

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

**Strategic Control of Invasive Weed Species
3rd Quarter Report - FY 2023-24: Report #37 for Project**

January 1st, 2024 – March 31st, 2024

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 January 1st to March 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.

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

Current work sites were visited and assessed. The coordinator pulled and bagged plants at some sites and directed Nature Collective crews to control sites in some situations. These included:

Ward's Weed (four sites visited, three reported in next Task 3 portion of the report, and Site 8 San Elijo Hills had work reported in Nature Collectives report), Barbed Goatgrass, Carnation Spurge (three sites: #3 Carmel Mt, #6 Camino Del Sur, and #7 Mill Pond Way, with Nature Collective doing work as reported in their report), Stinknet sites in various parts of the county, and Desert Knapweed (three sites visited, two reported in Task 1 portion of the report, and Site #6 Proctor Valley was checked, work was done by CDFW).

Regulatory permits:

No new work.

Report preparation:

The quarterly report was prepared and submitted. Work on the contract completion report also occurred.

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).

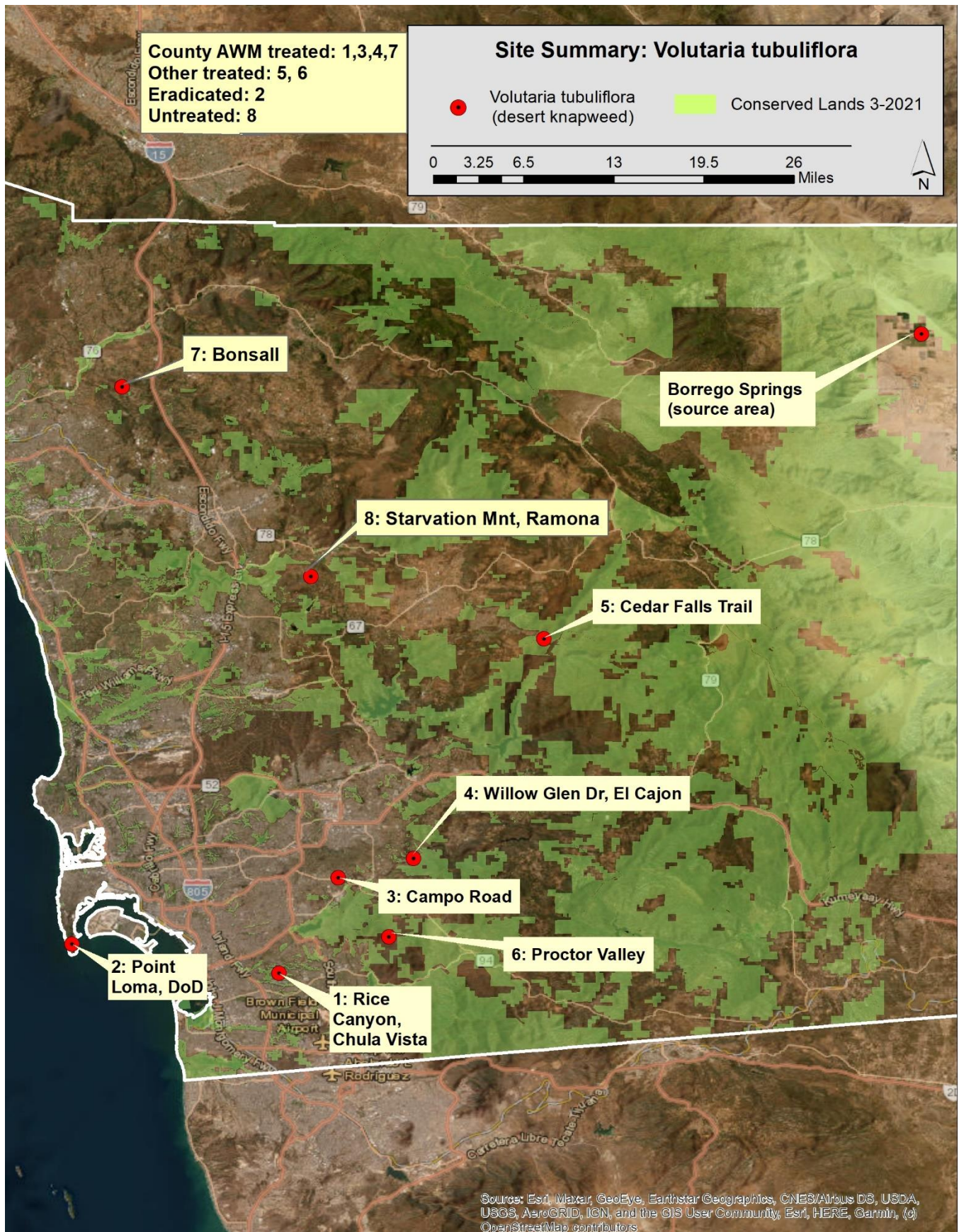
Crews surveyed and treated one level 1 species this quarter: Desert Knapweed. Maps for site show treated areas (red polygons) and surveyed areas as white lines which track pathways used by crews to survey and control plants. AWM IPC carried out optimal plant control, either hand pulling or using pesticide 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	3	50.7	1.3	90 plants

Volutaria tubuliflora, Desert Knapweed:



Voluntaria tubuliflora, Desert Knapweed:

Table 2. Summary of treatments performed by AWM on *Voluntaria tubuliflora* (Desert Knapweed).

Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants treated
Site #1: Rice Canyon, Chula Vista	Voluntaria Desert Knapweed	1	3.0	0.1	By Coordinator 20 plants (NC 500 plants)

The coordinator visited this site in January and March 2024. The coordinator pulled 50 plants on the first visit and then returned in March with a Nature Collective crew, when 500 plants were controlled. The heavy rains triggered a higher than previously seen number of seedlings. The fall rains also caused an early germination cycle which was followed by a later winter flush of seedlings. The Nature Collective treatment applied a pre-emergent and a post-emergent. This site has nearly reached eradication, 99% of plants have been controlled.

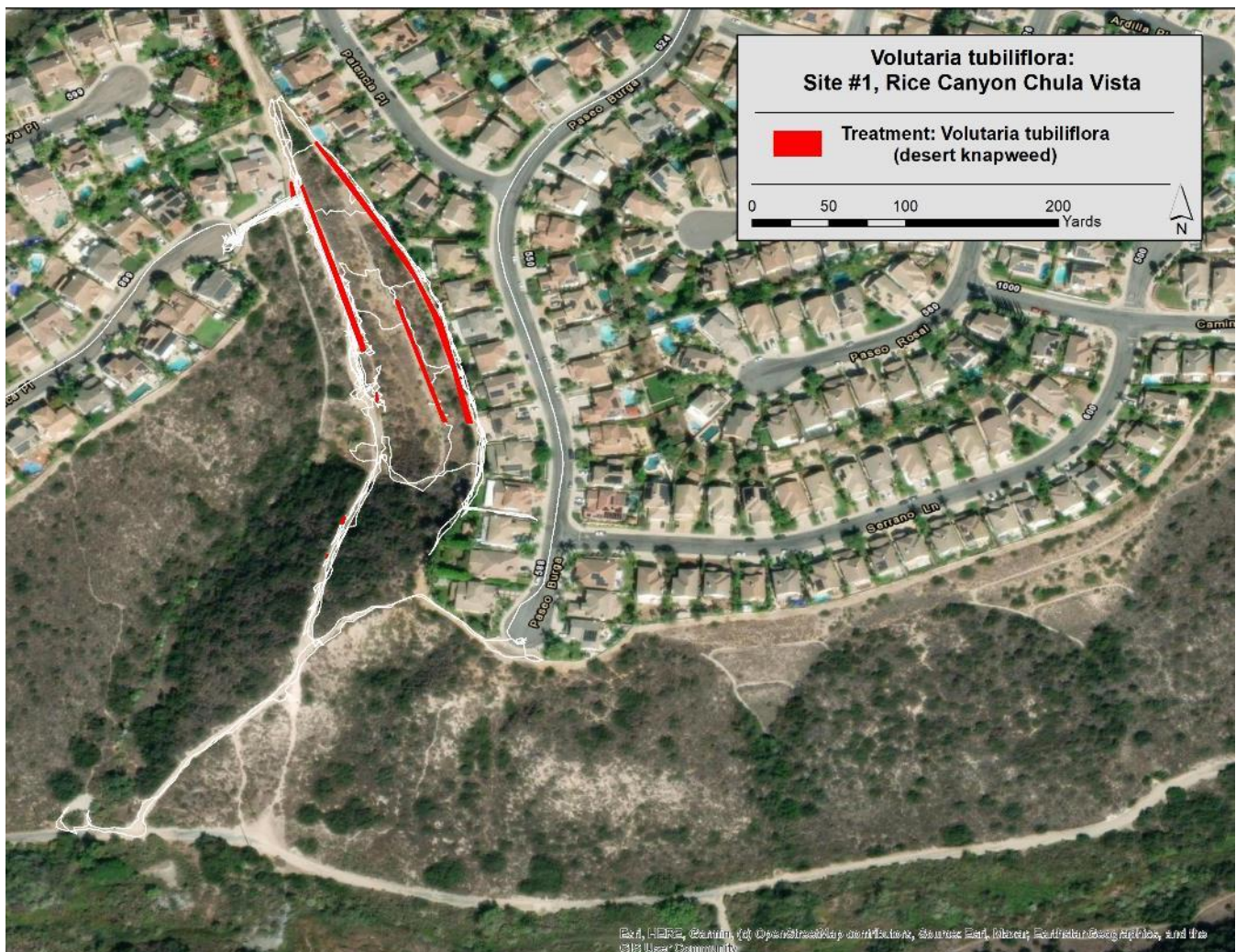


Table 3. Summary of treatments performed by AWM on *Volutaria tubuliflora* (Desert Knapweed).

Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants treated
Site #3 Campo Road	Volutaria Desert Knapweed	1	0.2	0.1	By Coordinator 10 plants pulled

The coordinator visited the site in March 2024 and pulled 50 plants. This site has nearly reached eradication, 99% of plants have been controlled.

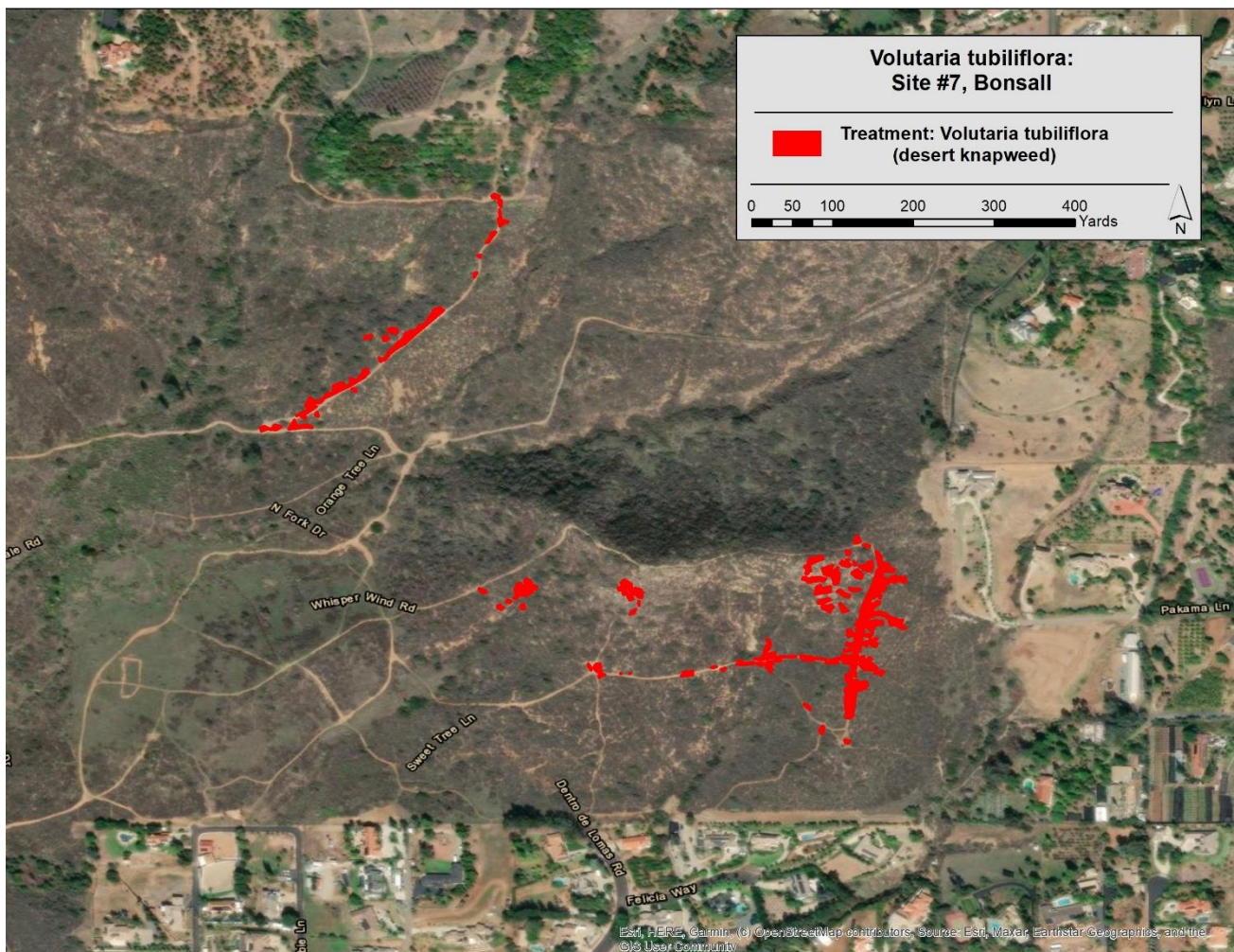


Table 4. Summary of treatments performed by AWM on Volutaria tubuliflora (Desert Knapweed).

Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants treated
*Site #7 Bonsall	Volutaria Desert Knapweed	1	47.5	1.1	>7,000 plants

The AWM IPC crew (two workers) visited this site on six days between March 21st and April 2nd 2024. (April 2nd treatment info included to allow site summary data to be presented.) Plants were treated with a mix of pre and post emergent herbicide. This is a new site reported on iNaturalist. An additional site has also been recently reported east of Ramona by Starvation Mountain.

**Work performed at this site was billed to a different AWM contract.*



TASK 3 – AWM: Invasive Plant Level 2 Management.

Level of Effort: (>40%) of overall contract

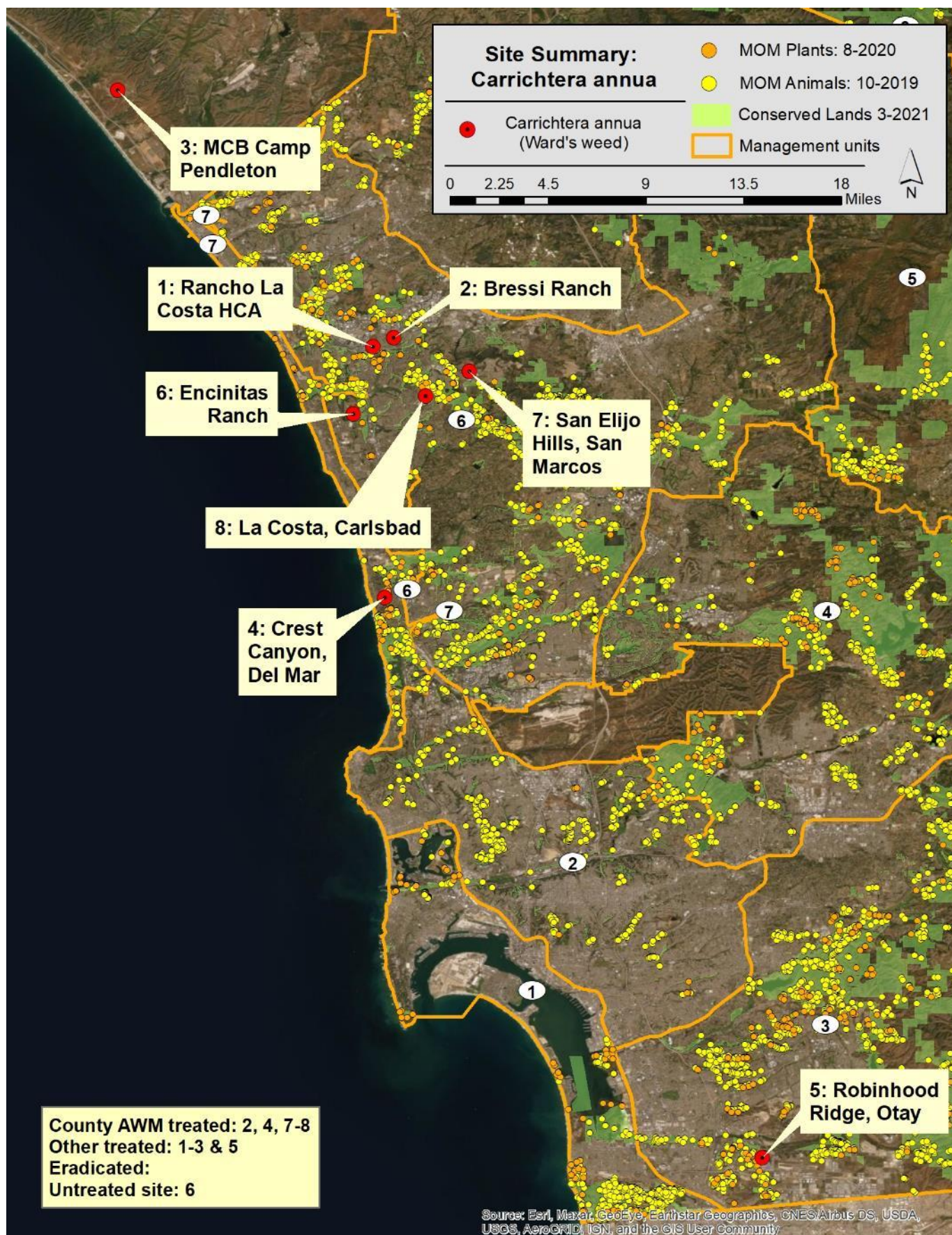
Level 2 Management Species are EDRR targets that were of limited distribution in the county when the IPSP was written (2012).

The coordinator surveyed and manually removed plants for one invasive weed species (Ward's Weed) at three sites this quarter.

Table 5. 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>Carrichtera annua</i>	Ward's Weed	3	3.5	0.2	By Coordinator 209 plants

Carrichtera annua, Ward's Weed:



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

Table 8. 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
Site #2 Bressi Ranch, Carlsbad	Wards Weed	1	2.7	0.1	Coordinator 200 plants (NC 2,000)

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 and The Nature Collective are working on the northern and western portions of the site and County AWM has worked on the southern and eastern portions of the site. CNLM is taking the lead on the eastern La Costa Greens site.

The coordinator surveyed the southern areas in the figure below in January and February 2024. 200 plants were pulled and disposed of. Additional work was performed by Nature Collective controlling 1,000 plants.



Carrichtera annua, Ward's Weed, Site #4 Crest Canyon

Table 8. 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
Site #4 Crest Canyon, Del Mar	Wards Weed	1	0.75	0.1	Coordinator 9 Plants

The coordinator surveyed the southern areas in the figure below in January and February 2024. 9 plants were pulled and disposed of.



Carrichtera annua, Ward's Weed, Site #8 La Costa, Carlsbad

Table 8. 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
Site #8 La Costa Carlsbad	Wards Weed	1	0.5	0.1	No plants

The coordinator surveyed the southern areas in the figure below in January and February 2024. No plants were observed.



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.

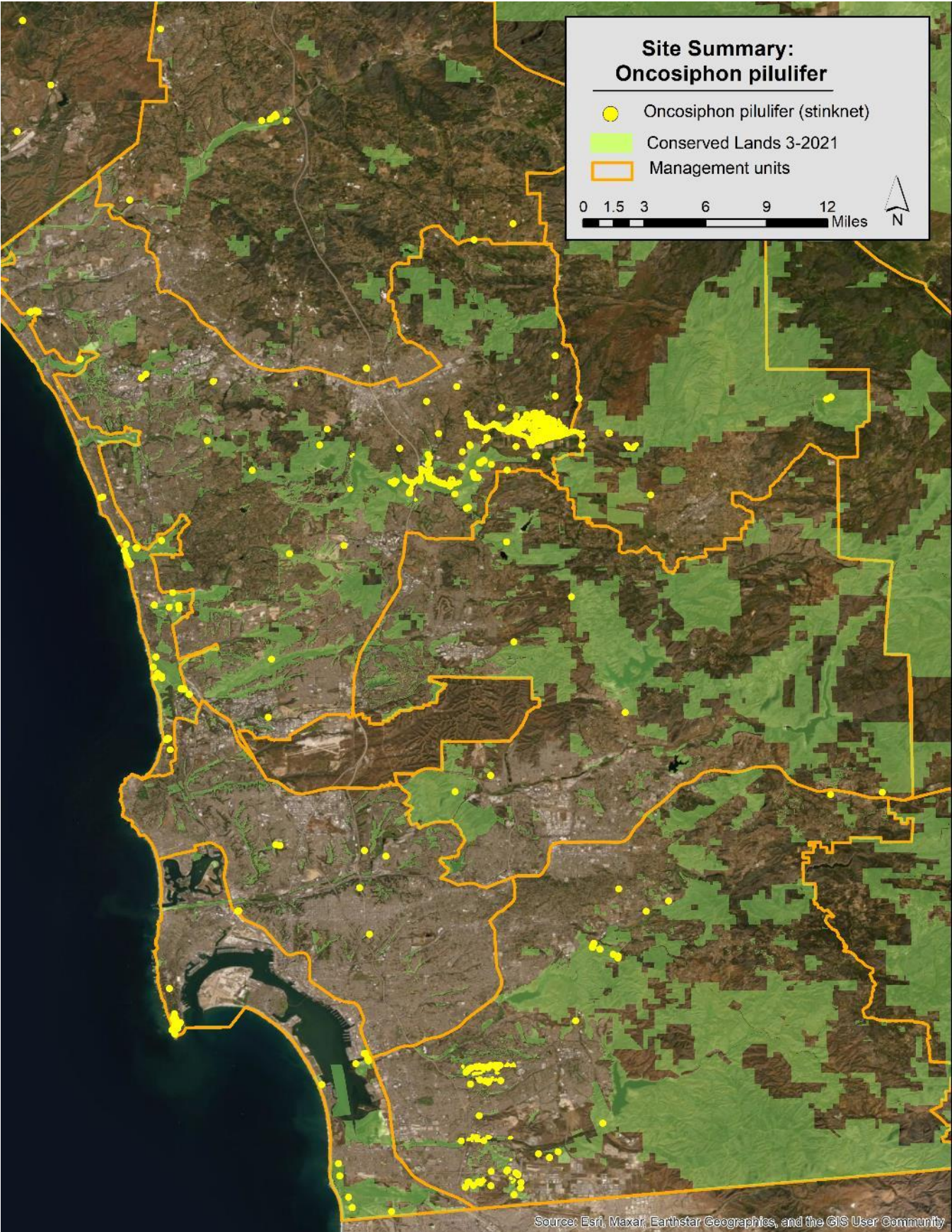
AWM IPC Crews surveyed and treated one invasive weed species (Stinknet) at one site this quarter. AWM IPC made optimal pesticide applications, protected the natural environment by preventing off-site movement of pesticides, and utilized Best Management Practices (BMPs) that prevented unintentional discharges 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 15. 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
<i>Oncosiphon pilulifer</i>	Stinknet	1	4.3	3.9	6,000+

Oncosiphon pilulifer, Stinknet:

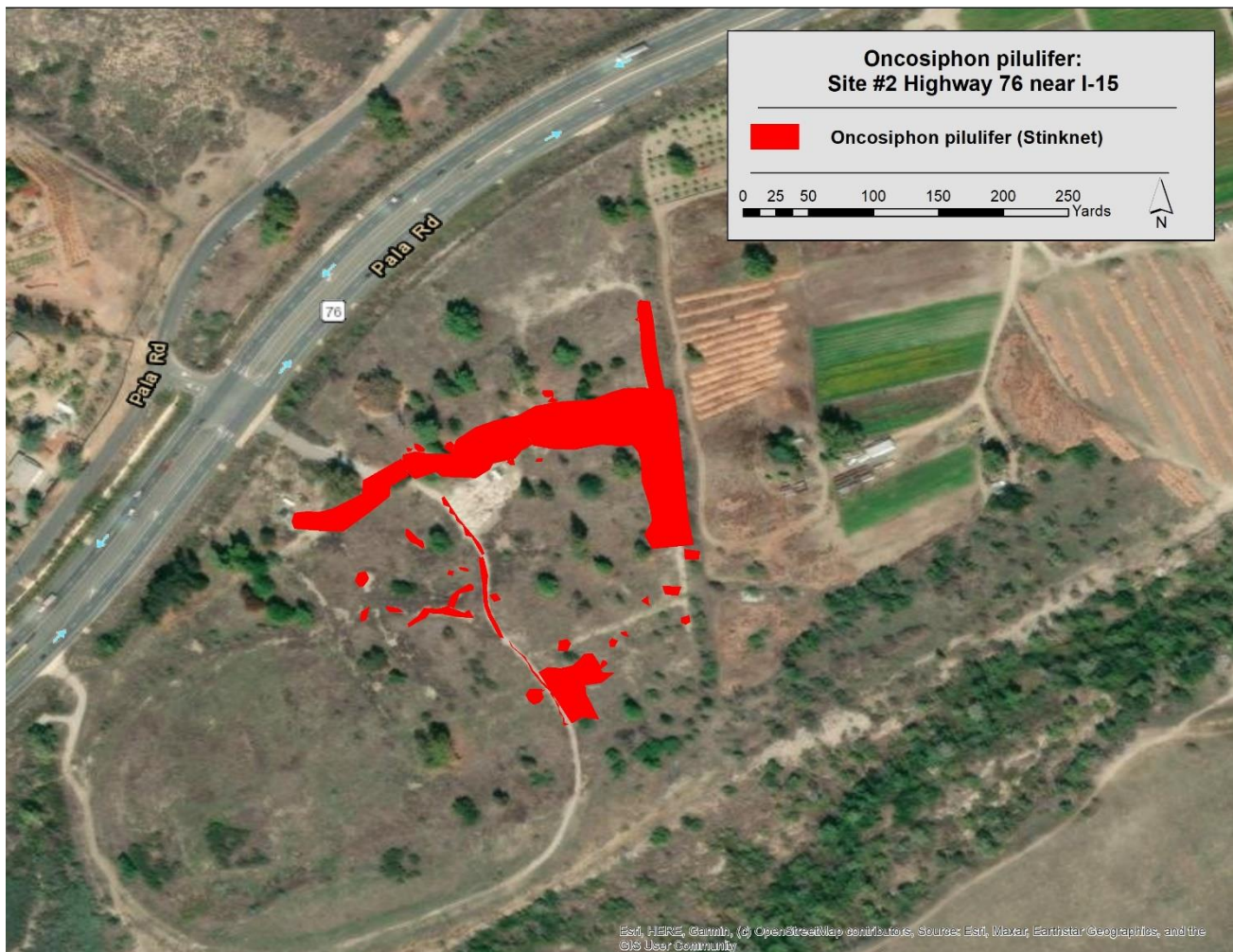


Oncosiphon pilulifer, stinknet: Site #2 Highway 76 near I-15

Table 16. Summary of treatments performed by AWM on *Oncosiphon pilulifer* (Stinknet).

Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants Controlled
Site #2 Highway 76 near I-15	Stinknet	1	4.3	3.9	6,000

AWM IPC crews completed treatments on an area south of Highway 76 just west of I-15. This was Caltrans excess mitigation lands that are now held by the County of San Diego Parks and Open-space Division. Two crew members worked three days from March 12th through the 14th 2024. Over 6,000 plants were treated with pre and post emergent herbicide. An additional day of work will be reported for April 3rd, 2024, next quarter. Nature Collective treated extensive areas along highway 76, which is adjacent to the site.



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.
- Co-ordination with the City of San Diego, considering control of *Myoporum acuminatum*, work on Stinknet.
- 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.

Work Anticipated for 4th Quarter Period, April 1st – June 30th 2024:

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 sp.
- Re-treatment of sites: Ward's Weed, Limonium sp., Eupatory, and Volutaria.
- 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 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.