

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

**Strategic Control of Invasive Weed Species
*2nd Quarter Report - FY 2024-25: Report #40 for Project***

October 1st, 2024 – December 31st, 2024

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 October 1st to December 31st 2024.

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. Two new ROEs were obtained for Limonium work: a private property owner adjacent to the Midway estuary preserve (South San Diego Bay) and the Port of San Diego.

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

Current work sites were visited and assessed (European and Algerian sea lavender, eupatory, Ward's weed, and desert knapweed). The coordinator pulled and bagged plants at some of these sites.

Planning for field site treatments by crew occurred. Sites were ordered by priority and field day estimates generated.

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). These were posted to Calflora.

Work plan:

Work crew priorities by species and sites was updated. A scope of work for the next contract was completed.

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 species this quarter (desert knapweed). 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 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 Surveyed	Acres Treated	Plants Controlled
<i>Volutaria tubuliflora</i>	Desert knapweed	2	0.5	0.5	Pre-emergent

Volutaria tubuliflora, *Volutaria* knapweed:

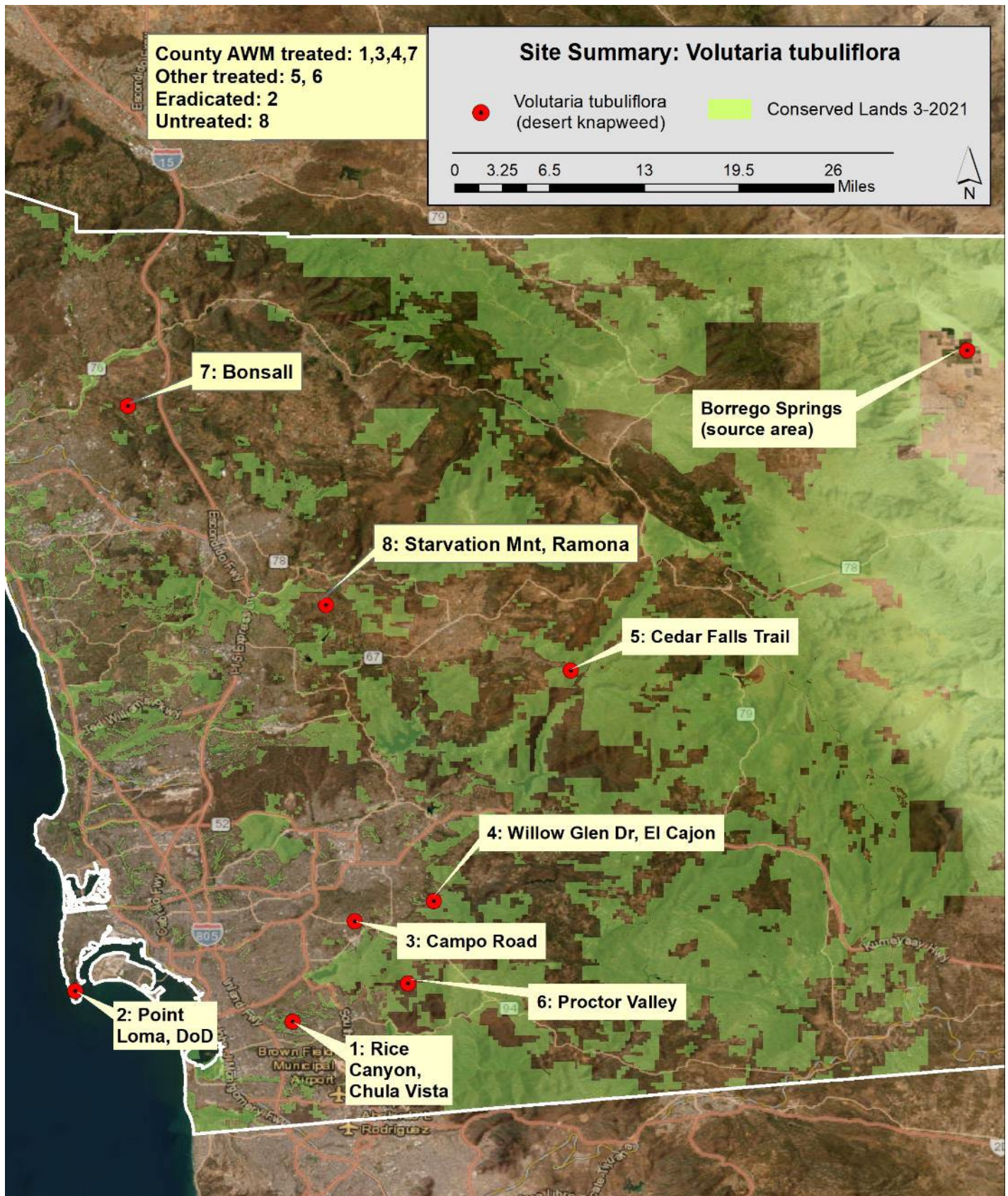


Table 2. Summary of treatments performed by AWM on *Volutaria tubuliflora* (Volutaria knapweed).

Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants treated
Site #3 Campo Road	Volutaria desert knapweed	1	0.3	0.3	Pre-emergent

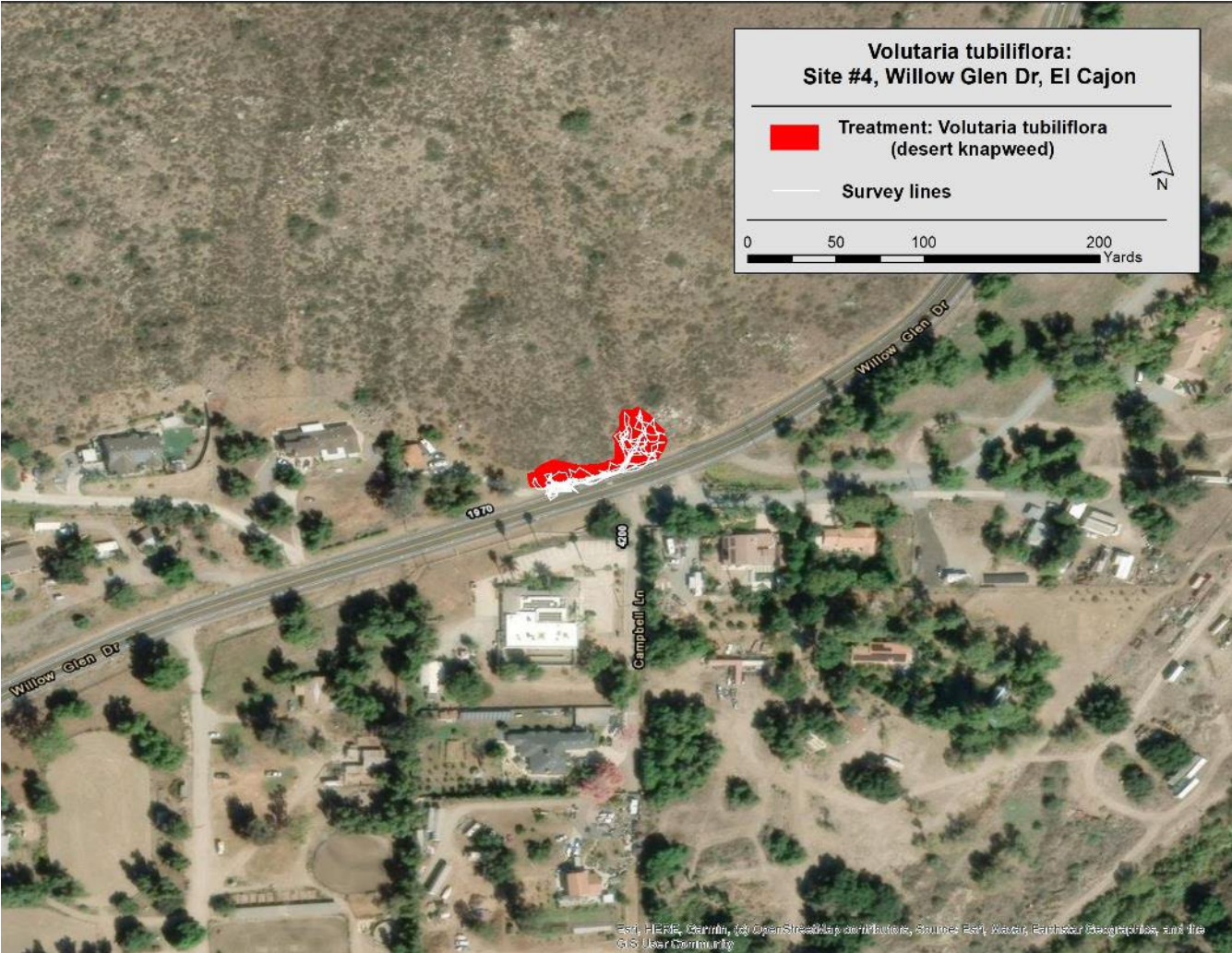
A AWM worker visited this site on December 12th 2024. Granular pre-emergent was applied.



Table 3. Summary of treatments performed by AWM on *Volutaria tubuliflora* (Volutaria knapweed).

Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants treated
Site #4 Willow Glen Dr, El Cajon	Volutaria desert knapweed	1	0.2	0.2	Pre-emergent

A AWM worker visited this site on December 12th 2024. Granular pre-emergent was applied.



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 six invasive weed species (eupatory, Ward’s weed, bridal broom, French broom, Algerian sea lavender, and European sea lavender) at thirteen 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 4. Summary of treatments performed by AWM on Level 2 species this quarter.

Scientific Name	Common Name	# of Sites Worked	Acres Surveyed	Acres Treated	Plants Controlled
<i>Ageratina adenophora</i>	eupatory	2	1.6	0.2	505
<i>Carrichtera annua</i>	Ward’s weed	1	1.5	0.6	Pre-emergent
<i>Genista monosperma</i>	bridal broom	1	0.2	0.1	3
<i>Genista monspessulana</i>	French broom	1	0.6	0.1	125
<i>Limonium duriusculum</i>	European sea lavender	3	2.9	0.7	14,700
<i>Limonium ramosissimum</i>	Algerian sea lavender	5	2.7	0.8	4,710

Ageratina adenophora, Eupatory:



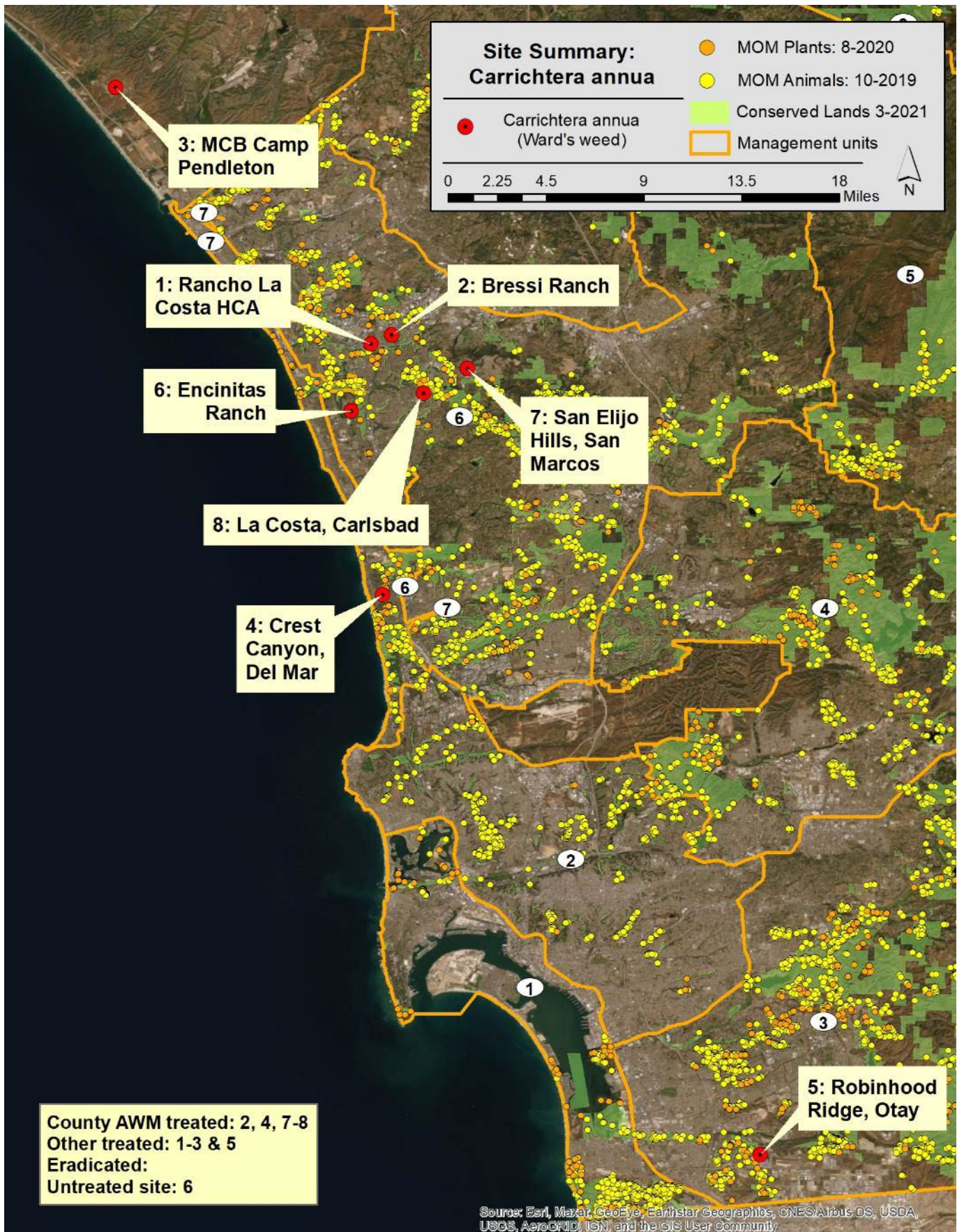
Table 6. Summary of treatments performed by AWM on *Ageratina adenophora*, Eupatory:

Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants treated
Site #2: Balboa Park	Eupatory	1	0.6	0.1	500

450 eupatory plants were foliar treated with glyphosate/imazapyr by a crew of one on December 5th 2024. Most of these plants were in the upstream area which was treated for the first time last year (1,500 plants treated). 50 plants were treated in the downstream area by a crew of one on December 5th 2024. This downstream population is now much smaller and less robust, but still persistent (past treatments: 300 in 2023, 250 in 2022, 250 in 2021, 520 in 2020, and 1,350 in 2019).



Carrichtera annua, Ward's Weed:



Carrichtera annua, Ward's Weed, Site #2 Bressi Ranch

Table 7. Summary of treatments performed by AWM on *Carrichtera annua*, Ward's Weed.

Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants treated
<i>Site #2 Bressi Ranch, Carlsbad</i>	Wards weed	1	1.5	0.6	Pre-emergent:

The Bressi Ranch (City of Carlsbad) Ward's weed site is a very large site (>200 acres) covering rolling hills with many property owners (city, open space, and private yards). A group collaboration has been working on the site since 2019: City of Carlsbad is working on the northern and western portions of the site while County AWM has worked on the southern and eastern portions of the site. CNLM is also taking the lead on the western La Costa Greens portion of the site.

A AWM worker visited this site for two days December 6th and 10th 2024. Granular pre-emergent was applied. The seedbank is surprisingly persistent.



Genista monosperma, Bridal broom:

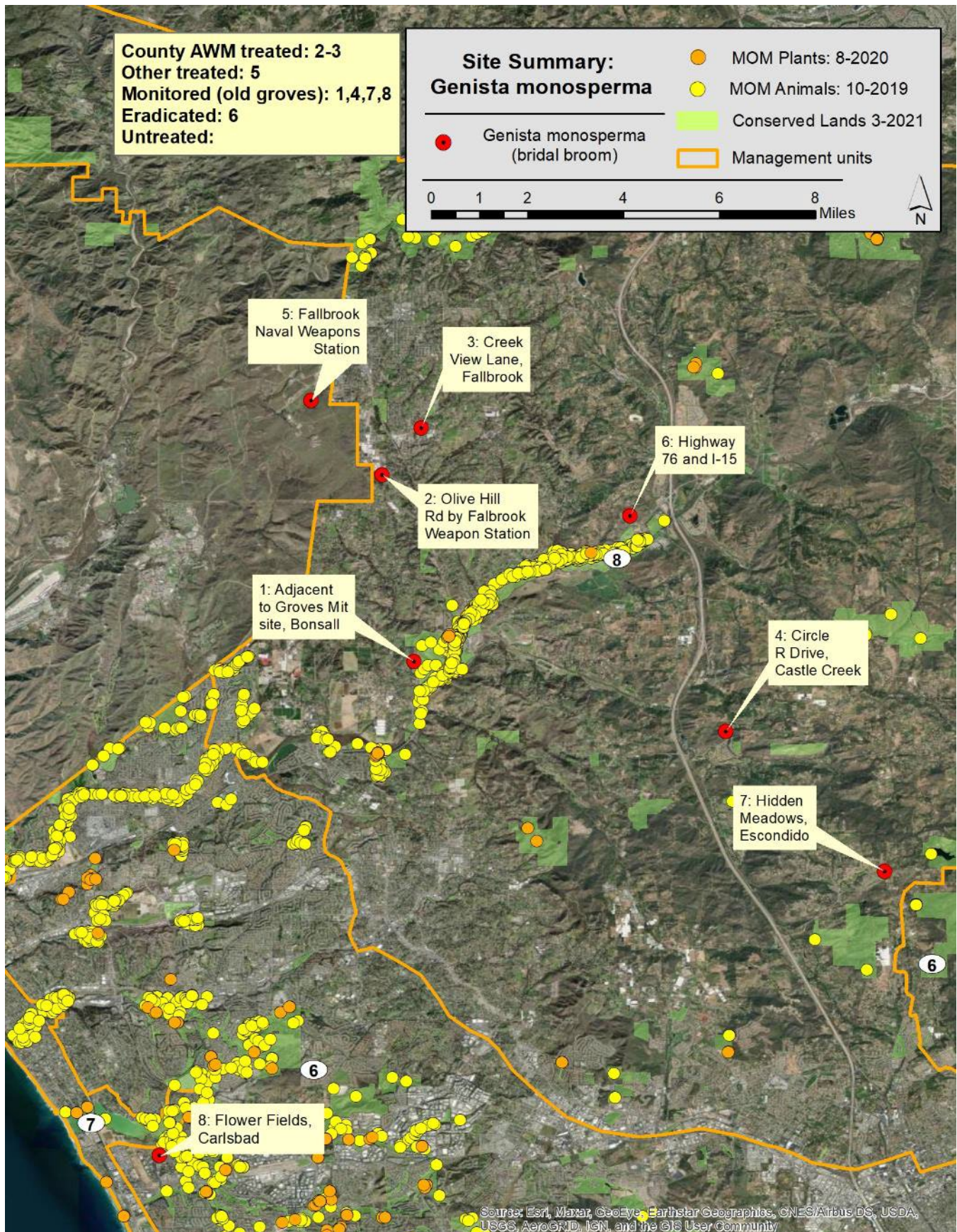


Table 8. Summary of treatments performed by AWM on *Genista monosperma*, Bridal broom:

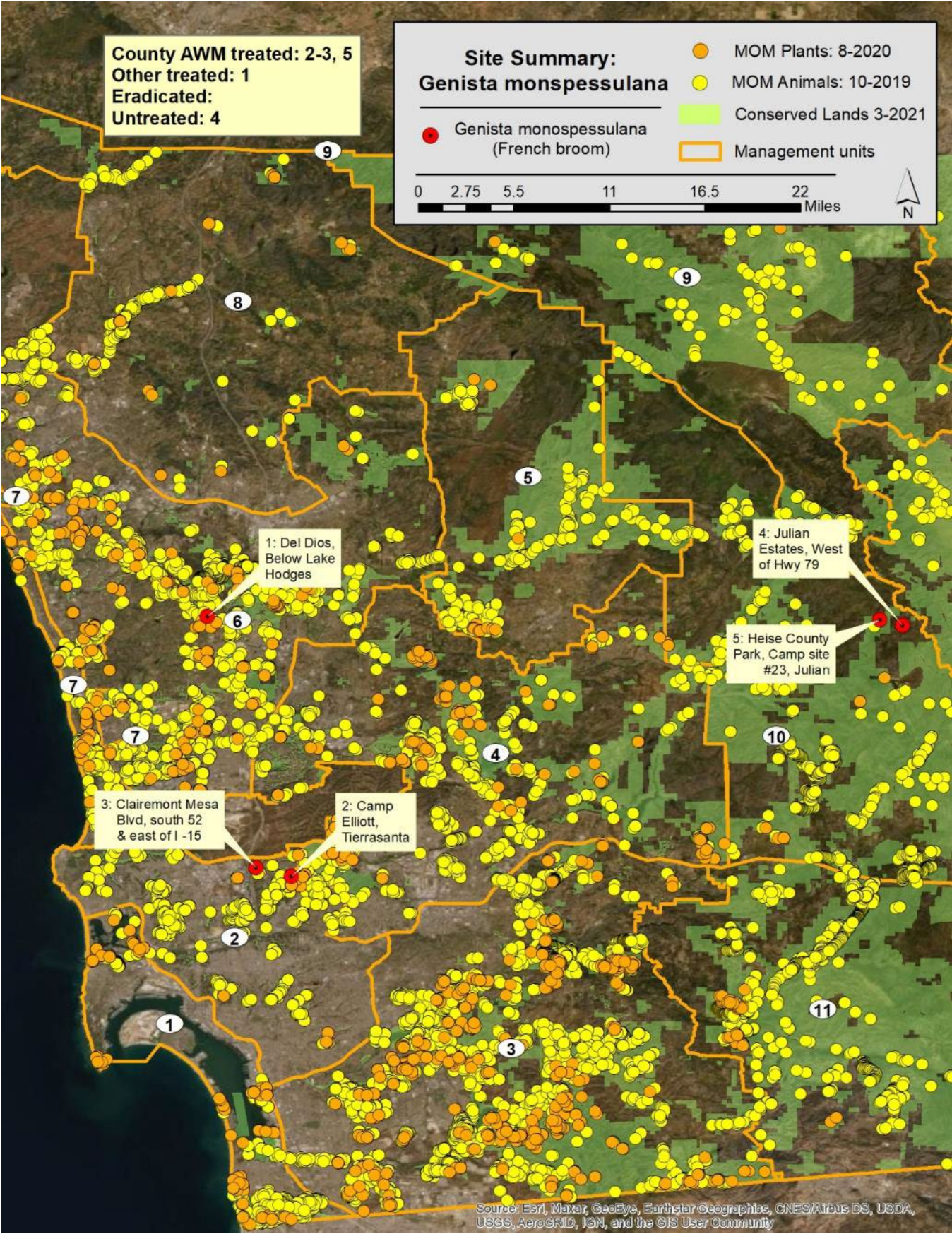
Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants treated
<i>Site #2 Olive Hill Rd</i>	Bridal broom	1	2.0	0.1	5

***Genista monosperma*, Bridal broom: Site #2 Olive Hill Rd**

A AWM worker visited this site on December 3rd 2024. 5 seedlings were pulled. A large portion of the site was not accessed as there is a new owner and two new homes. We will continue to talk with the property owner, who was undecided as to whether to participate. 125 seedlings were treated in 2023 and 80 seedlings were treated in 2022.



Genista monspessulana, French broom:



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

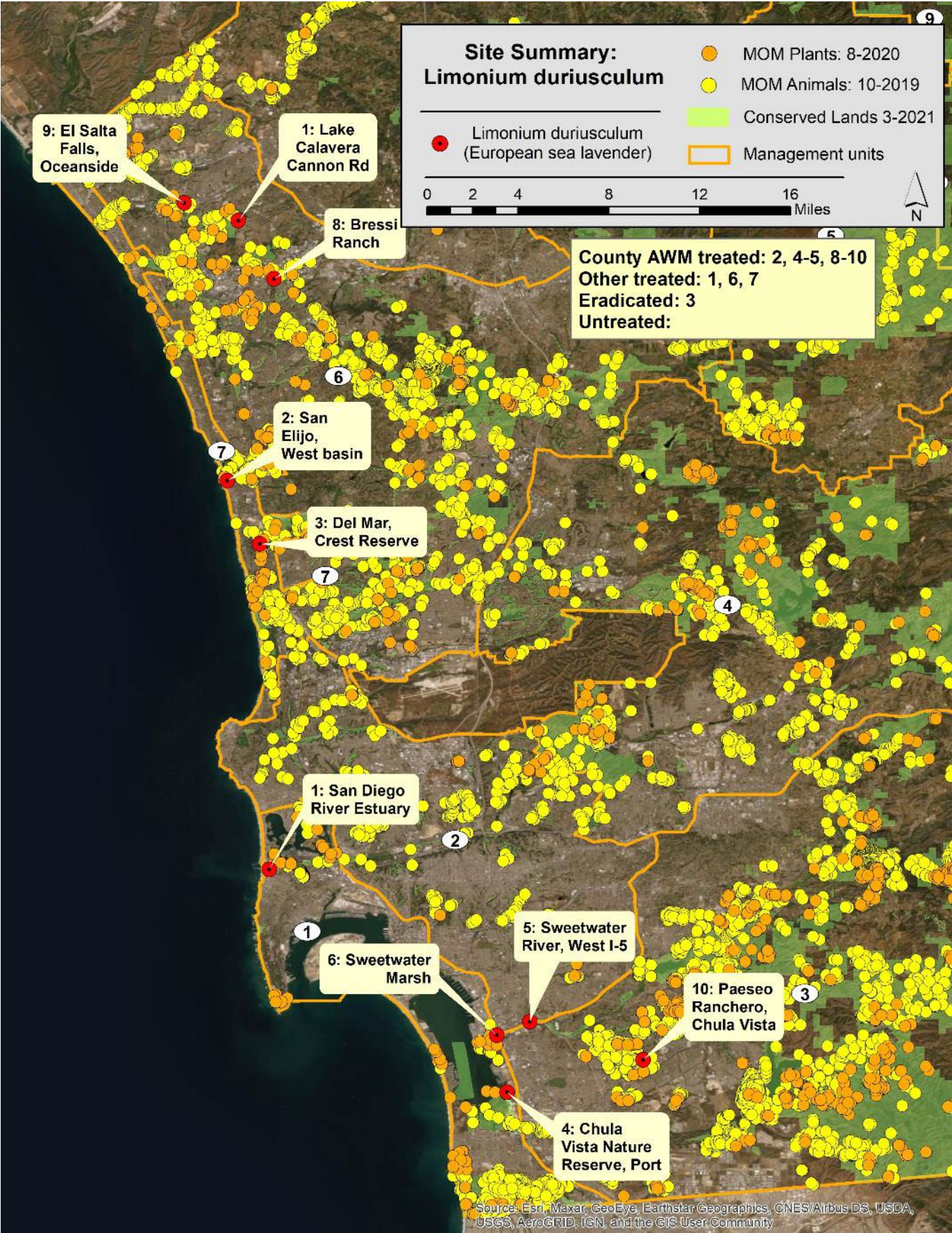
Table 9. Summary of treatments performed by AWM on *Genista monspessulana*, French broom.

Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants treated
Site #3 Clairemont Mesa	French broom	1	0.6	0.1	125

A AWM worker visited this site on December 9th 2024. 125 plants were treated with post emergent. 550 plants were treated in 2023 and 72 seedlings were treated in 2022. This is a very persistent seedbank that responds to high rainfall years (as we had in winter/spring 2023-24).



Limonium duriusculum, European sea lavender:

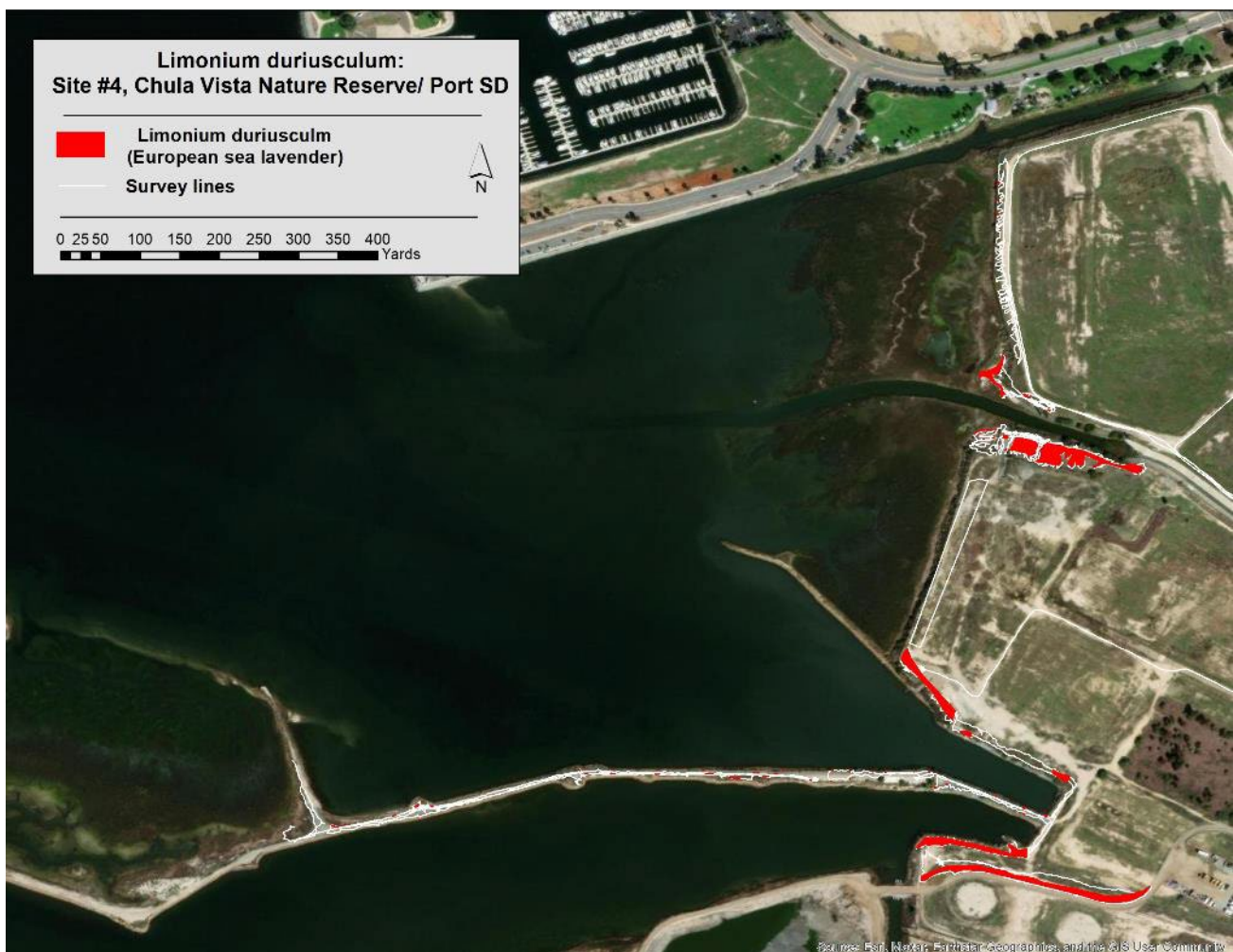


***Limonium duriusculum*, European sea lavender: Site #6 Chula Vista Nature Reserve, Port SD**

Table 10. 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 #4, CVNR, Port SD	European sea lavender	1	1.6	0.5	12,600

12,600 mature plants and seedlings were treated. These numbers are high as an areas above the creek outfall and shore areas were re-treated. There are still extensive areas of dense cover of small plants on this bench, these may be treated in the spring. Someday much of this area will be developed, but that could still be years away, and seeds are flowing into the bay. One individual worked 5 days from November 18th to November 22nd 2024. The crew now uses an herbicide mix (glyphosate and imazapyr) to hopefully obtain better control, but the seedbank is very persistent. Some tarping is occurring on the west side of the distribution, but strong winds tend to lift the tarps. 19,000 plants were treated in 2023.



***Limonium duriusculum*, European sea lavender: Site #10 Paseo Ranchero, Chula Vista**

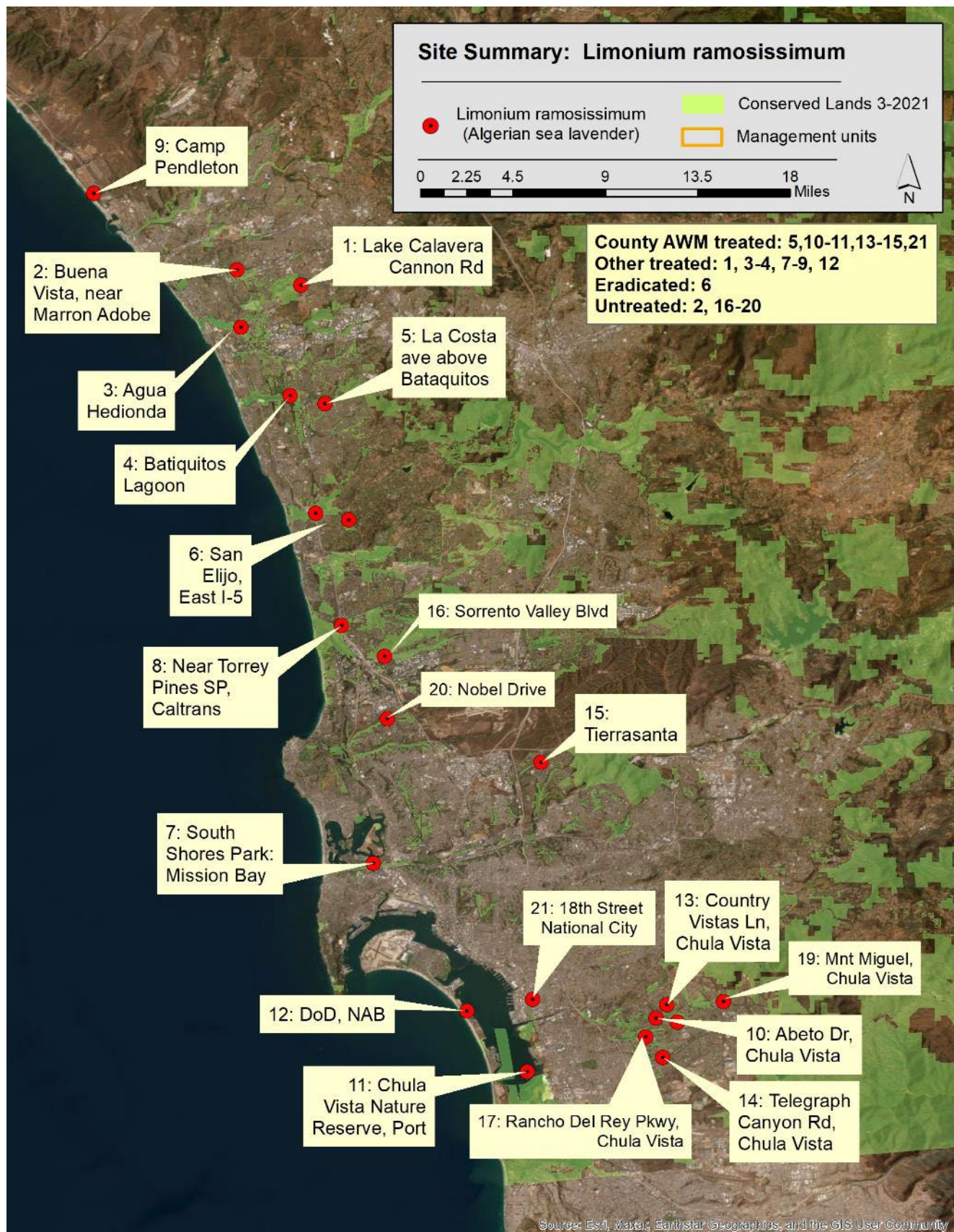
Table 11. Summary of treatments performed by AWM on *Limonium duriusculum* (European sea lavender).

Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants treated
Site #10 Paseo Ranchero, Chula Vista	European sea lavender	1	0.5	0.1	1,100

1,100 plants were foliar treated by a crew of one individual on November 11th 2024. 4,000 plants were treated in 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 #10 Abeto Dr, Chula Vista

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

Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants treated
Site #10 Abeto Dr, Chula Vista	Algerian sea lavender	1	0.5	0.2	2,100

1,200 scattered seedlings and small plants were foliar treated with glyphosate, and imazapyr. A crew of one individual worked two days November 7th and 11th 2024. 7,500 plants were treated in 2023, 1,500 plants were controlled in 2022 and 800 plants were controlled in 2021.

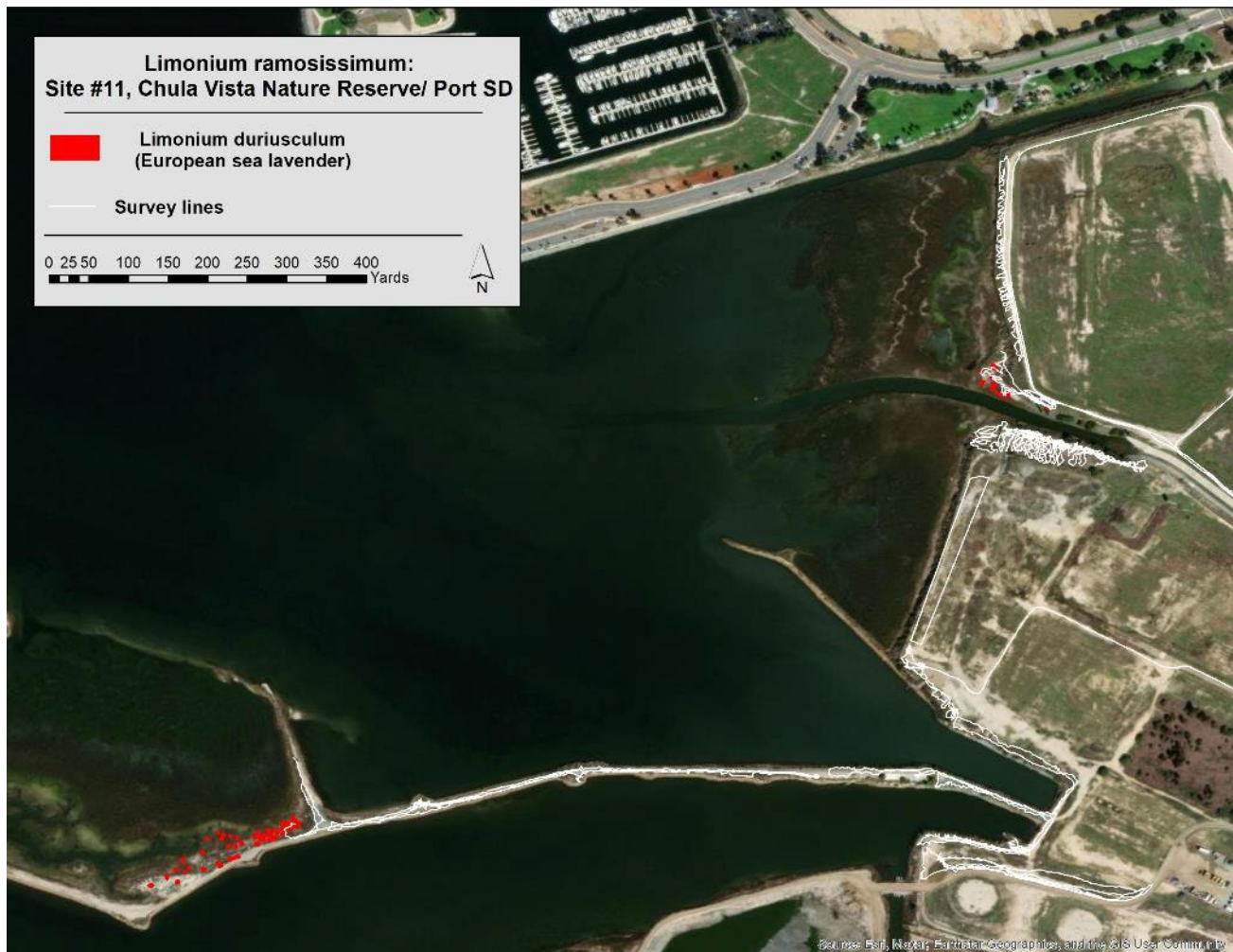


Limonium ramosissimum, Algerian sea lavender: Site #11 Chula Vista Nature Reserve

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

Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants treated
Site #11 CVNR, Chula Vista	Algerian sea lavender	1	0.3	0.1	250

250 scattered seedlings and small plants were foliar treated with glyphosate and imazapyr. A crew of one individual worked November 14th 2024. Overall plant cover is definitely reduced, by over 90%, but ongoing treatments are needed to fully deplete the seedbank. 750 plants were treated in 2023, 980 plants were treated in February 2022.



Limonium ramosissimum, Algerian sea lavender: Site #13 Country Vistas, Chula Vista

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

Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants treated
Site #13 Country Vistas, Chula Vista	Algerian sea lavender	1	0.6	0.2	330

330 scattered seedlings and small plants were foliar treated with glyphosate and imazapyr. A crew of one individual worked two days November 8th and December 4th 2024. 550 plants were treated in 2023, 550 plants were treated in 2022 and 450 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 Surveyed	Acres Treated	Plants treated
Site #14 Telegraph Canyon Rd, Chula Vista	Algerian sea lavender	1	0.8	0.1	100

100 scattered seedlings and small plants were foliar treated with glyphosate and imazapyr. A crew of one individual worked one day on November 4th 2024. 800 plants were treated in 2023, 350 plants 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 Surveyed	Acres Treated	Plants treated
Site #21 Paradise Creek, San Diego	Algerian sea lavender	1	0.5	0.2	1,780

250 scattered seedlings and small plants were foliar treated with glyphosate and imazapyr. A crew of one individual worked two days November 25th and December 2nd 2024. 1,150 plants were treated in 2023, and 2,160 in 2022.



TASK 4 – AWM: Invasive Plant Level 3 Management.

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

Level 3 Management Species are invasive non-native targets that of a wider distribution in the county (they cannot be eradicated), but still limited enough that they can be contained to portions of the county or they may be eradicated from watersheds or large landscape level units, when the IPSP was written (2012). These species may also be worked on to suppress them in high resource value areas.

Crews surveyed and treated no weed species 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 7. Summary of treatments performed by AWM on Level 3 species this quarter.

Scientific Name	Common Name	# of Sites Worked	Acres Surveyed	Acres Treated	Plants Controlled
None					

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.
- Reviewing and surveying reports from iNaturalist. Coordinating with Calflora.
- 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 3rd Quarter Period, January 1st – March 31st 2025:

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.
- Re-treatment of sites: desert knapweed and barbed goat grass.
- 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.
- Re-treatment of sites: Ward's weed, Limonium, eupatory, and other species.
- 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 new GIS treatment polygons and survey routes (lines) of targeted weeds. Upload data to Calflora.

Task 4 – AWM: Invasive Plant Level 3 Management.

- Re-treatment of stinknet sites.

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 SDMMP land manager meeting, working group and other meetings as requested.
- Provide population status of EDRR regional targets to CDFA statewide assessment.
- Work with the Natural History Museum ‘Urban Canyons Survey Project’, provide EDRR materials to facilitate reporting of EDRR targets.