To: Katie Levy, San Diego Association of Governments

From: Markus Spiegelberg; Regional Preserve Manager; Center for Natural Lands Management

Date: February 8, 2013

RE: Final Report for Project No. 5001323 (The Center for Natural Lands Management – Rancho La Costa, TET, and Meadowlark)

Dear Ms. Levy:

This memo provides the final report for activities associated with the treatment of four nonnative, invasive plant species by the Center for Natural Lands Management (CNLM) using funds granted by the San Diego Association of Governments (SANDAG) through the Environmental Mitigation Program (EMP). This report covers activities that occurred on the Rancho La Costa Habitat Conservation Area (HCA) and [property known as] The Environmental Trust (TET) Meadowlark (both areas are owned by CNLM) parcel between December, 2009 and February, 2013.

Task 1: Ward's Weed

Ward's weed was probably the largest challenge of this project, despite is relatively small area of infestation. Treatments included hand pulling and the use of herbicide. Grant funded treatments were completed in 2012. In January of 2013, we used our own funds for a follow up treatment and we are happy to report only scattered remaining individuals. We estimate that 90% of the affected area is free of Ward's weed. See Photographs 1 and 2 for a before and after of a typical infestation. See Figure 1 for treated areas.

Task 2: Veldt Grass

Veldt grass was dense in several locations. Grant funded treatments were completed in 2012. Only a few individuals were observed in 2012 and 2013. We are ecstatic about these results. We estimate that more than 90% of the affected area is free of Veldt Grass. See Photographs 3 and 4 for a before and after of a typical infestation. See Figure 2 for treated areas.

Task 3: Onion Weed

Tens of thousands of onion weed were located prior to treatments. Initial treatments required about 15 person days. Grant funded treatments ended in 2012. In January of 2013, less than 500 individuals were observed and are being treated with CNLM funds. We estimate that 90% of the affected area is free of onion weed. See Photographs 4 and 5 for a before and after of a typical infestation. See Figure 3 for map of treated area.

Task 4: Perennial Pepperweed

Perennial Pepperweed was dense and scatter about the preserve wetland areas prior to treatments. We treated the species each year and finally in 2013. We report that we have made significant progress on this species, and much of the time spent in 2013 was merely looking for the species. We estimate that 90% of the affected area is free of perennial pepperweed. See Figure 4 for map of treated areas.

Task 5. Reporting

CNLM staff provided quarterly reports for the duration of the grant process and this memo represents the required final report.

If you have any questions, please email (mspiegelberg@cnlm.org) or call me (619) 295-4953.

Sincerely,

Markus Spiegelberg
Regional Preserve Manager
Center for Natural Lands Management

Photograph 1. Typical Ward's Weed Infestation.


Photograph 2: Photograph taken in the same location as Photograph 1 and no Ward's weed is present. Now the spaces are filled with tocalote (*Centaurea melitensis*).

Photograph 3. Typical Veldtgrass infestation

Photograph 4. Dead Veldtgrass.

Photograph 4: Onion weed being sprayed with herbicide during first treatment for the species. Blue dye indicates herbicide treatment of onion weed. Note: many, very large onion weed plants.

Photograph 4: Same area as Photograph 3, but from a different angle. Note that there is no onion weed anywhere in the photograph. Large shrubs in the background can be used as a comparison to Photograph number 3 above.

Figure 1
Ward's Weed Location 2010
Carlsbad, Ca

Center for Natural Lands Management

Figure 2
Veldt Grass Locations 2010
Carlsbad, CA

Center for Natural Lands Management

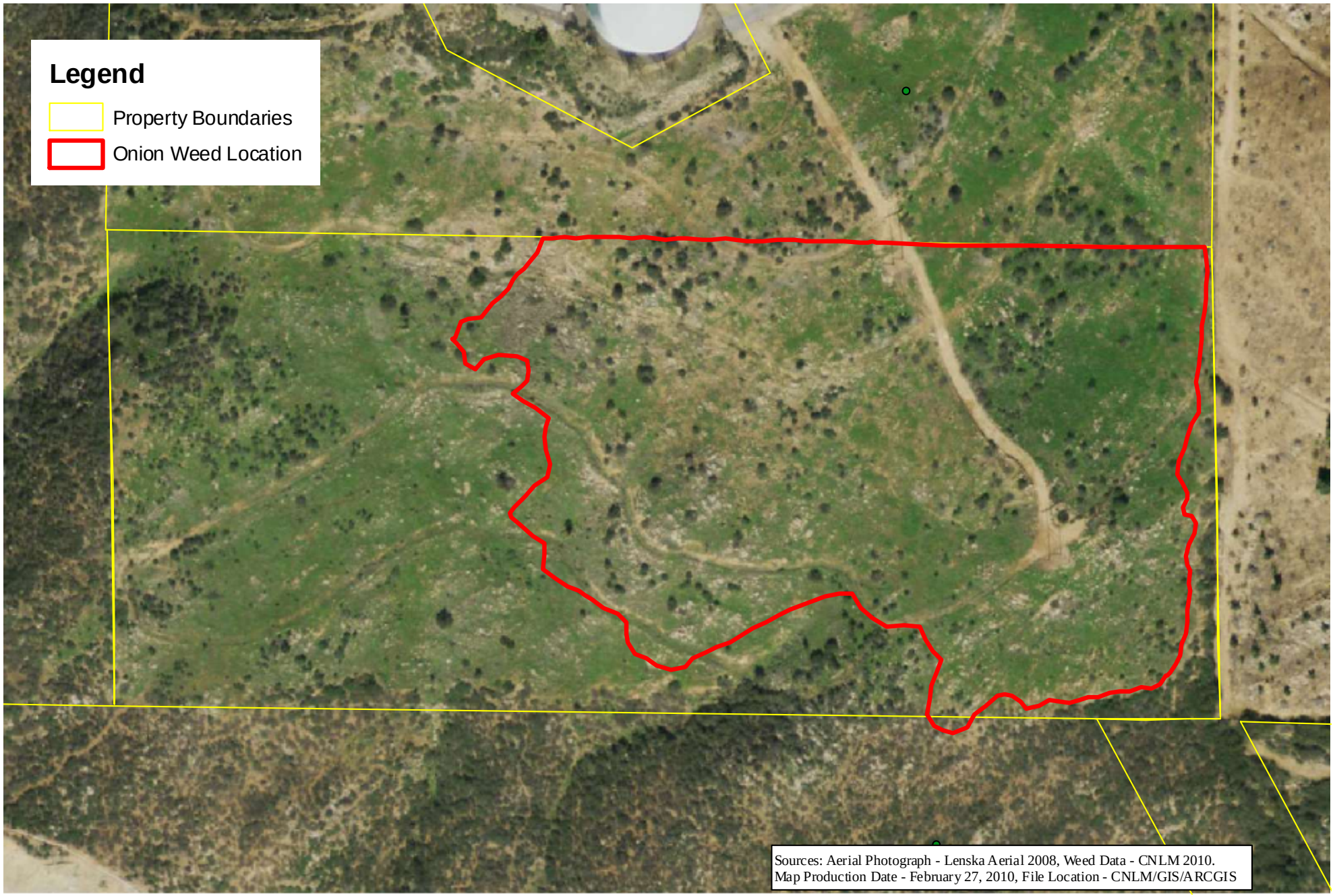

Figure 3
Onion Weed Location 2010
Meadowlark Parcel, San Marcos, CA

Center for Natural Lands Management

Figure 4
Perennial Pepper Weed Population
Carlsbad, Ca

Center for Natural Lands Management