

Section 3.5

Biological Resources

3.5.1 Introduction

This section analyzes the proposed project's impacts on biological resources, including impacts from both construction and operational activities. As part of this analysis, the section describes the general approach and methodology, regulatory framework, environmental setting, and significance criteria used to evaluate the proposed project's effects on biological resources.

Comments received in response to the NOP included certain comments related to biological resources. Specifically:

- Comment letters from the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW), as well as oral and written comments received from members of the public during the February 1, 2017 public scoping meeting, indicated that the Draft EIR should analyze, and include measures to avoid, potential direct and indirect impacts to the California least tern (*Sterna antillarum browni*).
- The CDFW commented that the Draft EIR should address the status of Nuttall's acmispon (*Acmispon prostrates*), a plant that may be present at SDIA, and include avoidance and management measures to avoid adverse impacts to the species.
- An oral comment received from a member of the public during the February 1, 2017 public scoping meeting indicated that the Draft EIR should discuss avian control measures as related to bird strikes.
- The U.S. Environmental Protection Agency (USEPA) commented that the Draft EIR should discuss whether the proposed project would result in impacts to waters of the United States.
- A letter from a member of the public was received regarding impacts to "Marine protected areas in La Jolla" and associated "protected" species related to aircraft operations. This letter does not appear to be related to the proposed project, but rather is related to the FAA's Southern California Metroplex project, implemented by the FAA to improve airspace safety and efficiency by allowing for more optimized and efficient routing of aircraft into and out of Southern California. Information related to the FAA's Southern California Metroplex project can be found at: <https://www.faa.gov/nextgen/snapshots/metroplexes/?locationId=18>.

All written and oral comments received during the NOP process are provided in Appendix R-A. Comments received specific to biological resources impacts associated with the proposed project are addressed within this section of the EIR.

3.5.2 General Approach and Methodology

Impacts to biotic communities and threatened and endangered species at SDIA were assessed through a review of previous documents (e.g., California least tern nesting records, Biological Opinion [BO], Informal Section 7 Consultations completed in 2013 and 2018, assessment of the potential for SDIA to support vegetation communities/habitat, and a biological resources field survey and impacts assessment specific to the Navy Boat Channel), as well as the following assessments completed in 2018 and 2019: a biological resources survey conducted in March 2018 of the California least tern nesting areas (“ovals”) at the southeast portion of SDIA to determine the potential for the presence of sensitive plant species; an August 2019 assessment to determine the potential presence of wetlands at SDIA; and a September 2019 evaluation of impacts of proposed ADP facilities to California least tern. Because the vast majority of SDIA is developed or highly disturbed, this section focuses on two areas: (1) the California least tern nesting areas ovals; and (2) the shoreline and intertidal areas in the Navy Boat Channel near the existing SDIA storm drain force main outfall.

3.5.3 Regulatory Framework

3.5.3.1 Federal

Clean Water Act

The federal Water Pollution Control Act Amendments of 1972 (33 United States Code [USC] 1251–1376), as amended by the Water Quality Act of 1987, and better known as the Clean Water Act (CWA), is the major federal legislation governing water quality. The purpose of the federal CWA is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Discharges into waters of the United States are regulated under CWA Section 404. While waters of the U.S. exist to the west of SDIA property – specifically, the Navy Boat Channel – no aspect of the proposed project would occur in or near those waters. Consequently, the proposed project does not include an application for a CWA Section 404 permit.

Federal Endangered Species Act

The federal Endangered Species Act (ESA)¹ protects plants and wildlife that are listed as endangered or threatened² by the USFWS and/or the National Marine Fisheries Service (NMFS). Section 9 of the ESA prohibits the taking of endangered wildlife, where taking is defined as to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct” (16 USC Section 1532[19]). Federal regulations further define the terms “harm” and “harass” as follows: “Harass” means an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns, including breeding, feeding, or sheltering; “Harm” means an act that actually kills or injures wildlife, and may include significant habitat modification or degradation (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs removing, possessing,

¹ 16 United States Code, Sections 1531-1544, as amended. Endangered Species Act of 1973.

² “Endangered” means a species is in danger of extinction throughout all or a significant portion of its range. “Threatened” means a species is likely to become endangered within the foreseeable future.

maliciously damaging, or destroying any endangered plant on federal land, as well as removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law.

Under Section 7 of the ESA, federal agencies are required to consult with the USFWS or NMFS if their actions, including permit approvals or funding, may adversely affect an endangered or threatened species (including plants) or its critical habitat. Consultation may follow an informal, or a formal process. In cases where the federal agency determines its action may affect, but would be unlikely to adversely affect, a federally listed species, the agency informally consults with the USFWS and/or NMFS. This informal consultation typically involves incorporating measures intended to ensure effects would not be adverse. Concurrence from the USFWS and/or NMFS concludes the informal consultation process. Without such concurrence, the federal agency formally consults with resource agencies to ensure full compliance with the ESA. Through formal consultation and the issuance of a BO, the USFWS or NMFS may issue an incidental take permit authorizing take of the species that is incidental to an otherwise lawful activity, provided the action will not jeopardize the continued existence of the species.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits take of birds listed under the MBTA. Birds protected under the MBTA are listed under 50 CFR Section 10.13. The list includes nearly all native birds. Under the MBTA, take means “to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect” (50 CFR Section 10.12).

FAA Advisory Circular No. 150/5200-33B "Hazardous Wildlife Attractants on or Near Airports"

Advisory Circular (AC) 150/5200-33B³ provides guidance on certain land uses that have the potential to attract hazardous wildlife on or near public-use airports. It also discusses airport development projects (including airport construction, expansion, and renovation) affecting aircraft movement near hazardous wildlife attractants. The AC provides guidance regarding land uses and habitat near airports and identifies management techniques that airport operators can implement to minimize the risk of wildlife and aircraft interactions.

3.5.3.2 State

California Coastal Act

The California Coastal Act (CCA) recognizes California ports, harbors, and coastline beaches as primary economic and coastal resources and as essential elements of the national maritime industry. The CCA directs that, where feasible, decisions to undertake specific development projects must consider alternative locations and designs to minimize any adverse environmental impacts to coastal resources. The CCA is implemented by the California Coastal Commission.

³ U.S. Department of Transportation, Federal Aviation Administration. Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants on or Near Airports. 2007. Available: https://www.faa.gov/airports/resources/advisory_circulars/index.cfm/go/document.current/documentNumber/150_5200-33.

Additional description of the CCA and its applicability to the proposed project is provided in Section 3.11, Land Use and Planning.

California Endangered Species Act

The California Endangered Species Act (CESA) prohibits the taking, importation, or sale of state-listed endangered or threatened species except in compliance with permits or conditions specified in the CESA.⁴

The CESA also authorizes the CDFW to issue permits for incidental take of endangered or threatened species by general development activities, provided that a proposed project will not jeopardize the continued existence of such species and that any of the project's negative effects on those species will be minimized and fully mitigated. CESA authorizes CDFW to enter into a memorandum of understanding with individuals, public agencies, universities, zoological gardens, and scientific or educational institutions to import, export, take, or possess species for scientific, educational, or management purposes.

California Native Plant Protection Act

The California Native Plant Protection Act (NPPA) includes measures to preserve, protect, and enhance endangered and rare native plants.⁵ The list of native plants afforded protection by NPPA includes those listed as endangered and threatened under CESA, and the NPPA definitions of endangered and rare differ from those contained in CESA. However, under California Fish and Game Code Section 2062, any plant species determined by the California Fish and Game Commission (Commission) as “endangered” on or before January 1, 1985 is an endangered species under CESA and under Section 2067 any plant species determined by the Commission as “rare” is a “threatened species” under CESA. The NPPA specifies that no person shall import into California, or take, possess, or sell within California any endangered or rare native plant, except in compliance with provisions of NPPA.⁶ Individual landowners, who have been notified by CDFW of the presence of a rare or endangered plant, are required to notify CDFW at least 10 days in advance of changing land uses to allow CDFW to salvage any endangered or rare native plant material.⁷

California Fish and Game Code, Sections 3503, 3503.5, and 3513

The California Fish and Game Code⁸ also prohibits the destruction of bird nests and eggs (Section 3503), as well as the “take” of birds of prey (Section 3503.5), and migratory nongame birds (Section 3513). Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) may violate these sections, and federal law protecting migratory birds. Section 3513 provides for consistency with rules and regulations implementing the MBTA.

⁴ California, Fish and Game Code, Section 2050 et. seq., California Endangered Species Act.

⁵ California Fish and Game Code, Sections 1900–1913. California Native Plant Protection Act.

⁶ California Fish and Game Code, Section 1908. California Native Plant Protection Act.

⁷ California Fish and Game Code, Section 1913. California Native Plant Protection Act.

⁸ California Fish and Game Code, Sections 3503, 3503.5, and 3513.

The California Fish and Game Code Section 3511

Section 3511 of the California Fish and Game Code classifies some bird species – including the California least tern – as "fully protected," and "take" of these species is generally prohibited. CDFW, which implements and enforces the California Fish and Game Code, is not authorized to issue take permits for fully protected species. Note, however, that take of a fully protected species is permitted when the species is covered under an approved natural community conservation plan.

3.5.3.3 Local

San Diego Bay Integrated Natural Resources Management Plan

The San Diego Bay Integrated Natural Resources Management Plan⁹ (INRMP) sets forth a long-term vision and strategy sponsored by two of the major managers of San Diego Bay: the U.S. Navy and Port of San Diego. The INRMP provides direction for the good stewardship that natural resources require, while supporting the ability of the Navy and Port to achieve their missions and continue functioning within San Diego Bay. The ecosystem approach reflected in the Plan looks at the interconnections among all of the natural resources and human uses of the Bay and across ownership and jurisdictional boundaries. San Diego Bay is viewed as an ecosystem rather than as a collection of individual species or sites or projects. Table 4-4, Candidate Enhancement Opportunity Areas, of the INRMP includes the following regarding the Navy Boat Channel:

“Channel is Navy property located north of the Airport. *Enhancement Potential.* Soften the shoreline and provide ecologically beneficial shoreline structures. Improve the wetland-upland transition. Consider vegetated swales for storm water runoff filtration.”

Port of San Diego Tidelands Forestry Management Policy

The Tidelands Forestry Management Policy¹⁰ establishes general urban forestry policies for the management of the Port tidelands forest. The Port of San Diego has planted and currently maintains over 5,200 trees in parks, open spaces, and along the District’s streets and roadways for the enhancement of the tidelands. Per this policy:

- The District will sustain the long-term benefits of the tidelands forest by planting, maintaining, and protecting tree resources on its public (unleased) tidelands. This policy shall relate to trees located on the Port’s public (unleased) tidelands outside of the District’s two marine terminals.

⁹ Unified Port District of San Diego and Naval Facilities Engineering Command. San Diego Bay Integrated Natural Resources Management Plan. September 2013. Available: https://pantheonstorage.blob.core.windows.net/environment/San-Diego-Bay-Integrated-Natural-Resources-Management-Plan_Sep2013.pdf.

¹⁰ Unified Port of San Diego. BPD Policy 454: Tidelands Forestry Management Policy. December 16, 2003. Available: <https://pantheonstorage.blob.core.windows.net/environment/Tidelands-Forestry-Management-Policy-BPC-454.pdf>.

- The District will allow for the removal of trees for public safety after all alternative options have been reviewed or when the removal of the tree is in the overall best interests of the District. The District will not remove trees solely for economic efficiency.

City of San Diego Council Policy 900-19: Public Tree Protection

The San Diego City Council adopted Council Policy 990-19: Public Tree Protection¹¹ to protect designated tree resources located in public rights-of-way, on City-owned open space, in parks, or other publicly owned lands, wherever practical. In addition, the Policy applies to private land restricted by dedicated open space easements. Protected trees include the following four categories:

- **Landmark Tree** - Trees that are unusual or have a very high aesthetic quality. A Landmark tree is unusual due to: large size obtained for that species; special and intact aesthetic form; unusual shape not normally seen in most trees; very interesting flowers and/or branching patterns; or being a species of tree that rarely occurs in the City. The intent of this category is to recognize unusual trees that have achieved a landmark status and not to apply this category to a broad number of trees.
- **Heritage Tree** - Trees that are naturally occurring or have been planted, qualify under this category if they are 50 years or older or have a connection to some historic event, building, district or were planted by a historically significant individual. Specific proof of age may be difficult to ascertain but research using aerial photographs or estimating based on the age of the adjacent development or the estimating based on the size of the tree can be adequate for this designation.
- **Parkway Resource Tree** - Planted groups of trees in public rights-of-way, public parking lots or trails with a consistent design theme, are considered to be parkway tree resources when their overall size, health and form are relatively consistent. A consistent design theme usually requires that more than 50% of the parcels per block contain the same tree. Groups of different species that provide a consistent canopy over a portion of a street should be considered as parkway resource trees as well.
- **Preservation Grove** - Naturally occurring trees in public right-of-way, open space, designated Environmentally Sensitive Lands or parkland may be considered Preservation groves. A grove consists of at least six (6) trees grouped in close proximity (within a one-quarter (¼)-acre area) with trunks closer together than 100 feet that are of the same species or are very similar in form. The trees shall be native, naturalized or endemic and surviving without intervention or supplemental watering. Nonnative or naturalized species found within the following areas listed below, would not be eligible for protection under this Policy, though native trees within these areas may be designated as Preservation Groves:

¹¹ City of San Diego Council Policy 900-19: Public Tree Protection. Effective Date June 13, 2005. Available: https://docs.sandiego.gov/councilpolicies/cpd_900-19.pdf.

- a. City-owned designated or dedicated open space containing Multiple Habitat Planning Area (MHPA) lands or Environmentally Sensitive Lands;
- b. City-owned designated or dedicated open space containing other natural areas found to have sensitive or endangered species, or that can be expected to sustain these species with enhancement and management efforts; and
- c. Privately-owned lands meeting the criteria in a. and b. above that have an open space or conservation easement placed on them.

Measures afforded to trees with tree protection status, include, but are not limited to:

- No permits will be issued for tree removal unless a clear, imminent, and significant public safety hazard exists or if the City Urban Forester, in consideration of any comments received from the Community Forest Advisory Board, informed by a certified arborist's report and recommendations, determines that protection may not be the appropriate course and the project applicant or adjacent owner has agreed to pay 100% of the assessed value of the tree.
- Tree pruning or root pruning will only occur under the guidance of a licensed arborist, with the written approval of the City Arborist. This shall not apply to root pruning that is necessary to protect the water and sewer infrastructure.
- Extraordinary measures will be taken to avoid excessive pruning, topping or removals related to line clearance that may be required by the California Public Utilities Commission.
- Roadway widening requirements will avoid damage to trees where possible. When avoidance is not possible, tree protection during construction, tree transplanting or tree replacements will be required.

3.5.4 Environmental Setting

3.5.4.1 Biotic Resources

The habitat surrounding and including SDIA supports a limited number of biological resources because much of the area is already extensively developed. Except as noted below, the entire area within the perimeter of the SDIA boundaries is developed or disturbed in some manner, with no native vegetation existing on the site. Land cover in the ovals between taxiways, the runway, and service roads consist primarily of bare soil, gravel, and non-contiguous patches of low, sparse vegetation. These patches of vegetation consist of ruderal species such as Bermuda grass (*Cynodon dactylon*), feathergrass (*Nassella tenuissima*), common tanglehead (*Heteropogon contortus*), and curly dock (*Rumex crispus*).¹²

Prior coordination with the USFWS and the CDFW resulted in the identification of several listed animal species that are known to occur or have the potential to occur at the Airport. SDIA AOA

¹² U.S. Department of Transportation, Federal Aviation Administration. Final Environmental Assessment for the Northside Improvements - San Diego International Airport Master Plan. Section 3.5.7, Endangered and Threatened Species. September 5, 2013. Available: <https://www.san.org/Airport-Projects/Environmental-Affairs#NORTHSIDE-IMPROVEMENTS-FINAL-SEIR-2011-AND-FINAL-EA-2013-257>.

ovals in the southeast corner of the airfield are occupied seasonally by the California least tern (*Sterna antillarum browni*), a bird that is federally and state listed as endangered and identified as a Fully Protected Species per Section 3511(b)(6) of the California Fish and Game Code. The American peregrine falcon (*Falco peregrinus anatum*), a Fully Protected Species per Section 3511(b)(1) of the California Fish and Game Code, also occasionally inhabits the SDIA area. The California brown pelican (*Pelecanus occidentalis californicus*), a Fully Protected Species per Section 3511(b)(2) of the California Fish and Game Code, uses areas of the San Diego Bay region as foraging habitat.¹³

A survey conducted in 1979 indicated that a single pair of western snowy plover (*Charadrius alexandrinus nivosus*), a bird species whose Pacific coastal population is federally listed as threatened, nested at SDIA; however, the 1979 documentation was part of a regional survey and, to date, the western snowy plover has not been recorded as being present at the Airport during subsequent SDIA-specific surveys for biological resources.¹⁴

Of the avian species discussed above, the California least tern, described in more detail below, has been recorded to use the habitable areas in the southeast corner of SDIA during the nesting season.

Lastly, as indicated in Section 3.5.1 above, comments on the NOP submitted by the CDFW noted that this EIR should address the status of Nuttall's acmispon (*Acmispon prostrates* – a California Native Plant list 1B.1 species) that may be present within some of the runway ovals that also support the California least tern. As discussed further below, SDCRAA, in coordination with USFWS staff, closely monitor and employ various methods to protect the California least tern within the ovals at SDIA. SDCRAA staff has not observed the presence of Nuttall's acmispon within the ovals during monitoring/habitat maintenance activities over the last 20+ years, nor is the SDCRAA aware of any documentation of the presence of Nuttall's acmispon within the ovals at SDIA. Further, measures within the ovals undertaken by SDCRAA staff before the return of the California least tern each year include the application of herbicide and removal of vegetation to enhance conditions for least tern nesting and improve visibility for aircraft, vehicles, and airfield operations. Again, none of the vegetation removed by SDCRAA staff included Nuttall's acmispon and the application of herbicide substantially reduces the potential for the species to occur. In addition, a survey for the potential presence of Nuttall's acmispon within the California least tern ovals was conducted on March 31, 2018 by Kevin Clark, Director of BioServices, and Jon Rebman, Curator of Botany at the San Diego Natural History Museum. A letter report with the results of the survey is provided in Appendix R-E. No Nuttall's acmispon, nor any other rare or sensitive plant species, were found during the survey.

¹³ U.S. Department of Transportation, Federal Aviation Administration. Final Environmental Assessment for the Northside Improvements - San Diego International Airport Master Plan. Section 3.5.7, Endangered and Threatened Species. September 5, 2013.

¹⁴ U.S. Department of Transportation, Federal Aviation Administration. Final Environmental Assessment for the Northside Improvements - San Diego International Airport Master Plan. Section 3.5.7, Endangered and Threatened Species. September 5, 2013.

California Least Tern

California least terns breed from San Francisco Bay south to Baja California, Mexico. In San Diego County, the species presence is a common in the summer, residing in the areas from early April to the end of September.¹⁵ Wintering areas are along the Pacific coast of South America. This small migratory tern nests colonially on undisturbed, sparsely vegetated, flat areas with loose, sandy substrate adjacent to open water foraging areas. The California least tern is federally listed as endangered with loss of nesting habitat being the primary cause for the initial decline of the population of the California subspecies. Few undisturbed beach nesting areas remain, and California least terns are now found in varied habitats ranging from mudflats to airports. Breeding California least terns begin nesting in early-May and continue through July. California least terns abandon the nesting colonies by mid-August and migrate south by mid-September. California least terns exhibit tenacity to the colony site where they first breed successfully. Prey includes northern anchovy, top smelt, killifish, mosquito fish, shiner, surf perch, and mudflat gobies.

California least terns have nested at multiple locations at SDIA, with the first observations of terns thought to be nesting at SDIA occurring in 1969.¹⁶ It is likely, given the historic configuration of the San Diego shoreline and the tern's documented use of fill and airports, that nesting occurred at this site prior to 1969.¹⁷ The site was first monitored for tern nesting in 1970; and, in that year, SDIA supported the third largest colony in the state. Areas used for nesting by California least tern have been monitored annually by the CDFW since 1976. Figure 3.5-1 depicts California least tern nesting locations on the Airport from 2003 through 2018. Table 3.5-1 lists the number of least tern nests observed at SDIA from 2003 to 2018. It should be noted that some pairs of least terns may have more than one nest.

As indicated in Table 3.5-1, there is an annual fluctuation in the number of California least tern nests at SDIA. As shown in the table, there was an 82 percent reduction in nest numbers from 2014 to 2015. According to a report issued by the CDFW, the reduction is likely related to disturbances from construction activity, predators, and nest predation during the early formative period of colony establishment. Other potential causative factors include limited prey fish availability due to above average water temperatures, and the long-term overall decline of the tern population in Southern California.¹⁸ As shown in Table 3.5-1, breeding pair and nest numbers more than doubled from 2015 to 2016, although they remained significantly lower than those of 2014 and earlier.¹⁹

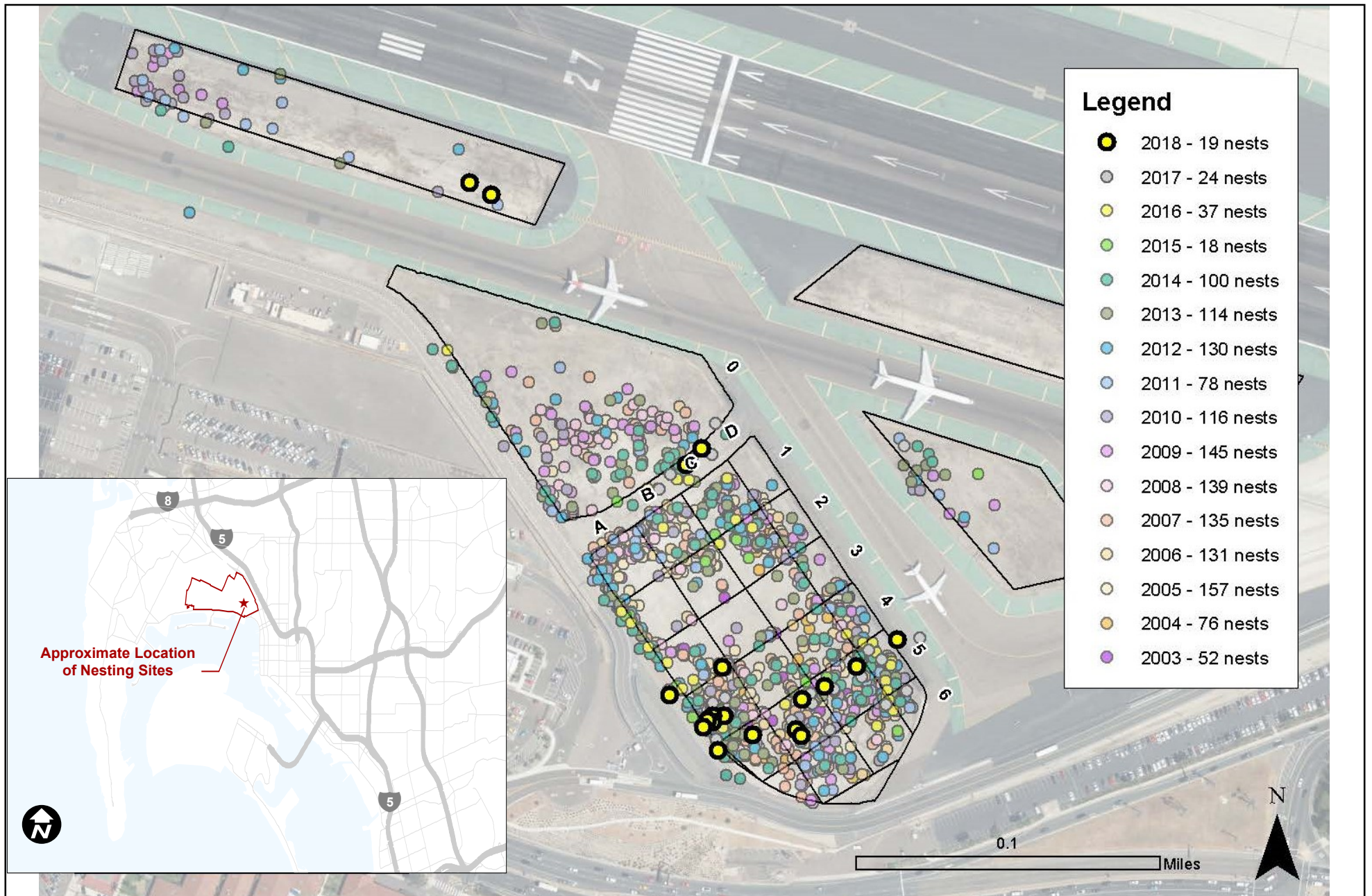
¹⁵ U.S. Department of Transportation, Federal Aviation Administration. Final Environmental Assessment for the Northside Improvements - San Diego International Airport Master Plan. Section 3.5.7, Endangered and Threatened Species. September 5, 2013.

¹⁶ U.S. Department of Transportation, Federal Aviation Administration. Final Environmental Assessment for the Northside Improvements - San Diego International Airport Master Plan. Section 3.5.7, Endangered and Threatened Species. September 5, 2013.

¹⁷ U.S. Department of Transportation, Federal Aviation Administration. Final Environmental Assessment for the Northside Improvements - San Diego International Airport Master Plan. Section 3.5.7, Endangered and Threatened Species. September 5, 2013.

¹⁸ State of California, Department of Fish and Wildlife. California Least Tern Breeding Survey – 2015 Season. Page 83. Prepared by Nancy Frost. March 30, 2016. Available: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=122436>.

¹⁹ State of California, Department of Fish and Wildlife. California Least Tern Breeding Survey – 2016 Season. Pages 74-75. Prepared by Nancy Frost. June 22, 2017. Available: <https://nrmsecure.dfg.ca.gov/documents/ContextDocs.aspx?cat=NonGame-Reports>.



Source: Robert T. Patton, 2019

Table 3.5-1: California Least Tern Nesting at SDIA, 2003-2018

Year	Estimated Number of Breeding Pairs at SDIA	Number of Nests at SDIA
2003	45-50	52
2004	65-70	76
2005	121-150	157
2006	114	131
2007	120-127	135
2008	122-124	139
2009	136	145
2010	110	116
2011	66-76	78
2012	96-124	130
2013	90-95	114
2014	90-99	100
2015	9-10	18
2016	31	37
2017	20-21	24
2018	16	19

Sources: Patton, Robert T. The Status of the California Least Tern at San Diego Unified Port District Properties in 2015. Appendix C-1. November 2015 (revised November 2016). Available: <https://pantheonstorage.blob.core.windows.net/environment/California-least-Tern-in-Port-of-San-Diego-Annual-Report-2015.pdf>; State of California, Department of Fish and Wildlife. California Least Tern Breeding Survey – 2016 Season. Table 1 (page 12). Prepared by Nancy Frost. June 22, 2017. Available: <https://nrmsecure.dfg.ca.gov/documents/ContextDocs.aspx?cat=NonGame-Reports>; Patton, Robert T. The Status of the California Least Tern at San Diego Unified Port District Properties in 2017. Appendix C-1. Final Report December 2017 (revised April 2018). Available: <https://pantheonstorage.blob.core.windows.net/environment/California-least-Tern-in-Port-of-San-Diego-Annual-Report-2017.pdf>; Patton, Robert T. Personal Communication with SDCRAA staff, June 24, 2019.

California least terns show a high degree of site fidelity, returning to nest at the same colony year after year, but studies have shown that they can exhibit stronger group adherence than site fidelity; thus, pairs nesting near each other in a colony may shift as a group to another nearby colony. The 107 percent increase in nest numbers from 2004 to 2005 appeared to have resulted from such a group (or groups) shifting from Mission Bay to SDIA following poor productivity, disturbance, and predation at Mission Bay sites. Likewise, the 82 percent decrease in nest numbers from 2014 to 2015 at SDIA coincided with an increase at Mission Bay sites. Both of these shifts also corresponded with long-term trends in the statewide least tern population: the increase in breeding pairs from 2003 to 2009 at SDIA corresponded with an overall increase (12 percent) in the statewide least tern population, and the decrease in breeding pairs in recent years at SDIA corresponds with a 49 percent reduction in the minimum number of breeding pairs statewide from 2009 to 2018.²⁰ The decrease in nests at SDIA from 2014 to 2015 appeared to result from the cumulative effects of multiple factors, including decreases in the overall population, enhanced conditions at Mission Bay sites, disturbances during the early formative period of colony establishment at SDIA, and limited prey fish availability. Although above average chick mortality was not noted at SDIA in 2015, other sites on San Diego Bay reported high numbers of least tern

²⁰ Patton, Robert T. Personal Communication with SDCRAA staff. June 24, 2018.

chick deaths, some if not most of which were suspected to be due to starvation, and suggested that local prey fish availability was limited due to above average sea surface temperatures.²¹

Studies have shown that disturbance during the early stages of nest-site selection and colony formation may result in colony site abandonment or relocation. Numbers of American crows have been generally increasing in San Diego County and particularly along the coast. During the early season of 2015, frequency of sightings of crows, ravens, and gulls were up at SDIA, resulting in increased disturbance to terns newly arriving from migration and beginning the process of courtship and site-selection. This resulted in increased egg predation to the extent that 2015 had the second highest percentage of egg predation recorded at SDIA. Disturbance from and predation by raptors was also noted, particularly by peregrine falcons. Construction activity in the adjacent Teledyne-Ryan area also appeared to contribute to the disturbance level. Monitoring was conducted to discern disturbance to nesting birds and, although some incidents were noted, most appeared to be relatively brief, not affecting nest success, and actions that had resulted in the disturbance were ceased or altered to minimize additional disturbance. However, it was not feasible to monitor birds in transit flights between the bay foraging habitat and the airfield colony, or possible to discern effects of the construction activity on birds flying over or past the area.²²

It is noteworthy that the SDIA colony has consistently had a higher annual fledgling success rate (based on the ratio of fledglings per breeding pair) than the statewide average and has continued to exceed the statewide average during the past 4 years, when SDIA nest numbers dropped. The 10-year average fledgling/pair rate at SDIA has been 33% higher than the statewide average (0.45 SDIA vs 0.30 statewide 2009-2018).²³

The Airport has supported a notable percentage of the State's least tern nesting population over the last several years. Least terns have nested at several locations around the Airport with the south-easternmost oval being the area used most consistently due to its proximity to San Diego Bay, which is a primary food source for the least tern (see Figure 3.5-1, which indicates the greatest density of least tern nests in the southernmost oval). Various projects have obligated California least tern management efforts at SDIA and a BO prepared by the USFWS in 1993 requires reasonable and prudent measures for protecting California least terns at SDIA.²⁴ The 1993 BO stated a number of conditions/protective measures, which included, among others, the following:

- The FAA and the SDCRAA²⁵ will maintain in perpetuity Ovals 0-1S, 0-2S, 0-3S, and 0-4S as nesting habitat for California least tern.

²¹ Patton, Robert T. Personal Communication with SDCRAA staff. March 24, 2018.

²² Patton, Robert T. Personal Communication with SDCRAA staff. March 24, 2018.

²³ Patton, Robert T. Personal Communication with SDCRAA staff. June 24, 2019.

²⁴ U.S. Department of the Interior, Fish and Wildlife Service, Ecological Services, Carlsbad Field Office. "Biological Opinion on the Immediate Action Program, Lindbergh Field Facilities Improvements, San Diego International Airport, San Diego, California," July 16, 1993.

²⁵ The Biological Opinion measures were directed at the Port of San Diego, not the SDCRAA, because at the time, SDIA was operated by the Port. Because the responsibilities regarding the California least tern have transferred to the SDCRAA, references to the Port of San Diego have been revised accordingly.

- The FAA and SDCRAA placed tern fledgling nest barriers/fencing around the perimeter of the above ovals to prevent the movement of fledglings outside these areas onto runways and taxiways. The fence is inspected and maintained during the breeding season by a qualified tern biologist with the appropriate endangered species permit issued by the USFWS.
- The FAA and SDCRAA provide annual funding for a predator control program and non-lethal means are preferred.
- The FAA and SDCRAA will prepare and maintain in perpetuity a minimum of 6.2 acres of contiguous supratidal habitat at the Chula Vista Wildlife Reserve in south San Diego Bay for tern nesting.
- The FAA and SDCRAA are responsible for assuring ongoing monitoring of tern populations at SDIA and at the Chula Vista Wildlife Reserve by qualified tern biologist(s).

In addition, the 1993 BO specified certain practices for construction crews working on facility improvements, including educating workers on prohibitions to applying materials, storing equipment, or performing maintenance near the ovals, constraining ingress and egress routes to specific locations during the nesting season (greater than 1,200 feet from the ovals), lowering crane booms when not in use, ensuring that trash would be properly disposed, and that workers would not feed potential tern predators in the area.

Based on 2013 Informal Section 7 Consultation between the FAA and USFWS regarding potential effects of the SDIA Northside Improvements Project, more specifically the Terminal Link Roadway,²⁶ the SDCRAA implemented/continues to implement, as applicable, the following measures to avoid effects to California least tern during construction within 1,200 feet (but not closer than 800 feet) of the ovals during the California least tern nesting season:^{27,28}

- The SDCRAA will restore the 0.5-acre Teledyne-Ryan Taxiway in Oval-3 South (0-3S) to conditions suitable for tern nesting. The Teledyne-Ryan Taxiway will be maintained in condition suitable for tern nesting for the life of the Northside Improvements Project.
- The SDCRAA and FAA, in coordination with the USFWS and CDFW, will incorporate an 8-foot high by 165-foot long visual barrier into the Transportation Security Administration (TSA) fence to reduce the potential for visual disturbance related to activities at the vehicle service road security gates and guard shack. The visual barrier will consist of heavy shade cloth that

²⁶ The SDIA Northside Improvements include the following: 1) a consolidated rental car (CONRAC) facility on the northside of the Airport near the intersection of Sassafras Street and Pacific Highway; 2) new air cargo warehouse facilities located on the northside of the airport parallel to, and on the north side of, Taxiway C; 3) on-site utilities improvements to serve the Northside Improvements; and 4) a 2-lane Terminal Link Roadway along the eastern perimeter of the Airport connecting the proposed northside facilities to the southside of the Airport. A portion of the Terminal Link Roadway on the south side of the Airport runs along the southern portion of the southernmost California least tern oval. The Terminal Link Roadway, constructed in 2015, is dedicated to SDCRAA vehicles, passenger shuttle buses, and other authorized vehicles; no public vehicles are permitted to use the roadway.

²⁷ U.S. Department of Transportation, Federal Aviation Administration. Final Environmental Assessment for the Northside Improvements - San Diego International Airport Master Plan. Section 4.10, Fish, Wildlife, and Plants. September 5, 2013.

²⁸ U.S. Department of the Interior, Fish and Wildlife Service. Letter from Karen Goebel, Assistant Field Supervisor to Victor Globa, Federal Aviation Administration, Subject: Informal Section 7 Consultation for San Diego International Airport Northside Improvements Project, San Diego County, California. August 20, 2013.

is attached to or incorporated into the fencing. The SDCRAA will install anti-perch material (e.g., Nixalite®) on any TSA fence segments or posts that do not include razor wire.

- The SDCRAA will extend the visual barrier on the TSA fence approximately 345 feet to the east along the Terminal Link Roadway to reduce illumination of the SDIA nesting area from vehicle headlights, if deemed beneficial by the USFWS and CDFW and tern monitors retained by SDCRAA.
- The vehicle service road in the area of the security gate will be located 65 feet to the west to provide a 22,775 square foot buffer between the roadway/security gate and 0-3S. In addition, the guard shack will be constructed on the west side of the vehicle service road to maximize the distance away from 0-3S.
- The SDCRAA, in consultation with the USFWS and CDFW, will identify a security gate and guard shack design that minimizes light, noise and movement to the extent possible, and does not provide openings for the potential ingress of mammalian predators into the SDIA least tern nesting area. For this design, the height of security cameras, lighting, and fences will be reduced as much as possible and include predator perch barriers. In addition, lighting will be minimized in and around the guard shack. The light at the guard shack will be angled to shine down towards the security gate. The SDCRAA will submit draft designs for the security gate and guard shack to the USFWS for review and approval prior to finalizing the designs.
- The SDCRAA will not install street lights along the Terminal Link Roadway.
- The SDCRAA will remove two 25-foot light poles that lie within 65 feet of 0-3S.
- The backup triturator for lavatory waste disposal will be relocated from its current location directly east of 0-3S, to the west side of the Airport, which will partially reduce traffic on the vehicle service road near 0-3S.
- The SDCRAA will implement project components that are beneficial to the tern, including: creation of nesting habitat at Teledyne-Ryan taxiway, re-location of the backup triturator and removal of light poles, before the 2014 nesting season. Construction of the Terminal Link Roadway, re-aligned vehicle service road, and security gate/guard shack will not begin until after the 2014 tern nesting season.
- All project construction within 800 feet of the SDIA least tern nesting area will occur from September 15 to March 31 to avoid the tern nesting season.
- The staging area will be located on the north side of Runway 9-27 at least 1,200 feet from tern nesting oval 0-3S or on the former Teledyne Ryan Property at least 800 feet from tern nesting oval 0-3S during the tern nesting season. Construction vehicles will not use roads adjacent to the tern nesting areas located on the south side of Runway 9-27. Any construction vehicles will be parked on paved areas on the north side of Runway 9-27 or on the Teledyne Ryan property at least 800 feet from 0-3S during work hours.

- Beginning April 1, the SDCRAA will hire a tern biologist (i.e., can identify the tern, recognize their vocalizations, and identify agitated or distressed tern behavior) to monitor daily for the arrival of terns into San Diego Bay and to the SDIA nesting sites and immediately notify the FAA and USFWS upon their arrival. The tern biologist will coordinate with other tern monitors in San Diego. The SDCRAA will notify the FAA and USFWS via email on a daily basis as to the presence or absence of terns in San Diego Bay and at the SDIA nesting sites. The notifications will be sent to Victor Globa (FAA) and Sandy Vissman (USFWS) unless otherwise notified by FAA or USFWS.
- The SDCRAA will hire a tern biologist (i.e., can identify the tern, recognize their vocalizations, and identify agitated or distressed tern behavior) to be onsite during the breeding season on all days when construction activities are conducted within 1,200 feet of SDIA least tern nesting areas to ensure that activities and personnel do not disrupt the tern. Construction activities will be conducted in a manner that prevents individual terns or groups of terns from displaying agitated or stressed behavior and/or suddenly leaving their nest(s) and not resettling on the nest(s) within 5 minutes. The tern biologist will monitor the tern during construction and will immediately notify the Resident Engineer (RE; or acting RE) of any construction activity that may lead to, or likely result in, the disruption of the tern, its young, or its eggs. If the tern biologist determines that adverse effects to the tern have occurred, the RE will be notified and all project construction activities will cease immediately, except those activities necessary to make the SDIA safe and operational. The tern biologist, in coordination with the RE, will contact the FAA and USFWS immediately after stopping construction. Construction will not resume until approved by the FAA and USFWS. The biological monitor will submit daily field reports to the FAA and USFWS on the status of the nesting activity, any construction-related incidents that disrupted tern nesting, and any action taken by the RE to avoid further incidents, within 24 hours of each monitoring date. The tern biologist will also submit a final summary report of monitoring to the FAA and USFWS by October 1.
- Covered trash dumpsters or other suitable containers will be provided for construction personnel. All food items or containers that previously held food items will be immediately disposed of in these dumpsters or containers, so as not to attract avian or mammalian predators of the tern.
- Construction personnel will not be permitted to feed cats, gulls, ravens, etc. as this may result in an increase in the numbers of these potential predators in the vicinity of tern chicks and eggs.
- Crane booms or similar equipment that have heights of 25 feet or greater will be lowered at the close of each construction day, if possible.
- A pre-construction meeting will be held to make all contractor personnel, including all construction staff, aware of the tern nesting issue and the specific conditions of construction. Project status meetings will be regularly held to remind all involved personnel of the measures required to protect the tern as well as any modifications made to ensure their effectiveness. The USFWS will be notified of the date and time of the pre-construction and status meetings in order to attend, if needed or desired.

- Nighttime construction will be limited to those activities that are necessary to maintain airfield operations during normal operational times. Should nighttime construction be required, the biological monitor will be onsite and perform the duties specified above.
- Night lighting for project construction more than 800 feet from the SDIA least tern nesting area will be kept to a minimum during the tern nesting season (April 1- September 15), and will not be used unless active construction or other essential work is occurring.

An Informal Section 7 Consultation between the FAA and USFWS regarding potential effects of the SDIA Taxiway B Object-Free Area Improvement Project was completed in June 2018.²⁹ This project created a wider “object-free” area (OFA) adjacent to Taxiway B at SDIA to accommodate Group V aircraft on Taxiway B. To create the wider OFA, several structures were repositioned, including the: 1) existing service road; 2) existing fence; and 3) security gate adjacent to Taxiway B, to a new location approximately 40 feet south of the current alignment. Measures to reduce potential impacts to the California least tern specified in the June 2018 Informal Section 7 Consultation, which were implemented/continue to be implemented, as applicable, at SDIA related to the Taxiway B Object-Free Area Improvement Project are as follows:

- The proposed construction action will be limited to developed areas outside the least tern nesting ovals.
- The FAA and Airport Authority will limit ingress and egress routes for construction conducted during the nesting season. Construction vehicles will approach the staging area and construction area from the north and west sides of the airport and will not routinely use roads that pass the least tern nesting areas located on the south side of the airport runway.
- The staging area will be at least 1,200 feet from ovals O-1S, O-2S, O-3S, and O-4S.
- The FAA and Airport Authority will prohibit equipment, vehicles, and workers from being closer than 800 feet from Ovals O-1S, O-2S, O-3S, and O-4S during the least tern nesting season (April 1 - September 15). In addition, any construction activity conducted within 1,200 feet of any least tern nesting oval during the least tern nesting season may be subject to oversight by a qualified least tern biologist, as determined by the Airport Authority in coordination with the Service. If the qualified least tern biologist determines that construction activities are resulting in impacts to least terns, the biologist, in coordination with the Airport Authority and the contractor, may modify construction activity to incorporate protective measures to avoid harassment and/or disruption of the least terns or immediately cease all activity, except those activities necessary to make the airport safe and operational. If work is stopped, construction will not resume until approved by the Airport Authority in coordination with the Service.
- During least tern nesting season, construction vehicles will stay on paved surfaces.

²⁹ U.S. Department of the Interior, Fish and Wildlife Service. Letter from Karen Goebel, Assistant Field Supervisor to Gail Campos, Federal Aviation Administration, Subject: Informal Section 7 Consultation for Taxiway B Object-Free Area Improvement Project, San Diego International Airport, San Diego County, California. June 20, 2018.

- Trash will be properly disposed of and workers will not feed potential tern predators in the area. The Airport Authority will require the contractor to provide trash dumpsters or other covered trash receptacles for use by construction personnel. All food items or containers that previously held food items obtained/handled/controlled by construction personnel will be immediately disposed of in these dumpsters or containers, so as not to attract avian or mammalian predators of the least tern.
- During the least tern nesting season, activity will occur at night only if necessary to maintain airfield operations during normal operational times. If night time construction is required to maintain airfield operations, the biological monitor will be onsite and perform the duties specified in CM 4.
- During the least tern nesting season, crane booms or similar equipment that have heights of 25 feet or greater will be lowered at the close of each construction day, unless it is impossible to do so, to reduce the potential for avian predator perching on the elevated equipment.
- The FAA and Airport Authority will conduct a pre-construction meeting to inform all contractor personnel, including all construction staff, of the presence and protected status of the least tern, and the need to comply with CMs 1-8. Project status meetings will be regularly held to remind all involved personnel of the measures required to protect the least tern as well as any modifications made to ensure their effectiveness.
- The FAA will ensure that Group V aircraft on Taxiway B will use only the inboard engines during taxi. Outboard engines will remain in the “idle” setting during taxi to reduce the potential for impacts to the adjacent nesting area.
- FAA and the Airport Authority will monitor least tern use of the SDIA nesting area within 100 feet of Taxiway B during the 2018 and 2019 nesting seasons, including observations during the passage of Type V aircraft, to determine if there are observable changes in: productivity, least tern behavior, use of the nesting area, or impacts to least terns that warrant additional consideration. Observations will be included in a report and provided to the Service by October 31, 2019.
- To offset the anticipated incremental reduction in habitat suitability, the Airport Authority will augment Oval O-3S in the “buffer area” created as part of the Terminal Link Roadway Project (Service 2013), or other suitable location approved by the Service, to create conditions conducive to least tern nesting.

SDCRAA continues to work cooperatively with the USFWS, Port of San Diego, and the U.S. Navy to protect the California least tern. SDCRAA has created a program to protect the California least terns at SDIA, which includes the measures specified in the 1993 BO, the 2013 Informal Section 7 Consultation between the FAA and USFWS regarding potential effects of the SDIA Northside Improvements Project, and the 2018 Informal Section 7 Consultation between the FAA and USFWS regarding potential effects of the SDIA Taxiway B Object-Free Area Improvement Project, listed above.

Bird Strikes

Existing bird attractants near SDIA include San Diego Bay to the south of the Airport and the Navy Boat Channel to the west of the Airport. Birds are also attracted to the open space on the airfield (i.e., the California least tern ovals discussed above).

The numbers of bird strikes at SDIA between the years 2003 through 2018 are shown in Table 3.5-2.

Table 3.5-2: Bird Strikes and Total Aircraft Operations at SDIA, 2003-2018

Year	Bird Strikes	Total Operations
2003	24	202,878
2004	31	212,468
2005	28	225,423
2006	28	225,784
2007	23	230,301
2008	22	218,091
2009	26	199,210
2010	20	190,137
2011	24	185,143
2012	50	187,314
2013	30	187,970
2014	22	191,761
2015	30	193,712
2016	21	196,935
2017	29	209,563
2018	23	225,058

Sources: U.S. Department of Transportation, Federal Aviation Administration. Wildlife Strike Database. Available: <https://wildlife.faa.gov/databaseSearch.aspx>; SDCRAA, SAN Historical Data – 1949 through 2018. Available: https://www.san.org/DesktopModules/Bring2mind/DMX/Download.aspx?EntryId=12823&Command=Core_Download&language=en-US&PortalId=0&TabId=403.

Consistent with FAA Advisory Circular No. 150/5200-33B "Hazardous Wildlife Attractants on or Near Airports" and with measures specified in the 1993 BO, SDIA has an ongoing predator control program to protect California least terns in the ovals from predators, including avian predators such as falcons, hawks, owls, ravens, crows, and gulls, with the added benefit of reducing potential aircraft bird strikes.

As indicated in Table 3.5-2, although the number of aircraft operations is a factor in the occurrence of bird strikes at SDIA, the occurrence of bird strikes is dependent upon several factors, including implementation of wildlife control/anti-perching measures.

Essential Fish Habitat (EFH)

As part of the SDIA Northside Improvements Project, in March 2012 a biologist from Merkel & Associates conducted a field survey of the then-proposed (since constructed) storm drain force

main outlet areas to the Navy Boat Channel.³⁰ Biotic habitat types that exist at the storm water force main outfall consist of supratidal and intertidal riprap, which abuts a narrow swath of unvegetated intertidal mudflat at the toe. Subtidal habitat consists primarily of unvegetated mud bottom, transitioning to vegetated habitat (eelgrass). Eelgrass vegetated habitats are an essential component of southern California's coastal marine environment. Eelgrass beds function as important habitat for a variety of invertebrate, fish, and avian species. For many fish species, eelgrass beds are an essential biological habitat component for at least a portion of their life cycle, providing structured habitat and nursery sites. Based on the eelgrass survey conducted at the storm drain force main outlet area by Merkel & Associates, eelgrass at the site was found to extend from a depth of 0 feet to approximately -9 feet mean lower low water elevation (MLLW), with the majority being at depths greater than -2 feet MLLW. The subtidal eelgrass vegetated habitat in the Navy Boat Channel is considered EFH.

San Diego Bay, located approximately 200 feet and opposite North Harbor Drive from the closest proposed project component (the new inbound on-airport roadway), also includes areas identified as EFH.³¹

As discussed in Section 3.5.4.2 below, a field survey was conducted by Wood Environment & Infrastructure Solutions, Inc (Wood) biologist Jason Erlich on July 23, 2019, along with Wood Staff Scientist Nancy Phu, to investigate the SDIA property for the presence of wetlands and/or other jurisdictional waters. No wetlands or areas that show signs of water ponding for any significant amount of time were observed on Airport property during the field survey; as such, it is not likely that habitat for fish exists within the SDIA boundary.³²

Protected Trees

Numerous mature trees are located south of SDIA within the Port of San Diego's jurisdiction, particularly along the south side of North Harbor Drive within Spanish Landing Park and along the multi-use path that extends along the San Diego Bay. In addition, there are 10 mature Mexican fan palm trees (*Washingtonia robusta*) within the small open space (non-native grass landscaped) triangular Port parcel located between Laurel Street and North Harbor Drive, south of the Solar Turbines surface parking lot. Mexican fan palm is a non-native species commonly used in ornamental landscaping.

No trees that would qualify under the four categories (landmark tree, heritage tree, parkway resource tree, and preservation grove) of City of San Diego Council Policy 900-19 (Public Tree Protection) are located within the proposed project site. The nearest potential protected trees within City jurisdiction are palm trees within the parkway along Laurel Street between Pacific Highway and North Harbor Drive, which could be considered "parkway resource" trees (i.e., a

³⁰ Development of the storm drain force main outlet improvements associated with the SDIA Northside Improvements impacted approximately 570 square feet of intertidal mudflat and shallow subtidal unvegetated habitat. These impacts occurred as a result of placement of riprap to dissipate energy and prevent erosion at the storm drain outlet. It was anticipated that temporary impacts would also occur to a small amount of intertidal and supratidal riprap revetment that would be removed and replaced during installation of the storm drain.

³¹ Unified Port of San Diego and Naval Facilities Engineering Command. San Diego Bay Integrated Natural Resources Management Plan. September 2013.

³² Wood Environment & Infrastructure Solutions, Inc. Wetlands Assessment Survey Technical Memorandum. August 2019; included in Appendix R-E of this Recirculated Draft EIR.

grouping of trees within the public right-of-way with a consistent design theme, and their overall size, health, and form are relatively consistent).

3.5.4.2 Wetlands

The U.S. Army Corps of Engineers' (USACE) Wetlands Delineation Manual defines wetland areas that have positive indicators for hydrophytic vegetation, wetland hydrology, and hydric soils as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."³³ The USACE typically takes jurisdiction over wetlands only when they lie within or adjacent to navigable waters, or tributaries of such waters where those tributaries bear an ordinary high water mark. An ordinary high water mark is defined as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."³⁴

SDIA is highly developed (e.g., buildings, paved surfaces, ornamental landscaping) and contains few areas with the potential to support wetlands. As discussed above, a field survey was conducted by Wood Biologist Jason Erlich on July 23, 2019, along with Wood Staff Scientist Nancy Phu, to investigate the SDIA property for the presence of wetlands and/or other jurisdictional waters.³⁵ The wetlands assessment by Wood concluded that none of the undeveloped lands within SDIA support wetland vegetation; show signs of saturated soils; have hydrology or evidence of hydrology present; or have depressions or channels that may collect water. Rather, these areas support natural vegetation typical of disturbed uplands. As such, there are no wetlands (i.e., jurisdictional habitats that may fall under Corps jurisdiction pursuant to Section 404 of the CWA, wetland and streambed habitats under CDFW jurisdiction pursuant to Section 1600 of the California Fish and Game Code, or wetland habitat under California Coastal Commission jurisdiction pursuant to Section 30121 of the CCA) at SDIA.

The Navy Boat Channel to the west of the Airport is regulated as a "waters of the U.S." under Section 10 of the Rivers and Harbors Act of 1899. As previously discussed, as part of the SDIA Northside Improvements Project, a field survey of the then proposed (since constructed) storm drain force main outlet area to the Navy Boat Channel was conducted by a Merkel & Associates biologist in March 2012. The results on the 2012 field survey did not reveal the presence of any wetland vegetation within the boundary of the storm drain force main outlet construction area, below or above the ordinary high water mark. The riprap shoreline and adjacent uplands were free of wetland vegetation. The only vegetation on the riprap was hottentot-fig that dominates the uplands and spreads down the riprap. Additional dominant plant species included quail saltbush (*Atriplex lentiformis*) (two large individuals at the top of the riprap slope), Bermuda grass (*Cynodon dactylon*) and riggut grass (*Bromus diandrus*) interspersed with the hottentot-fig, and English

³³ U.S. Army Corps of Engineers. Corps of Engineers Wetlands Delineation Manual. January 1987.

³⁴ U.S. Army Corps of Engineers. Regulatory Guidance Letter – Subject: Ordinary High Water Mark Identification. December 7, 2005.

³⁵ Wood Environment & Infrastructure Solutions, Inc. Wetlands Assessment Survey Technical Memorandum. August 2019.

plantain (*Plantago lanceolata*). The uplands and riprap at the outfall site did not contain wetland hydrology or vegetation. Additionally, soils at the storm drain force main outlet area consisted primarily of fill material, which do not qualify as hydric (wetlands) soils. As such, the storm drain force main outlet area does not contain jurisdictional wetlands.³⁶

3.5.5 Thresholds of Significance

The following significance criteria for biological resources impacts are derived from Appendix G of the State CEQA Guidelines. Under these criteria, the proposed project would result in significant impacts associated with biological resources if it would:

- Impact 3.5-1** Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.
- Impact 3.5-2** Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS.
- Impact 3.5-3** Have a substantial adverse effect on state or federally protected wetlands through direct removal, filling, hydrological interruption, or other means.
- Impact 3.5-4** Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Impact 3.5-5** Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Impact 3.5-6** Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

3.5.6 Project Impacts

3.5.6.1 Impact 3.5-1

Summary Conclusion for Impact 3.5-1: Construction and operation of the proposed project could have a substantial adverse effect either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Although SDCRAA would continue to implement measures included in their existing program to protect the California least terns at SDIA that would avoid and/or minimize potential indirect impacts from construction and operation of the proposed project, the indirect impact is considered *potentially significant* for construction and operations, as described below.

³⁶ U.S. Department of Transportation, Federal Aviation Administration. Final Environmental Assessment for the Northside Improvements - San Diego International Airport Master Plan. Section 4.7, Wetlands, and Appendix D, Marine Resources Assessment and Essential Fish Habitat Assessment. September 5, 2013.

3.5.6.1.1 Construction

As described previously, the runway ovals in the southeast portion of the Airport provide California least tern nesting habitat. The vast majority of project-related construction, such as that associated with the proposed terminals improvements, would occur over one-half mile from the nesting ovals. However, construction associated with the expansion of the capture area of the SAN Stormwater Capture and Reuse System under the proposed project would occur in the area of the southernmost runway oval, Oval O3-S, as discussed below. The other closest construction activity to the nesting ovals would be for the proposed multi-use path, a portion of which would be as close as 62 feet away from Oval O3-S on the far side of the existing Terminal Link Roadway, and construction of the eastern area for aircraft remain overnight (RON) parking and the related Taxiways A and B, approximately 150 feet from the northernmost oval and over 500 feet from the southernmost oval.

An evaluation of impacts of the proposed project on the California least terns at SDIA was conducted in September 2019 by Kevin Clark, Director of BioServices, at the San Diego Natural History Museum. A letter report with the results of the evaluation is provided in Appendix R-E and summarized below for construction of the SAN Stormwater Capture and Reuse System, and in Section 3.5.6.1.2 below for operations of the various proposed project elements.

SAN Stormwater Capture and Reuse System

The SAN Stormwater Capture and Reuse System would require excavation of approximately 22,000 cubic yards of soil to allow for construction of the 3.4-million-gallon underground storage tank and approximately 44,000 cubic yards of soil to allow for construction of the 3-million gallon underground storage/infiltration area. The system would also require the installation of approximately 20,000 linear feet of storm drain pipe, the largest pipes being 24 inches in diameter. The underground storage storage/infiltration area would be constructed under 3.6 acres of the most southeastern portion of the least tern nesting habitat, specifically, nesting Oval O3-S. The underground storage area is actually a series of hollow chambers with open bottoms to allow water percolation into the soil. As the water table below the nesting area is approximately five feet below ground, the chambers would be placed just above this level. The approximate 34-inch tall tanks would allow about 24-26 inches, or more, of sand and other material to be placed above them. Construction of the SAN Stormwater Capture and Reuse System would occur outside of the California least tern breeding season, April 1 - September 15.

Currently the substrate in the California least tern breeding ovals is composed primarily of poorly-graded sand, gravel, and old cracked asphalt, with a mix of sand and gravel forming a matrix between the asphalt cracks. The California least tern place their nests in these sand and gravel areas and the sandy areas within the asphalt cracks, however a portion of the site is unsuitable for nest placement due to the amount of asphalt present. As part of the proposed project, after the removal of the existing substrate across 3.6 acres of nesting Oval O3-S during the construction of the SAN Stormwater Capture and Reuse System, the construction area (to the extent compatible with airfield operations) would be capped with high quality beach sand, providing a much more suitable nesting substrate in this area. It is not clear if the number of breeding pairs of California least tern nesting on the SDIA are currently limited by the amount of suitable nesting substrate or other extrinsic factors such as the availability of forage fish suitable for feeding chicks in nearby foraging areas in San Diego Bay. However, increasing the amount of suitable nesting substrate

would increase the opportunities for nest placement and potentially decrease competition for nesting sites by California least tern pairs.

Measures to be Implemented During Construction

SDCRAA would continue to implement the applicable measures specified in the 1993 BO and in the 2013 and 2018 Informal Section 7 Consultations between the FAA and USFWS regarding potential effects of the SDIA Northside Improvements Project and the Taxiway B Object-Free Area Improvement Project, respectively, listed in Section 3.5.4.1 above to avoid potential indirect impacts to California least tern during construction of the proposed project.

In addition, as discussed in Section 3.10, Hydrology and Water Quality, best management practices (BMPs) associated with the stormwater pollution prevention plan (SWPPP) and regulatory permits would be implemented to minimize the potential for construction-related runoff to occur. Further, as discussed in Section 3.9, Hazards and Hazardous Materials, the Plans and Specifications for the proposed project improvements would require the contractor(s) to include provisions for the handling and disposal of hazardous materials in accordance with all applicable federal, state, and local regulations.

As the proposed project includes some construction activity in the vicinity of the least tern ovals, construction of the proposed project has the potential to have a substantial adverse effect on a species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. As such, project construction would result in a ***potentially significant indirect impact***.

3.5.6.1.2 Operations

As described previously, the runway ovals in the southeast portion of the Airport provide California least tern nesting habitat. No above-ground improvements are proposed within or directly adjacent to the nesting ovals and no direct physical disturbance would occur from operation of the proposed project. The type of aircraft operations occurring in proximity to the California least tern nesting areas at SDIA – i.e., taxiing, takeoff, and landing of aircraft on the runway and taxiways near the ovals would not materially change as a result of the proposed project. The following discussion provides a summary of the operational impacts of the proposed project included in the September 2019 letter report by Kevin Clark, Director of BioServices, at the San Diego Natural History Museum (see Appendix R-E).

New Terminal 1

The eastern end of the proposed new T1 would be over 2,800 feet from the western edge of the main nesting Oval O3-S. This would be too far for potential predators that may perch on the building to affect the nesting colony. The new T1 would also be located to the west of the nesting oval, a direction that the California least tern do not typically commute when traveling to or from foraging areas. Therefore, no direct or indirect effects on the nesting oval or foraging terns are anticipated due to the proposed new T1.

Multi-Use Path

The proposed multi-use path would be positioned as close as 62 feet away on the far side of the existing Terminal Link Roadway. Because this path would be used by pedestrians and bicycles, and

would be further from the nesting area than the buses using the Terminal Link Roadway, and would also be shielded from view by two eight-foot-tall fences, no visual or noise impacts to the nesting areas are anticipated.

On-Airport Entry Roadway

The new on-airport access roadway would be constructed to the south of the existing Terminal Link Road and multi-use path, which border the southern end of nesting Oval O3-S. California least tern nesting in the ovals on SDIA typically commute to the south, southeast, and southwest to reach the north end of San Diego Bay to forage for small fish to feed their young. Multiple studies have shown that commuting distance and energy expenditure while transiting from nesting to foraging areas are a primary determinant of colony nesting success among a wide variety of seabirds, including the California least tern.

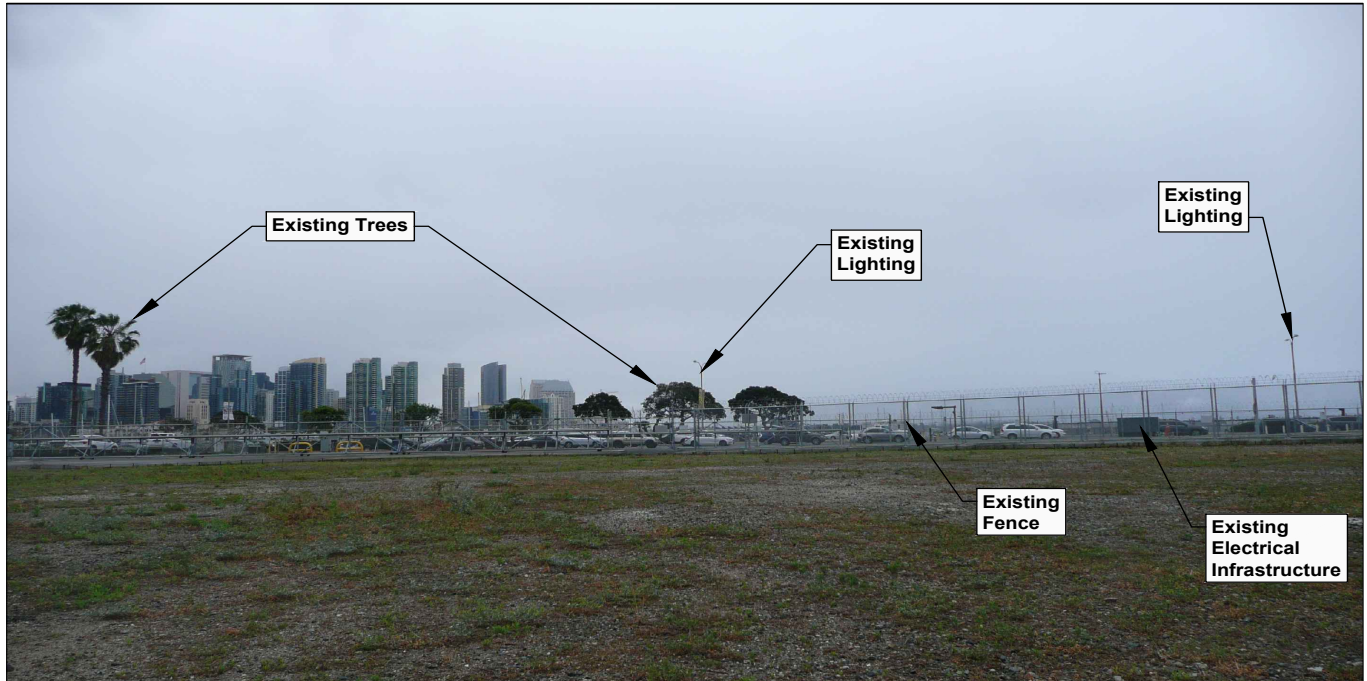
The proposed access roadway incorporates a raised overpass that begins its elevation above grade to the southwest and west of nesting Oval O3-S, approximately 195 feet away from the edge of the California least tern. The overpass reaches its top height of approximately 23 feet above grade over 300 feet to the west of the nesting oval.

The shortest distance from the nesting ovals to San Diego Bay for terns commuting between the two sites is to the south and southeast of Oval O3-S, as close as 280 feet away. In this area, the proposed on-airport roadway is at grade, and no new structures taller than the existing eight-foot fences are proposed. Commuting terns would have no additional impediments in transiting this area between foraging bouts.

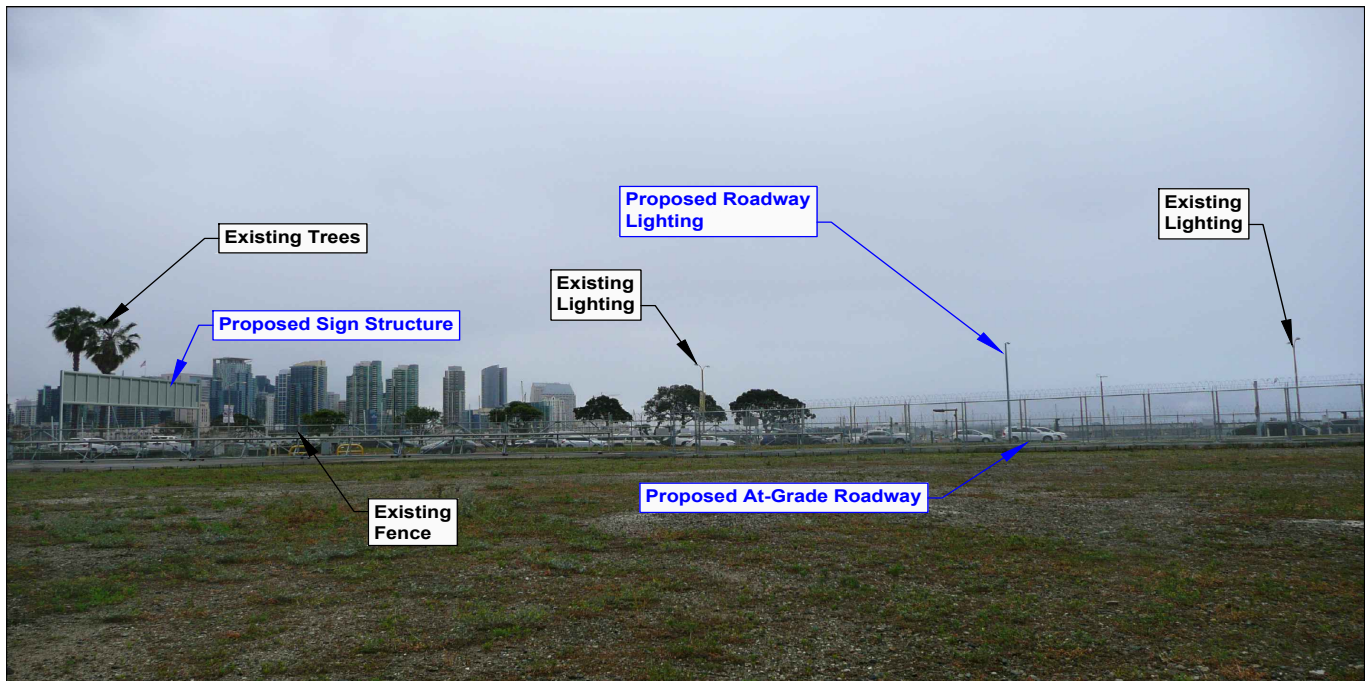
Three photo renderings were created to show the difference before and after the proposed project is completed from the vantage point of nesting California least tern at the south end of the nesting Oval O3-S, looking to the south, southwest, and west-southwest (Figures 3.5-2, 3.5-3, and 3.5-4 respectively). These photo renderings show that to the southeast and south (Figures 3.5-2 and 3.5-3), the proposed roadway would be at grade. Therefore, no changes to tern commuting patterns are anticipated in these directions, which include the closest direct flying distances to San Diego Bay (280-380 feet). To the southwest (Figure 3.5-3), the nearest portion of San Diego Bay is 910 feet away, and commuting terns must also cross the U.S. Coast Guard facility to the south of Harbor Drive. To the west-southwest (Figure 3.5-4), the rendering shows that the elevated roadway begins its rise to just above the level of the existing fenceline. Here, at approximately 195 from the edge of the nesting area, the roadway and retaining walls would be approximately 11 feet above grade. In this direction, the nearest access to the bay is over 1,100 feet away over the U.S. Coast Guard Facility. However, terns flying to foraging areas around Harbor Island and to the west fly directly over this area to reach their foraging sites in order to expend as little energy as possible.

Other California least tern colonies are located adjacent to significant structures. The California least tern colony at Venice Beach in Los Angeles County is approximately 160 feet to the west of an intensely developed residential area composed of three and four-story apartment buildings. The terns at this site have access to close foraging areas to the south and west, but also routinely commute over the buildings to the east in order to access foraging areas in Marina Del Rey. They also return with prey items frequently by flying over these buildings on their approach to the colony.

View A - Existing



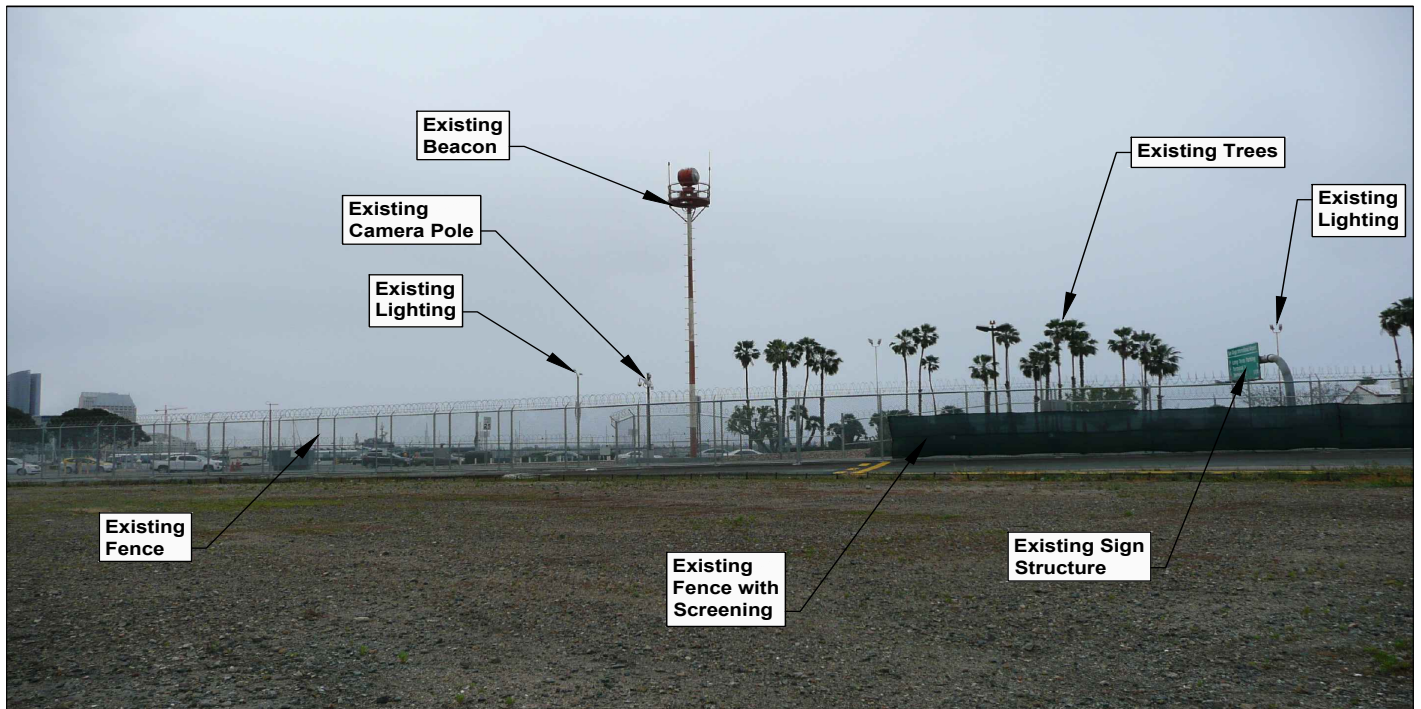
View A - Proposed Project



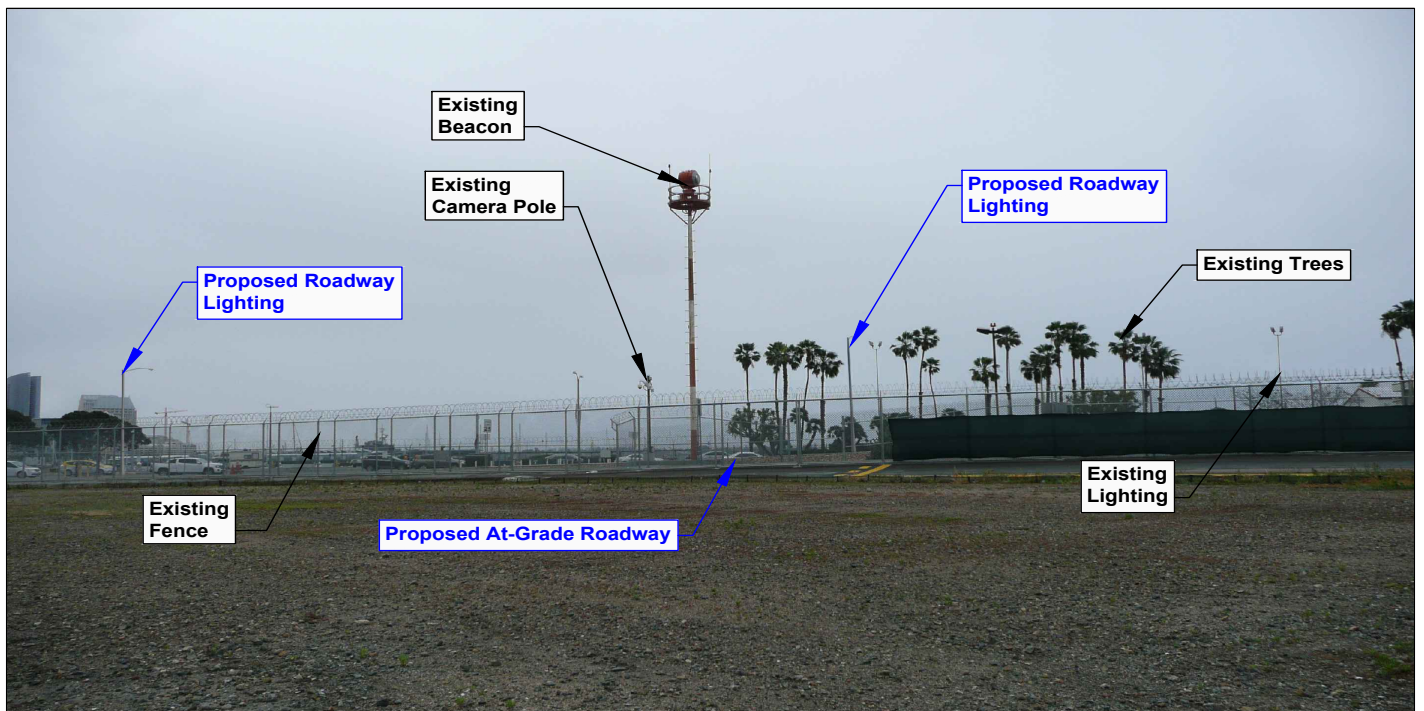
Source: San Diego International Airport, 2019

Figure 3.5-2

View B - Existing



View B - Proposed Project



Source: San Diego International Airport, 2019

Figure 3.5-3

View C - Existing



View C - Proposed Project



Source: San Diego International Airport, 2019

Figure 3.5-4

Just across the bay from SDIA, Naval Air Station North Island supports an approximately twenty-acre California least tern breeding colony (the MAT site) that is surrounded by numerous buildings of various sizes and an active airfield. It is also more isolated from foraging areas than the nesting ovals at SDIA, as it is approximately one-half mile from the nearest foraging areas on San Diego Bay.

These two examples show that California least tern are adaptable to human modified landscapes and can successfully breed despite needing to navigate significant vertical structures between their breeding and foraging areas. It should be noted that these two sites are the exceptions, however, as most California least tern breeding colonies are located on flat, sandy coastal locations with immediate access to foraging areas.

Several new light poles are proposed along the new roadway. Currently to the south of the nesting oval, there is a 25-foot-tall light pole and a 50-foot-tall beacon within 80 feet of the nesting area, and another light pole and one sign structure within approximately 200 feet. Additionally, at least eight light poles are located within 200 feet to the west of the nesting oval. The closest proposed new light poles adjacent to the proposed new on-airport entry roadway would be 88, 108, and 230 feet at their closest points to the ovals. Therefore, the total number of light poles or beacons within 200 feet of the nesting ovals would change from 11 to 13. As with the current light poles, these would be topped with predator deterrents such as Nixalite®. All proposed lighting adjacent to the nesting ovals would be shielded to prevent any direct illumination of the breeding area. The existing sign structure (25 feet tall) that is approximately 205 feet to the southwest of the oval would be replaced with a similar sign structure approximately 222 feet to the southeast of the oval. No additional effects to the California least tern nesting colony are anticipated with this relocation of the sign.

Elevated structures, such as light poles, provide attractive perches for predators of California least tern adults, chicks, and eggs. The principal predators affecting the California least tern nesting success over the past ten years at SDIA include Peregrine Falcon (*Falco peregrinus*), Cooper's Hawk (*Accipiter cooperii*), American Kestrel (*Falco sparverius*), Common Raven (*Corvus corax*), American Crow (*Corvus brachyrhynchos*), and Western Gull (*Larus occidentalis*). The first three species are raptors that often hunt from perches and have been documented taking both adult terns and young chicks from the SDIA colony in most years in the recent past. However, the area immediately surrounding the nesting oval already contains numerous predator perches, including at least eleven beacons or light poles, a sign structure, and numerous tall trees such as palms. The addition of two more light poles within 200 feet of the nesting oval would not significantly change the opportunity for predators to perch near the colony.

Measures to be Implemented During Operations

SDCRAA would continue to implement the applicable measures specified in the 1993 BO and in the 2013 and 2018 Informal Section 7 Consultations between the FAA and USFWS regarding potential effects of the SDIA Northside Improvements Project and the Taxiway B Object-Free Area Improvement Project, respectively, listed in Section 3.5.4.1 above to avoid potential indirect impacts to California least tern during operation of the proposed project.

In addition, as discussed in Section 3.10, Hydrology and Water Quality, during operations, existing requirements would provide a basis for ensuring that operation of the proposed project would not

result in a violation of water quality standards or discharge requirements. Additionally, the proposed project includes the expansion of the capture area of the SAN Stormwater Capture and Reuse System to divert and capture a portion of stormwater runoff for reuse. Operation of the proposed project would not substantially alter the existing drainage patterns resulting in erosion or sedimentation. Further, as discussed in Section 3.9, Hazards and Hazardous Materials, operation of the proposed improvements would comply with all applicable federal, state, and local regulations regarding the handling and disposal of hazardous materials.

As the proposed project includes some operational activity in the vicinity of the least tern ovals, operation of the proposed project has the potential to have a substantial adverse effect on a species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. As such, project operations would result in a ***potentially significant indirect impact***.

3.5.6.1.3 Mitigation Measures

The following mitigation measures would be implemented in conjunction with continued implementation of (1) the applicable measures specified in the 1993 BO; (2) the applicable measures set forth in the 2013 Informal Section 7 Consultation between the FAA and USFWS regarding potential effects of the SDIA Northside Improvements Project; (3) the applicable measures set forth in the 2018 Informal Section 7 Consultation between the FAA and USFWS regarding potential effects of the SDIA Taxiway B Object-Free Area Improvement Project; (4) BMPs; and (5) compliance with federal, state, and local regulations regarding hazardous materials management.

Construction

MM-BIO-1: California Least Tern: Construction Measures: The following measures shall be included in all construction contracts for the proposed project facilities and implemented as part of the proposed project to avoid potential indirect impacts during construction from increased lighting, noise, use of hazardous materials, and activities that may increase perching for predatory species:

- All project construction within 800 feet of the SDIA least tern nesting area will occur from September 16 to March 31 to avoid the tern nesting season.
- A tern biologist will monitor the tern during construction occurring between 800 feet to 1,200 feet of any nesting least tern area during the tern nesting season (April 1- September 15) and will immediately notify the Resident Engineer (RE; or acting RE) of any construction activity that may lead to, or likely result in, the disruption of the tern, its young, or its eggs. If the tern biologist determines that adverse effects to the tern have occurred, the RE will be notified and all project construction activities will cease immediately, except those activities necessary to make the SDIA safe and operational. The tern biologist, in coordination with the RE, will contact the FAA and USFWS immediately after stopping construction. Construction will not resume until approved by the FAA and USFWS. The tern biologist will submit daily field reports to the FAA and USFWS on the status of the nesting activity, any construction-related incidents that disrupted tern nesting,

and any action taken by the RE to avoid further incidents, within 24 hours of each monitoring date. The tern biologist will also submit a final summary report of monitoring to the FAA and USFWS by October 1.

- Trash will be properly disposed of and workers will not feed potential tern predators in the area. The Airport Authority will require the contractor to provide trash dumpsters or other covered trash receptacles for use by construction personnel. All food items or containers that previously held food items obtained/handled/controlled by construction personnel will be immediately disposed of in these dumpsters or containers, so as not to attract avian or mammalian predators of the least tern.
- Construction personnel will not be permitted to feed cats, gulls, pigeons, ravens, or any other wildlife, as this may result in an increase in the numbers of these potential predators in the vicinity of tern chicks and eggs.
- Crane booms or similar equipment that have heights of 25 feet or greater located between 800 feet to 1,200 feet of any nesting least tern area during the tern nesting season (April 1- September 15) will be lowered at the close of each construction day, if possible.
- A pre-construction meeting will be held to make all contractor personnel that will be working between 800 feet to 1,200 feet of any nesting least tern area during the tern nesting season (April 1- September 15), including all construction staff, aware of the tern nesting issue and the specific conditions of construction. Project status meetings will be regularly held to remind all such personnel of the measures required to protect the tern as well as any modifications made to ensure their effectiveness. The USFWS will be notified of the date and time of the pre-construction and status meetings in order to attend, if needed or desired.
- Nighttime construction occurring between 800 feet to 1,200 feet of any nesting least tern area during the tern nesting season (April 1- September 15) will be limited to those activities that are necessary to maintain airfield operations during normal operational times. Should such nighttime construction be required, the tern biologist will be onsite and perform the duties specified above.
- Night lighting for project construction occurring between 800 feet to 1,200 feet from the SDIA least tern nesting area will be kept to a minimum during the tern nesting season (April 1- September 15), and will not be used unless active construction or other essential work is occurring. Should such nighttime construction or other essential work be conducted, all lighting associated with the work will be shielded from or directed away from the least tern nesting area.
- Continued diligent maintenance of fencing around the perimeter of the ovals to shield the terns from lighting, predators, and unauthorized human access.

- The new airport entry road to the south of the nesting ovals shall not rise above existing surface grade and shall not alter the elevation of roadway structures directly to the south of the nesting ovals.

This measure is considered feasible.

Operations

MM-BIO-2: California Least Tern: Operations Measures: The following measures shall be implemented by SDCRAA as part of the proposed project in order to avoid potential indirect impacts during operation as related to perching for predatory species:

- New facilities shall be designed to minimize potential perching locations; all structures taller than ten feet and within 200 feet of the nesting ovals, including light poles and sign structures, shall be required to use anti-perch treatments such as stainless steel bird spike barriers that can be applied to potential perch sites (e.g., Nixalite®).
- Any new landscaping shall be limited to plant species and materials not conducive to perching by birds.
- Continued diligent maintenance of fencing around the perimeter of the ovals to shield the terns from lighting, predators, and unauthorized human access.
- Continued habitat management within the ovals including application of herbicide and removal of vegetation.

This measure is considered feasible.

In addition to Mitigation Measure MM-BIO-2, operational impacts of the proposed project would be further reduced with implementation of Mitigation Measure MM-AQ/GHG-8, Electric On-Airport Shuttles, which requires that on-airport shuttles, including the existing Rental Car Center shuttles that utilize the Terminal Link Roadway on the south side of the Airport that runs along the southern portion of the southernmost California least tern oval, be transitioned to quieter electric vehicles (all-electric or plug-in hybrid), thereby reducing ambient noise levels next to the airfield least tern colony.

3.5.6.1.4 Significance of Impact After Mitigation

With implementation Mitigation Measures MM-BIO-1 related to construction and MM-BIO-2 related to operations, the impacts of the proposed project would be reduced to a level that is ***less than significant impact*** for construction and operations.

3.5.6.2 Impact 3.5-2

Summary Conclusion for Impact 3.5-2: Construction and operation of the proposed project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS. As such, and as further described below, this would be a *less than significant impact* for construction and operations.

3.5.6.2.1 Construction

There are no wetlands (i.e., riparian habitat) or other sensitive natural communities at SDIA. However, the subtidal eelgrass vegetated habitat in the Navy Boat Channel to the west of the Airport is considered EFH. As discussed in Section 3.5.3.1 above, no aspect of the proposed project would occur in or near the Navy Boat Channel. San Diego Bay, located approximately 200 feet and opposite North Harbor Drive from the closest proposed project component (the new inbound on-airport roadway) also includes areas identified as EFH. As discussed in Section 3.10, Hydrology and Water Quality, BMPs associated with the SWPPP and regulatory permits would be implemented to minimize the potential for construction-related runoff to occur. Therefore, the proposed project would not degrade biological productivity or water quality in the Navy Boat Channel or San Diego Bay. As such, the proposed project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community; hence, project construction would result in a *less than significant impact*.

3.5.6.2.2 Operations

As indicated above, there are no wetlands (i.e., riparian habitat) or other sensitive natural communities at SDIA. However, the subtidal eelgrass vegetated habitat in the Navy Boat Channel to the west of the Airport is considered EFH. As discussed in Section 3.5.3.1 above, no aspect of the proposed project would occur in or near the Navy Boat Channel. San Diego Bay, located approximately 200 feet and opposite North Harbor Drive from the closest proposed project component (the new inbound on-airport roadway) also includes areas identified as EFH. As discussed in Section 3.10, Hydrology and Water Quality, during operations, existing requirements would provide a basis for ensuring that operation of the proposed project would not result in a violation of water quality standards or discharge requirements. Additionally, the proposed project includes the expansion of the capture area of the SAN Stormwater Capture and Reuse System to divert and capture a portion of stormwater runoff for reuse instead of discharging it to San Diego Bay; this would result in water quality benefits. Therefore, the proposed project would not degrade biological productivity or water quality in San Diego Bay. As such, the proposed project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community; hence, project operations would result in a *less than significant impact*.

3.5.6.2.3 Mitigation Measures

No mitigation is required for construction or operations.

3.5.6.2.4 Significance of Impact After Mitigation

As indicated above, no mitigation is required relative to this impact. The project would result in a *less than significant impact* for construction and operations.

3.5.6.3 Impact 3.5-3

Summary Conclusion for Impact 3.5-3: Construction and operation of the proposed project would not have a substantial adverse effect on state or federally protected wetlands through direct removal, filling, hydrological interruption, or other means. As such, and as further described below, there would be *no impact* for construction and operations.

3.5.6.3.1 Construction

There are no jurisdictional wetlands at SDIA. As discussed in Sections 3.5.3.1 and 3.5.6.2 above, while waters of the U.S. exist to the west of SDIA property – specifically, the Navy Boat Channel – no aspect of the proposed project would occur in or near those waters. As such, the construction of the proposed project would not have a substantial adverse effect on state or federally protected wetlands through direct removal, filling, hydrological interruption, or other means; hence, there would be *no impact* in this issue area relative to construction.

3.5.6.3.2 Operations

There are no jurisdictional wetlands at SDIA. As discussed in Sections 3.5.3.1 and 3.5.6.2 above, while waters of the U.S. exist to the west of SDIA property – specifically, the Navy Boat Channel – no aspect of the proposed project would occur in or near those waters. As such, operation of the proposed project would not have a substantial adverse effect on state or federally protected wetlands through direct removal, filling, hydrological interruption, or other means; hence, there would be *no impact* in this issue area relative to operations.

3.5.6.3.3 Mitigation Measures

No mitigation is required for construction or operations.

3.5.6.3.4 Significance of Impact After Mitigation

As indicated above, no mitigation is required relative to this impact. The project would result in *no impact* for construction and operations.

3.5.6.4 Impact 3.5-4

Summary Conclusion for Impact 3.5-4: Although the proposed project would affect migratory birds, the affect(s) would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. As such, and as further described below, this would be a *less than significant impact* for construction and operations.

3.5.6.4.1 Construction

Please see discussion for Impact 3.5-1 above regarding impacts to California least tern associated with construction of the proposed project. Please see discussion for Impact 3.5-2 above regarding impacts to EFH in the Navy Boat Channel and San Diego Bay associated with construction of the proposed project. As discussed therein, construction of the proposed project would not degrade biological productivity or water quality in the Navy Boat Channel or San Diego Bay.

Due to its coastal location, SDIA is positioned within the migratory path called the Pacific Flyway. As discussed in Section 3.5.4.1, consistent with FAA Advisory Circular No. 150/5200-33B "Hazardous Wildlife Attractants on or Near Airports" and with measures specified in the BO and

2013 and 2018 Informal Section 7 Consultations, SDIA has an ongoing predator control program to protect California least terns in the ovals from predators, including falcons, hawks, owls, ravens, crows, and gulls. Measures included in SDCRAA's ongoing predator control program that address avian predators that are implemented during construction activities include: use of covered trash dumpsters or other suitable containers by construction personnel; all food items or containers that previously held food items are immediately disposed of in these dumpsters or containers; construction personnel are not permitted to feed falcons, hawks, owls, ravens, crows, and gulls; and crane booms or similar equipment that have heights of 25 feet or greater are lowered at the close of each construction day, if possible. The predator control program has the added benefit of reducing potential aircraft bird strikes. However, as discussed previously, the vast majority of SDIA is developed or highly disturbed, with the exception of the California least tern nesting areas (i.e., the "ovals") at the southeast portion of SDIA. As such, construction activities associated with proposed development and the ongoing predator control program at SDIA would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. As such, project construction would result in a ***less than significant impact***.

3.5.6.4.2 Operations

Please see discussion for Impact 3.5-1 above regarding impacts to California least tern associated with operation of the proposed project. As discussed therein, the proposed project, including the on-airport entry roadway, would not impede California least tern commutes between the ovals on SDIA and San Diego Bay to forage for small fish to feed their young. Please see discussion for Impact 3.5-2 above regarding impacts to the EFH in the Navy Boat Channel and San Diego Bay associated with operation of the proposed project. As discussed therein, operation of the proposed project would not degrade biological productivity or water quality in the Navy Boat Channel or San Diego Bay.

As indicated above, due to its coastal location, SDIA is positioned within the migratory path called the Pacific Flyway. As discussed in Section 3.5.4.1, consistent with FAA Advisory Circular No. 150/5200-33B "Hazardous Wildlife Attractants on or Near Airports" and with measures specified in the 1993 BO and 2013 and 2018 Informal Section 7 Consultations, SDIA has an ongoing predator control program to protect California least terns in the ovals from predators, including avian predators such as falcons, hawks, owls, ravens, crows, and gulls, with the added benefit of reducing potential aircraft bird strikes. Measures included in SDCRAA's ongoing predator control program that address avian predators that are implemented during Airport operations include: use of anti-perch treatments such as stainless steel bird spike barriers that can be applied to potential perch sites (e.g., Nixalite®); limiting landscaping to plant species and materials not conducive to perching by birds; maintenance of fencing around the perimeter of the ovals to shield the terns from avian predators; and habitat management within the ovals including application of herbicide and removal of vegetation.

As discussed previously, the vast majority of SDIA is developed or highly disturbed, with the exception of the California least tern nesting areas ("ovals") at the southeast portion of SDIA. As such, operation of the proposed project and the ongoing predator control program at SDIA would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of

native wildlife nursery sites. As such, project operations would result in a *less than significant impact*.

3.5.6.4.3 Mitigation Measures

No mitigation is required for construction or operations.

3.5.6.4.4 Significance of Impact After Mitigation

As indicated above, no mitigation is required relative to this impact. The project would result in a *less than significant impact* for construction and operations.

3.5.6.5 Impact 3.5-5

Summary Conclusion for Impact 3.5-5: The proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. As such, and as further described below, there would be a *less than significant impact* for construction and *no impact* for operations.

3.5.6.5.1 Construction

Construction of the proposed project would not result in an impact to any of the potentially protected (parkway resources trees) palm trees within City of San Diego jurisdiction within the parkway along Laurel Street between Pacific Highway and North Harbor Drive.

The proposed airport entry road would be located within a limited area along the north side of the small open space (non-native grass landscaped) triangular Port parcel located between Laurel Street and North Harbor Drive, south of the Solar Turbines surface parking lot (see Figure 2-1 in Chapter 2, Project Description). Based on preliminary design of this roadway, between zero and three of the 10 mature Mexican fan palm trees in the Port parcel may be impacted and require removal; the exact number of palm trees that may be impacted would be determined during final design plans for the proposed airport entry roadway. The SDCRAA would coordinate with the Port District during future detailed planning of the proposed airport entry roadway, including related to potential removal of palm trees, and replacement as required, in accordance with the Port's Tidelands Forestry Management Policy. As such, construction of the proposed project would result in a *less than significant impact*.

3.5.6.5.2 Operations

Operation of the project would not affect protected trees within the jurisdiction of the Port of San Diego or City of San Diego; thus, there would be *no impact* in this issue area relative to operations.

3.5.6.6 Impact 3.5-6

Summary Conclusion for Impact 3.5-6: The proposed project would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. As such, and as further described below, there would be *no impact* for construction and operations.

3.5.6.6.1 Construction

SDIA is not encompassed by an adopted habitat conservation plan or natural community conservation plan. The proposed project does not include construction within or adjacent to the Navy Boat Channel and as discussed in Section 3.10, Hydrology and Water Quality, BMPs associated with the SWPPP and regulatory permits would be implemented to minimize the potential for construction-related runoff to occur. Therefore, the proposed project would not degrade biological productivity or water quality in the Navy Boat Channel. As such, construction of the proposed project would not conflict with the INRMP's stated enhancement potential for the Navy Boat Channel to "[s]often the shoreline and provide ecologically beneficial shoreline structures. Improve the wetland-upland transition. Consider vegetated swales for storm water runoff filtration." As such, there would be **no impact** in this issue area relative to construction.

3.5.6.6.2 Operations

As indicated above, SDIA is not encompassed by an adopted habitat conservation plan or natural community conservation plan. As discussed in Section 3.10, Hydrology and Water Quality, during operations, existing requirements would provide a basis for ensuring that operation of the proposed project would not result in a violation of water quality standards or discharge requirements. Therefore, the proposed project would not degrade biological productivity or water quality in the Navy Boat Channel. As such, operation of the proposed project would not conflict with the INRMP's stated enhancement potential for the Navy Boat Channel to "[s]often the shoreline and provide ecologically beneficial shoreline structures. Improve the wetland-upland transition. Consider vegetated swales for storm water runoff filtration." As such, there would be **no impact** in this issue area relative to operations.

3.5.6.6.3 Mitigation Measures

No mitigation is required for construction or operations.

3.5.6.6.4 Significance of Impact After Mitigation

As indicated above, no mitigation is required relative to this impact. The project would result in **no impact** for construction and operations.

3.5.7 Summary of Impact Determinations

Table 3.5-3 summarizes the impact determinations of the proposed project related to biological resources, as described above in the detailed discussion in Section 3.5.6. Identified potential impacts are based on the significance criteria presented in Section 3.5.5, the information and data sources cited throughout Section 3.5, and the professional judgment of the report preparers, as applicable.

Table 3.5-3: Summary Matrix of Potential Impacts and Mitigation Measures Associated with the Proposed Project Related to Biological Resources

Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
Impact 3.5-1: Construction and operation of the proposed project would not have a substantial adverse effect, either directly or through habitat modifications, on a species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Although SDCRAA would continue to implement measures included in their existing program to protect the California least terns at SDIA which would avoid and/or minimize potential indirect impacts from construction and operation of the proposed project, the indirect impact is considered <i>potentially significant</i> for construction and operations.	Construction: Potentially Significant Indirect Impact Operation: Potentially Significant Indirect Impact	MM-BIO-1: California Least Tern: Construction Measures MM-BIO-2: California Least Tern: Operations Measures	Construction: Less than Significant Operation: Less than Significant
Impact 3.5-2: Construction and operation of the proposed project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS. As such, this would be a <i>less than significant impact</i> for construction and operations.	Construction: Less than Significant Operation: Less than Significant	No mitigation is required	Construction: Less than Significant Operation: Less than Significant
Impact 3.5-3: Construction and operation of the proposed project would not have a substantial adverse effect on state or federally protected wetlands through direct removal, filling, hydrological interruption, or other means. As such, there would be <i>no impact</i> for construction and operations.	Construction: No Impact Operation: No Impact	No mitigation is required	Construction: No Impact Operation: No Impact

Table 3.5-3: Summary Matrix of Potential Impacts and Mitigation Measures Associated with the Proposed Project Related to Biological Resources

Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
Impact 3.5-4: Although the proposed project would affect migratory birds, the affect(s) would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. As such, this would be a <i>less than significant</i> impact for construction and operations.	Construction: Less than Significant Operation: Less than Significant	No mitigation is required	Construction: Less than Significant Operation: Less than Significant
Impact 3.5-5: The proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. As such, there would be a <i>less than significant</i> impact for construction and <i>no impact</i> for operations.	Construction: Less than Significant Operation: No Impact	No mitigation is required	Construction: Less than Significant Operation: No Impact
Impact 3.5-6: The proposed project would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. As such, there would be <i>no impact</i> for construction and operations.	Construction: No Impact Operation: No Impact	No mitigation is required	Construction: No Impact Operation: No Impact

3.5.7.1 Mitigation Measures

The following mitigation measures would be implemented in conjunction with continued implementation of (i) the applicable measures specified in the 1993 BO; (ii) the applicable measures set forth in the 2013 Informal Section 7 Consultation between the FAA and USFWS regarding potential effects of the SDIA Northside Improvements Project; (iii) the applicable measures set forth in the 2018 Informal Section 7 Consultation between the FAA and USFWS regarding potential effects of the SDIA Taxiway B Object-Free Area Improvement Project; (iv) BMPs; and (v) compliance with federal, state, and local regulations regarding hazardous materials management.

Construction

MM-BIO-1: California Least Tern: Construction Measures: The following measures shall be included in all construction contracts for the proposed project facilities and implemented as part of the proposed project to avoid potential indirect impacts during construction from increased lighting, noise, use of hazardous materials, and activities that may increase perching for predatory species:

- All project construction within 800 feet of the SDIA least tern nesting area will occur from September 16 to March 31 to avoid the tern nesting season.
- A tern biologist will monitor the tern during construction occurring between 800 feet to 1,200 feet of any nesting least tern area during the tern nesting season (April 1- September 15) and will immediately notify the Resident Engineer (RE; or acting RE) of any construction activity that may lead to, or likely result in, the disruption of the tern, its young, or its eggs. If the tern biologist determines that adverse effects to the tern have occurred, the RE will be notified and all project construction activities will cease immediately, except those activities necessary to make the SDIA safe and operational. The tern biologist, in coordination with the RE, will contact the FAA and USFWS immediately after stopping construction. Construction will not resume until approved by the FAA and USFWS. The tern biologist will submit daily field reports to the FAA and USFWS on the status of the nesting activity, any construction-related incidents that disrupted tern nesting, and any action taken by the RE to avoid further incidents, within 24 hours of each monitoring date. The tern biologist will also submit a final summary report of monitoring to the FAA and USFWS by October 1.
- Trash will be properly disposed of and workers will not feed potential tern predators in the area. The Airport Authority will require the contractor to provide trash dumpsters or other covered trash receptacles for use by construction personnel. All food items or containers that previously held food items obtained/handled/controlled by construction personnel will be immediately disposed of in these dumpsters or containers, so as not to attract avian or mammalian predators of the least tern.
- Construction personnel will not be permitted to feed cats, gulls, pigeons, ravens, or any other wildlife, as this may result in an increase in the numbers of these potential predators in the vicinity of tern chicks and eggs.
- Crane booms or similar equipment that have heights of 25 feet or greater located between 800 feet to 1,200 feet of any nesting least tern area during the tern nesting season (April 1- September 15) will be lowered at the close of each construction day, if possible.
- A pre-construction meeting will be held to make all contractor personnel that will be working between 800 feet to 1,200 feet of any nesting least tern area during the tern nesting season (April 1- September 15), including all construction staff, aware of the tern nesting issue and the specific conditions of construction. Project status meetings will be regularly held to remind all such personnel of the measures required to protect the tern as well as any modifications made to ensure their effectiveness. The USFWS will be notified of the date and time of the pre-construction and status meetings in order to attend, if needed or desired.

- Nighttime construction occurring between 800 feet to 1,200 feet of any nesting least tern area during the tern nesting season (April 1- September 15) will be limited to those activities that are necessary to maintain airfield operations during normal operational times. Should such nighttime construction be required, the tern biologist will be onsite and perform the duties specified above.
- Night lighting for project construction occurring between 800 feet to 1,200 feet from the SDIA least tern nesting area will be kept to a minimum during the tern nesting season (April 1- September 15), and will not be used unless active construction or other essential work is occurring. Should such nighttime construction or other essential work be conducted, all lighting associated with the work will be shielded from or directed away from the least tern nesting area.
- Continued diligent maintenance of fencing around the perimeter of the ovals to shield the terns from lighting, predators, and unauthorized human access.
- The new airport entry road to the south of the nesting ovals shall not rise above existing surface grade and shall not alter the elevation of roadway structures directly to the south of the nesting ovals.

This measure is considered feasible.

Operations

MM-BIO-2: California Least Tern: Operations Measures: The following measures shall be implemented by SDCRAA as part of the proposed project in order to avoid potential indirect impacts during operation as related to perching for predatory species:

- New facilities shall be designed to minimize potential perching locations; all structures taller than ten feet and within 200 feet of the nesting ovals, including light poles and sign structures, shall be required to use anti-perch treatments such as stainless steel bird spike barriers that can be applied to potential perch sites (e.g., Nixalite®).
- Any new landscaping shall be limited to plant species and materials not conducive to perching by birds.
- Continued diligent maintenance of fencing around the perimeter of the ovals to shield the terns from lighting, predators, and unauthorized human access.
- Continued habitat management within the ovals including application of herbicide and removal of vegetation.

This measure is considered feasible.

In addition to Mitigation Measure MM-BIO-2, operational impacts of the proposed project would be further reduced with implementation of Mitigation Measure MM-AQ/GHG-8, Electric On-Airport Shuttles, which requires that on-airport shuttles, including the existing Rental Car Center shuttles that utilize the Terminal Link Roadway on the south side of the Airport that runs along the southern portion of the southernmost California least tern oval, be transitioned to quieter electric vehicles (all-electric or plug-in hybrid), thereby reducing ambient noise levels next to the airfield least tern colony.

3.5.8 Significant Unavoidable Impacts

There would be no significant and unavoidable impacts to biological resources associated with construction and operation of the proposed project.

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