

**San Diego Association of Governments (SANDAG)
Memorandum of Understanding (MOU) #5004552**

**Strategic Control of Invasive Weed Species
*1st Quarter Report - FY 2021-22: Report #27 for Project***

July 1st, 2021 – September 30th, 2021

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

To: Kim Smith
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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 2021.

Covid 19: The outbreak has modified work procedures. Small crews are continuing field work following County and State guidelines. County AWM is following these procedures as they complete work.

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, Yellow Starthistle, and Spotted Knapweed.

Regulatory permits:

No new work.

Report preparation:

The quarterly report was prepared and submitted.

Mapping and occurrence data:

Reviewing iNaturalist 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).

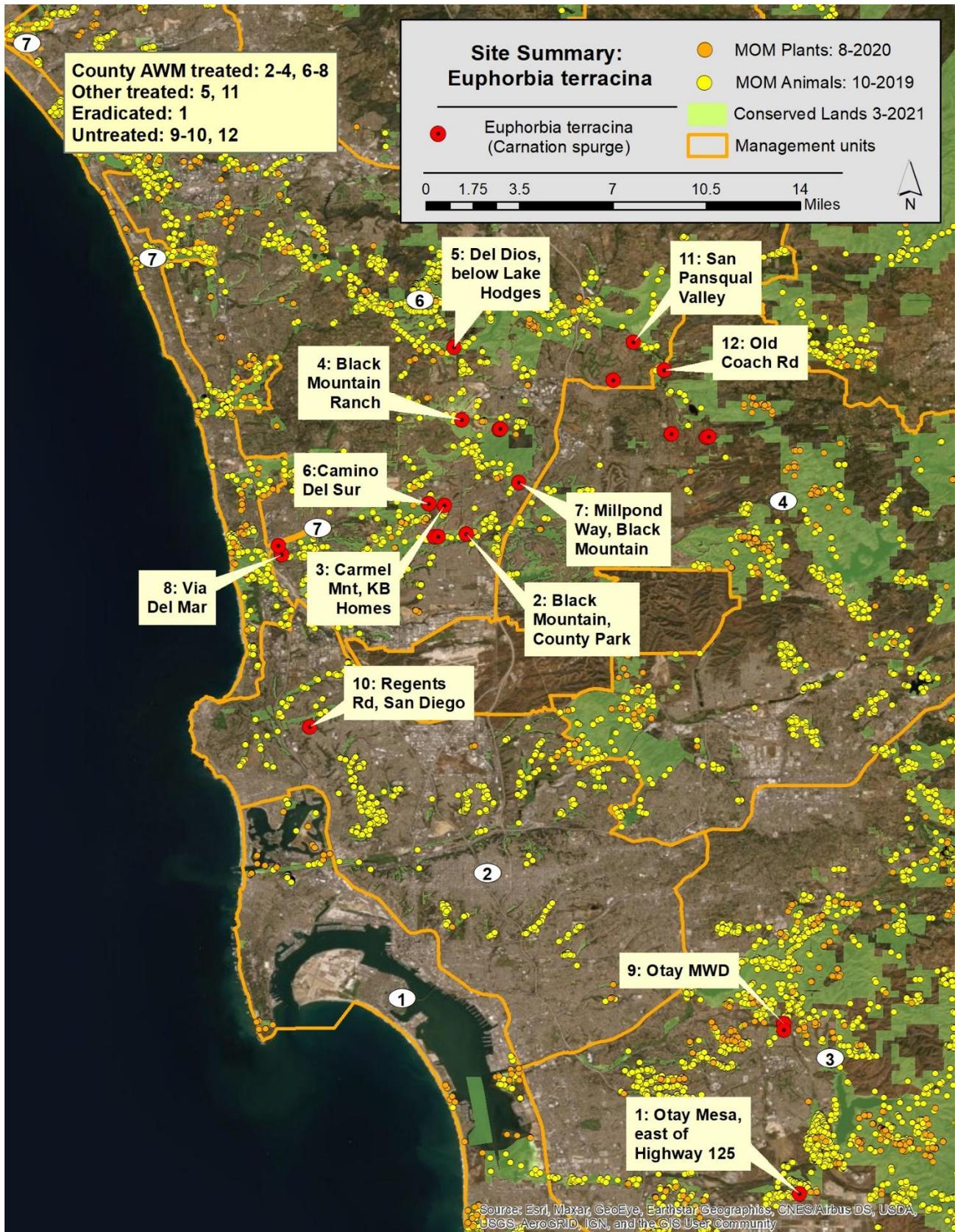
Crews surveyed and treated one invasive weed species (Barbed Goatgrass and Carnation Spurge) at three sites this quarter. Maps for site show treated areas (red polygons) and surveyed areas as white lines which track pathways used by crews to survey and control plants. AWM Integrated Pest Control (AWM 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>Euphorbia terracina</i>	Carnation Spurge	1	3.7	4.1	3,800

***Euphorbia terracina* (Carnation Spurge):**



Euphorbia terracina (Carnation Spurge): Site #4 Black Mtn Ranch, Carmel Valley

Table 2. Summary of treatments performed by AWM on *Euphorbia terracina* (Carnation Spurge).

Work Site	Common Name	# of Work Cycles	Acres Treated	Acres Surveyed	Plants Controlled
Site #4 Black Mtn Ranch, Carmel Valley	Carnation Spurge	1	3.7	4.1	3,800

Mature plants and many seedlings were treated with a pre/post emergent (Milestone). A crew of three individuals worked five days in July. At the historic larger site, there has been a reduction in cover (>90%), but there is an extensive seedbank that continues to generate new seedlings each spring (3,000 seedlings estimated). Two small patches (800 plants) were treated for the first time along Carmel Valley Road, these were reported on iNaturalist.



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 four invasive weed species (French Broom, Spotted Knapweed, Algerian Sea Lavender, and Yellow Starthistle) at six 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 3. 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	2.0	11.55	2,078
<i>Centaurea stoebe</i>	Spotted Knapweed	3	3.2	10.75	2,098
<i>Genista monspessulana</i>	French Broom	2	1.2	6.85	2,575
<i>Limonium ramosissimum</i>	Algerian Sea Lavender	2	1.2	2.2	2,650

Centaurea solstitialis, Yellow Starthistle:

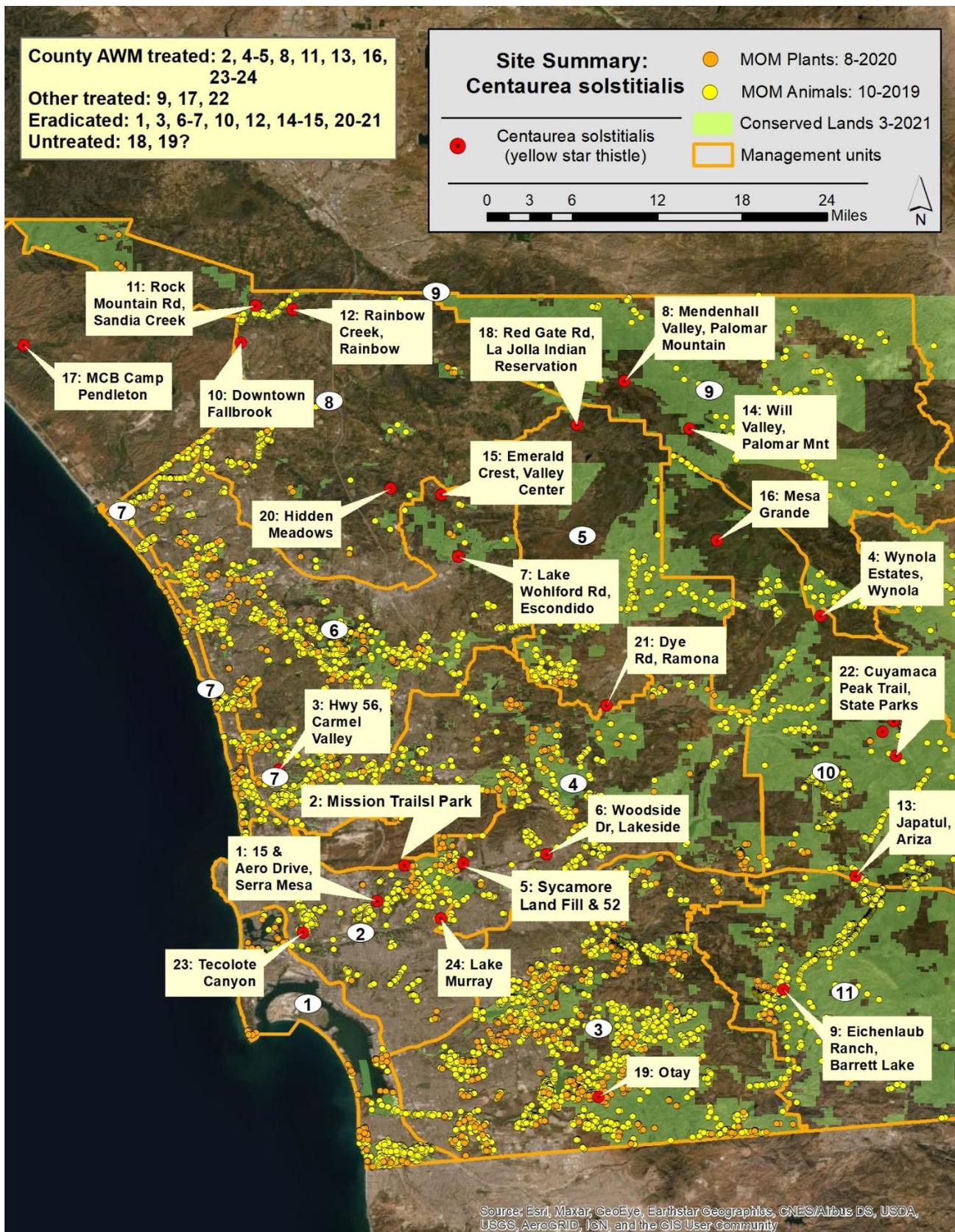


Table 4. Summary of treatments performed by AWM on *Centaurea solstitialis* (Yellow Starthistle).

Site Name	Common Name	# of Work Cycles	Acres Treated	Acres Surveyed	Plants treated
Site #2, Mission Trails, San Diego	Yellow Starthistle	1	0.1	2.0	855
Site #4, Wynola Estates, Wynola	Yellow Starthistle	1	0.1	0.2	17
Site #13, Japatul, Ariza	Yellow Starthistle	1	0.2	0.8	115
Site #14, Will Valley, Palomar Mtn	Yellow Starthistle	1	0.5	3.1	128
Site #16, Mesa Grande	Yellow Starthistle	1	0.6	2.15	855

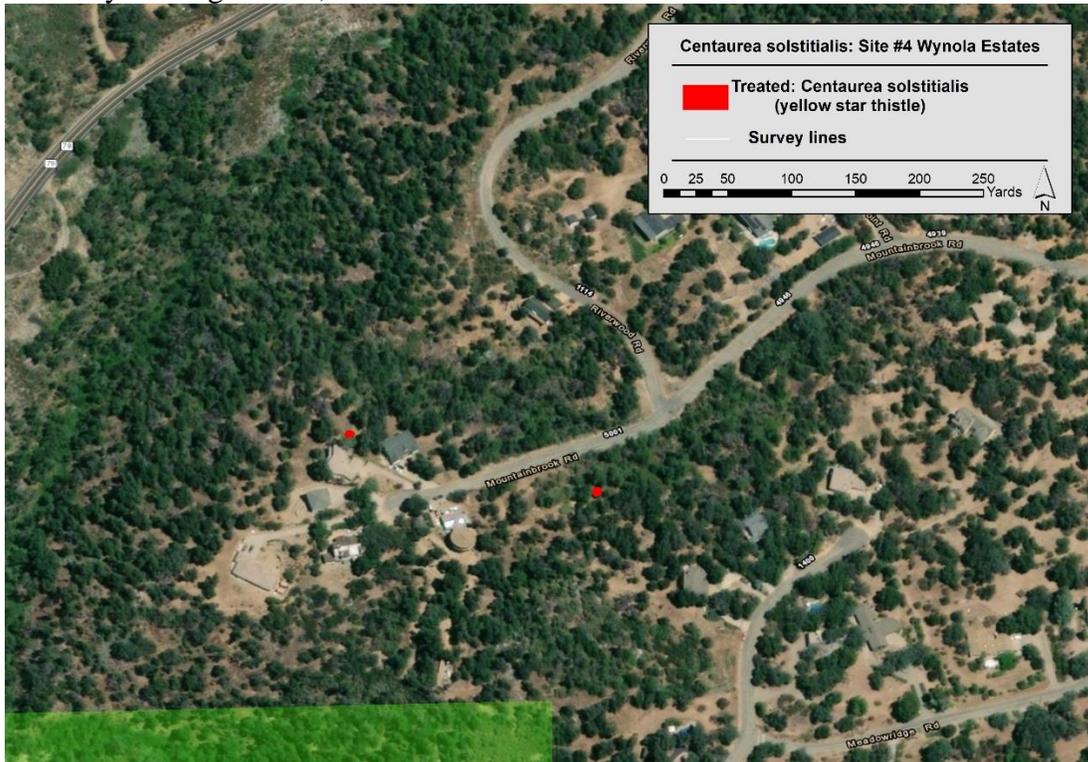
Centaurea solstitialis, Yellow Starthistle: Site #2, Mission Trails Park

86 plants were found in patches and were removed by hand. A crew of four individuals visited the site over one day on July 1st, 2021.



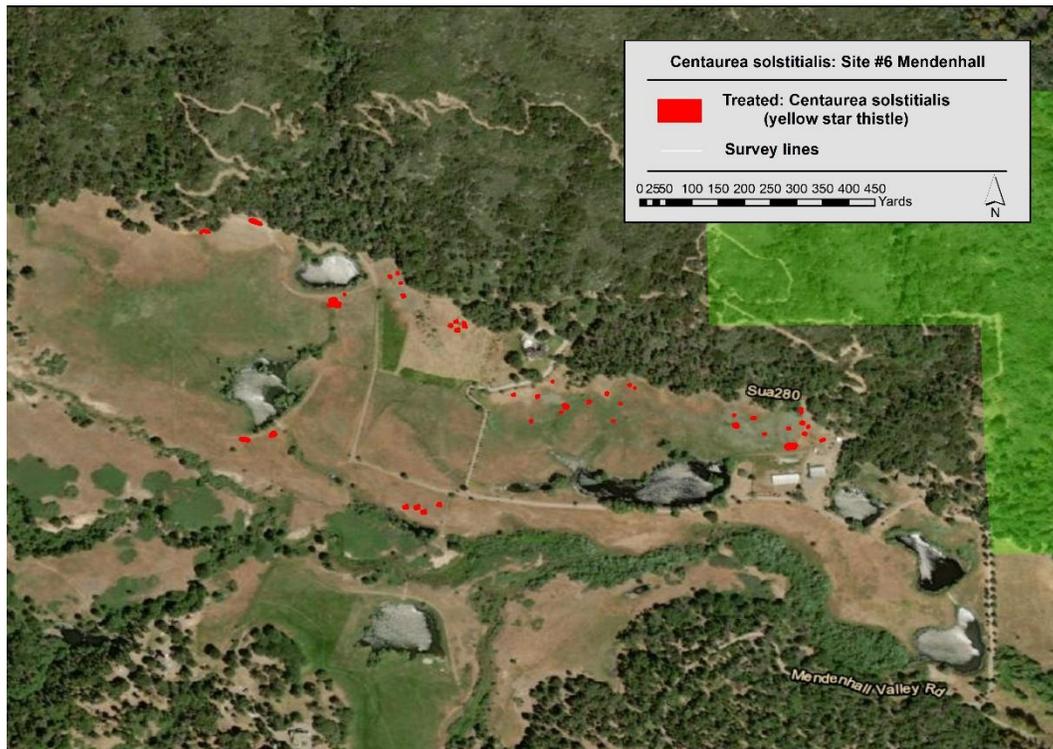
Centaurea solstitialis, Yellow Starthistle: Site #4, Wynola Estates, Wynola

17 plants were found in patches and were removed by hand. A crew of two individuals visited the site over one day on August 11th, 2021.



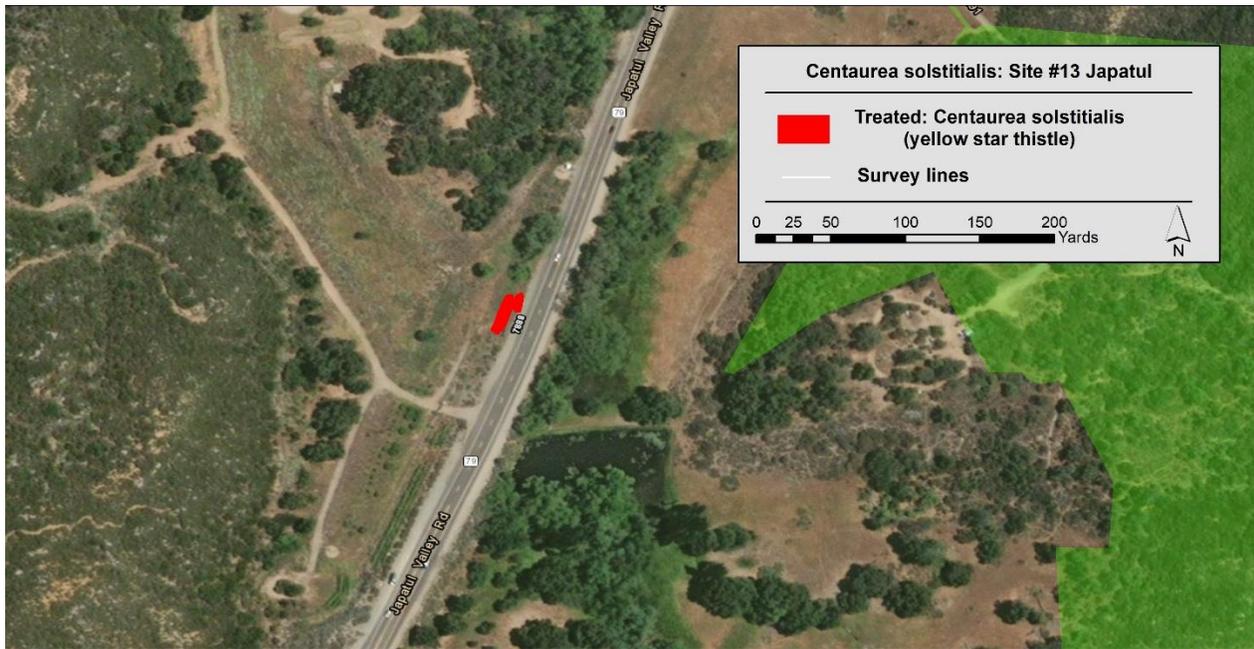
Centaurea solstitialis, Yellow Starthistle: Site #8 Mendenhall

1,005 plants were found and were treated with Milestone during a survey of the site. A crew of two to three individuals visited the site on six days, between August 18th through the 25th, 2021.



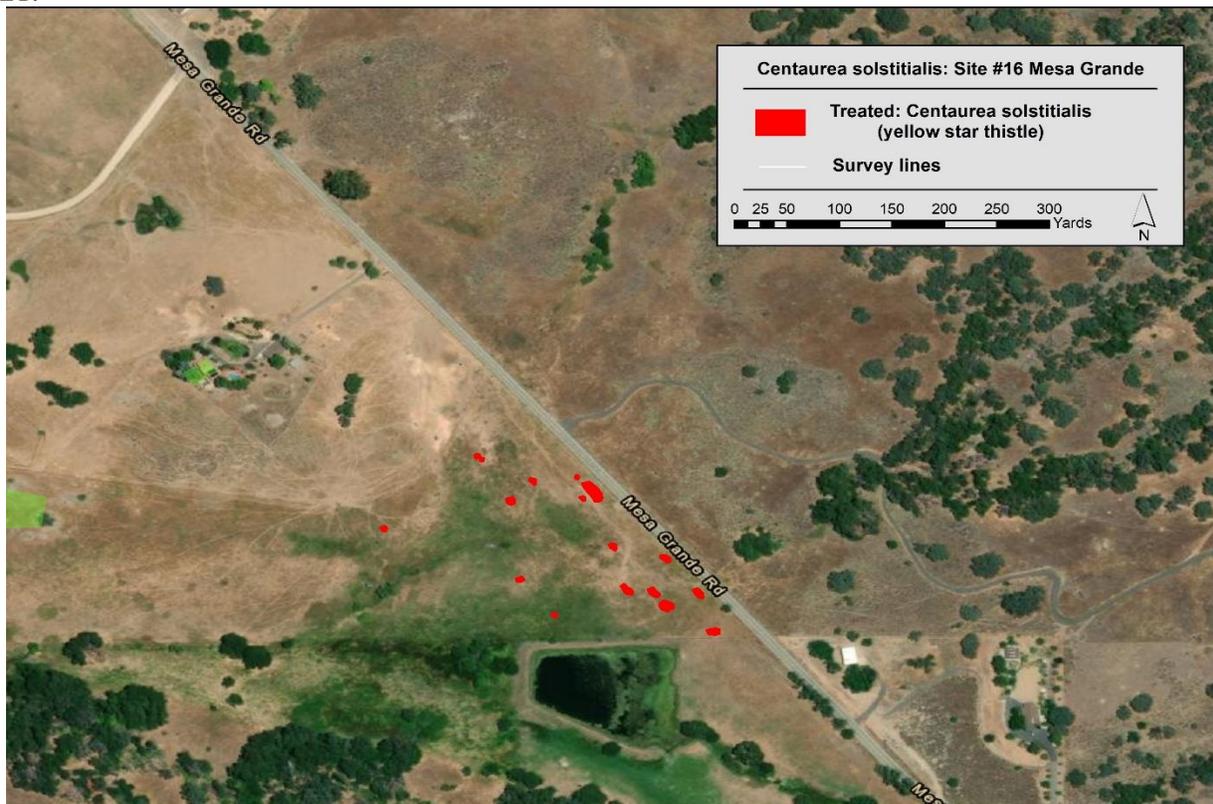
Centaurea solstitialis, Yellow Starthistle: Site #13 Japatul

115 plants were found and manually removed during a survey of the site. A crew of two individuals visited the site on July 11th, 2021. Part of the site could not be accessed; the property owner is being contacted to obtain an ROE agreement. There are also plants on the east side of the road. These are being controlled by the USFS and SDG&E.



Centaurea solstitialis, Yellow Starthistle: Site #16 Mesa Grande

855 plants were found in scattered patches and were removed by hand or treated with Milestone. A crew of two to four individuals visited the site over three days, between August 12th through the 16th, 2021.



Centaurea stoebe, Spotted Knapweed:

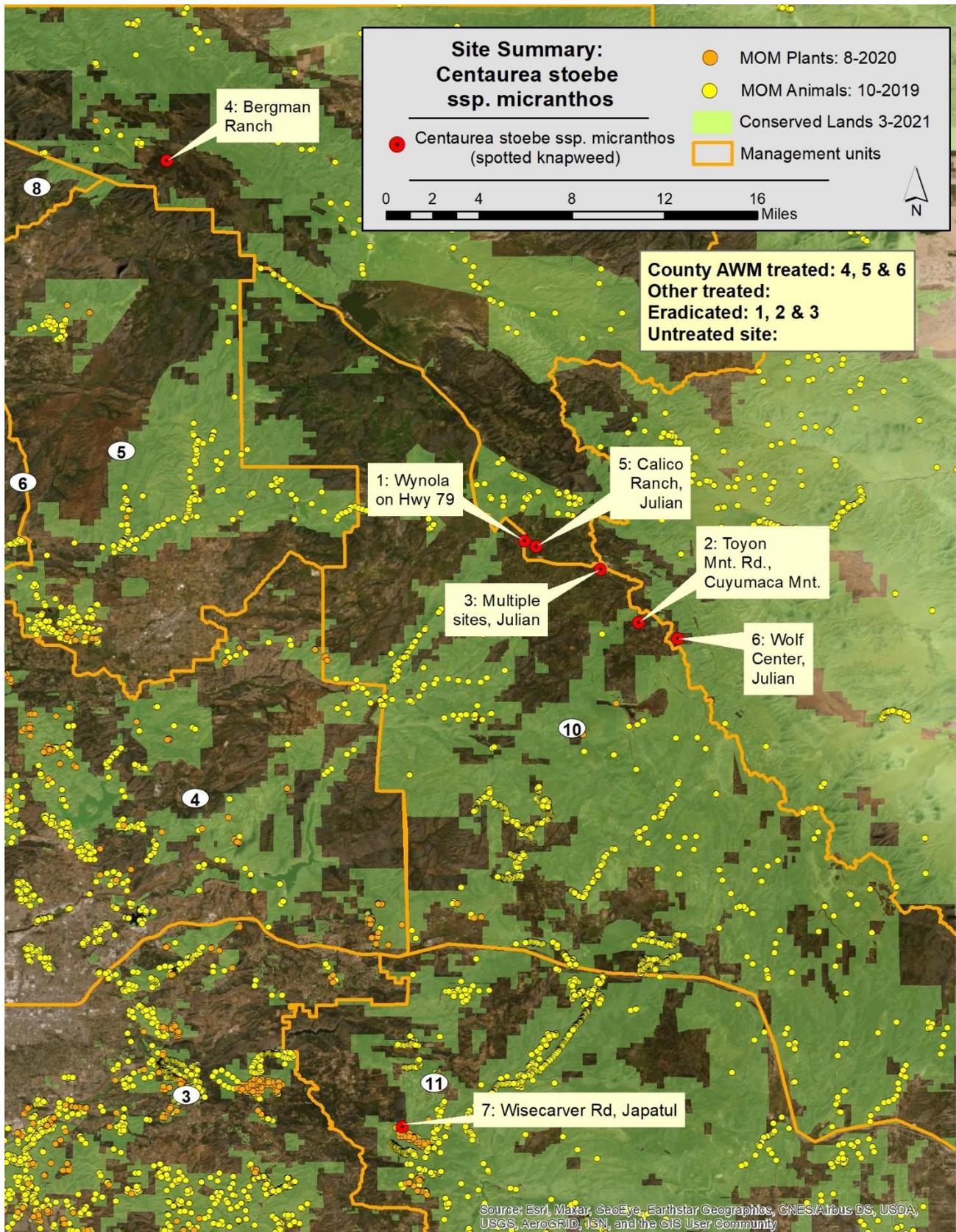
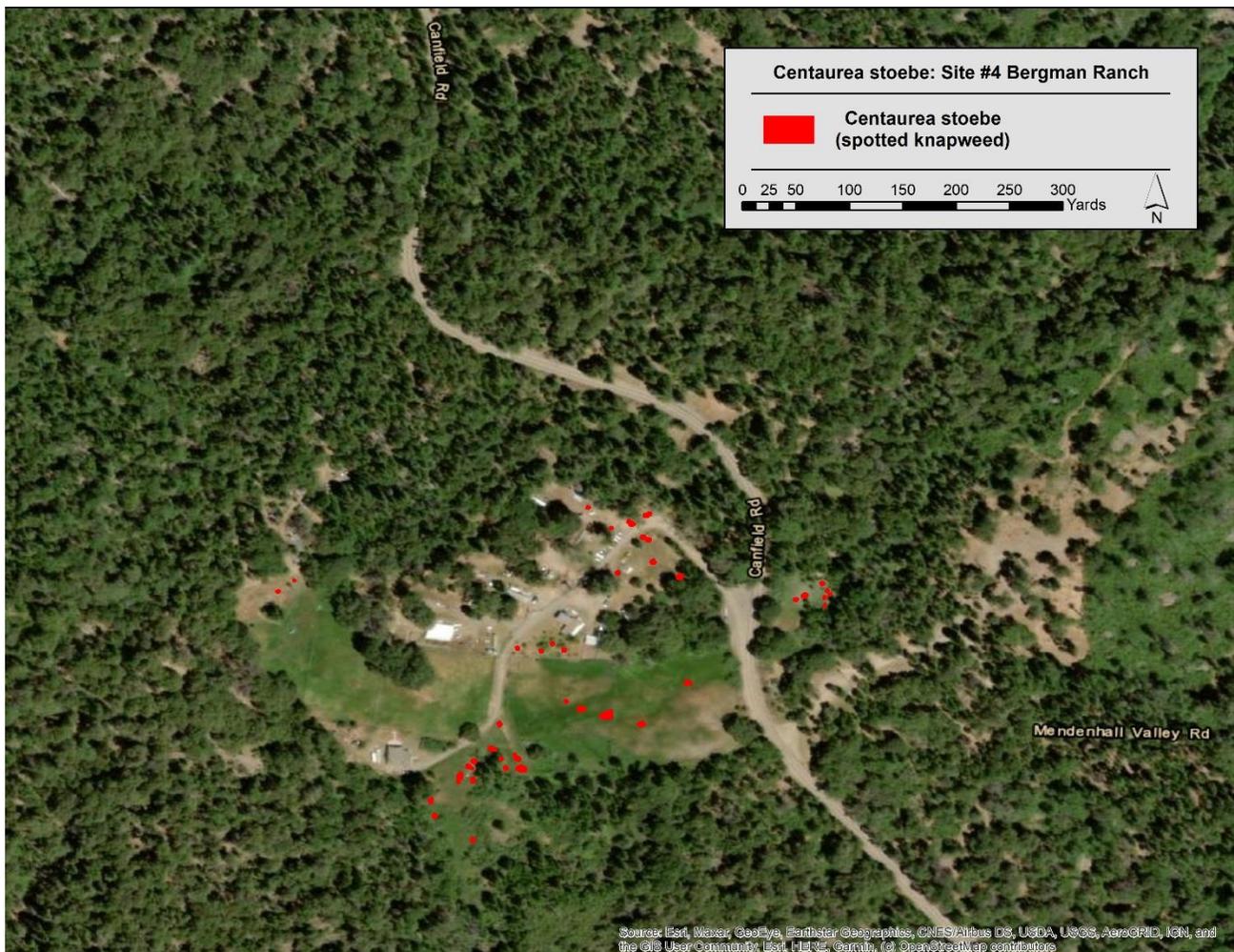


Table 5. Summary of treatments performed by AWM on *Centaurea stoebe* (Spotted Knapweed).

Site Name	Common Name	# of Visits	Acres Treated	Acres Surveyed	Plants treated
Site #4 Bergman Ranch	Spotted Knapweed	1	0.8	4.8	180
Site #5 Calico Ranch	Spotted Knapweed	1	0.2	1.2	100
Site #6, Wolf Center	Spotted Knapweed	1	2.5	6.45	1,870

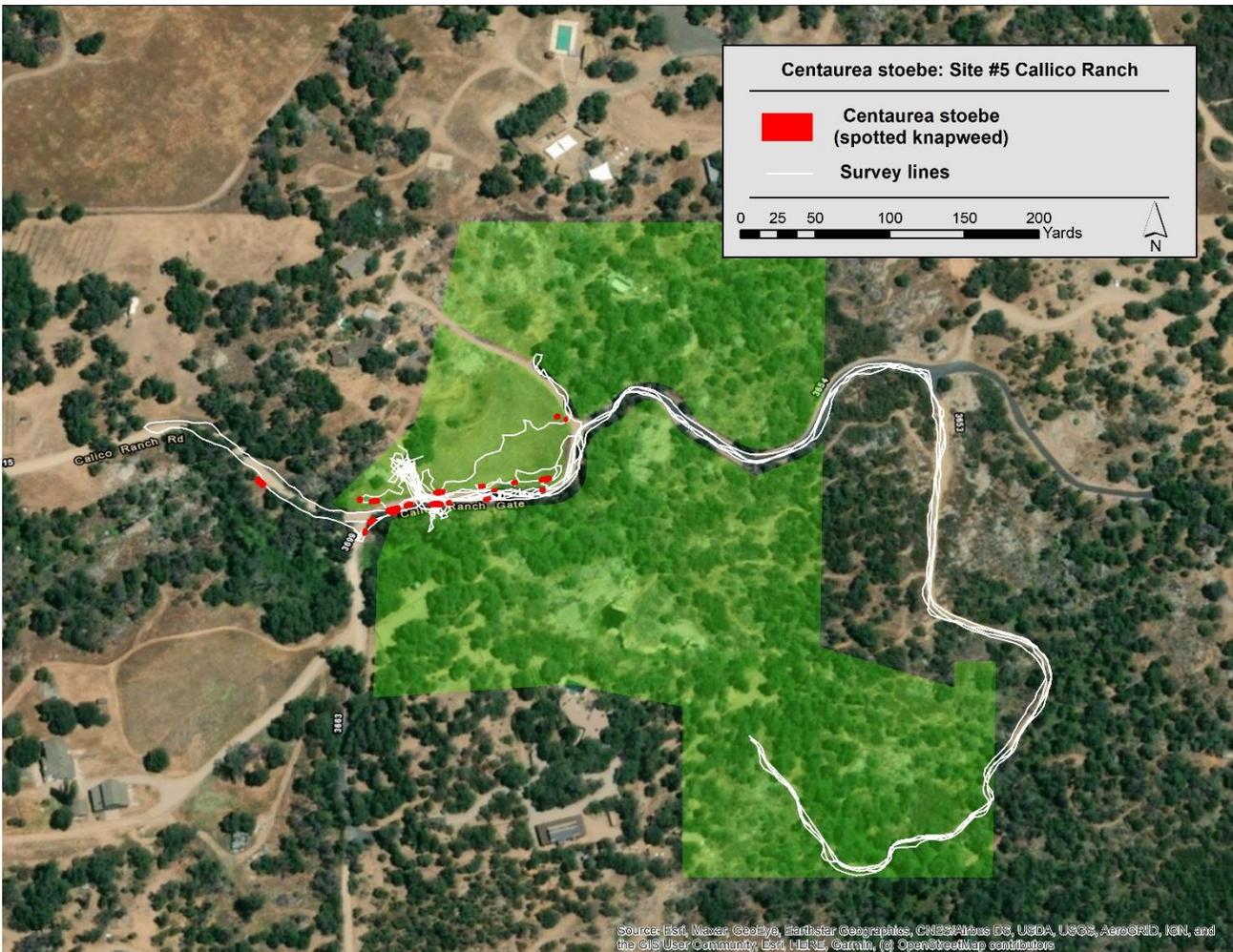
Centaurea stoebe, Spotted Knapweed: Site #4 Bergman Ranch, Palomar Mtn

180 plants were treated by a crew of two to three over eight days, between August 5th through the 17th, 2021. Mature plants and seedlings were hand pulled.



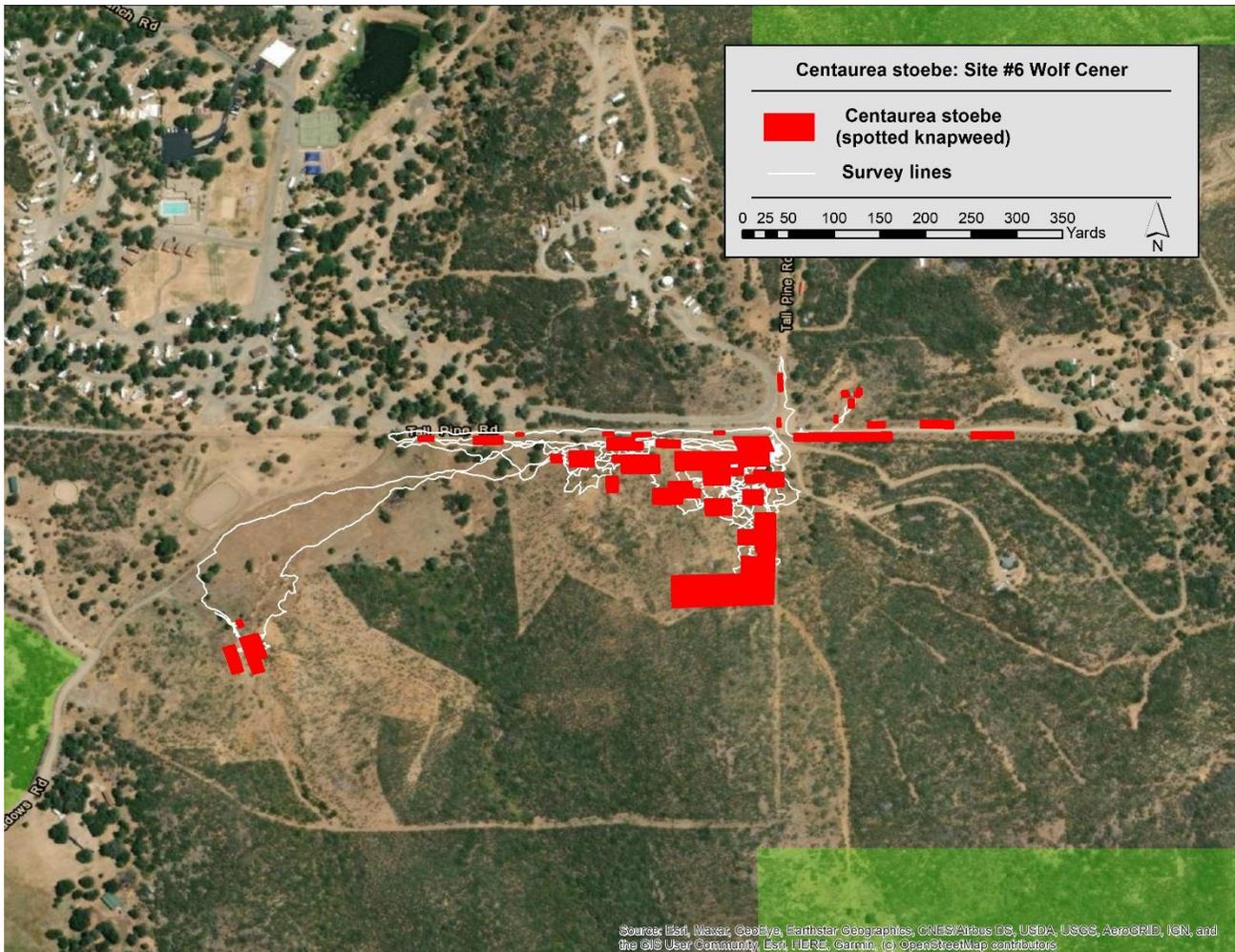
Centaurea stoebe, Spotted Knapweed: Site #5 Calico Ranch, Julian

Approximately 100 plants were treated by a crew of three over two days, between July 29th through the 30th, 2021. Multiple treatment methods were used: hand pulling mature plants and herbicide application using Milestone.

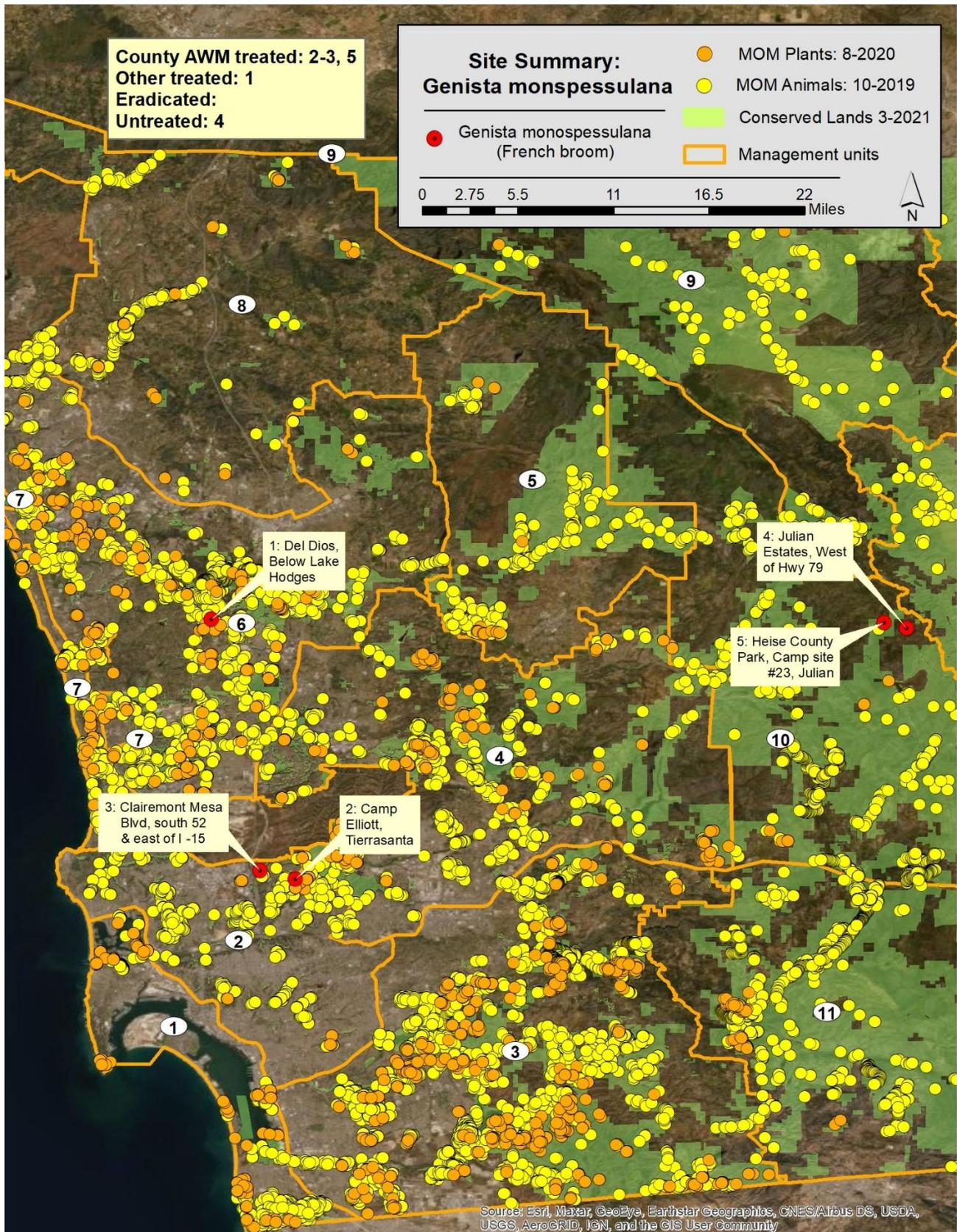


Centaurea stoebe, Spotted Knapweed: Site #6 Wolf Center, Julian

1,870 plants were treated by a crew of two to three over thirteen days, between July 8th through August 12th, 2021. Multiple treatment methods were used including hand pulling some mature plants and herbicide application using Milestone on most plants.



Genista monspessulana, French Broom:

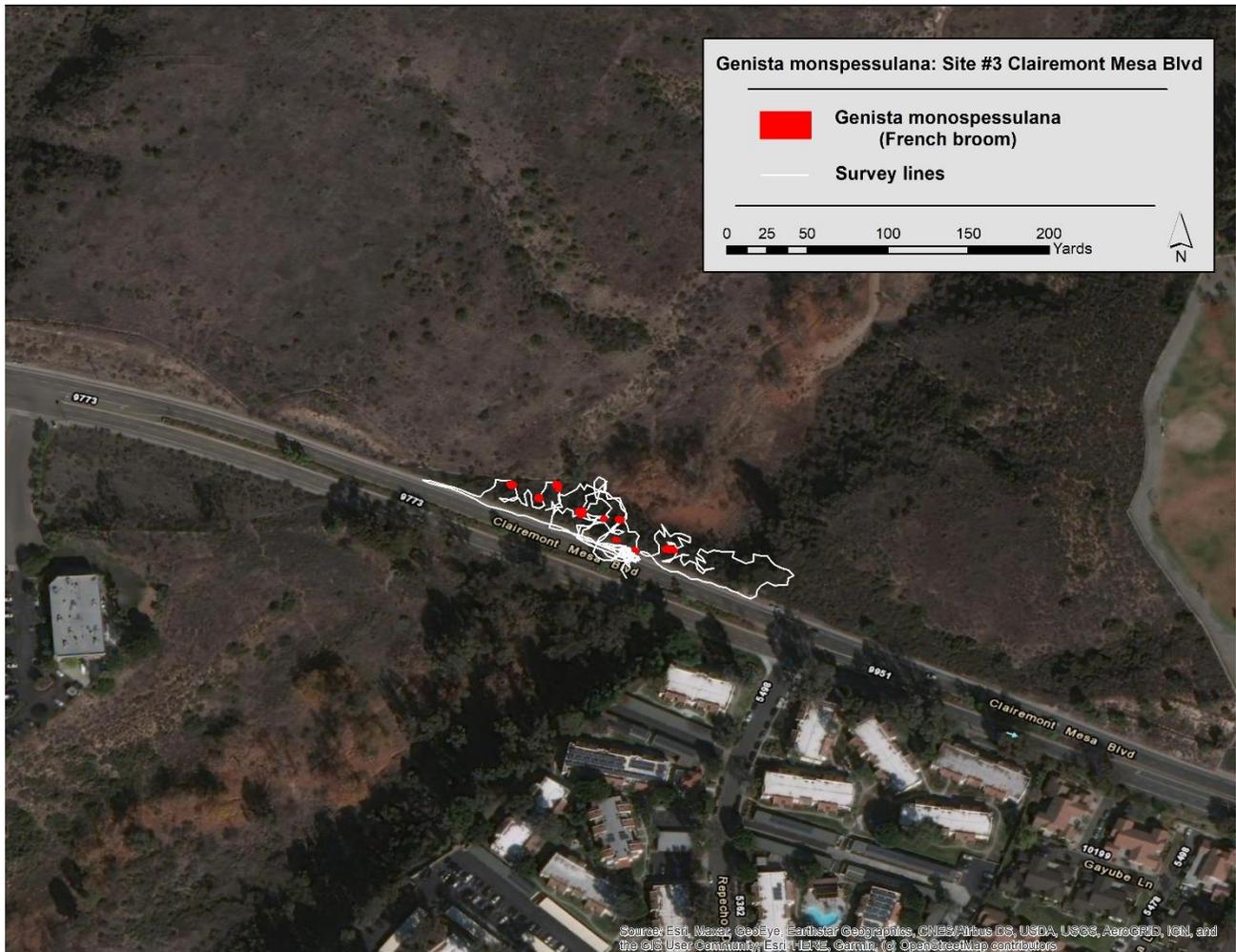


***Genista monspessulana*, French Broom: Site #3 Clairemont Mesa Blvd.**

Table 6. 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 #3 Clairemont Mesa	French Broom	1	0.1	0.8	240

240 scattered seedlings and small plants were foliar treated with triclopyr. A crew of two individuals worked one day September 29th, 2021.

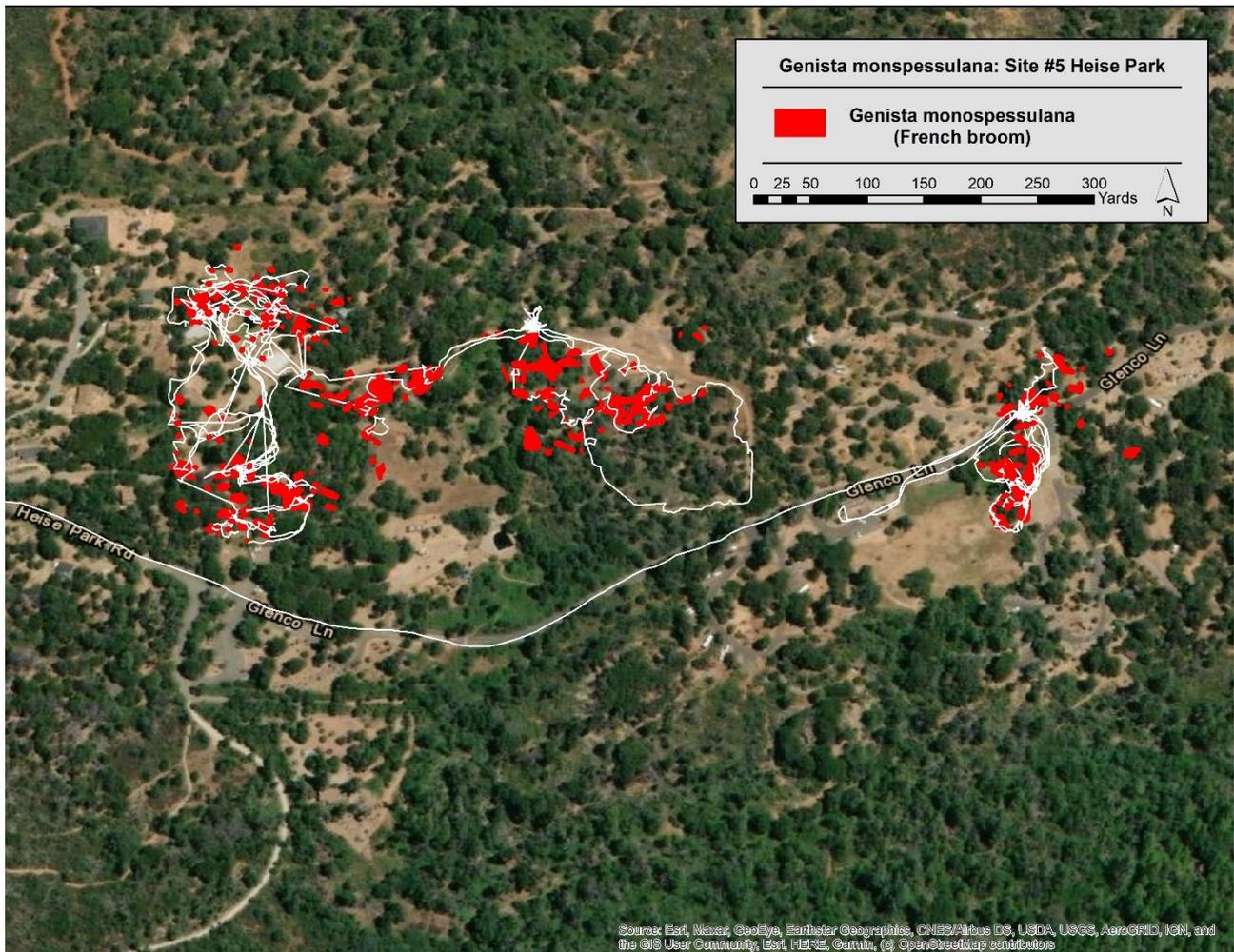


***Genista monspessulana*, French Broom: Site #5 Heise County Park, Julian.**

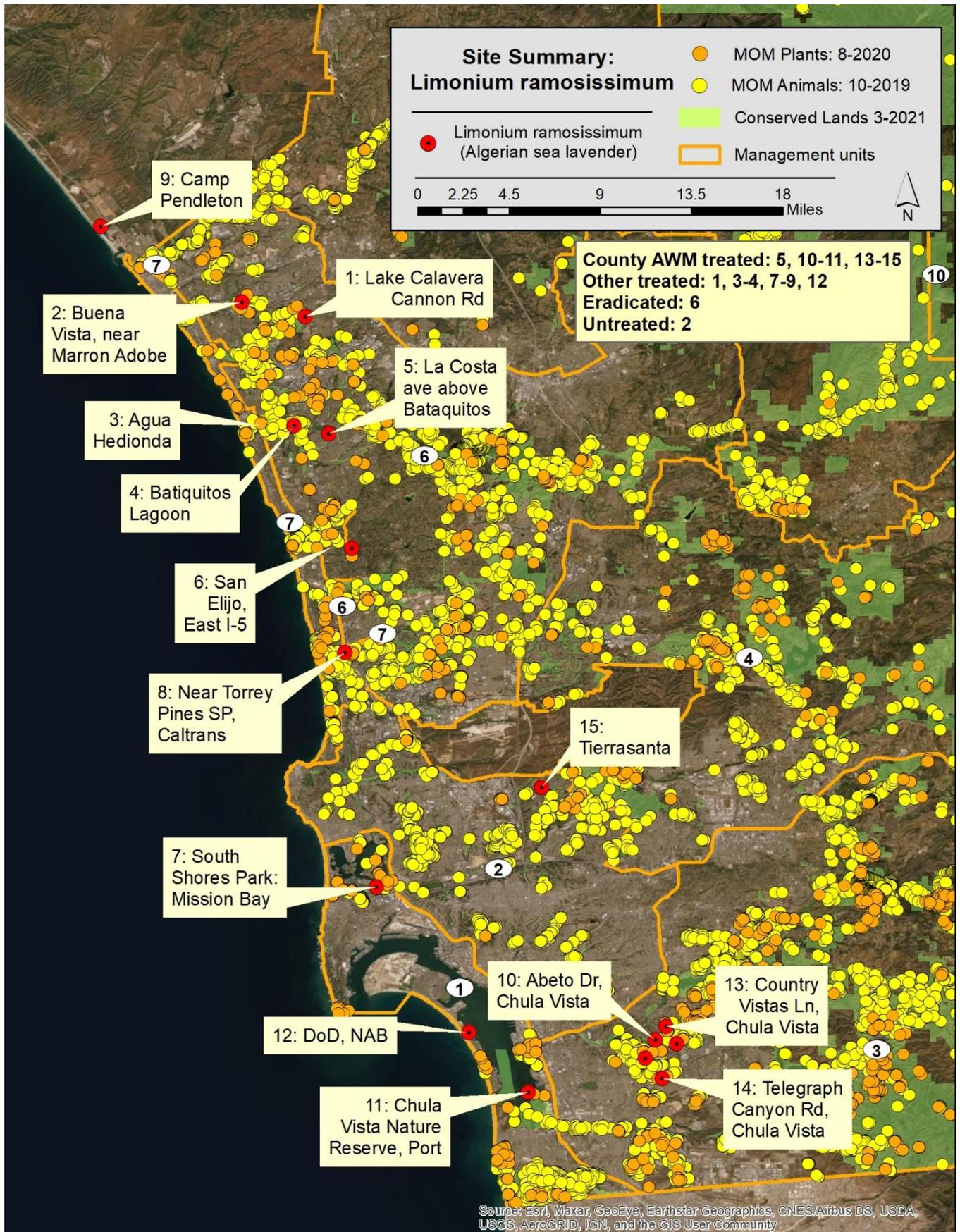
Table 7. Summary of treatments performed by AWM on *Genista monspessulana*, French Broom.

Site Name	Common Name	# of Work Cycles	Acres Treated	Acres Surveyed	Plants treated
Site #5 Heise County Park	French Broom	1	1.1	6.05	2,335

2,335 scattered seedlings and small plants were foliar treated with triclopyr. A crew of one to two individuals worked seven days, between September 7th through the 28th, 2021.



***Limonium ramosissimum*, Algerian Sea Lavender:**



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

Table 8. 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	0.8	1.2	2,000

2,000 scattered seedlings and small plants were foliar treated with glyphosate, imazapyr, and a pre-emergent Gallery. A crew of three individuals worked one day July 13th, 2021.



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

Table 9. 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	0.4	1	650

This site was started on, with additional work continuing into Q2. 650 scattered seedlings and small plants were foliar treated with glyphosate, and imazapyr. A crew of three individuals worked one day September 30th, 2021.



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.
- 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. Existing location data will be aggregated, new surveying in summer 2021 should occur, treatments in some areas will also occur.

Work Anticipated for 1st Quarter Period, July 1st – September 30th 2021:

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.
- Re-treatment of sites: Spotted Knapweed, Yellow Starthistle, Bridal Broom, French Broom, and Limonium.
- 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 CNPS EDRR invasives group.
- Continue to aggregate data and track new prospective EDRR target species.
- Present at SDMMMP land manager meeting, working group and other meetings as requested.
- Provide population status of EDRR regional targets to CDFA statewide assessment.