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

Strategic Removal of Invasive Weed Species
2nd Quarter Report - FY 2017-18: Report #12 for Project

October 1st, 2017 – December 31st, 2017

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 SANDAG, which allowed work to occur from October 1, 2017 to December 31, 2017.

TASK 1 – Invasive Plant Species Coordinator:

Level of Effort: (25%) of overall contract

Right of Entry (ROE) Work and Coordination With Property Owners:

Coordination with property owners, land managers and AWM crew occurred throughout the quarter. Work included *Sesbania punicea,* Rattlebox at Tecolote Canyon, *Limonium duriusculum* , European Sea Lavender at Bressi Ranch and at the Chula Vista Nature Reserve. Assessment of *Carrichtera annua*, Ward's Weed site at La Costa Greens, *Enchylaena tomentosa*, Ruby Saltbush in National City, and *Hypericum canariense*, Canary Island St. John's Wort sites in Mission Valley and Kearny Villa Road.

The coordinator worked on four species at two field sites:
Work tasks included monitoring field crews, assessing treatment success, and mapping and surveying target plants. Site visits occurred for European Sea Lavender (Bressi Ranch and Sweetwater), Ward's Weed (La Costa Greens), Ruby Salt Bush (National City) and Rattlebox (Tecolote Canyon).

Report preparation:

Quarterly report for Q2 FY 2017-2018 was prepared.

Mapping and occurrence data:

Spatial data was uploaded to Calflora.

TASK 2 – AWM: Invasive Plant Level 1 Management

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

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

AWM Integrated Pest Control (IPC) crews did not work on any Level 1 Management Species this quarter.

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 in 2012.

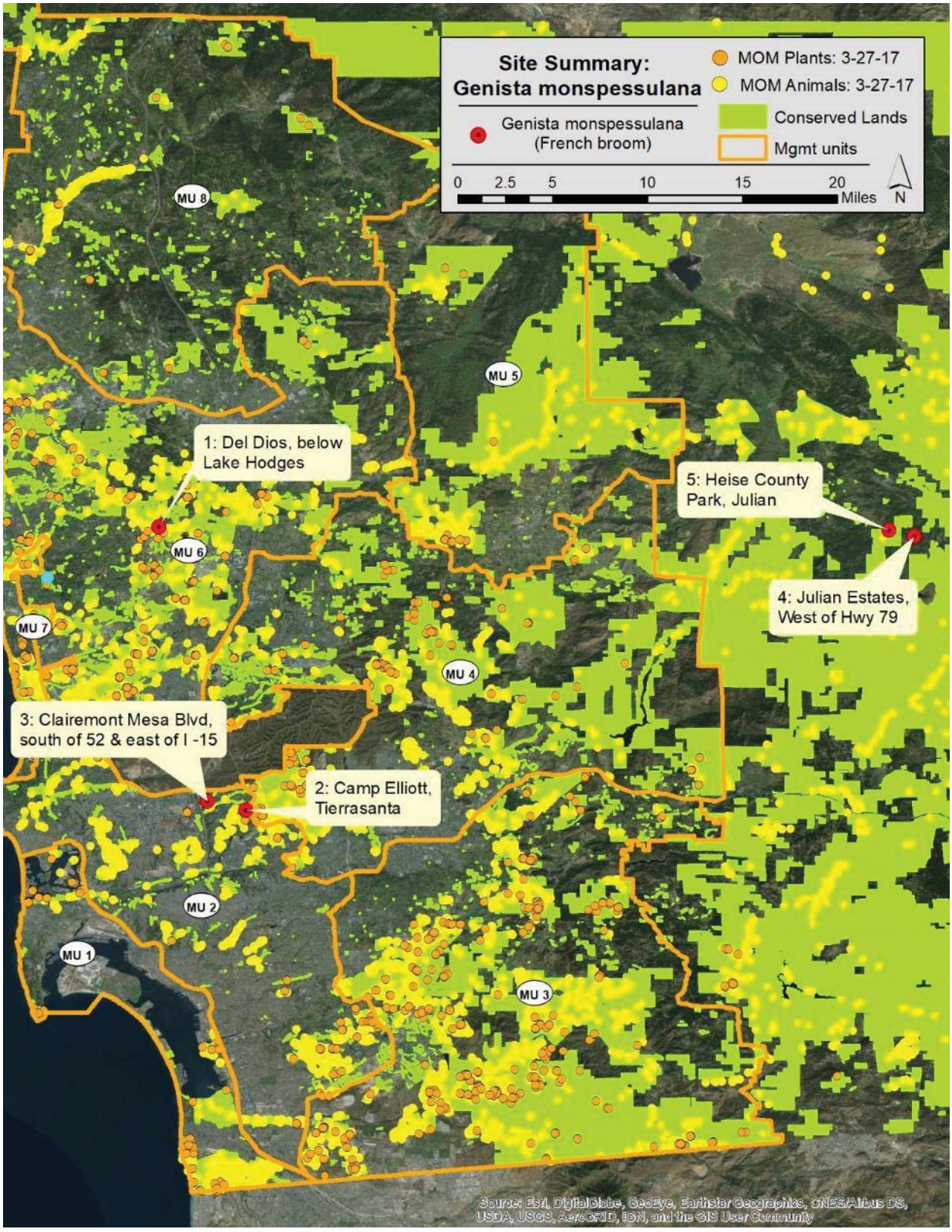
IPC crews surveyed and treated four invasive weed species at four sites this quarter: French Broom, Rattle Box, European Sea Lavender, and Algerian Sea Lavender. AWM IPC made optimal pesticide applications, protected the natural environment by preventing off-site movement of pesticides, and utilized 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 1. 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
Genista monspessulana	French Broom	1	27.0	2.3	3,710
Limonium duriusculum	European Sea Lavender	2	35.5	3.9	4,000
Limonium ramosissimum	Algerian Sea Lavender	1	15	0.4	250
Sesbania punicea	Rattlebox	1	130.9	1.3	2,568

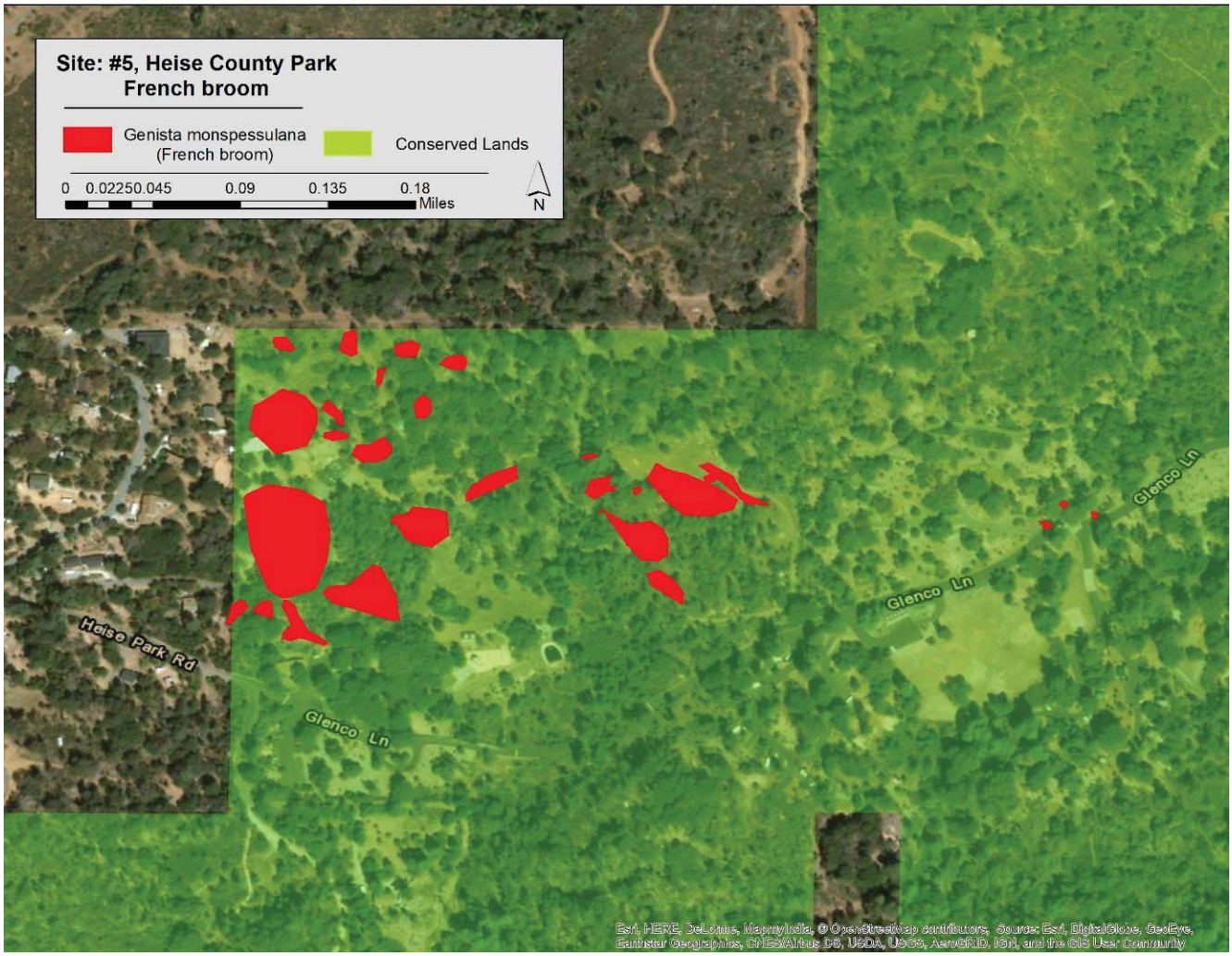
***Genista monspessulana*, French Broom:**



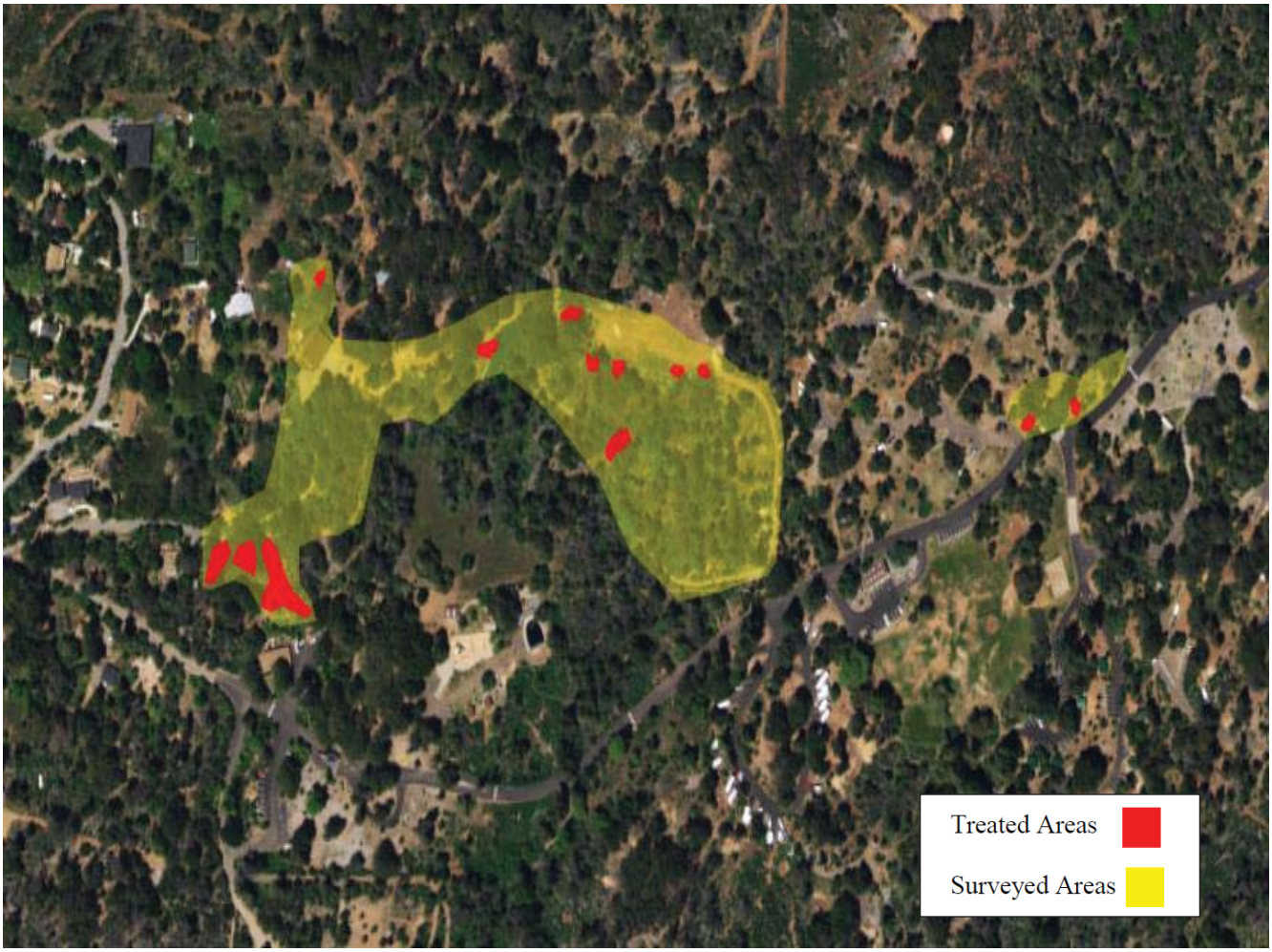
***Genista monspessulana*, French Broom: Site #5 Heise County Park.**
Table 2. Summary of treatments performed by AWM on *Genista monspessulana*, French broom:

Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants treated
Site #5 Heise County Park	French Broom	2	27.0	2.3	3,710

Re-sprouts and seedlings were foliar treated with Element 4 (Triclopyr). A crew of two individuals worked five days 10-2-2017 to 10-10-2017. A second survey occurred on 11-13-2017 & 11-14-2017.

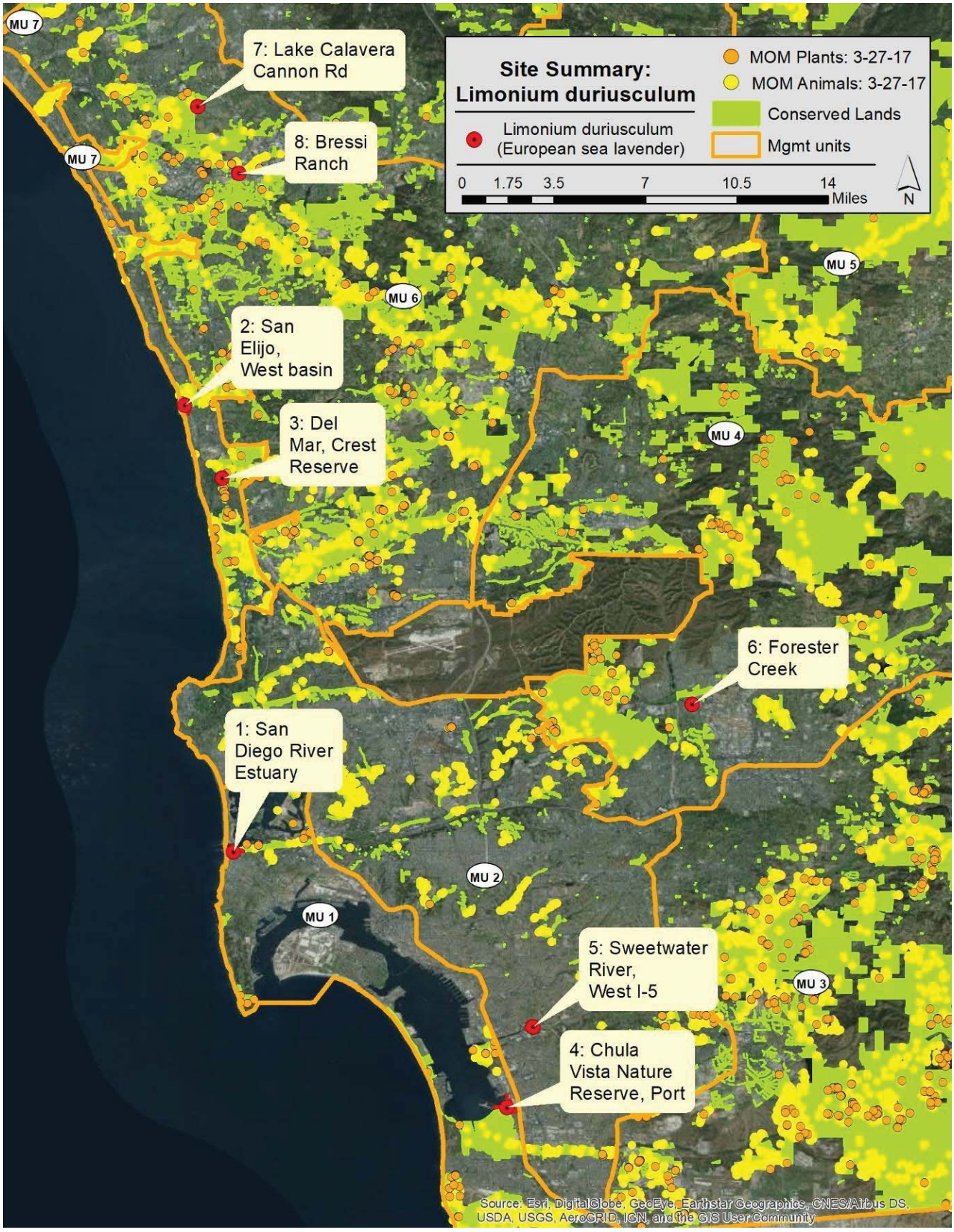


Site #5: Treatments of re-sprouts and seedlings on 10-2-2017 to 10-10-2017 for *Genista monspessulana,* French Broom plants.



Site #5: Second treatment of re-sprouts and seedlings: 11-13-2017 and 11-14-2017 for *Genista monspessulana,* French Broom plants.

***Limonium duriusculum*, European Sea Lavender:**

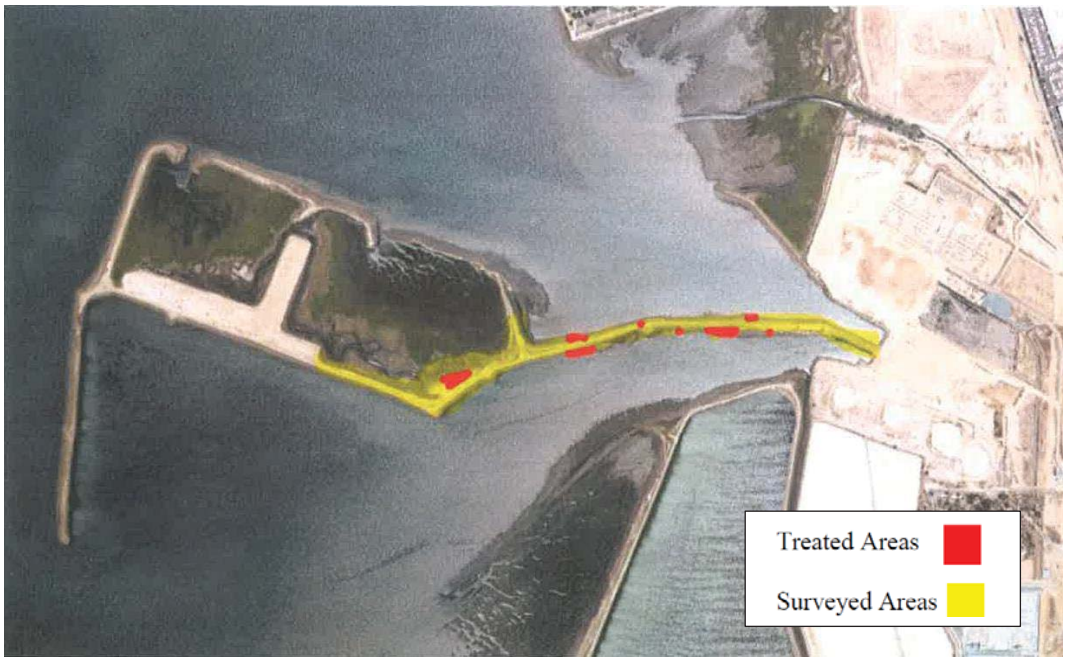


Limonium duriusculum, European Sea Lavender: Site #4: Chula Vista Nature Reserve

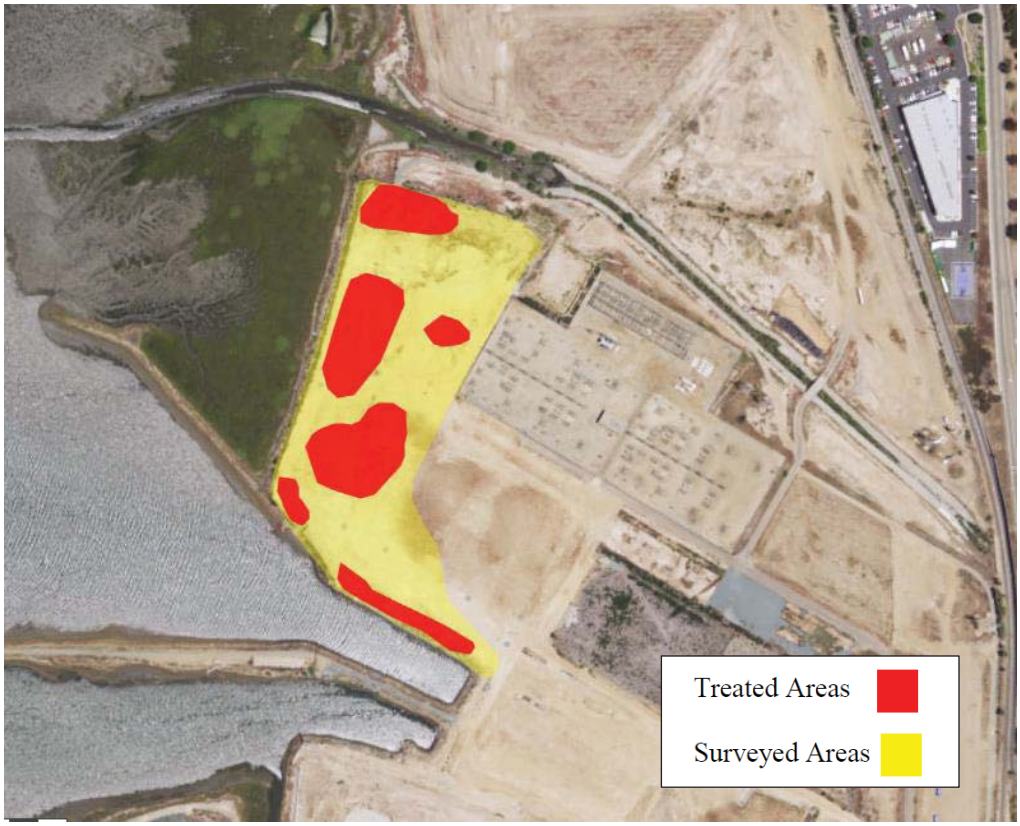
Table 3. Summary of treatments performed by AWM on *Limonium duriusculum* (European Sea Lavender).

Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants treated
Site #4 Chula Vista Nature Reserve	European Sea Lavender	1	33.2	3.4	2,000

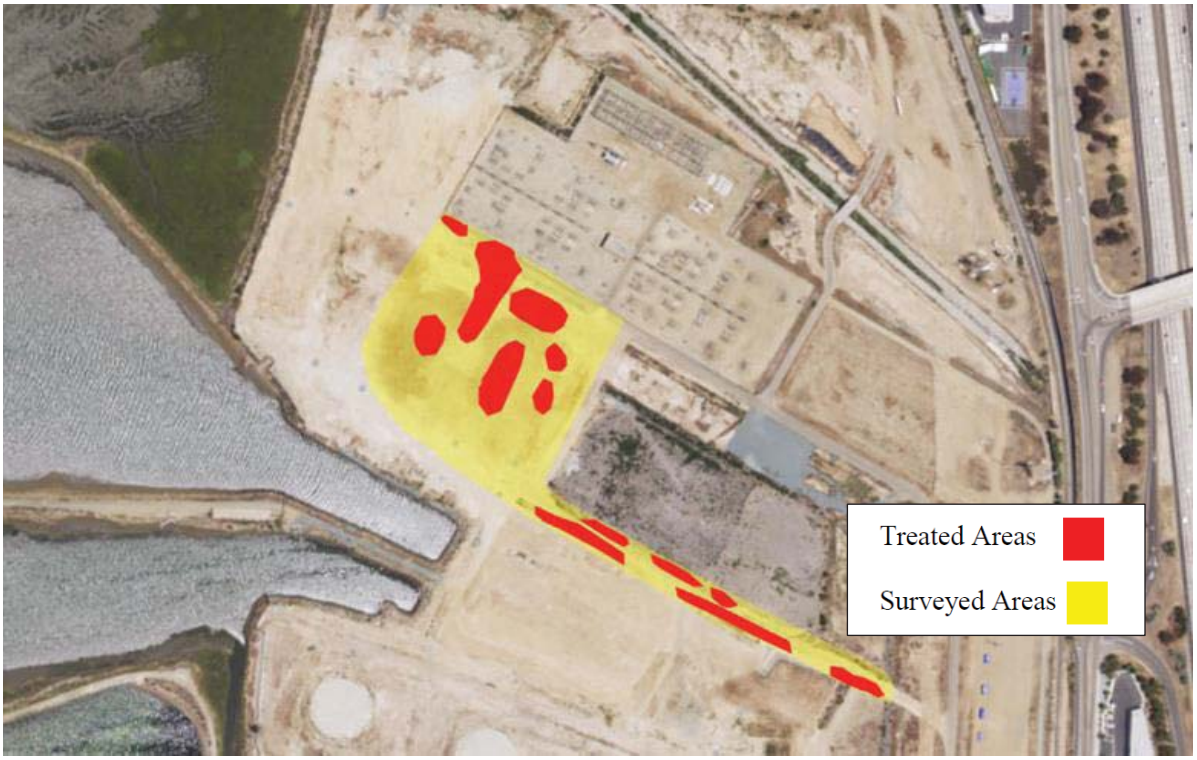
Mature plants and seedlings were foliar treated with a mixture of glyphosate and imazapyr. A crew of two individuals worked on 12-18-2017, 12-19-2017, 12-22-2017, and 12-26-2017. Cover is greatly reduced (>95% cover reduction), but there are seedlings sprouting.



Site #4: 12-18-2017, 450 *Limonium duriusculum,* European Sea Lavender plants were found and treated.



Site #4: 12-22-2017, 600 *Limonium duriusculum,* European Sea Lavender plants were found and treated.



Site #4: 12-26-2017, 950 *Limonium duriusculum,* European Sea Lavender plants were found and treated.

***Limonium duriusculum*, European sea lavender: Site #8: Bressi Ranch**

Table 4. Summary of treatments performed by AWM on *Limonium duriusculum* (European Sea Lavender).

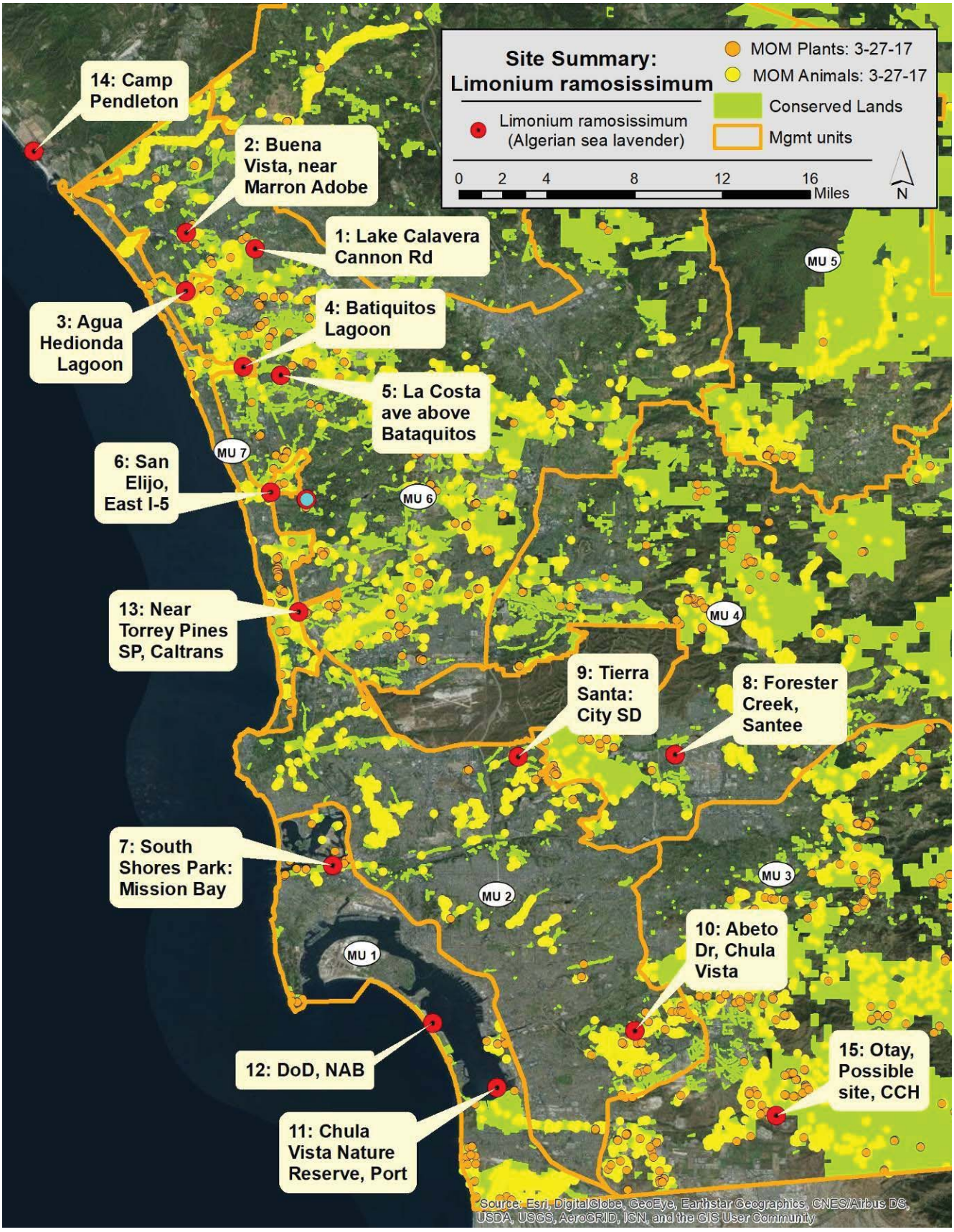
Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants treated
Site #8 Bressi Ranch (Loker Ave)	European Sea Lavender	1	33.2	3.4	2,000

Mature plants and seedlings were foliar treated with glyphosate. A crew of two individuals worked on 12-18-19, 12-22-2017, and 12-26-2017. This is a new site that was treated for the first time.

Site #8: 11-20-2017, 1,000 *Limonium duriusculum,* European Sea Lavender plants were found and treated.

Site #8: 11-21-2017, 1,000 *Limonium duriusculum,* European Sea Lavender plants were found and treated.

***Limonium ramosissimum*, Algerian sea lavender:**



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

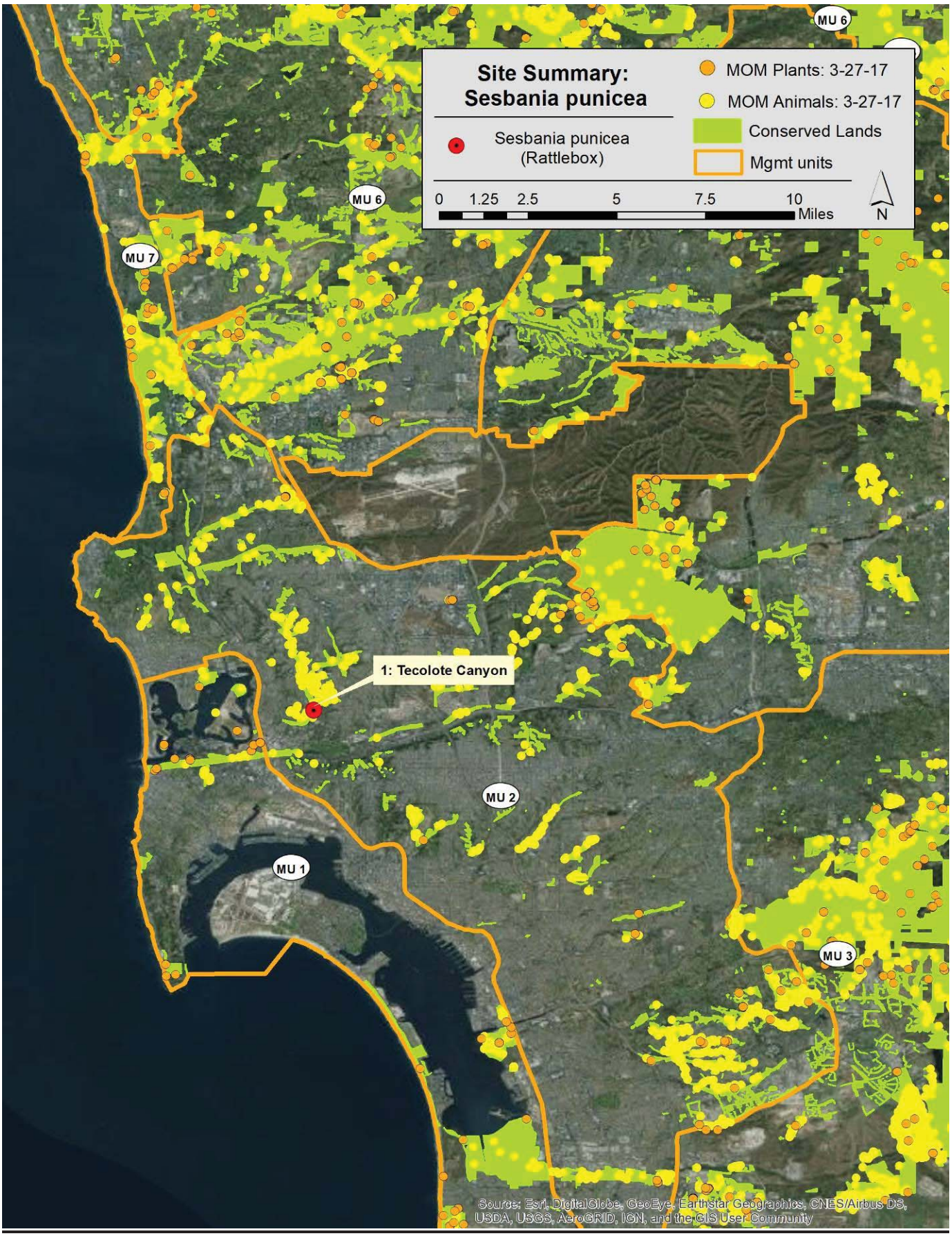
Table 5. Summary of treatments performed by AWM on *Limonium ramosissimum* (Algerian Sea Lavender).

Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants treated
Site #11 Chula Vista Nature Center	Algerian Sea Lavender	1	15	0.4	250

Mature plants and seedlings were foliar treated with a mix of glyphosate/imazapyr. A crew of two individuals worked on 12-18-2017. Cover is greatly reduced (>95% cover reduction), but there are seedlings sprouting.

Site #11: 12-18-2017 treatment of 250 *Limonium ramosissimum,* Algerian Sea Lavender *plants.*

***Sesbania punicea*, Rattlebox:**

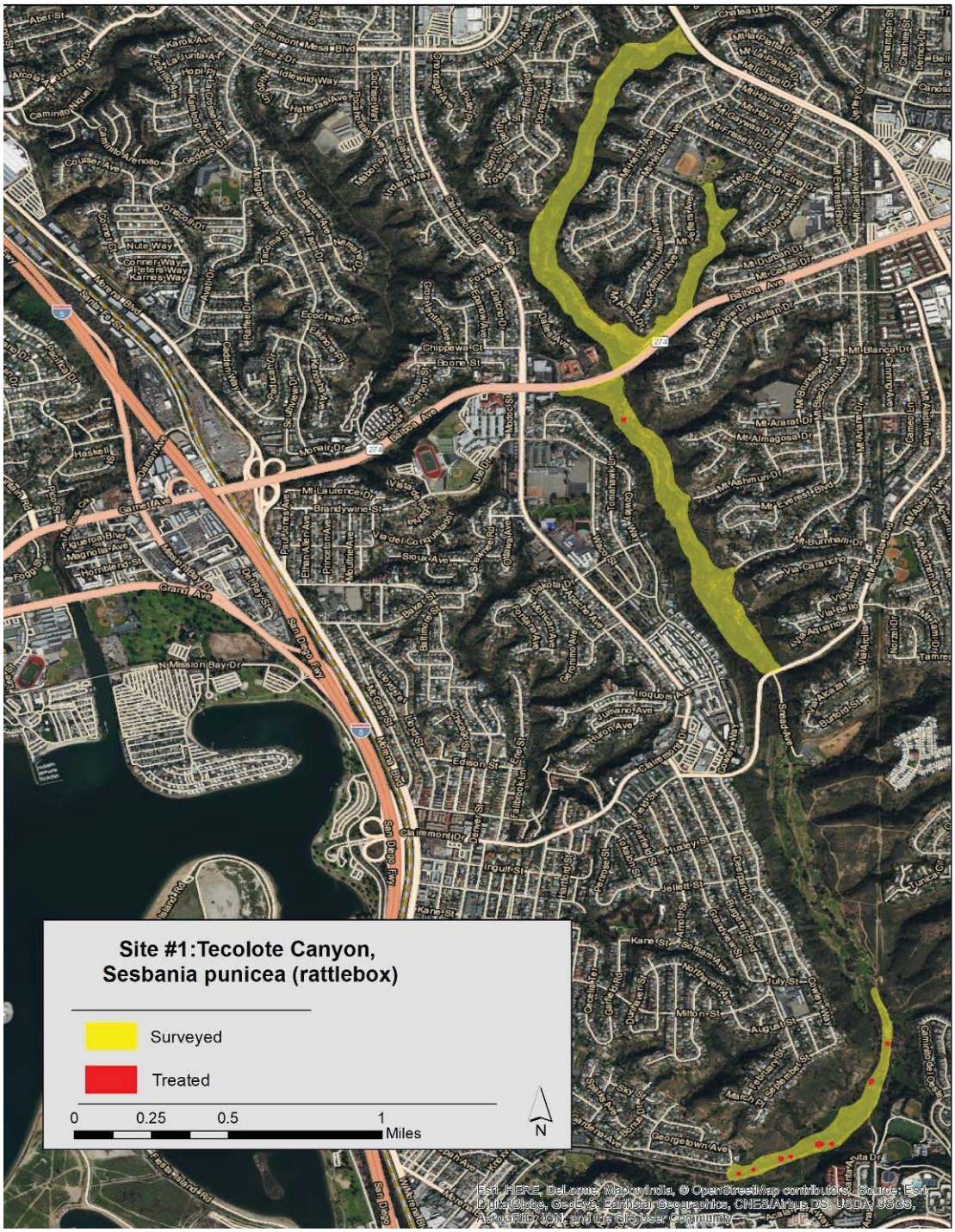


***Sesbania punicea*, Rattlebox: Site #1 Tecolote Canyon**

Table 6. Summary of treatments performed by AWM on *Sesbania punicea*, Rattlebox.

Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants treated
Site #1 Tecolote Canyon	Rattlebox	1	117	0.2	12

This is a new invasive plant and site that is being treated by the AWM crew. A known population of Rattlebox occurred on the upper creek. The entire creek, except the golf course, was surveyed and treated in the fall/winter. A crew of two individuals worked 14 days from mid-October through late December. Only 12 plants were found. These small mature plants and seedlings were pulled and removed.



Site #1: Tecolote Canyon *Sesbania punicea*, Rattlebox survey and hand removal area.

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

- Volutaria (*Volutaria tubuliflora*) has been located in San Diego County (Chula Vista, Rice Canyon). This plant also occurs in Anza Borrego (Borrego Springs) and Orange County (Newport Bay). Coordination work with these regions on mapping, ID and treatment approaches continued (emails and calls).
- A Plant ID sheet for *Oncosiphon piluliferum was* distributed.(Table7).
- Contributed to Stinknet discussion (*Oncosiphon piluliferum*) at land managers meeting.

Table 7. Primary EDRR targets for program with status of San Diego Plant Assessment Form and weed ID sheets noted. One new card was prepared and distributed.

Scientific name	Common name	Growth form	Habitat	SD ID Sheet
Oncosiphon piluliferum	Stinknet	Annual forb	Uplands	Completed

Work Anticipated for 3rd Quarter, January 1 – March 31, 2018:

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.
- Submit GIS data for target EDRR species and work with San Diego Management & Monitoring Program of invasive mapping attribute data.

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 points of targeted weeds, if found.

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 points 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 the Orange County Chapter of California Native Plant Society EDRR invasive group.
- Continue to aggregate data and track new prospective EDRR target species.
- Attend San Diego Management & Monitoring Program, land manager working groups and other meetings if requested.