

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

**Strategic Removal of Invasive Weed Species
*1st Quarter Report - FY 2018-19: Report #15 for Project***

July 1st, 2018 – September 30th, 2018

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 2018.

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.

The coordinator worked on five species at six field sites:

Work tasks included monitoring field crews, assessing treatment success, and mapping and surveying target plants. Species and sites are presented under task 3.

Report preparation:

Quarterly report for Q1 FY 2018-19 was prepared.

Mapping and occurrence data:

Spatial data was updated.

Work plan:

Program review to management coordinator and director occurred. This included current status of program effort and longer term outlook based on efficacy of control treatments and seedbank expression. This information was also presented to the Environmental Mitigation Program (EMP) working group.

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).

No field work occurred on Task 2 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 (2012).

Crews surveyed and treated five invasive weed species at seven sites this quarter: Bridal broom, French Broom, Rattlebox, European Sea Lavender, and Algerian Sea Lavender. AWM Integrated Pest Control (IPC) Technicians 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
<i>Genista monspessulana</i>	French Broom	2	5.1	1.6	2,745
<i>Limonium duriusculum</i>	European Sea Lavender	1	6.4	3.5	3,180
<i>Limonium ramosissimum</i>	Algerian Sea Lavender	2	3.0	1.3	1,700
<i>Retama monosperma</i>	Bridal Broom	2	1.5	0.2	191
<i>Sesbania punicea</i>	Rattlebox	1	6.0	0	0

Genista monspessulana, French broom:

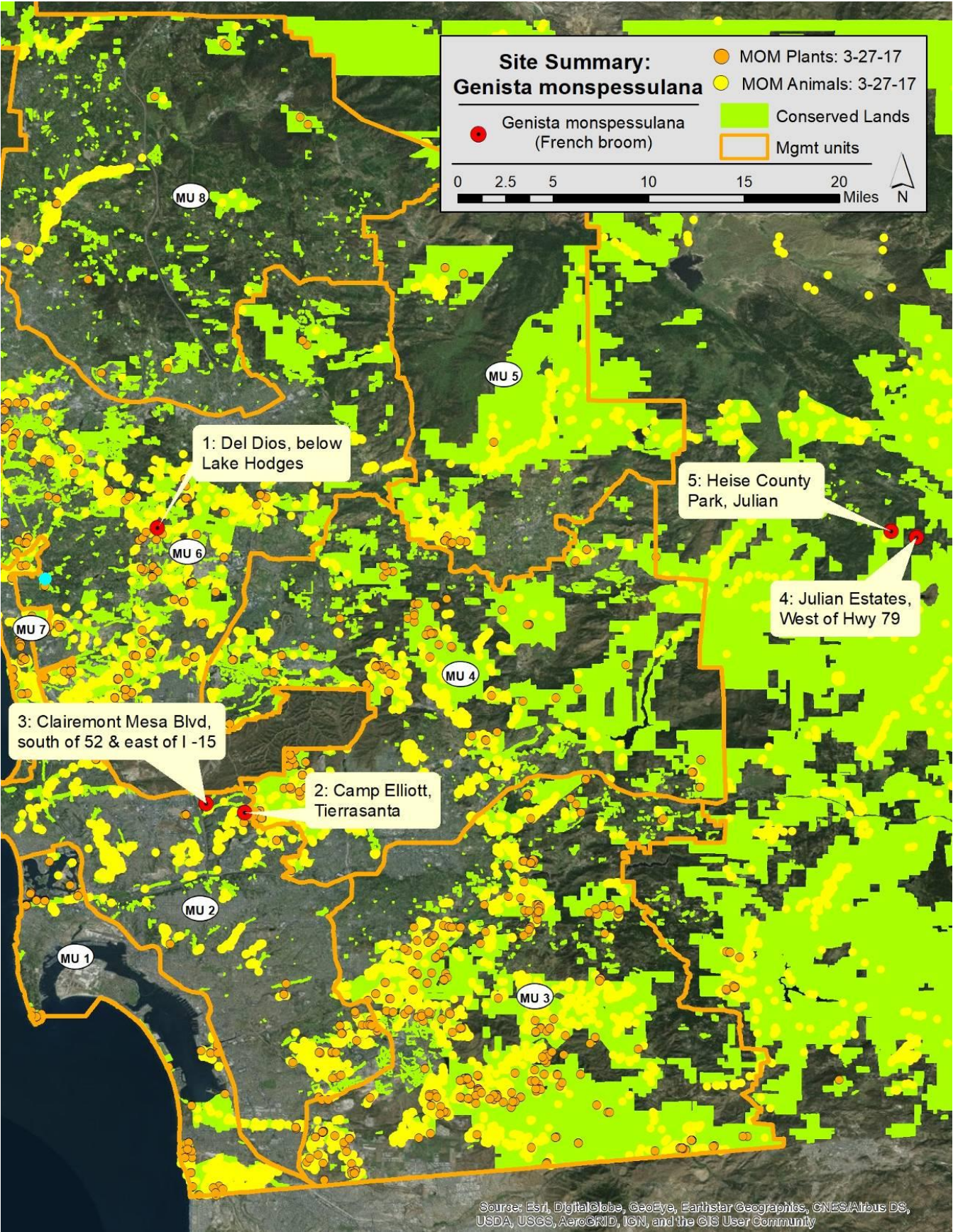


Table 2. Summary of treatments performed by AWM on *Genista monspessulana*, French broom:

Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants treated
Site #3 Clairemont Mesa	French Broom	1	0.7	0.1	177
Site #5 Heise County Park	French Broom	1	4.4	1.5	2,570

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

Table 3. 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	0.7	0.1	177

57 Re-sprouts were cut stump treated with Element 4 (Triclopyr) and 120 seedlings were foliar treated. A crew of two individuals worked one day on 9-4-2018.



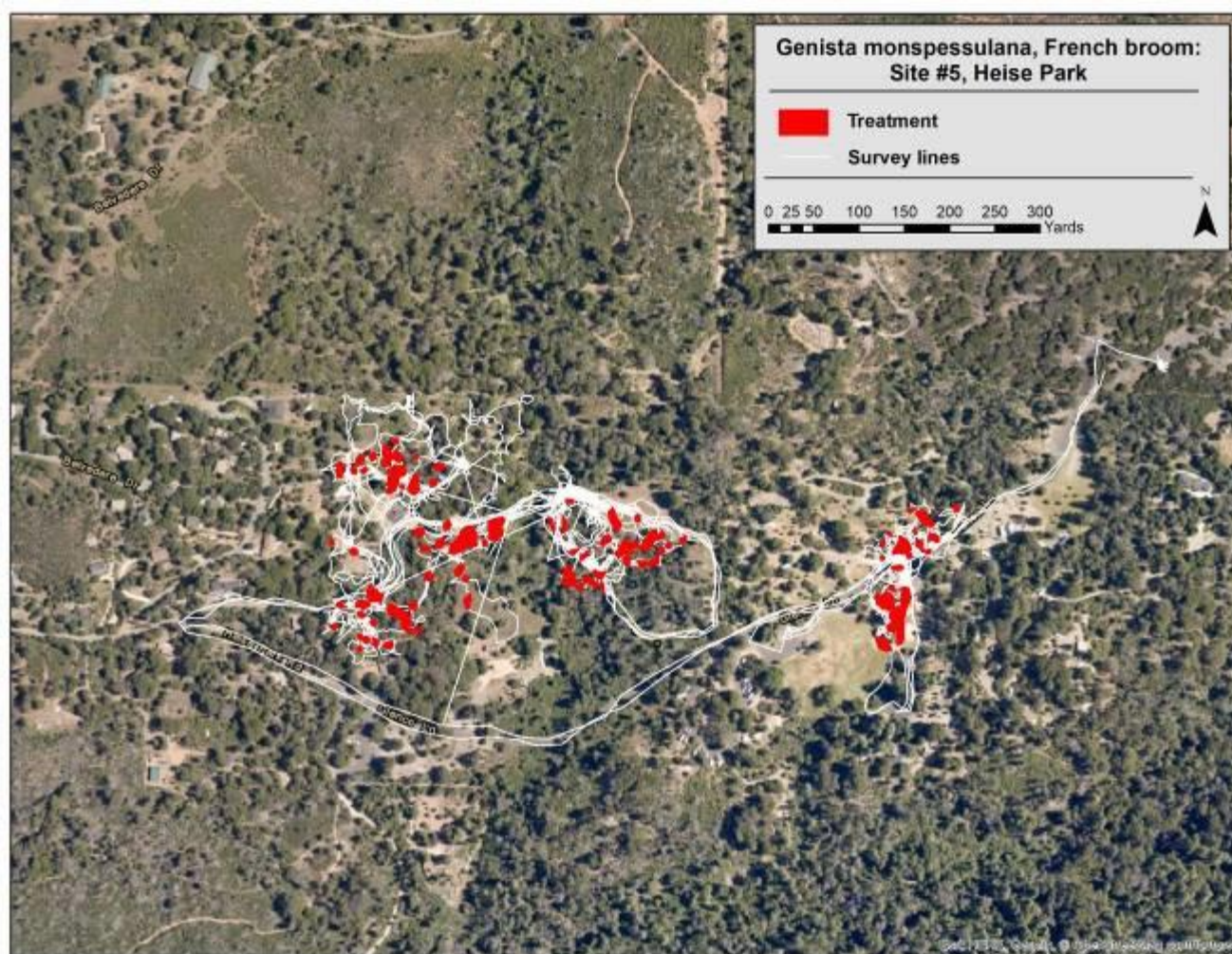
Site #3: Treatments for *Genista monspessulana* plants (re-treatment red, survey white line).

***Genista monspessulana*, French broom: Site #5 Heise Park.**

Table 4. Summary of treatments performed by AWM on *Genista monspessulana*, French broom.

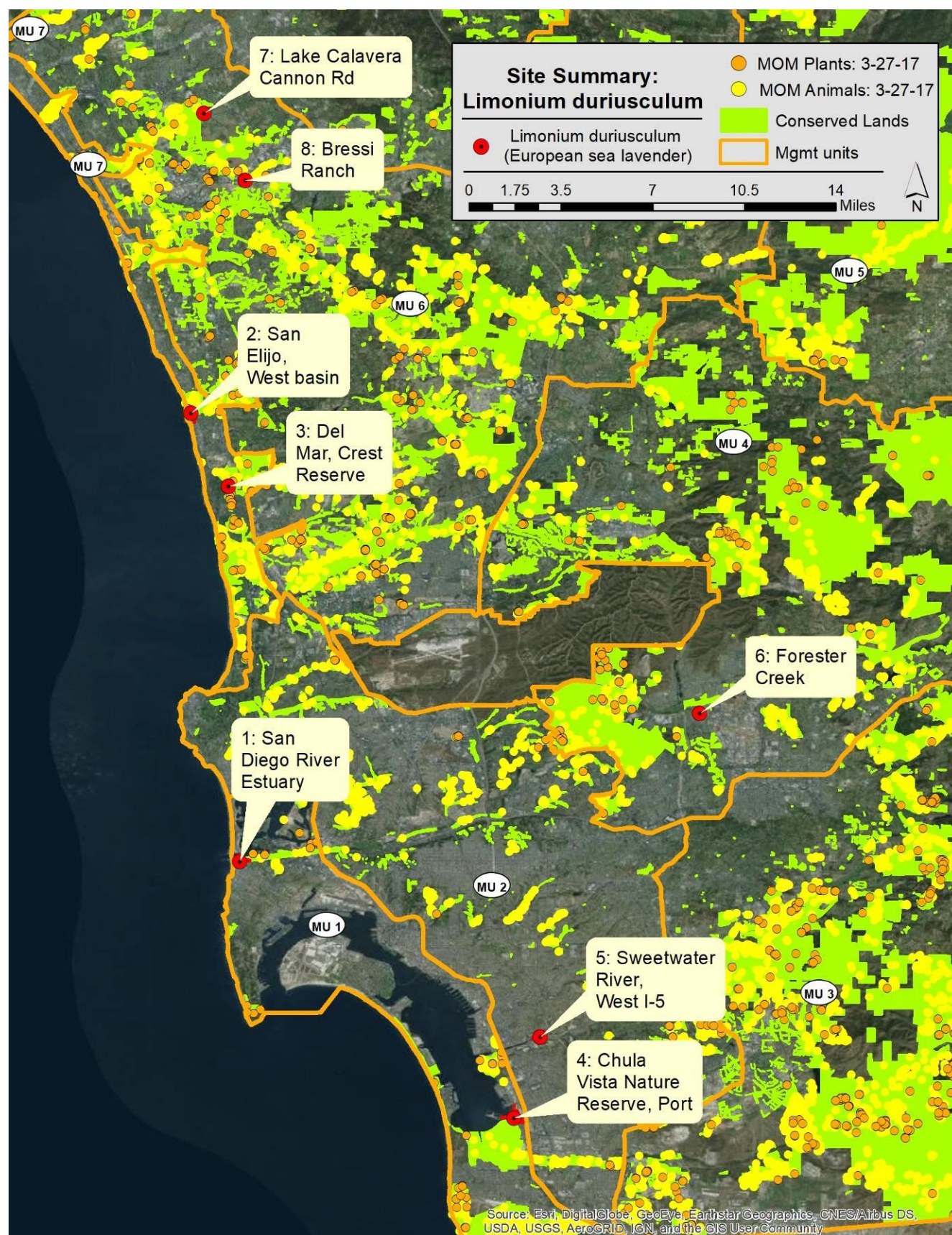
Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants treated
Site #5 Heise Park	French Broom	1	4.4	1.5	2,570

Scattered mature plants, re-sprouts and seedlings were foliar treated with Element 4 (Triclopyr). A crew of two individuals worked nine days 8-3,7,8,13,14,17,20,30,31-2018.



Site #5: Treatments and biomass removal in August 2018 for *Genista monspessulana* plants (survey lines white, treatment red).

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



Limonium duriusculum, European Sea lavender: Site #4 Chula Vista Nature Reserve, Port of San Diego (CVNR)

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

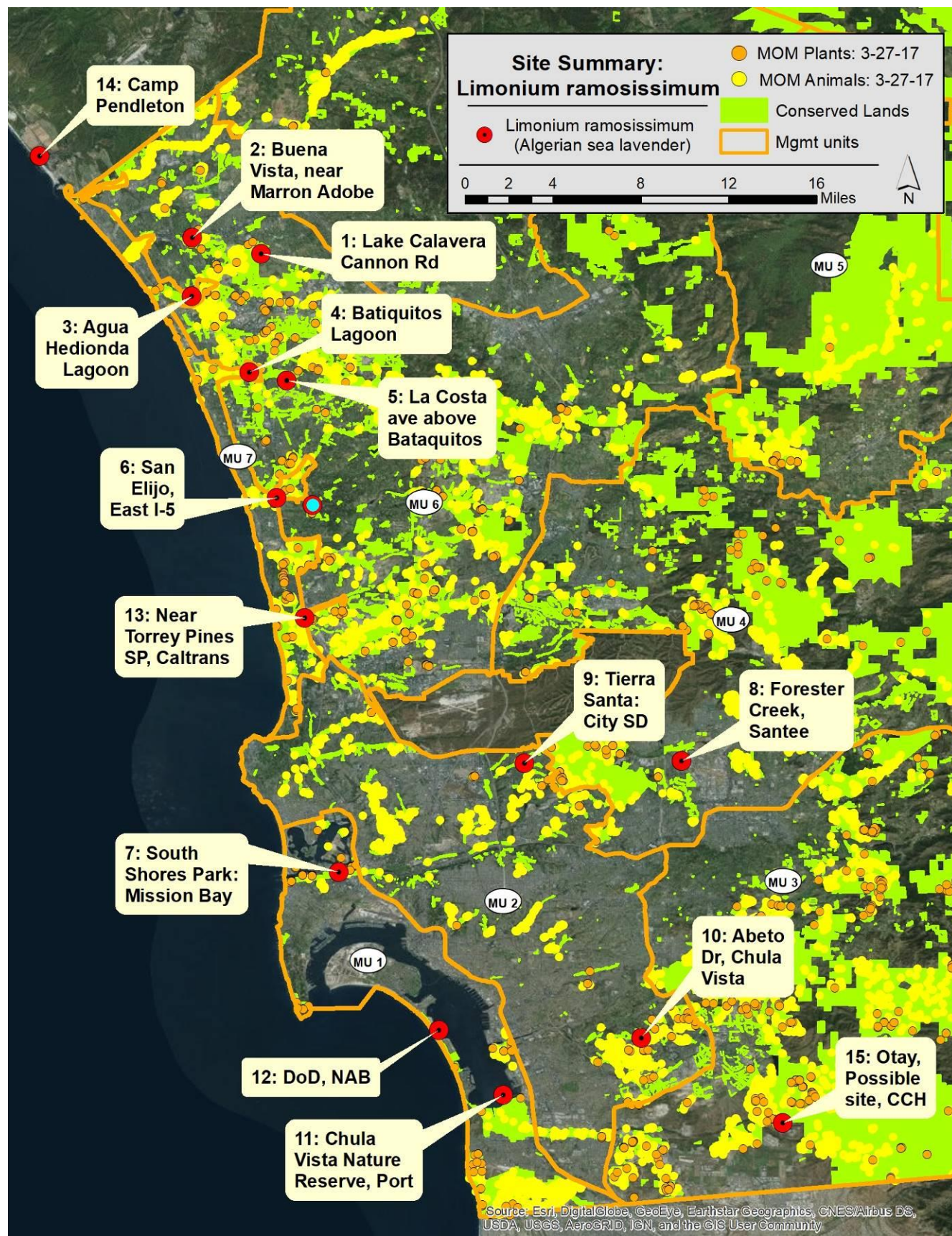
Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants treated
Site #4, CVNR,	European Sea Lavender	1	6.4	3.5	3,180

Mature plants and seedlings were treated. A crew of two individuals worked nine days on 7-24,25,26-2018, 8-1-2018 and 9-6,7,10,14,17-2018. Cover is reduced in past treatment areas (>90% cover reduction), but there are seedlings sprouting. New treatment areas on the east side of the site were accessed for the first time (powerline construction had excluded this portion of the site).



Site #4: *Limonium duriusculum* plants were treated (survey white lines, treatment red). Map shows a mix of European and Algerian Sea Lavender plants.

Limonium ramosissimum, Algerian Sea Lavender:



Limonium ramosissimum, Algerian Sea Lavender: Site #11 Chula Vista Nature Reserve, Port of San Diego

Table 6. 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,	Algerian sea lavender	1	3.0	1.3	1,700

Mature plants and seedlings were treated. A crew of two individuals worked nine days on 7-24,25,26-2018, 8-1-2018 and 9-6,7,10,14,17-2018. Cover is reduced in past treatment areas (>90% cover reduction), but there are seedlings sprouting. New treatment areas on the east side of the site were accessed for the first time (powerline construction had excluded this portion of the site).



Site #4: *Limonium ramosissimum* plants were treated (survey white lines, treatment red). Map shows a mix of European and Algerian Sea Lavender plants.

Retama monosperma, Bridal Broom:

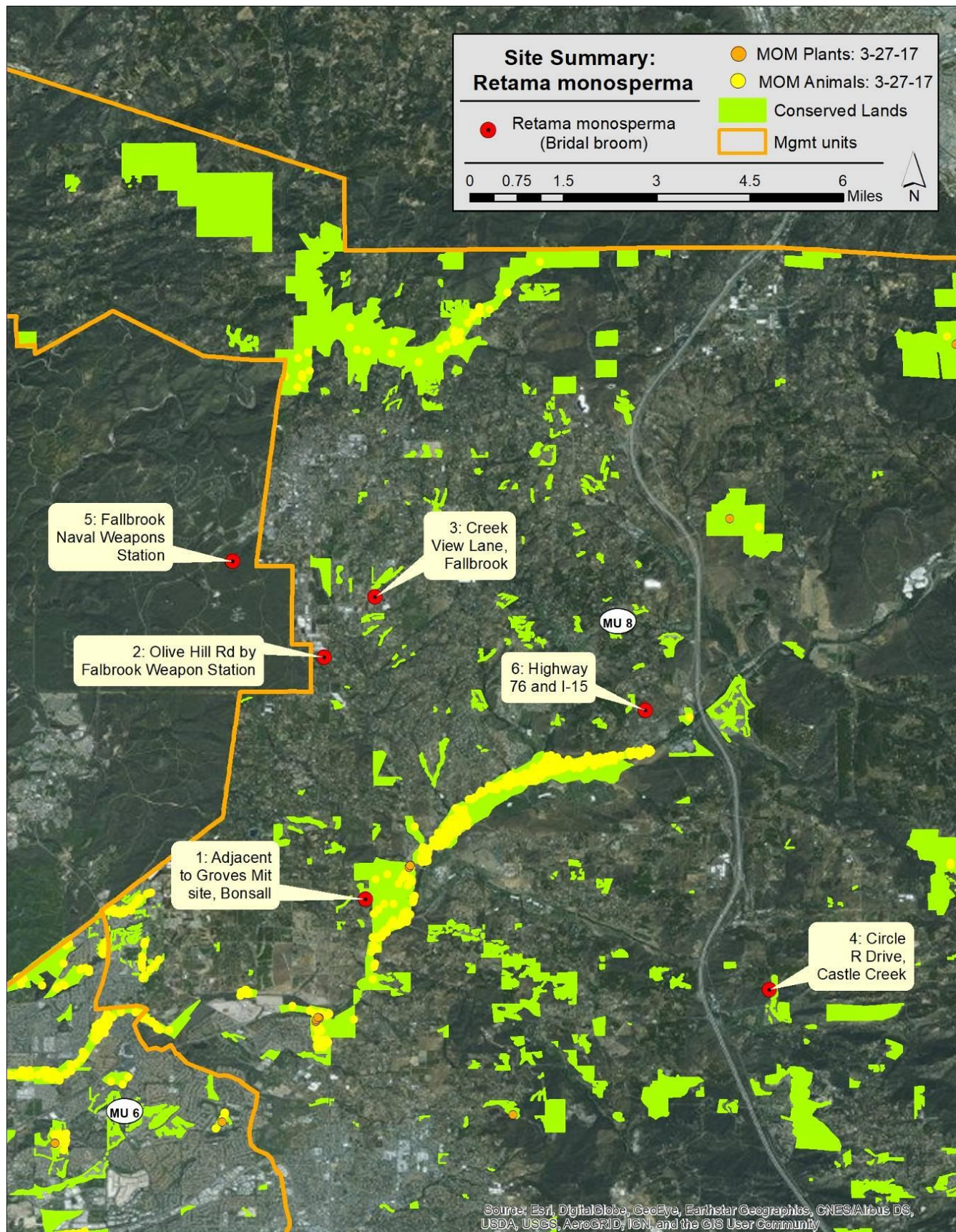


Table 7. Summary of treatments performed by AWM on *Retama monosperma*, Bridal Broom:

Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants treated
<i>Site #2 Olive Hill Rd</i>	Bridal Broom	1	1.3	0.2	183
<i>Site #3 Creek View Lane</i>	Bridal Broom	1	0.3	0.1	8

***Retama monosperma*, Bridal Broom: Site #2 Olive Hill Rd**

191 re-sprouts and seedlings were foliar treated with Element 4 (Triclopyr). A crew of two individuals worked two days 7-31-2018 and 8-2-2018.

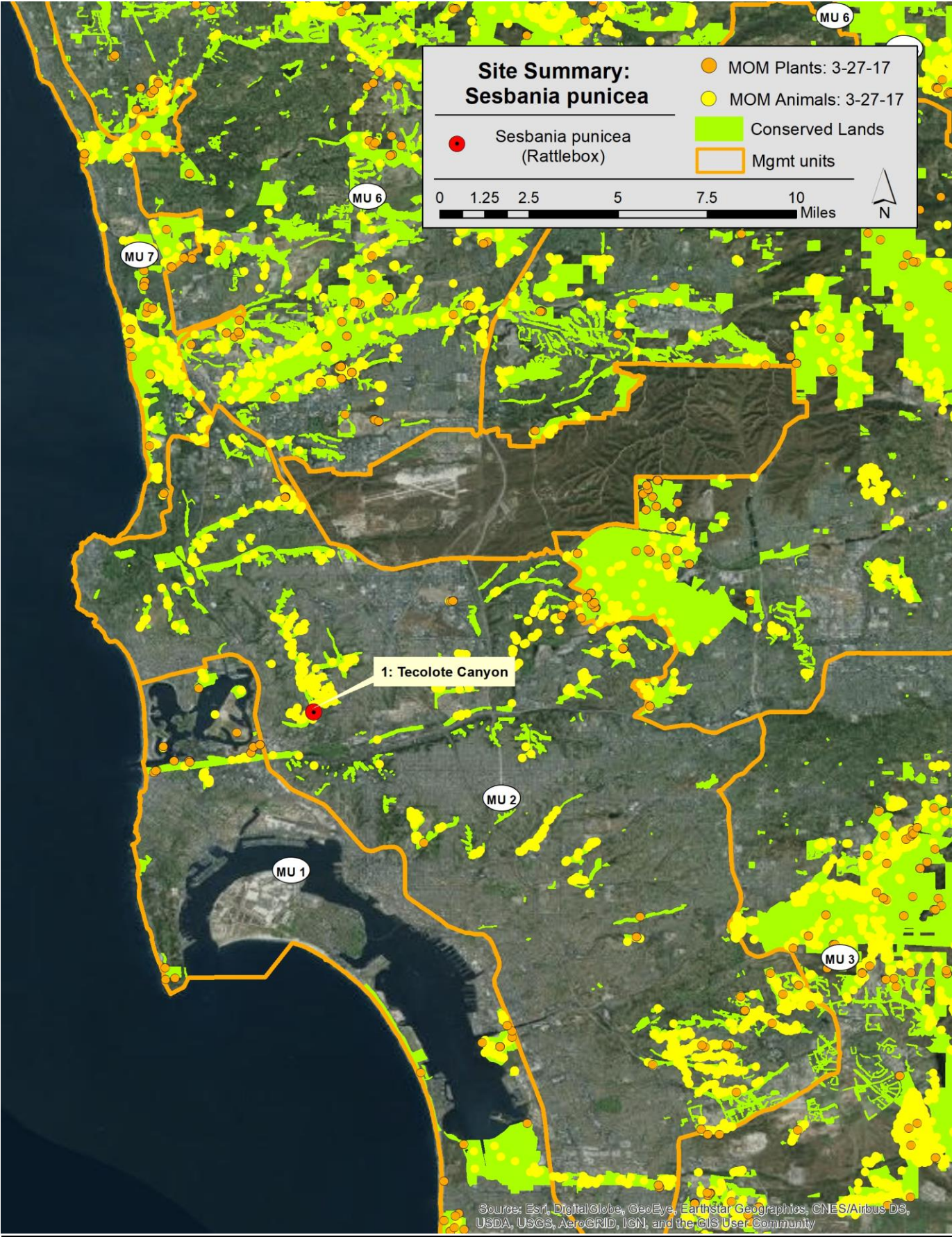


Site #2: Treatments for *Retama monosperma* plants (survey white lines, treatment red).



Site #3: Treatments for *Retama monosperma* plants (survey white lines, treatment red).

***Sesbania punicea*, Rattlebox:**



Sesbania punicea, Rattlebox: Site #1 Tecolote Canyon

Table 8. 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	6	0	0

Two crew members started surveys of Tecolote Canyon to look for seedlings on 9-11-2018.



Site #1: Tecolote Canyon rattlebox survey and hand removal area (survey white lines).

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

- A presentation of annual work on EDRR species was prepared for the Land Manager's Meeting on 7-19-2018. It was presented by Jessica Vinje.
- Co-ordination for pulling together a team to start controlling barbed goat grass occurred.
- Co-ordination for controlling Volutaria in Southern CA occurred.
- Plant ID sheet for Spotted Knapweed, Ruby Saltbush, and Waterbush were drafted.

Table 9. Primary EDRR targets for program with status of SDPAF and weed ID sheets noted.

Scientific name	Common name	Growth form	Habitat	SD ID Sheet
<i>Aegilops triuncialis</i>	Barbed Goat Grass	Annual grass	Grassland	Yes
<i>Ageratina adenophora</i>	Eupatory	Perennial forb	Riparian	Yes
<i>Carrichtera annua</i>	Ward's Weed	Annual forb	Uplands (shrub & grass)	Yes
<i>Centaurea solstitialis</i>	Yellow Star thistle	Annual forb	Grassland	Yes
<i>Centaurea stoebe</i>	Spotted Knapweed	Annual forb	Uplands	NEW
<i>Elymus caput-medusae</i>	Medusahead	Annual grass	Grassland	Yes
<i>Enchylaena tomentosa*</i>	Ruby Saltbush	Perennial sub-shrub	Uplands (shrub & grass)	NEW
<i>Euphorbia terracina</i>	Carnation Spurge	Annual forb	Uplands	Yes
<i>Euphorbia virgata</i>	Leafy Spurge	Annual forb	Uplands	Yes (on above)
<i>Genista monspessulana</i>	French Broom	Perennial shrub	Riparian or uplands	Yes
<i>Genista monosperma</i>	Bridal Broom	Perennial shrub	Uplands (shrub & grass)	Yes
<i>Hypericum canariense</i>	Canary Island St. John's Wort	Perennial shrub	Shrublands	Yes
<i>Limonium duriusculum</i>	European Sea Lavender	Perennial forb	Wetlands (salt & fresh) & uplands	Yes

Scientific name	Common name	Growth form	Habitat	SD ID Sheet
<i>Limonium ramosissimum</i>	Algerian Sea Lavender	Perennial forb	Wetlands (salt & fresh) & uplands	Yes
<i>Lythrum salicaria</i>	Purple Loosestrife	Perennial forb	Wetlands (fresh)	Yes
<i>Myoporum acuminatum</i>	Waterbush	Perennial shrub	Riparian or uplands	NEW
<i>Sesbania punicea</i>	Rattlebox	Perennial shrub	Wetlands (fresh)	Yes
<i>Volutaria tubuliflora</i>	Desert knapweed	Annual forb	Uplands (shrub & grass)	Yes

Work Anticipated for 2nd Quarter Period, October 1st – December 31st, 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 and 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 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 Orange County Native Plant Society 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.