

YEAR 5 ANNUAL REPORT LAKESIDE LINKAGE PRESERVE CACTUS WREN HABITAT RESTORATION

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1.0 Introduction

This report provides a progress summary of the ongoing habitat restoration project for the San Diego cactus wren (*Campylorhynchus brunneicapillus sandiegensis*) within the central property of the Lakeside Linkage Preserve (Preserve) located in the City of Lakeside, San Diego County, California (Figures 1 and 2) and provides details on the fifth year of the five-year post-installation monitoring period (August 1, 2015 through July 31, 2016).

1.1 Background

The County of San Diego Department of Parks and Recreation (DPR) received a grant from the San Diego Association of Government (SANDAG) TransNet Environmental Mitigation Program (EMP) to restore cactus wren habitat within the Preserve. The Preserve is located in the City of Lakeside, California. The Preserve consists of three properties totaling 135 acres which are referred to as the western, central, and eastern properties. This linkage provides a wildlife habitat connection between the McGinty Mountain-Sequan Peak-Dehesa and Lake Jennings-Wildcat Canyon-El Cajon Mountains Core Areas.

The restoration project included habitat improvements within two plant establishment areas within the central property of the Preserve, located east of Los Coches Road and north of Ha-Hana Road. Habitat improvements consisted of the installation of coastal prickly pear cactus (*Opuntia littoralis*) and coastal cholla cactus (*Cylindropuntia [Opuntia] prolifera*) as well as dethatching and weed removal within approximately five acres of coastal sage scrub habitat on west and south-facing slopes. The purpose of the restoration effort is to encourage dispersal and expansion of adjacent extant populations of San Diego cactus wrens. The central property of the Preserve was chosen for restoration because it contains suitable foraging and nesting vegetation communities.

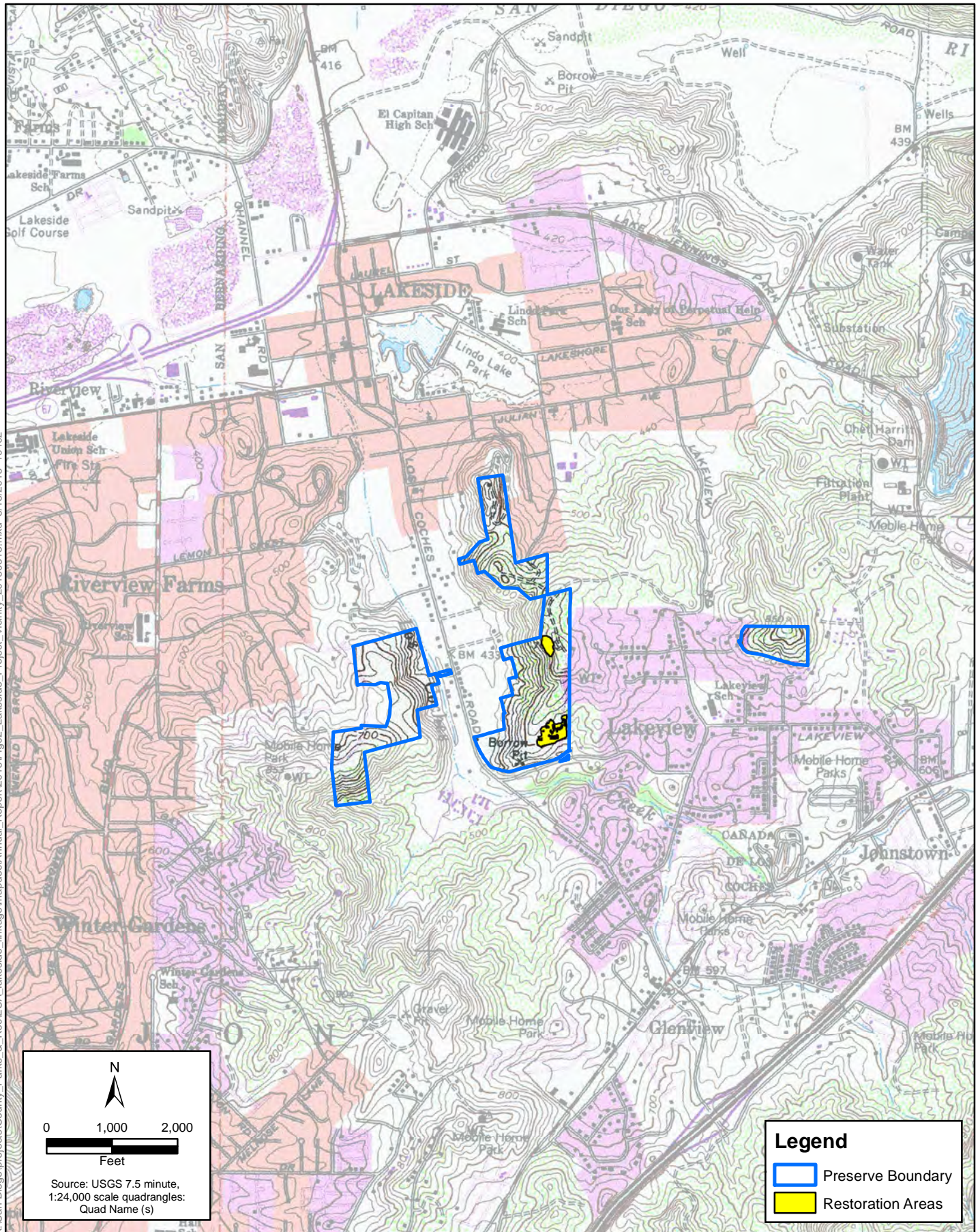
1.2 Site description

The central property of the Preserve is generally comprised of steep hills with rocky outcrops; elevations range from approximately 450 feet (ft) above mean sea level (AMSL) to 760 AMSL. Vegetation communities on site consist of bare ground, non-native grassland, and Diegan coastal sage scrub, while land use surrounding the Preserve is primarily residential properties. The Preserve is within the Multiple Species Conservation Program (MSCP) County of San Diego South County Subarea Plan.

1.3 Species Information

The cactus wren is resident in arid and semiarid regions from the southwest of the United States to Baja California, Mexico (Proudfoot et al. 2000). The San Diego subspecies is one of eight subspecies of cactus wren and has a limited range, extending from extreme northwestern Baja California north through the coastal lowlands of San Diego County and into southern Orange County (Rea and Weaver 1990). Within San Diego County, the San Diego cactus wren was formerly widespread and abundant at elevations below 300 m (1000 ft) in coastal areas (Rea and Weaver 1990; Stephens 1921). Urbanization has destroyed most of the bird's breeding habitat resulting in localized

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Legend

- Preserve Boundary
- Restoration Areas

Figure 2
Project Vicinity
Lakeside Linkage Preserve Cactus Wren Habitat Restoration



extirpation. The total population of the subspecies in the county may be below the 400 pairs estimated by Rea and Weaver (1990).

The San Diego cactus wren is a sedentary resident that breeds primarily from early March through June (Unitt 2004). Dispersal by immatures from their natal territories is likely for only a short distance; occurrences even a few kilometers from known sites of residency are very rare (Unitt 2004). Fieldwork from 1997 to 2001 for the San Diego County bird atlas found only two winter records of cactus wrens at distances greater than 5 km from known breeding areas.

The key element for cactus wren breeding is thickets of coast cholla or prickly-pear cacti (*O. littoralis*, *O. oricola*) that are tall enough to support and protect the birds' nests, which are hollow football-shaped structures with an entrance hole at one end. While San Diego cactus wrens build their nests in chollas or prickly-pears almost exclusively, the habitat surrounding suitable cactus thickets may vary and is not critical. Typically, however, habitat used by San Diego cactus wrens consists of coastal sage scrub at elevations below 460 m (1500 ft) on south- and west-facing slopes in which cacti are prominent and on the bases of hillsides or in dry washes (Rea and Weaver 1990).

Rea and Weaver (1990) found the median height of 98 cacti in which the wrens were nesting to be 138 centimeters (cm), with a range of 74–226 cm. Cacti lower than this range do not offer suitable habitat, presumably because the nest is too accessible to predators (Unitt 2004).

2.0 Methods

2.1 Maintenance

The initial habitat restoration was conducted in 2011 within the central property of the Preserve and included delineation of the two restoration polygons, site preparation for revegetation (dethatching), the installation cactus plantings in 109 plots (each plot either coastal prickly pear cactus or coastal cholla cactus), installation of herbivory fencing around the cactus groups, and maintenance of the cactus restoration areas. The second year of restoration consisted of weeding, herbicide application, and watering of the two restoration sites. The third year of restoration focused on the continued establishment and supplemental watering of cactus plantings, removal of herbivory fencing surrounding 100 cactus groups, hand removal of non-native weeds, and herbicide application to non-native weeds. The fourth year of restoration included weeding, herbicide application, jojoba-soap application for cochineal control, and supplemental watering of the two cactus restoration sites. Also conducted during year 4 was the removal of the final four herbivore-exclusion fences.

Maintenance of the restoration project during year 5 (August 1, 2015 through July 31, 2016) was conducted monthly by D&D Wildlife Habitat Restoration, Inc. (D&D) and consisted of weeding, herbicide application, and braided-wire fence installation to exclude pedestrians. Of the 109 cactus planting plots, 8 on the north site and 12 on the south site were coast cholla planting plots, with the remainder being coast prickly pear (Table 1).

Table 1. Year 5 Completed Tasks Summary

Date	Task	Personnel	Notes
11/5/2015	Task 5. Monitoring	ICF Dale Ritenour	Site inspection: no weeding required at this time.
1/15/2016	Task 4. Maintenance of Revegetated Areas	D&D	All Areas: site inspection and work layout
1/15/2016	Task 4. Maintenance of Revegetated Areas	D&D	North Restoration Site: Pruned native plants away from cactus group plantings; removed large weeds and spot spray small weeds; installed tee posts and braided wire with PVC at three locations to redirect pedestrians from walking through planting areas; collected cactus cuttings onsite and planted in trails to revegetate disturbed areas; maintenance photographs.
1/15/2016	Task 4. Maintenance of Revegetated Areas	D&D	South Restoration Site: Checked all areas and took photographs
2/12/2016	Task 4. Maintenance of Revegetated Areas	D&D	North Restoration Site: Inspected all areas; identified emerging bulb species; scheduled future maintenance
2/12/2016	Task 4. Maintenance of Revegetated Areas	D&D	South Restoration Site: Inspected all areas; identified emerging bulb species; scheduled future maintenance
2/25/2016	Task 4. Maintenance of Revegetated Areas	D&D	North Restoration Site; Fencing checked and in good condition; spot sprayed weeds; photos
2/25/2016	Task 4. Maintenance of Revegetated Areas	D&D	South Restoration Site: walked all areas; started spot spraying weeds; photos
3/3/2016	Task 4. Maintenance of Revegetated Areas	D&D	North Restoration Site: finished spraying weeds; photos
3/3/2016	Task 4. Maintenance of Revegetated Areas	D&D	South Restoration Site: finished spraying weeds; photos
3/20/2016	Task 5. Avian Point Counts	ICF Kimberly Davis	Conducted avian point counts at each of the designated point count stations.
4/24/2016	Task 5. Avian Point Counts	ICF Kimberly Davis	Conducted avian point counts at each of the designated point count stations
4/26/2016	Task 4. Maintenance of Revegetated Areas	D&D	North Restoration Site: Manually weeded all areas; hauled debris off-site; photos
4/26/2016	Task 4. Maintenance of Revegetated Areas	D&D	South Restoration Site: photos
4/29/2016	Task 4. Maintenance of Revegetated Areas	D&D	South Restoration Site: Manually remove mustard and larger weeds; spot sprayed small weeds; hauled debris off-site; photos

Date	Task	Personnel	Notes
5/1/2016	Task 4. Maintenance of Revegetated Areas	D&D	North Restoration Site: Spot spray small weeds
5/27/2016	Task 4. Maintenance of Revegetated Areas	D&D	North Restoration Site: Spot spray small weeds; photos
5/27/2016	Task 4. Maintenance of Revegetated Areas	D&D	South Restoration Site: Spot sprayed weeds; site inspection; photos
5/30/2016	Task 5. Avian Point Counts	ICF Dale Ritenour	Conducted avian point counts at each of the designated point count stations
6/18/2016	Task 5. Avian Point Counts	ICF Dale Ritenour	Conducted avian point counts at each of the designated point count stations
6/22/2016	Task 4. Maintenance of Revegetated Areas	D&D	North Restoration Site: Manually remove weeds; hauled debris off-site; photos
6/22/2016	Task 4. Maintenance of Revegetated Areas	D&D	South Restoration Site: Manually remove mustard and larger weeds; hauled debris off-site; photos; site inspection and documentation
7/25/2016	Task 4. Maintenance of Revegetated Areas	D&D	North Restoration Site: Manually weeded; hauled debris off-site; photographs
7/25/2016	Task 4. Maintenance of Revegetated Areas	D&D	South Restoration Site: Manually weeded; hauled debris off-site; photographs
7/28/2016	Task 5. Annual Monitoring	ICF Lance Woolley Nicole Salas	Annual monitoring of all cactus planting plots; photos of planting plots; photos from representative photopoints

2.2 Monitoring

2.2.1 Avian Point Counts

Five avian point count stations were established prior to the restoration effort during baseline inventory surveys in 2008 (ICF 2008) as part of a biological resources inventory conducted on the Preserve (Figure 3). Two additional stations were placed specifically to capture potential cactus wren activity in and around the two restoration sites. In combination with the five existing stations, the two additional avian point count stations will provide a baseline from which to conduct trend monitoring over time and establish the suitability of the restored cactus stands for cactus wren breeding.

A total of four avian point count surveys were conducted during the fifth year of monitoring at the seven point count stations, on March 20, April 24, May 30, and June 18, 2016 (Table 2). The surveys were conducted by ICF senior biologists Dale Ritenour and Kimberly Davis.



Figure 3
Avian Point Count Stations
Lakeside Linkage Preserve Cactus Wren Habitat Restoration



Table 2. 2016 Avian Point Counts Surveys

Date	Survey Number	Biologist
March 20, 2016	1	Kimberly Davis
April 24, 2016	2	Kimberly Davis
May 30, 2016	3	Dale Ritenour
June 18, 2016	4	Dale Ritenour

2.2.2 Photo-monitoring and Qualitative Visits

ICF biologists Lance Woolley and Nicole Salas conducted the Year 5 monitoring on July 28, 2016. Photo-monitoring was conducted at pre-established photo-points within both restoration areas (Figure 4). Photographs were taken from the same vantage points as previous photos taken during the first four years of monitoring to document the progress of the two restoration sites over time. Photographs are included in Appendix B. In addition, photographs of every cactus plot are included on an attached DVD (in back cover).

For every cactus planting plot, the presence/absence of cactus-parasite cochineal insects (*Dactylopius* sp.) within the plot was recorded. While these insects are native to the southwest, they may negatively affect the vigor of the establishing cactus plantings and were controlled during the five years of maintenance.

Cactus plots were inspected to see if any cactus stem joints were above 1 meter (m) tall and the presence of joints above 1 m high was recorded. Cactus wren prefer taller and denser cactus stands for nesting (Rea and Weaver 1990), and the presence of taller cactus suggests that the cactus plots are progressing toward suitability for cactus wren nesting.

Shrubs around cactus can shade out the cactus and provide a ladder for predators to access cactus wren nests within taller sections of cactus. The presence of any developing shrubs within cactus plots was noted.

2.2.3 Vegetation Cover Estimates

Previous qualitative annual vegetation assessments in the Year 1 through 4 annual reports for this project were conducted by visual estimation using the California Native Plant Society (CNPS) relevé method (CNPS 2007), and density was recorded based on the number of stems per square foot for prickly pear and cholla cactus. However, the relevé method is a not method for tracking small scale cover change over time. Instead of utilizing the CNPS relevé method, total vegetation cover of cactus and of non-native plants was estimated in every cactus plot in Years 4 and 5 (Appendix B). Following CNPS point-line intercept transect methods, the area within the “canopy” of cactus are counted as having cover. Cover was estimated in the cover classes of 1 percent, 5 percent, and every ten from 10 to 90 percent cover, and 95 percent cover. Vegetation cover estimates were conducted on July 30, 2016.



Figure 4
Photopoint and Existing Cactus Locations
Lakeside Linkage Preserve Cactus Wren Habitat Restoration

3.0 Results

3.1 Avian Point Counts

A total of 36 avian species were detected on the Preserve during the Year 5 point count surveys (Appendix D). A single cactus wren was detected off-site on multiple occasions in the same vicinity (Figure 5). Other sensitive avian species detected during the point counts include the coastal California gnatcatcher (*Polioptila californica californica*), Cooper's hawk (*Accipiter cooperii*), turkey vulture (*Cathartes aura*), and Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*).

A San Diego cactus wren pair was observed offsite during the first year of monitoring; however, no cactus wren were observed on- or off-site during the second year monitoring period. Two individual coastal cactus wrens were identified on-site during the third year of monitoring, both of which were observed during the final avian point count survey in June 2014. The two individual coastal cactus wrens were observed at point count station 1 and 3, respectively. In March 2015 of the fourth year of monitoring, ICF biologists observed a single male cactus wren singing atop a laurel sumac at the top of a hill near an established mature off-site cactus cluster. ICF biologists also observed a single singing male in April 2015 at the northern end of the site atop a hilltop laurel sumac near no cactus patches, and in June 2015 atop a laurel sumac near the northern-most cactus restoration site. In Year 5, a single cactus wren was detected offsite in April, May, and June of 2016 in the large offsite cactus patch, south and downhill from point 1. Cactus wren were not observed onsite during 2016 surveys.

During the first year's monitoring period, a pair of California gnatcatchers (federally listed as endangered, State Species of Special Concern, San Diego County Group 1) was detected near point count stations 1 and 2. During the second year of monitoring, there were two California gnatcatchers observed on different days in different areas that were determined to be juveniles. During the third year of monitoring, California gnatcatchers were observed during each of the four point count surveys, with at least one observation occurring from each point count station over the course of the monitoring period. During Year 4, California gnatcatchers were observed from every point count station over the course of the avian surveys. California gnatcatcher family units, each including a juvenile, were observed at each of the restoration areas during the year 4 July 2016 monitoring visit.

During Year 5 surveys, California gnatcatchers were observed as family groups with young at several locations within the central portion of the Preserve. Two family groups of California gnatcatcher were observed on April 24, 2016, one each near point count locations 1 and 2. A family group of three birds were observed at or near R1 on May 30 and June 18, 2016. A single California gnatcatcher was heard from point count station R2 in June 2016. While California gnatcatcher were not detected near point count stations 3, 4, or 5 in 2016, playback-calls were never used during point counts and absence of this species from these locations in 2016 is not certain. From incidental observations and point count data, particularly from Years 3 and 4, it appears that there are typically at least four breeding pairs in the central portion of Lakeside Linkage Preserve, with a group utilizing the area around and north of point count station 1, a group around point count station 2, another group at the south end of the hill around and southeast of point count station R1, and a group in the bowl south of point count station 5 between point count stations 4 and R2.

Cooper's hawk, a San Diego County Group 1 species, was observed near point count station 2 in April and May 2016 and near point count station 2 in May 2016. In June, a family group of three Cooper's

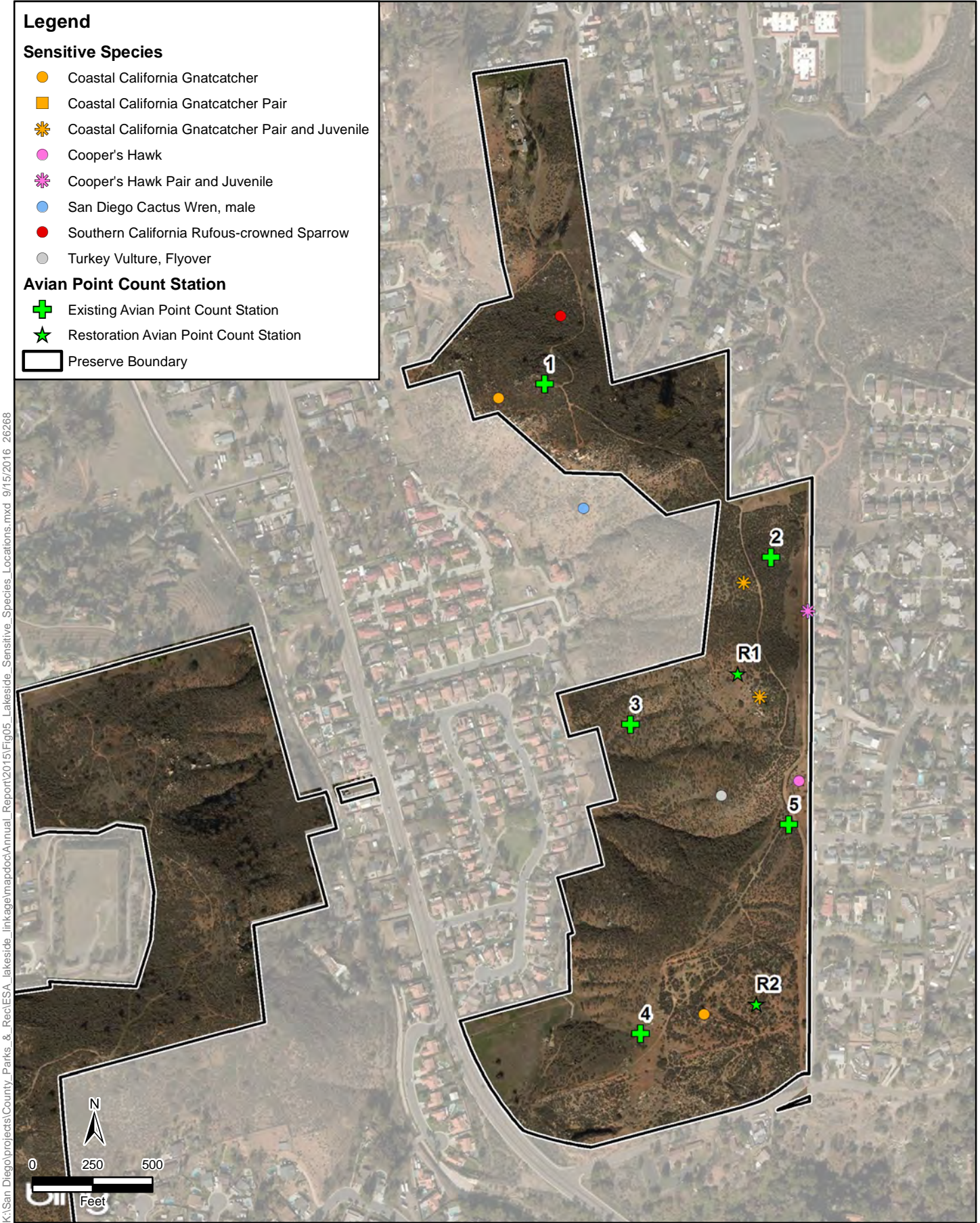


Figure 5
2016 Sensitive Species Observations
Lakeside Linkage Preserve Cactus Wren Habitat Restoration



hawk was observed near point count station 2. While the central portion of Lakeside Linkage Preserve provides foraging habitat for Cooper's hawk, it does not have trees suitable for nesting.

The southern California rufous-crowned sparrow, a State Species of Special Concern, San Diego County Group 1 and Multiple Species Conservation Plan (MSCP) covered species, was detected in 2015 near point count stations 1, 3, 4, and 5. In 2016, it was notably absent (or quiet) and only detected near point count station 1 (Figure 4).

Common native avian species detected on the Preserve during 2016 included Bewick's wren (*Thryomanes bewickii*), California towhee (*Melospiza crissalis*), California quail (*Callipepla californica*) and house finch (*Chamaea fasciata*).

3.2 Photomonitoring and Qualitative Visits

Herbivory fencing was removed from around all cactus plantings by the end of Year 4. During Year 5 monitoring, herbivory by cottontail rabbit was very low, only observed in one plot of the northern restoration area.

Minor trespass was noted during Year 5 monitoring. Litter, including dog waste and cigarette butts, were observed along trails along the edges of the restoration areas. (Photopoint F: south). Little damage was observed on the cactus plots from Preserve users in Year 5.

Cochineal insects (*Dactylopius* sp.), a native *Opuntia* parasite, were present in generally low numbers in the *Opuntia* planting plots during Year 5 monitoring. No cochineal were observed in the *Cylindropuntia* planting plots. Cochineal were present in 46 percent of the *Opuntia* plots in the northern restoration area and 82 percent of the *Opuntia* plots in the southern area. In all but three of these locations the cochineal were present in low numbers. In the remaining three locations the cochineal were present at approximately two to three percent of the cactus spine aureoles within a cactus plot. During the annual monitoring visit, on July 28, 2016, the cochineal did not appear to be significantly affecting the health of the cactus plantings.

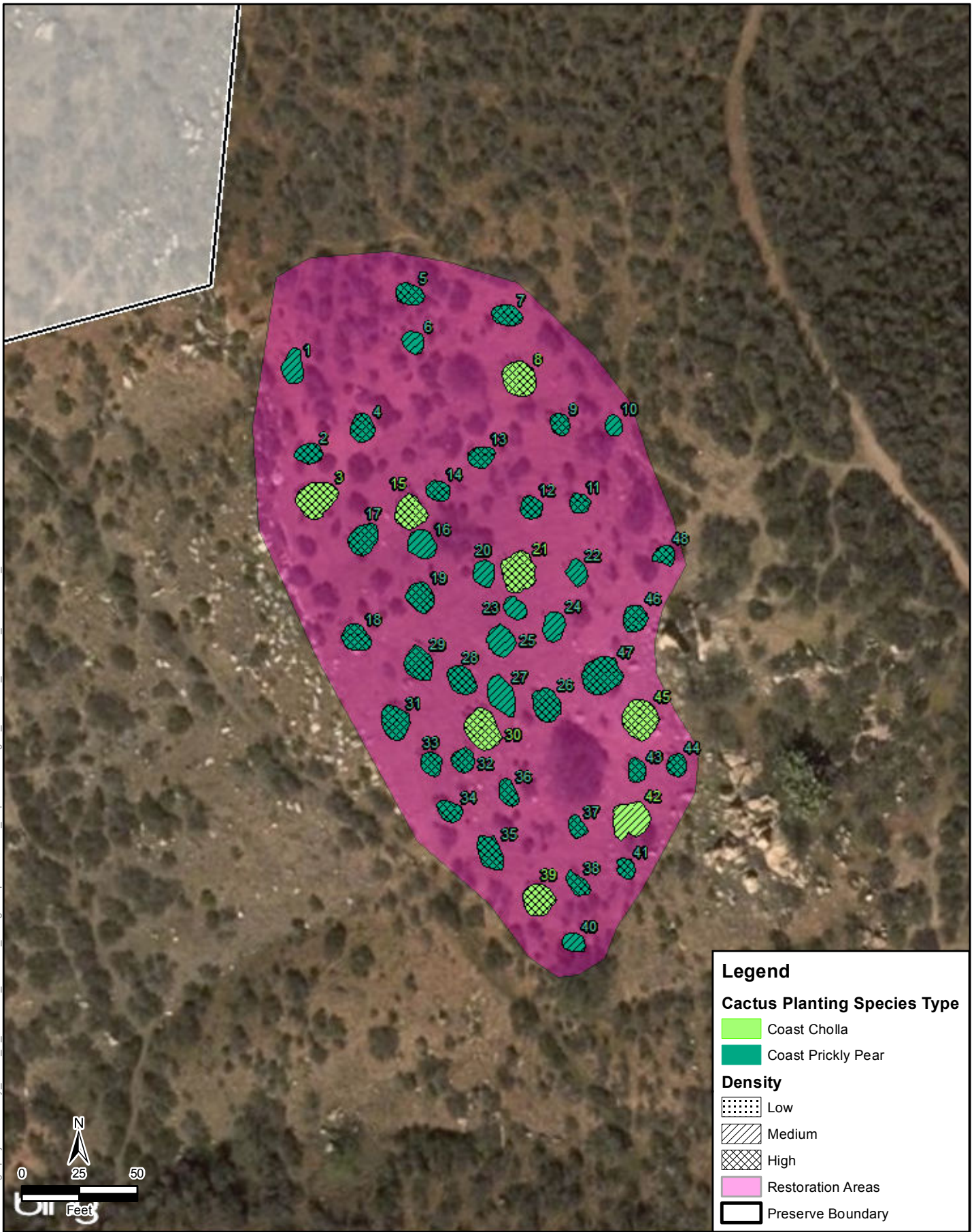
Over half of the plots had cactus joints above one meter, with 40 plots in the northern restoration area and 31 plots in the southern area, showing that these plots are progressing towards a height sufficient to support cactus wren nesting.

Shrubs were removed from cactus plots in January 2016, to remove potential avenues for predators to access cactus plantings. By July 2016, shrub seedlings had emerged in the majority of plots, showing that native shrubs establishment within cactus plantings will potentially be more of a maintenance issue for this site than mustard.

3.3 Vegetation Cover Estimates

Cactus cover estimates in 2016 varied from 10 percent to 95 percent cover per plot, with a mean cover of 65 percent. The cactus plots in the northern restoration area had a higher average cover of 74 percent compared to the plots in the southern restoration area with an average cover of 58 percent. Cactus density per plot is presented on Figures 6 and 7. Cactus density is presented as high (70 percent cover or greater), moderate (40 to 60 percent), or low (20 to 30 percent). This is statistically equal to the cover estimates from Year 4 (64 percent). While estimated cover did not increase between Years 4 and 5, significantly more cactus plots had stems above 1 meter, showing that while the plantings may not be significantly increasing in density, they are growing taller.

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Legend

Cactus Planting Species Type

- Coast Cholla
- Coast Prickly Pear

Density

- Low
- Medium
- High

Restoration Areas

Preserve Boundary



Figure 6
Northern Restoration Area
Lakeside Linkage Preserve Cactus Wren Habitat Restoration

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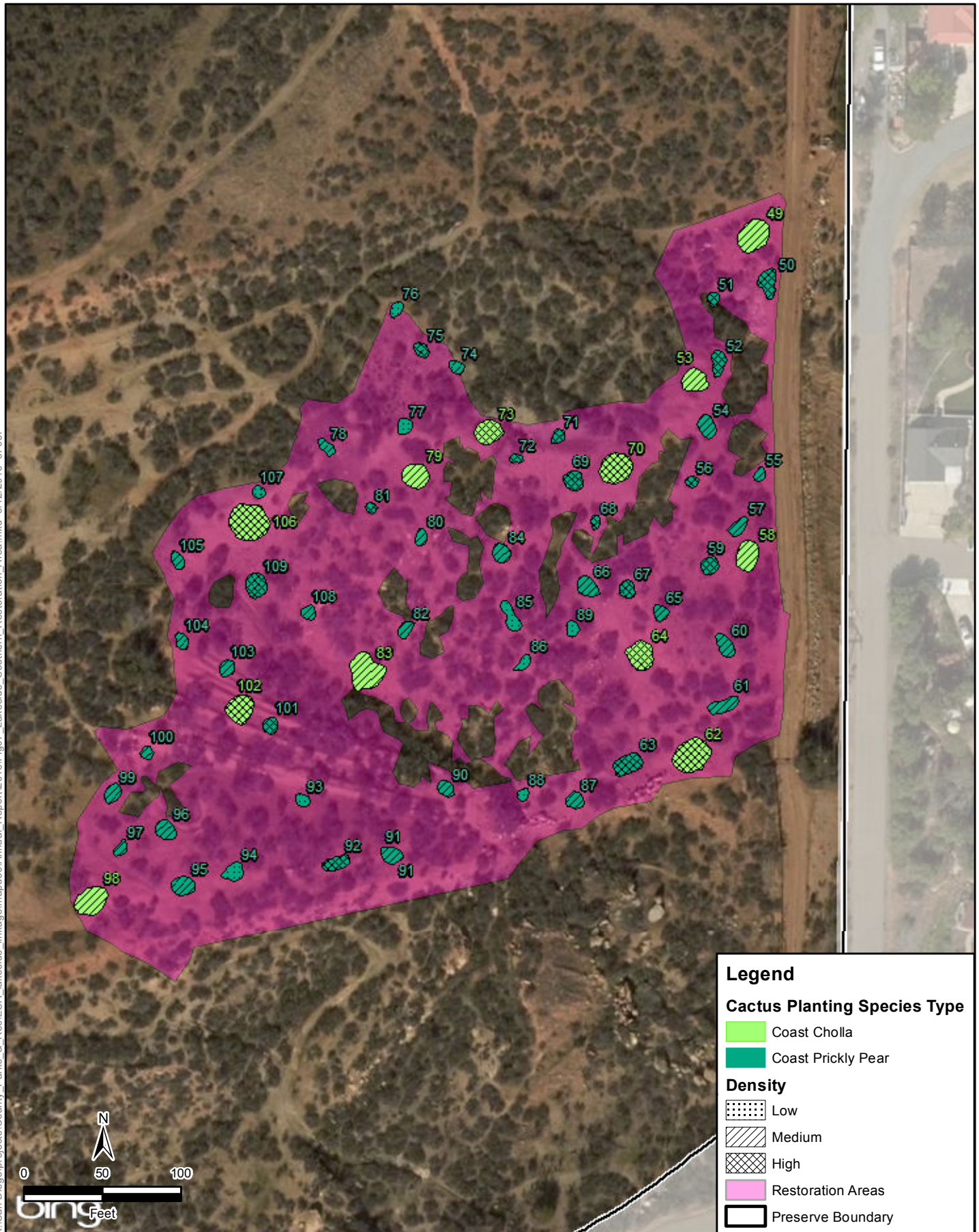


Figure 7
Southern Restoration Area
Lakeside Linkage Preserve Cactus Wren Habitat Restoration

Non-native cover estimates in 2016 varied from zero to 10 percent, with an average of 1.6 percent non-native cover. All but two plots in the northern area had five percent or less non-native weed cover, with most being 1 to 2 percent weed cover. Plots 10 and 16 had an average of 10 percent weed cover in the northern area. The southern area had 16 sites with 2 to 5 percent weed cover, with the remainder being one percent or less weed cover. Overall, weeds were controlled extremely well in Year 5 within the cactus plots and in the surrounding restoration areas.

The restoration areas outside of the cactus plots were seeded with native annuals and shrub species in Year 4, to help provide native cover for other sensitive animal species and provide native species competition for the established weed species. During Year 5 monitoring surveys, in the spring of 2016, there was a moderate cover of native annuals including popcorn flower (*Cryptantha* spp.) and rancher's fiddleneck (*Amsinckia menziesii*). California sagebrush seedlings were developing throughout the northern restoration area.

3.4 Conclusion/Recommendations

The cactus planting areas in the north and south restoration areas have been well maintained over the 5 years of maintenance and monitoring. The cactus plantings have shown good growth in terms of density and height, with over half of the planting plots having joints at over 1 meter, showing that they are approaching the height necessary for cactus wren nesting. Herbivory and parasitism are low and do not appear to be significantly affecting the plantings.

Cactus plots are meeting the general goals of DPR's Comprehensive Monitoring Plan (CMP; ESA and ICF 2015), with less than 25 percent weed cover and cactus plots averaging over 50 percent cover as they approach maturity.

Pedestrian trespass into the cactus planting areas is currently under control. Lakeside Linkage Preserve receives pedestrian use of the authorized trails as well as illegal bike and motorbike use, both on and off trail. As the cactus plantings gain density and height, their spines should discourage any trespass into the planting areas.

The cactus planting plots have not experienced any of the following threats detailed in the SDMMMP 2015 MSP rare plant occurrence monitoring form (SDMMMP 2015): non-native woody plants, encampments, feral pig activity, altered hydrology, erosion, urban runoff, slope movement, soil compaction, or Argentine ants. The following threats have been managed during the previous five years and have low-potential for significant impacts in the near future: non-native grasses, trampling/vandalism, and grazing by rabbits.

A cactus wren has been repeatedly observed adjacent to the northern restoration area and has been observed singing onsite. Cactus wren are known from other locations in the Lakeside Linkage (outside of the County Preserve) and the improved habitat within the Lakeside Linkage Preserve should assist with the recovery of this species within the linkage.

3.5 Future Management and Monitoring

The Preserve as a whole and the restoration areas specifically were relatively high in cover of native coastal sage scrub species. In addition, seedling recruitment into and around the planting areas in the restoration areas has been high. While weed and native shrub cover was low within the cactus plots, non-native forbs (primarily mustard species) and competitive native shrubs will continue to be a threat to establishing cactus habitat, as these species can recruit into the patches and over-top

the cactus, providing ladders for nest predators. Per DPR's CMP, a habitat evaluation and threats assessments should be conducted every three years within the restoration areas, to conduct photo – monitoring, monitor cactus density, conduct a threats assessment, and determine if weeding needs to be conducted to remove these native and weed species. Sensitive coastal sage scrub-dependent species, including California gnatcatcher and southern California rufous-crowned sparrow, were observed utilizing habitat within the restoration areas, so shrub trimming should be conducted outside of the avian breeding season.

The site does not currently require the remedial measures suggested in the CMP, including herbivory cages, invasive species control, cactus plantings, or additional habitat restoration. The restoration project has been successful in creating cactus patches that are approaching suitability for cactus wren nesting potential.

Per DPR's CMP, post-restoration avian point counts and nesting bird surveys will be conducted monthly from March through July every other year for a total of ten years after restoration. Monitoring methods included in this annual report will be followed to perform surveys. Avian point counts will be conducted every three years thereafter.

4.0 References

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Appendix A

Site Photographs



2011 Before clearing and planting



2012 After cactus installation



2013 July



2014 July



2015 July



2016 July

Photopoint A West



2011 Before clearing and planting



2012 After cactus installation



2013 July



2014 July



2015 July



2016 July

Photopoint B North



2011 Before clearing and planting



2012 After cactus installation



2013 July



2014 July



2015 July



2016 July

Photopoint B west



2011 Before clearing and planting



2012 After cactus installation



2013 July



2014 July



2015 July



2016 July

Photopoint C West



2011 Before clearing and planting



2012 After cactus installation



2013 July



2014 July



2015 July



2016 July

Photopoint D North



2011 Before clearing and planting



2012 After cactus installation



2013 July



2014 July



2015 July



2016 July

Photopoint D East



2011 Before clearing and planting



2012 After cactus installation



2013 July



2014 July



2015 July



2016 July

Photopoint D South



2011 Before clearing and planting



2012 After cactus installation



2013 July



2014 July



2015 July



2016 July

Photopoint E East



2011 Before clearing and planting



2012 After cactus installation



2013 July



2014 July



2015 July



2016 July

Photopoint F South



2011 Before clearing and planting



2012 cactus installation



2013 July



2014 July



2015 July



2016 July

Photopoint G North



2011 Before clearing and planting



2012 After cactus installation



2013 July



2014 July



2015 July



2016 July

Photopoint H

Appendix B
Annual Plot Monitoring Data

Appendix B
Annual Plot Monitoring Data

Appendix B: Annual Cactus Plot Monitoring Data for Lakeside Linkage

Plot #	Species	% cactus cover	% NN	joints >1m	shrub in plot	Cochineal	notes	photo #
1	<i>Opuntia littoralis</i>	60	1	N	Y	1	Pad herbivory	7
2	<i>Opuntia littoralis</i>	80	1	Y	N	N		9
3	<i>Cylindropuntia prolifera</i>	90	2	Y	N	N		10
4	<i>Opuntia littoralis</i>	80	2	Y	N	N		8
5	<i>Opuntia littoralis</i>	70	3	N	Y	N		5
6	<i>Opuntia littoralis</i>	50	1	Y	Y	N		6
7	<i>Opuntia littoralis</i>	80	3	Y	Y	N		4
8	<i>Cylindropuntia prolifera</i>	90	3	Y	Y	N		3
9	<i>Opuntia littoralis</i>	90	3	Y	Y	1		2
10	<i>Opuntia littoralis</i>	50	10	N	Y	N		1
11	<i>Opuntia littoralis</i>	80	1	Y	N	N		2
12	<i>Opuntia littoralis</i>	80	1	Y	Y	N		18
13	<i>Opuntia littoralis</i>	70	1	Y	Y	1		17
14	<i>Opuntia littoralis</i>	70	2	Y	N	N		16
15	<i>Cylindropuntia prolifera</i>	95	2	Y	N	N		15
16	<i>Opuntia littoralis</i>	50	10	N	Y	N		14
17	<i>Opuntia littoralis</i>	85	2	Y	N	N		11
18	<i>Opuntia littoralis</i>	70	2	Y	N	1		12
19	<i>Opuntia littoralis</i>	70	5	Y	Y	N	Pad herbivory	13
20	<i>Opuntia littoralis</i>	60	2	Y	N	N		21
21	<i>Cylindropuntia prolifera</i>	90	2	N	Y	N		20
22	<i>Opuntia littoralis</i>	50	2	N	Y	1		19
23	<i>Opuntia littoralis</i>	50	2	N	Y	1		22
24	<i>Opuntia littoralis</i>	40	3	Y	Y	N		24
25	<i>Opuntia littoralis</i>	40	3	Y	N	1		25
26	<i>Opuntia littoralis</i>	80	1	Y	Y	1		35
27	<i>Opuntia littoralis</i>	60	2	Y	Y	1		34
28	<i>Opuntia littoralis</i>	80	1	Y	Y	1		27
29	<i>Opuntia littoralis</i>	80	3	Y	Y	1		26
30	<i>Cylindropuntia prolifera</i>	95	1	Y	N	N		33
31	<i>Opuntia littoralis</i>	80	1	Y	N	1		28
32	<i>Opuntia littoralis</i>	70	1	Y	N	1		32
33	<i>Opuntia littoralis</i>	80	1	Y	N	N		30
34	<i>Opuntia littoralis</i>	90	1	Y	Y	N		31
35	<i>Opuntia littoralis</i>	80	1	Y	Y	1		45
36	<i>Opuntia littoralis</i>	70	1	Y	N	1		44
37	<i>Opuntia littoralis</i>	70	1	N	Y	1		43
38	<i>Opuntia littoralis</i>	80	1	Y	Y	1		40
39	<i>Cylindropuntia prolifera</i>	95	N	Y	Y	N		42

Appendix B: Annual Cactus Plot Monitoring Data for Lakeside Linkage

40	<i>Opuntia littoralis</i>	50	N	Y	Y	1		41
41	<i>Opuntia littoralis</i>	90	1	Y	Y	1		39
42	<i>Cylindropuntia prolifera</i>	60	1	Y	Y	N		38
43	<i>Opuntia littoralis</i>	80	2	Y	N	N		37
44	<i>Opuntia littoralis</i>	80	1	Y	Y	1		46
45	<i>Cylindropuntia prolifera</i>	95	N	Y	Y	N		47
46	<i>Opuntia littoralis</i>	90	1	Y	Y	1		48
47	<i>Opuntia littoralis</i>	90	1	Y	Y	N		36
48	<i>Opuntia littoralis</i>	70	1	Y	N	1		49
49	<i>Cylindropuntia prolifera</i>	60	1	Y	Y	N		50
50	<i>Opuntia littoralis</i>	70	1	N	Y	3		51
51	<i>Opuntia littoralis</i>	70	2	Y	Y	1		52
52	<i>Opuntia littoralis</i>	70	2	Y	Y	1		53
53	<i>Cylindropuntia prolifera</i>	60	5	Y	Y	N		54
54	<i>Opuntia littoralis</i>	60	N	Y	Y	1		55
55	<i>Opuntia littoralis</i>	50	1	N	Y	1		109
56	<i>Opuntia littoralis</i>	70	1	N	Y	1		111
57	<i>Opuntia littoralis</i>	60	N	Y	N	1		110
58	<i>Cylindropuntia prolifera</i>	60	1	Y	Y	N		108
59	<i>Opuntia littoralis</i>	90	1	Y	Y	2		107
60	<i>Opuntia littoralis</i>	60	1	N	Y	1		110
61	<i>Opuntia littoralis</i>	60	1	Y	Y	1		100
62	<i>Cylindropuntia prolifera</i>	70	1	Y	Y	N		99
63	<i>Opuntia littoralis</i>	80	2	N	Y	1		98
64	<i>Cylindropuntia prolifera</i>	90	1	Y	Y	N		102
65	<i>Opuntia littoralis</i>	60	2	N	Y	1		106
66	<i>Opuntia littoralis</i>	60	1	Y	N	1		104
67	<i>Opuntia littoralis</i>	70	1	Y	Y	1		105
68	<i>Opuntia littoralis</i>	70	1	N	Y	1		78
69	<i>Opuntia littoralis</i>	90	1	Y	Y	1		77
70	<i>Cylindropuntia prolifera</i>	70	1	Y	Y	N		56
71	<i>Opuntia littoralis</i>	90	3	Y	Y	1		57
72	<i>Opuntia littoralis</i>	90	2	Y	Y	1		58
73	<i>Cylindropuntia prolifera</i>	80	1	Y	Y	N		59
74	<i>Opuntia littoralis</i>	60	3	N	Y	1		60
75	<i>Opuntia littoralis</i>	80	1	Y	Y	1		61
76	<i>Opuntia littoralis</i>	20	3	N	Y	1		62
77	<i>Opuntia littoralis</i>	30	1	Y	Y	1		63
78	<i>Opuntia littoralis</i>	60	1	Y	Y	1		65
79	<i>Cylindropuntia prolifera</i>	60	1	Y	Y	N		64
80	<i>Opuntia littoralis</i>	60	1	N	Y	1		75

Appendix B: Annual Cactus Plot Monitoring Data for Lakeside Linkage

81	<i>Opuntia littoralis</i>	70	1	N	Y	1		76
82	<i>Opuntia littoralis</i>	40	1	Y	Y	1		82
83	<i>Cylindropuntia prolifera</i>	40	1	Y	Y	N		83
84	<i>Opuntia littoralis</i>	50	1	N	Y	1		79
85	<i>Opuntia littoralis</i>	30	1	N	Y	1		80
86	<i>Opuntia littoralis</i>	30	1	N	Y	1		81
87	<i>Opuntia littoralis</i>	40	2	N	Y	1		96
88	<i>Opuntia littoralis</i>	30	1	N	N	N		95
89	<i>Opuntia littoralis</i>	30	1	N	N	1		103
90	<i>Opuntia littoralis</i>	60	1	N	Y	1		94
91	<i>Opuntia littoralis</i>	50	1	N	Y	1		93
92	<i>Opuntia littoralis</i>	80	1	Y	N	1		92
93	<i>Opuntia littoralis</i>	10	5	N	Y	1		91
94	<i>Opuntia littoralis</i>	30	1	N	Y	1		90
95	<i>Opuntia littoralis</i>	60	2	N	Y	1		89
96	<i>Opuntia littoralis</i>	50	1	N	Y	1		86
97	<i>Opuntia littoralis</i>	40	1	N	Y	1		87
98	<i>Cylindropuntia prolifera</i>	50	2	N	Y	N		88
99	<i>Opuntia littoralis</i>	50	1	N	N	1		85
100	<i>Opuntia littoralis</i>	40	N	N	N	1		84
101	<i>Opuntia littoralis</i>	70	1	Y	Y	1		72
102	<i>Cylindropuntia prolifera</i>	70	2	Y	Y	N		71
103	<i>Opuntia littoralis</i>	60	2	Y	N	1		70
104	<i>Opuntia littoralis</i>	50	N	N	Y	1		69
105	<i>Opuntia littoralis</i>	60	1	N	Y	1		68
106	<i>Cylindropuntia prolifera</i>	80	2	Y	Y	2		67
107	<i>Opuntia littoralis</i>	10	1	Y	Y	1		66
108	<i>Opuntia littoralis</i>	60	N	Y	Y	1		74
109	<i>Opuntia littoralis</i>	70	1	N	Y	1		73

Appendix C

Avian Point Count Data

LocationName		LocationSource	GPS		
CountyDept		LocationPrecision	Within a 160 m diameter		
Surveyor					
Protocol					
SurveyDescription		Lakeside Linkage Avian Point	Counts 2016		
Date	StationNo	SpeciesNoList	SpeciesScientific	SpeciesCommon	Count
3/20/2016	1		<i>Mimus polyglottos</i>	Northern mockingbird	1
3/20/2016	1		<i>Chamaea fasciata</i>	Wrentit	2
3/20/2016	1		<i>Zenaida macroura</i>	Mourning dove	2
3/20/2016	1		<i>Callipepla californica</i>	California quail	5
3/20/2016	1		<i>Troglodytes aedon</i>	House wren	2
3/20/2016	1		<i>Corvus brachyrhynchos</i>	American crow	5
3/20/2016	1		<i>Melozone crissalis</i>	California towhee	2
3/20/2016	1		<i>Zonotrichia leucophrys</i>	White crowned sparrow	7
3/20/2016	1	Amazonia sp. parrot		-99	-99
3/20/2016	2		<i>Melozone crissalis</i>	California towhee	5
3/20/2016	2		<i>Zonotrichia leucophrys</i>	White crowned sparrow	10
3/20/2016	2		<i>Zenaida macroura</i>	Mourning dove	2
3/20/2016	2		<i>Mimus polyglottos</i>	Northern mockingbird	1
3/20/2016	2		<i>Thryomanes bewickii</i>	Bewick's wren	1
3/20/2016	2		<i>Corvus brachyrhynchos</i>	American crow	3
3/20/2016	2		<i>Spinus psaltria</i>	Lesser goldfinch	3
3/20/2016	2		<i>Callipepla californica</i>	California quail	5
3/20/2016	2		<i>Haemorhous mexicanus</i>	House finch	3
3/20/2016	3		<i>Haemorhous mexicanus</i>	House finch	9
3/20/2016	3		<i>Spinus psaltria</i>	Lesser goldfinch	1
3/20/2016	3		<i>Mimus polyglottos</i>	Northern mockingbird	3
3/20/2016	3		<i>Zonotrichia leucophrys</i>	White crowned sparrow	12
3/20/2016	3		<i>Melozone crissalis</i>	California towhee	4
3/20/2016	3		<i>Calypte anna</i>	Anna's hummingbird	2
3/20/2016	3		<i>Corvus brachyrhynchos</i>	American crow	4
3/20/2016	3		<i>Pipilo maculatus</i>	Spotted towhee	1

3/20/2016	3		<i>Chamaea fasciata</i>	Wrentit	1
3/20/2016	3		<i>Thryomanes bewickii</i>	Bewick's wren	1
3/20/2016	4		<i>Melospiza crissalis</i>	California towhee	1
3/20/2016	4		<i>Thryomanes bewickii</i>	Bewick's wren	4
3/20/2016	4		<i>Callipepla californica</i>	California quail	1
3/20/2016	4		<i>Pipilo maculatus</i>	Spotted towhee	1
3/20/2016	4		<i>Spinus psaltria</i>	Lesser goldfinch	9
3/20/2016	4		<i>Haemorhous mexicanus</i>	House finch	10
3/20/2016	4		<i>Zenaidura macroura</i>	Mourning dove	1
3/20/2016	4		<i>Mimus polyglottos</i>	Northern mockingbird	1
3/20/2016	5		<i>Thryomanes bewickii</i>	Bewick's wren	2
3/20/2016	5		<i>Corvus brachyrhynchos</i>	American crow	4
3/20/2016	5		<i>Spinus psaltria</i>	Lesser goldfinch	2
3/20/2016	5		<i>Haemorhous mexicanus</i>	House finch	3
3/20/2016	5		<i>Zonotrichia leucophrys</i>	White crowned sparrow	14
3/20/2016	5	House sparrow		-99	-99
3/20/2016	5		<i>Melospiza crissalis</i>	California towhee	2
3/20/2016	R1		<i>Thryomanes bewickii</i>	Bewick's wren	1
3/20/2016	R1		<i>Aimophila ruficeps</i>	Rufous crowned sparrow	2
3/20/2016	R1		<i>Zonotrichia leucophrys</i>	White crowned sparrow	10
3/20/2016	R1		<i>Calypte anna</i>	Anna's hummingbird	2
3/20/2016	R1		<i>Haemorhous mexicanus</i>	House finch	8
3/20/2016	R1		<i>Pipilo maculatus</i>	Spotted towhee	1
3/20/2016	R1		<i>Chamaea fasciata</i>	Wrentit	1
3/20/2016	R2		<i>Calypte anna</i>	Anna's hummingbird	1
3/20/2016	R2		<i>Zonotrichia leucophrys</i>	White crowned sparrow	2
3/20/2016	R2		<i>Melospiza crissalis</i>	California towhee	3
3/20/2016	R2		<i>Pipilo maculatus</i>	Spotted towhee	3
3/20/2016	R2		<i>Mimus polyglottos</i>	Nuttall's woodpecker	2
3/20/2016	R2		<i>Colaptes auratus cafer</i>	Red shafted flicker	1
3/20/2016	R2		<i>Spinus psaltria</i>	Lesser goldfinch	3
3/20/2016	R2		<i>Mimus polyglottos</i>	Northern mockingbird	1
3/20/2016	R2		<i>Haemorhous mexicanus</i>	House finch	10
3/20/2016	R2		<i>Thryomanes bewickii</i>	Bewick's wren	1

3/20/2016	R2		<i>Chamaea fasciata</i>	Wrentit	2
3/20/2016	R2		<i>Icterus cucullatus</i>	Hooded oriole	1
3/20/2016	R2	Peacock	-99	-99	2
4/24/2016	1		<i>Aimophila ruficeps</i>	Rufous crowned sparrow	2
4/24/2016	1		<i>Polioptila californica</i>	California gnatcatcher	1
4/24/2016	1		<i>Pipilo maculatus</i>	Spotted towhee	1
4/24/2016	1		<i>Ardea alba</i>	Great egret	1
4/24/2016	1		<i>Haemorhous mexicanus</i>	House finch	4
4/24/2016	1		<i>Sayornis nigricans</i>	Black phoebe	1
4/24/2016	1		<i>Melospiza crissalis</i>	California towhee	1
4/24/2016	1		<i>Zenaidura macroura</i>	Mourning dove	1
4/24/2016	1		<i>Spinus psaltria</i>	Lesser goldfinch	3
4/24/2016	1		<i>Icterus cucullatus</i>	Hooded oriole	1
4/24/2016	1		<i>Chamaea fasciata</i>	Wrentit	1
4/24/2016	1		<i>Calypte anna</i>	Anna's hummingbird	1
4/24/2016	2		<i>Accipiter cooperii</i>	Cooper's hawk	1
4/24/2016	2		<i>Polioptila californica</i>	California gnatcatcher	3
4/24/2016	2		<i>Pipilo maculatus</i>	Spotted towhee	1
4/24/2016	2		<i>Mimus polyglottos</i>	Northern mockingbird	1
4/24/2016	2		<i>Corvus brachyrhynchos</i>	American crow	2
4/24/2016	2		<i>Melospiza crissalis</i>	California towhee	1
4/24/2016	2		<i>Haemorhous mexicanus</i>	House finch	13
4/24/2016	2		<i>Zenaidura macroura</i>	Mourning dove	2
4/24/2016	2		<i>Chamaea fasciata</i>	Wrentit	1
4/24/2016	2	Cedar waxwing	-99	-99	20
4/24/2016	2	Amazonia sp. parrot	-99	-99	1
4/24/2016	3		<i>Haemorhous mexicanus</i>	House finch	9
4/24/2016	3		<i>Mimus polyglottos</i>	Northern mockingbird	1
4/24/2016	3		<i>Melospiza crissalis</i>	California towhee	2
4/24/2016	3		<i>Zenaidura macroura</i>	Mourning dove	1
4/24/2016	3		<i>Psaltriparus minimus</i>	Bushtit	8
4/24/2016	3		<i>Chamaea fasciata</i>	Wrentit	1
4/24/2016	3		<i>Calypte anna</i>	Anna's hummingbird	1
4/24/2016	4		<i>Spinus psaltria</i>	Lesser goldfinch	11

4/24/2016	4		<i>Sayornis nigricans</i>	Black phoebe	1
4/24/2016	4		<i>Toxostoma redivivum</i>	California thrasher	2
4/24/2016	4		<i>Haemorhous mexicanus</i>	House finch	9
4/24/2016	4		<i>Calypte anna</i>	Anna's hummingbird	2
4/24/2016	4		<i>Melospiza crissalis</i>	California towhee	3
4/24/2016	4		<i>Zenaidura macroura</i>	Mourning dove	2
4/24/2016	4		<i>Pipilo maculatus</i>	Spotted towhee	1
4/24/2016	4		<i>Thryomanes bewickii</i>	Bewick's wren	2
4/24/2016	5		<i>Cathartes aura meridionalis</i>	Turkey vulture	1
4/24/2016	5		<i>Melospiza crissalis</i>	California towhee	1
4/24/2016	5		<i>Mimus polyglottos</i>	Northern mockingbird	2
4/24/2016	5		<i>Haemorhous mexicanus</i>	House finch	4
4/24/2016	5		<i>Calypte anna</i>	Anna's hummingbird	1
4/24/2016	5		<i>Spinus psaltria</i>	Lesser goldfinch	3
4/24/2016	5		<i>Icterus cucullatus</i>	Hooded oriole	1
4/24/2016	5		<i>Thryomanes bewickii</i>	Bewick's wren	1
4/24/2016	R1		<i>Thryomanes bewickii</i>	Bewick's wren	1
4/24/2016	R1		<i>Haemorhous mexicanus</i>	House finch	10
4/24/2016	R1		<i>Spinus psaltria</i>	Lesser goldfinch	8
4/24/2016	R1		<i>Calypte anna</i>	Anna's hummingbird	1
4/24/2016	R1		<i>Melospiza crissalis</i>	California towhee	1
4/24/2016	R1		<i>Zenaidura macroura</i>	Mourning dove	2
4/24/2016	R1		<i>Pipilo maculatus</i>	Spotted towhee	1
4/24/2016	R1		<i>Mimus polyglottos</i>	Northern mockingbird	1
4/24/2016	R1		<i>Campylorhynchus brunneicapillus</i>	San Diego cactus wren	1
4/24/2016	R2		<i>Calypte anna</i>	Anna's hummingbird	1
4/24/2016	R2		<i>Pipilo maculatus</i>	Spotted towhee	1
4/24/2016	R2		<i>Haemorhous mexicanus</i>	House finch	9
4/24/2016	R2		<i>Callipepla californica</i>	California quail	5
4/24/2016	R2		<i>Pheucticus melanocephalus</i>	Black headed grosbeak	1
4/24/2016	R2		<i>Spinus psaltria</i>	Lesser goldfinch	5
4/24/2016	R2		<i>Zenaidura macroura</i>	Mourning dove	3
4/24/2016	R2		<i>Mimus polyglottos</i>	Northern mockingbird	2
4/24/2016	R2		<i>Toxostoma redivivum</i>	California thrasher	1

4/24/2016	R2		<i>Thryomanes bewickii</i>	Bewick's wren	1
4/24/2016	R2			-99 European collared dove	1
4/24/2016	R2			-99 Lawrence's goldfinch	1
4/24/2016	R2		<i>Melospiza crissalis</i>	California towhee	2
5/30/2016	1		<i>Haemorhous mexicanus</i>	House finch	4
5/30/2016	1		<i>Mimus polyglottos</i>	Northern mockingbird	3
5/30/2016	1		<i>Thryomanes bewickii</i>	Bewick's wren	1
5/30/2016	1		<i>Aimophila ruficeps canescens</i>	Southern California rufous crowned	1
5/30/2016	1		<i>Melospiza crissalis</i>	California towhee	3
5/30/2016	1		<i>Zenaidura macroura</i>	Mourning dove	2
5/30/2016	1		<i>Callipepla californica</i>	California quail	5
5/30/2016	1		<i>Calypte anna</i>	Anna's hummingbird	2
5/30/2016	2		<i>Mimus polyglottos</i>	Northern mockingbird	2
5/30/2016	2		<i>Thryomanes bewickii</i>	Bewick's wren	2
5/30/2016	2		<i>Zenaidura macroura</i>	Mourning dove	2
5/30/2016	2		<i>Callipepla californica</i>	California quail	4
5/30/2016	2		<i>Calypte anna</i>	Anna's hummingbird	2
5/30/2016	2		<i>Haemorhous mexicanus</i>	House finch	8
5/30/2016	2		<i>Accipiter cooperii</i>	Cooper's hawk	1
5/30/2016	2		<i>Melospiza crissalis</i>	California towhee	2
5/30/2016	3		<i>Zenaidura macroura</i>	Mourning dove	6
5/30/2016	3		<i>Haemorhous mexicanus</i>	House finch	12
5/30/2016	3		<i>Chamaea fasciata</i>	Wrentit	2
5/30/2016	3		<i>Melospiza crissalis</i>	California towhee	2
5/30/2016	3		<i>Calypte anna</i>	Anna's hummingbird	1
5/30/2016	3		<i>Mimus polyglottos</i>	Northern mockingbird	3
5/30/2016	4		<i>Haemorhous mexicanus</i>	House finch	6
5/30/2016	4		<i>Spinus psaltria</i>	Lesser goldfinch	2
5/30/2016	4		<i>Zenaidura macroura</i>	Mourning dove	3
5/30/2016	4		<i>Psaltriparus minimus</i>	Bushtit	10
5/30/2016	4		<i>Calypte anna</i>	Anna's hummingbird	2
5/30/2016	4		<i>Mimus polyglottos</i>	Northern mockingbird	3
5/30/2016	4		<i>Melospiza crissalis</i>	California towhee	2
5/30/2016	4		<i>Corvus brachyrhynchos</i>	American crow	4

5/30/2016	5		<i>Corvus brachyrhynchos</i>	American crow	2
5/30/2016	5		<i>Zenaida macroura</i>	Mourning dove	
5/30/2016	5		<i>Mimus polyglottos</i>	Northern mockingbird	4
5/30/2016	5		<i>Haemorhous mexicanus</i>	House finch	7
5/30/2016	5		<i>Thryomanes bewickii</i>	Bewick's wren	2
5/30/2016	5		<i>Petrochelidon pyrrhonota</i>	Cliff swallow	3
5/30/2016	5		<i>Calypte anna</i>	Anna's hummingbird	2
5/30/2016	5		<i>Melospiza crissalis</i>	California towhee	2
5/30/2016	R1		<i>Haemorhous mexicanus</i>	House finch	5
5/30/2016	R1		<i>Chamaea fasciata</i>	Wrentit	1
5/30/2016	R1		<i>Pipilo maculatus</i>	Spotted towhee	1
5/30/2016	R1		<i>Petrochelidon pyrrhonota</i>	Cliff swallow	2
5/30/2016	R1		<i>Mimus polyglottos</i>	Northern mockingbird	1
5/30/2016	R1		<i>Melospiza crissalis</i>	California towhee	1
5/30/2016	R1		<i>Poliophtila californica</i>	California gnatcatcher	3
5/30/2016	R2		<i>Haemorhous mexicanus</i>	House finch	10
5/30/2016	R2		<i>Petrochelidon pyrrhonota</i>	Cliff swallow	5
5/30/2016	R2		<i>Callipepla californica</i>	California quail	3
5/30/2016	R2		<i>Melospiza crissalis</i>	California towhee	2
5/30/2016	R2		<i>Mimus polyglottos</i>	Northern mockingbird	2
5/30/2016	R2		<i>Zenaida macroura</i>	Mourning dove	4
5/30/2016	R2		<i>Calypte anna</i>	Anna's hummingbird	2
5/30/2016	R2		<i>Thryomanes bewickii</i>	Bewick's wren	2
6/18/2016	1		<i>Pipilo maculatus</i>	Spotted towhee	1
6/18/2016	1		<i>Thryomanes bewickii</i>	Bewick's wren	1
6/18/2016	1		<i>Mimus polyglottos</i>	Northern mockingbird	2
6/18/2016	1		<i>Haemorhous mexicanus</i>	House finch	2
6/18/2016	1		<i>Calypte anna</i>	Anna's hummingbird	1
6/18/2016	1		<i>Chamaea fasciata</i>	Wrentit	2
6/18/2016	1		<i>Spinus psaltria</i>	Lesser goldfinch	2
6/18/2016	1	Amazonia sp. parrot	-99	-99	4
6/18/2016	2		<i>Haemorhous mexicanus</i>	House finch	10
6/18/2016	2		<i>Accipiter cooperii</i>	Cooper's hawk	3
6/18/2016	2		<i>Calypte anna</i>	Anna's hummingbird	1

6/18/2016	2		<i>Polioptila californica</i>	California gnatcatcher	1
6/18/2016	2		<i>Zenaida macroura</i>	Mourning dove	2
6/18/2016	3		<i>Mimus polyglottos</i>	Northern mockingbird	2
6/18/2016	3		<i>Callipepla californica</i>	California quail	10
6/18/2016	3		<i>Chamaea fasciata</i>	Wrentit	1
6/18/2016	3		<i>Melospiza crissalis</i>	California towhee	2
6/18/2016	3		<i>Haemorhous mexicanus</i>	House finch	6
6/18/2016	3	Amazonia sp. parrot	-99	-99	2
6/18/2016	4		<i>Zenaida macroura</i>	Mourning dove	1
6/18/2016	4		<i>Calypte anna</i>	Anna's hummingbird	1
6/18/2016	4		<i>Melospiza crissalis</i>	California towhee	2
6/18/2016	4		<i>Mimus polyglottos</i>	Northern mockingbird	1
6/18/2016	4		<i>Petrochelidon pyrrhonota</i>	Cliff swallow	6
6/18/2016	4		<i>Spinus psaltria</i>	Lesser goldfinch	2
6/18/2016	4		<i>Haemorhous mexicanus</i>	House finch	2
6/18/2016	4		<i>Thryomanes bewickii</i>	Bewick's wren	1
6/18/2016	5		<i>Thryomanes bewickii</i>	Bewick's wren	2
6/18/2016	5		<i>Mimus polyglottos</i>	Northern mockingbird	3
6/18/2016	5		<i>Calypte anna</i>	Anna's hummingbird	1
6/18/2016	5		<i>Melospiza crissalis</i>	California towhee	2
6/18/2016	5		<i>Haemorhous mexicanus</i>	House finch	3
6/18/2016	5		<i>Spinus psaltria</i>	Lesser goldfinch	3
6/18/2016	5		<i>Pipilo maculatus</i>	Spotted towhee	1
6/18/2016	5		<i>Psaltriparus minimus</i>	Bushtit	8
6/18/2016	5		<i>Zenaida macroura</i>	Mourning dove	1
6/18/2016	5		<i>Callipepla californica</i>	California quail	1
6/18/2016	R1		<i>Mimus polyglottos</i>	Northern mockingbird	1
6/18/2016	R1		<i>Pipilo maculatus</i>	Spotted towhee	2
6/18/2016	R1		<i>Haemorhous mexicanus</i>	House finch	6
6/18/2016	R1		<i>Petrochelidon pyrrhonota</i>	Cliff swallow	10
6/18/2016	R1		<i>Calypte anna</i>	Anna's hummingbird	1
6/18/2016	R1		<i>Melospiza crissalis</i>	California towhee	4
6/18/2016	R1		<i>Campylorhynchus brunneicapillus</i>	San Diego cactus wren	1
6/18/2016	R1		<i>Sayornis nigricans</i>	Black phoebe	1

6/18/2016	R1		<i>Thryomanes bewickii</i>	Bewick's wren	1
6/18/2016	R1		<i>Zenaida macroura</i>	Mourning dove	2
6/18/2016	R2		<i>Melospiza crissalis</i>	California towhee	4
6/18/2016	R2		<i>Corvus brachyrhynchos</i>	American crow	2
6/18/2016	R2		<i>Pipilo maculatus</i>	Spotted towhee	1
6/18/2016	R2		<i>Callipepla californica</i>	California quail	7
6/18/2016	R2	Peafowl	-99	-99	1
6/18/2016	R2		<i>Haemorhous mexicanus</i>	House finch	5
6/18/2016	R2		<i>Spinus psaltria</i>	Lesser goldfinch	3
6/18/2016	R2		<i>Aphelocoma californica</i>	Western scrub jay	3
6/18/2016	R2		<i>Geothlypis trichas</i>	Common yellowthroat	1
6/18/2016	R2		<i>Toxostoma redivivum</i>	California thrasher	1
6/18/2016	R2		<i>Poliophtila californica</i>	California gnatcatcher	1
6/18/2016	R2		<i>Calypte anna</i>	Anna's hummingbird	2
6/18/2016	R2		<i>Mimus polyglottos</i>	Northern mockingbird	2