

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

**Strategic Control of Invasive Weed Species
2nd Quarter Report - FY 2022-23: Report #32 for Project**

October 1st, 2022 – December 31st, 2022

Project: County of San Diego, Department of Agriculture, Weights & Measures – (AWM)
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 2022.

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 IPC 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. These included: Limonium sp., Ward's Weed, Stinknet, Carnation Spurge and Spotted Knapweed.

Regulatory permits:

No new work.

Report preparation:

The quarterly report was prepared and submitted.

Mapping and occurrence data:

Reviewing iNaturalist Early Detection, Rapid Response (EDRR) observations (confirming and correcting IDs), as well as mapping and surveying for new populations occurred. Geographic Information System(GIS) coverage of all sites was updated using point data.. GIS coverage of all work was updated using 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).

AWM IPC Crews surveyed and treated no level 1 species this quarter.

Maps for each site show treated areas (red polygons) and surveyed areas as white lines which track pathways used by crews to survey and control plants. The Department of Agriculture, Weights & Measures, (AWM) Integrated Pest Control Program (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 Treated	Acres Surveyed	Plants Controlled
<i>none</i>					

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 invasive weed species (Eupatory, Algerian Sea Lavender, and Wards Weed) at five sites this quarter. Maps for each 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 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 2. Summary of treatments performed by AWM IPC on Level 2 species this quarter.

Scientific Name	Common Name	# of Sites Worked	Acres Treated	Acres Surveyed	Plants Controlled
<i>Ageratina adenophora</i>	Eupatory	2	0.5	2.1	875
<i>Carrichtera annua</i>	Ward's Weed	2	1.0	1.0	>4,000
<i>Limonium ramosissimum</i>	Algerian Sea Lavender	1	0.2	1.0	>2,000

Ageratina adenophora, Eupatory:

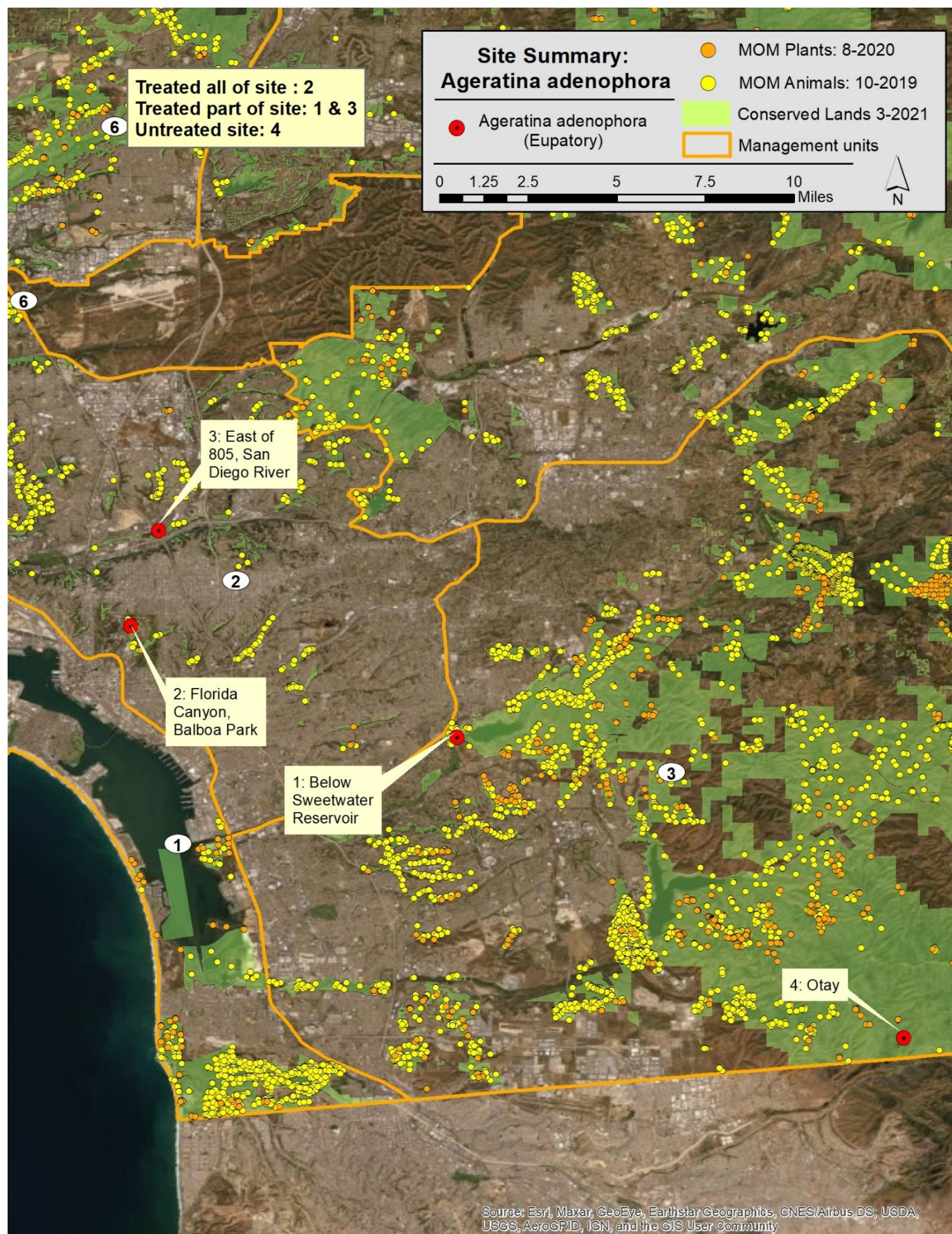


Table 3. Summary of treatments performed by AWM IPC on *Ageratina adenophora*, Eupatory:

Site Name	Common Name	# of Work Cycles	Acres Treated	Acres Surveyed	Plants treated
Site #1: Sweetwater Reservoir	Eupatory	1	0.4	1.5	700

700 Eupatory plants were foliar treated with glyphosate/imazapyr. A crew of three individuals worked two days (December 14th and 15th 2022). Past treatment of the site: Fall of 2015 (4,000 plants), 2016, 2018 (455 plants) and 2019 (900 plants). Securing annual entry in a timely manner has been challenging. The population is smaller and less robust, but very persistent.

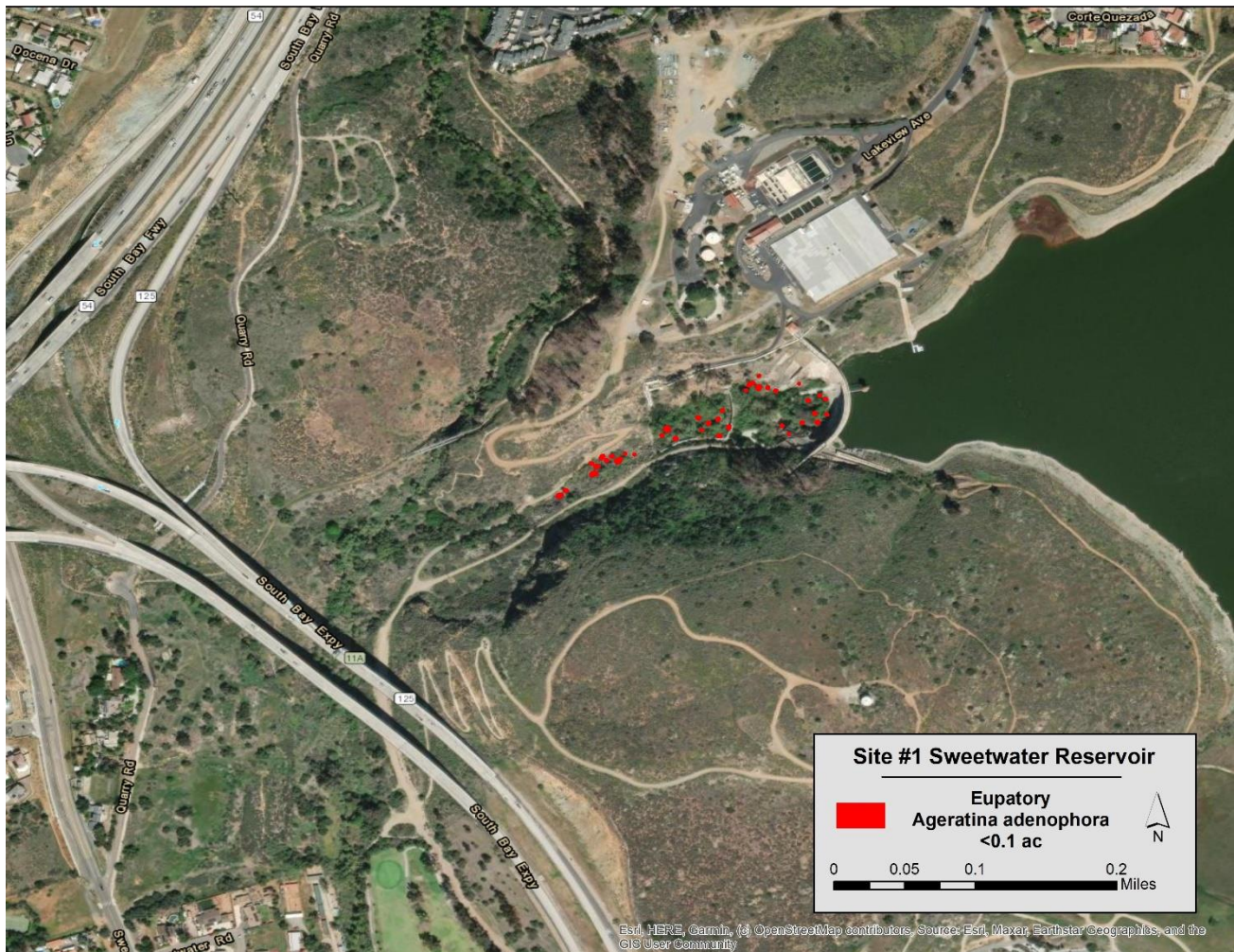
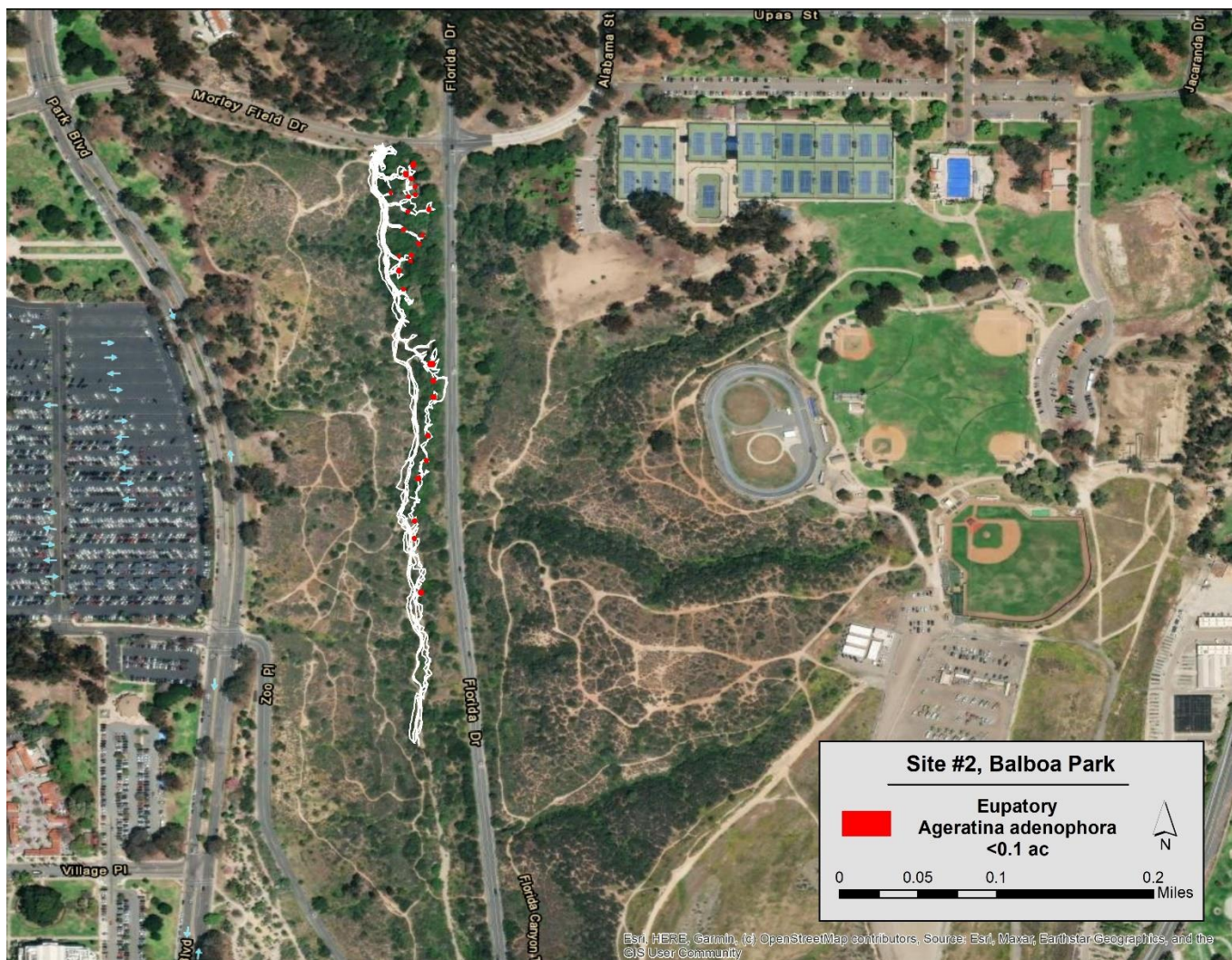


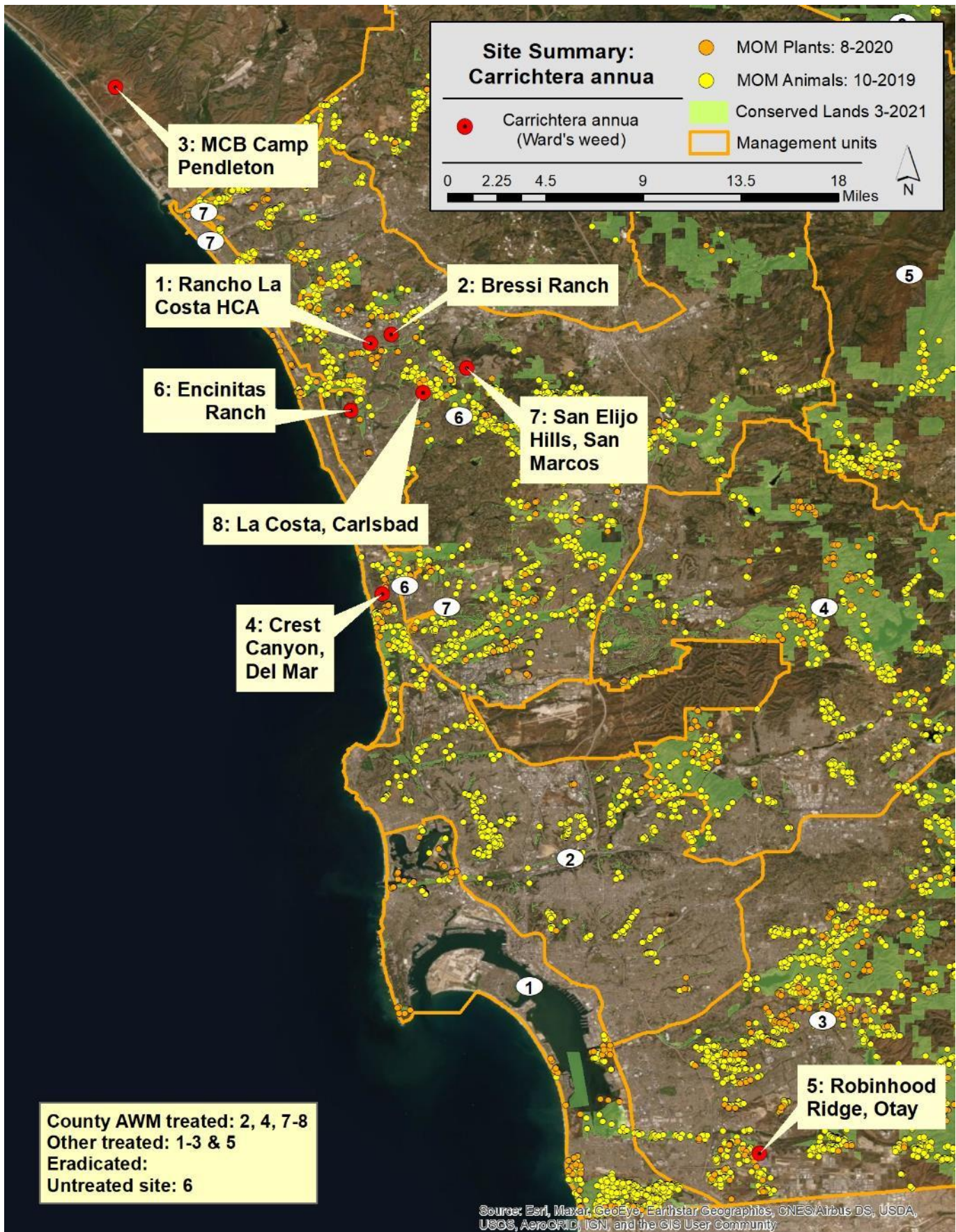
Table 3. Summary of treatments performed by AWM IPC on *Ageratina adenophora*, Eupatory:

Site Name	Common Name	# of Work Cycles	Acres Treated	Acres Surveyed	Plants treated
Site #2: Balboa Park	Eupatory	1	0.1	2.0	250

250 Eupatory plants were foliar treated with glyphosate/imazapyr (past treatments: 250 in 2021, 520 in 2020, and 1,350 in 2019). A crew of two individuals worked one day on December 13th 2022. The population is smaller and less robust, but very persistent.



Carrichtera annua, Ward's Weed:

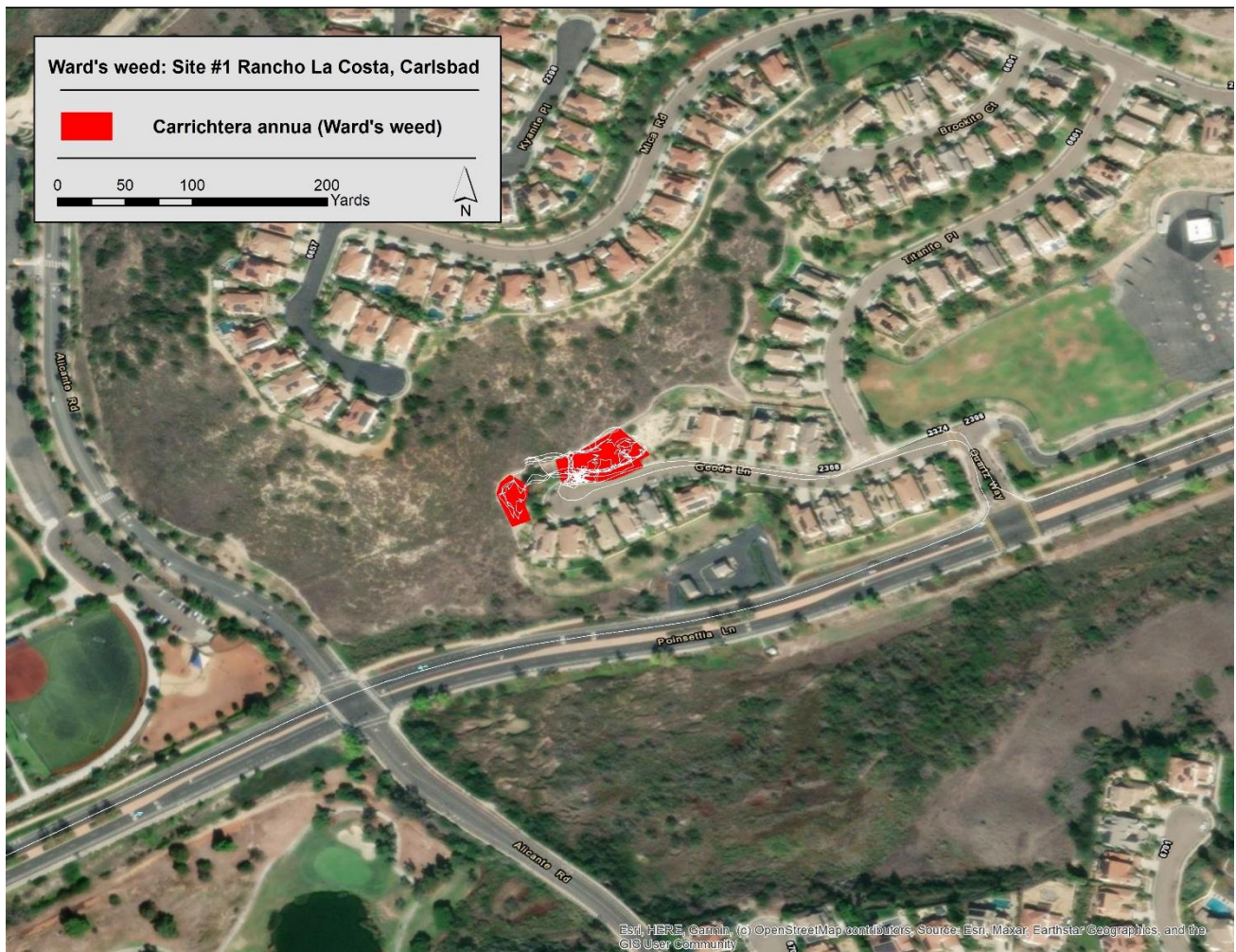


Carrichtera annua, Ward’s Weed, Site #1 Rancho La Costa, Carlsbad

Table 4. Summary of treatments performed by AWM IPC on *Carrichtera annua*, Ward’s Weed.

Site Name	Common Name	# of Work Cycles	Acres Treated	Acres Surveyed	Plants treated
Site #1 Rancho La Costa, Carlsbad	Wards Weed	1	30	30	Pre-emergent: > 1,500

The Rancho La Costa Ward’s Weed site is west of the larger Bressi Ranch population. AWM IPC treated a landscaped area adjacent to the area treated by The Center for Natural Land Management. The area had over 1,500 seedlings at cotyledon stage. The pre (and early post) emergent Gallery SC was applied by a crew of two on December 7th 2022.



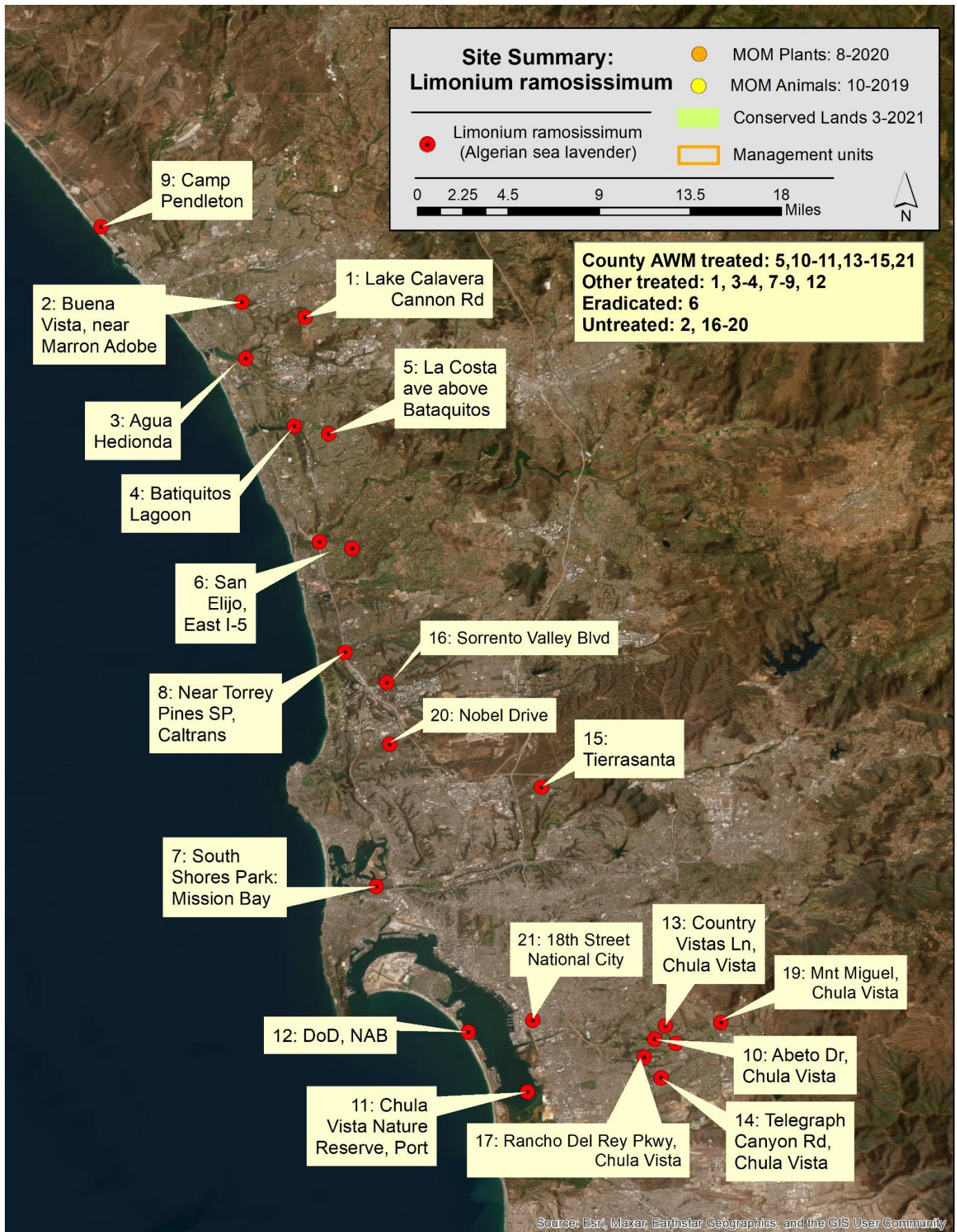


Ward's Weed seedlings by irrigation.



Ward's Weed seedlings on top of hill.

Limonium ramosissimum, Algerian Sea Lavender:



Limonium ramosissimum, Algerian Sea Lavender: Site #21 Paradise Creek, National City

Table 6. Summary of treatments performed by AWM IPC on *Limonium ramosissimum* (Algerian Sea Lavender).

Site Name	Common Name	# of Work Cycles	Acres Treated	Acres Surveyed	Plants treated
Site #21 Paradise Creek, National City	Algerian Sea Lavender	1	0.2	5	

This site was reported on iNaturalist. National City completed a ROE quickly for the work to occur. A crew of two treated the west side of the estuary/creek on December 30th 2022. There were scattered patches of plants. There were more plants on sidewalk areas of West 18th Street, but these were removed, and native plants installed prior to the AWM IPC crew treating the site. The east side will be treated next quarter (required adding a lock to an access gate).





Mature *Limonium ramosissimum* on the edge of the estuary.



Mature *Limonium ramosissimum* in the estuary.



Mature, but smaller, *Limonium ramosissimum* in the estuary.



Limonium growing in sidewalk areas. The Paradise Creek Nature Center removed these and planted natives.

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

- Co-ordination to continue control of Ward's Weed in Carlsbad.
- 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 Fish & Wildlife Services, Department of Defense, San Diego Management & Monitoring Program (SDMMP) and CBI discussed expanded and coordinated surveying and treatment.

Work Anticipated for next Quarter:

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.
- Prepare contract 4 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.
- Re-treatment of sites: Ward's Weed, Limonium sp., Eupatory, and Volutaria.
- Biological 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 ROEs.
- Collect GIS treatment polygons and survey routes (lines) of targeted weeds.

Task 4 – AWM: Invasive Plant Level 3 Management.

- Treat Stinknet and other Level 3 species on sites as needed, especially populations on County of San Diego lands.

Task 5 – Coordinator: Tracking and Updating Invasive Species for Priority Removal.

- Continue coordination with: Department of Defense, California State Parks, City of San Diego Department of Parks and Recreation, San Diego Weed Management Area and County of Orange Center for Native Plants Society 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.