants were foliar treated with glyphosate, and imazapyr. A crew of two individuals worked two days September 5th and 6th 2023. 550 plants were controlled in 2022 and 450 plants were controlled in 2021.



Limonium ramosissimum, Algerian Sea Lavender: Site #14 Telegraph Canyon Rd, Chula Vista

Table 15. Summary of treatments performed by AWM on *Limonium ramosissimum* (Algerian Sea Lavender).

Site Name	Common Name	# of Work Cycles	Acres Treated	Acres Surveyed	Plants treated
Site #14 Telegraph Canyon Rd, Chula Vista	Algerian Sea Lavender	1	0.2	0.8	800

800 scattered seedlings and small plants were foliar treated with glyphosate and imazapyr. A crew of one individual worked one day September 14th, 2023. 350 plants were treated in 2022 and 220 plants were controlled in 2021.



***Limonium ramosissimum*, Algerian Sea Lavender: Site #21 Paradise Creek, National City**

Table 16. Summary of treatments performed by AWM on *Limonium ramosissimum* (Algerian sea lavender).

Site Name	Common Name	# of Work Cycles	Acres Treated	Acres Surveyed	Plants treated
Site #15 Tierra Santa, San Diego	Algerian Sea Lavender	1	0.4	2.4	1,150

1,150 scattered seedlings and small plants were foliar treated with glyphosate and imazapyr. A crew of two individuals worked two days September 7th and 11th 2023. 2,160 plants were controlled in 2022.



TASK 4 – AWM: Invasive Plant Level 3 Management.

Level of Effort: (<20%) of overall contract

- No charges during this quarter.

TASK 5 – Coordinator: Tracking and Updating Invasive Species for Priority Removal.

Level of Effort: (5%) of overall contract

- Co-ordination to continue control of Ward's Weed in Carlsbad.
- Co-ordination with the City of San Diego, considering control of *Myoporum acuminatum*.
- Surveying of reports from iNaturalist.
- Co-ordination with San Diego Weed Management Area at quarterly meeting.
- Co-ordination to survey and control European and Algerian Sea Lavender species in South San Diego Bay. Managers from FWS, DoD, SDMMP and CBI discussed expanded and coordinated surveying and treatment.

Work Anticipated for 2nd Quarter Period, October 1st – December 31st 2023:

This work will be under a new Agreement.

Task 1 – Invasive Plant Species Coordinator:

- Coordinate ROE work with AWM, update database.
- Monitor and coordinate with AWM during implementation.
- Survey and map sites as needed.
- Prepare quarterly report.

Task 2 – AWM: Invasive Plant Level 1 Management.

- Survey, map, and treat any reported sightings of target Level 1 plants.
- Supervision of staff, provide training, guidance, and preparation for field work.
- Collect GIS treatment polygons and survey routes (lines) of targeted weeds.

Task 3 – AWM: Invasive Plant Level 2 Management.

- Survey, map, and treat any reported sightings of target Level 2 plants: Spotted Knapweed, Yellow Starthistle, and *Limonium* sp.
- Re-treatment of sites: Ward's weed, *Limonium* sp., Eupatory, and *Volutaria*.
- Supervision of staff, provide training, guidance, and preparation for field work.

- Coordinate and finalize tracking methods for work completed.
- Initiate and continue work outlined in work plan.
- Obtain signed ROEs.
- Collect GIS treatment polygons and survey routes (lines) of targeted weeds.

Task 4 – AWM: Invasive Plant Level 3 Management.

- No work planned.

Task 5 – Coordinator: Tracking and Updating Invasive Species for Priority Removal.

- Continue coordination with: Department of Defense, California State Parks, City Department of Parks and Recreation, San Diego Weed Management Area and County of Orange Center for Native Plant Society EDRR invasives group.
- Continue to aggregate data and track new prospective EDRR target species.
- Present at SDMMP land manager meeting, working group and other meetings as requested.
- Provide population status of EDRR regional targets to CDFA statewide assessment.