

February 29, 2024

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**VIA EMAIL**  
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**Subject:** Status Report for the Oak Woodland Habitat Revegetation/Mitigation Program for the Santa Anita Dam Riser Modification and Reservoir Sediment Removal Project, Los Angeles County, California

Dear Maria Lee:

This Status Report provides a summary of fall/winter 2023–2024 site conditions for Los Angeles County Public Works’ (Public Works’) mitigation site at the Santa Anita Lower Sediment Placement Site (SPS) associated with the *Oak Woodland Habitat Revegetation/Mitigation Program (OWHRMP) for the Santa Anita Dam Riser Modification and Reservoir Sediment Removal Project* (Psomas 2016 [Revised]). The OWHRMP describes the creation of 5.5 acres of oak woodland (OW) habitat and 2.5 acres of sage scrub habitat as compensation for impacts associated with the Santa Anita Dam Riser Modification and Reservoir Sediment Removal Project. Mitigation site performance is subject to the approval of the California Department of Fish and Wildlife (CDFW) and the City of Arcadia. The mitigation site locations are shown in Exhibits 1, 2, and 3. Photographs of the site are provided in Attachment A.

### **MITIGATION MAINTENANCE AND MONITORING**

Mitigation site preparation (i.e., initial non-native vegetation removal, soil conditioning, placement of coarse woody debris and boulders, irrigation system construction, enclosure fencing, and erosion control measures) was performed from September 2013 through December 2013. Mitigation site installation (planting and seeding) was performed in two phases: Phase I occurred in January/February 2014, and Phase II occurred in December 2014. The seven-year to ten-year maintenance and monitoring period began on January 1, 2015 (the ten-year maintenance/monitoring period may be completed after seven years if the program’s performance criteria are met early, subject to the approval of the CDFW and the City of Arcadia). Psomas has served as the Biological Monitor for the mitigation program since its inception and has conducted the vegetation surveys, wildlife surveys, monitoring, and supervision of maintenance activities.

The Restoration Contractor, Nakae & Associates, Inc. (Nakae) (Psomas’ subcontractor), is performing habitat maintenance on the 8.0-acre mitigation site and a total of 7.38 acres of weed abatement buffer areas (Buffer Areas) that Public Works is maintaining on a voluntary basis to reduce weed proliferation. Nakae promptly removes non-native plant species when they are observed during regular maintenance activities. To the extent practicable, weeds are removed prior to seed production/dispersal to avoid re-infestation of the site. The Los Angeles County Board of Supervisors banned the use of glyphosate-based herbicides on Public Works’ facilities on March 19, 2019, and subsequently Public Works suspended the use of all

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Maria Lee, P.E.  
Page 2  
February 29, 2024

herbicides on the mitigation site on April 18, 2019. On February 16, 2023, Public Works reaffirmed their ban on the use of glyphosate, while recognizing the value of using diverse methods of weed control described in the Countywide Integrated Pest Management (IPM) Program. Although the County's IPM program allows for the use of some herbicides, herbicide application has not resumed on the Lower SPS because native and non-native plants/seedlings are intergrown to a degree that removal by hand (rather than using herbicide) is necessary to protect developing native plant species. Intensive manual removal of weeds is performed year-round in areas that are not designated as environmentally sensitive (e.g., nesting bird areas) by the Biological Monitor.

Nakae performs regular maintenance of the concrete drainages and inlets on the Lower SPS, the exclusionary fencing on the deck of the Lower SPS, and the wildlife 'drinker' tanks that were placed at the northeast corner of the site. The most recent cleanout of sediment and debris in the Lower SPS drainages and inlets occurred in January 2024.

Psomas' Restoration Ecologists periodically place flagging tape on some of the native 'volunteer' trees/shrubs (i.e., naturally occurring native plants that were not purposely installed via planting or seeding) that occur on the site, such as mule fat (*Baccharis salicifolia* ssp. *salicifolia*) and laurel sumac (*Malosma laurina*). Nakae removes the flagged plants to avoid excessive cover of these native tree/shrub species that is inconsistent with project goals. Psomas coordinates with Nakae on the identification of native/non-native plant species and methods of weed removal.

Irrigation was discontinued on the oak woodland mitigation site in October 2018. Irrigation has not been applied to the coastal sage scrub (CSS) planting areas (SPS slopes) since June 2015. It is anticipated that no additional irrigation will be required for the long-term establishment of the planted oaks and other native vegetation on the site.

Psomas' Biological Monitor performs nesting bird surveys and monitoring between February 1<sup>st</sup> and September 15<sup>th</sup> of each year, as stipulated in the CDFW Streambed Alteration Agreement and mitigation measures contained in the Environmental Impact Report for the sediment removal project, to ensure that maintenance activities do not adversely impact sensitive biological resources.

## **OAK TREE MAINTENANCE AND MONITORING**

As directed by Psomas' Certified Arborist (Arborist), Nakae removed the remnant caging materials (i.e., the 18-inch diameter, 2-ft high lower portion of 3/4-inch wire mesh) and associated t-posts, from all planted oaks within the 8-foot enclosure fence in January 2024. The different cages (4-foot high, 6-foot diameter, 2-inch x 4-inch welded wire mesh) that were used to protect the planted oaks outside the fenced area, will be removed at a later date in 2024. Five and a half years after irrigation was terminated in October 2018, the planted oaks exhibit robust growth, good health, a high survival rate, and are well-rooted and observed to be drought-resilient.

## **SUPPLEMENTAL SEED COLLECTION AND APPLICATION**

Psomas' subcontractor S&S Seeds, Inc. (S&S) collected supplemental seed materials in the local Santa Anita Wash / Rio Hondo subwatershed in 2021, 2022, and 2023 in coordination with Psomas' Biological Monitor. The seed was collected primarily within the City of Monrovia's Hillside Wilderness Park (HWP), in coordination with the City of Monrovia's HWP Supervisor. The goal of the ongoing supplemental seeding efforts is to boost native vegetation cover and diversity on various portions of the mitigation site to improve site performance and overall habitat quality.

Maria Lee, P.E.  
Page 3  
February 29, 2024

Psomas' Biological Monitor hand broadcasted a diversity of collected native seeds in various combinations/mixes in January 2024 (as was done in December 2021 and December 2022), shortly before a significant rain event. Psomas' Biologists, along with Nakae personnel, scratched the seed approximately 1/4-inch into the soil surface using heavy metal bow rakes. The seed was applied to several hundred patches within the CSS slope areas especially to improve native herbaceous cover in gaps between established shrubs. A list of all seed species that were installed on the site in January 2024 is provided in Attachment B.

## MITIGATION PERFORMANCE

The mitigation site supports an excellent diversity of plant and animal species, and the vegetation structure and cover continue to develop. During the eighth annual monitoring survey that was performed in the spring of 2023, it was determined that the OW and CSS mitigation site exceeded several of the seven-year to ten-year vegetative performance criteria that are listed in the OWHRMP (e.g., minimum percent coverage of the site by native plant species). As of December 2023, a total of 151 native plant species have been observed on the site since the start of mitigation installation in September 2013, including trees, shrubs, sub-shrubs, vines, succulents, herbs, grasses, ferns, spike-moss, and emergent plant species. The diversity of plant species offers year-round habitat values for wildlife, as various shrubs/herbs bloom and set fruits/seeds over a long time period.

A total of 115 native vertebrate wildlife species (95 native bird species) have been observed on the site, in addition to numerous native invertebrate species (e.g., butterflies, beetles, bees, dragonflies) since project initiation in September 2013. A total of 15 different species of native birds have been documented to utilize the mitigation site for nesting purposes since project initiation.

Various habitat enhancements that were incorporated into the mitigation site's design (e.g., natural snags, coarse woody debris, brush piles, boulder assemblages) provide valuable cover for wildlife species and habitat niches for the establishment of a variety of plant species (e.g., ferns). The Psomas team installs various smaller branches amongst the placed boulders on the site on an ongoing basis to provide additional perches for wildlife. Several 'camera traps' (motion-activated video cameras) were installed on the mitigation site to provide 24-hour wildlife imagery to enhance the Biological Monitor's field observations. Wildlife species—including numerous bird species, lizards, coyote (*Canis latrans*), bobcat (*Lynx rufus*), southern mule deer (*Odocoileus hemionus*), mountain lion (*Puma concolor*), common gray fox (*Urocyon cinereoargenteus*), and black bear (*Ursus americanus*)—have been observed via camera traps. Yellow-shafted flicker (*Colaptes auratus*), a rare visitor to the project region, was recorded on the mitigation site via camera trap in 2022.

The CDFW has authorized Public Works to discontinue the requirement for surveys of the reference site for the duration of the mitigation program. Qualitative and quantitative monitoring of the mitigation site will continue through Year 10 unless the mitigation program is signed-off earlier by the CDFW and the City of Arcadia.

Maria Lee, P.E.  
Page 4  
February 29, 2024

Please call Richard Lewis at 626.351.2000 with any questions regarding this report.

Sincerely,

**P S O M A S**

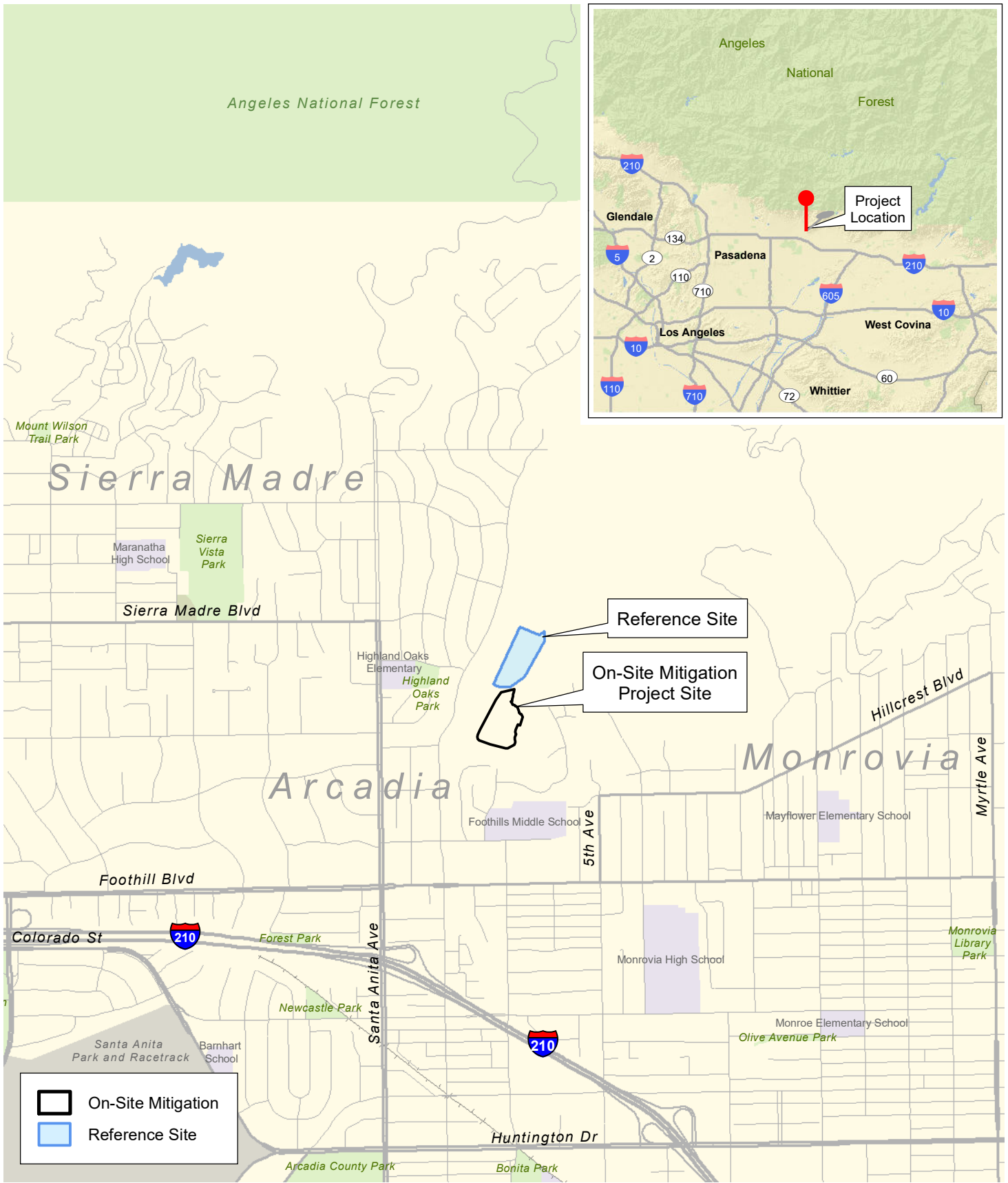


Marc T. Blain  
Biological Resources Manager



Richard B. Lewis, III, ENV SP  
Senior Project Manager

Enclosures:    Exhibit 1 – Project Vicinity  
                  Exhibit 2 – Sediment Placement Site Locations  
                  Exhibit 3 – Mitigation Site Location (Lower Sediment Placement Site)  
                  Attachment A – Site Photographs  
                  Attachment B – Supplemental Seed Species (January 2024)

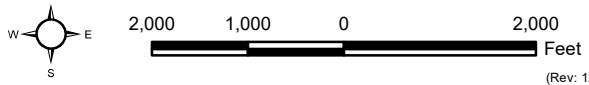


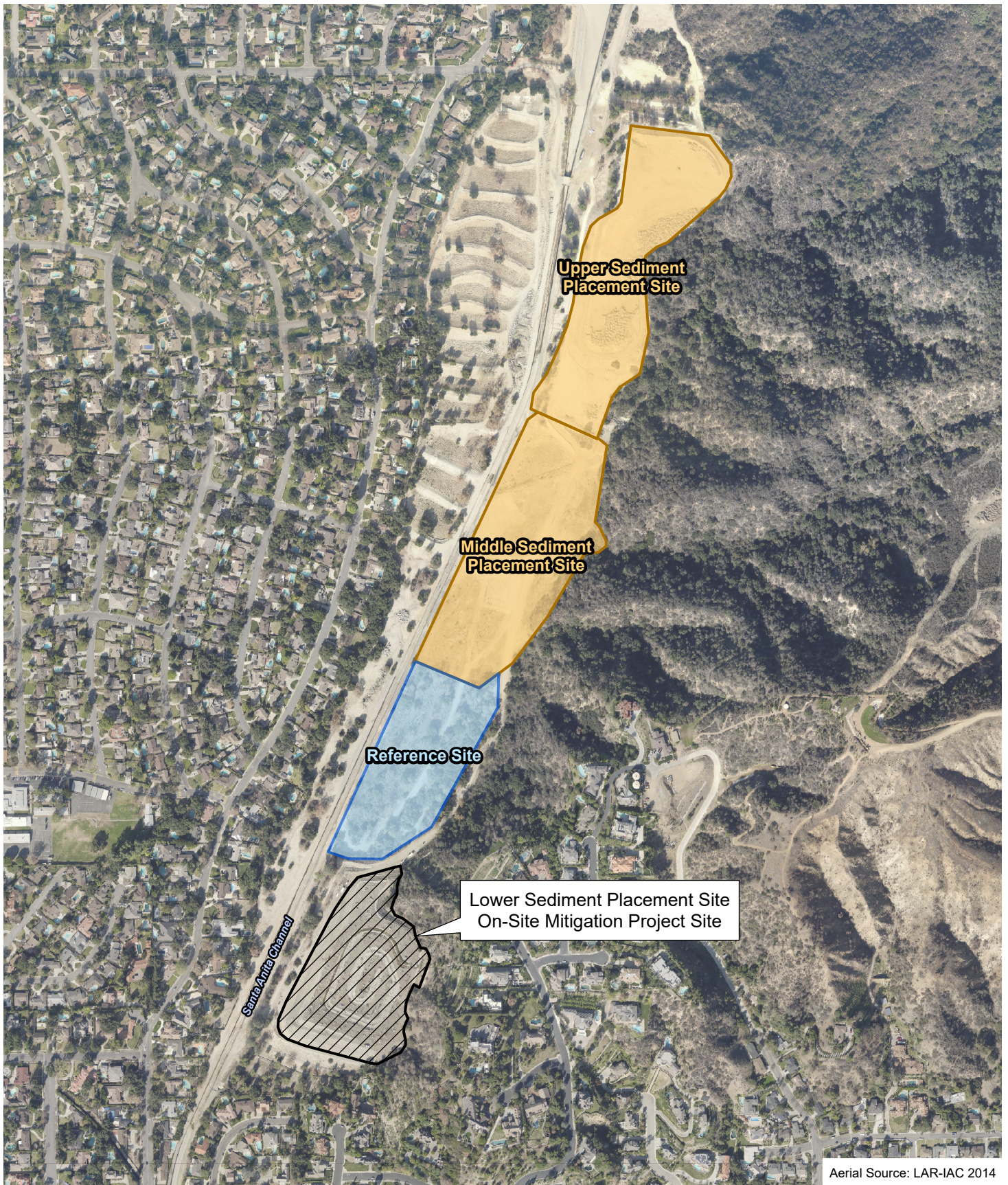
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### Project Vicinity

### Exhibit 1

Status Report: Oak Woodland Habitat Revegetation/Mitigation Program;  
 Santa Anita Dam Riser Modification and Reservoir Sediment Removal Project



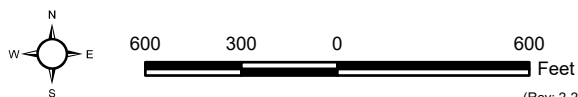














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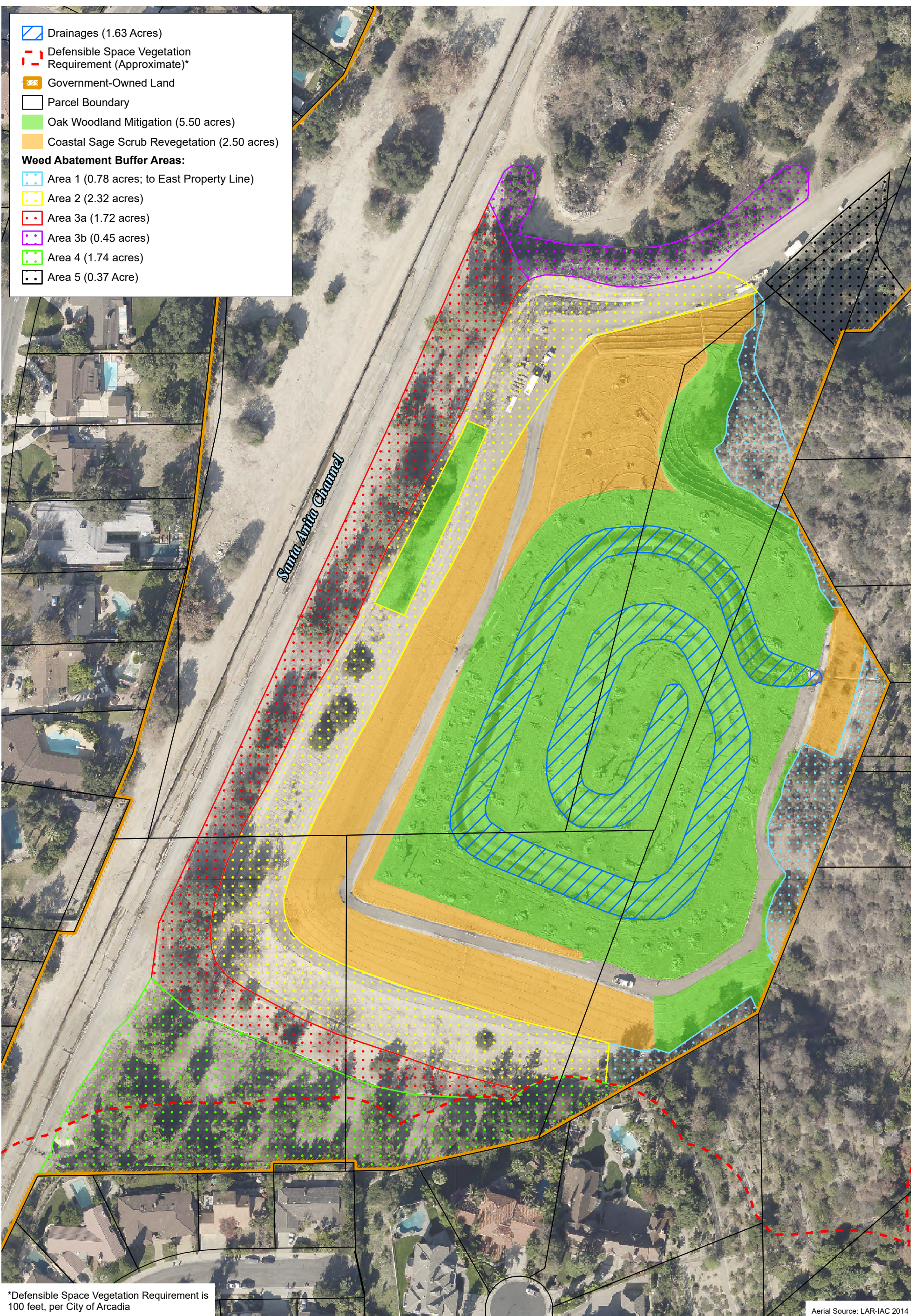
## Sediment Placement Site Locations

## Exhibit 2

Status Report: Oak Woodland Habitat Revegetation/Mitigation Program;  
Santa Anita Dam Riser Modification and Reservoir Sediment Removal Project



-  Drainages (1.63 Acres)
-  Defensible Space Vegetation Requirement (Approximate)\*
-  Government-Owned Land
-  Parcel Boundary
-  Oak Woodland Mitigation (5.50 acres)
-  Coastal Sage Scrub Revegetation (2.50 acres)
- Weed Abatement Buffer Areas:**
-  Area 1 (0.78 acres; to East Property Line)
-  Area 2 (2.32 acres)
-  Area 3a (1.72 acres)
-  Area 3b (0.45 acres)
-  Area 4 (1.74 acres)
-  Area 5 (0.37 Acre)



\*Defensible Space Vegetation Requirement is 100 feet, per City of Arcadia

Aerial Source: LAR-IAC 2014

### Mitigation Site Location (Lower Sediment Placement Site)

Status Report: Oak Woodland Habitat Revegetation/Mitigation Program;  
 Santa Anita Dam Riser Modification and Reservoir Sediment Removal Project

Exhibit 3



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**ATTACHMENT A**  
**SITE PHOTOGRAPHS**





**September 2023.** The planted oaks exhibit good survival, growth, and drought resiliency.



**October 2023.** More than 600 native ferns of 7 species such as California polypody (shown here) were planted on the mitigation site and ongoing fern regeneration is being observed.



**September 2023.** The coastal sage scrub mitigation site includes several polygons that were planted with spiniferous shrubs such as cactus and yucca.



**November 2023.** Psomas' subcontractor is performing intensive weeding of the mitigation site via hand-pulling and the use of hand tools.



**October 2023.** A sack of weeds removed by Psomas' subcontractor Nakae & Associates was transported to an off-site landfill. There is good cover/diversity of native herbs in the drainages.



**January 2024.** A Nakae crew member is scratching in a supplemental seed mix in a gap in the scrub cover under the supervision of Psomas' restoration ecologist.

## Site Photographs

Status Report: Oak Woodland Habitat Revegetation/Mitigation Program  
Santa Anita Dam Riser Modification and Reservoir Sediment Removal Project

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**October 2023.** An old, inactive bird nest in a planted coast live oak sapling on the mitigation site.



**November 2023.** These two placed natural snags in the center of the oak woodland mitigation site are surrounded by planted oak saplings and native understory vegetation.



**October 2023.** An acorn woodpecker takes flight from a placed snag (shown in top center and top right photos) where birds of this species have created a nesting cavity. 10/13/2023 04:55PM CAMERA 1



**September 2023.** A mule deer buck observed in one of the voluntarily restored/maintained weed abatement buffer areas that surround the mitigation site.



**October 2023.** A California ground squirrel, captured by a wildlife camera, is perching on a placed assemblage of salvaged boulders and coarse woody debris (CWD). 10/26/2023 02:47AM



**October 2023.** Two bobcats captured by a wildlife camera at one of the many salvaged tree trunks (CWD) that were placed on the site. 77°F 10/07/2023 06:56PM

### Site Photographs

Status Report: Oak Woodland Habitat Revegetation/Mitigation Program  
Santa Anita Dam Riser Modification and Reservoir Sediment Removal Project



**ATTACHMENT B**  
**SUPPLEMENTAL SEED SPECIES (JANUARY 2024)**

**TABLE B-1  
SUPPLEMENTAL SEED SPECIES (JANUARY 2024)**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Collection Source Location<sup>a</sup></b>
<i>Acmispon maritimus</i>	coastal deervetch	Monrovia
<i>Ambrosia psilostachya</i>	western ragweed	Monrovia
<i>Antirrhinum coulterianum</i>	Coulter's snapdragon	Monrovia
<i>Artemisia douglasiana</i>	mugwort	Monrovia
<i>Chaenactis artemisiifolia</i>	white pincushion	Monrovia
<i>Chaenactis glabriusula</i>	yellow pincushion	Monrovia
<i>Clarkia purpurea</i>	four-spot	Arcadia
<i>Corethrogyne filaginifolia</i>	filago-leaved sand-aster	Arcadia
<i>Cryptantha intermedia</i>	intermediate cryptantha	Arcadia
<i>Deinandra fasciculata</i>	fascicled tarplant	Monrovia
<i>Dipterostemon capitatus</i>	blue dicks	Monrovia
<i>Diplacus aurantiacus</i>	orange bush monkeyflower	Monrovia
<i>Eleocharis macrostachya</i>	large-spiked spikerush	Arcadia
<i>Emmenanthe penduliflora</i>	whispering bells	Monrovia
<i>Eriogonum elongatum</i>	long-stem buckwheat	Monrovia
<i>Gilia angelensis</i>	chaparral gilia	Monrovia
<i>Hazardia squarrosa</i>	saw-toothed goldenbush	Arcadia
<i>Hesperoyucca whipplei</i>	Whipple's chaparral yucca	Arcadia
<i>Heterotheca sessiliflora</i>	sessileflower goldenaster	Monrovia
<i>Juncus bufonius</i>	toad rush	Monrovia
<i>Lonicera subspicata</i>	southern honeysuckle	Monrovia
<i>Lupinus bicolor</i>	miniature lupine	Monrovia
<i>Lupinus hirsutissimus</i>	stinging lupine	Monrovia
<i>Lupinus microcarpus</i>	chick lupine	Monrovia
<i>Lupinus succulentus</i>	arroyo lupine	Monrovia
<i>Melica imperfecta</i>	little California melica	Monrovia
<i>Mirabilis laevis</i>	smooth four o'clock	Monrovia
<i>Phacelia cicutaria</i>	cicuta-leaved phacelia	Monrovia
<i>Phacelia distans</i>	distant phacelia	Monrovia
<i>Phacelia minor</i>	wild Canterbury bells	Monrovia
<i>Pseudognaphalium biolettii</i>	Bioletti's cudweed	Monrovia
<i>Pseudognaphalium californicum</i>	California cudweed	Arcadia
<i>Rhamnus ilicifolia</i>	hollyleaf redberry	Monrovia
<i>Salvia columbariae</i>	chia	Monrovia

a All seed was collected within the local Santa Anita Wash / Rio Hondo subwatershed.