

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

**Strategic Control of Invasive Weed Species
*1st Quarter Report - FY 2020-21: Report #23 for Project***

July 1st, 2020 – September 30th, 2020

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

To: Kim Smith
San Diego Association of Governments (SANDAG)
401 B Street, Suite 800
San Diego CA 92101

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 2020.

Covid 19: The outbreak has modified work procedures. Small crews are continuing field work following County and State guidelines. Special permission and authorizations are also being required by municipalities. 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. Covid 19 has required authorization and additional procedures for several municipalities. New contact with the Wolf Center was established.

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

Current work sites were visited and assessed. These included: barbed goat grass and spotted knap weed.

Regulatory permits:

No new work.

Report preparation:

The quarterly report was prepared.

Mapping and occurrence data:

Mapping and surveying for new observations from iNaturalist occurred. GIS data was updated and cleaned in preparation for uploading to CalFlora.

Work plan:

Work occurred regarding work completed on current contract and work that would occur if a contract is renewed for another cycle.

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 Level 1 invasive weed species (carnation spurge) at one site this quarter. Map 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 IPC carried out optimal plant control, either hand polling 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	0.3	0.8	1,625

Euphorbia terracina (carnation spurge):

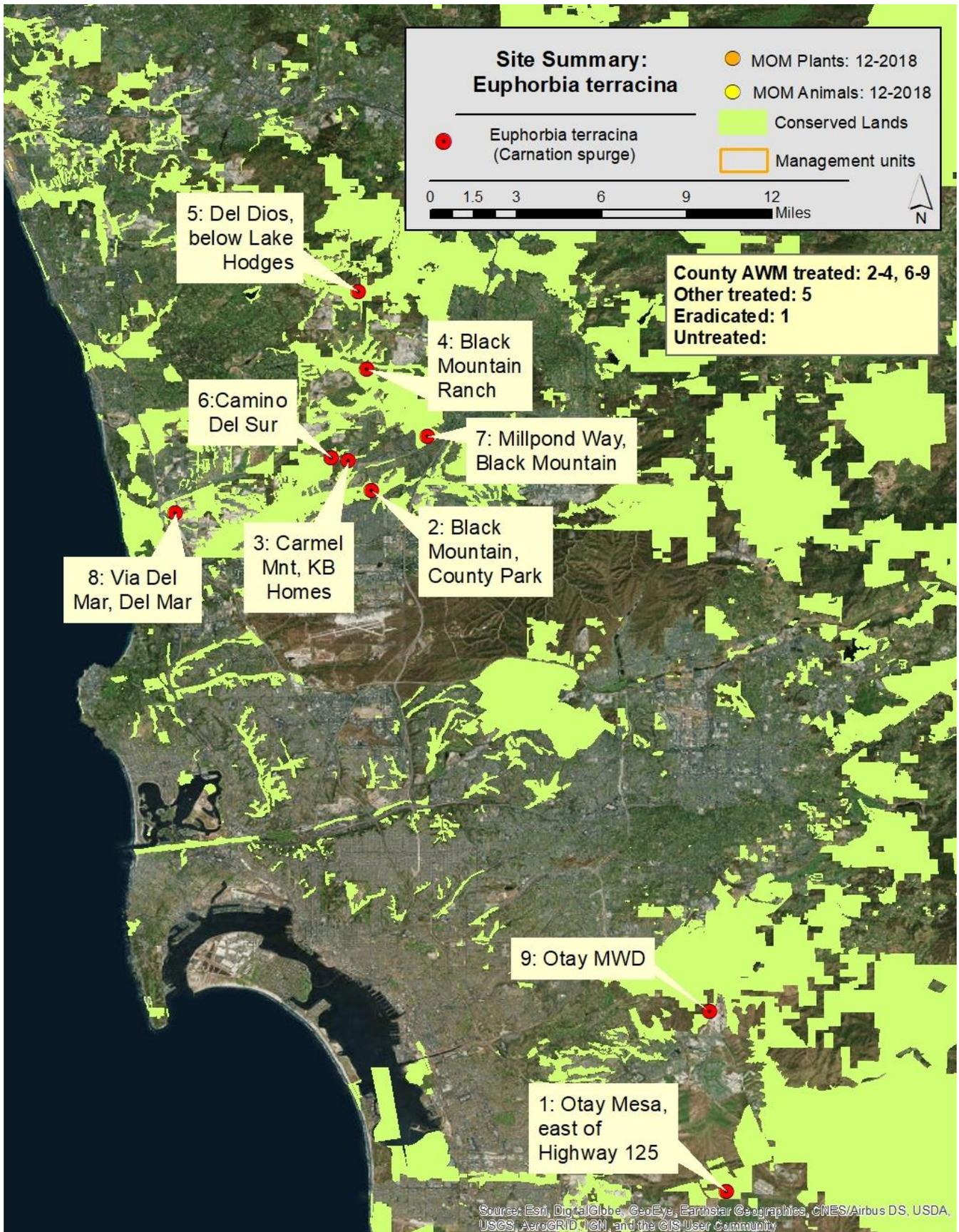


Table 2. Summary of treatments performed by AWM on *Euphorbia terracina* (carnation spurge).

Work Site	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants Controlled
Site #6, Camino Del Sur	carnation spurge	1	0.3	0.3	1,625

***Euphorbia terracina* (carnation spurge): Site #6, Camino Del Sur**

Mature plants and many seedlings were manually removed (1,625 plants). A crew of one individuals worked three days (7/1-7/6). There has been a reduction in cover (>80%), but there is an extensive seedbank that continues to generate new seedlings each spring. Work at this site was suspended to mobilize crews to work in other high elevation areas (yellow star thistle and spotted knap weed sites). It is hoped that crews can return in late fall and apply Gallery pre-emergent to the site, which will more effectively suppress the seedbank at this difficult site. The site will eventually be developed.



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 three Level 2 invasive weed species (yellow star thistle, spotted knapweed, and French broom) at eight 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 star thistle	4	2.2	9.9	5,976
<i>Centaurea stoebe</i>	Spotted knapweed	3	3.5	5.3	3,217
<i>Genista monspessulana</i>	French broom	1	0.2	0.8	180

***Centaurea solstitialis*, Yellow star thistle:**

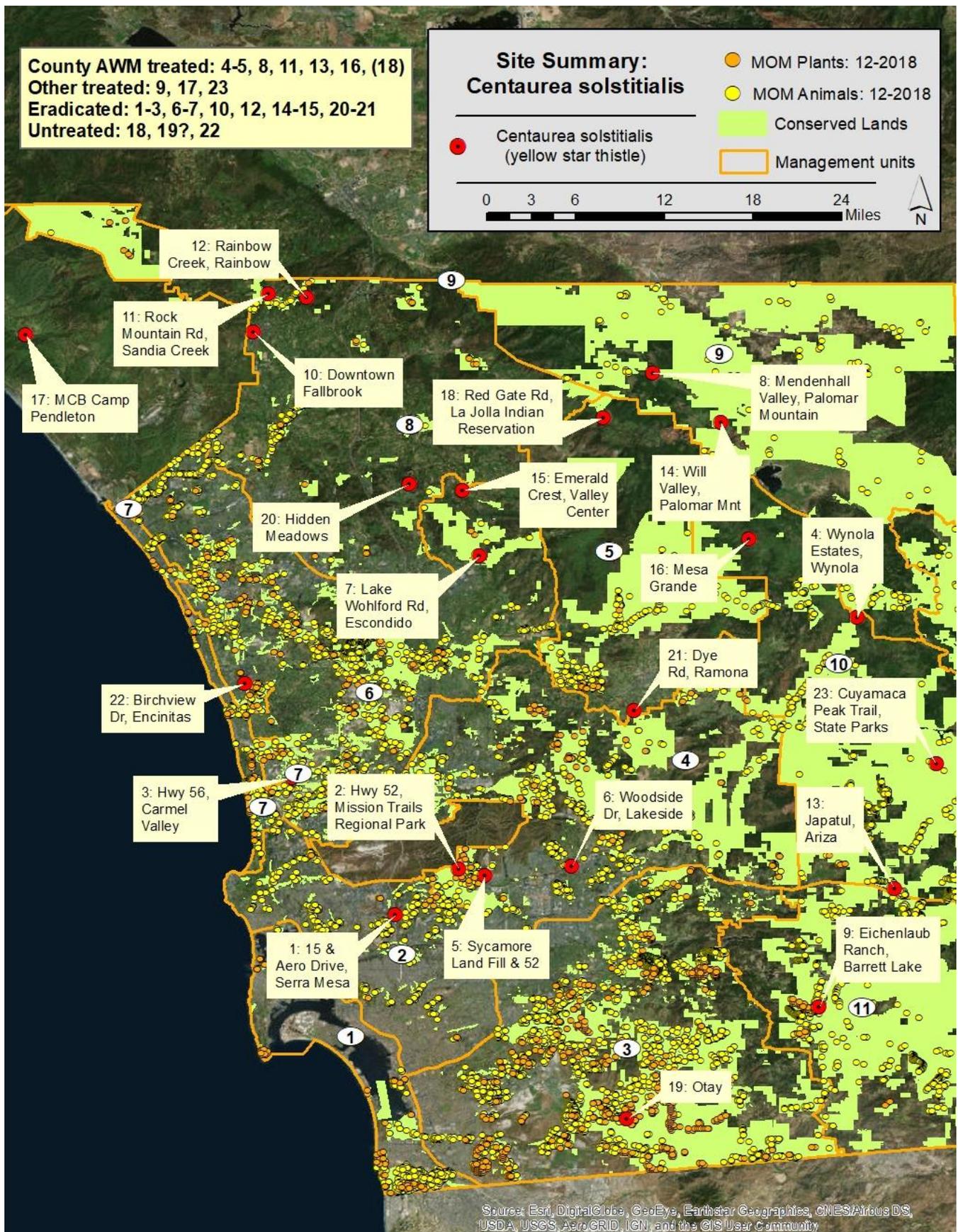


Table 4. Summary of treatments performed by AWM on *Centaurea solstitialis* (Yellow star thistle).

Site Name	Common Name	# of Work Cycles	Acres Treated	Acres Surveyed	Plants treated
Site #4, Wynola Estates, Wynola	Yellow star thistle	1	0.1	1.2	40
Site #5, Sycamore Landfill	Yellow star thistle	1	0.1	2	1
Site #8, Mendenhall Valley, Palomar	Yellow star thistle	1	1.2	4.3	3,775
Site #16, Mesa Grande	Yellow star thistle	1	0.8	2.4	2,160

***Centaurea solstitialis*, Yellow star thistle: Site #4, Wynola Estates, Wynola**

40 plants were found in patches and were removed by hand. Last year 138 plants were treated/pulled. A crew of one to two individuals visited the site over two days on September 28-29th 2020.



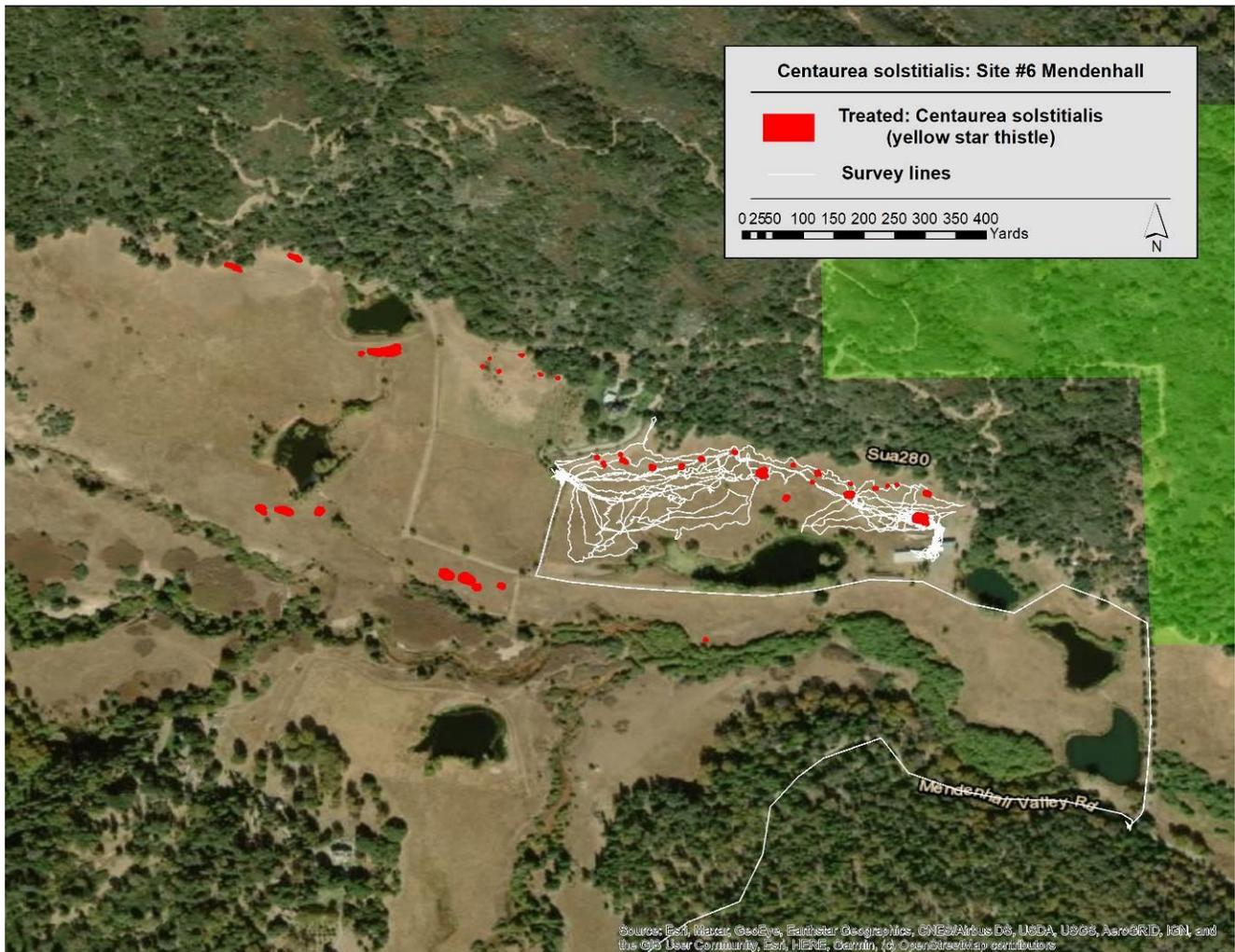
Centaurea solstitialis, Yellow star thistle: Site #5 Sycamore Landfill

One plant was found during a survey of the site, it was pulled and removed. Last year 3 plants were pulled. A crew of two individuals visited the site on September 16th 2020.



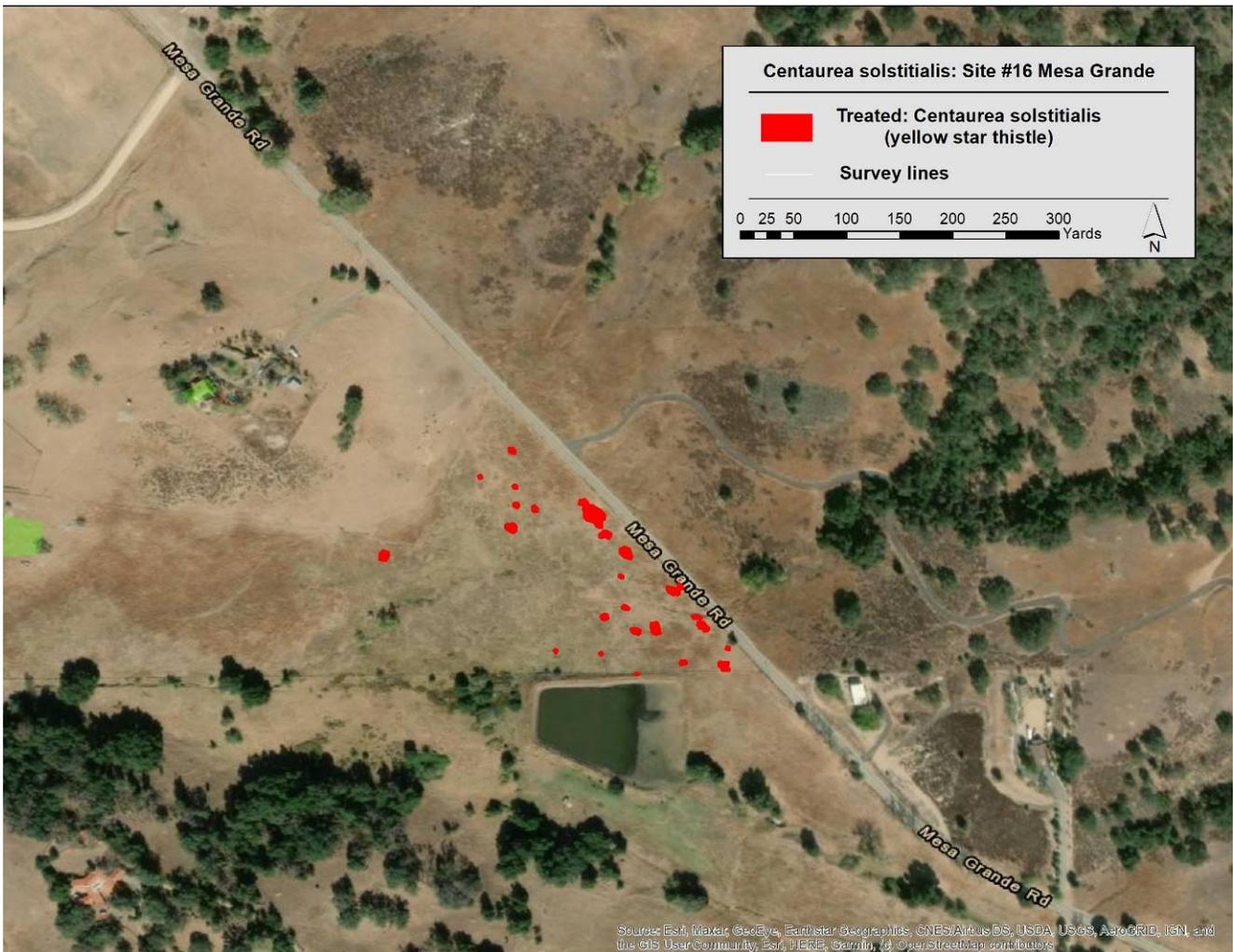
Centaurea solstitialis, Yellow star thistle: Site #8 Mendenhall

3,775 plants were found and manually removed or treated with Milestone during a survey of the site. Last year 1,455 plants were treated. A crew of one to two individuals visited the site on nine days between August 27th and September 15th 2020.



Centaurea solstitialis, Yellow star thistle: Site #16 Mesa Grande

2,160 plants were pulled or treated with Milestone. Last year 825 plants in scattered patches were removed by hand. A crew of two to three individuals visited the site over five days between September 21st - 25th 2020.



Centaurea stoebe, Spotted Knapweed:

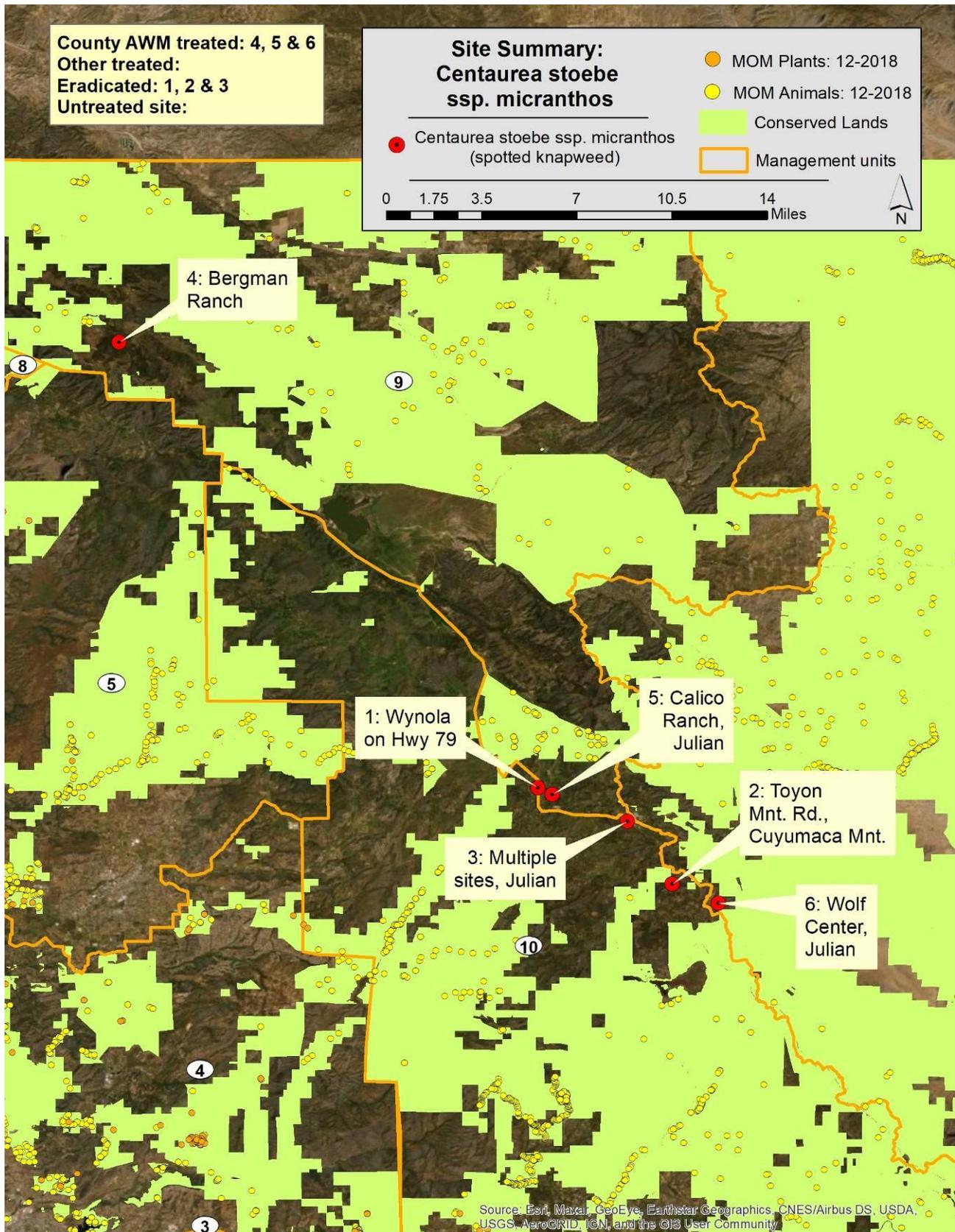
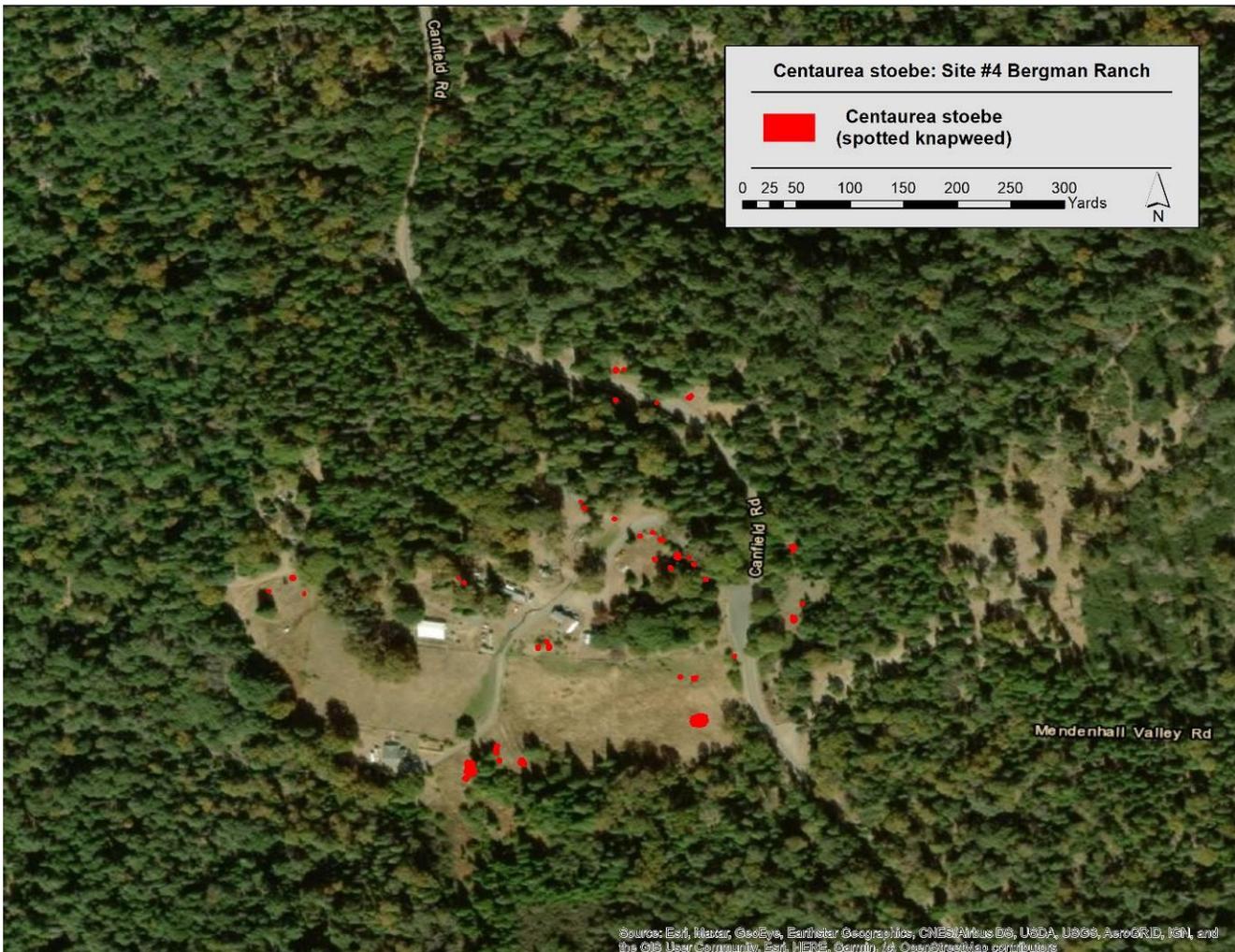


Table 5. Summary of treatments performed by AWM on *Centaurea stoebe* (spotted knapweed).

Site Name	Common Name	# of Visits	Acres Treated	Acres Surveyed	Plants treated
Site #4 Bergman Ranch	Spotted knapweed	1	0.6	1.6	347
Site #5 Callico Ranch	Spotted knapweed	1	0.2	0.2	100
Site #6, Wolf Center	Spotted knapweed	1	2.7	3.5	2,770

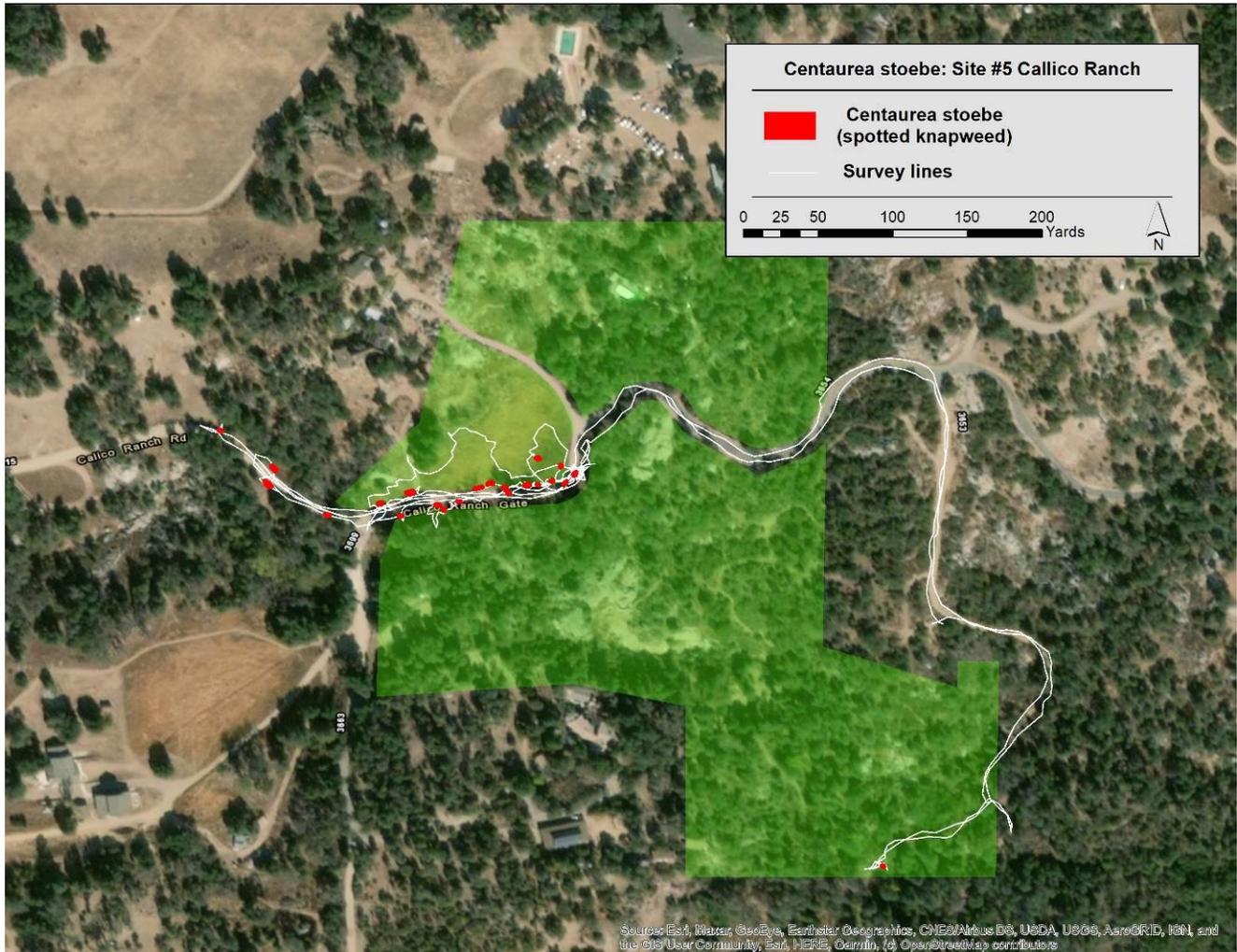
Centaurea stoebe, spotted knapweed: Site #4 Bergman Ranch

347 plants were treated by a crew of one to over six days from August 7th to the 26th 2020. Last year 340 plants were controlled. Multiple treatment methods were used: hand pulling mature plants and herbicide application using glyphosate. This EDRR treatment work was funded by CDFR, but is reported here as the species is a Level 2 EDRR target.



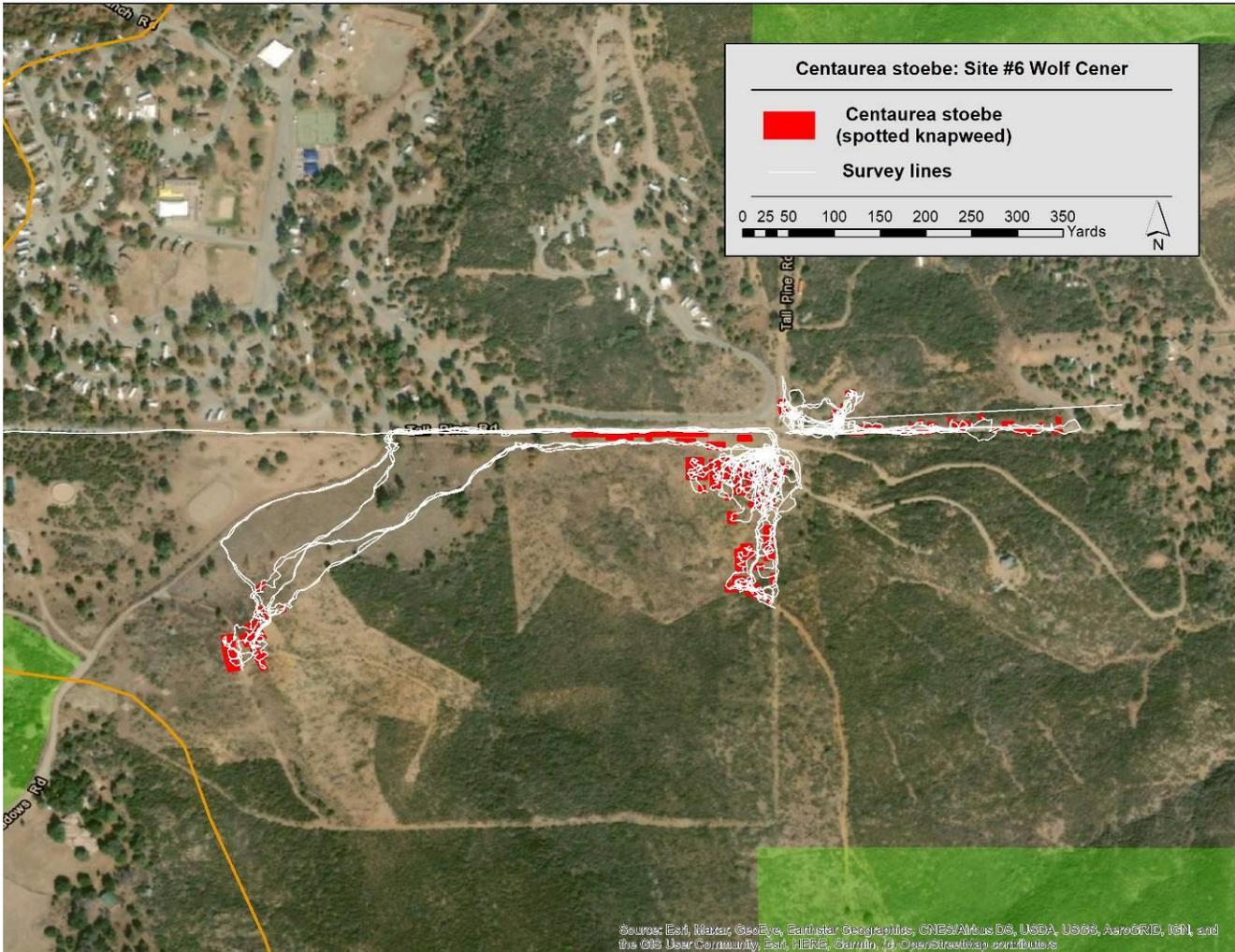
Centaurea stoebe, spotted knapweed: Site #5 Callico Ranch

Approximately 100 plants were treated by a crew of one to two over two days, July 23rd - 24th 2020. Last year 178 plants were controlled. Multiple treatment methods were used: hand pulling mature plants and herbicide application using Milestone. This EDRR treatment work was funded by CDFA, but is reported here as the species is a Level 2 EDRR target.

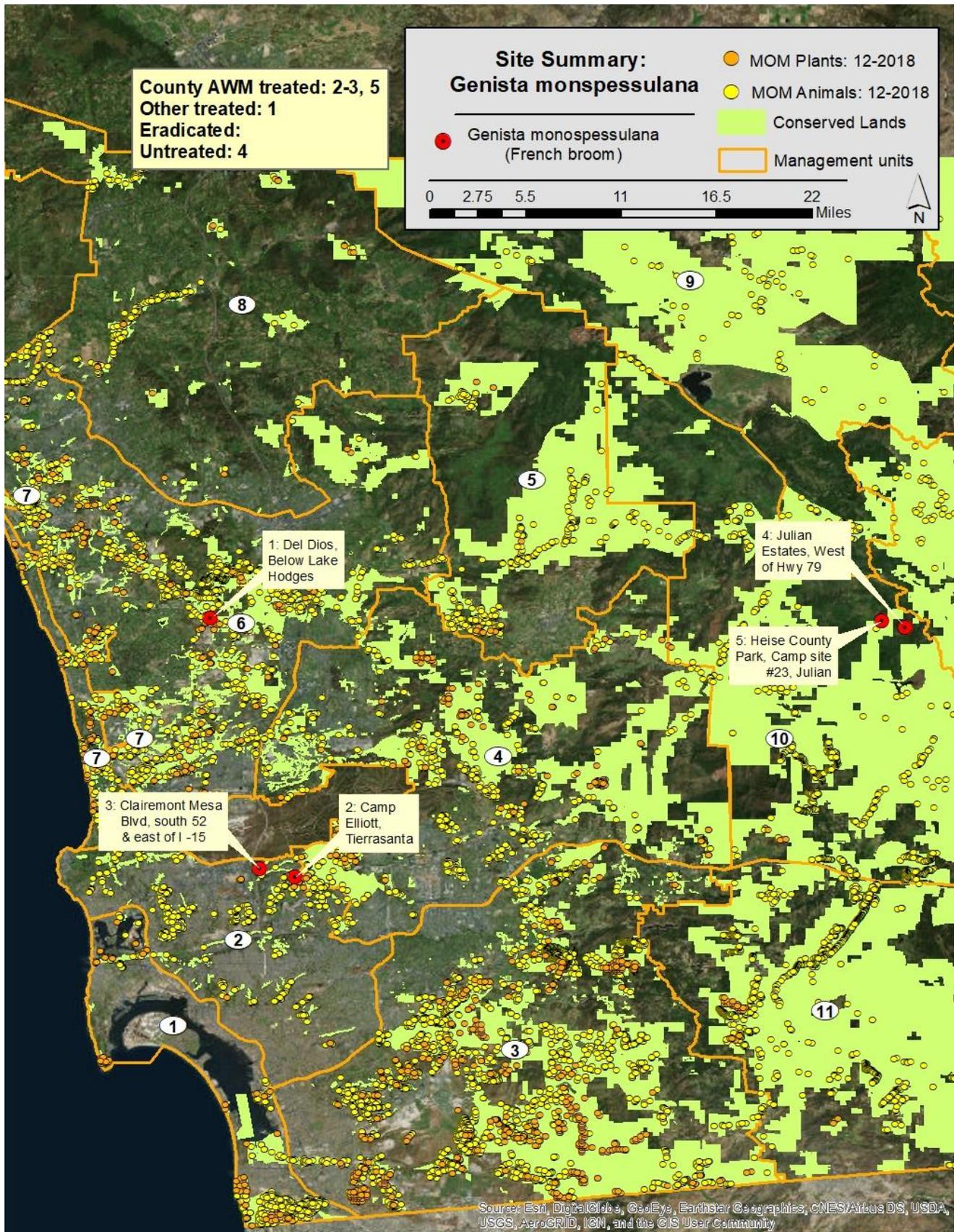


Centaurea stoebe, spotted knapweed: Site #6 Wolf Center Calico

2,770 plants were treated by a crew of one to two over thirteen days, between July 8th and August 12th 2020. Multiple treatment methods were used including hand pulling some mature plants and herbicide application using Milestone on most plants. In 2018 2,750 plants were treated and Milestone was applied in some areas in the winter. 2019 treatments also occurred, but number of plants treated was not always recorded. This EDRR treatment work was funded by CDFA, but is reported here as the species is a Level 2 EDRR target.



Genista monspessulana, French broom:



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

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 #3 Clairemont Mesa	French broom	1	0.2	0.8	180

180 scattered seedlings and small plants were foliar treated with Triclopyr. Two larger mature plants were reported south of Clairemont Mesa on iNaturalist. These were treated. A crew of two individuals worked one day September 30th 2020. 1,500 seedlings were treated last year.



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

- San Diego EDRR information was provided for an EDRR white paper. This will help other programs in setting up EDRR programs. It also highlights our regions support of this critical effort.
- Co-ordination to continue control on the only known population of barbed goat grass in San Diego County at Lake Cuyamaca occurred.

Work Anticipated for 4th Quarter Period, April 1st – June 30th 2020:

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.

- Re-treatment of sites.
- 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 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.
- Attend SDMMP land manager, working group and other meetings as requested.