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

Strategic Control of Invasive Weed Species
3rd Quarter Report - FY 2024-25: Report #41 for Project

January 1st, 2025 – March 31st, 2025

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 April 31st 2025.

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.

Regulatory permits:

No new work.

Report preparation:

The quarterly report was prepared and submitted. Work on the contract completion and annual work plan 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 'current work site list' for species and sites to be treated in the short term was updated periodically. Work on the contract completion and annual work plan report also occurred.

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 polling 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
Volutaria tubuliflora	Desert Knapweed	3	3.8	3.3	Pre-emergent

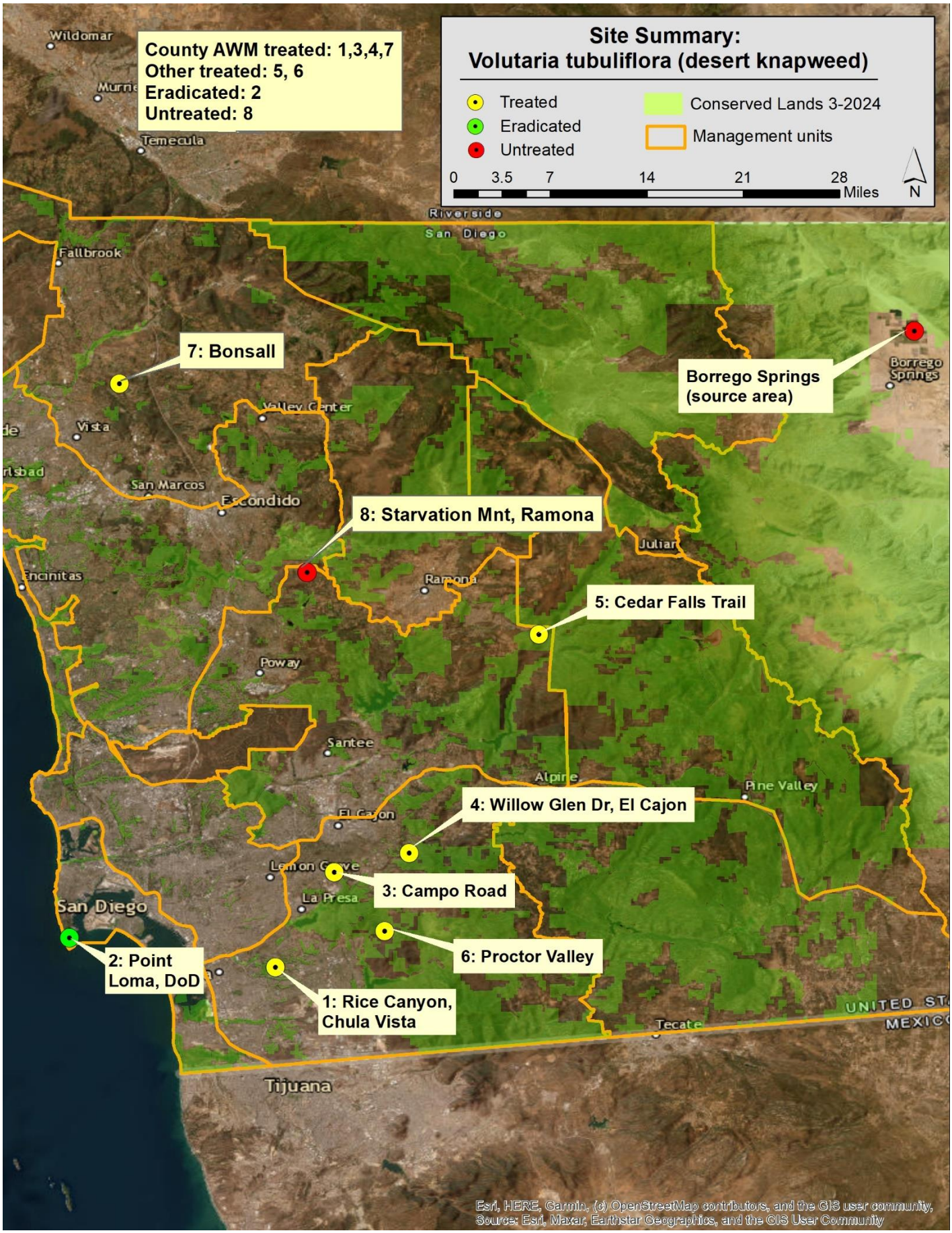

Site Summary:
Volutaria tubuliflora (desert knapweed)
Treated
Eradicated
Untreated
Conserved Lands 3-2024
Management units
0 3.5 7 14 21 28
Miles
N
County AWM treated: 1,3,4,7
Other treated: 5, 6
Eradicated: 2
Untreated: 8
7: Bonsall
Borrego Springs (source area)
8: Starvation Mnt, Ramona
5: Cedar Falls Trail
4: Willow Glen Dr, El Cajon
3: Campo Road
6: Proctor Valley
2: Point Loma, DoD
1: Rice Canyon, Chula Vista
Wildomar
Temecula
Riverside
San Diego
Fallbrook
Vista
San Marcos
Escondido
Valley Center
Encinitas
Ramona
Julian
Poway
Santee
Alpine
Pine Valley
El Cajon
Lemon Grove
La Presa
Tecate
Tijuana
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community,
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Table 2. 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 #1: Rice Canyon, Chula Vista	Desert Knapweed	1	1.5	1.0	Pre-emergent

The AWM crew (two workers) visited this site on two days January 28th and 30th 2025. Were treated with pre-emergent herbicide. The coordinator visited the site on March 9th 2025. No plants were observed, they would have been at basal growth stage, based on the growth status of chrysanthemum. This site has nearly reached eradication, 99% of plants have been controlled. The site will be re-visited in spring to see if any plants have developed, and if present they will be treated.

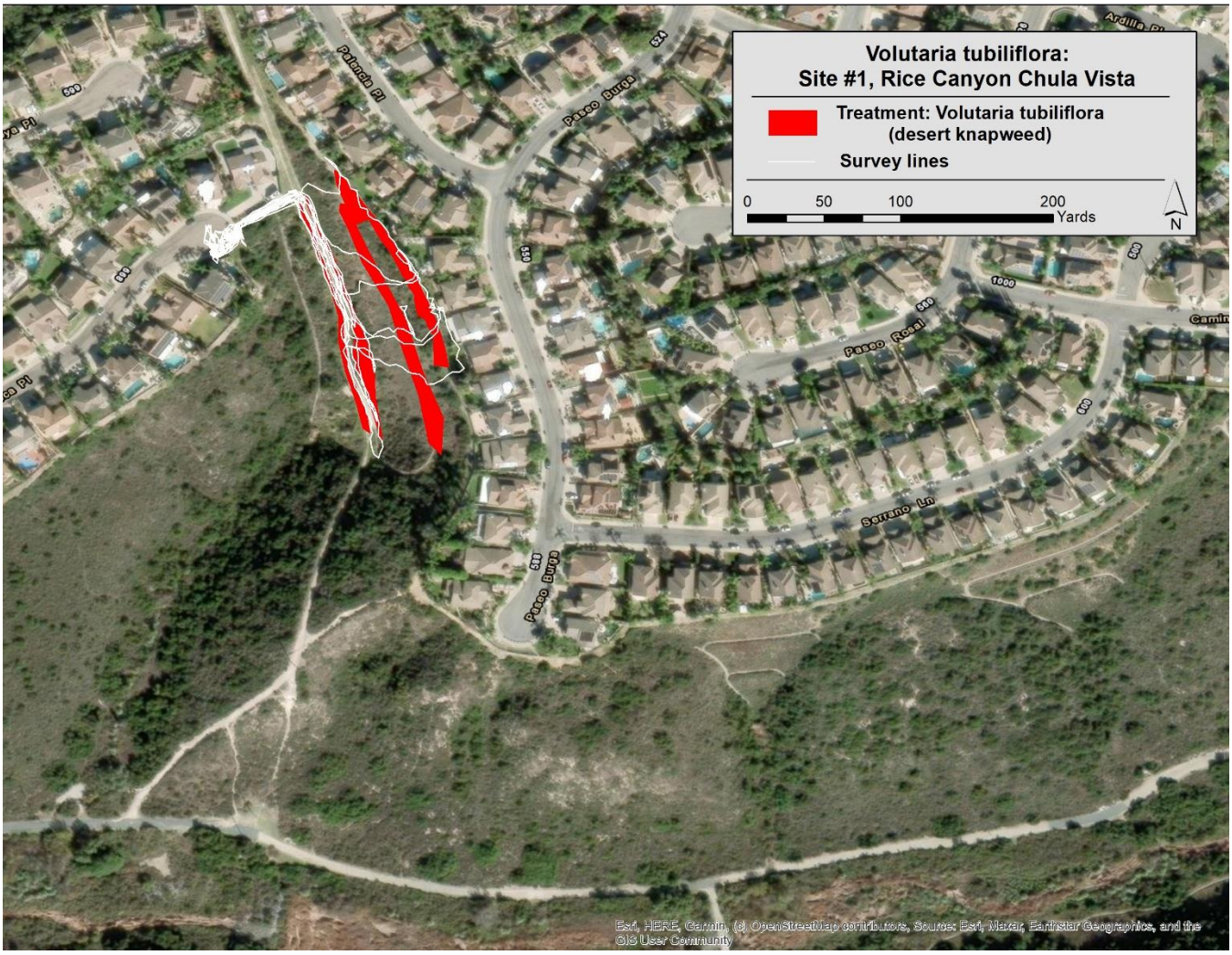


Table 3. Summary of treatments performed by AWM on *Volutaria tubuliflora* (Desert Knapweed).

Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants treated
Site #4 Willow Glen Dr, El Cajon	Desert Knapweed	1	0.5	0.5	Pre-emergent

The AWM crew (one worker) visited this site on January 27th 2025. Pre-emergent was applied. This site has nearly reached eradication, 99% of plants have been controlled. The site will be re-visited in spring to see if any plants have developed, and if present they will be treated. The site will be re-visited in spring to see if any plants have developed, and if present they will be treated.

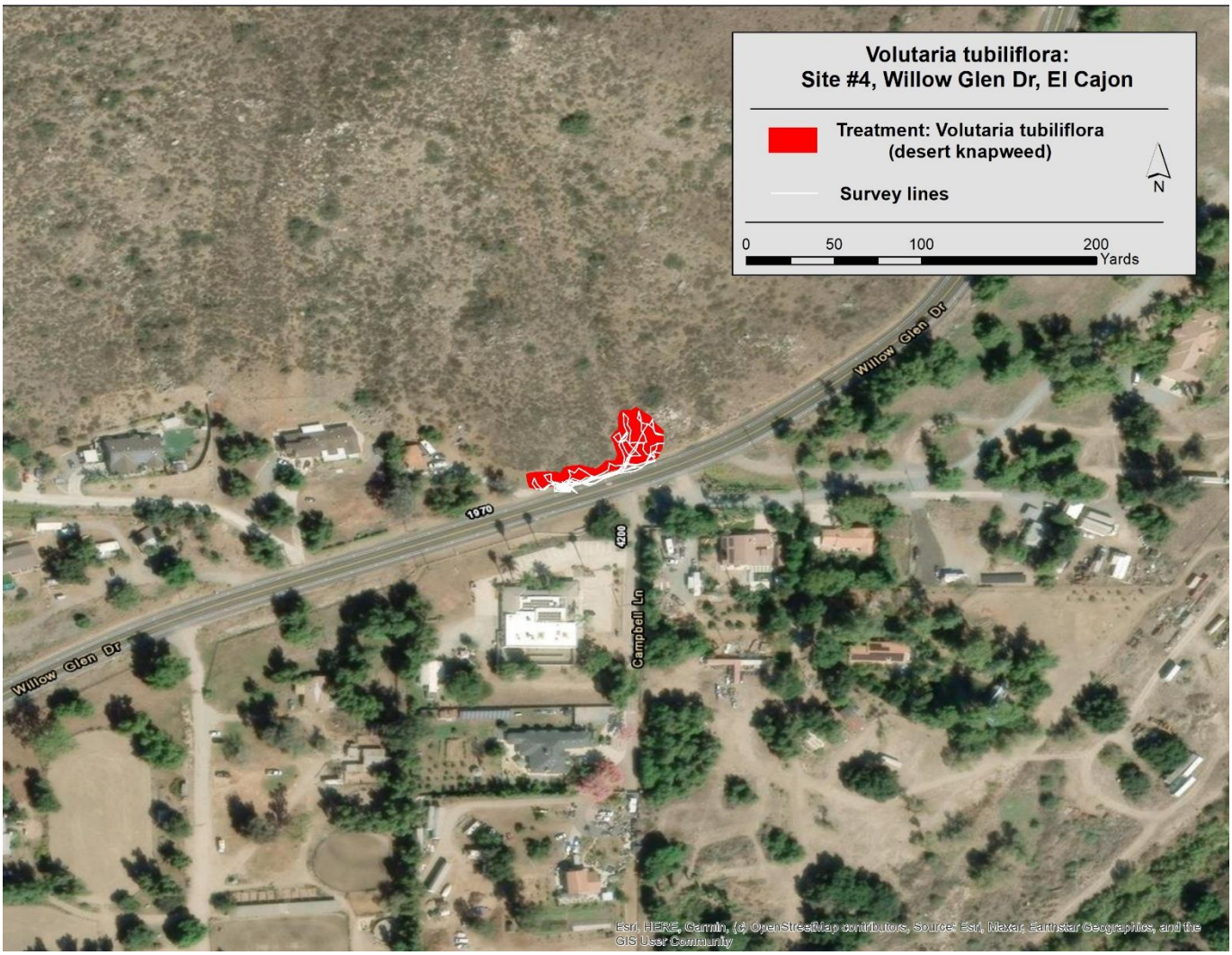
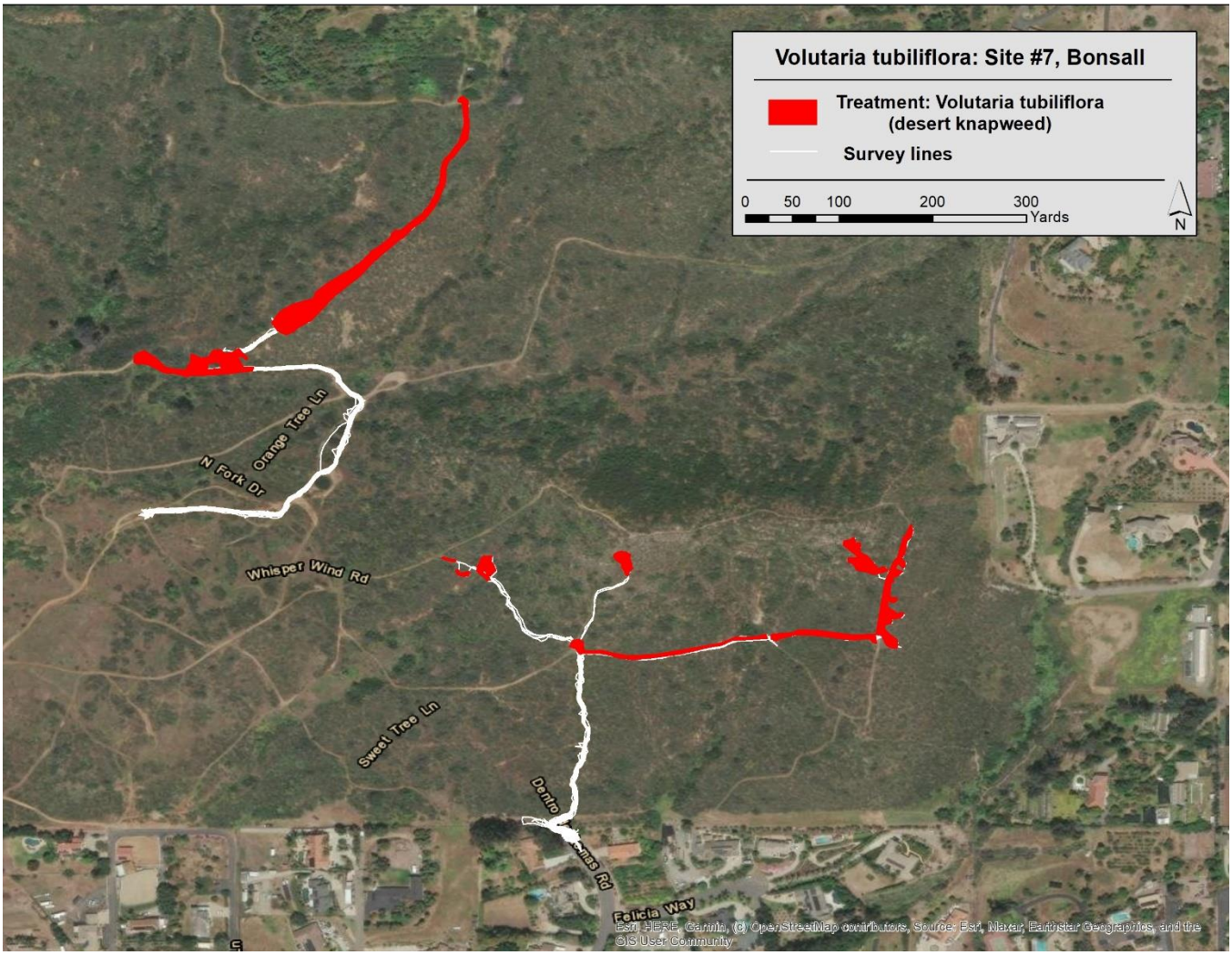


Table 4. Summary of treatments performed by AWM on *Volutaria tubuliflora* (Desert Knapweed).

Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants treated
Site #7 Bonsall	Desert Knapweed	1	1.8	1.8	Pre-emergent

The AWM crew (two workers) visited this site over five days between January 31st and March 6th 2025. Treatment areas were treated with pre-emergent herbicide. This is a newer site reported on iNaturalist last year. The site will be re-visited in spring to see if any plants have developed, and if present they will be treated.



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 one invasive weed species (Ward's Weed) 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 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
Carrichtera annua	Ward's Weed	1	3.3	1.8	21,500


Site Summary: Carrichtera annua (Ward's weed)
Treated
Eradicated
Untreated
Conserved Lands 3-2024
Management units
0 2 4 8 12 16
Miles
N
3: MCB Camp Pendleton
2: Bressi Ranch
1: Rancho La Costa HCA
7: San Elijo Hills, San Marcos
9: Calvary Church, Carlsbad
8: La Costa , Carlsbad
6: Encinitas Ranch
4: Crest Canyon, Del Mar
5: Robinhood Ridge, Otay
County AWM treated: 2, 4, 8
Nature Collective: 6, 7, 9
Other treated: 1, 2, 3, 5
Eradicated: 4?, 8
Untreated site:
Esri, HERE, Garmin, (c) OpenStreetMap contributors, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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

Table 6. 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	3.3	1.8	21,500

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 County AWM crew started treatments at Bressi Ranch. One to four crew members worked eight days from March 11th to the 27th 2025. Over 25,000 seedlings were treated with pre and post emergent herbicide. The seedbank is still expressing itself following the late rains that started in February.

TASK 4 – AWM: Invasive Plant Level 3 Management.

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

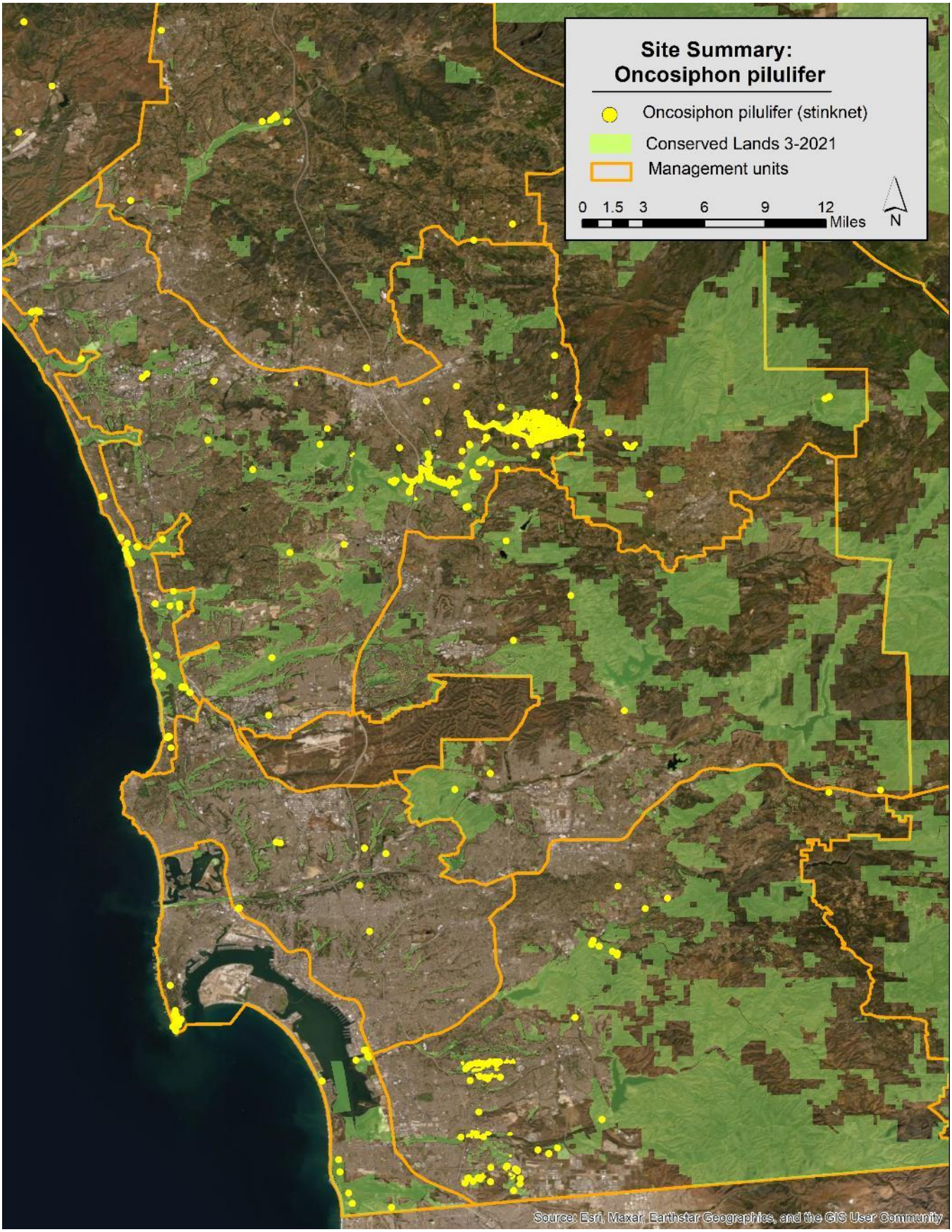
Level 3 Management Species are invasive non-native targets that of a wider distribution in the county (they cannot be eradicated), but still limited enough that they can be contained to portions of the county or they may be eradicated from watersheds or large landscape level units, when the IPSP was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

Crews surveyed and treated one invasive weed species (Stinknet) at two 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 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
Oncosiphon pilulifer	Stinknet	2	10.5	10	Pre-emergent

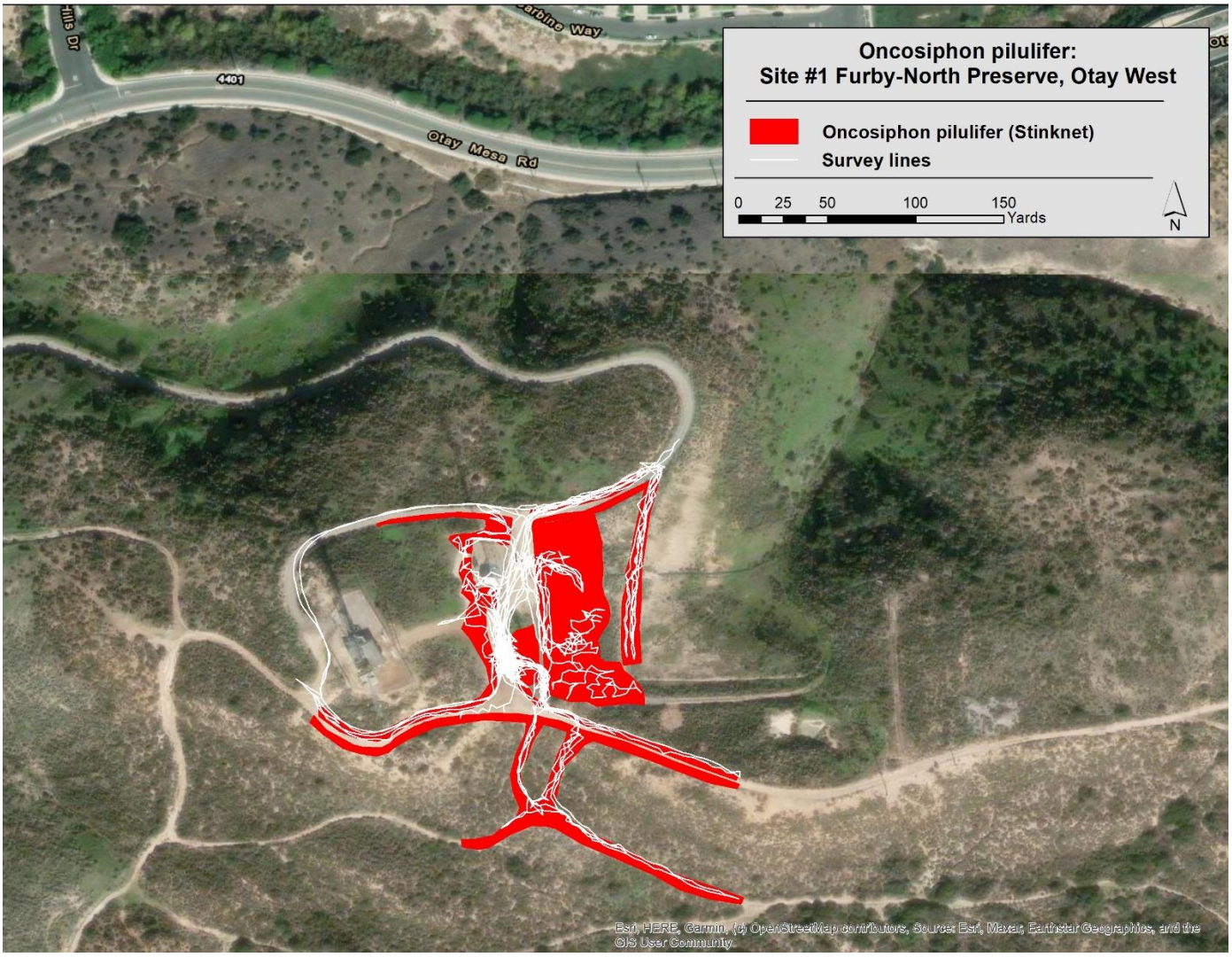

Site Summary:
Oncosiphon pilulifer
Oncosiphon pilulifer (stinknet)
Conserved Lands 3-2021
Management units
0 1.5 3 6 9 12
Miles
N
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

***Oncosiphon pilulifer*, Stinknet: Site #1 Furby North Preserve, Otay**

Table 8. Summary of treatments performed by AWM on *Oncosiphon pilulifer* (Stinknet).

Site Name	Common Name	# of Work Cycles	Acres Surveyed	Acres Treated	Plants Controlled
Site #1 Furby North Preserve	Stinknet	1	3.6	3.1	Pre-emergent

The County AWM crew completed treatments at Furby North Preserve. One to four crew members worked four days from February 28th to March 10th 2025. The site was treated with pre-emergent herbicide. The site will be rechecked in late spring to see if any plants germinated.

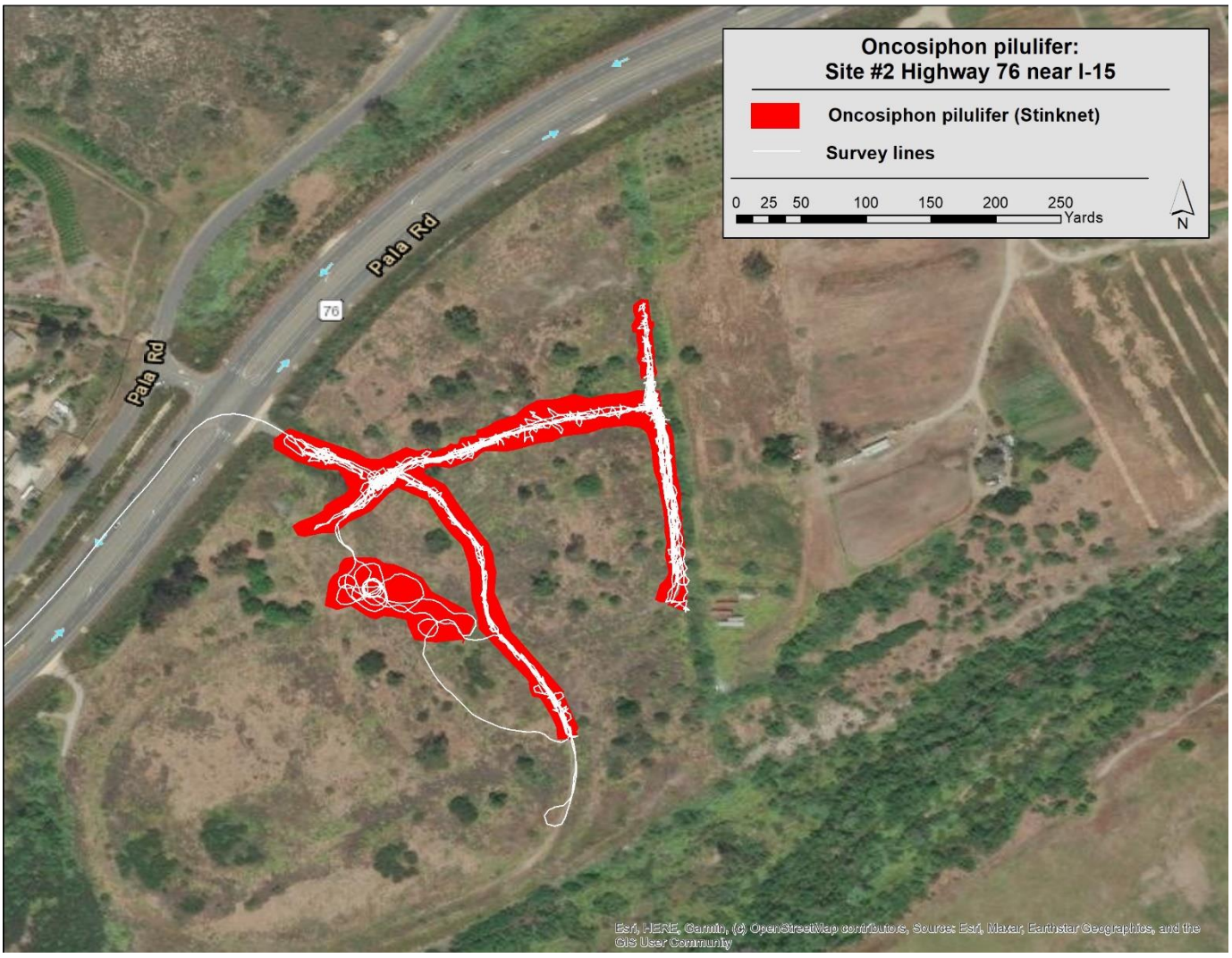


***Oncosiphon pilulifer*, Stinknet: Site #2 Highway 76 near I-15**

Table 9. 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	6.9	6.9	Pre-emergent

The County AWM crew completed treatments at County of San Diego open space off highway 76 (ex-Faubus Farms property). One crew member worked six days from February 11th to the 26th 2025. The site was treated with pre-emergent herbicide. The site will be rechecked in late spring to see if any plants germinated.



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*, and work on Stinknet and Canary Island St John's Wort.
- Surveying of reports from iNaturalist.
- Co-ordination and updates of AWM SANDAG funded work with San Diego Weed Management Area at quarterly meeting.
- Presentation at the SDMMP Land Managers annual 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 2025:

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, contract annual report and GIS data updates.

Task 2 – AWM: Invasive Plant Level 1 Management.

- Survey, map, and treat any reported sightings of target Level 1 plants.
- Re-treatment of sites: Volutaria.
- 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 Knap eed, Yellow Starhistle, and Limonium.
- Re-treatment of sites: Ward's Weed, Canary Island St John's Wort, Yellow Star histle, Barbedoat Grass.

- 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.

- Re-treatments of Stinknet.

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 SDWMA annual meeting 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.