

Appendix C
Biological Assessment



**Biological Assessment
Los Angeles International Airport
Proposed Runway 6L-24R and Runway 6R-24L
Safety Area and Associated Improvements Project**

**Prepared for:
LOS ANGELES WORLD AIRPORTS
1 World Way
Los Angeles, California 90045**

**Prepared by:
SAPPHOS ENVIRONMENTAL, INC.
430 North Halstead Street
Pasadena, California 91107**

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Table of Contents

1.0	Introduction	1
1.1	Purpose and Need of the Biological Assessment	1
1.2	Location	1
1.3	Scope of Biological Assessment	2
1.4	Species Considered	2
1.5	Findings and Conclusions.....	2
2.0	Project Description.....	3
2.1	Runway 6L-24R.....	4
2.2	Runway 6R-24L	5
2.3	Surrounding Land Uses and Constraints.....	6
3.0	Study Methods	8
3.1	Database Search	8
3.2	Plant Communities	8
3.3	General Wildlife Surveys	9
3.4	Wetlands and Waters of the United States	10
4.0	Existing Conditions.....	11
4.1	Los Angeles International Airport.....	11
4.2	Los Angeles El Segundo Dunes	11
4.3	Database Search	12
4.4	Plant Communities	13
4.5	Plants	16
4.6	Federally Listed and Candidate Plant Species.....	16
4.7	Other Special-Status Plant Species	20
4.8	Wildlife	20
4.9	Federally Listed and Candidate Wildlife Species	21
4.10	Wetlands and Waters of the United States	25
4.11	Designated Conservation Areas	25
5.0	Impacts	26
5.1	Plants	26
5.2	Wildlife.....	26
6.0	Recommendations.....	27
6.1	General	27
6.2	Plants	27
6.3	Wildlife	27
7.0	References.....	29

Tables	Page
4.6-1	Federally Listed and Candidate Plant Species Potentially Occurring in the Northern Runway Safety Area Improvements Study Area 17
4.9-1	Federally Listed and Candidate Wildlife Species Potentially Occurring in the Northern Runway Safety Area Improvements Study Area 22

Figures	Follows Page
1.2-1	Regional Location Map..... 1
1.2-2	Local Vicinity Map 1
3.3-1	2013 Survey Area 9
4.2-1	Occupied Habitat for El Segundo Blue Butterfly and Coastal California Gnatcatcher 11
4.4-1A-F	Plant Community Map..... 13
4.4-2	Site Photographs, California Bulrush Marsh 13
4.4-3	Site Photographs, Cattail Marsh 14
4.4-4	Site Photographs, Perennial Ryegrass Field 14
4.4-5	Site Photographs, Sandbar Willow Thicket..... 14
4.4-6	Site Photographs, Smartweed-Cocklebur Patch 14
4.4-7	Site Photographs, Yellow Starthistle Field..... 15
4.4-8	Site Photographs, Disturbed / Annual Brome Grassland 15
4.4-9	Site Photographs, Disturbed Vegetation 15
4.4-10	Site Photographs, Ornamental 16
4.4-11	Site Photographs, Existing Construction Area 16
4.4-12	Site Photographs, Developed..... 16
4.6-1	Federally Listed Plant Species Records..... 16
4.6-2	Plants Critical Habitat Map 16
4.8-1	Locally Sensitive Wildlife Species Records..... 20
4.8-2	Locally Sensitive Wildlife Species Observations..... 20
4.9-1	Federally Listed Wildlife Species Records 23
4.9-2	Wildlife Critical Habitat Map..... 23
4.11-1	State and County Designated Conservation Areas 25
4.11-2	City Designated Conservation Areas 25

Appendices

- A Other Sensitive Plant Species
- B Other Sensitive Wildlife Species
- C Wetlands and Waters of the United States

1.0 INTRODUCTION

The Los Angeles World Airports (LAWA) is planning Runway Safety Area (RSA) improvements and associated improvements of Runway 6L-24R and improvements to the Runway 6R-24L RSA at Los Angeles International Airport (LAX). The proposed Runway 6L-24R and Runway 6R-24L Safety Area and Associated Improvements Project (proposed undertaking) is being undertaken by LAWA in response to the requirements of *The Transportation, Treasury, Housing and Urban Development, the Judiciary, The District of Columbia, and Independent Agencies Appropriations Act* (Public Law 109-115),¹ which states that all RSAs at 14 Code of Federal Regulations (CFR) Part 139 airports² must meet Federal Aviation Administration (FAA) design standards by December 31, 2015.

Runway 6L-24R and Runway 6R-24L have RSAs that do not meet the applicable FAA standards. In accordance with Public Law 109-115, LAWA is proposing to improve the Runway 6L-24R RSA to meet FAA design standards and is proposing to implement improvements to the Runway 6R-24L RSA that can be implemented by December 31, 2015. LAWA is also evaluating additional RSA improvements to Runway 6R-24L that would be implemented after December 31, 2015, which would be the subject of a separate environmental evaluation.

1.1 Purpose and Need of the Biological Assessment

The RSA improvements under consideration by LAWA are subject to review and approval by the FAA; therefore, the RSA improvements constitute a proposed action pursuant to the National Environmental Policy Act (NEPA) (40 CFR 1508.18) requiring the consideration of the potential to affect federally proposed and listed threatened or endangered plant and wildlife species that have the potential to be present within the area of potential effect of the proposed action. This Biological Assessment is to be used in fulfillment of FAA's responsibilities under Section 7(a)(2) of the federal Endangered Species Act (ESA) (16 USC 1536[c]). The objectives of this Biological Assessment are to evaluate the potential effects of the proposed action to be undertaken by FAA on proposed and listed species, to determine whether such species are likely to be adversely affected by the action, to evaluate cumulative effects on other state or federally designated sensitive species, and to determine whether formal consultation is required.

1.2 Location

LAX is located in the southwestern portion of Los Angeles County adjacent to Dockweiler State Beach, and approximately 0.6 mile inland from the Pacific Ocean and 14 miles southwest of downtown Los Angeles (Figure 1.2-1, *Regional Location Map*). Reference point coordinates for the airport are 33° 56' north latitude by 118° 24' west longitude. The LAX airfield is entirely located in the City of Los Angeles, Los Angeles County, California, as depicted on the U.S. Geological Survey (USGS) 7.5-Minute Series, Venice, California, Topographic Quadrangle, Range 15 West, Township 2 South; and lies within the Sausal Redondo Land Grant Boundary (Figure 1.2-2, *Local Vicinity Map*). The airfield is located east of Pershing Drive, and is separated from the State Beach and Santa Monica Bay by LAX/El Segundo Dunes. LAX encompasses approximately 3,351 acres with a field elevation of 126 feet above mean sea level (msl). LAX constitutes a large industrial district

¹ *The Transportation, Treasury, Housing and Urban Development, the Judiciary, The District of Columbia, and Independent Agencies Appropriations Act, 2006* (Public Law [P.L.] 109-115), November 30, 2005.

² 14 Code of Federal Regulations (CFR) Part 139 airports are U.S. airports that are certified by FAA to allow commercial passenger aircraft operations.

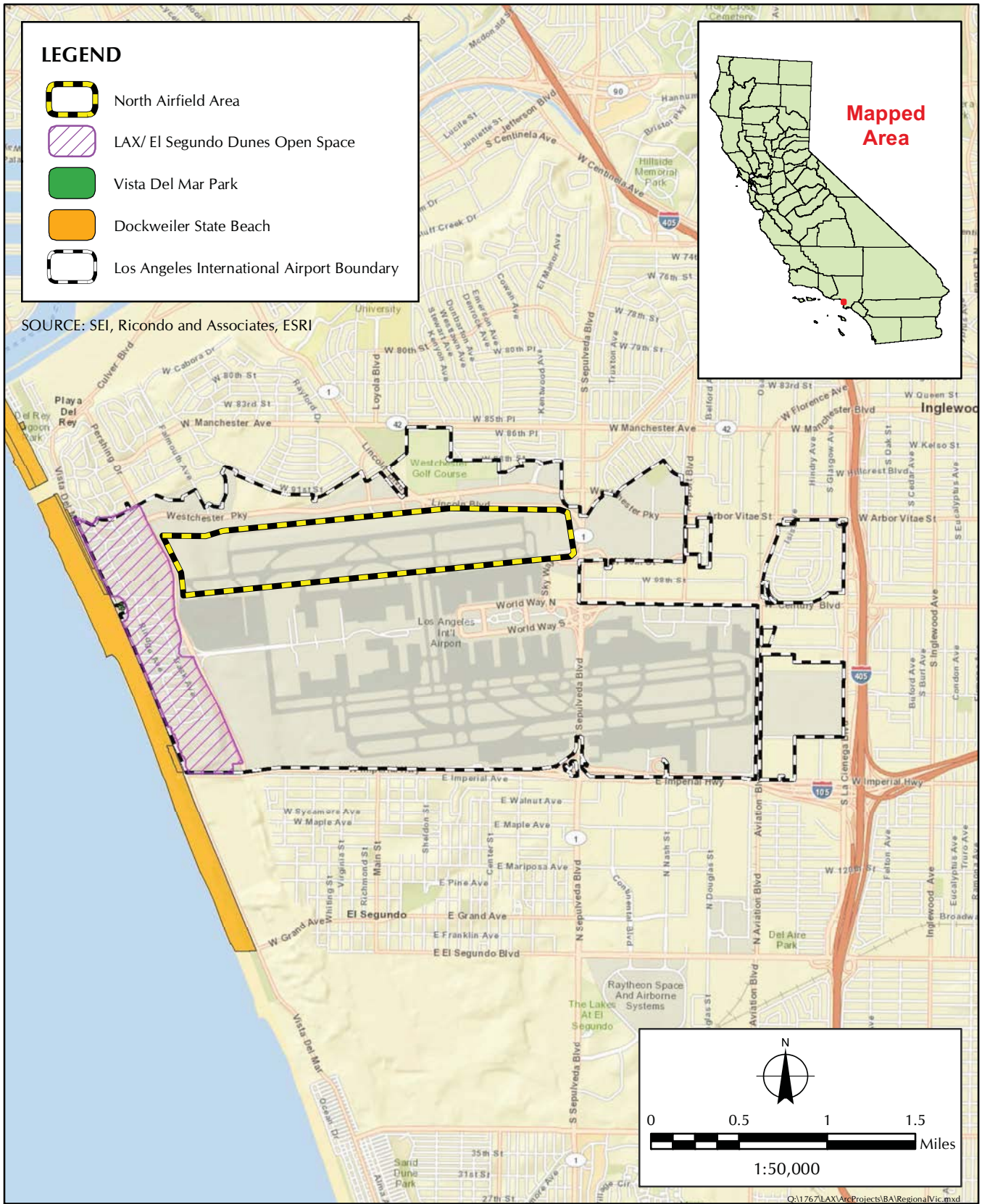


FIGURE 1.2-1
Regional Location Map

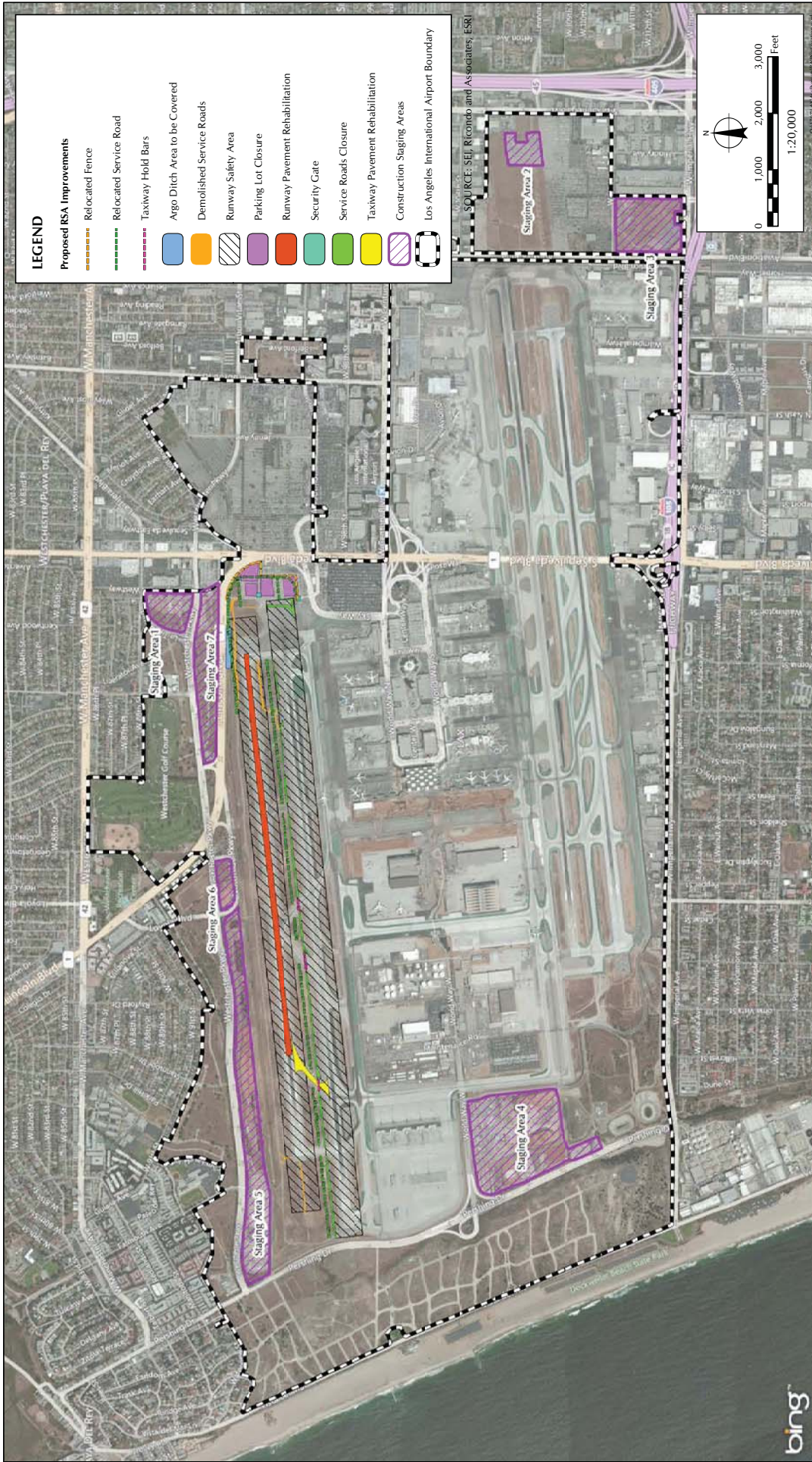


FIGURE 1.1-2-2
Local Vicinity Map



presently made up of four runways, domestic and international terminals, cargo areas, administrative and support facilities, and limited open space including 307 acres of LAX/El Segundo Dunes.

1.3 Scope of Biological Assessment

The scope of the Biological Assessment is to evaluate the potential impacts of the proposed undertaking at LAX on federally listed species and species proposed for listing as threatened and endangered species pursuant to the ESA. This Biological Assessment also takes into consideration proposed and designated critical habitat for federally listed species. Direct, indirect, and cumulative impacts resulting from construction, operation, and maintenance of the proposed undertaking were evaluated for all federally listed species and species proposed for listing as threatened and endangered species potentially occurring at LAX. Impacts on other federally, state, or locally designated sensitive species were evaluated to determine if implementation of the proposed undertaking could catalyze the need for federal listing of a species.

1.4 Species Considered

The list of species to be considered in this Biological Assessment was based on the results of a comprehensive literature review, discussion with knowledgeable individuals, field surveys, and a review of the California Department of Fish and Wildlife's (CDFW's) California Natural Diversity Database (CNDDDB).

1.5 Findings and Conclusions

As a result of the literature review, surveys were undertaken to assess the potential for the proposed undertaking to affect 22 federally listed endangered, threatened, or candidate species with the potential to occur in the vicinity of the proposed undertaking area. Twelve of the 22 species are plant species and were determined to be absent in the proposed undertaking area as a result of habitat assessment and focused surveys (Appendix A, *Other Sensitive Plant Species*). Ten of the 22 species are wildlife species and were determined to be absent in the proposed undertaking area (Appendix B, *Other Sensitive Wildlife Species*).

In addition, one other sensitive plant species, Lewis' evening primrose (*Camissoniopsis lewisii*), and one sensitive wildlife species, burrowing owl (*Athene cunicularia*), were observed in the study area.

There are no federal or state, listed or candidate species that are known to be present within the proposed undertaking area or immediately adjacent. Construction activities are not anticipated to impact any federal or state, listed or candidate species within the proposed undertaking vicinity. Once construction of the proposed undertaking is completed, there would be no effect to listed species or designated critical habitat during the operations and maintenance phases of the proposed undertaking.

2.0 PROJECT DESCRIPTION

The proposed undertaking area consists of the paved Runways 6L-24R and 6R-24L and shoulder areas, and includes taxiways and service roadways separated by unpaved sections of maintained grass and low scrub vegetation. The northern edge of the proposed undertaking area encompasses the Argo Ditch, a man-made flood control structure that was constructed in the late 1940s. The eastern portion of the proposed undertaking includes two on-airport parking areas utilized for the staging of construction vehicles and other equipment used at LAX, a partially graveled area, and a grassy area at the east end of Runway 24R (Figure 1.2-2). This area also includes the Air Operations Area (AOA) fence and a service road (El Manor Avenue, previously a residential street), both of which are located on airport property.

LAWA is proposing to improve the RSA of Runways 6L-24R and 6R-24L at LAX in response to *The Transportation, Treasury, Housing and Urban Development, the Judiciary, the District of Columbia, and Independent Agencies Appropriations Act* (Public Law 109-115).³ This act requires completion of RSA improvements by airport sponsors that hold a certificate under Title 14, CFR, Part 139, Certification and Operations: Land Airports Serving Certain Air Carriers, to comply with FAA design standards by December 31, 2015.

The common components of the proposed undertaking related to Runway 6L-24R and 6R-24L RSAs improvements are:

- Relocate AOA Fence
- Relocate security gate(s)
- LAWA equipment parking area closures
- Construction staging areas
- Navaid service roads

Relocation of the AOA Fence. The relocation of the AOA Fence is proposed as part of the undertaking. The proposed realignment of the AOA Fence would be east of the Runway 24R and 24L threshold, between Road Segment 4 (El Manor Avenue) on the west and Sepulveda Boulevard on the east. The fence realignment would include the construction of a new 12-foot-high fence, made from steel chain-link panels that span 10 feet from post to post. The fence's metal posts would be footed in poured concrete and would extend to a depth of approximately 3 feet below ground surface.

Relocate Security Gates. Two security gates along the eastern portion of the north runway complex may need to be relocated or closed in order to realign sections of the service road and comply with RSA standards. Should these security gates be relocated, the future gate locations would be outside the RSA.

LAWA Equipment Parking Area Closures. The realignment of service roads outside the RSA along the eastern side of the north runway complex along with the relocated AOA fence would make it necessary to close four parking areas located east of the north runway complex. These parking areas are located inside the LAX property boundary, east of El Manor Avenue; they are not open to the public. The pavement will remain in place, but the site will no longer be used for construction

³ *The Transportation, Treasury, Housing and Urban Development, the Judiciary, the District of Columbia, and Independent Agencies Appropriations Act, 2006* (Public Law [P.L.] 109-115), 30 November 2005.

vehicle staging. These parking areas total approximately 300,000 square feet in area and contain paved surface parking for construction vehicles and other equipment used at LAX.

Construction Staging Areas. Construction staging areas would be necessary due to the limited space available for storage of materials and equipment within the airfield area. Only a portion of these construction staging areas would be used during construction of the proposed undertaking. However, specific construction staging areas for this proposed undertaking have not been determined at the present time; therefore, all potential staging areas are being considered in the analysis for this Biological Assessment. Construction staging areas would be located in previously disturbed areas and would result in minimal ground disturbance.

Navaid Service Roads. Two service roads would be constructed to provide access to nav aids located east of the north runways. The service road providing access to the nav aids east of Runway 6L-24R would be approximately 504 linear feet in length. The service road providing access to the nav aids east of Runway 6R-24L would be approximately 403 linear feet in length.

2.1 Runway 6L-24R

The components of the proposed undertaking related to Runway 6L-24R RSA improvements are:

- Implementation of declared distances on Runway 6L
- Service roads would be relocated or realigned outside the RSA
- Pavement rehabilitation
- Cover a segment of the Argo Ditch Realignment of taxiway holdbars

Declared Distances. Declared distances are “the distances the airport operator declares available and suitable for satisfying an aircraft’s takeoff run, take-off distance, accelerate-stop distance, and landing distance requirements.” The FAA defines four types of declared distances: the Take-Off Run Available (TORA), the Take-Off Distance Available (TODA), the Accelerate-Stop Distance Available (ASDA), and the Landing Distance Available (LDA). Essentially, declared distances represent the maximum runway distances available to safely takeoff or reject a takeoff (TORA, TODA, and ASDA), or to land (LDA). Implementation of declared distances on Runway 6L would shorten the ASDA and LDA for aircraft landing on Runway 6L by 359 feet.

Service Roads. LAWA has identified a total of five road segments for relocation, realignment, or removal to meet RSA standards and to ensure that service vehicles operate outside of the Runway 6L-24R RSA. For the sake of clarity, Sapphos Environmental, Inc. assigned arbitrary numbers to each of the proposed road segments discussed herein; the locations of the numbered road segments are shown in Figure 1.2-2. The five road segments associated with Runway 6L-24R RSA to be relocated, realigned, or demolished are:

- Segment 1: An approximately 3,500-foot-long service road located north of the eastern end of Runway 6L-24R. This service road segment would be relocated north, outside of the RSA, beginning north of the Runway 6L-24R RSA where the current service road intersects the RSA and would continue eastward towards El Manor Avenue, then directly south through portions of existing parking lots (see below), before tying into an existing vehicle service road. A portion of this road will intersect the Argo Ditch. As a result, an approximately 10,000-square-foot area

of the eastern portion of the ditch will be covered (see Figure 1.2-2). The service roadway will be placed on top of the covered drainage ditch.

- Segment 2: This existing, approximately 970-foot-long service road and segment located south of Runway 6L-24R will be demolished. The road segment is parallel to and located between Runways 6L-24R and 6R-24L.
- Segment 3: This approximately 240-foot-long service road west of and parallel to El Manor Avenue, a previous residential street now owned and maintained by LAWA, will be demolished. The road is located east of the Runway 24R threshold.
- Segment 4: An approximate 900-foot long service road located west of the Runway 6L threshold will be demolished.
- Segment 5: Approximately 300 feet of service road located north of the Runway 6L end will be demolished.

Pavement Rehabilitation. Pavement rehabilitation activities would also be undertaken for Runway 6L-24R. No major pavement renovation or rehabilitation of this runway has occurred since it was constructed in 1969. These would include, but are not limited to, demolition and removal of existing pavement and base materials, placement of new sub-base and/or base materials, installation of new Portland Cement Concrete (PCC) pavement, and application of runway and taxiway markings on the new pavement segments. Up to 7,250 feet of the eastern portion of Runway 6L-24R would be demolished and reconstructed. Runway pavement rehabilitation would include the replacement of runway centerline lighting and touchdown lighting as well as runway pavement markings. Pavement rehabilitation of Taxiway AA would also be undertaken; approximately 116,000 square feet of taxiway pavement would be rehabilitated.

Argo Ditch. A portion of the Argo Ditch located north of the Runway 24R threshold would need to be covered in order to relocate a segment of the service road on top of it. The relocation of the service road would ensure that service vehicles stay clear of the RSA. Additionally, the cover/structure over the Argo Ditch must be capable of supporting the passage of the airport's critical aircraft in the event the aircraft veers off the runway. The proposed portion of the Argo Ditch to be covered is approximately 720 linear feet in length.

Realignment of Taxiway Holdbars. The taxiway hold bars on Taxiways Y, Z, and AA need to be realigned to meet FAA standards. The hold bars consist of pavement striping/markings, in-pavement hold position lights, elevated guard lights, runway status lights, and hold position airfield signage. The lights and signage, as well as in-pavement taxiway centerline lights, would need to be relocated along with the realigned taxiway hold bars.

2.2 Runway 6R-24L

The components of the proposed undertaking related to the Runway 6R-24L RSA improvements are:

- Implementation of declared distances on Runway 6R-24L
- Relocation, realignment, or closure of service roads

Declared Distances. The Runway 6R ASDA and LDA would be reduced by 115 feet to provide a 1,000-foot RSA from the Runway 6R localizer. The Runway 24L ASDA and LDA would be reduced by 835 feet to provide a 1,000-foot RSA from the existing blast fence.

Service Roads. LAWA has identified a road segment for relocation or realignment to meet RSA standards and to ensure that service vehicles operate outside of the Runway 6R-24L RSA. Approximately 9,900 linear feet of service road located along the northern boundary of the Runway 6R-24L RSA would be constructed between the Runway 6L-24R RSA and Runway 6R-24L RSA. A portion of this new service road would replace the 970-foot section of service road located within the Runway 6L-24R RSA to be demolished. The existing service roads would be closed and pavement left in place.

Approximately 600 feet of service road located east of the Runway 24L end, within the RSA, would be closed.

2.3 Surrounding Land Uses and Constraints

LAX is bounded on the north by the communities of Westchester and Playa del Rey; on the south by Imperial Highway, the City of El Segundo, and the community of Del Aire; on the east by Aviation Boulevard, the City of Inglewood, and the community of Lennox; on the west by Vista del Mar Street, Dockweiler State Beach, and the Santa Monica Bay.

The communities surrounding LAX constitute a diverse mix of land uses. The predominant land use to the north is residential; to the east, primarily commercial/industrial. Generally, this tends to be low-density single-family residential development, supported by a full range of neighborhood and regional commercial and institutional uses. There are large areas of mixed single-family and multifamily uses in the City of Hawthorne and the unincorporated County area known as Lennox. Concentrations of multifamily residential areas are located in the cities of El Segundo and Inglewood and the southwestern portion of Westchester and the Playa del Rey area of the City of Los Angeles. Commercial uses generally occur as strip development along the major streets. Industrial uses are clustered adjacent to LAX, particularly within the City of El Segundo. Industrial and public land uses are scattered throughout the entire area.

Below are the primary communities surrounding LAX by area:

North/Northeast:

- The City of Los Angeles encompasses 302,596 acres with a 2010 resident population of 3,792,627.
- The Westchester/Playa del Rey area of the City of Los Angeles directly borders LAX property to the north, west, and east. This area encompasses 9,281 acres with a 2010 resident population of 60,000.

South/Southeast/Southwest:

- The City of El Segundo is located adjacent to the southern boundary of LAX. El Segundo encompasses 3,495 acres with a 2010 resident population of 16,654.

- The City of Hawthorne is located approximately one mile southeast of LAX. Hawthorne encompasses 2,752 acres with a 2010 resident population of 84,293.
- Del Aire is an unincorporated area of Los Angeles County located directly south of LAX, east of Aviation Boulevard, between the City of El Segundo to the west and south and the City of Hawthorne to the east. Del Aire encompasses 530 acres with a 2010 resident population of 10,001.
- The City of Los Angeles operates two facilities in the area to the south and southwest of LAX: the Hyperion Sewage Treatment Plant located immediately south of the Restoration Area and the Los Angeles Department of Water and Power Scattergood Generating Station. Additionally, Southern California Edison Generating Station and a coastal portion of the Chevron Refinery are located in this area.

East:

- The City of Inglewood is located adjacent to the east boundary of LAX, partially beneath the flight approach paths for LAX. Inglewood encompasses 5,664 acres with a 2010 resident population of 109,673.
- Athens is an unincorporated area of Los Angeles County located 3.5 miles east of LAX. Athens encompasses 1,182 acres with a 2010 resident population of 9,101.
- Lennox is an unincorporated area of Los Angeles County located directly east of the LAX south runway complex. Lennox encompasses 800 acres with a 2010 resident population of 22,753.

West/Dunes/Coast:

- West and southwest of LAX, most of the coastline is occupied by the City of Los Angeles. Immediately to the west of the LAX airfield and west of Pershing Drive lies the 307-acre El Segundo Dunes area. Approximately 200 acres (the southern two-thirds) comprise the El Segundo Blue Butterfly Habitat Restoration Area (Restoration Area), serving as habitat for the federally listed endangered El Segundo blue butterfly (*Euphilotes battoides allyni*), and its host foodplant, coast buckwheat (*Eriogonum parvifolium*). The remaining 100 acres are north of the Restoration Area and are zoned for a restricted open space land use (nature preserve and accessory uses only). Dockweiler State Beach, located directly west of LAX along the Pacific Ocean, is a 3.7-linear-mile, 288-acre, sandy beach with public use amenities. Built improvements include: 1,440 parking spaces on 19 acres of paved lots; a 118-space, 5-acre, recreational vehicle (RV) park; 12 restrooms; playground equipment; volleyball courts; bicycle path; picnic area; concession stand; and lifeguard facilities.

3.0 STUDY METHODS

3.1 Database Searches

Prior to conducting the field survey, database and literature searches were performed to inform the survey. Database searches were conducted to compile a list of sensitive plants and wildlife with the potential to be present at the proposed undertaking site. A search was conducted of the CNDDDB and the California Native Plant Society (CNPS) Online Inventory for the USGS 7.5-minute series topographic quadrangle in which the proposed undertaking site is located (Venice), as well as those adjacent (Beverly Hills, Hollywood, Inglewood, Torrance, and Redondo Beach) to determine reported occurrences of rare, threatened, and endangered species based on the CNDDDB and CNPS Online Inventory search.⁴ Previously recorded species, as taken from the LAX Master Plan and LAX Specific Plan Amendment Study (SPAS), were included in the compiled list. This list of species was evaluated with respect to the habitats present at the proposed undertaking site. Species not expected to occur at the property were identified on the list of species to be evaluated and the remainder were considered to be potentially present. Critical habitat data, as determined by the U.S. Fish and Wildlife Service (USFWS), was searched to determine the proximity of critical habitat to the proposed undertaking site.⁵ *The Jepson Manual* was consulted for detailed biological, distributional, and phenological information, and was used as a standard for nomenclature.⁶

3.2 Plant Communities

The evaluation of plant communities was undertaken in a two-phase effort consisting of a preliminary in-house mapping effort, followed by verification and refinement of plant community mapping in the field. The description of plant communities followed the classification system provided in *A Manual of California Vegetation*.⁷ Botanical names and common names followed *The Jepson Manual*.⁸ The field verification was conducted by a team of two biologists, a wildlife biologist and a botanist, and supported by a geographic information systems (GIS) specialist. During plant community mapping, existing roads and other man-made facilities were mapped as developed.

Concurrent with the field verification of the plant community map, a habitat assessment was conducted to determine the presence or absence of habitat potentially suitable for supporting the target special-status species identified through the CNDDDB and CNPS search and literature review. The habitat assessment served as the tool for identification of areas within the proposed undertaking study area with the potential to support sensitive and non-status occurring species.

⁴ California Department of Fish and Wildlife. 2013. Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database. Sacramento, CA. Available at <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

⁵ United States Fish and Wildlife Service. 2013. Critical Habitat Mapper. Washington D.C. Available at <http://criticalhabitat.fws.gov/crithab/flex/crithabMapper.jsp?>

⁶ Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, eds. 2012. *The Jepson Manual: Vascular Plants of California*, 2nd Ed. University of California Press, Berkeley.

⁷ Sawyer, J.O., T. Keeler-Wolf and J.M. Evans. 2009. *A Manual of California Vegetation*, 2nd Ed. Sacramento, CA: California Native Plant Society.

⁸ Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, eds. 2012. *The Jepson Manual: Vascular Plants of California*, 2nd Ed. University of California Press, Berkeley.

During field visits, observations of plant and wildlife species, including special-status species, as well as plant community transition zones, were recorded on aerial photographs and the locations recorded on global positioning system (GPS) units. The results of the field mapping were incorporated into the plant community map using GIS. An inventory of all species observed was compiled into the floral and faunal compendia (attached in Appendices A and B).

3.3 General Wildlife Surveys

General wildlife surveys were conducted on May 8, June 14, and December 18, 2013, between the hours of 7:00 a.m. and 3:00 p.m. within the proposed undertaking property. Weather conditions ranged from cloudy to partially sunny, with temperatures ranging from 58 degrees to 76 degrees Fahrenheit. The field surveys were conducted by a botanical specialist and a wildlife biologist. Survey personnel were experienced in the undertaking of biological field surveys, and knowledgeable of the identification and ecology of target sensitive species. The biological resources surveys were conducted by walking all accessible areas anticipated to be affected by the proposed undertaking. Surveyed areas were limited to non-paved areas (Figure 3.3-1, 2013 Survey Area). The survey area was identified to assess all areas that could be potentially affected by the proposed undertaking. Because the proposed undertaking area includes an active Aircraft Movement Area with frequent arrivals of turbojet aircraft on Runway 6L-24R and taxiing on the taxiways, several portions of the APE could not be thoroughly inspected during the surveys; instead these areas were surveyed by sight with the naked eye as well as binoculars. All plants and wildlife encountered during the surveys were identified to the lowest taxonomic level possible, including that level necessary for a sensitive species determination.

The survey team was equipped with a GPS unit for mapping the location of any potential sensitive biological resource. If observed, any sensitive species encountered was to be immediately mapped as a point. The location points would later be digitized onto a GIS overlay to produce a map of the distribution of sensitive species observations. Observation data would be recorded on California Native Species Field Survey Forms to be submitted to the CNDDDB upon completion of the final survey report. Representative photographs would be taken of each sensitive species encountered.

Several field guides were carried for reference during the survey including *The Jepson Manual*, the *Sibley Guide to Birds*, and *Field Guide to Amphibians and Reptiles of California*.^{9,10} Additional guides used to help identify observed wildlife species included the *National Audubon Society Field Guide to North American Mammals* and the *National Audubon Society Field Guide to North American Reptiles and Amphibians*.^{11,12}

⁹ Sibley, D.A. *The Sibley Guide to Birds*. 2000. Alfred A. Knopf. New York, NY.

¹⁰ Stebbins, R.C. and S.M. McGinnis. 2012. *Field Guide to Amphibians and Reptiles of California Revised Edition*. University of California Press. Berkeley, CA.

¹¹ Whitaker, J.O. *National Audubon Society Field Guide to North American Mammals*. 2005. Alfred A. Knopf. New York, NY.

¹² Whitaker, J.O. *National Audubon Society Field Guide to North American Reptiles and Amphibians*. 1998. Alfred A. Knopf. New York, NY.



FIGURE 3.3-1
2013 Survey Area

3.4 Wetlands and Waters of the United States

USGS topographical maps and National Wetlands Inventory (NWI) maps were reviewed to identify areas subject to the jurisdiction of U.S. Army Corps of Engineers (USACOE), Regional Water Quality Control Board (RWQCB), and CDFW. Features identified as blue-line drainages on the topographical maps or wetland features on the NWI were analyzed for jurisdiction by the USACOE under Section 404 of the Clean Water Act and for jurisdiction by the CDFW under Section 1600 of the State Fish and Game Code.

4.0 EXISTING CONDITIONS

4.1 Los Angeles International Airport

LAX is located along the western margin of the Los Angeles Basin where the coastal plain approaches the Pacific Ocean. Historic land uses of the area were predominantly agricultural. In the early 1920s the Bennett Rancho farmed soybeans on a 640-acre field which was later leased by William M. Mines for use as an aircraft landing strip, which became known as Los Angeles Airport in 1941. Today, LAX constitutes a large industrial district presently made up of four parallel runways, domestic and international terminals, cargo areas, administrative and support facilities, and limited open space including 302 acres of El Segundo Dunes.

4.1.1 Project Area

The north Airfield Area is where most of the proposed undertaking activities are proposed to occur. The north Airfield Area is a highly developed area consisting of two paved runways, several paved taxiways and roads, dirt roads, the Argo Ditch, and several semi-natural unpaved areas. Paved areas are frequently used by aircraft and support vehicles. Unpaved areas are located between runways and taxiways with larger areas occurring to the west and north of the northernmost runway as well as in between the two runways. All unpaved areas within the north Airfield Area are annually or semiannually subject to wildlife hazards maintenance activities that include mowing, trimming, disking and other vegetation removal procedures. Additional staging areas are located outside the north Airfield Area and consist of semi-natural unpaved areas, paved roads, and paved parking lots.

4.2 Los Angeles El Segundo Dunes

The 307-acre site known today as the El Segundo Dunes housed 822 residences between 1945 and 1964 at which time they were included in the areas to be acquired by the Airport due to noise impacts. The site was once an extensive complex of coastal dune, coastal sage, coastal prairie, and coastal strand habitat fringing the Santa Monica Bay. Windblown sand deposits extend inland from the coast for up to 4 miles and underlie much of current LAX. These sandy deposits form soils quite distinct from the surrounding clay and silt-derived soils of the coastal plain and adjacent slopes. The sand dune system itself historically was known to support a distinctive flora and the sand-derived soils inland from the dunes apparently supported a largely herbaceous grassland community. Distinctive fauna known to inhabit the dunes include the El Segundo blue butterfly (*Euphilotes battoides allyni*) and coastal California gnatcatcher (*Polioptila californica californica*) (Figure 4.2-1, *Occupied Habitat for El Segundo Blue Butterfly and Coastal California Gnatcatcher*).

In 1976, Los Angeles County designated the El Segundo Dunes as a Significant Ecological Area (SEA No. 28) and revised the Los Angeles County General Plan. Two independent studies of El Segundo blue butterfly populations were performed in 1984, both indicating serious and deteriorating habitat conditions. After completion of detailed biological inventories and analysis in 1989,¹³ the City adopted the concept and boundaries of the 200-acre El Segundo Blue Butterfly

¹³ City of Los Angeles, Department of Airports (DOA). 1990. *Species Diversity and Habitat Evaluation Across the El Segundo Sand Dunes at LAX*. Prepared by Mattoni, R.H.T., Agresearch, Inc. Prepared for The Los Angeles Environmental Affairs Department (EAD), City of., The Board of Airport Commissioners, One World Way West, Los Angeles, California 90009.

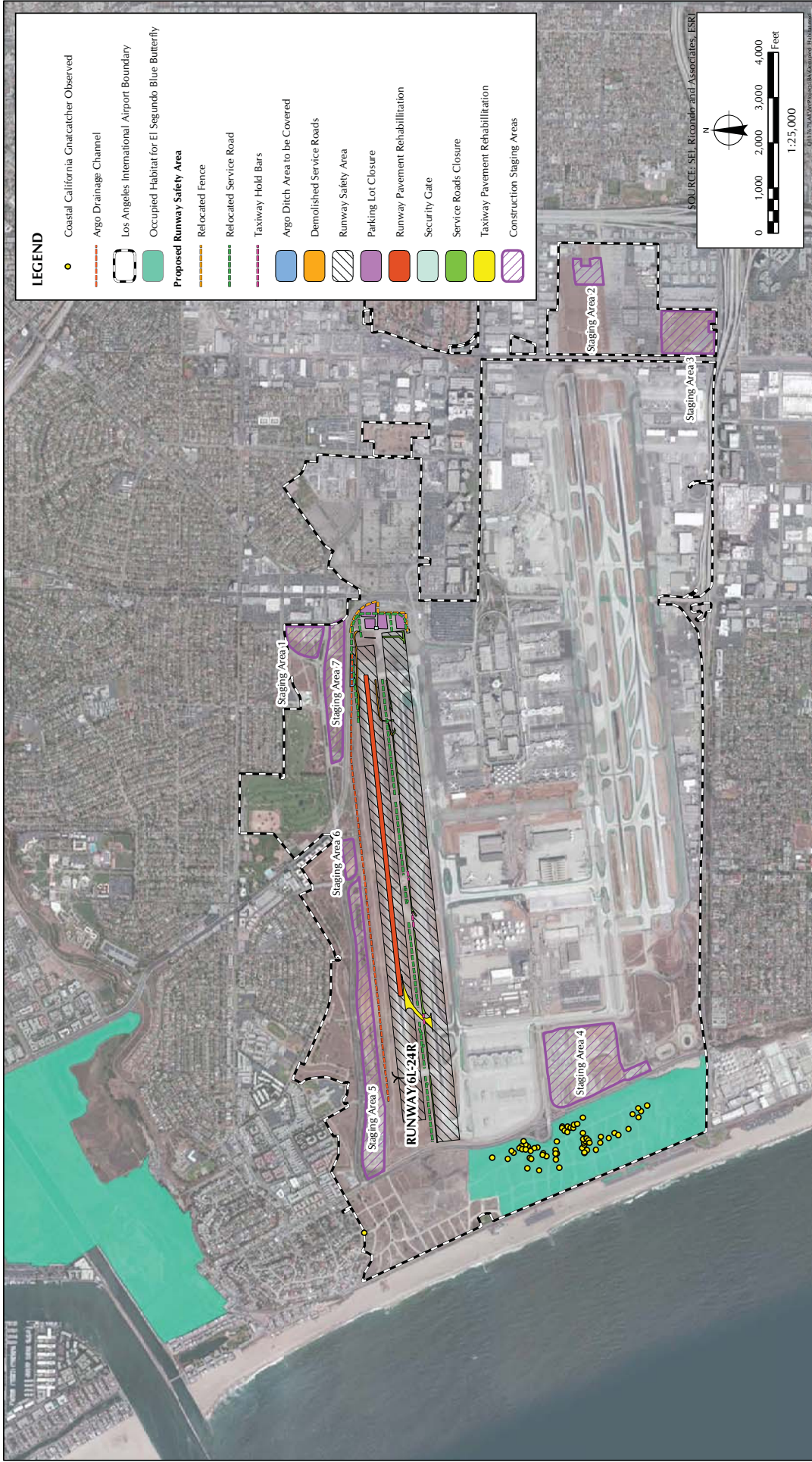


FIGURE 4.2-1
Occupied Habitat for El Segundo Blue Butterfly
and Coastal California Gnatcatcher



Habitat Restoration Area and initiated revisions to the Airport Dunes Specific Plan in 1991, indicating the habitat restoration area south of Ocean Vista Boulevard and a northern 100-acre parcel for a proposed golf course or other recreational uses (City of Los Angeles Ordinance No. 167940). The Airport Dunes Specific Plan was not approved by the California Coastal Commission, which required additional information before the approval could take place. Before this occurred, the City of Los Angeles protected the remaining 100 acres of the LAX El Segundo Dunes by restricting its use to nature preserve and accessory uses only (City of Los Angeles Ordinance No. 169767); thereby creating a contiguous 307-acre coastal dunes nature preserve.

The Los Angeles El Segundo Dunes have been commonly classified as a mixture of southern foredune and southern dune scrub. Southern Foredune plant communities are typically dominated by perennial species with a high proportion of suffrutescent (slightly woody at base) plants up to 30 centimeters tall. Species such as sand verbena (*Abronia maritima*), beach bur (*Ambrosia chamissonis*), and the nonnative sea rocket (*Cakile* sp.) usually occur in exposed sites, and pink sand verbena (*Abronia umbellata*) and morning-glory (*Calystegia macrostegia* and *soldanella*) occur in less exposed sites.

Southern Dune Scrub is a dense coastal scrub community of scattered shrubs, subshrubs, and herbs that are generally less than 1 meter in height, often developing considerable cover, and often succulent. Characteristic species include saltbush (*Atriplex leucophylla*), California croton (*Croton californicus*), coast goldenbush (*Isocoma menziesii* var. *vernonioides*), bush lupine (*Lupinus chamissonis*), and prickly pear (*Opuntia littoralis*) and lemonade-berry (*Rhus integrifolia*).

4.3 Database Searches

As a result of the literature review and database searches, 96 sensitive plant and wildlife species were identified as having the potential to occur within the Venice USGS 7.5-minute series topographic quadrangle or adjacent quadrangles. Twenty-two of the 96 species identified during the database search are federally listed or candidate species. Twelve of the 22 species are plants (Appendix A):

- marsh sandwort (*Arenaria paludicola*)
- Branton's milk-vetch (*Astragalus brauntonii*)
- Ventura Marsh milk-vetch (*Astragalus pycnostachyus* var. *lanosissimus*)
- coastal dunes milk-vetch (*Astragalus tener* var. *titi*)
- San Fernando Valley spineflower (*Chorizanthe parryi* var. *Fernandina*)
- salt marsh bird's-beak (*Chloropyron maritimum* ssp. *maritimum*)
- Santa Monica dudleya (*Dudleya cymosa* ssp. *ovatifolia*)
- Gambel's water cress (*Nasturtium gambelii*)
- California Orcutt grass (*Orcuttia californica*)
- Lyon's pentachaeta (*Pentachaeta lyonii*)
- Brand's star phacelia (*Phacelia stellaris*)

Ten of the 22 species are wildlife species (Appendix B):

- El Segundo blue butterfly (*Euphilotes battoides allyni*)
- Palos Verdes blue butterfly (*Glaucopsyche lygdamus palosverdesensis*)
- southern steelhead – Southern California DPS (*Oncorhynchus mykiss irideus*)

- Mohave tui chub (*Siphateles bicolor mohavensis*)
- western snowy plover (*Charadrius alexandrinus nivosus*)
- southwestern willow flycatcher (*Empidonax traillii extimus*)
- Belding's savannah sparrow (*Passerculus sandwichensis beldingi*)
- coastal California gnatcatcher (*Polioptila californica californica*)
- California least tern (*Sternula antillarum browni*)
- least Bell's vireo (*Vireo bellii pusillus*)
- Pacific pocket mouse (*Perognathus longimembris pacificus*)

There is no designated critical habitat or areas proposed for designation for critical habitat for federally listed plants within the proposed undertaking area (Appendix A). Critical habitat was identified for four plant species within 50 miles of the proposed undertaking area: Braunton's milk-vetch, Ventura Marsh milk-vetch, spreading navarretia, and Lyon's pentachaeta.

There is no designated critical habitat or areas proposed for designation for critical habitat for federally listed wildlife within the proposed undertaking area (Appendix B). Critical habitat was identified for seven wildlife species within 35 miles of the proposed undertaking area: El Segundo blue butterfly, Palos Verdes blue butterfly, southern steelhead, western snowy plover, southwestern willow flycatcher, coastal California gnatcatcher and least Bell's vireo.

4.4 Plant Communities

Eleven distinct plant communities were identified within the proposed undertaking area: California Bulrush Marsh, Cattail Marsh, Perennial Ryegrass Field, Sandbar Willow Thicket, Smartweed-Cocklebur Patch, Yellow Starthistle Field, disturbed / Annual Brome Grassland, disturbed vegetation, ornamental, existing construction area, and developed. In addition, there are existing developed areas in the proposed undertaking boundary. Developed areas include paved areas, buildings, and other man-made structures.

California Bulrush Marsh

Approximately 0.55 acre of the proposed undertaking was classified as California Bulrush Marsh (Figure 4.4-1(A-F), *Plant Community Map*). This area was confined to the Argo Ditch and was dominated by California bulrush (*Schoenoplectus californicus*) (Figure 4.4-2, *Site Photographs, California Bulrush Marsh*). This community corresponds to the *Schoenoplectus californicus* Alliance (52.114.00), which has a global rarity ranking of 5 and state rarity ranking of 4.¹⁴ This plant community may also be classified as Coastal and valley freshwater marsh (52410). According to CDFW, only plant communities with a ranking of S1, S2, or S3 are considered a sensitive plant community with a ranking of S1 being the most sensitive rank. A plant community with a rank higher than S3 is not considered a sensitive plant community.

Cattail Marsh

Approximately 0.01 acre of the proposed undertaking was classified as Cattail Marsh (Figure 4.4-1). This area was confined to the Argo Ditch and was dominated by broad-leaf cattail (*Typha latifolia*)

¹⁴ California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>



FIGURE 4-4-1A
Plant Community Map



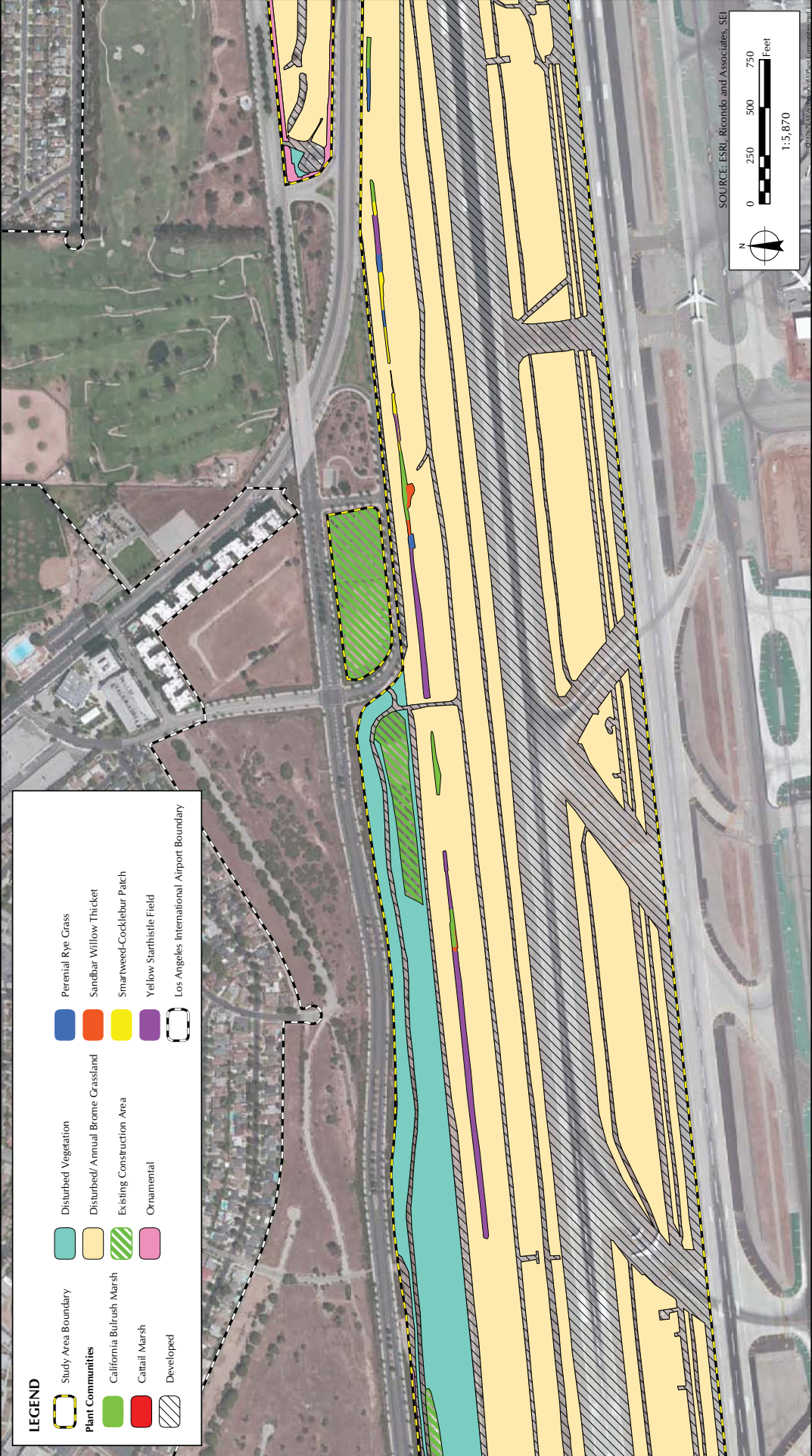


FIGURE 4.4-1B
Plant Community Map



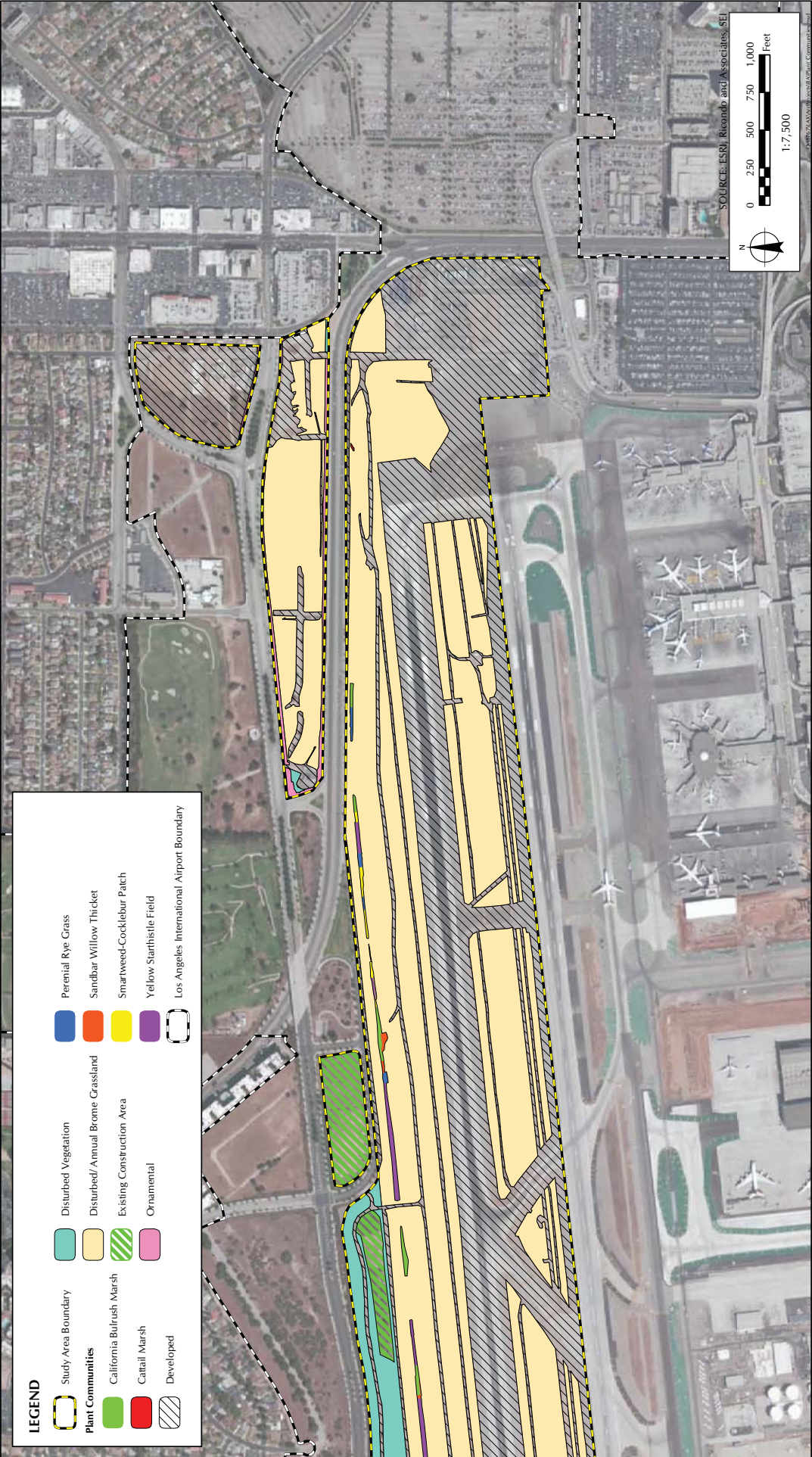


FIGURE 4.4-1C
Plant Community Map

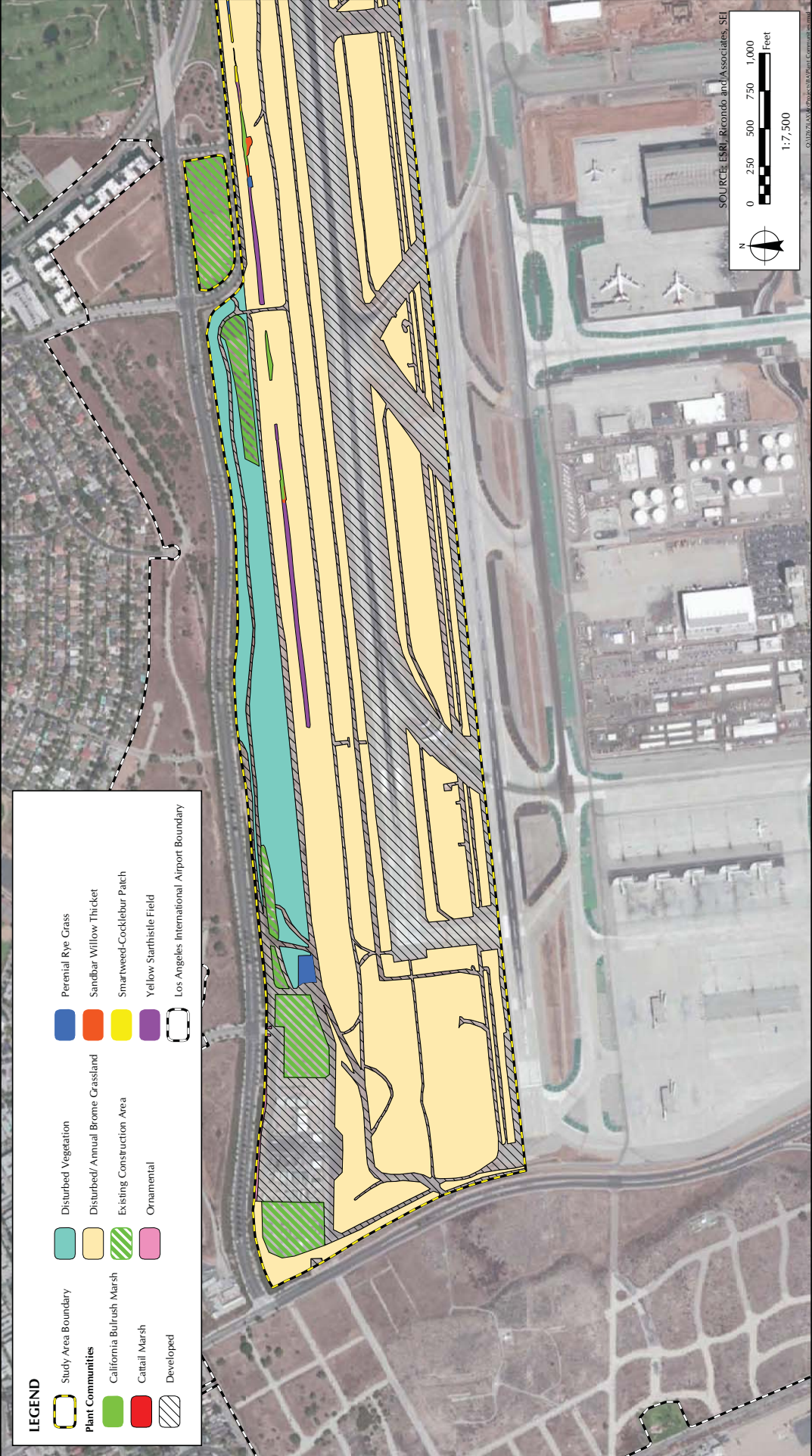


FIGURE 4.4-1D
 Plant Community Map



LEGEND














-  Study Area Boundary
- Plant Communities**
-  California Bulrush Marsh
-  Cattail Marsh
-  Developed
-  Disturbed Vegetation
-  Disturbed/ Annual Bromo Grassland
-  Existing Construction Area
-  Ornamental
-  Perennial Rye Grass
-  Sandbar Willow Thicket
-  Smartweed-Cocklebur Patch
-  Yellow Starthistle Field
-  Los Angeles International Airport Boundary



FIGURE 4.4-1E
Plant Community Map

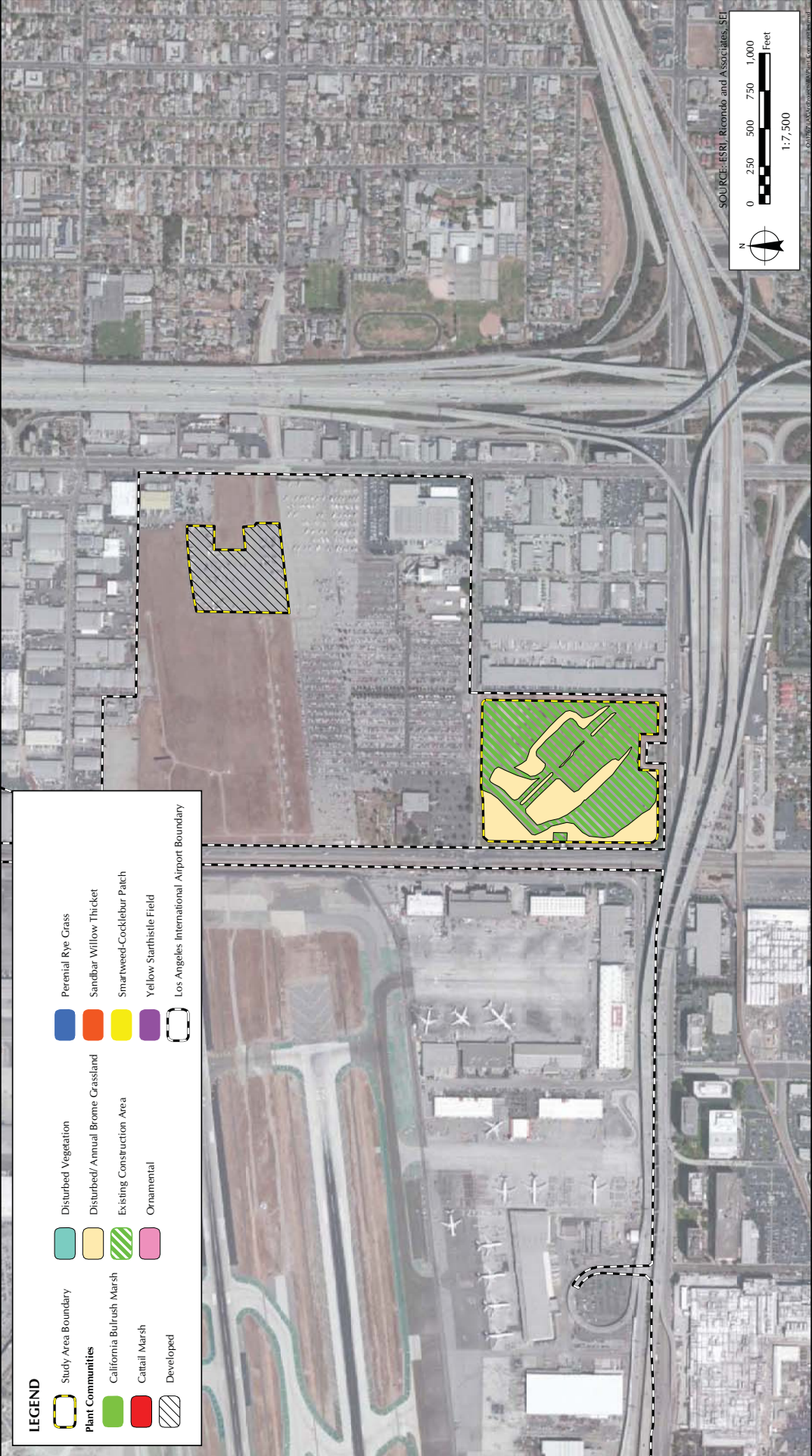


FIGURE 4.4-1F
Plant Community Map





FIGURE 4.4-2
Site Photographs, California Bulrush Marsh

(Figure 4.4-3, *Site Photographs, Cattail Marsh*). This community corresponds to the *Typha (angustifolia, domingensis, latifolia)* Alliance (52.050.00), which has a global and state rarity ranking of 5.¹⁵ This plant community may also be classified as Coast and Valley freshwater marsh (52410). According to CDFW, only plant communities with a ranking of S1, S2, or S3 are considered a sensitive plant community with a ranking of S1 being the most sensitive rank. A plant community with a rank higher than S3 is not considered a sensitive plant community.

Perennial Ryegrass Field

Approximately 0.67 acre of the proposed undertaking was classified as Perennial Ryegrass Field (Figure 4.4-1). This area was confined to the Argo Ditch and was dominated by perennial rye-grass (*Festuca perennis*) (Figure 4.4-4, *Site Photographs, Perennial Ryegrass Field*). This community corresponds to the *Festuca perennis* Semi-natural Stands (41.321.00), which does not have a global or state rarity ranking.¹⁶ This plant community may also be classified as Non-Native Grassland (42200). According to CDFW, only plant communities with a ranking of S1, S2, or S3 are considered a sensitive plant community with a ranking of S1 being the most sensitive rank. A plant community with a rank higher than S3 is not considered a sensitive plant community.

Sandbar Willow Thicket

Approximately 0.14 acre of the proposed undertaking was classified as Sandbar Willow Thicket (Figure 4.4-1). This area was confined to the Argo Ditch and was dominated by Narrow-leaf willow (*Salix exigua* cf. var. *hindsiana*) (Figure 4.4-5, *Site Photographs, Sandbar Willow Thicket*). This community corresponds to the *Salix exigua* Alliance (61.209.00), which has a global rarity ranking of 5 and a state rarity ranking of 4.¹⁷ This plant community may also be classified as Southern Willow Scrub (63300). According to CDFW, only plant communities with a ranking of S1, S2, or S3 are considered a sensitive plant community with a ranking of S1 being the most sensitive rank. A plant community with a rank higher than S3 is not considered a sensitive plant community.

Smartweed-Cocklebur Patch

Approximately 0.25 acre of the proposed undertaking was classified as Smartweed-Cocklebur Patch (Figure 4.4-1). This area was confined to the Argo Ditch and was dominated by common knotweed (*Persicaria lapathifolia*) (Figure 4.4-6, *Site Photographs, Smartweed-Cocklebur Patch*). This community corresponds to the *Persicaria lapathifolia* – *Xanthium strumarium* Provisional Alliance (42.207.00), which has a global and state rarity ranking of 4.¹⁸ This plant community may

¹⁵ California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

¹⁶ California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

¹⁷ California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

¹⁸ California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>



FIGURE 4.4-3
Site Photographs, Cattail Marsh



FIGURE 4.4-4
Site Photographs, Perennial Ryegrass Field



FIGURE 4.4-5
Site Photographs, Sandbar Willow Thicket



FIGURE 4.4-6
Site Photographs, Smartweed-Cocklebur Patch

also be classified as Coastal and valley freshwater marsh (52410). According to CDFW, only plant communities with a ranking of S1, S2, or S3 are considered a sensitive plant community with a ranking of S1 being the most sensitive rank. A plant community with a rank higher than S3 is not considered a sensitive plant community.

Yellow Starthistle Field

Approximately 1.73 acres of the proposed undertaking were classified as Yellow Starthistle Field (Figure 4.4-1). This area was confined to the Argo Ditch and was dominated by Yellow starthistle (*Centaurea solstitialis*) and brome species (*Bromus* sp.) (Figure 4.4-7, *Site Photographs, Yellow Starthistle Field*). This community corresponds to the *Centaurea (solstitialis, meletensis)* Semi-natural Stands (42.042.00), which does not have a global or state rarity ranking.¹⁹ This plant community may also be classified as Non-native Grassland (42200). According to CDFW, only plant communities with a ranking of S1, S2, or S3 are considered a sensitive plant community with a ranking of S1 being the most sensitive rank. A plant community with a rank higher than S3 is not considered a sensitive plant community.

Disturbed / Annual Brome Grassland

Vegetation characteristic of disturbed / Annual Brome Grassland areas can be seen in the large open space area west of and surrounding the runway. Although consistently maintained, vegetation has become established due to the lack of continuous soil impacts. There are approximately 214.76 acres of disturbed / Annual Brome Grassland plant community in this area. Plant species associated with disturbed / Annual Brome Grassland plant community were primarily annual non-native species, which included: hottentot fig (*Carpobrotus edulis*), redstem filaree (*Erodium cicutarium*), wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), red brome (*Bromus madritensis*), and perennial rye-grass (*Lolium multiflorum*) (Figure 4.4-8, *Site Photographs, Disturbed / Annual Brome Grassland*). Vegetation in disturbed / Annual Brome Grassland areas has been and will continue to be routinely maintained or removed as part of the LAWA's ongoing program to prevent wildlife hazardous to aircraft operations from entering the airfield.

Disturbed Vegetation

Vegetation characteristic of disturbed vegetation areas can be seen in small patches outside runway areas. Soil in disturbed vegetation areas has been frequently and recently placed, moved or removed in disturbed areas. There are approximately 33.5 acres of disturbed vegetation plant community in this area. Plant species associated with disturbed vegetation plant community were primarily annual non-native species, which included: redstem filaree (*Erodium cicutarium*), wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), red brome (*Bromus madritensis*), and telegraph weed (*Heterotheca grandiflora*) (Figure 4.4-9, *Site Photographs, Disturbed Vegetation*). Vegetation in disturbed vegetation areas has been and will continue to be routinely maintained, removed, or covered as part of the ongoing airport construction activities.

¹⁹ California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>



FIGURE 4.4-7
Site Photographs, Yellow Starthistle Field



PHOTO 1



PHOTO 2



FIGURE 4.4-8
Site Photographs, Disturbed / Annual Brome Grassland



PHOTO 1



PHOTO 2



FIGURE 4.4-9
Site Photographs, Disturbed Vegetation

Ornamental

Approximately 3.16 acres of the proposed undertaking was classified as ornamental (Figure 4.4-1). These areas were confined to areas along paved city streets and included ornamental plants typically found in landscaping including oleander (*Nerium oleander*) and Mexican fan palm (*Washingtonia robusta*) (Figure 4.4-10, *Site Photographs, Ornamental*).

Existing Construction Area

Existing construction areas within the proposed undertaking site occupy approximately 61.99 acres and consist of existing staging areas or other areas where construction activities are currently taking place (Figure 4.4-11, *Site Photographs, Existing Construction Area*). The grading, excavating, or movement of construction equipment within this community makes it difficult for vegetation to establish.

Developed

Developed areas within the proposed undertaking site occupy approximately 202.57 acres and consist of paved areas and man-made structures such as runways; taxiways; roads; buildings; airfield signage; navigational equipment; and runway, taxiway, and airfield lighting (Figure 4.4-12, *Site Photographs, Developed*). The hardscape associated with this community make it unsuitable to support vegetation.

4.5 Plants

Seventy-four plant species from 31 families were identified during the survey. Thirty-two of the identified plant species are native to California, with the remaining 42 plant species being non-native (Attachment A-1, *Floral Compendium*). Non-native plants dominated most of the surveyed area in and around the runways and staging areas, with native patches occurring sporadically along the Argo Ditch. This may be due to the continual disturbance regime that occurs throughout the proposed undertaking area and the presence of water in the Argo Ditch. Human presence is limited to authorized personnel and is frequent in the proposed undertaking area.

4.6 Federally Listed and Candidate Plant Species

All 12 of the federally-listed sensitive plant species that were identified as potentially occurring in the vicinity of the proposed undertaking area were determined to be absent as a result of directed surveys (Table 4.6-1, *Federally Listed and Candidate Plant Species Potentially Occurring in the Northern Runway Safety Area Improvements Study Area*). An account of each of these species is provided below. These plant species are listed as endangered, threatened or candidate under the federal Endangered Species Act. Distributions of extant populations of sensitive species near the proposed undertaking site are shown in Figure 4.6-1, *Federally Listed Plant Species Records*. Critical habitat for federal-listed plant species is shown in Figure 4.6-2, *Plants Critical Habitat Map*.



FIGURE 4.4-10
Site Photographs, Ornamental



PHOTO 1



PHOTO 2



FIGURE 4.4-11
Site Photographs, Existing Construction Area



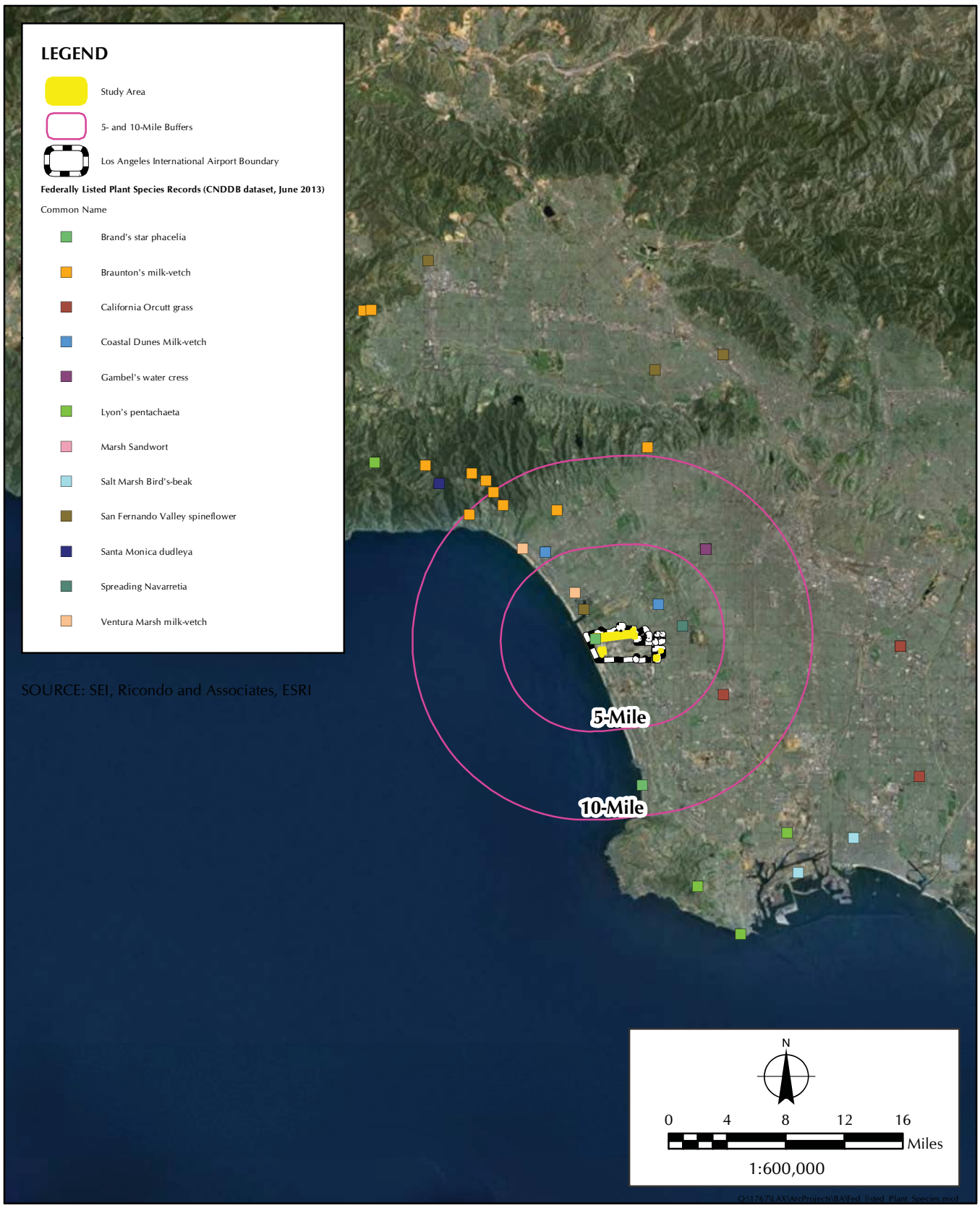
PHOTO 1



PHOTO 2



FIGURE 4.4-12
Site Photographs, Developed



0A1767LAX-ArcProject\BA\Fed-listed_Plant_Species.mxd



FIGURE 4.6-1
Federally Listed Plant Species Records

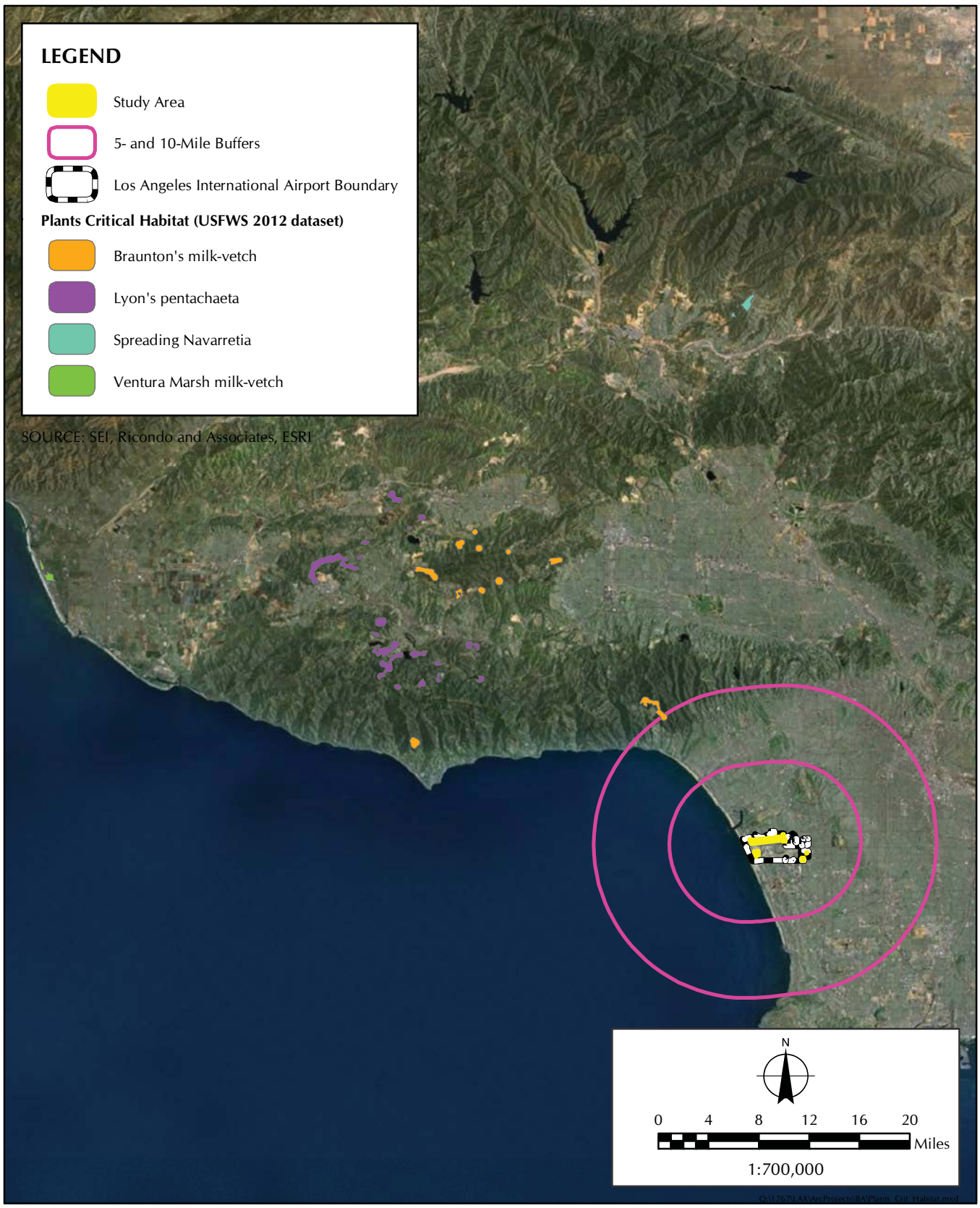


FIGURE 4.6-2
Plants Critical Habitat Map

**TABLE 4.6-1
Federally Listed and Candidate Plant Species Potentially Occurring in the North Runway Safety Area Improvements Study Area**

Name	Status	Habitat	Survey Results
Marsh sandwort <i>Arenaria paludicola</i>	FE, SE, CNPS 1B.2	Freshwater marsh, marsh and swamp, wetland	Determined to be absent. There is no suitable habitat within the proposed undertaking area. The species was not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 6.3 miles northeast of the proposed undertaking. Currently, there is no established or proposed critical habitat for this species.
Braunton's milk-veitch <i>Astragalus brauntonii</i>	FE CNPS 1B.1	Chaparral, closed-cone coniferous forest, coastal scrub, limestone, valley and foothill grassland	Determined to be absent. There is no suitable habitat within the proposed undertaking area. The species was not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 6.3 miles northeast of the proposed undertaking. The nearest critical habitat is located approximately 10 miles to the northwest.
Ventura Marsh milk-veitch <i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>	FE, SE, CNPS 1B.1	Marsh and swamp, salt marsh, wetland	Determined to be absent. There is no suitable habitat within the proposed undertaking area. The species was not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 2.8 miles northwest of the proposed undertaking. The nearest critical habitat is located approximately 49 miles to the northwest.
Coastal dunes milk-veitch <i>Astragalus tener</i> var. <i>titi</i>	FE, SE, CNPS 1B.1	Coastal bluff scrub, coastal dunes	Determined to be absent. There is no suitable habitat within the proposed undertaking area. The species was not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 2.2 miles northeast of the proposed undertaking. Currently, there is no established or proposed critical habitat for this species.
San Fernando Valley spineflower <i>Chorizanthe parryi</i> var. <i>Fernandina</i>	FC, SE, CNPS 1B.1	Coastal scrub	Determined to be absent. There is no suitable habitat within the proposed undertaking area. The species was not observed during 2013 biological surveys or previous surveys. Potentially suitable habitat is limited to the nearby Los Angeles/El Segundo Dunes. Nearest CNDDDB record is located approximately 1.8 miles northwest of the proposed undertaking. Currently, there is no established or proposed critical habitat for this species.
Salt marsh bird's-beak <i>Chloropyron maritimum</i> ssp. <i>Maritimum</i>	FE, SE, CNPS 1B.1	Coastal dunes, marsh and swamp, salt marsh, wetland	Determined to be absent. There is no suitable habitat within the proposed undertaking area. The species was not observed during 2013 biological surveys or previous surveys. Potentially suitable habitat is limited to the nearby Los Angeles/El Segundo Dunes. Nearest CNDDDB record is located approximately 5.7 miles northwest of the proposed undertaking. Currently, there is no established or proposed critical habitat for this species.
Santa Monica dudleya <i>Dudleya cymosa</i> ssp. <i>Ovatifolia</i>	FT, CNPS 1B.2	Chaparral, coastal scrub	Determined to be absent. There is no suitable habitat within the proposed undertaking area. The species was not observed during 2013 biological surveys or previous surveys. Potentially suitable habitat is limited to the nearby Los Angeles/El Segundo Dunes. Nearest CNDDDB record is located approximately 12.5 miles northwest of the proposed undertaking. Currently, there is no established or proposed critical habitat for this species.
Gambel's water cress <i>Nasturtium gambelii</i>	FE, ST, CNPS 1B.1	Brackish marsh, freshwater marsh, marsh and swamp, wetland	Determined to be absent. There is no suitable habitat within the proposed undertaking area. The species was not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 6.3 miles northeast of the proposed undertaking. Currently, there is no established or proposed critical habitat for this species.
Spreading navarretia <i>Navarretia fossalis</i>	FT, CNPS 1B.1	Alkali playa, chenopod scrub, marsh and swamp, vernal pool, wetland	Determined to be absent. There is no suitable habitat within the proposed undertaking area. The species was not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 2.8 miles east of the proposed undertaking. The nearest critical habitat is located approximately 35 miles to the north.
California Orcutt grass <i>Orcuttia californica</i>	FE, SE, CNPS 1B.1	Vernal pool, wetland	Determined to be absent. There is no suitable habitat within the proposed undertaking area. The species was not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 6 miles southeast of the proposed undertaking. Currently, there is no established or proposed critical habitat for this species.
Lyon's pentachaeta <i>Pentachaeta lyonii</i>	FE, SE, CNPS 1B.1	Chaparral, coastal scrub, valley and foothill grassland	Determined to be absent. There is no suitable habitat within the proposed undertaking area. The species was not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 14.1 miles southeast of the proposed undertaking. The nearest critical habitat is located approximately 20 miles to the northwest.
Brand's star phacelia <i>Phacelia stellaris</i>	FC CNPS 1B.1	Coastal dunes, coastal scrub	Determined to be absent. There is no suitable habitat within the proposed undertaking area. The species was not observed during 2013 biological surveys or previous surveys. Potentially suitable habitat is limited to the nearby Los Angeles/El Segundo Dunes. Nearest CNDDDB record is located approximately 0.2 miles west of the proposed undertaking. Currently, there is no established or proposed critical habitat for this species.

KEY: CNDDDB = California Natural Diversity Database; CNPS = California Native Plant Society; FE = federally endangered; FT = federally threatened; FC = federal candidate; SE = state endangered; ST = state threatened
NOTES: Critical habitat is only afforded to those species that are listed under the Federal Endangered Species Act as endangered or threatened.

List 1B: Rare, threatened, or endangered in California and elsewhere
0.1: Seriously endangered in California
0.2: Fairly endangered in California
0.3: Not very endangered in California

List 2: Rare, threatened, or endangered in California, but more common elsewhere

0.2: Fairly endangered in California

0.3: Not very endangered in California

0.2: Fairly endangered in California

0.3: Not very endangered in California

SOURCES: Sapphos Environmental Inc. January 2001. *Technical Report LAX Master Plan EIS/EIR, 7. Biological Resources, Memoranda for the Record on Floral and Faunal Surveys.*
Glenn Lukos Associates, July 2012. *Appendix D-1 LAX Specific Plan Amendment Study, Floral and Faunal Compendium and Sensitive Plants and Wildlife.*
Frank Hovore & Associates, September 28, 1998. *Report of sensitive arthropod surveys, Los Angeles International Airport 2015 Master Plan Study Area, 1996-1998.*

List 3: Review list, more information required
List 4: Limited distribution (Watch List)

0.1: Seriously endangered in California

0.2: Fairly Endangered in California

0.3: Not very endangered in California

Marsh sandwort (*Arenaria paludicola*) is a perennial herb that blooms from May to August. It is found in sandy openings in marshes and swamps (freshwater or brackish). It is a federal and state-listed endangered species. The nearest occurrence for the species is located approximately 6.3 miles northeast of the proposed undertaking site.²⁰ Marsh sandwort was not observed during 2013 surveys or previous surveys. Currently, there is no established or proposed critical habitat for this species.

Braunton's milk-vetch (*Astragalus brauntonii*) is a perennial herb that blooms from March to July. It is found in chaparral, coastal scrub, and valley and foothill grassland. It is a federal-listed endangered species. The nearest occurrence for the species is located approximately 6.3 miles northeast of the proposed undertaking site.²¹ Braunton's milk-vetch was not observed during 2013 surveys or previous surveys. The nearest critical habitat is located approximately 10 miles to the northwest.

Ventura marsh milk-vetch (*Astragalus pycnostachyus* var. *lanosissimus*) is a perennial herb that blooms from July to October. It is found in coastal dunes, coastal scrub, and edges of marshes and swamps (coastal salt or brackish). It is a federal and state-listed endangered species. The nearest occurrence for the species is located approximately 2.8 miles northwest of the proposed undertaking site.²² Ventura marsh milk-vetch was not observed during 2013 surveys or previous surveys. The nearest critical habitat is located approximately 49 miles to the northwest.

Coastal dunes milk-vetch (*Astragalus tener* var. *titi*) is an annual herb with purple flowers that blooms from March to June. It is found in moist, sandy depressions near the coast, typically coastal bluffs or dunes (Hickman 1993). It is state-listed endangered and a potential candidate for federal listing as endangered. Historic records indicate it occurred in the study area (Pierce and Pool 1938). The nearest occurrence for the species is located approximately 2.2 miles northeast of the proposed undertaking site.²³ Coastal dunes milk-vetch was not observed during 2013 surveys or previous surveys. Currently, there is no established or proposed critical habitat for this species.

San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*) is an annual herb that blooms from April to June. It is found in coastal scrub and valley and foothill grassland. It is a federal candidate species and state-listed endangered species. The nearest occurrence for the species is located approximately 1.8 miles northwest of the proposed undertaking site.²⁴ San

²⁰ California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

²¹ California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

²² California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

²³ California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

²⁴ California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

Fernando Valley spineflower was not observed during 2013 surveys or previous surveys. Currently, there is no established or proposed critical habitat for this species.

Salt marsh bird's-beak (*Chloropyron maritimum* ssp. *maritimum*) is an annual herb that blooms from May to October. It is found in coastal dunes and marshes and swamps (coastal salt). It is a federal candidate species and state-listed endangered species. The nearest occurrence for the species is located approximately 5.7 miles northwest of the proposed undertaking site.²⁵ Salt marsh bird's beak was not observed during 2013 surveys or previous surveys. Currently, there is no established or proposed critical habitat for this species.

Santa Monica dudleya (*Dudleya cymosa* ssp. *ovatifolia*) is a perennial herb that blooms from May to June. It is found in chaparral and coastal scrub. It is a federal threatened species. The nearest occurrence for the species is located approximately 12.5 miles northwest of the proposed undertaking site.²⁶ Santa Monica dudleya was not observed during 2013 surveys or previous surveys. Currently, there is no established or proposed critical habitat for this species.

Gambel's water cress (*Nasturtium gambelii*) is a perennial rhizomatous herb that blooms from May to August. It is found in marshes and swamps (freshwater or brackish). It is a federal-listed endangered and state-listed threatened species. The nearest occurrence for the species is located approximately 6.3 miles northeast of the proposed undertaking site.²⁷ Gambel's water cress was not observed during 2013 surveys or previous surveys. Currently, there is no established or proposed critical habitat for this species.

Spreading navarretia (*Navarretia fossalis*) is an annual herb that blooms from April to June. It is found in chenopod scrub, marshes and swamps, playas and vernal pools. It is a federal-listed threatened species. The nearest occurrence for the species is located approximately 2.8 miles east of the proposed undertaking site.²⁸ Spreading navarretia was not observed during 2013 surveys or previous surveys. The nearest critical habitat is located approximately 35 miles to the north.

California orcutt grass (*Orcuttia californica*) is a prostrate and glandular annual grass that blooms April through August. It is found in vernal pools. It is both a federally and state-listed endangered species. The nearest occurrence for the species is located approximately 6 miles southeast of the proposed undertaking site²⁹. California orcutt grass was not observed in the study area as a result of surveys in 2013 or previous surveys. Currently, there is no established or proposed critical habitat for this species.

²⁵ California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

²⁶ California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

²⁷ California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

²⁸ California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

²⁹ California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

Lyon's pentachaeta (*Pentachaeta lyonii*) is an annual herb that blooms from March to August. It is found in chaparral, coastal scrub and valley and foothill grassland. It is a federal and state-listed endangered species. The nearest occurrence for the species is located approximately 14.1 miles southeast of the proposed undertaking site.³⁰ Lyon's pentachaeta was not observed during 2013 surveys or previous surveys. The nearest critical habitat is located approximately 20 miles to the northwest.

Brand's star phacelia (*Phacelia stellaris*) is an annual herb that blooms from March to May. It is found in coastal dunes and coastal scrub. It is a federal candidate species. The nearest occurrence for the species is located approximately 0.2 miles west of the proposed undertaking site.³¹ Brand's star phacelia was not observed during 2013 surveys or previous surveys. Currently, there is no established or proposed critical habitat for this species.

4.7 Other Special-Status Plant Species

One sensitive plant species, Lewis' evening primrose (*Camissoniopsis lewisii*), was observed at the western end of the study area. The species is listed as having a CNPS ranking of 3 and has been observed during previous surveys conducted on LAX.

4.8 Wildlife

Twenty-four wildlife species were observed during the 2013 surveys. There were 2 insect species, 3 reptile species, 18 bird species, and 1 mammal species recorded at the proposed undertaking site (Appendix B, Table B-1). Overall, the abundance of wildlife was considered low with flying wildlife, such as butterflies and birds, accounting for most wildlife observations. Terrestrial wildlife was limited to a handful of reptile and mammal species observations. No fish or amphibian species were observed during the surveys. Degraded small mammal burrows were observed near Runway 6L-24R, but none showed signs of recent activity (Figure 4.8-1, *Locally Sensitive Wildlife Species Records*). A pair of red foxes (*Vulpes vulpes*) along with their burrow was observed on the southeastern-most portion of the survey area, which is located at the corner of Aviation Boulevard and Imperial Highway. Blackbirds were observed to be within the Argo Ditch and displayed breeding behavior during late spring but were not observed during subsequent visits in the mid- to late summer; these species were assumed to have attempted to nest, but no nests were detected during surveys. Small migratory birds, such as the common yellowthroat (*Geothlypis trichas*), were observed during mid- to late summer surveys within the vegetated portions of the Argo Ditch; therefore, some nesting of small, wetland bird species may be occurring annually. A single burrowing owl along with its burrow was observed just south of Westchester Parkway near the intersection of Westchester Parkway and Northside Parkway (Figure 4.8-2, *Locally Sensitive Wildlife Species Observations*).

³⁰ California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

³¹ California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

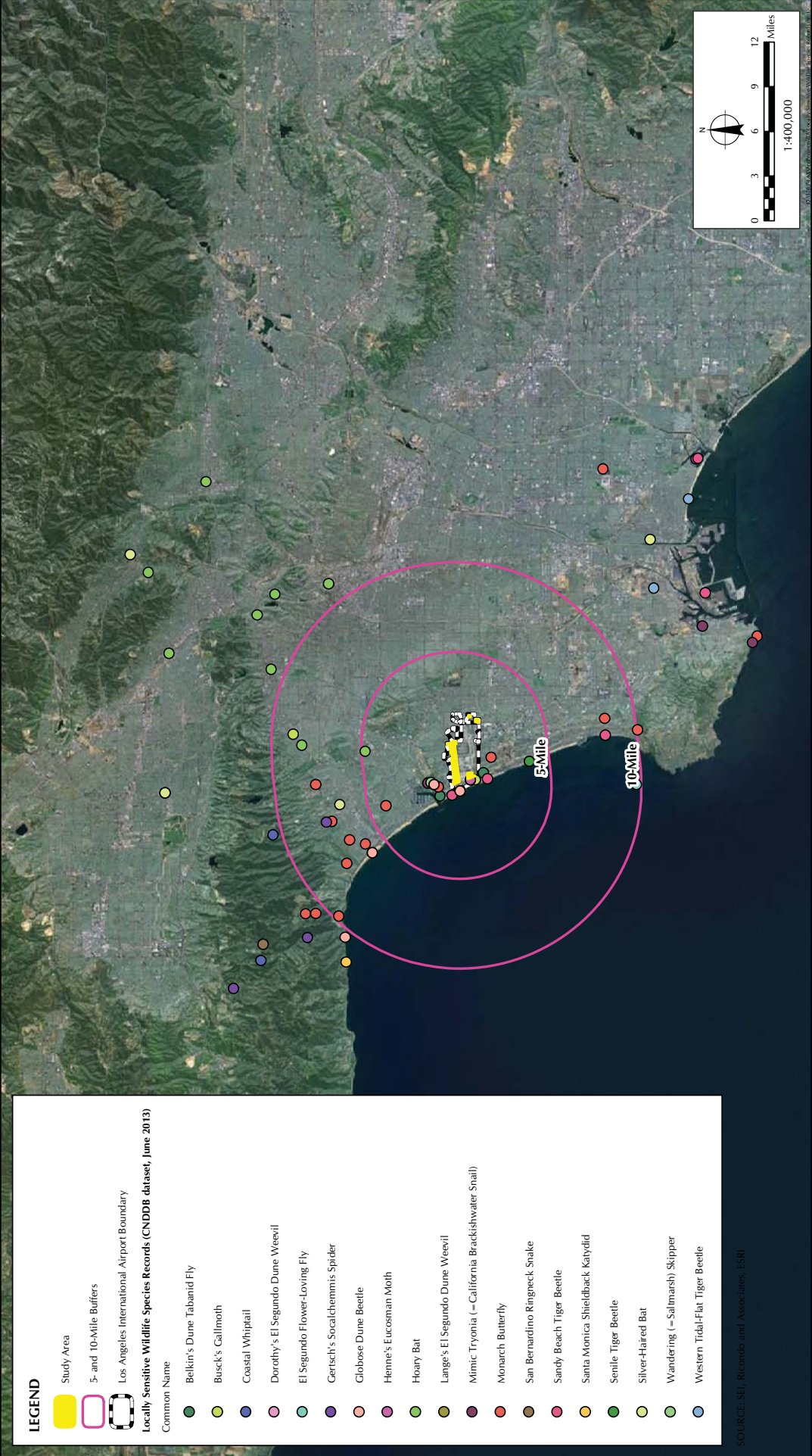






FIGURE 4.8-1
Locally Sensitive Wildlife Species Records



SOURCE: SH, Ricondo and Associates, ES8



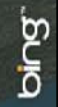
LEGEND

-  Wintering Burrowing Owl and Burrow - 2013
-  Study Area Boundary
-  North Airfield Area
-  Los Angeles International Airport Boundary

SOURCE: SEI, Ricombo and Associates, ESRI



FIGURE 4.8-2
Locally Sensitive Wildlife Species Observations



The proposed undertaking areas adjacent to the runway lie within an active management area identified in the LAX Wildlife Hazard Management Plan (WHMP) prepared by an FAA qualified wildlife biologist on behalf of the airport. The goal of an airport's WHMP is to minimize the risk to aviation safety, airport structures or equipment, or human health posed by populations of hazardous wildlife on and around the airport. The WHMP identifies hazardous wildlife attractants on or near the airport and the appropriate wildlife damage management techniques to minimize the wildlife hazard. The Argo Ditch and grass between runways are identified hazardous wildlife attractants at LAX that contain vegetation that are managed under the WHMP to minimize wildlife hazards at LAX. In addition, some prey species around the runways are also actively managed to minimize wildlife hazards under the WHMP. LAX holds a current Federal Fish and Wildlife Service Depredation Permit which allows for the limited take, temporary possession, and transport of migratory birds and nests at the airport to relieve or prevent injurious situations impacting public safety. California Fish and Game Code Sections 4000-4012, 4152 and 4180 allow for U.S. Department of Agriculture (USDA) wildlife biologists to take fur-bearing mammals to protect property at the airport.

4.9 Federally Listed and Candidate Wildlife Species

All ten of the federally-listed sensitive wildlife species that were identified as potentially occurring in the vicinity of the proposed undertaking area were determined to be absent as a result of directed surveys (Table 4.9-1, *Federally Listed and Candidate Wildlife Species Potentially Occurring in the Northern Runway Safety Area Improvements Study Area*). However, occupied habitat for two species, El Segundo blue butterfly and coastal California gnatcatcher, is present in close proximity to the proposed undertaking area. An account of each of these species is provided below.

**TABLE 4.9-1
Federally Listed and Candidate Wildlife Species Potentially Occurring In the North Runway Safety Area Improvements Study Area**

Name	Status	Habitat	Survey Results
Invertebrates			
El Segundo blue butterfly <i>Euphilotes battoides allyni</i>	FE	Coastal sand dunes with coastal buckwheat.	Determined to be absent. Known to be present in the vicinity. Determined to be absent in the proposed undertaking area. There is no suitable habitat within the proposed undertaking area. The species was not observed in the proposed undertaking area during 2013 biological surveys or previous surveys in the proposed undertaking area. Occupied habitat is limited to the nearby Los Angeles/EI Segundo Dunes, approximately 0.6 mile south of the proposed undertaking, as documented in the CNDDB.
Palos Verdes blue butterfly <i>Glaucopsyche lygdamus palosverdesensis</i>	FE	Coastal scrub	Determined to be absent. There is no suitable habitat within the proposed undertaking area. The species was not observed during 2013 biological surveys or previous surveys. Nearest CNDDB record is located approximately 9.8 miles south of the proposed undertaking. The nearest critical habitat is located approximately 10 miles to the northwest.
Fish			
Southern steelhead - southern California DPS <i>Oncorhynchus mykiss irideus</i>	FE, SSC	Aquatic, south coast flowing waters	Determined to be absent. There is no suitable habitat within the proposed undertaking area. The species was not observed during 2013 biological surveys or previous surveys. Nearest CNDDB record is located approximately 12 miles northwest of the proposed undertaking. The nearest critical habitat is located approximately 10 miles to the northwest.
Mohave tui chub <i>Siphateles bicolor mohavensis</i>	FE, SE, FP	Aquatic, artificial flowing waters, artificial standing waters	Determined to be absent. There is no suitable habitat within the proposed undertaking area. The species was not observed during 2013 biological surveys or previous surveys. Nearest CNDDB record is located approximately 12 miles southeast of the proposed undertaking. Currently, there is no established or proposed critical habitat for this species.
Birds			
Western snowy plover <i>Charadrius alexandrinus nivosus</i>	FT, SSC, BCC	Great Basin standing waters, sand shore, wetland	Determined to be absent. There is no suitable habitat within the proposed undertaking area. The species was not observed during 2013 biological surveys or previous surveys. Nearest CNDDB record is located approximately 0.8 mile northwest of the proposed undertaking. The nearest critical habitat is located approximately 1,000 feet to the west. Known to nest on Dockweiler State Beach where a protective enclosure exists for their nesting.
Southwestern willow flycatcher <i>Empidonax traillii extimus</i>	FE, SE	Riparian woodland	Determined to be absent. There is no suitable habitat within the proposed undertaking area. The species was not observed during 2013 biological surveys or previous surveys. Nearest CNDDB record is located approximately 10.6 miles southeast of the proposed undertaking. The nearest critical habitat is located approximately 22 miles to the north.
Coastal California gnatcatcher <i>Poliotilia californica californica</i>	FT, SSC	Coastal bluff scrub, coastal scrub	Determined to be absent. Known to be present in the vicinity. Determined to be absent in the proposed undertaking area. There is no suitable habitat within the proposed undertaking area. The species was not observed in the proposed undertaking area during 2013 biological surveys or previous surveys in the proposed undertaking area. Occupied habitat is limited to the nearby Los Angeles/EI Segundo Dunes, approximately 2.8 miles northeast of the proposed undertaking, as documented in the CNDDB. The nearest critical habitat is located approximately 10 miles to the south.
California least tern <i>Sterna antillarum browni</i>	FE, SE, FP	Alkali playa, wetland	Determined to be absent. There is no suitable habitat within the proposed undertaking area. The species was not observed during 2013 biological surveys or previous surveys. Nearest CNDDB record is located approximately 1.2 miles northwest of the proposed undertaking. Currently, there is no established or proposed critical habitat for this species.
Least Bell's vireo <i>Vireo bellii pusillus</i>	FE, SE	Riparian forest, riparian scrub, riparian woodland	Determined to be absent. There is no suitable habitat within the proposed undertaking area. The species was not observed during 2013 biological surveys or previous surveys. Nearest CNDDB record is located approximately 14.7 miles northeast of the proposed undertaking. The nearest critical habitat is located approximately 35 miles to the north.
Mammals			
Pacific pocket mouse <i>Perognathus longimembris pacificus</i>	FE, SSC	Coastal scrub	Determined to be absent. There is no suitable habitat within the proposed undertaking area. The species was not observed during 2013 biological surveys or previous surveys in support of the LAX Master Plan. Potentially suitable habitat is limited to the Los Angeles/EI Segundo Dunes. Nearest CNDDB record is located approximately 1.1 miles south of the proposed undertaking. Currently, there is no designated or proposed critical habitat for this species.

KEY: CNDDB = California Natural Diversity Database; CNPS = California Native Plant Society; FE = federally endangered; FT = federally threatened; FC = federal candidate; FD = federally delisted; BCC = birds of conservation concern; SE = state endangered; ST = state threatened; SSC = state species of special concern; FP = state fully protected; SD = state delisted

NOTE: Critical habitat is only afforded to those species that are listed under the Federal Endangered Species Act as endangered or threatened.

SOURCES: Sapphos Environmental Inc. January 2001. Technical Report LAX Master Plan EIS/EIR, 7. Biological Resources, Memoranda for the Record on Floral and Faunal Surveys. Glenn Lukos Associates, July 2012. Appendix D-1 LAX Specific Plan Amendment Study, Floral and Faunal Compendium and Sensitive Plans and Wildlife. Frank Hovore & Associates, September 28, 1998. Report of sensitive arthropod surveys, Los Angeles International Airport 2015 Master Plan Study Area, 1996-1998. U.S. Department of Transportation, Federal Aviation Administration and City of Los Angeles, Los Angeles World Airports. April 2004. LAX Master Plan EIS/EIR. Available at: http://www.ourlax.org/pub_finalMP.aspx

These wildlife species are listed as endangered, threatened or candidate under the federal Endangered Species Act. Distributions of extant populations of sensitive species near the proposed undertaking site are shown in Figure 4.9-1, *Federal Listed Wildlife Species Records*. Critical habitat for federal-listed wildlife species is shown in Figure 4.9-2, *Wildlife Critical Habitat Map*.

El Segundo Blue Butterfly (*Euphilotes battoides allyni*) is a federally-listed endangered species. This species typically occurs in coastal sand dunes with coastal buckwheat. Occupied habitat for the species has been documented on approximately 200 acres within the El Segundo Dunes. Individuals and sign were not observed during 2013 biological surveys or previous surveys. El Segundo Blue Butterfly was recently observed at Ballona Wetlands and along the coastal strand at the coastal restoration sites by Dr. Richard Arnold. The El Segundo blue butterfly is known from only two other small localities. One locality is a 1.5-acre site at the Chevron Refinery Preserve and a half-acre site at Malaga Cove. The Dunes population represents approximately 90 percent of the known population of this species. The nearest occurrence for the species is located approximately 0.6 mile south of the proposed undertaking site.³² Critical habitat was proposed for this species on February 8, 1977 (42 FR 7972), but was never designated. An additional population was observed on Vandenberg Air Force Base in Santa Barbara County and is discussed in the 5-year review for the species.³³ However, it was unclear whether or not the population identified in Santa Barbara County is the El Segundo blue butterfly.

Palos Verdes blue butterfly (*Glaucopsyche lygdamus palosverdesensis*) is a federally listed endangered species and typically occurs in coastal scrub communities. Habitat for the species was not observed at the proposed undertaking site, but is known to be present in the El Segundo Dunes. Individuals and sign were not observed during 2013 biological surveys or previous surveys in the proposed undertaking area. The nearest occurrence for the species is located approximately 9.8 miles south of the proposed undertaking site.³⁴ The Palos Verdes blue butterfly is known to inhabit the Palos Verdes Peninsula located approximately 10 miles south of the proposed undertaking where its critical habitat can be found.

The Southern California distinct population segment (DPS) of the southern steelhead (*Oncorhynchus mykiss irideus*) is a federally listed endangered species and CDFW species of special concern. It is aquatic and typically occurs in south coast flowing waters. Habitat, individuals and sign were not observed during 2013 biological surveys or previous surveys. The nearest occurrence for the species is located approximately 12 miles northwest of the proposed undertaking site.³⁵ The nearest critical habitat is located approximately 10 miles to the northwest.

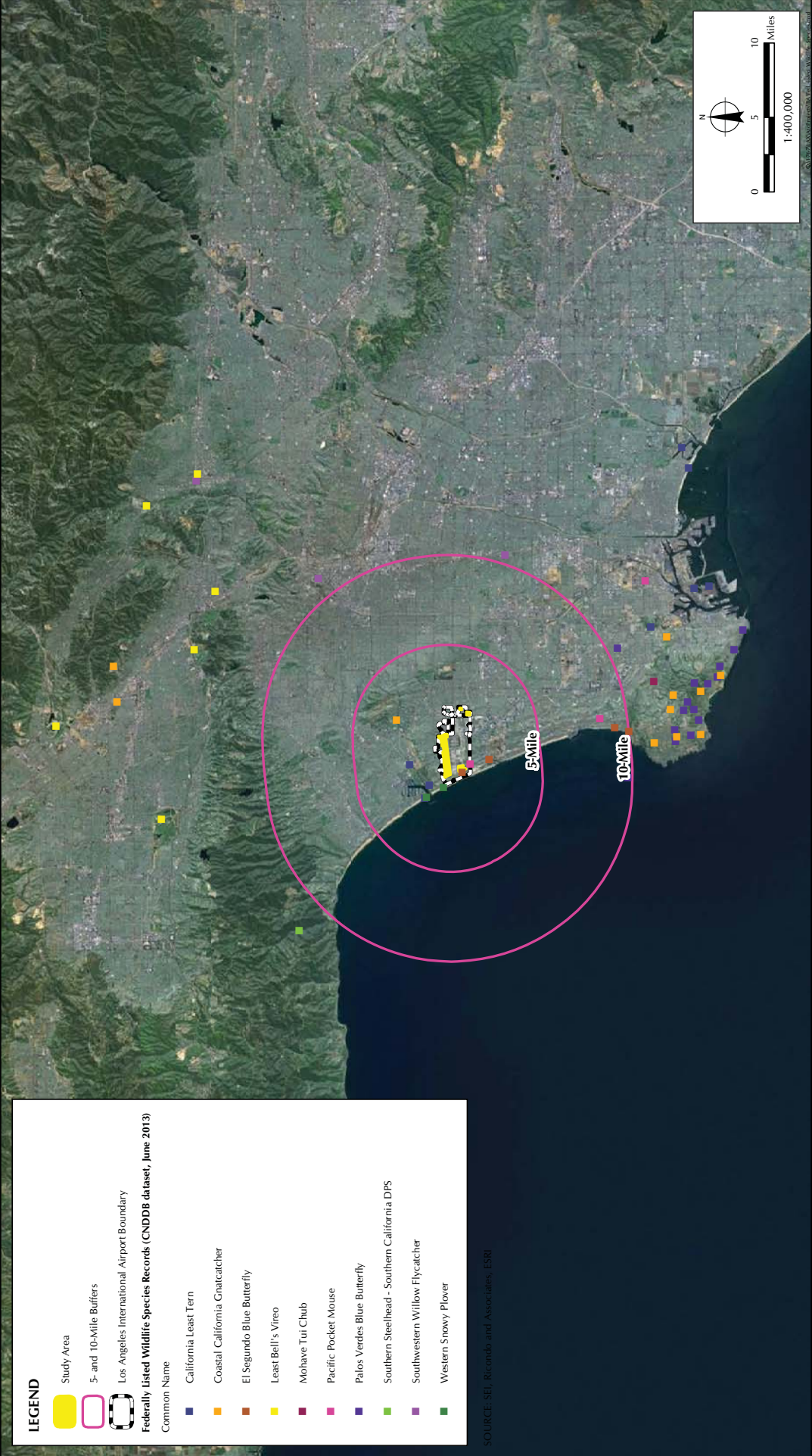
Mohave tui chub (*Siphateles bicolor mohavensis*) is a federally and state-listed endangered species. It is aquatic and typically occurs in artificial flowing waters and artificial standing water. Habitat, individuals, and sign were not observed during 2013 biological surveys or previous surveys. The

³² California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

³³ USFWS. 2008. *El Segundo Blue Butterfly (Euphilotes battoides allynii) 5-Year Review: Summary and Evaluation*. Carlsbad, California.

³⁴ California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

³⁵ California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>



LEGEND

- Study Area
- 5- and 10-Mile Buffers
- Los Angeles International Airport Boundary

Federally Listed Wildlife Species Records (CNDDDB dataset, June 2013)

Common Name	Color
California Least Tern	Blue
Coastal California Gnatcatcher	Orange
El Segundo Blue Butterfly	Brown
Least Bell's Vireo	Yellow
Mohave Tui Chub	Purple
Pacific Pocket Mouse	Pink
Palos Verdes Blue Butterfly	Dark Blue
Southern Steelhead - Southern California DPS	Light Green
Southwestern Willow Flycatcher	Light Purple
Western Snowy Plover	Dark Green

SOURCE: SEI, Ricombo and Associates, ESRI



FIGURE 4.9-1
Federally Listed Wildlife Species Records



- LEGEND**
- Study Area
 - 5- and 10-Mile Buffers
 - Los Angeles International Airport Boundary
 - Proposed Wildlife Critical Habitat (USFWS 1977 dataset)
 - Proposed El Segundo Blue Butterfly
 - Wildlife Critical Habitat (USFWS 2012 dataset)
 - Southern Steelhead - Southern California DPS
 - Coastal California Gnatcatcher
 - Least Bell's Vireo
 - Palos Verdes Blue Butterfly
 - Southwestern Willow Flycatcher
 - Western Snowy Plover

SOURCE: SEI, Ricondo and Associates, ESRI



FIGURE 4.9-2
Wildlife Critical Habitat Map

nearest occurrence for the species is located approximately 12 miles southeast of the proposed undertaking site.³⁶ Currently, there is no established or proposed critical habitat for this species.

Western snowy plover (*Charadrius alexandrinus nivosus*) is a federally listed threatened species and CDFW species of special concern. It typically occurs in great basin standing waters, sand shore, and wetland communities. Habitat, individuals, and sign were not observed during 2013 biological surveys or previous surveys. The nearest occurrence for the species is located approximately 0.8 mile northwest of the proposed undertaking site.³⁷ The nearest critical habitat is located approximately 1,000 feet to the west.

Southwestern willow flycatcher (*Empidonax trailii extimus*) is a federally and state-listed endangered species. It is known to breed in limited riparian areas throughout the Southwest. Habitat, individuals, and sign were not observed during 2013 biological surveys or previous surveys. The nearest occurrence for the species is located approximately 10.6 miles southeast of the proposed undertaking site.³⁸ The nearest critical habitat is located approximately 22 miles to the north.

Coastal California gnatcatcher (*Polioptila californica californica*) is a federally listed threatened species and CDFW species of special concern. It typically occurs in coastal bluff scrub and coastal scrub. Habitat for the species was not observed in the proposed undertaking area, though suitable habitat is known to be present in the nearby El Segundo Dunes. Individuals and sign were not observed during 2013 biological surveys. At least one pair was observed nesting in the El Segundo Dunes in 2013. The nearest occurrence for the species is located approximately 2.8 miles northeast of the proposed undertaking site.³⁹ The nearest critical habitat is located approximately 10 miles to the south.

California least tern (*Sterna antillarum browni*) is a federally and state listed endangered species. It typically occurs in alkali playa and wetlands. It nests along the coast from San Francisco south into Baja California, Mexico. This species is a bird of the open ocean and near-shore waters. It is known to breed at a colony 3 miles north of the proposed undertaking area. Habitat, individuals and sign were not observed during 2013 biological surveys or previous surveys. The nearest occurrence for the species is located approximately 1.2 miles northwest of the proposed undertaking site.⁴⁰

³⁶ California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

³⁷ California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

³⁸ California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

³⁹ California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

⁴⁰ California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

Least Bell's Vireo (*Vireo bellii pusillus*) is a federally and state-listed endangered species. It typically occurs in riparian forest, riparian scrub and riparian woodland. Habitat, individuals and sign were not observed during 2013 biological surveys or previous surveys. The nearest occurrence for the species is located approximately 14.7 miles northeast of the proposed undertaking site.⁴¹ Nearest critical habitat is located approximately 35 miles to the north.

Pacific pocket mouse (*Perognathus longimembris pacificus*) is a federal-listed endangered species and CDFW species of special concern. It typically occurs in coastal scrub communities. It is known from only three localities in coastal southern California. Attempts to locate this species at El Segundo Dunes have been unsuccessful. The dunes contain the largest remaining area of historically occupied habitat. Habitat was not observed within the proposed undertaking area, however is known to be present in the El Segundo Dunes. Individuals and sign were not observed during 2013 biological surveys or previous surveys. The nearest occurrence for the species is located approximately 1.1 miles south of the proposed undertaking site.⁴² Currently, there is no established or proposed critical habitat for this species.

4.10 Wetlands and Waters of the United States

There is one man-made drainage channel on the proposed undertaking site. The Argo Ditch is identified in the NWI as a riverine, intermittent, streambed with a temporary flooded water regime and is excavated. Mitigation for emergency maintenance activities within the Argo Ditch was completed by LAWA in 2004 (Appendix C, *Wetlands and Waters of the United States*).

4.11 Designated Conservation Areas

There are no current or proposed Habitat Conservation Plans or Natural Community Conservation Plan areas covering or adjacent to the proposed undertaking. However, the proposed undertaking is located east of the County of Los Angeles General Plan's El Segundo Dunes Significant Ecological Area and the Los Angeles / El Segundo Dunes El Segundo Blue Butterfly Habitat Restoration Area Boundary (Figures 4.11-1, *State and County Designated Conservation Areas*, and 4.11-2, *City Designated Conservation Areas*). The LAX El Segundo Dunes was also identified as an important natural resource and as an open space nature preserve in the City of Los Angeles General Plan and Ordinances No. 167940 and 169767. The City of Los Angeles General Plan delegates responsibility for the conservation of the LAX El Segundo Dunes to the City of Los Angeles Department of Airports, also known as LAWA, the department responsible for the LAX facility.

The Dockweiler State Beach Habitat Restoration Area occurs approximately 0.6 mile south of the westernmost study area and is focused on restoring coastal dune habitat for the El Segundo Blue Butterfly.

⁴¹ California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

⁴² California Department of Fish and Wildlife. 2013. *Rarefind 4.0: A Database Application for the Use of California Department of Fish and Wildlife Natural Diversity Database*. Sacramento, CA. Available at: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>



SOURCE: SEI, Ricombo and Associates, ESRI












- LEGEND**
-  Study Area Boundary
 -  Los Angeles International Airport Boundary
 -  LAX / El Segundo Dunes Preserve
 -  Ballona Wetlands Ecological Reserve
 - State of California Significant Ecological Areas (SEA)**
 -  Dockweiler State Beach Habitat Restoration Area
 - Los Angeles County Significant Ecological Areas (SEA)**
 -  Ballona Creek
 -  El Segundo Dunes



FIGURE 4.11-1
State and County Designated Conservation Areas



LEGEND

-  Study Area Boundary
-  Los Angeles International Airport Boundary
-  El Segundo Blue Butterfly Habitat Restoration Area
-  LAX / El Segundo Dunes Preserve

SOURCE: SEI Ricondo and Associates, ESRI



FIGURE 4.11-2

City Designated Conservation Areas

5.0 IMPACTS

Implementation of the proposed undertaking would result in converting approximately 6.0 undeveloped acres to relocate service roads. In addition, a portion of the 126.1 acres of undeveloped land and 57.7 acres of developed land will be used as staging areas. These activities will not likely result in impacts to any federally or state-listed threatened or endangered or candidate species. Additionally, project activities will not likely result in impacts to other locally sensitive plant or wildlife species. Impacts are described in greater detail below.

5.1 Plants

There are 12 federally listed plant species that were identified as having potential to occur within the proposed undertaking site. Of these 12 species, none were found to occur in the study area as a result of general surveys focused on searching for sensitive plant species. Potential impacts to federally listed or candidate species would not occur from implementation of the proposed undertaking.

5.2 Wildlife

There are 10 federally listed wildlife species that were identified during the database search. Of these 10 species, none were found to occur in the study area as a result of general surveys focused on searching for sensitive wildlife species. Potential impacts to federally listed or candidate species would not occur from implementation of the proposed undertaking.

6.0 RECOMMENDATIONS

6.1 General

Nesting Birds

Several species of birds were presumed to be nesting in vegetation along the Argo Ditch based on behavioral cues. The USFWS has issued a Federal Fish and Wildlife Permit to LAWA for the Depredation of Migratory Birds at Airports, which allows take of native bird species and their nests for those species that are not threatened or endangered. Harassment and/or removal of endangered/threatened species and/or bald and golden eagles require additional permits from the Migratory Bird Permit Office and/or Ecological Services Office.

The airport's Wildlife Hazard Management Plan calls for "the vegetation that grows alongside and in the Argo Ditch on LAX property [to] be removed and maintained so that habitat is not provided for waterfowl, herons, blackbirds, and other wildlife that could present a direct or indirect hazard to aviation. Vegetation within the Argo Ditch should be cleared regularly so that vegetation remains below 3 feet tall, thereby reducing potential roosting, foraging, and nesting habitat. Clearing is recommended outside of the breeding season, which is typically February 15 to August 15, but some maintenance of the vegetation would be necessary during the breeding season because wetland plants grow quickly and can obtain heights suitable for birds within 1 to 2 months after clearing.

It is recommended that construction activities take place outside of the breeding season. If clearing or construction takes place during the breeding season in areas that have potential for nesting birds or raptors, an FAA-qualified biologist should provide pre-construction sweeps prior to clearing of vegetation to determine (1) if nests are present and (2) that avifauna present are not threatened or endangered species. Assuming no threatened/endangered species are present, clearing activities can commence under the permit. Netting or other bird exclusion methods should be used to discourage birds from nesting in construction equipment and facilities, if determined by the wildlife biologist to be necessary. Any removal of birds or nests shall be conducted by the LAX USDA Wildlife Services Wildlife biologists who have the primary responsibility at LAX for implementing and logging depredation activities and for submitting annual depredation permit reports.

6.2 Plants

Federally Listed Species

Federally listed plant species were not found to occur in the proposed undertaking site; therefore, recommendations are not made.

Other Sensitive Species

LEWIS' EVENING PRIMROSE

Pre-construction surveys are recommended for Lewis' evening primrose to determine the presence/absence of the species. If these species are observed during pre-construction surveys,

they will be flagged for avoidance. If individuals cannot be avoided and will be impacted by construction activities, mitigation should occur. Mitigation for this species generally consists of relocating individuals and/or planting seeds collected from individuals that will be impacted.

6.3 Wildlife

Federally Listed Species

Federally listed wildlife species were not found to occur in the proposed undertaking site; therefore, recommendations are not made.

Other Sensitive Species

BURROWING OWL

Pre-construction surveys are recommended for burrowing owl to determine the presence/absence of active burrows for the species. If active burrows for the species are observed during pre-construction surveys, they will be flagged for avoidance. If active burrows cannot be avoided and will be impacted by construction activities, mitigation should occur. Mitigation for this species generally consists of passively relocating individuals by creating additional suitable burrows outside the impact area. One potential site for relocation is the LAX El Segundo Dunes.

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APPENDIX A

OTHER SENSITIVE PLANT SPECIES

Federally Listed Species

All 12 of the federally listed plant species that were identified as potentially occurring in the vicinity of the project area were not observed during the 2013 surveys. These 12 species include: marsh sandwort (*Arenaria paludicola*), Braunton's milk-vetch (*Astragalus brauntonii*), Ventura Marsh milk-vetch (*Astragalus pycnostachyus* var. *lanosissimus*), coastal dunes milk-vetch (*Astragalus tener* var. *titi*), San Fernando Valley spineflower (*Chorizanthe parryi* var. *Fernandina*), salt marsh bird's-beak (*Chloropyron maritimum* ssp. *maritimum*), Santa Monica dudleya (*Dudleya cymosa* ssp. *ovatifolia*), Gambel's water cress (*Nasturtium gambelii*), spreading navarretia (*Navarretia fossalis*), California Orcutt grass (*Orcuttia californica*), Lyon's pentachaeta (*Pentachaeta lyonii*), and Brand's star phacelia (*Phacelia stellaris*).

State-Listed Species

One state-listed plant species was identified as potentially occurring in the vicinity of the project area: beach spectaclepod (*Dithyrea maritime*). This species was not observed during 2013 surveys. This plant species is not listed under the federal ESA. However, it is listed under the state ESA (Table A-1, *Other Sensitive Plant Species with Potential to Occur*). Distributions of extant populations of sensitive species near the proposed project site are shown in Figure A-1, *State Listed Plant Wildlife Species Records*. Sixty plant species from 25 families were identified during the 2013 survey (Attachment A-1, *Floral Compendium*).

Other Sensitive Species

Twenty-seven other sensitive plant species were identified as potentially occurring in the vicinity of the project area. One of these species, Lewis' evening primrose, was observed during 2013 surveys in the western portion of the project area. The remaining 26 species were not observed in the vicinity of the project area during 2013 surveys and include: Aphanisma (*Aphanisma blitoides*), south coast saltscale (*Atriplex pacifica*), Parish's brittlescale (*Atriplex parishii*), Davidson's saltscale (*Atriplex serenana* var. *davidsonii*), slender mariposa-lily (*Calochortus clavatus* var. *gracilis*), Plummer's mariposa-lily (*Calochortus plummerae*), Santa Barbara morning-glory (*Calystegia sepium* ssp. *binghamiae*), Southern tarplant (*Centromadia parryi* ssp. *Australis*), coastal goosefoot (*Chenopodium littoreum*), many-stemmed dudleya (*Dudleya multicaulis*), island green dudleya (*Dudleya virens* ssp. *insularis*), Los Angeles sunflower (*Helianthus nuttallii* ssp. *parishii*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), white-veined monardella (*Monardella hypoleuca* ssp. *hypoleuca*), mud nama (*Nama stenocarpum*), prostrate vernal pool navarretia (*Navarretia prostrate*), south coast branching phacelia (*Phacelia ramosissima* var. *austrolitoralis*), Ballona cinquefoil (*Potentilla multijuga*), white rabbit-tobacco (*Pseudognaphalium leucocephalum*), Salt Spring checkerbloom (*Sidalcea neomexicana*), estuary seablite (*Suaeda esteroa*), San Bernardino aster (*Symphyotrichum defoliatum*), and Greata's aster (*Symphyotrichum greatae*).

These species are not listed under the federal ESA. However, they have been identified by federal and/or state resource agencies and the CNPS as rare or sensitive in all or a portion of their native range (Table A-1). Distributions of extant populations of sensitive species near the proposed project site are shown in Figure A-2, *Other Sensitive Plant Species Records*.

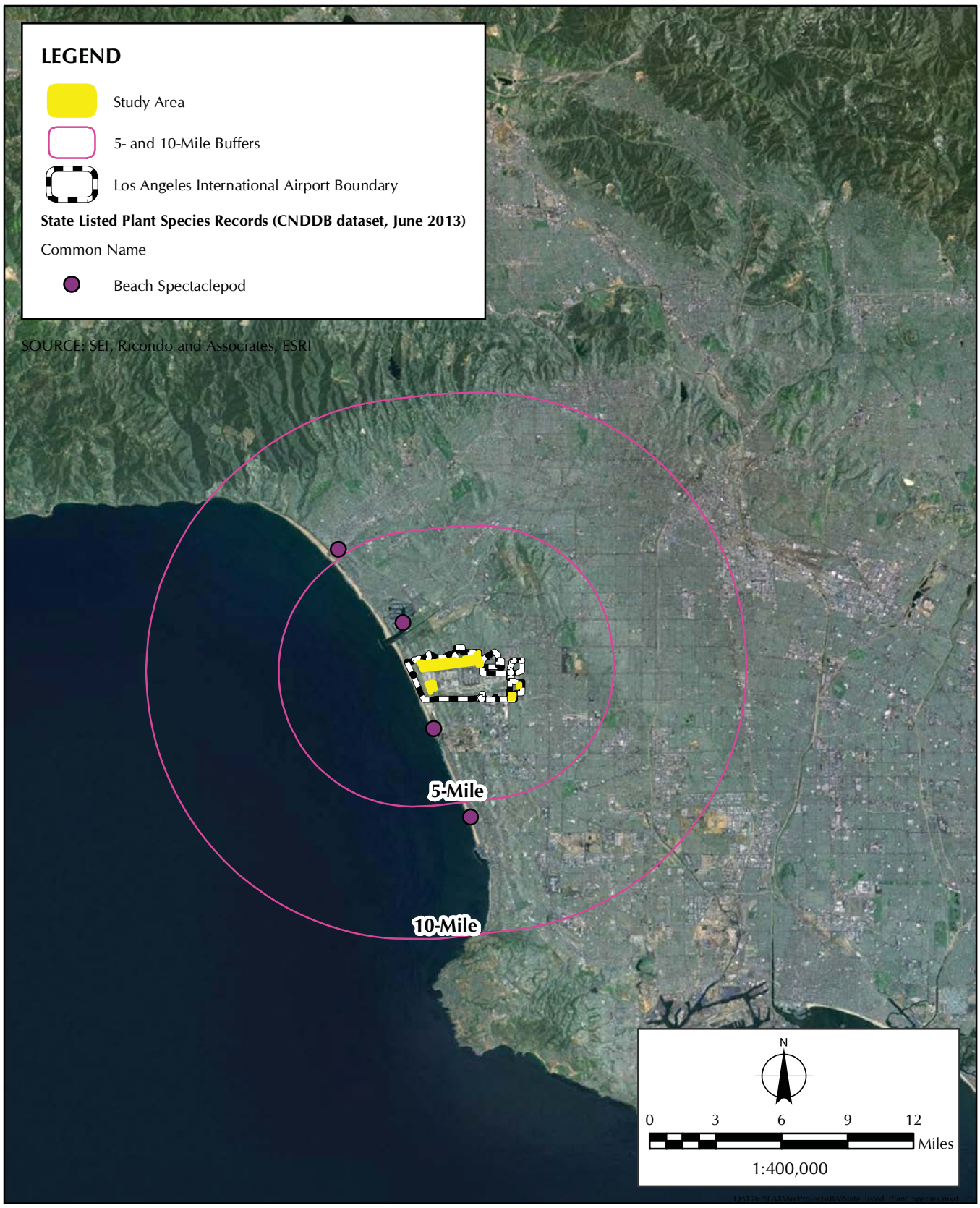


FIGURE A-1
State Listed Sensitive Plant Species Records

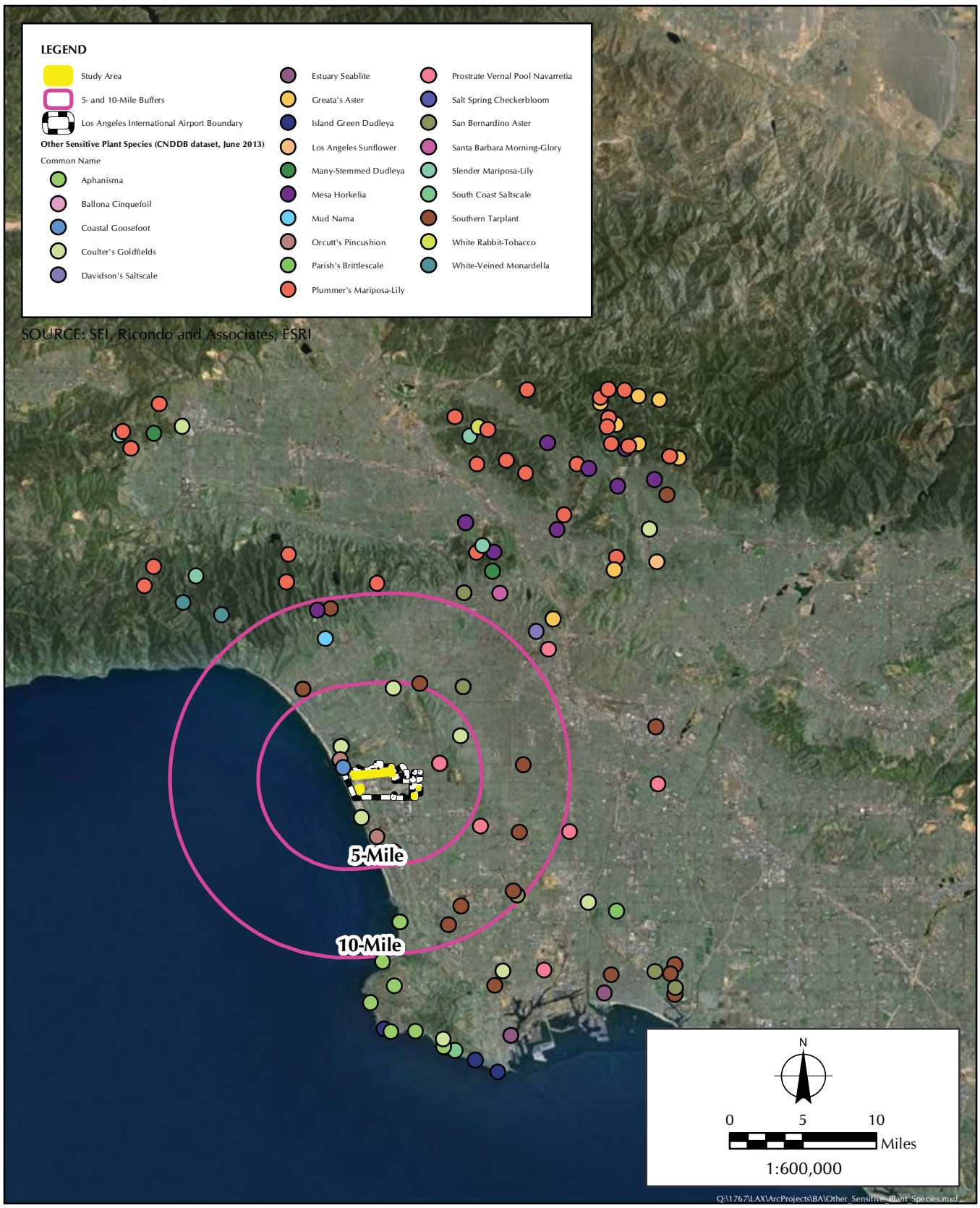


FIGURE A-2
Other Sensitive Plant Species Records

**TABLE A-1
Other Sensitive Plant Species with Potential to Occur**

Name	Status	Habitat	Survey Results
Plants			
<i>Aphanisma biflorides</i>	CNPS 1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals not detected during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 8.5 miles south of the proposed undertaking site.
South coast saltscale	CNPS 1B.2	Chenopod scrub, Coastal bluff scrub, Coastal scrub	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals not detected during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 6.3 miles northeast of the proposed undertaking site.
<i>Triplex pacifica</i>	CNPS 1B.1	Alkali playa, Chenopod scrub, Meadow and seep, Vernal pool, Wetland	Determined to be absent. Habitat and individuals were not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 5.7 miles northwest of the proposed undertaking site.
<i>Atriplex parishii</i>	CNPS 1B.2	Coastal bluff scrub, Coastal scrub	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals not detected during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 6.3 miles northeast of the proposed undertaking site.
Slender mariposa-lily	CNPS 1B.2	Chaparral, Coastal scrub	Not likely to occur. Habitat observed in Los Angeles / El Segundo Dunes. Individuals not detected during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 13.7 miles northeast of the proposed undertaking site.
<i>Calochortus clavatus</i> var. <i>gracilis</i>	CNPS 4.2	Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Valley and foothill grassland	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals not detected during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 10.7 miles north of the proposed undertaking site.
Plummer's mariposa-lily	CNPS 1B.1	Marsh and swamp, Salt marsh, Wetland	Determined to be absent. Habitat and individuals were not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 6.3 miles northeast of the proposed undertaking site.
<i>Calochortus plummerae</i>	CNPS 3	Coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland	Determined to be present. Habitat observed in Los Angeles / El Segundo Dunes. Observed westernmost area enclosed by the two runways and taxiways. Previously detected in Spring 1998 near western end of north runway.
Santa Barbara morning-glory	CNPS 1B.1	Marshes, swamps, valley and foothill grassland, vernal pools.	Determined to be absent. Habitat and individuals were not observed during 2013 biological surveys. Previously detected within Continental City Property and East Contractor Employee Parking Area in Fall 2008. Nearest CNDDDB record is located approximately 1.8 miles northwest of the proposed undertaking site.
*Lewis' evening primrose	CNPS 1B.1	Coastal bluff scrub, Coastal dunes	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals not detected during 2013 biological surveys. Reported present in LAX Master Plan prior to taxon inclusions of variations. Nearest CNDDDB record is located approximately 1.2 miles northwest of the proposed undertaking site.
<i>Camissonopsis lewisii</i>	CNPS 1B.2	Coastal dunes	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals not detected during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 0.8 mile northwest of the proposed undertaking site.
Southern tarplant	CNPS 1B.1	Coastal dunes, Coastal scrub	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals not detected during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 1.8 miles northwest of the proposed undertaking site.
<i>Centromadia parryi</i> ssp. <i>Australis</i>	CNPS 1B.2	Chaparral, Coastal scrub, Valley and foothill grassland	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals not detected during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 1.8 miles northwest of the proposed undertaking site.
<i>Orcuttii</i> pincushion	CNPS 1A	Coastal bluff scrub, Coastal scrub	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals not detected during 2013 biological surveys. Reported present in LAX Master Plan prior to taxon inclusions of subspecies. Nearest CNDDDB record is located approximately 9.5 miles north of the proposed undertaking site.
<i>Chaenactis glabriuscula</i> var. <i>orcuttiana</i>	CNPS 1B.1	Freshwater marsh, Marsh and swamp, Salt marsh, Wetland	Determined to be absent. Habitat and individuals were not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 6.3 miles northeast of the proposed undertaking site.
Coastal goosefoot	CNPS 1B.1	Chaparral, cismontane woodland, coastal scrub.	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals were not observed during 2013 biological surveys. Reported present in LAX Master Plan prior to taxon inclusions of subspecies. Nearest CNDDDB record is located approximately 9.5 miles north of the proposed undertaking site.
<i>Chenopodium littoreum</i>	CNPS 1B.1	Alkali playa, Marsh and swamp, Salt marsh, Valley and foothill grassland, Vernal pool, Wetland	Determined to be absent. Habitat and individuals were not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 11.8 miles northwest of the proposed undertaking site.
Beach spectaclepod	CNPS 1B.3	Chaparral, Cismontane woodland	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals not detected during 2013 biological surveys. Previously detected in 1998 in Habitat Restoration Area.
<i>Dithyrea maritima</i>	CNPS 4.2	Coastal scrub, chaparral.	Determined to be absent. Habitat and individuals were not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 7.9 miles north of the proposed undertaking site.
Many-stemmed dudleya	CNPS 2.2	Marsh and swamp, Wetland	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals not detected during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 2.8 miles east of the proposed undertaking site.
<i>Dudleya multicaulis</i>	CNPS 1B.1	Coastal scrub, Valley and foothill grassland, Vernal pool, Wetland	Determined to be present west of project area. Habitat observed in Los Angeles / El Segundo Dunes. Observed west of Pershing Drive during 2013 biological surveys. Previously detected in 2011 in Los Angeles / El Segundo Dunes.
Island green dudleya	CNPS 1B.1	Coastal scrub, chaparral.	
<i>Dudleya virens</i> ssp. <i>insularis</i>	CNPS 1B.1	Marsh and swamp, Wetland	
Los Angeles sunflower	CNPS 1B.1	Marsh and swamp, Wetland	
<i>Helianthus nuttallii</i> ssp. <i>parishii</i>	CNPS 1B.1	Marsh and swamp, Wetland	
Mesa horckelia	CNPS 1B.1	Marsh and swamp, Wetland	
<i>Horckelia cuneata</i> ssp. <i>puberula</i>	CNPS 1B.1	Marsh and swamp, Wetland	
Coulter's goldfields	CNPS 1B.1	Marsh and swamp, Wetland	
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	CNPS 1B.1	Marsh and swamp, Wetland	
White-veined monardella	CNPS 1B.1	Marsh and swamp, Wetland	
<i>Monardella hypoleuca</i> ssp. <i>hypoleuca</i>	CNPS 1B.1	Marsh and swamp, Wetland	
*California spinyflower	CNPS 1B.1	Marsh and swamp, Wetland	
<i>Mucronaea californica</i>	CNPS 1B.1	Marsh and swamp, Wetland	
Mud nama	CNPS 1B.1	Marsh and swamp, Wetland	
<i>Nama stenocarpum</i>	CNPS 1B.1	Marsh and swamp, Wetland	
Prostrate vernal pool navaretia	CNPS 1B.1	Marsh and swamp, Wetland	
<i>Navaretia prostrata</i>	CNPS 1B.1	Marsh and swamp, Wetland	
*South coast branching phacelia	CNPS 3.2	Marsh and swamp, Wetland	
<i>Phacelia ramosissima</i>	CNPS 3.2	Marsh and swamp, Wetland	

**TABLE A-1
Other Sensitive Plant Species with Potential to Occur, Continued**

Name	Status	Habitat	Survey Results
<i>Balloua cinoquifolii</i>	CNPS 1A	Meadow and seep	Determined to be absent. Habitat and individuals were not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 1.8 miles northwest of the proposed undertaking site.
<i>Potentilla multijuga</i>	CNPS 2.2	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals not detected during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 10.9 miles northeast of the proposed undertaking site.
<i>Pseudognaphalium leuccephalum</i>	CNPS 2.2	Alkali playa, Brackish marsh, Chaparral, Coastal scrub, Lower montane coniferous forest, Marsh and swamp, Mojavean desert scrub, Wetland	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals not detected during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 5.7 miles northwest of the proposed undertaking sites.
Salt Spring checkerbloom <i>Sida/cea neomevicana</i>	CNPS 1B.2	Marsh and swamp, Salt marsh, Wetland	Determined to be absent. Habitat and individuals were not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 16.3 miles southeast of the proposed undertaking site.
Estuary seabite <i>Suaeda esteroa</i>	CNPS 1B.2	Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Marsh and swamp, Meadow and seep, Valley and foothill grassland, Wetland	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals not detected during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 6.3 miles northeast of the proposed undertaking site.
San Bernardino aster <i>Symphoricarichum detoliatum</i>	CNPS 1B.3	Chaparral, Cismontane woodland	Determined to be absent. Habitat and individuals were not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 12.6 miles northeast of the proposed undertaking site.
Habitats			
Southern Coast Live Oak Riparian Forest	G4, S4	Riparian forest	Determined to be absent. Habitat not observed during 2013 biological surveys. Nearest CNDDDB record is located approximately 12.1 miles northwest of the proposed undertaking site.
Southern Coastal Bluff Scrub	G1, S1.1	Coastal bluff scrub	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes during 2013 biological surveys. Nearest CNDDDB record is located approximately 13.3 miles south of the proposed undertaking site.
Southern Coastal Salt Marsh	G2, S2.1	Marsh and swamp, Wetland	Determined to be absent. Habitat not observed during 2013 biological surveys. Nearest CNDDDB record is located approximately 1.2 miles northwest of the proposed undertaking site.
Southern Dune Scrub	G1, S1.1;	Coastal dunes	Determined to be present west of project area. Habitat observed in Los Angeles / El Segundo Dunes during 2013 biological surveys. Nearest CNDDDB record is located approximately 0.9 miles south of the proposed undertaking site.
Southern Sycamore Alder Riparian Woodland	G4, S4	Riparian woodland	Determined to be absent. Habitat not observed during 2013 biological surveys. Nearest CNDDDB record is located approximately 8.9 miles northwest of the proposed undertaking site.
California Walnut Woodland	G2, S2.1	Cismontane woodland	Determined to be absent. Habitat not observed during 2013 biological surveys. Nearest CNDDDB record is located approximately 12 miles north of the proposed undertaking site.

KEY:
 CNDDDB = California Natural Diversity Database
 CNPS = California Native Plant Society
 FE = federally endangered
 FT = federally threatened
 FC = federal candidate
 FD = federally delisted
 BCC = birds of conservation concern
 SE = state endangered
 ST = state threatened
 SSC = state species of special concern
 FP = state fully protected
 SD = state delisted

NOTE:
 *Critical habitat is only afforded to those species that are listed under the Federal Endangered Species Act as endangered or threatened. Reports describing previously observed species include the Sapphos Environmental Inc. Memoranda and Glenn Lukos Associates Specific Plan Amendment Study.
 CNPS California Rare Plant Rank categories:
 List 1B: Rare, threatened, or endangered in California and elsewhere
 0.1: Seriously endangered in California
 0.2: Fairly endangered in California
 0.3: Not very endangered in California
 List 2: Rare, threatened, or endangered in California, but more common elsewhere
 0.1: Seriously endangered in California
 0.2: Fairly endangered in California
 0.3: Not very endangered in California
 List 3: Review list, more information required
 List 4: Limited distribution (Watch List)
 0.1: Seriously endangered in California
 0.2: Fairly Endangered in California
 0.3: Not very endangered in California

SOURCE:
 Sapphos Environmental Inc. January 2001. Technical Report LAX Master Plan EIS/EIR, 7. Biological Resources, Memoranda for the Record on Floral and Faunal Surveys.
 Glenn Lukos Associates, July 2012. Appendix D-1 LAX Specific Plan Amendment Study, Floral and Faunal Compendium and Sensitive Plants and Wildlife.
 Frank Hovore & Associates, September 28, 1998. Report of sensitive arthropod surveys, Los Angeles International Airport, 2015 Master Plan Study Area, 1996-1998.

ATTACHMENT A-1

FLORAL COMPENDIUM

*Non-native

+Observed on June 14, 2013 in southern dune scrub

Taxonomic designations follow The Jepson Manual.¹

DICOTS

Aizoaceae -- Carpet-Weed Family

*+ *Carpobrotus edulis*
hottentot fig

Amaranthaceae -- Amaranth Family

*+ *Amaranthus albus*
tumbleweed

Anacardiaceae -- Sumac or Cashew Family

+ *Rhus integrifolia*
lemonade berry

Apiaceae -- Carrot Family

* *Foeniculum vulgare*
fennel

Apocynaceae -

* *Nerium oleander*
oleander

Asteraceae -- Sunflower Family

+ *Ambrosia chamissonis*
beach bur-sage

Artemisia californica
California sagebrush

+ *Baccharis pilularis*
coyote brush

+ *Chaenactis glabriuscula* var. *glabriuscula*
yellow pincushion

¹Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. 2012. *The Jepson Manual: vascular plants of California, second edition*. University of California Press, Berkeley.

- **Centaurea melitensis*
tocolote
- **Centaurea solstitialis*
yellow star-thistle
- **Cichorium intybus*
Chicory
- Corethrogyne filaginifolia*
California aster
- +*Ericameria ericoides*
mock heather
- +*Erigeron canadensis*
common horseweed
- Deinandra fasciculata*
fascicled tarplant
- *+*Gazania linearis*
gazania
- **Glebionis coronaria*
crown daisy
- +*Heterotheca grandiflora*
telegraph weed
- *+*Hypochaeris glabra*
smooth cat's-ear
- **Lactuca serriola*
prickly lettuce
- +*Pseudognaphalium biolettii*
two-color rabbit-tobacco
- **Sonchus oleraceus*
common sow thistle
- Xanthium strumarium*
cockleburr

Boraginaceae – Waterleaf Family

- +*Phacelia ramosissima*
branching phacelia

Brassicaceae -- Mustard Family

- *+*Brassica tournefortii*
wild turnip
- +*Erysimum suffrutescens*
suffrutescent wallflower
- *+*Hirschfeldia incana*
shortpod mustard
- *+*Raphanus sativus*
radish
- **Sisymbrium altissimum*
tumble mustard

Chenopodiaceae – Goosefoot Family

*+ *Salsola tragus*
Russian thistle

Convolvulacaceae – Morning Glory Family

* *Convolvulus arvensis*
Bindweed
Calystegia macrostegia ssp. intermedia
South coast morning glory

Euphorbiaceae – Spurge Family

+ *Croton californicus*
California croton
* *Euphorbia peplus*
Petty spurge
*+ *Euphorbia terracina*
Geraldton carnation weed
* *Ricinus communis*
castor bean

Fabaceae – Pea Family

* *Acacia redolens*
Bank catchclaw
+ *Acmispon glaber*
deerweed
Lotus purshianus
Spanish lotus
Lupinus bicolor
miniature lupine
+ *Lupinus chamissonis*
silver dune lupine
* *Melilotus indicus*
sourclover
* *Trifolium pratense*
red clover

Geraniaceae – Geranium Family

*+ *Erodium cicutarium*
redstem filaree

Lauraceae – Laurel Family

* *Cinnamomum camphora*
Camphortree

Magnoliaceae – Magnolia Family

Magnolia grandiflora
Southern magnolia

Malvaceae – Mallow Family

**Malva parviflora*
cheeseweed

Nyctaginaceae – Four O’Clock Family

+*Abronia umbellata* var. *umbellata*
pink sand verbena

Onagraceae – Evening Primrose Family

Camissoniopsis lewisii
Lewis' evening primrose
+*Camissoniopsis cheiranthifolia* subsp. *suffruticosa*
beach evening primrose

Papaveraceae – Poppy Family

+*Eschscholzia californica*
California poppy

Plantaginaceae -- Plantain Family

**Plantago lanceolata*
English plantain

Platanaceae – Plane-Tree Family

Platanus sp.
sycamore

Plumbaginaceae -- Leadwort Family

**Limonium sinuatum*
winged sea lavender

Polygonaceae – Buckwheat Family

+*Eriogonum fasciculatum* var. *fasciculatum*
coastal California buckwheat
Persicaria lapathifolia
common knotweed
Polygonum aviculare
prostrate knotweed

Rumex crispus
curly dock

Rubiaceae – Madder Family

+ *Galium angustifolium* subsp. *angustifolium*
narrow leaved bedstraw

Salicaceae – Willow Family

Salix exigua
sandbar willow
Salix lasiolepis
Arroyo willow

Solanaceae – Nightshade Family

+ *Datura wrightii*
Jimson weed
Solanum americanum
Common nightshade

Ulmaceae – Elm Family

Ulmus parvifolia
Chinese elm

MONOCOTS

Arecaceae – Palm Family

* *Washingtonia robusta*
Mexican fan palm

Cyperaceae – Sedge Family

Schoenoplectus californicus
California bulrush
Cyperus eragrostis
tall flatsedge
Eleocharis cf. macrostachya
common spikerush

Poaceae – Grass Family

*+ *Arundo donax*
Giant reed
*+ *Avena fatua*
wild oat
*+ *Bromus diandrus*
ripgrut brome

- **Bromus madritensis*
red brome
- **Cortaderia jubata*
Pampas grass
- +*Cynodon dactylon*
bermuda grass
- **Echinochloa muricata*
rough barnyard grass
- **Hordeum murinum*
hare barley
- **Lamarckia aurea*
goldentop
- **Festuca perennis*
Perennial rye-grass
- **Paspalum dilatatum*
Dallis grass
- **Pennisetum setaceum*
crimson fountain grass
- **Setaria pumila*
yellow bristle grass

Typhaceae – Cattail Family

- Typha domingensis.*
southern cattail
- Typha latifolia*
broad-leaf cattail

APPENDIX B

OTHER SENSITIVE WILDLIFE SPECIES

Federally Listed Species

All 10 federally listed wildlife species that were identified as potentially occurring in the vicinity of the project area were not observed during the 2013 surveys and include: El Segundo blue butterfly (*Euphilotes battoides allyni*), Palos Verdes blue butterfly (*Glaucopsyche lygdamus palosverdesensis*), southern steelhead – southern California DPS (*Oncorhynchus mykiss irideus*), Mohave tui chub (*Siphateles bicolor mohavensis*), western snowy plover (*Charadrius alexandrinus nivosus*), southwestern willow flycatcher (*Empidonax traillii extimus*), coastal California gnatcatcher (*Polioptila californica californica*), California least tern (*Sternula antillarum browni*), least Bell's vireo (*Vireo bellii pusillus*), and Pacific pocket mouse (*Perognathus longimembris pacificus*).

State-Listed Species

Three state-listed wildlife species were identified as potentially occurring in the vicinity of the project area. None of the three state-listed sensitive wildlife species were observed during 2013 surveys. These species include: California black rail (*Laterallus jamaicensis coturniculus*), Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), and bank swallow (*Riparia riparia*).

These wildlife species are not listed under the federal ESA. However, they are listed under the state ESA (Table B-1, *Other Sensitive Wildlife Species with Potential to Occur*). Distributions of extant populations of sensitive species near the proposed project site are shown in Figure B-1, *State Listed Sensitive Wildlife Species Records*. Twenty-two wildlife species were observed during the 2013 surveys. There were two insect species, three reptile species, and 17 bird species recorded at the project site (Attachment B-1, *Faunal Compendium*).

Other Sensitive Wildlife Species

Eighteen other sensitive wildlife species were identified as potentially occurring in the vicinity of the Project area. One of the 18 other sensitive wildlife species, burrowing owl (*Athene cunicularia*), was observed during 2013 surveys. The remaining 17 species include: silvery legless lizard (*Anniella pulchra pulchra*), Western spadefoot (*Spea hammondi*), western pond turtle (*Emys marmorata*), coast horned lizard (*Phrynosoma blainvillii*), two-striped garter snake (*Thamnophis hammondi*), tricolored blackbird (*Agelaius tricolor*), American peregrine falcon (*Falco peregrinus anatum*), loggerhead shrike (*Lanius ludovicianus*), California brown pelican (*Pelecanus occidentalis californicus*), pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumops perotis californicus*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), south coast marsh vole (*Microtus californicus stephensi*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), big free-tailed bat (*Nyctinomops macrotis*), Southern California saltmarsh shrew (*Sorex ornatus salicornicus*), and American badger (*Taxidea taxus*).

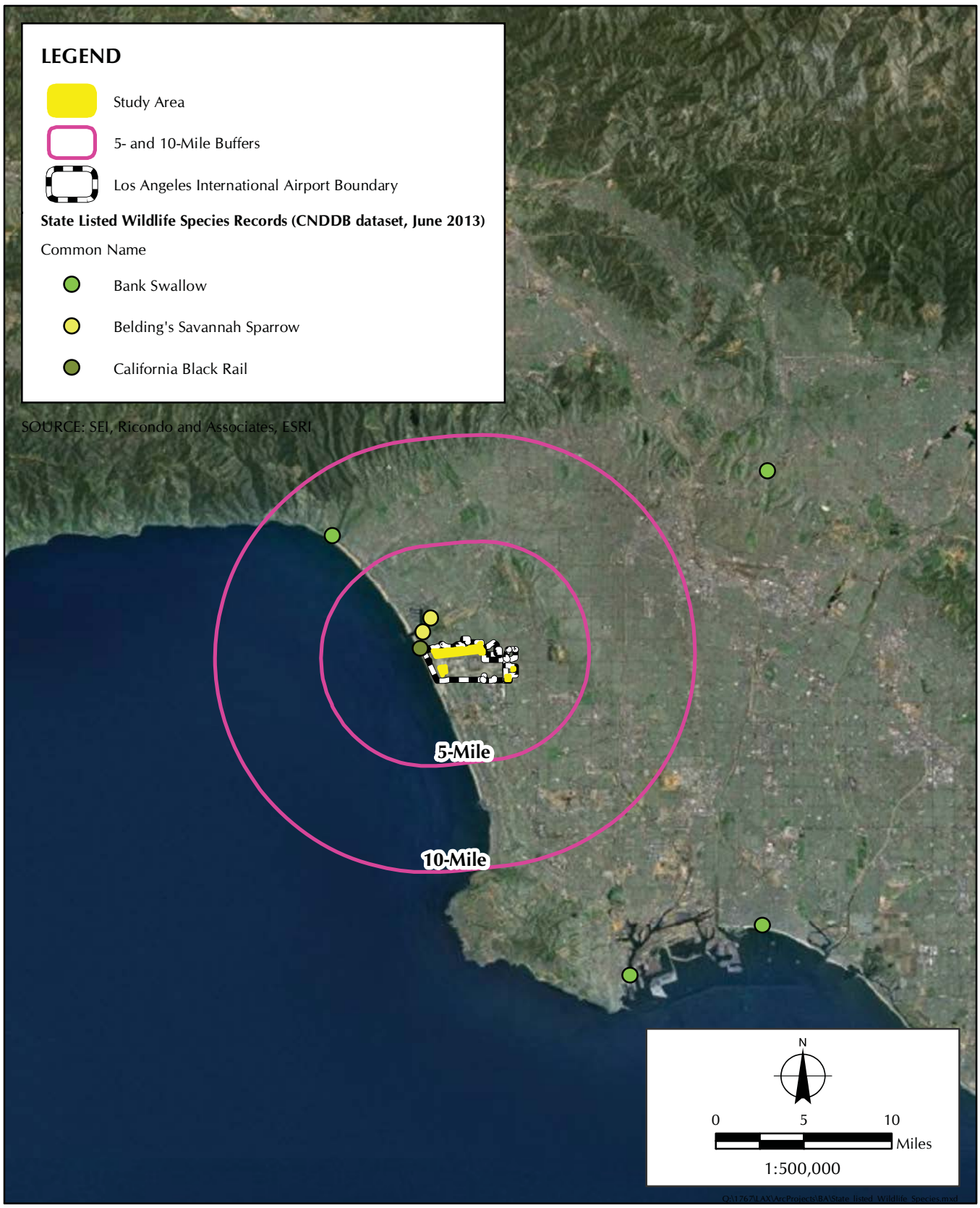


FIGURE B-1
State Listed Sensitive Wildlife Species Records

Burrowing owl was also observed during surveys conducted for the Specific Plan Amendment Study Environmental Impact Report in the area north of Runway 6L-24R on airport property.¹

These wildlife species are not listed under the federal ESA. However, they have been identified by federal and/or state resource agencies as rare or sensitive in all or a portion of their native range (Table B-1). Distributions of extant populations of sensitive species near the proposed project site are shown in Figure B-2, *Other Sensitive Wildlife Species Records*.

Locally Sensitive Wildlife Species

Twenty-four locally sensitive wildlife species were identified as potentially occurring in the vicinity of the project area. None of the 24 locally sensitive wildlife species were observed during 2013 surveys. These species include: Dune scarab beetle (*Aegilla convexa*), Santa Monica shieldback katydid (*Aglaothorax longipennis*), Belkin's dune tabanid fly (*Brennania belkini*), Busck's gallmoth (*Carolella busckana*), western tidal-flat tiger beetle (*Cicindela gabbii*), sandy beach tiger beetle (*Cicindela hirticollis gravida*), senile tiger beetle (*Cicindela senilis frosti*), Globose dune beetle (*Coelus globosus*), Monarch butterfly (*Danaus plexippus*), El Segundo crab spider (*Ebo* sp.), El Segundo sun spider (*Eremobates* sp.), Henne's eucosman moth (*Eucosma hennei*), Lange's El Segundo Dune weevil (*Onychobaris langei*), wandering (=saltmarsh) skipper (*Panoquina errans*), south coast dune beetle (*Psammodytes macclayi*), El Segundo flower-loving fly (*Rhaphiomidas terminatus terminatus*), Gertsch's socalchemmis spider (*Socalchemmis gertschi*), El Segundo Jerusalem cricket (*Stenopelmatus* sp.), Dorothy's El Segundo Dune weevil (*Trigonoscuta dorothea dorothea*), mimic tryonia (=California brackishwater snail) (*Tryonia imitator*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), San Bernardino ringneck snake (*Diadophis punctatus modestus*), hoary bat (*Lasiurus cinereus*), and silver-haired bat (*Lasionycteris noctivagans*).

These wildlife species are not listed under the federal ESA. However, they have been identified by federal and/or state resource agencies as rare or sensitive in all or a portion of their native range (Table B-1). Distributions of extant populations of sensitive species near the proposed project site are shown in Figures B-3 and B-4, *Locally Sensitive Wildlife Species Records*.

¹ Los Angeles World Airports. 2012. *LAX Specific Plan Amendment Study – Draft EIR*. Available at: <http://www.lawa.org/LAXSPAS/Reports.aspx>

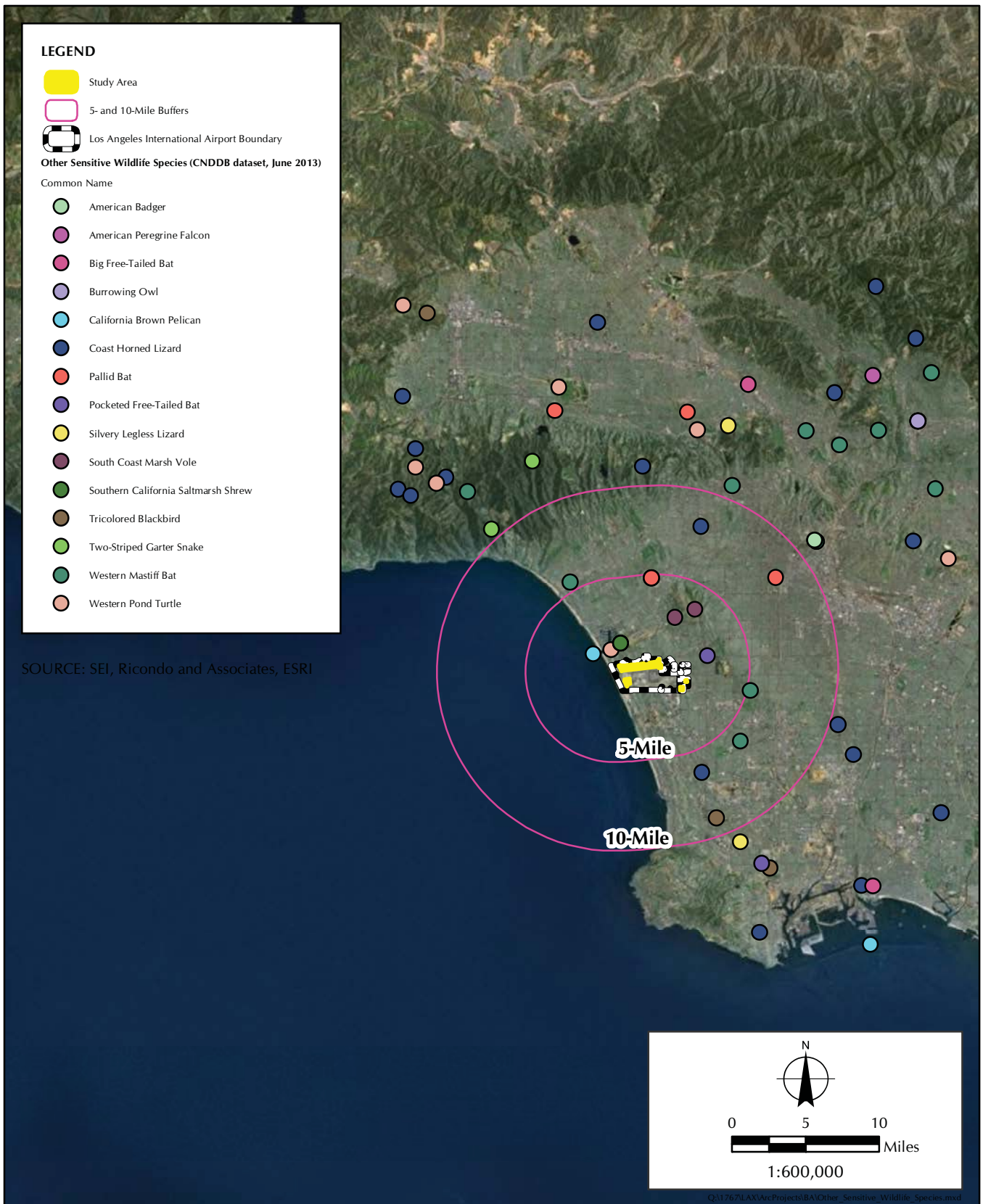


FIGURE B-2
Other Sensitive Wildlife Species Records

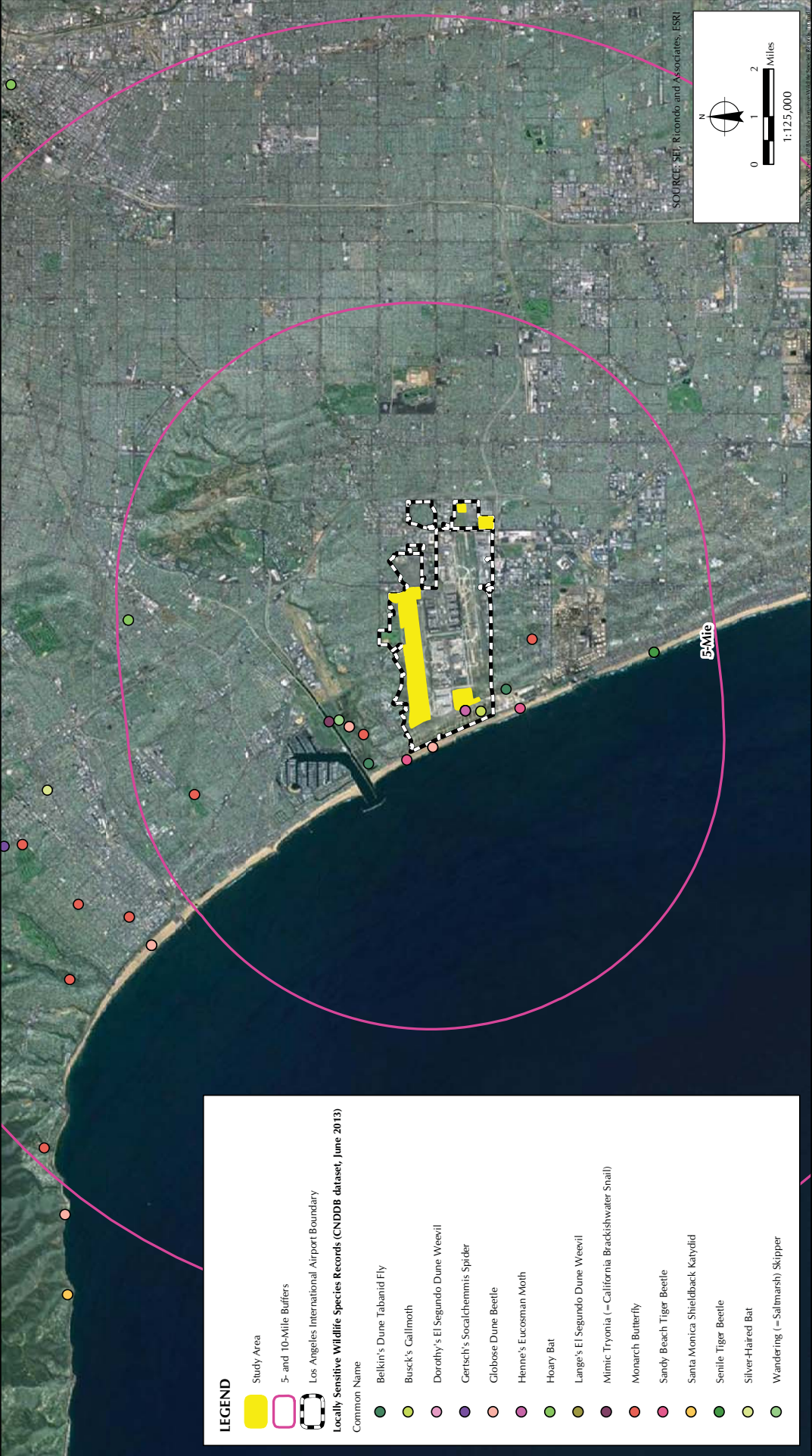
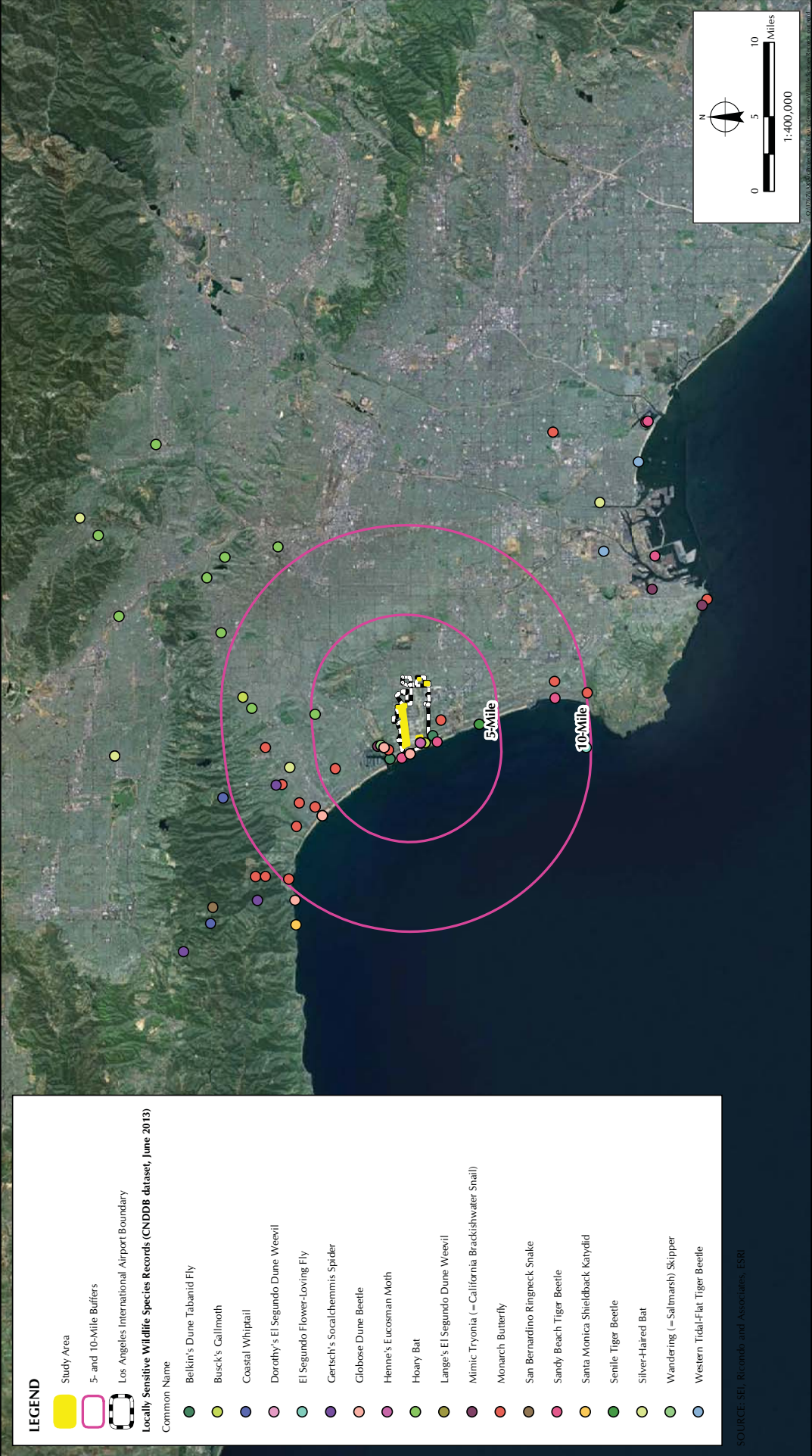


FIGURE B-3
Locally Sensitive Wildlife Species Records





LEGEND

- Study Area
- 5- and 10-Mile Buffers
- Los Angeles International Airport Boundary

Locally Sensitive Wildlife Species Records (CNDDDB dataset, June 2013)

Common Name	Symbol
Belkin's Dune Tabanid Fly	●
Buck's Callmoth	●
Coastal Whiptail	●
Dorothy's El Segundo Dune Weevil	●
El Segundo Flower-Loving Fly	●
Ceirtsch's Socialchemmis Spider	●
Globose Dune Beetle	●
Henne's Eucosman Moth	●
Hoary Bat	●
Lange's El Segundo Dune Weevil	●
Mimic Tryonia (= California Brackishwater Snail)	●
Monarch Butterfly	●
San Bernardino Ringneck Snake	●
Sandy Beach Tiger Beetle	●
Santa Monica Shieldback Katydid	●
Senile Tiger Beetle	●
Silver-Haired Bat	●
Wandering (= Saltmarsh) Skipper	●
Western Tidal-Flat Tiger Beetle	●

SOURCE: SJ, Ricondo and Associates, ESR



FIGURE B-4
Locally Sensitive Wildlife Species Records

**TABLE B-1
Other Sensitive Wildlife Species Potentially Occurring in the Study Area**

Invertebrates	Name	Status	Habitat	Survey Results
	*Dune scarab beetle <i>Aegilla convexa</i>		Ocean beaches, dunes.	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals not observed during 2013 biological surveys. Previously detected in 1996-1998 and 2011 in Los Angeles/El Segundo Dunes.
	Santa Monica shieldback katydid <i>Aglaothorax longipennis</i>		Chaparral	Determined to be absent. Habitat, individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDB record is located approximately 11.8 miles northwest of the proposed undertaking site.
	Belkin's dune tabanid fly <i>Brennania belkini</i>		Southern foredune, Southern dune scrub	Determined to be absent. Habitat observed in the Los Angeles / El Segundo Dunes. Individuals and sign were not observed during 2013 biological surveys. Previously detected in Los Angeles/El Segundo Dunes and LAX (1996-1998). Nearest CNDDB record is located approximately 0.6 mile south of the proposed undertaking site.
	Busck's gallmoth <i>Carolella busckana</i>		Coastal dunes, Coastal scrub	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDB record is located approximately 0.9 mile south of the proposed undertaking site.
	Western tidal-flat tiger beetle <i>Cicindela gabbii</i>		Estuary, Mud shore/flats	Determined to be absent. Habitat, individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDB record is located approximately 14.1 miles southeast of the proposed undertaking site.
	Sandy beach tiger beetle <i>Cicindela hirticollis gravida</i>		Coastal dunes	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDB record is located approximately 0.7 mile northwest of the proposed undertaking site.
	Senile tiger beetle <i>Cicindela senilis frosti</i>		Mud shore/flats, Wetland	Determined to be absent. Habitat, individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDB record is located approximately 4 miles south of the proposed undertaking site.
	Globose dune beetle <i>Coelus globosus</i>		Foredunes, Sand hummocks	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals and sign were not observed during 2013 biological surveys or previous surveys. Previously detected in Los Angeles/El Segundo Dunes (1996-1998). Nearest CNDDB record is located approximately 0.4 mile west of the proposed undertaking site.
	Monarch butterfly <i>Danaus plexippus</i>		Roots in wind-protected tree groves (eucalyptus, Monterey pine, and cypress)	Determined to be absent. Habitat, individuals and sign were not observed during the surveys. Previously detected in Los Angeles/El Segundo Dunes. Nearest CNDDB record is located approximately 1.8 miles northwest of the proposed undertaking site.
	*El Segundo crab spider <i>Ebo</i> sp.		Southern foredune, Southern dune scrub	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals and sign were not observed during 2013 biological surveys. Previously determined to be present (1996-1998).
	*El Segundo sun spider <i>Eremobates</i> sp.		Dunes	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals and sign were not observed during 2013 biological surveys. Previously determined to be present (1996-1998).
	Henne's eucosman moth <i>Eucosma hennei</i>		Coastal dunes	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDB record is located approximately 0.6 mile south of the proposed undertaking site.
	Lange's El Segundo Dune weevil <i>Onychobaris langei</i>		Coastal dunes	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals and sign were not observed during 2013 biological surveys. Nearest CNDDB record is located approximately 0.6 miles south of the proposed undertaking site.
	Wandering (= saltmarsh) skipper <i>Panoquina errans</i>		Marsh and swamp, Wetland	Determined to be absent. Habitat, individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDB record is located approximately 1.4 miles north of the proposed undertaking site.
	*South coast dune beetle <i>Psammotidius macclayi</i>		Sand dune systems along coast and flood plain river systems	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals and sign were not observed during 2013 biological surveys. Previously detected in Los Angeles / El Segundo Dunes (1996-1998).
	El Segundo flower-loving fly <i>Rhaphiomidas terminatus terminatus</i>		Dunes	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDB record is located approximately 9.8 miles southwest of the proposed undertaking site.

**TABLE B-1
Other Sensitive Wildlife Species Potentially Occurring in the Study Area, Continued**

Name	Status	Habitat	Survey Results
Gertsch's socialhemmis spider <i>Socialhemmis gertschi</i>		Coastal scrub	Determined to be absent. Habitat, individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 7.6 miles northwest of the proposed undertaking site.
*El Segundo Jerusalem cricket <i>Stenopelmatus</i> sp.		Southern foredune, Southern dune scrub	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals and sign were not observed during 2013 biological surveys. Previously detected in Los Angeles/El Segundo Dunes (1996-1998).
Dorothy's El Segundo Dune weevil <i>Trigonoscuta dorothea dorothea</i>		Coastal dunes	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 0.3 mile west of the proposed undertaking site.
Mimic tryonia (= California brackishwater snail) <i>Tryonia imitator</i>		Aquatic, Brackish marsh, Estuary, Lagoon, Marsh and swamp, Salt marsh, Wetland	Determined to be absent. Habitat, individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 1.6 miles north of the proposed undertaking site.
Amphibians			
Western spadefoot <i>Spea hammondi</i>	SSC	Cismontane woodland, Coastal scrub, Valley & foothill grassland, Vernal pool, Wetland	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals and sign were not observed during 2013 biological surveys. Previously detected on LAX (1996). Suitable habitat was removed from LAX and there has been a lack of current observations. Nearest CNDDDB record is located approximately 22.9 miles east of the proposed undertaking site.
Reptiles			
Silvery legless lizard <i>Anniella pulchra pulchra</i>	SSC	Coastal sage scrub, Chaparral, Coastal dunes, Valley/foothill grasslands, Oak woodlands, pine forests	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals and sign were not observed during 2013 biological surveys. Previously determined present in Los Angeles/El Segundo Dunes. Nearest CNDDDB record is located approximately 10.9 miles southeast of the proposed undertaking site.
Coastal whiptail <i>Aspidoscelis tigris stejnegeri</i>		Deserts, Semi-arid areas, Woodland, Riparian areas	Determined to be absent. Habitat, individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 10.6 miles of northwest of the proposed undertaking site.
San Bernardino ringneck snake <i>Diadophis punctatus modestus</i>		Open, relatively rocky areas often moist places near intermittent streams	Determined to be absent. Habitat, individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 14.1 miles northwest of the proposed undertaking site.
Western pond turtle <i>Emys marmorata</i>	SSC	Aquatic, Artificial flowing waters, Klamath/North coast flowing waters, Klamath/North coast standing waters, Marsh and swamp, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters, South coast standing waters, Wetland	Determined to be absent. Habitat, individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 1.2 miles northwest of the proposed undertaking site.
Coast horned lizard <i>Phrynosoma blainvillii</i>	SSC	Chaparral, Cismontane woodland, Coastal bluff scrub, Coastal scrub, Desert wash, Pinon and juniper woodlands, Riparian scrub, Riparian woodland, Valley & foothill grassland	Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals and sign were not observed during 2013 biological surveys. Previously determined present in Los Angeles/El Segundo Dunes. Nearest CNDDDB record is located approximately 6.4 miles south of the proposed undertaking site.
Two-striped garter snake <i>Thamnophis hammondi</i>	SSC	Marsh and swamp, Riparian scrub, Riparian woodland, Wetland	Determined to be absent. Habitat, individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 12.7 miles northwest of the proposed undertaking site.
Birds			
Tricolored blackbird <i>Agelaius tricolor</i>	BCC, SSC	Freshwater marsh, Marsh and swamp, Wetland	Determined to be absent. Habitat, individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 9.1 miles southeast of the proposed undertaking site.
Burrowing owl <i>Athene cunicularia</i>	BCC, SSC	Coastal prairie, Coastal scrub, Great Basin grassland, Great Basin scrub, Mojave desert scrub, Sonoran desert scrub, Valley & foothill grassland	Determined to be present. Habitat, individuals and sign were observed during the surveys. Previously determined present as a winter resident in Los Angeles / El Segundo Dunes. Observed in 2012 on western and northern areas of the north airfield. Nearest CNDDDB record is located approximately 1.4 miles north of the proposed undertaking site.

**TABLE B-1
Other Sensitive Wildlife Species Potentially Occurring in the Study Area, Continued**

Name	Status	Habitat	Survey Results
American peregrine falcon <i>Falco peregrinus anatum</i>	FD, SD, FP, BCC	Breeds in Woodland, Forest, Coastal habitats. Non-breeding habitat includes Riparian, Coastal and Inland wetlands	Determined to be absent. Foraging habitat observed. Breeding habitat not observed. Individuals and sign were not observed during 2013 biological surveys. Previously detected flying over the area and roosting in adjacent buildings. Nearest CNDDB record is located approximately 20.2 miles northeast of the proposed undertaking site.
Loggerhead shrike <i>Lanius ludovicianus</i>	SSC	Broadleaved upland forest, Desert wash, Joshua tree woodland, Mojavean desert scrub, Pinon & juniper woodlands, Riparian woodland, Sonoran desert scrub	Determined to be absent. Foraging habitat observed. Nesting habitat not observed. Individuals and sign were not observed during 2013 biological surveys. Previously detected breeding in Los Angeles/EI Segundo Dunes (1998, 2008, 2009). Nearest CNDDB record is located approximately 35.9 miles north of the proposed undertaking site.
California black rail <i>Laterallus jamaicensis coturniculus</i>	ST, FP, BCC	Brackish marsh, Freshwater marsh, Marsh and swamp, Salt marsh, Wetland	Determined to be absent. Habitat, individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDB record is located approximately 0.8 mile northwest of the proposed undertaking site.
Belding's savannah sparrow <i>Passerculus sandwichensis beldingi</i>	SE	Marsh and swamp, Wetland	Determined to be absent. Habitat, individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDB record is located approximately 1.2 miles northwest of the proposed undertaking site.
California brown pelican <i>Pelecanus occidentalis californicus</i>	FD, SD, FP	Colonial nester on coastal islands just outside the surf line	Determined to be absent. Habitat, individuals and sign were not observed during the 2013 biological surveys. The species may flyover the proposed undertaking site as it is in close proximity to the open ocean. The species is a year round resident of southern California. Nearest CNDDB record is located approximately 1.8 miles northwest of the proposed undertaking site.
Bank swallow <i>Riparia riparia</i>	ST	Riparian scrub, Riparian woodland	Determined to be absent. Breeding habitat, individuals and sign were not observed during 2013 biological surveys or previous surveys. May forage on the proposed undertaking site. Nearest CNDDB record is located approximately 7.4 miles northwest of the proposed undertaking site.
Mammals			
Pallid bat <i>Antrozous pallidus</i>	SSC	Chaparral, Coastal scrub, Desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Riparian woodland, Sonoran desert scrub, Upper montane coniferous forest, Valley and foothill grassland	Determined to be absent. Habitat observed in Los Angeles / EI Segundo Dunes. Individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDB record is located approximately 4.8 miles north of the proposed undertaking site.
Western mastiff bat <i>Eumops perotis californicus</i>	SSC	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland	Determined to be absent. Habitat observed in Los Angeles / EI Segundo Dunes. Individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDB record is located approximately 4.8 miles north of the proposed undertaking site.
Hoary bat <i>Lasiurus cinereus</i>		Broadleaved upland forest, Cismontane woodland, Lower montane coniferous forest, North coast coniferous forest	Determined to be absent. Habitat, individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDB record is located approximately 4.9 miles north of the proposed undertaking site.
Silver-haired bat <i>Lasiorycteris noctivagans</i>		Lower montane coniferous forest, Oldgrowth, Riparian forest	Determined to be absent. Habitat, individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDB record is located approximately 6.6 miles north of the proposed undertaking site.
San Diego black-tailed jackrabbit <i>Lepus californicus bennettii</i>	SSC	Coastal scrub	Determined to be absent. Habitat, individuals and sign were not observed during the 2013 biological surveys. Previously detected in the LAX airfield open space. Have not been observed since 1997. Presumed extirpated due to LAX operations and maintenance. Nearest CNDDB record is located approximately 2.2 miles northeast of the proposed undertaking site.
South coast marsh vole <i>Microtus californicus stephensi</i>	SSC	Tidal marshes	Determined to be absent. Habitat, individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDB record is located approximately 1.4 miles north of the proposed undertaking site.
Pocketed free-tailed bat <i>Nyctinomops femorosaccus</i>	SSC	Joshua tree woodland, Pinon and juniper woodlands, Riparian scrub, Sonoran desert scrub	Determined to be absent. Habitat, individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDB record is located approximately 2.8 miles east of the proposed undertaking site.
Big free-tailed bat <i>Nyctinomops macrotis</i>	SSC	Low-lying arid areas in southern California. Need high cliffs or rocky outcrops for roosting sites.	Determined to be absent. Habitat, individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDB record is located approximately 11.3 miles northeast of the proposed undertaking site.

**TABLE B-1
Other Sensitive Wildlife Species Potentially Occurring in the Study Area, *Continued***

Name	Status	Habitat	Survey Results
Southern California saltmarsh shrew <i>Sorex ornatus salicornicus</i>	SSC	Salt marsh Alkali marsh, Alkali playa, Alpine, Alpine dwarf scrub, Bog and fen, Brackish marsh, Broadleaved upland forest, Chaparral, Chenopod scrub, Cismontane woodland, Closed-cone coniferous forest, Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub, Desert dunes, Desert wash, Freshwater marsh, Great Basin grassland, Great Basin scrub, Interior dunes, lone formation, Joshua tree woodland, Limestone, Lower montane coniferous forest, Marsh and swamp, Meadow and seep, Mojavean desert scrub, Montane dwarf scrub, North coast coniferous forest, Oldgrowth, Pavement plain, Redwood, Riparian forest, Riparian scrub, Riparian woodland, Salt marsh, Sonoran desert scrub, Sonoran thorn woodland, Ultramafic, Upper montane coniferous forest, Upper Sonoran scrub, Valley and foothill grassland	Determined to be absent. Habitat, individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 1.4 miles northwest of the proposed undertaking site.
American badger <i>Taxidea taxus</i>	SSC		Determined to be absent. Habitat observed in Los Angeles / El Segundo Dunes. Individuals and sign were not observed during 2013 biological surveys or previous surveys. Nearest CNDDDB record is located approximately 11.3 miles northeast of the proposed undertaking site.

KEY:

CNDDDB = California Natural Diversity Database
 CNPS = California Native Plant Society
 FE = federally endangered
 FT = federally threatened

NOTE:

*Critical habitat is only afforded to those species that are listed under the Federal Endangered Species Act as endangered or threatened. Reports describing previously observed species include the Sapphos Environmental Inc. Memoranda and Glenn Lukos Associates Specific Plan Amendment Study.

SOURCES: Sapphos Environmental Inc. January 2001. *Technical Report LAX Master Plan EIS/EIR, 7. Biological Resources, Memoranda for the Record on Floral and Faunal Surveys.*
 Glenn Lukos Associates, July 2012. *Appendix D-1 LAX Specific Plan Amendment Study, Floral and Faunal Compendium and Sensitive Plants and Wildlife.*
 Frank Hovore & Associates, September 28, 1998. *Report of sensitive arthropod surveys, Los Angeles International Airport 2015 Master Plan Study Area, 1996-1998.*

FC = federal candidate
 FD = federally delisted
 BCC = birds of conservation concern
 SE = state endangered

ST = state threatened
 SSC = state species of special concern
 FP = state fully protected
 SD = state delisted

ATTACHMENT B-1

FAUNAL COMPENDIUM

Technical Note: The names and taxonomy for all faunal species is based upon the most current and accepted checklists approved by the appropriate scientific societies. Reptiles names and taxonomy follow the recent report from the committee sanctioned by the Society for the Study of Amphibians and Reptiles, the American Society of Ichthyologists and Herpetologists, and The Herpetologists' League to continue the development of standard English names of the North American herpetofauna.* Bird names and taxonomy follow the Check-list of North American Birds, 7th edition and its supplements approved by the American Ornithologist Union.†

Terrestrial Invertebrates

Insects

LEPIDOPTERA

Nymphalidae – Brush-footed butterflies

Junonia coenia
common buckeye

COLEOPTERA

Entiminae

Curculionidae – Weevils

weevil species

* Crother, B. I, J. Boundy, J. A. Cambell, K. de Queiroz, D. R. Frost, R. Highton, J. B. Iverson, P. A. Meylan, T. W. Reeder, M. E. Seidel, S. G. Tilley, and D. B. Wake. 2001. Scientific and standard English names of amphibians and reptiles of North America north of Mexico, with comments regarding confidence in our understanding. J. J. Moriarty (ed.) Society for the Study of Amphibians and Reptiles Herpetological Circulars No. 29.

† American Ornithologists' Union. 1998. Check-list of North American Birds, 7th ed. American Ornithologists' Union, Washington, D.C.

Terrestrial Vertebrates

Reptiles

SQUAMATA

Phrynosomatidae – Zebra-Tailed, Spiny, Tree, and Horned Lizards

Sceloporus occidentalis
western fence lizard

Uta stansburiana
common side-blotched lizard

Colubridae – Colubrid Snakes

Pituophis catenifer
gopher snake

Birds

PODICIPEDIFORMES

Podicipedidae – Grebes

Aechmophorus occidentalis
western grebe

SULIFORMES

Phalacrocoracidae -- Cormorants

Phalacrocorax auritus
double-crested cormorant

PELECANIFORMES

Ardeidae -- Heron and Egrets

Egretta thula
snowy egret

ACCIPITRIFORMES

Accipitridae -- Hawks, Eagles, and Kites

Buteo jamaicensis
red-tailed hawk

STRIGIFORMES

Strigidae – Typical Owls

Athene cunicularia
Burrowing owl

CHARADIFORMES

Laridae – Gulls

Larus occidentalis
western gull

COLUMBIFORMES

Columbidae – Pigeons and Doves

Columba livia
rock pigeon
Zenaida macroura
mourning dove

FALCONIFORMES

Falconidae – Falcons

Falco sparverius
American kestrel

PASSERIFORMES

Corvidae – Jays and Crows

Corvus brachyrhynchos
American crow
Corvus corax
common raven

Hirundinidae – Swallows and Martins

Petrochelidon pyrrhonota
cliff swallow
Hirundo rustica
barn swallow

Mimidae – Thrashers

Mimus polyglottos
northern mockingbird

Sturnidae – Starlings

Sturnus vulgaris
European starling

Icteridae – Blackbirds and Orioles

Agelaius phoeniceus
red-winged blackbird

Fringillidae – Finches

Carpodacus mexicanus
house finch
Spinus psaltria
lesser goldfinch

MAMMALS

Vulpes vulpes
Red fox

APPENDIX C

WETLANDS AND WATERS OF THE UNITED STATES

As stated in the LAX Master Plan EIS/EIR, the Argo Ditch was determined to be a man-made flood control structure that was constructed circa 1949 (Attachment C-1, *Site Photographs, Argo Ditch*.) The EIR determination was based on historical topographic maps and aerial photographs. The Argo Ditch does not connect to any existing stream, river, or lake, but was determined to flow to the Pacific Ocean through the existing storm drain system for the City of Los Angeles. LAWA planned on initiating emergency channel maintenance in November 1997 to prevent potential “bird strikes” as well as to prepare for an El Nino weather event that was forecasted for the winter of 1997/1998. In support of emergency maintenance activities, a jurisdictional delineation of the channel was completed in October 1997. LAWA believed the man-made channel was not subject to the jurisdiction of either CDFW or USACOE. However, due to the lack of routine maintenance of the channel over a 20-year period, isolated wetlands and riparian habitat became established within the channel. CDFW and USACOE exerted jurisdiction over the channel under their respective nexuses (Section 1600 of the CDFW Code and Section 404 of the Clean Water Act). CDFW and USACOE authorized emergency operations and maintenance activities for the channel, which included the removal of approximately 1 acre of wetland and riparian vegetation. These emergency activities were covered under Nationwide Permit No. 31 (Permit No. 98-00151-PMG) as issued by the USACOE on January 7, 1998, and a Streambed Alteration Agreement (SAA) (Notification No. 5-480-97) as issued by CDFW. As terms for the emergency activities, a 3:1 ratio was established to mitigate for permanent impacts to 1 acre of wetland and riparian vegetation. USACOE agreed that once mitigated, the Argo Ditch would no longer be subject to their jurisdiction under Section 404 of the Clean Water Act. Mitigation took place at Ken Malloy Regional Park due to the lack of potentially suitable on-site mitigation. USACOE issued a letter of satisfaction on December 9, 2004, which identified that LAWA was in compliance with their permit and that mitigation success had been achieved.

The Argo Ditch was delineated for the LAX Specific Plan Amendment Study in 2011, followed by another delineation for the runway safety project in 2013. As a result of these delineations, it has been determined that a total of 0.093 acre of wetland vegetation would be permanently removed by the proposed RSA improvements to Runway 6L-24R. This acreage is located entirely within the area that was mitigated for under the Nationwide Permit No. 31 and the SAA. The project area and the lands adjacent to it have been surveyed for federal and state listed rare, threatened, endangered, and candidate species, and none were found to be present.

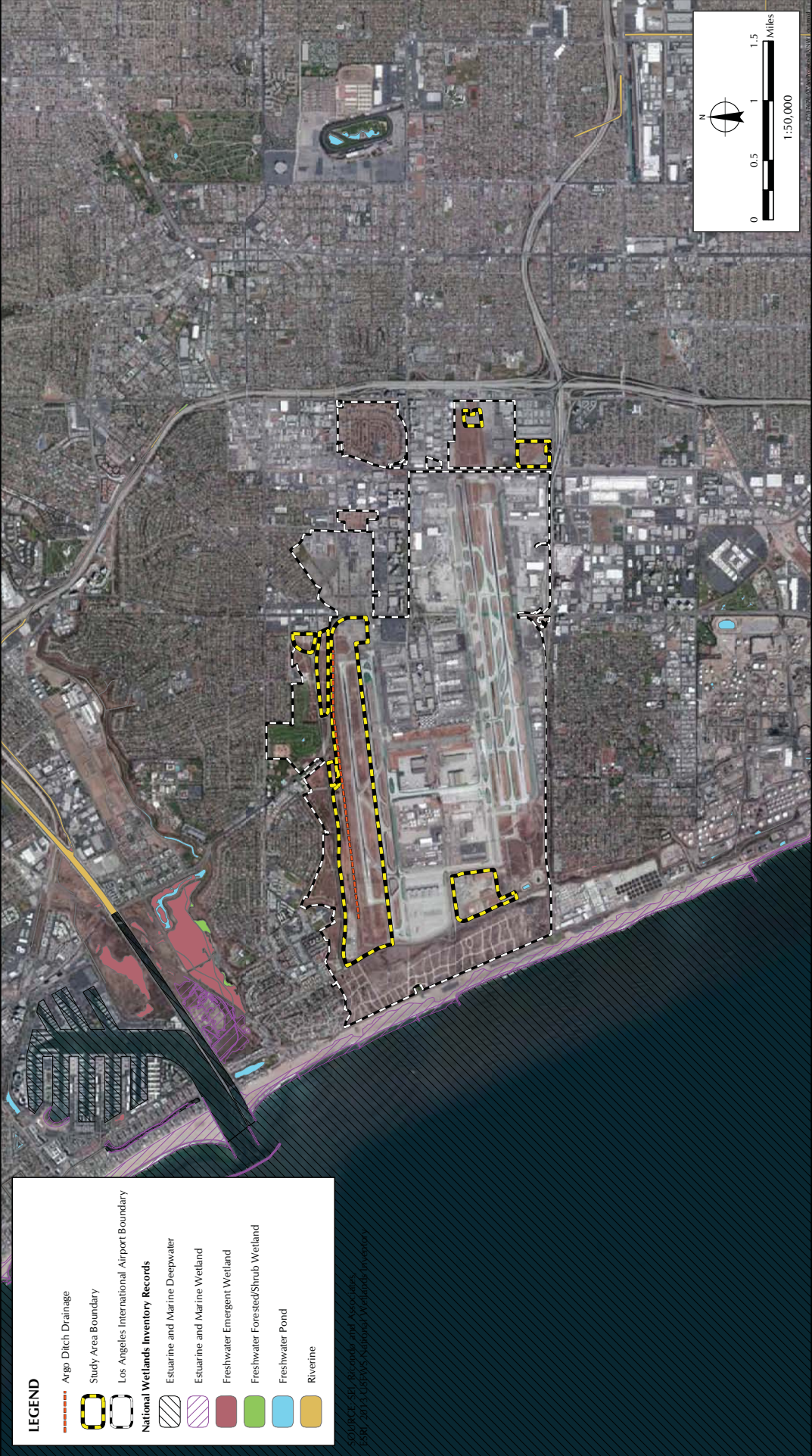
As observed during the database search, the Argo Ditch is identified in the NWI as a riverine, intermittent, streambed with a temporary flooded water regime and is excavated (Figures C-1 and C-2, *National Wetland Inventory Results*).¹ The area identified in the NWI as a freshwater pond in the southwest portion of the LAX boundary is a man-made retention basin. Additionally, the area identified in the NWI as an estuarine and marine wetland west of the LAX boundary lacks wetland characteristics as it is comprised of heavily maintained, disturbed and unvegetated sandy beach.

¹ United States Fish and Wildlife Service. 2013. *National Wetlands Inventory*. Washington D.C. Available at <http://www.fws.gov/wetlands/>



FIGURE C-1
National Wetlands Inventory Results





LEGEND

- Argo Ditch Drainage
- Study Area Boundary
- Los Angeles International Airport Boundary

National Wetlands Inventory Records

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

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 0580-2015 California National Wetlands Inventory



FIGURE C-2
 National Wetlands Inventory Results

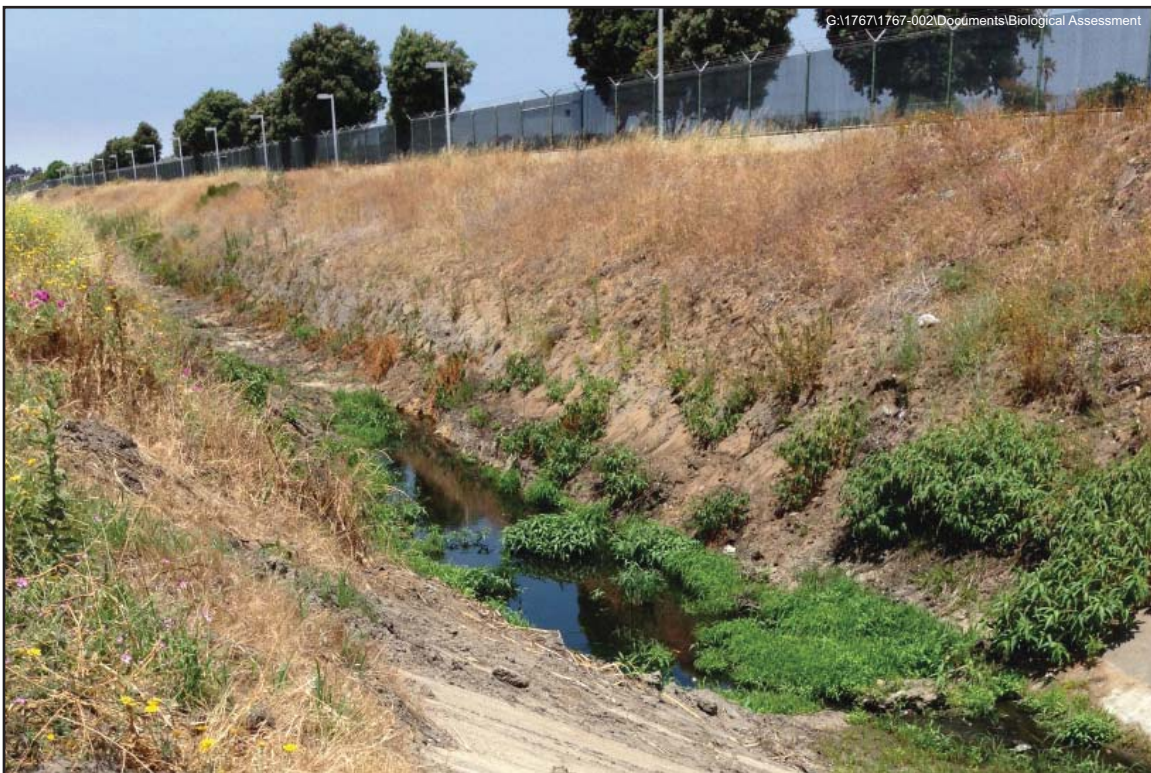


PHOTO 1



PHOTO 2





PHOTO 3





PHOTO 4



