Least Bell's Vireo Survey Report 2016 for the Devil's Gate Reservoir Sediment Removal and Management Project Los Angeles County, California

Prepared for:
County of Los Angeles
Department of Public Works
900 South Fremont Avenue
Alhambra. CA 91803

Prepared by:
ECORP Consulting, Inc.
1801 E. Park Court Place
Building B, Suite 103
Santa Ana, CA 92701

October 5, 2016

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

1.0 INTRODUCTION

ECORP Consulting, Inc. (ECORP) conducted focused surveys to determine presence or absence of least Bell's vireo (*Vireo bellii pusillus*) within Devil's Gate Reservoir (study area) in Los Angeles County, California. The least Bell's vireo is both federally and state-listed as endangered. The Los Angeles County Department of Public Works (LACDPW) is planning to implement the Devil's Gate Reservoir Sediment Removal and Management Project that will require the removal of vegetation and accumulated sediment in a portion of the reservoir. A portion of the vegetation removed by the Project will include undisturbed and disturbed riparian plant communities that could potentially support the nesting, foraging, and migratory activities of least Bell's vireos. This report summarizes the results of eight focused surveys and two additional surveys conducted in 2016 for least Bell's vireo at the Project site.

2.0 SITE LOCATION

The study area is located northeast of Interstate 210 and south of the Angeles National Forest in the City of Pasadena in Los Angeles County (Figure 1). The study area is within the upper portion of the Arroyo Seco Watershed within the Hahamongna Watershed Park (Figure 2).

2.1 Vegetation Communities

In 2016, ECORP conducted vegetation community mapping in the Devil's Gate Reservoir and the adjacent areas (Project area) for the purposes of updating the vegetation map to reflect current conditions and to update the vegetation community descriptions to follow the designations in *A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009). Table 1 lists the vegetation community and land cover types and the acres of each that were mapped in 2016 and Figure 3 shows the 2016 vegetation map. Descriptions of the vegetation communities are provided following the table.

Table 1. Existing Vegetation Communities (2016)

Vegetation Community	Total Acreage
RIPARIAN	
***Salix gooddingii* Woodland Alliance TOTAL**	**42.67**
Salix gooddingii Woodland Alliance	7.46
Salix gooddingii Woodland Alliance - Sparse	4.20
Salix gooddingii Woodland Alliance- Understory 20% *Lepidium latifolium-Xanthium strumarium*	15.88
Salix gooddingii Woodland Alliance- Understory 30% *Lepidium latifolium-Conium maculatum*	15.13
***Baccharis salicifolia* Shrubland Alliance TOTAL**	**25.23**
Baccharis salicifolia Shrubland Alliance-No Understory	2.17

Vegetation Community	Total Acreage
Baccharis salicifolia Shrubland Alliance-20% *Conium maculatum-Lepidium latifolium*	2.04
Baccharis salicifolia Shrubland Alliance-30% *Conium maculatum-Lepidium latifolium*	6.84
Baccharis salicifolia Shrubland Alliance-40% *Conium maculatum-Lepidium latifolium*	14.18
Total Riparian	**67.90**
FLOODPLAIN	
***Lepidospartum squamatum* Shrubland Alliance TOTAL**	**27.28**
Lepidospartum squamatum Shrubland Alliance	5.09
Lepidospartum squamatum Shrubland Alliance (Sparse)	22.19
Total Floodplain	**27.28**
NATIVE UPLAND	
Artemisia californica –Eriogonum fasciculatum Shrubland Alliance	1.88
Artemisia californica –Eriogonum fasciculatum Shrubland Alliance-20% *Lepidium latifolium*	4.38
Artemisia californica –Eriogonum fasciculatum Shrubland Alliance-30% *Lepidium latifolium*	2.08
Quercus agrifolia Alliance	22.80
Platanus racemosa Woodland Alliance - Disturbed	1.58
Total Native Upland	**32.72**
NONNATIVE/OTHER	
Brassica nigra and other mustards Herbaceous Semi-Natural Alliance	23.09
Conium maculatum Herbaceous Semi-Natural Alliance -30% *Lepidium latifolium*	6.24
Lepidium latifolium – Conium maculatum Herbaceous Semi-Natural Alliance	13.28
Lepidium latifolium Herbaceous Semi-Natural Alliance	1.80
Rumex crispus Herbaceous Semi-Natural Alliance (Unofficial Alliance)	0.30
Xanthium strumarium Herbaceous Alliance (Unofficial Alliance)	1.50
Eucalyptus (*globulus, camaldulensis*) Woodland Semi-Natural Alliance	0.27
Fraxinus velutina Forest Alliance (Unofficial Alliance)	0.46
Landscaped	0.15
Depression/Bare Ground (Associated with Seasonally Wet Area)	0.39
Disturbed (Barren/Trails/IMP Area)	16.08
Total Other	**63.56**
TOTAL	**191.46**

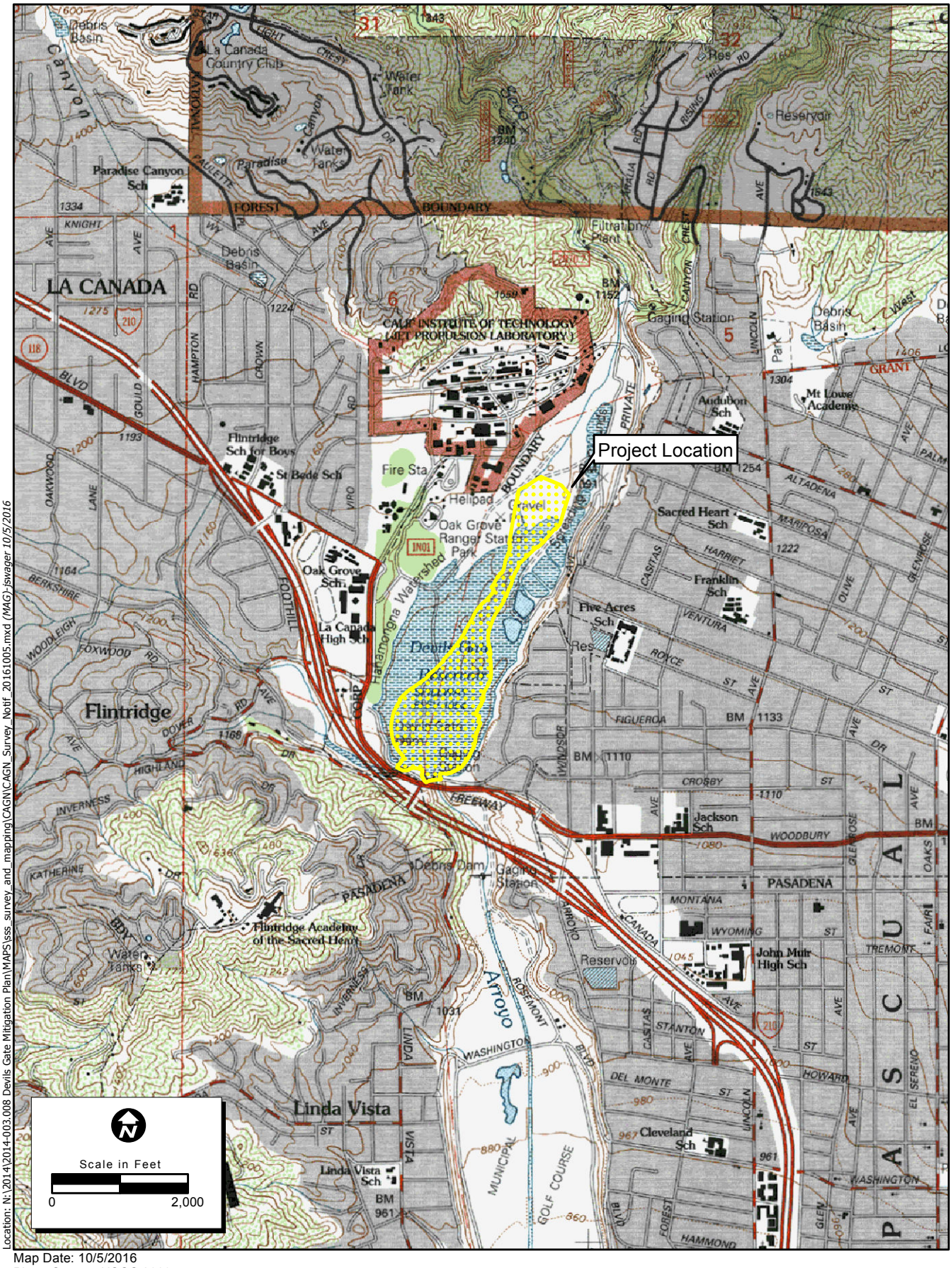
Location: N:\2014\2014-003.008 Devils Gate Mitigation Plan\MAPS\location_vicinity\DG_Vicinity_v2.mxd (DW/MAG)-mguidry 2/2/2016

Map Date: 11/6/2015

Service Layer Credits: Sources: USGS, ESRI, TANA, AND

Figure 1. Project Vicinity

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS



Location: N:\2014\2014-003.008 Devils Gate Mitigation Plan\MAPS\sss_survey_and_mapping\CAGN\CAGN_Survey_Notif_20161005.mxd (MAG)-jswager 10/5/2016

Map Date: 10/5/2016
Photo Source: USGS 2009

Figure 2. Project Location

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 3.
Vegetation Communities (2016)

Map Features

- Initial Project Footprint [1]
- Annual Maintenance Footprint [1]
- Side Slopes [1]
- Access Roads [1]

Vegetation Name

- Artemisia californica - Eriogonum fasciculatum Shrubland Alliance
- Baccharis salicifolia Shrubland Alliance
- Brassica nigra and other mustards Herbaceous Semi-Natural Alliance
- Conium maculatum Herbaceous Semi-Natural Alliance 30% Lepidium latifolium
- Depression/Bare ground
- Disturbed
- Eucalyptus (globulus, camaldulensis) Woodland Semi-Natural Alliance
- Fraxinus velutina Forest Alliance
- Landscaped
- Lepidium latifolium Herbaceous Semi-Natural Alliance
- Lepidium latifolium-Conium maculatum Herbaceous Semi-Natural Alliance
- Lepidospartum squamatum Shrubland Alliance
- Lepidospartum squamatum Shrubland Alliance - Sparse
- Platanus racemosa Woodland Alliance Disturbed
- Quercus agrifolia Woodland Alliance
- Rumex crispus Herbaceous Semi-Natural Alliance
- Salix gooddingii Woodland Alliance
- Salix gooddingii Woodland Alliance - Sparse
- Xanthium strumarium Herbaceous Alliance

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Location: N:\2014\2014-003.008 Devils Gate Mitigation Plan\MAPS\Vegetation\Vegetation1v1\DG_Vegetation_Ecorp2016.mxd (MAG) mguidry 7/7/2016

2014-003.008 Devil's Gate Sediment Removal Project

Scale in Feet
0 600

Photo Source: NAIP 2014
[1] LADPW

Map Date: 5/19/2016

Salix gooddingii Woodland Alliance – Black Willow Thickets

This alliance generally occurs between 0 and 500 meters (m) above mean sea level (amsl) on terraces along large rivers, in canyons, and along rocky floodplains of small, periodic streams, seeps and springs. In this alliance black willow (*Salix gooddingii*) is dominant or co-dominant in the tree canopy with Fremont's cottonwood (*Populus fremontii*), arroyo willow (*Salix lasiolepis*), red willow (*S. laevigata*), black elderberry (*Sambucus nigra*), and other trees. The shrub layer includes mulefat (*Baccharis salicifolia*), coyote bush (*B. pilularis*), and American dogwood (*Cornus sericea*). Trees in this alliance are typically smaller than 30 m in height and form an open to continuous canopy. The shrub layer is open to continuous and the herb layer is variable. Within the project area, this alliance also variously displays an understory/sub-shrub layer co-dominated by perennial pepperweed (*Lepidium latifolium*) and poison hemlock (*Conium maculatum*), an understory seasonally dominated by rough cocklebur (*Xanthium strumarium*), a bare-ground understory on the margins of the main channel, and/or an understory of native annuals. The U.S. Fish and Wildlife Service (USFWS) Wetland Inventory (1996) national list recognizes *Salix gooddingii* as a facultative wetland plant. The percentage of nonnatives and invasive plant species in the understory varies from 20 to 30 percent. Approximately 42.67 acres of *Salix gooddingii* Woodland Alliance present within the Project area; This vegetation community is the most dominant native alliance in the Project area; however, approximately 72 percent of this community is considered disturbed due to the presence of nonnative and invasive plants in the understory. This alliance is primarily located along the central portion of the Project area generally surrounding the areas of *Baccharis salicifolia* Shrubland Alliance and *Lepidium latifolium-Conium maculatum* Herbaceous Semi-Natural Alliance.

Sparse *Salix gooddingii* Woodland Alliance – Black willow Thickets

This a variation of the *Salix gooddingii* Woodland Alliance in which the vegetation community exists as described in the unaltered description (see previous) but at a greatly diminished cover value. Within the Project area, this alliance displays a sparse understory of native annuals on the borders and within the main channel. Approximately 4.20 acres within the Project area is covered by this alliance and it is generally present along the active channel that conveys water from areas upstream through the reservoir to the dam. This vegetation community is bordered by *Baccharis salicifolia* Shrubland Alliance and *Brassica nigra* and other mustards Herbaceous Semi-Natural Alliance.

Baccharis salicifolia Shrubland Alliance – Mulefat Thickets

This alliance generally occurs between 0 and 1,250 m amsl in mixed alluvium soils in canyon bottoms, floodplains, irrigation ditches, lake margins, and stream channels. In this alliance, *Baccharis salicifolia* is dominant or may be co-dominant with other shrub species including California sagebrush (*Artemisia californica*), tree tobacco (*Nicotiana glauca*), Arrow weed (*Pluchea sericea*), sandbar willow (*Salix exigua*), *S. lasiolepis,* laurel sumac (*Malosma laurina*), *and Sambucus nigra*. Additionally, emergent trees including western sycamore (*Platanus racemosa*), *Populus fremontii,* oak (*Quercus* spp.), and willow (*Salix* spp.) may also be present in low cover. Shrubs are typically less than 5 m tall and the canopy is continuous with two tiers at 2 m and 5

m. The herbaceous layer is usually thin. The USFWS Wetland Inventory national list recognizes *Baccharis salicifolia* as a facultative wetland plant. Within the project area, this alliance also variously displays an understory/sub-shrub layer co-dominated by *Lepidium latifolium* and *Conium maculatum*, a bare-ground understory on the margins of the main channel, and/or an understory of native annuals. The percentage of nonnatives and invasive plant species in the understory varies from 20 to 40 percent. Approximately 25.23 acres of *Baccharis salicifolia* Shrubland Alliance is present within the Project area; however, approximately 91 percent of this vegetation community is considered disturbed due to the presence of nonnative and invasive plants. This alliance is primarily located in the central portion of the Project area and is generally surrounded by the *Salix gooddingii* Woodland Alliance.

Lepidospartum squamatum Shrubland Alliance – Scalebroom Scrub

This alliance is generally found between 50 and 1,500 m amsl in intermittently or rarely flooded, low gradient alluvial deposits along streams, washes and fans. In this alliance, scalebroom (*Lepidospartum squamatum*) is dominant, co-dominant, or conspicuous in the shrub canopy in association with burrobrush (*Ambrosia salsola*), *Artemisia californica*, *Baccharis saicifolia,* brittlebush (*Encelia farinosa*), yerba santa (*Eriodictyon* sp.), *Malosma laurina*, California buckwheat (*Eriogonum fasciculatum*), sugar bush (*Rhus ovata*), poison oak (*Toxicodendron diversilobum*), and other shrubs. The shrubs in this alliance are typically less than 2 m in height and some emergent taller plants may be present at low cover including *Platanus racemosa, Populus* spp., and *Sambucus nigra.* The herbaceous layer varies and may be grassy. This alliance within the Project area may be considered equivalent to a Riversidean Alluvial Fan Sage Scrub described in *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986). Approximately 5.09 acres of *Lepidospartum squamatum* Shrubland Alliance is present within the Project area. This denser variation of the alliance makes up approximately 19 percent of the total acres of the *Lepidospartum squamatum* Shrubland Alliances in the Project area. This alliance is located along the banks of the channel in the northeastern portion of the Project area and is generally surrounded by the *Brassica nigra* and other mustards Herbaceous Semi-Natural Alliance, *Baccharis salicifolia* Shrubland Alliance, *Salix gooddingii* Woodland Alliance, and *Artemisia californica - Eriogonum fasciculatum* Shrubland Alliance.

Sparse *Lepidospartum squamatum* Shrubland Alliance – Sparse Scalebroom Scrub

This a variation of the *Lepidospartum squamatum* Shrubland Alliance in which the vegetation community exists as described in the unaltered description (see previous) but at a greatly diminished cover value. This community refers to the upstream regions of the riparian corridor where the channel widens and vegetation occurs as single individuals of different taxa or small islands of associated taxa spaced throughout the corridor. The species present tend to be species associated with seasonal water channels and range from medium-sized shrubs (e.g. scalebroom) to full-size cottonwoods (*Populus* spp.) and *Salix* spp. While both woodland and shrub species are present, herbaceous species are almost totally lacking. A canopy is lacking except for within the islands of cottonwoods and/or willows. Approximately 22.19 acres of Sparse *Lepidospartum squamatum* Shrubland Alliance is present in the Project area, and represents approximately 81

percent of the total acres of *Lepidospartum squamatum* Shrubland Alliance in the Project area. This alliance variation occupies the open wash in the upstream portion of the Project area.

Artemisia californica-Eriogonum fasiculatum Shrubland Alliance – California Sagebrush-California Buckwheat Scrub

This alliance is generally found between 250 and 950 m amsl in alluvial or colluvial soils on slopes that are usually steep, south facing, and are rarely flooded or in low-gradient deposits along streams. *Artemisia californica* and *Eriogonum fasciculatum* are co-dominant in the shrub canopy with each species having 30 to 60 percent relative cover. Associated species include chamise (*Adenostoma fasciculatum*), *Malosma laurina,* California ephedra (*Ephedra californica*), lemonade berry (*Rhus integrifolia*), white sage (*Salvia apiana*), and other shrubs present at low cover. The canopy is intermittent to continuous and may be two-tiered with the upper layer less than 5 m and most shrubs less than 2 m. The herbaceous layer varies both seasonally and annually. Within the Project area, this alliance also variously displays an understory of non-native grasses and forbs and occasionally an understory/sub-shrub layer co-dominated by *Lepidium latifolium* and *Conium maculatum*. The percentage of nonnatives and invasive plant species in the understory varies from 20 to 30 percent. Approximately 8.34 acres of *Artemisia californica-Eriogonum fasiculatum* Shrubland Alliance is present within the Project area; however approximately 77 percent of this alliance is considered disturbed due to the presence of nonnative and invasive plants. This alliance is primarily located along the northwestern edge of the Project area with a small patch also located in the southwest adjacent to Oak Grove Drive. In the northwestern areas, this alliance is generally bordered by the *Brassica nigra* and other mustards Herbaceous Semi-Natural Alliance, Sparse *Lepidospartum squamatum* Shrubland Alliance, and *Baccharis salicifolia* Shrubland Alliance.

Quercus agrifolia Woodland Alliance – Coast Live Oak Woodland

This alliance generally occurs between 0 and 1,200 m amsl in habitats with deep, loamy, or sandy soils with a high amount of organic matter and on alluvial terraces, canyon bottoms, stream banks, slopes, and flats. In this alliance, Coast live oak (*Quercus agrifolia*) is dominant, or may be co-dominant in association with other trees, including bigleaf maple (*Acer macrophyllum*), box elder (*A. negundo*), *Platanus racemosa*, *Populus fremontii*, blue oak (*Quercus douglasii*), valley oak (*Q. lobata*), black oak (*Q. kelloggii*), and *Salix lasiolepis.* The canopy is open to continuous with trees being less than 30 m tall. A sparse to intermittent shrub layer may be present as well as a sparse to grassy herbaceous layer. Within the Project area, this alliance also variously displays a disturbed bare-ground understory associated with recreational use within the Park, an understory of non-native grasses and forbs, and/or escaped horticultural cultivars. Approximately 22.80 acres of *Quercus agrifolia* Woodland Alliance is present within the Project area. This alliance is primarily located along the western side in Oak Grove Park and along the eastern side along the base of the hills below the residential development. This alliance generally occurs in the more upland portions of the Project area.

Platanus racemosa Woodland Alliance Disturbed – California Sycamore Woodlands

This alliance generally occurs between 0 and 2,400 m amsl and may be present in gullies, intermittent streams, springs, seeps, stream banks, and terraces adjacent to floodplains that are subject to high-intensity flooding. Soils are rocky or cobbly alluvium with permanent moisture at depth. In this alliance, *Platanus racemosa* is dominant or co-dominant in the tree canopy with white alder (*Alnus rhombifolia*), southern California black walnut (*Juglans californica*), *Populus fremontii*, *Quercus agrifolia*, *Quercus lobata*, *Salix exigua*, *S. gooddingii*, *S. laevigata*, *S. lasiolepis*, yellow willow (*S. lutea*), Peruvian peppertree (*Schinus molle*), and California bay (*Umbellularia californica*). The canopy is open to intermittent with trees generally being less than 35 m tall. An open to intermittent shrub layer may be present as well as a sparse to grassy herbaceous layer. The USFWS Wetland Inventory (1996) national list recognizes *Platanus racemosa* as a facultative wetland plant. Within the Project area, this alliance also variously displays a disturbed bare-ground understory associated with recreational use within the Park, an understory of non-native grasses and forbs, and/or escaped horticultural cultivars. Approximately 1.58 acres of *Platanus racemosa* Woodland Alliance Disturbed is present along the edges of the percolation basins located in the northeastern portion of the Project area. This alliance is generally surrounded by the *Brassica nigra* and other mustards Herbaceous Semi-Natural Alliance.

Brassica nigra and other mustards Herbaceous Semi-Natural Alliance – Upland mustards

This alliance generally occurs between 0 and 1,500 m amsl and may be present in fallow fields, grasslands, roadsides, levee slopes, disturbed coastal scrub, riparian areas, and waste places. In this alliance, black mustard (*Brassica nigra*), common mustard (*B. rapa*), Saharan mustard (*B. tournefortii*), short podded mustard (*Hirschfeldia incana*), Dyer's woad (*Isatis tinctoria*), or wild radish (*Raphanus sativus*) are dominant or co-dominant in the herbaceous layer with emergent trees and shrubs that may be present at low cover. This alliance is dominated by non-native, invasive grasses. The canopy in this alliance is open to continuous with an herb layer generally less than 3 m tall. Approximately 23.09 acres of *Brassica nigra* and other mustards Herbaceous Semi-Natural Alliance is present within the Project area. This alliance occurs throughout the Project area but is more concentrated in the percolation basins on the northeastern side. This alliance is the most dominant non-native alliance cover within the Project area.

Conium maculatum Herbaceous Semi-Natural Alliance – Poison Hemlock Patches

This alliance generally occurs between 0 and 1,000 m amsl and is found in all topography types including wetlands. The USFWS Wetland Inventory (1996) national list recognizes *Conium maculatum* as a wetland indicator plant. In this alliance, *Conium maculatum*, sweet fennel (*Foeniculum vulgare*), or another non-native invasive plant of the family *Apiaceae* is dominant or co-dominant. Other non-native plants are also present in the herbaceous layer and emergent trees and shrubs may be present at low cover. This alliance is dominated by non-native, invasive plants. The canopy in this alliance is open to continuous with an herb layer generally less than 2 m tall. Approximately 6.24 acres of *Conium maculatum* Herbaceous Semi-Natural Alliance is present within the Project area and approximately 30 percent of the areas covered by this alliance support an understory dominated by *Lepidium latifolium.* This alliance is present in small patches

within the project area adjacent to areas containing *Baccharis salicifolia* Shrubland Alliance and *Salix gooddingii* Woodland Alliance.

Lepidium latifolium – Conium maculatum Semi-Natural Herbaceous Stand – Poison Hemlock – Perennial Pepperweed Patches (Unofficial Alliance)

This alliance is not listed in *A Manual of California Vegetation,* 2nd. Edition. Rather, it is an amalgam of two non-native alliances from the manual, *Lepidium latifolium* Semi-Natural Herbaceous Stands and *Conium maculatum – Foeniculum vulgare* Semi-Natural Herbaceous Stands. This unofficial alliance was identified to best describe the areas where *Lepidium latifolium* and *Conium maculatum* are co-dominant in the Project area and it refers to that site only. Both *Lepidium latifolium* and *Conium maculatum* are considered wetland indicator species by the USFWS. A low cover of emergent trees, eucalyptus trees, and shrubs also occur within this alliance, as well as other invasive annuals. Approximately 13.28 acres of this alliance is present within the Project area. This combination land cover type occurs in both the upland and riparian corridor topographies on site and is concentrated in the central and western portions of the site where it is surrounded by the *Salix gooddingii* Woodland and the *Baccharis salicifolia* Shrubland alliances.

Lepidium latifolium Herbaceous Semi-Natural Alliance – Perennial Pepper Weed Patches

This alliance generally occurs between 0 and 1,900 m amsl and is found within intermittently and seasonally flooded fresh and saltwater marshes and riparian corridors. The USFWS Wetland Inventory national list recognizes *Lepidium latifolium* as a wetland indicator plant. In this alliance, *Lepidium latifolium* is dominant in the herbaceous layer with emergent trees and shrubs that may be present at low cover. This alliance is dominated by non-native, invasive plants. The canopy in this alliance is intermittent to continuous with an herb layer generally less than 2 m tall. Approximately 1.80 acres of monotypic *Lepidium latifolium* Herbaceous Semi-Natural Alliance is present in the western portion of the Project area adjacent to areas containing *Baccharis salicifolia* Shrubland Alliance and *Salix gooddingii* Woodland Alliance.

Rumex crispus Herbaceous Semi-Natural Alliance – Curly dock patches (Unofficial Alliance)

This alliance is not listed in *A Manual of California Vegetation,* 2nd Edition. The *Rumex crispus* Herbaceous Semi-Natural Alliance is an unofficial alliance to best describe the areas where non-native curly dock (*Rumex crispus*) seasonally dominates and it refers to this site within the Project area only. This alliance only occurs in a 0.3 acre small, depressional area in the old mining pit in the western portion of the site. The old mining pit receives precipitation and urban run-off and may remain inundated for extended periods. As the water soaks into the ground, the curly dock begins to grow and by the time the water has dried up completely, the entire depression becomes vegetated with this nonnative plant species. The depression in the mining pit where the curly dock occurs is mostly surrounded by the *Salix gooddingii* Woodland alliance on site.

Xanthium strumarium Herbaceous Alliance – Cocklebur patches (Unofficial Alliance)

This alliance is not listed in *A Manual of California Vegetation,* 2nd Edition. It is a modification of the existing alliance from that reference called *Persicaria lapathifolia - Xanthium strumarium* Provisional Herbaceous Alliance. The official alliance is characterized by *Xantium strumarium* or other knotwood species being dominant or co-dominant in the herbaceous layer with other herbaceous species including Devil's beggartick (*Bidens frondosa*), five angled dodder (*Cuscutta pentagona*), barnyard grass (*Echinochloa* spp.), and common spikerush (*Ecleocharis marostachya*). The unofficial *Xanthium strumarium* Herbaceous Alliance occurs in areas in the Project area where *Xanthium strumarium* seasonally dominates and it refers to this site only. This unofficial alliance occupies approximately 1.50 acres along the frequently flooded stream terraces closest to the dam where the soils are typically clay-rich or silty.

Eucalyptus (globulus, camaldulensis) Woodland Semi-Natural Alliance – Eucalyptus groves

This alliance generally occurs between 0 and 300 m amsl and is typically planted as trees, groves, and windbreaks and may become naturalized in uplands and along stream courses. In this alliance, red gum (*Eucalyptus camaldulensis*), blue gum (*E. globulus*), or other gum tree is dominant in the tree canopy. The canopy in this alliance is intermittent to continuous with trees typically less than 50 m tall. The shrub layer and herbaceous layer are typically sparse to intermittent. Within the Project area, this alliance covers approximately 0.27-acre area near the dam. Non-native grasses and forbs dominate the understory and the surrounding habitat is classified as disturbed. Eucalyptus trees are also common throughout the portions of the Project area but not in stands that would classify as an alliance.

Fraxinus velutina Forest Alliance - Velvet Ash Stands (Unofficial Alliance)

This alliance is not listed in *A Manual of California Vegetation,* 2nd Edition. The unofficial *Fraxinus velutina* Forest Alliance best describes areas where velvet ash (*Fraxinus velutina*) trees were dominant. This alliance was identified in a 0.46-acre area in the northwestern corner of the Project area along the edge of the existing road. The small area is otherwise surrounded by the *Salix gooddingii* Woodland alliance on site. Velvet ash also commonly occur as individuals bordering the perimeter trail on the west side of the Project area.

Landscaped

The landscaped cover type refers to ornamental vegetation that does not exist in a natural state; rather the landscaped land cover type contains vegetation that has been planted and is regularly irrigated and maintained. A small 0.15-acre area along the southernmost edge of the Project area adjacent to Oak Grove Drive was classified as landscaped.

Depression/Bare Ground (Associated with Seasonally Wet Area)

The depression/bare ground land cover type refers to ground cover within two small areas in the central portion of the project area that are associated with the seasonally wet areas. These two

small areas have a combined area of 0.39 acres. They are seasonally inundated with water and, when dry, are generally bare or are sparsely vegetated.

Disturbed

The disturbed land cover type refers to areas where human activities have altered the environmental conditions in such a way that the natural vegetation community has been extirpated and the area is now bare of vegetation or supports a community of non-native or ruderal plant species. Approximately 16.08 acres within the Project area were classified as the disturbed land cover type. This land cover type exists in the more highly disturbed habitats, in the basins on the eastern side of the Project area, and in the paved and dirt roads and trails.

2.2 Survey Area Description

The survey area extends from the base of the dam near Interstate 210 at the south end of the site to approximately 4,800 feet upstream (near the parking lot at the south end of Arroyo Road). Suitable habitat within Devil's Gate Reservoir and in adjacent areas was surveyed for least Bell's vireos. The width of the survey area varies considerably from an estimated 100 feet at its narrowest point to over 1,200 feet in some areas. Potentially suitable habitat is scattered throughout the reservoir, including areas with undisturbed willow and mule fat habitats and other areas with disturbed willow and mule fat habitat. The disturbed willow and mule fat habitats are considered disturbed because of varying infestations of nonnative and invasive plant species in the understories. The willow habitats where nonnative and invasive plant species dominate the understory represent lower quality vireo habitat. The structure of the potentially suitable habitats in the reservoir also varies with some areas supporting mature willows with little to no understory and other areas supporting dense mule fat thickets with very few or no willows in the overstory.

3.0 SURVEY METHODOLOGY

3.1 Least Bell's Vireo

Prior to conducting the focused survey, a search was conducted of the California Natural Diversity Data Base (CDFW 2016a) for the Pasadena 7.5-minute series quadrangle map (and the surrounding 8 quadrangles) and other references to determine if and to what extent least Bell's vireo are known to occur in the project region.

Focused least Bell's vireo surveys were conducted in accordance with the 2001 USFWS protocol guidelines (USFWS 2001). Eight surveys spaced a minimum of 10 days apart were conducted between April 10 and July 31, and 2 additional surveys were conducted in August. Surveys three through seven for least Bell's vireo were conducted concurrently with southwestern willow flycatcher surveys. The locations of least Bell's vireo detections were recorded using a handheld GPS unit capable of 1 to 3 m accuracy.

3.2 Survey Dates, Personnel, and Conditions

Surveys were conducted by Shannan Shaffer of ECORP and Brian Leatherman of Leatherman Bioconsulting, Inc. Table 2 lists the dates, surveyors, times, and weather conditions for each survey.

Table 2. Survey Dates, Personnel, and Conditions

Date	Surveyors	Survey	Time		Temperature (˚F)		Cloud Cover (%)		Wind Speed (mph)	
			start	end	start	end	start	end	start	end
4/20/16	Shannan Shaffer	LBVI 1	0545	1100	66	81	0	0	0-3	0-3
5/4/16	Shannan Shaffer	LBVI 2	0545	1100	58	67	0	0	1-4	1-4
5/16/16	Brian Leatherman	LBVI 3	0600	1115	56	66	100	100	0-2	2-4
6/1/16	Brian Leatherman	LBVI 4	0600	1045	53	70	100	100	0-2	2-4
6/15/16	Brian Leatherman	LBVI 5	0545	1100	54	65	100	100	0-2	0-2
6/29/16	Brian Leatherman	LBVI 6	0530	1045	61	83	80	0	0-2	2-4
7/6/16	Brian Leatherman	LBVI 7	0600	1030	59	70	100	10	0-2	2-4
7/25/16	Shannan Shaffer	LBVI 8	0530	1100	67	86	0	0	0-2	0-2
8/17/16	Shannan Shaffer	LBVI 9	0615	1100	67	85	0	0	0-6	0-6
8/29/16	Shannan Shaffer	LBVI 10	0625	1100	67	83	0	0	0-4	0-4

4.0 RESULTS AND DISCUSSION

Least Bell's vireos were only detected within the study area during the early and late season surveys. Table 3 lists the dates, coordinates, and details of each of the observations of least Bell's vireos in the study area during 2016. Figure 4 shows the locations where each of these observations occurred. For reference, the map also shows the boundaries of the areas where impacts will occur as a result of the Devil's Gate Reservoir Sediment Removal and Management Project.

On April 20, an adult male vireo was observed singing in a mule fat patch located in the northwestern portion of the study area and an adult female was also observed nearby on the same date. This was the only potential pair of vireos observed in the study area during 2016. During the follow-up survey on May 4, the territorial male was still present in the same location but there was no longer a female vireo detected in the area. The territorial male was no longer present in the mule fat patch when the area was surveyed again on May 16. Between the May

16 and August 1, vireos were not observed or detected anywhere in the study area, which indicates that least Bell's vireos were not nesting within the study area during 2016. On August 1, a single juvenile least Bell's vireo crossed a trail in front of the surveying biologist during a yellow-billed cuckoo focused survey in the western portion of the study area. On August 17, an adult male vireo was briefly heard singing near the southeastern edge of the riparian habitat.

Table 3. Least Bell's Vireo Survey Results

Date	11N UTM Coordinates	Observation Notes
4/20/16	392069E 3784501N	One adult male least Bell's vireo was detected singing in mule fat at this location. One adult female was observed nearby.
	392054E 3784455N	One adult male least Bell's vireo was detected singing in mule fat at this location. Based on location it is likely the same male that was observed earlier in the day.
5/4/16	392057E 3784487N	One adult male least Bell's vireo was heard and observed singing in mule fat at this location.
8/1/16	391707E 3784013N	A single juvenile least Bell's vireo was observed during the focused survey for yellow-billed cuckoo.
8/17/16	391862E 3783480N	An adult male least Bell's vireo was briefly heard singing along the southeastern edge of the riparian vegetation.

4.1 Least Bell's Vireo Critical Habitat

Critical habitat for the species was designated in 1994 (USFWS 1994). The Project site is not located within designated critical habitat for the least Bell's vireo (USFWS 1994).

4.2 Incidental Special Status Species

One wildlife species included on the CDFW special animals list (CDFW 2016b) was observed within the study area. Adult yellow warblers (*Setophaga petechia*), a CDFW Species of Special Concern (SSC), were observed within the study area. A list of wildlife species observed during the surveys is included as Appendix A.

Figure 4.
Least Bell's Vireo Survey Results Map

Map Features

Initial Project Footprint [1]

Side Slopes [1]

Annual Maintenance Footprint [1]

Least Bell's Vireo Survey Results

- 4/20/2016 - Two adult least Bell's vireo - 1 male/1 female
- 5/4/2016 - One adult male least Bell's vireo
- 8/17/2016 - One adult male least Bell's vireo
- 8/1/2016 - One juvenile least Bell's vireo

Vegetation Name

- Artemisia californica - Eriogonum fasciculatum Shrubland Alliance
- Baccharis salicifolia Shrubland Alliance
- Brassica nigra and other mustards Herbaceous Semi-Natural Alliance
- Conium maculatum Herbaceous Semi-Natural Alliance 30% Lepidium latifolium
- Depression/Bare ground
- Disturbed
- Eucalyptus (globulus, camaldulensis) Woodland Semi-Natural Alliance
- Fraxinus velutina Forest Alliance
- Landscaped
- Lepidium latifolium Herbaceous Semi-Natural Alliance
- Lepidium latifolium-Conium maculatum Herbaceous Semi-Natural Alliance
- Lepidospartum squamatum Shrubland Alliance
- Lepidospartum squamatum Shrubland Alliance - Sparse
- Platanus racemosa Woodland Alliance Disturbed
- Quercus agrifolia Woodland Alliance
- Rumex crispus Herbaceous Semi-Natural Alliance
- Salix gooddingii Woodland Alliance
- Salix gooddingii Woodland Alliance - Sparse
- Xanthium strumarium Herbaceous Alliance

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Location: N:\2014\2014-003.008 Devils Gate Mitigation Plan\MAPS\sss_survey_and_mapping\LBVI_WIFL\DG_LBVI_Vegetation_Ecorp2016.mxd (MAG)-mguiary 9/27/2016

2014-003.008 Devil's Gate Sediment Removal Project

Scale in Feet
0 600

Photo Source: NAIP 2014
[1] LADPW

Map Date: 9/27/2016

5.0 CONCLUSIONS

The results of the eight focused protocol surveys for least Bell's vireos during the breeding season indicate that this species was not nesting within the study area during 2016. The period between April 10 and July 31 is considered the nesting season for least Bell's vireos. The vireos observed early in the season were likely individuals looking for suitable habitat to establish breeding territories and those who were for looking for mates. The male and female observed during the first and second surveys early in the season (April 20 and May 4) did not remain in the study area to establish a breeding territory or to nest. The absence of vireo sightings in the study area during the remainder of the breeding season suggests that this species did not nest in the habitats in Devil's Gate Reservoir during the breeding season of 2016. Vireos observed after July 31 are typically dispersing juveniles and adults moving through areas as they initiate their migration south to the wintering grounds. The sightings of vireos that occurred on August 1 and August 17 in 2016 indicate that the study area provided suitable habitat for juveniles and adults during dispersal and migration.

6.0 LITERATURE CITED

[CDFW] California Department of Fish and Wildlife, Natural Diversity Data Base. 2016a. Online Rarefind electronic data base of special status species locations for the Sunland, Condor Peak, Chilao Flat, Burbank, Pasadena, Mt. Wilson, Hollywood, Los Angeles, and el Monte USGS 7.5 minute series quadrangles. California Department of Fish and Wildlife, Natural Heritage Division, Sacramento.

[CDFW] California Department of Fish and Wildlife. 2016b. Special Animals List. Retrieved on August 8, 2016 from: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406

Franzreb, K. 1989. Ecology and conservation of the endangered Least Bell's Vireo. U.S. Fish and Wildlife Service, Biological Report 89(1). 17 pp.

Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. California Department of Fish and Game, Natural Heritage Division, Sacramento, California.

Leatherman, B. 2016. Results of Focused Surveys for the Southwestern Willow Flycatcher, Western Yellow-billed Cuckoo and Least Bell's Vireo for the Devil's Gate Reservoir Sediment Removal and Management Project. Prepared for ECORP Consulting, Inc. August 24, 2016.

[USFWS] U.S. Fish and Wildlife Service 2001. Least Bell's Vireo Survey Guidelines. U.S. Department of the Interior. Carlsbad, CA, USFWS, 3 pp.

[USFWS] U.S. Fish and Wildlife Service 1994. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Least Bell's Vireo. Federal Register 59: 4845-4867.

Appendix A

Wildlife Compendium

SCIENTIFIC NAME	COMMON NAME
Birds	
Accipitridae	**Hawks, Kites, & Eagles**
Buteo jamaicensis	Red-tailed hawk
Odontophoridae	**New World Quail**
Callipepla californica	California quail
Columbidae	**Pigeons and Doves**
Zenaida macroura	Mourning dove
Cuculidae	**Cuckoos and Roadrunners**
Geococcyx californianus	Greater roadrunner
Trochilidae	**Hummingbirds**
Calypte anna	Anna's hummingbird
*Selasphorus sasin***	Allen's hummingbird
Vireonidae	**Vireos**
*Vireo bellii pusillus****	Least Bell's vireo
Corvidae	**Jays and Crows**
Aphelocoma californica	Western scrub-jay
Corvus brachyrhynchos	American crow
Corvus corax	Common raven
Hirundinidae	**Swallows**
Petrochelidon pyrrhonota	Cliff swallow
Stelgidopteryx serripennis	Northern rough-winged swallow
Aegithalidae	**Bushtits**
Psaltriparus minimus	Bushtit
Troglodytidae	**Wrens**
Thryomanes bewickii	Bewick's wren
Sylviidae	**Wrentits**
Chamaea fasciata	Wrentit
Mimidae	**Mockingbirds and Thrashers**
Mimus polyglottos	Northern mockingbird
Sturnidae	**Starlings**
Sturnus vulgaris	European starling
Parulidae	**Wood warblers**
Geothlypis trichas	Common yellowthroat
*Setophaga petechia***	Yellow warbler
Emberizidae	**Towhees and Sparrows**
Melospiza melodia	Song sparrow
Pipilo crissalis	California towhee
Pipilo maculatus	Spotted towhee
Icteridae	**Blackbirds & Orioles**
Icterus cucullatus	Hooded oriole
Molothrus ater	Brown-headed cowbird
Fringillidae	**Finches**
Spinus psaltria	Lesser goldfinch
Haemorhous mexicanus	House finch
Mammals	

SCIENTIFIC NAME	COMMON NAME
Canidae	**Dogs, Wolves, & Foxes**
Canis latrans	Coyote

* Nonnative species
** CDFW California Species of Special Concern/Watch List Species/FP Species
*** State and/or Federally Listed Species