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

Strategic Removal of Invasive Weed Species *4th Quarter Report - FY 2015-16: Report #7 for Project*

April 1, 2016 – June 30, 2016

Project: County of San Diego, Department of Agriculture, Weights & Measures –
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:

TASK 1 – Invasive Plant Species Coordinator:

Level of Effort: (25%) of overall contract

Right of Entry (ROE) Work:

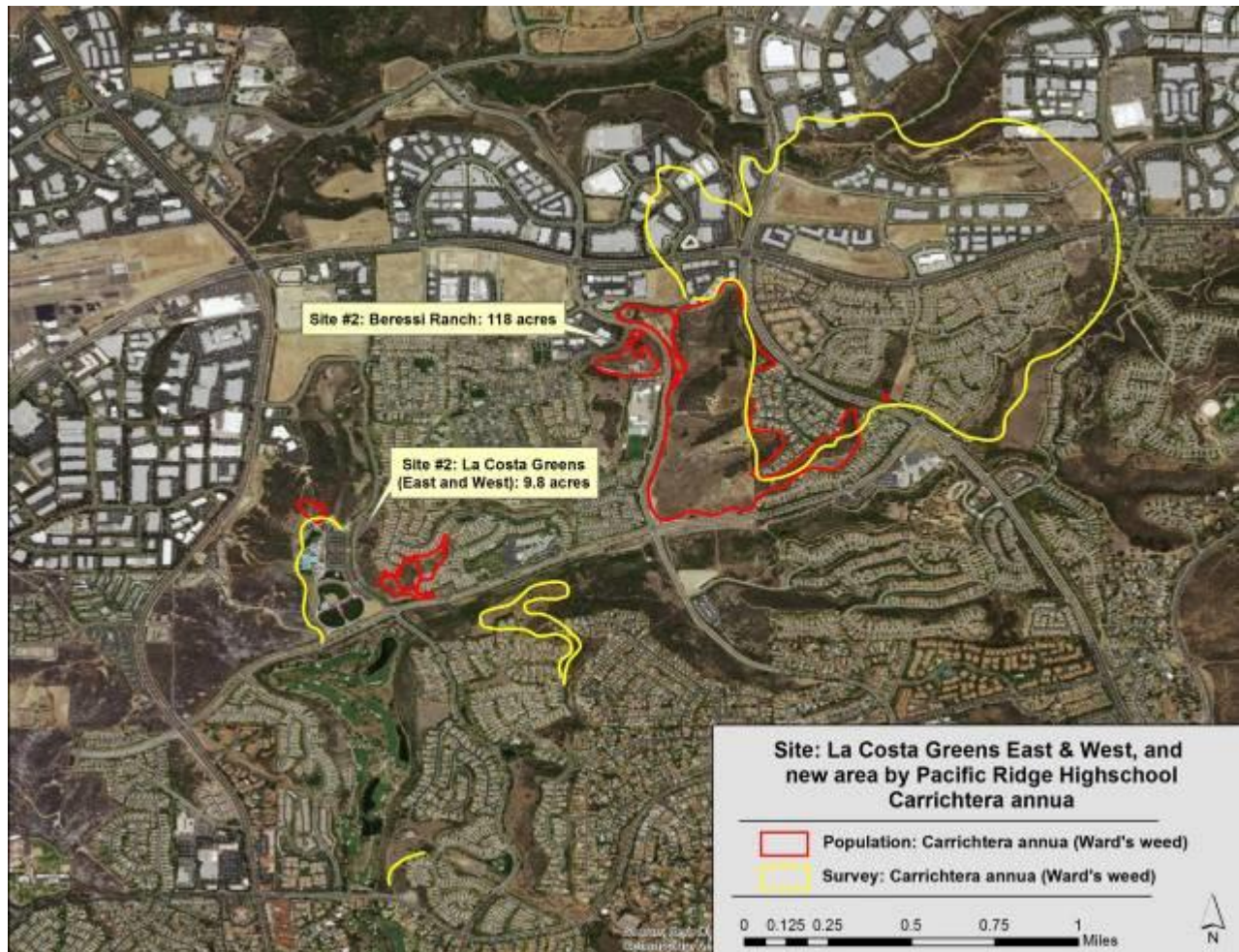
A small amount of work was expended on obtaining ROE agreements and coordinating with property owners this quarter.

The coordinator worked at eight field sites: work tasks included monitoring field crews, assessing treatment success, hand pulling plants, and mapping and surveying target plants. .

Carrichtera annua (Ward's weed):

Site #1, Ward's weed at La Costa Greens was visited and crews were monitored during removal of plants.

Site #2, Bressi Ranch was surveyed and mapped in the field (118 acres). This new site was discovered by coordinator. Unfortunately the site is very large, it would take additional resources to control this site. A more detailed re-assessment will be made as how to proceed in winter/spring 2017.



Bressi Ranch, Carlsbad: Ward's weed mapping and surveying.

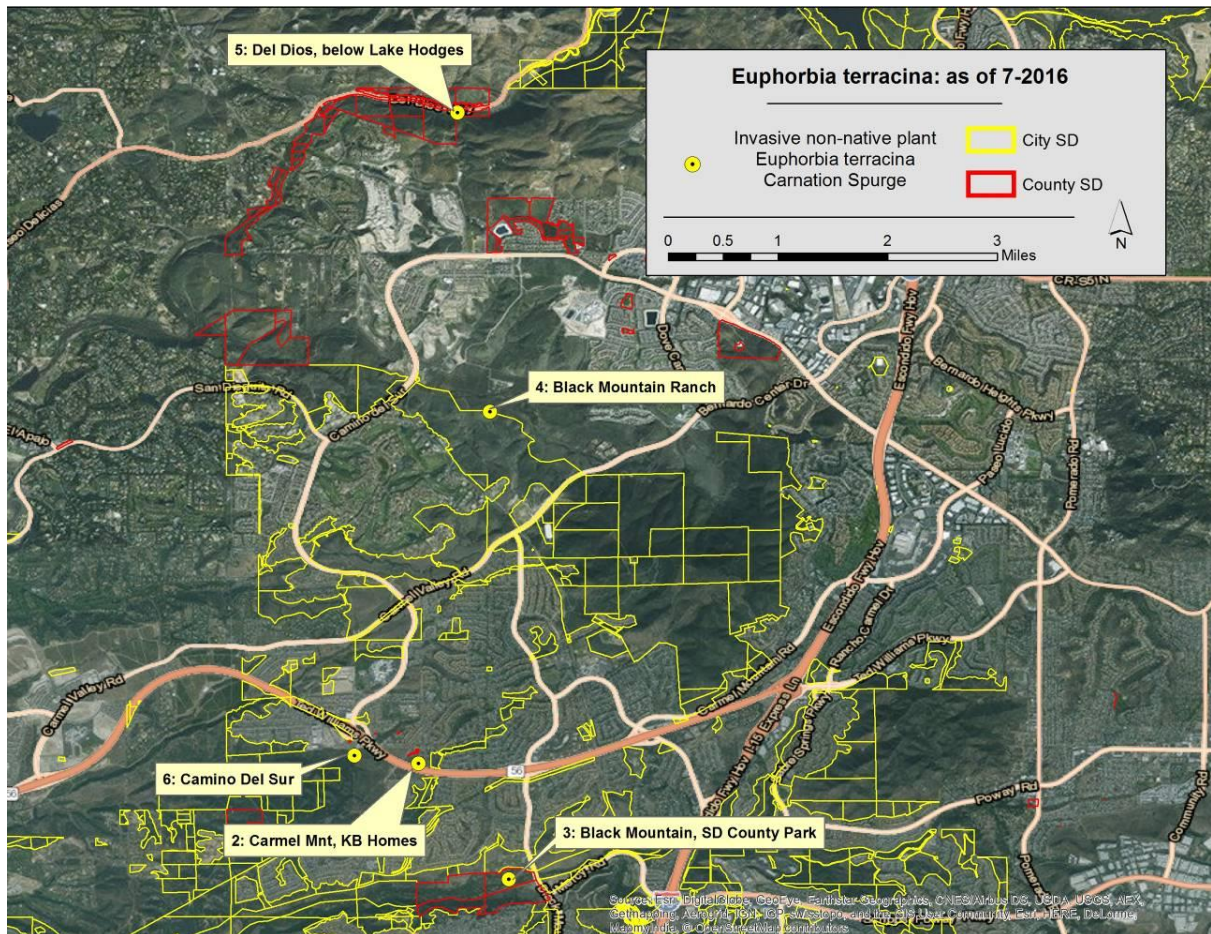


Bressi Ranch, Carlsbad: Ward's weed is area between shrubs.

Euphorbia terracina (carnation spurge):

Site #2, KB Homes was visited and crews were monitored during removal of plants.

Site #4, Black Mountain Ranch was reported by Kim Roeland at the City of SD. This site was visited and mapped (0.44 acres). Plants were mature and holding seed. A city contractor treated part of the site, isolated patches and the edge along road. The main site will be treated in the spring. The habitat is low quality non-native grassland with artichoke thistle.



Site #4: Carnation spurge at Black Mountain Ranch.



Carnation spurge at Black Mountain Ranch.

A new site was also reported off Millpond Way, near Black Mountain Ranch by Kim Roeland. The site has not been visited yet, but photos of the plant look like a smaller spurge species (peplus) and not terracina.

Hypericum canariense (Canary Island St. John's wort):

Site #4, Balboa Park was visited and crews were monitored during removal of plants.

Site #13 La Jolla, Starlight Ave was reported by Paul Kilburg (City San Diego). The site was mapped using aerial imagery.



A possible site along Kearny Mesa Ave was reported (Tierra Data), it has not been confirmed yet.

Volutaria tubiliflora (Egyptian knapweed):

A new highly invasive species was found by Jessica Vinje while she was surveying for *Dicranostegia orcuttiana* in Rice Canyon Chula Vista. Volutaria was known from a single infestation found in Anza Borrego, Borrego Springs in 2010. In 2015 a population was found in upper Newport Bay. Now there is a confirmed site in San Diego County.

Site #1, Chula Vista Rice Canyon was reported by Jessica Vinje. The site was surveyed and mapped (1.2 acres). Control will start in spring 2017.





Volutaria tubiliflora (Egyptian knapweed): at Rice Canyon in Chula Vista.

TASK 2 – AWM: Invasive Plant Level 1 Management

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

AWM IPC crews did not bill any work to SANDAG this quarter. Work did occur at select sites, but it was paid for by the County of San Diego.

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>Euphorbia terracina</i>	carnation spurge	1	4	1.5	5,000

***Euphorbia terracina* (carnation spurge): Site #2**

Mature plants and seedlings were pulled, bagged, and disposed of in a landfill.





Crew hand pulling carnation spurge in vernal pool area.

TASK 3 – AWM: Invasive Plant Level 2 Management.

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

AWM IPC crews did not bill any work to SANDAG this quarter. Work did occur at select sites, but it was paid for by the County of San Diego.

Crews surveyed and treated, 3 invasive weed species at 3 sites this quarter: European sea lavender, Algerian sea lavender, and Canary Island St. John's wort site. 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 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	1	3	2	5,000
<i>Hypericum canariense</i>	Canary Island St. John's wort	1	6.8	1.5	2,000

Carrichtera annua, Ward's Weed: Site #1

Ward's Weed sites #1 La Costa Greens HOA & Center for Natural Lands Management (CNLM). Plants were found to be extensive and widely spread over CNLM and La Costa Greens HOA property. IPC manually removed over 5,000 plants with viable seed (pulled, bagged, and disposed at landfill) from the eastern portion of the site. CNLM contractor, staff and earlier AWM program work treated or pulled plants from most of the site.





Hypericum canariense (Canary Island St. John's wort):

Table 2. Summary of surveys and treatments by site.

Site Name	Common Name	# of Visits	Acres Surveyed	Acres Treated	Plants treated
Site #4: Balboa Park	Canary Island St. John's wort	1	15	5	2,000

A partial round of re-treatments occurred focused on the eastern side of Florida Canyon.



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 was prepared and given to the EMP working Group outlining work completed to date.
- A presentation on the project was given at the San Diego County Weed Management Area (WMA) meeting. UC co-operative Extension (Chris McDonnell) lead the meeting. The County of San Diego is supporting the WMA by providing meeting space and web site support. EDRR materials are available at the web site.
- Moroccan Knapweed (*Volutaria tubuliflora*) has been located in San Diego County (Chula Vista, Rice Canyon). This plant occurs in Anza Borrego and Orange County (Newport Bay). Work with these regions on mapping, ID and distribution occurred.
- San Diego PAFs are being prepared for seven EDRR species (see below), so that the Invasives Strategic Plan can be updated to include them.
- Plant ID sheets are also being prepared for eight species.

Table 3. Primary EDRR targets for program with status of SDPAF and weed ID sheets noted.

Scientific name	Common name	Growth form	Habitat	Cal-IPC PAF	SDPAF	SD ID Sheet
<i>Aegilops triuncialis</i>	Barbed goat grass	Annual grass	Grassland	Yes	Yes	Planned
<i>Ageratina adenophora</i>	Eupatory	Perennial forb	Riparian	Yes	Yes	Yes
<i>Carrichtera annua</i>	Ward's weed	Annual forb	Uplands (shrub & grass)	No	Yes	Planned
<i>Centaurea solstitialis</i>	Yellow star thistle	Annual forb	Grassland	Yes	Yes	Planned
<i>Centaurea stoebe</i>	Spotted knapweed	Annual forb	Uplands	Yes	Yes	
<i>Cytisus scoparius</i>	Scotch broom	Perennial shrub	Uplands (shrub & grass)	Yes	Yes	
<i>Elymus caput-medusae</i>	Medusahead	Annual grass	Grassland	Yes	Yes	Planned
<i>Enchylaena tomentosa</i> *	Ruby saltbush	Perennial sub-shrub	Uplands (shrub & grass)	No	No	?
<i>Euphorbia terracina</i>	Carnation spurge	Annual forb	Uplands	Yes	Yes	Planned
<i>Euphorbia virgata</i> *	Leafy spurge	Annual forb	Uplands	Yes	No- add to ET	On ET

Scientific name	Common name	Growth form	Habitat	Cal-IPC PAF	SDPAF	SD ID Sheet
<i>Genista monspessulana</i>	French broom	Perennial shrub	Riparian or uplands	Yes	Yes	Yes
<i>Hypericum canariense</i>	Canary Island St. John's wort	Perennial shrub	Shrublands	Yes	Yes	Planned
<i>Limonium duriusculum</i> *	European sea lavender	Perennial forb	Wetlands (salt & fresh) & uplands	No	No	Yes
<i>Limonium ramosissimum</i> *	Algerian sea lavender	Perennial forb	Wetlands (salt & fresh) & uplands	Update	No	Yes
<i>Lythrum salicaria</i>	Purple loosestrife	Perennial forb	Wetlands (fresh)	Yes	Yes	Yes
<i>Retama monosperma</i>	Bridal broom	Perennial shrub	Uplands (shrub & grass)	Yes	Yes	Planned
<i>Senecio quadridentatus</i> *	Cotton burnweed	Annual forb	Grasslands	No	No	
<i>Sesbania punicea</i> *	Rattlebox	Perennial shrub	Wetlands (fresh)	Yes	No	Yes
<i>Volutaria tubuliflora</i> *	Egyptian knapweed	Annual forb	Uplands (shrub & grass)	No	No	Planned

Work Anticipated for 3rd Quarter Period, July 1, 2016 – September 31, 2016:

Task 1 – Invasive Plant Species Coordinator:

- Update work plan if needed.
- Coordinate ROE work with AWM, update database.
- Monitor and coordinate with AWM during implementation.
- Survey sites as needed.

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, and the Weed Management Area.
- Continue to aggregate data and track new prospective EDRR target species.
- Prepare eight EDRR identification sheets for priority species (for land managers and regional biologists, Table 3).
- Prepare seven San Diego PAFs EDRR species (Table 3), so that the Invasives Strategic Plan can be updated to include them.