



BIODIVERSITY PLAN

MANAGING AND SUSTAINING PLANTS AND WILDLIFE AT THE AIRPORT





The Biodiversity Plan establishes the Authority's commitment to and strategies for the stewardship of plants and wildlife within our urban airport environment.

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Prepared by:

AECOM

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Executive Summary

Biodiversity refers to the variety of life on Earth at all its levels, from genes to ecosystems, and encompasses the evolutionary, ecological, and cultural processes that sustain life. Inherent to the concept of biodiversity is the importance of diversity within species and interactions between species and ecosystems. This diversity is not only valuable in its own right, it is essential to human life. Food, shelter, and medicine are basic needs that are all met through biodiversity. Benefits also include services that species and ecosystems provide such as pollination, seed dispersal, climate regulation, water purification, nutrient cycling, and control of agricultural pests. However, threats to biodiversity and the balance of human interaction with the environment, including habitat loss and fragmentation, unsustainable resource use, invasive species, pollution, and global climate change, continue to grow.

The San Diego County Regional Airport Authority (Authority) has set a vision for the stewardship of plants and wildlife at the San Diego International Airport (Airport) in balance with Airport operations. The Authority understands the importance of plant and wildlife conservation and recognizes how biodiversity relates to a number of other facets of sustainability such as reducing waste and water consumption. For these reasons, the Authority considers biodiversity to be a critical element of its sustainability program, and chose to develop a dedicated Biodiversity Plan (BDP) as part of the suite of plans that comprise the overarching Sustainability Management Plan.

The development of the Sustainability Management Plan, and consequently the BDP, is supported through a grant provided by the Federal Aviation Administration (FAA).

Defining Success for Biodiversity

The BDP serves as the Authority's strategy and plan for the stewardship of plants and wildlife at the San Diego International Airport. Given the Airport's location along the San Diego Bay and California coast, a variety of sensitive resources and species lie within or near Airport property, including the endangered California Least Tern (CLT). In recent years, the Authority has been working to find solutions that support biodiversity within the constraints of an urban airport environment. The Authority also implements a variety of sustainable business practices that assist in biodiversity success at the Airport such as the existing Integrated Pest Management (IPM) program, which focuses on reducing the use of pesticides and increasing the incorporation of native drought-tolerant landscaping. This emphasis is borne out of the Authority's commitment to actively manage plant and wildlife at the Airport as part of its operational requirements and vision to make the Airport a leader in sustainability.

Figure ES-1: The Authority's BDP Focuses on Three Primary Areas



A Plan to Manage and Advance Biodiversity

The BDP provides an organized framework for managing and advancing biodiversity by continuing to maintain protected habitat onsite, expanding and enhancing the IPM Program, and planting native and drought-tolerant vegetation. Biodiversity at the Airport addresses three primary areas: wildlife compatibility, IPM, and education and leadership¹ (Figure ES-1). The Authority's strategy for managing biodiversity is aligned with the State's Executive Order B-54-18 and the corresponding California Biodiversity Initiative², as well as the County and City Multiple Species Conservation Programs, a distinct but complementary program which the BDP also supports.

The BDP builds on existing Authority initiatives and programs to define an overarching strategy aimed at maintaining biodiversity, with defined goals and targets, and a set of initiatives and tactics through which these can be achieved. The BDP has been developed following a clearly-defined structure. First, a vision for the Authority's stewardship of wildlife and plants at the Airport was defined, then the most relevant focus areas were identified, and associated baseline and background conditions were determined. Finally, a set of aspirational goals, targets, and comprehensive initiatives were created. The final step requires the development of a monitoring and implementation plan to serve as an operational tool that will support the Authority in fulfilling its strategy.

Table ES-1: BDP Goals and Targets

Aspirational Goals	Metric(s)	Target(s)	Target Timeframe
1. Maintain wildlife in a manner that is compatible with Airport operations	Reduction in the number of nuisance birds on site that create a hazard to aircraft, are a public health concern, or prey on CLT	100% of all new structures, solar panels, light and other poles, and any other structure that creates an area for birds to perch, loaf, roost, or nest include bird deterrents	2025
	Reduction in the amount of non-native/non-drought-tolerant plant species used in landscaped areas	100% of all new landscaped areas include native and/or drought-tolerant plant species	2025
2. Incorporate IPM techniques to control pest populations in a manner that promotes environmental stewardship and public health and safety, while maintaining Airport operations	Number of tenants inspected; Number of tenant leases with IPM procedures incorporated	100% of all tenant spaces are inspected at least quarterly; 100% of all leases incorporated IPM procedures	2025
	Reduction in the use of non-least toxic chemical treatments	Decrease the number of non-least toxic chemical treatments by 50% (with 2018 as the baseline year)	2035
3. Demonstrate regional and industry leadership in wildlife compatibility and biodiversity in an urban airport setting	Increase regional awareness of the Authority's biodiversity efforts	Report biodiversity leadership and education efforts in the Authority's annual sustainability report and other outreach materials and engage with regional organizations	2025

Source: Developed as part of the Authority's inter-department outreach, Summer 2019.







01

Introduction



The San Diego County Regional Airport Authority (Authority) has a long-standing commitment to sustainability, leading with progressive initiatives in the San Diego region and within the broader aviation industry. While the aviation industry continues to make advancements in the improvement of economic, social, and environmental outcomes through the identification and implementation of innovative sustainability strategies, the Authority is committed to maintaining a leadership position and inspiring others to take a similar approach within the aviation industry and beyond.

The Authority believes biodiversity³ is a critical issue to address to reduce impacts to ecosystems at the Airport and region wide. The Authority also understands that operations at the San Diego International Airport (Airport) can result in impacts to biodiversity through unsustainable resource use, invasive species introduction, pollution, and emissions that contribute to global climate change. For this reason and the Authority's commitment to be a leader in preserving biodiversity while optimizing Airport operations, biodiversity strategies have a place in the sustainability strategy being developed and implemented at the Airport. The BDP outlines the Authority's approach to the aforementioned issues and aligns with the variety of federal, state, and local regulations related to sensitive natural communities and species protection, as well as other regional and state conservation planning efforts.

The BDP establishes the Authority's commitment to and strategies for the stewardship of plants and wildlife within our urban airport environment.

The Authority's BDP has been developed as a standalone document with the intent of addressing the specific issues related to maintaining wildlife in a manner that is consistent with airport operations, reducing the use of pesticides through an Integrated Pest Management (IPM) program, identifying and encouraging the use of drought-tolerant native plant species, and promoting biodiversity education and leadership within the Airport and regionwide.

Vision for Biodiversity

The Authority recognizes the importance of biodiversity at the Airport, both from an operational and business perspective (for example, more drought-tolerant native plants in place of grass lawn means less water to purchase), and that biodiversity efforts (such as protecting endangered species and reducing the use of pesticides) reduces impacts on the environment. Authority staff, contractors, airlines, tenants, and passengers have a potential effect on biological diversity. Airport operations – from airplanes unintentionally striking wildlife during takeoff and landing to pest management and pesticide control – can impact plants and wildlife.

Biodiversity is one of the programmatic sustainability elements of the Environmental Sustainability Management⁴ Program for the Airport. In alignment with the strategy and goals outlined in the State's Executive Order B-54-18 and the corresponding California Biodiversity Initiative⁵, the Authority believes protecting native vegetation and animals are primary drivers of the biodiversity strategy for the Airport.

The BDP is consequently geared toward the development of a comprehensive and holistic strategy to maintain (and enhance where possible) biodiversity, but also appreciates the physical, natural, and operational constraints of operating in an urban airport environment. In short, the BDP aims to strike a balance – supporting protection of species and habitat, while maintaining Airport operations via the implementation of biodiversity strategies.

The Authority's approach is reflected in the goals and actionable initiatives in the BDP, and is organized by the following areas.

- **Wildlife Compatibility** – maintaining wildlife in a manner that is consistent with airport operations and incorporating native and drought-tolerant plant species in new construction and redevelopment
- **IPM** – implementing an environmentally sensitive approach to pest management to reduce the use of pesticides
- **Education and Leadership** – developing awareness and promoting participation in achieving biodiversity goals

Figure 1: The Authority's BDP Focuses on Three Primary Areas



Integration with Airport Sustainability Program and Other Authority Initiatives

The Authority's approach for sustainability is far-reaching, touching virtually every aspect of Airport operations and development. This approach is embodied in the Authority's definition of sustainability for the Airport, formalized in the Board-approved Sustainability Policy and communicated regularly through the Authority's ongoing sustainability reporting efforts (such as the Annual Sustainability Report).

The structure of the BDP was influenced by, and developed in coordination with, several other existing plans, policies, programs, and initiatives, as summarized in the following sections (Appendix B).

The Authority is committed to building an enduring and resilient enterprise by effectively managing our financial, social, and environmental risks, obligations, and opportunities.

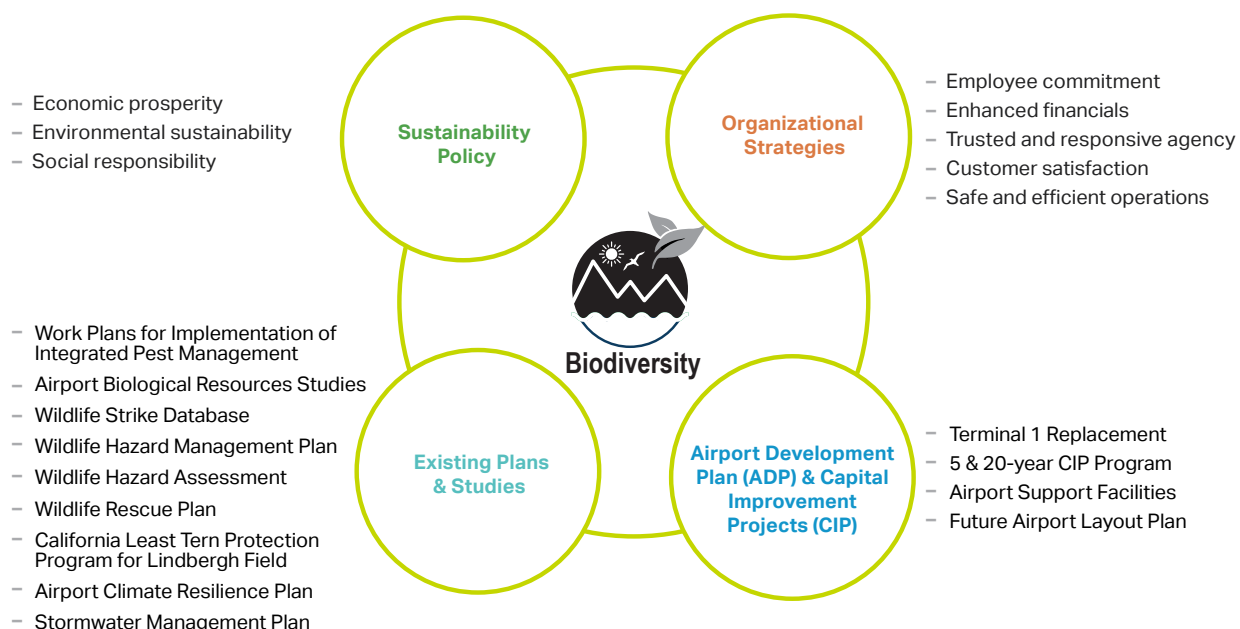
Sustainability Plans

The Authority has established seven programmatic sustainability elements that are a focus of the Environmental Sustainability Management Program at the Airport:

- Biodiversity
- Carbon Neutrality
- Clean Transportation
- Climate Resilience
- Sustainable Energy
- Water Stewardship
- Zero Waste

Each programmatic area has a dedicated strategic action plan that serves as an operational plan for the Authority to improve performance on that topic at the Airport and allow for ongoing, future program assessment and evaluation. All plans including the Strategic Energy Plan (STEP), Water Stewardship Plan (WSP), Carbon Neutrality Plan (CNP), Clean Transportation Plan (CTP), Climate Resilience Plan (CRP), and Zero Waste Plan (ZWP) were completed or revised as necessary in 2019.

Figure 2: Integration with Existing Sustainability Policies and Programs



Airport Planning Documents

The Authority is planning for the future and shaping what the Airport will look like in the next decades through the Airport Development Plan (ADP), currently being finalized, and the 5-year rolling Capital Improvement Program (CIP). If approved, the ADP recommends improvements, including sustainable design upgrades related to facilities (e.g., at least LEED-Silver certification, or equivalent certification for other types of infrastructure) that will incorporate IPM. The CIP identifies specific projects that are planned for construction. Part of planning for development means identifying and coordinating future capital improvements in the vicinity of the CLT habitat to ensure that the Authority meets its obligations to protect the habitat, which directly influences biodiversity strategies. Other Authority-produced documents that address biodiversity include the 1993 Biological Opinion and 2018 Informal Section 7 consultations with the U.S. Fish and Wildlife Service (USFWS), the California Least Tern Protection program for Lindbergh Field, a variety of Wildlife Hazard management plans, including a hazard assessment, management, and rescue plans, a variety of reports related to biological resources impacts, and IPM assessment reports and implementation plans.

Regional Plans and Policies

The BDP and associated goals and initiatives may also be influenced by a host of other federal, state, and regional plans, policies, and programs. A listing of these is provided below:

Federal:

- Endangered Species Act of 1973, as amended
- Migratory Bird Treaty Act of 1918, as amended
- Clean Water Act of 1948, as amended
- California Eelgrass Mitigation Policy of 1991

State:

- Executive Order B-54-18 (California Biodiversity Initiative)
- Endangered Species Act of 1970, as amended
- Model Water Efficient Landscape Ordinance of the California Code of Regulations (Title 23, Division 2, Chapter 2.7)
- California Department of Transportation Highway Design Manual, Landscape Architecture Design Guidelines (Chapter 900)
- California Coastal Act of 1976
- Natural Community Conservation Planning Act of 2003
- California Water Code (Porter-Cologne Water Quality Control Act of 1969), as amended
- California Green Building Standards Code (California Code of Regulations, Title 24, Part 11 - CALGreen)

Local:

- Multiple Species Conservation Program (County and City of San Diego)
- U.S. Navy Region Southwest Naval Facilities Engineering Command San Diego Bay Integrated Natural Resource Management Plan



Figure 3: ADP Overview

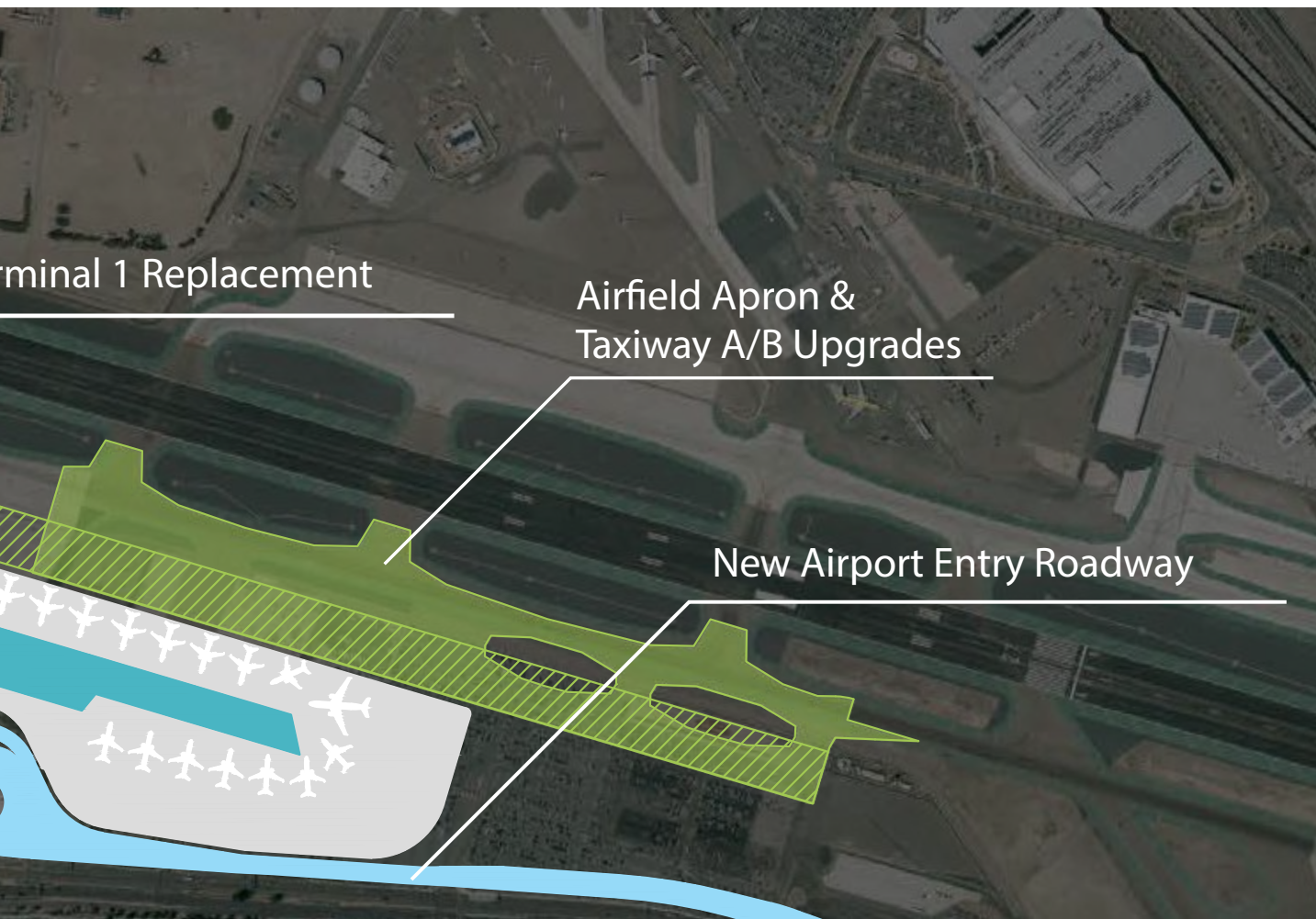


Our ADP - Driving sustainability planning through 2035 and beyond

The BDP is a part of the Authority's broader sustainability management planning framework, helping to establish long-term environmental stewardship goals for the Airport. As such, if approved, the BDP will help inform the further design and implementation of the ADP, as well as guide the Airport's daily operations in the future.

In 2018, the Airport served over 24 million passengers, up from the 22 million it served just the year before. This translates to an average of 550 flights per day, making SAN a top or "Core" 30

airport in the US, thus playing an important role in the national aviation system. ADP represents the Airport's master planning effort to determine the facilities needed to meet the region's air travel demand through the year 2035. The ADP's overarching goal is to optimize the Airport's 661-acre site to accommodate this growing demand, while maintaining high levels of passenger satisfaction. The centerpiece of the ADP is the replacement of the Airport's 50-year-old Terminal 1 with a more efficient and comfortable facility. The new Terminal 1 will increase from 19 gates to



as many as 30 gates and will include more gate-area seating, restaurants, and shops, as well as expanded security check point lanes. Similar to the curbside of the Airport's Terminal 2, the new Terminal 1 will also separate arriving and departing passenger traffic with an elevated departures roadway that will include curbside check-in.

A new on-airport entry roadway will provide a dedicated Airport access point from west-bound Laurel Street and North Harbor Drive, for vehicles coming to the Airport from the east, and will also include a multi-use path for pedestrians and bicyclists. This will help reduce traffic on North Harbor Drive. In addition, all buses currently moving to and from the Rental Car Center will be removed from Harbor Drive and routed exclusively through the new on-airport entry and link road.

On the airside, Taxiway B will be realigned to meet FAA standards and a new Taxiway A will allow bidirectional flow of aircraft. Future phases could include an expansion of Terminal 2 West (the Stinger). Areas have also been preserved for a transit station to directly serve the terminals and for on-airport exit lanes that can be integrated into future regional transportation network improvements, which are now being evaluated as part of SANDAG's new Regional Transportation Plan. Please note that the Authority, at this time, has not approved or committed to undertake any of the project elements included in the ADP. Any formal approval of the ADP is dependent on completion of appropriate state and federal environmental review.

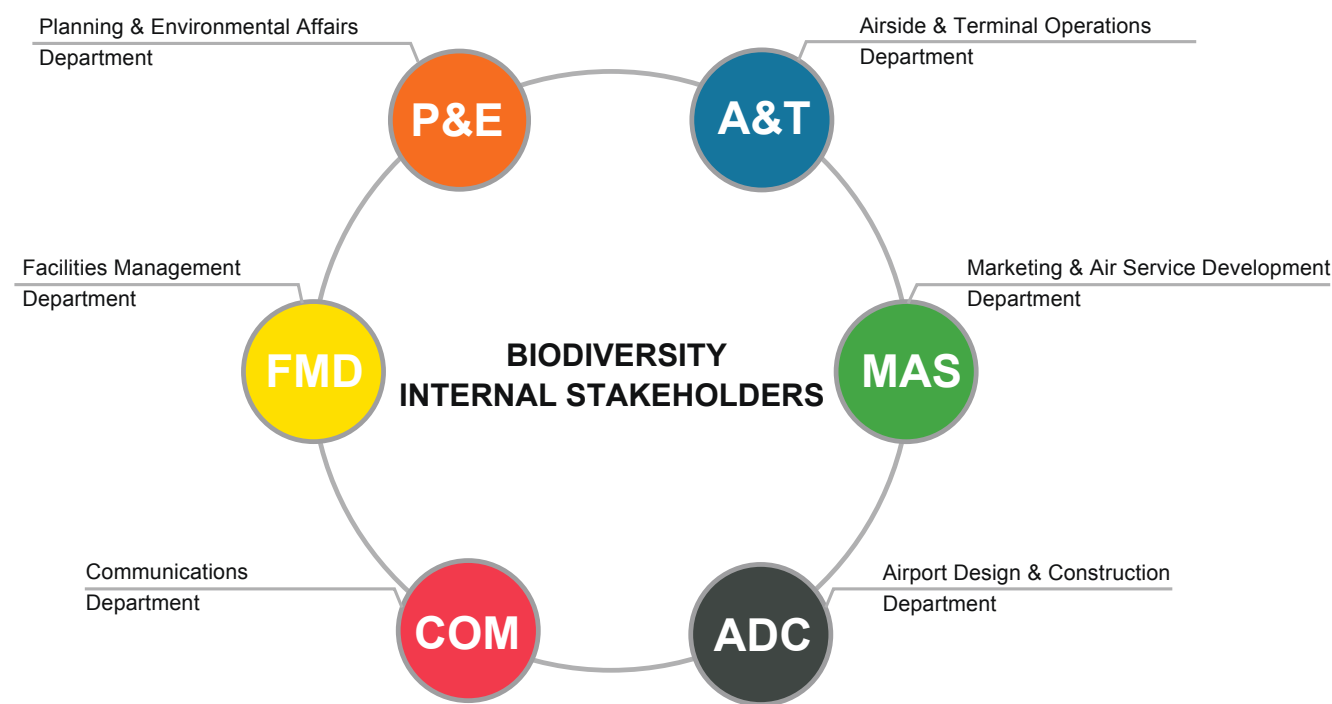
Stakeholder Engagement

As the Authority relies on airlines, concessions, cargo, ground transportation firms, and others to implement its business model, it also depends on engagement with these same entities to advance its sustainability strategy and achieve goals. Biodiversity at the Airport is universal to the Authority and all third parties and, because of this, stakeholder engagement is central to the fulfillment of biodiversity strategies at the Airport. The Authority can implement improvement actions in areas where they have more control, but also needs to engage business interests and other third parties because, as noted previously, it has various levels of influence over these key stakeholders. This is in addition to engaging the local and regional community on biodiversity-related topics to promote leadership and awareness. Considering key internal and external stakeholders related to these topics is essential for ensuring a holistic approach to stakeholder engagement and optimizing buy-in, accountability, and support for biodiversity strategies. Further, the Authority will prioritize voluntary programs, when possible, to help facilitate and maintain Airport stakeholders’ access to federal and state grant funding for implementation of biodiversity conservation strategies.

Internal Stakeholders

A workshop was held with internal stakeholders at the Airport to ensure accurate information and alignment with Airport operations and to identify the best and most feasible goals and initiatives. Representatives from the following departments participated in the workshop or provided supporting background information for plan development.

Figure 4: Authority Departments Involved in the Development of the Plan

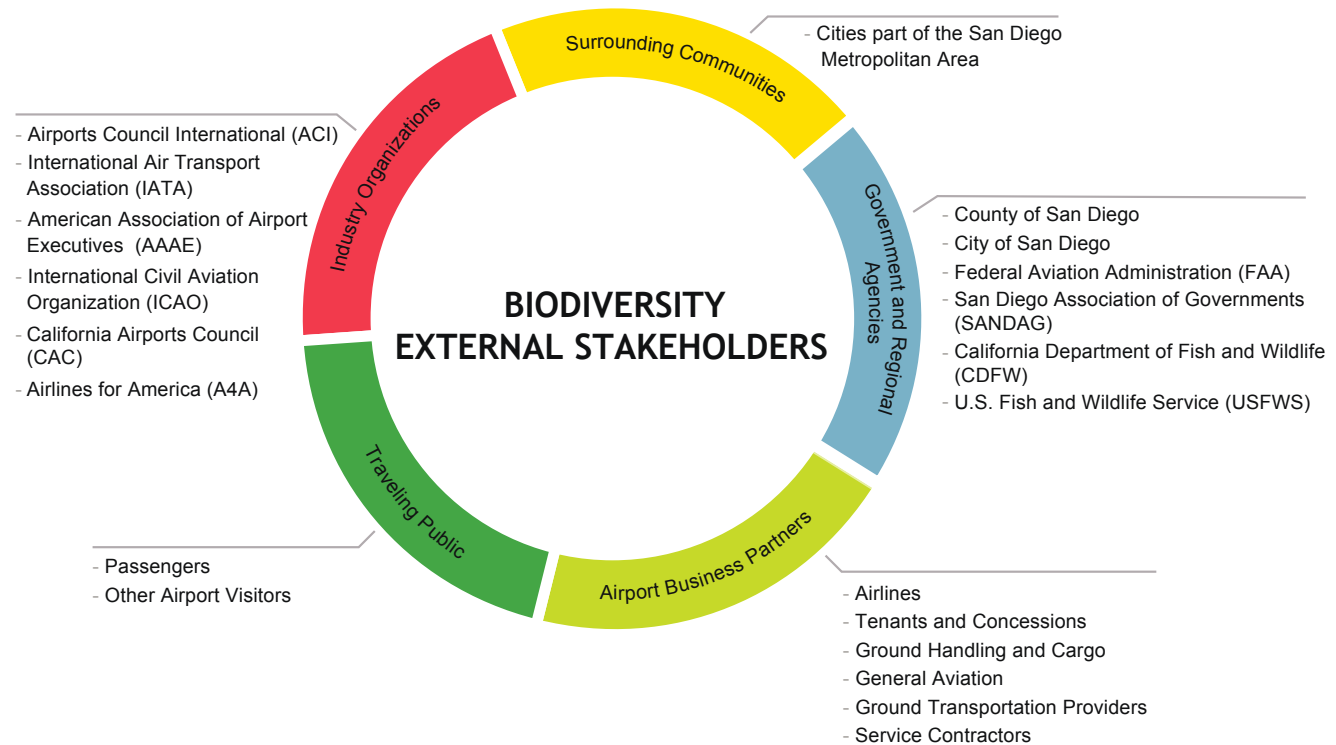


External Stakeholders

To improve wildlife compatibility and native species enhancement practices, increase public awareness, and drive reductions in the use of pesticides, it is crucial that the Authority engage with the community, traveling public, regional planning partners, Airport business partners and service companies including airlines, ground transportation firms, contractors, and passengers. As such, the Authority is committed to continued and expanded collaboration to promote biodiversity with external stakeholders, such as:

- **Airport Business Partners** who may have assets affected by implementation of biodiversity strategies.
- **Industry Organizations** to collaborate on IPM and how to best implement.
- **Government and Regional Agencies** to strategize on ways to further education and leadership biodiversity initiatives such as working with adjacent land owners as well as regional parties.
- **The Travelling Public and Surrounding Communities**, where engagement is appropriate, to advance and promote biodiversity policies at the Airport.

Figure 5: Main External Stakeholder Groups for the Authority's BDP







02

Goals and Targets

The Authority has established goals and metrics ensuring compatibility between wildlife and airport operations, implementing an IPM program, and increasing education and leadership.

The Authority has identified three main goals and related targets as the foundation of the biodiversity strategy. The goals were developed through 1) an information gathering process, 2) an analysis of existing plans, policies, and regulations to identify the main drivers for biodiversity strategies at the Airport, and 3) feedback from Airport stakeholders. The goals represent where the Authority wants to be in the next 15 years; consequently, they are the engine for the development and implementation of initiatives that will maintain wildlife compatibility and incorporate IPM techniques, while maintaining Airport operations. The goals are built to maximize biodiversity strategies within the realm of an urban airport environment, while also addressing other key topics such as engaging with stakeholders and other parties to promote wildlife and plant biodiversity in the region.

While the aspirational goals are broad and strategic in nature, they have been developed with one or more metrics, related targets, and timeframes for achievement that allow for quantitative and practical management and the ability to convey progress to a larger audience. The three goals and related key information, including metrics, targets, and timelines for implementation are summarized in Table 1 and described in the following sections.

Table 1: BDP Goals and Targets

Aspirational Goals	Metric(s)	Target(s)	Target Timeframe
1. Maintain wildlife in a manner that is compatible with Airport operations	Reduction in the number of nuisance birds on site that create a hazard to aircraft, are a public health concern, or prey on CLT	100% of all new structures, solar panels, light and other poles, and any other structure that creates an area for birds to perch, loaf, roost, or nest include bird deterrents	2025
	Reduction in the amount of non-native/non-drought-tolerant plant species used in landscaped areas	100% of all new landscaped areas include native and/or drought-tolerant plant species	2025
2. Incorporate IPM techniques to control pest populations in a manner that promotes environmental stewardship and public health and safety, while maintaining Airport operations	Number of tenants inspected; Number of tenant leases with IPM procedures incorporated	100% of all tenant spaces are inspected at least quarterly; 100% of all leases incorporated IPM procedures	2025
	Reduction in the use of non-least toxic chemical treatments	Decrease the number of non-least toxic chemical treatments by 50% (with 2018 as the baseline year)	2035
3. Demonstrate regional and industry leadership in wildlife compatibility and biodiversity in an urban airport setting	Increase regional awareness of the Authority's biodiversity efforts	Report biodiversity leadership and education efforts in the Authority's annual sustainability report and other outreach materials and engage with regional organizations	2025

The aspirational goals, and associated initiatives, identified in the BDP have a time horizon that spans through 2035. However, there is the possibility for biological resource regulatory changes to occur (driven by government agencies such as the USFWS and California Department of Fish and Wildlife [CDFW]) or a potential inability to implement some of the strategies as a result of ongoing or changing Airport operational requirements. As such, the goals and initiatives will be reviewed annually and revised as needed to adapt to potential changes.

Goal #1 - Wildlife Compatibility. Maintain wildlife compatibility in a manner that support biodiversity and is compatible with Airport operations.

The Authority has committed to protecting the CLT and its habitat. The CLT is a federally and state-listed endangered species that nests in habitat on the Airport grounds from April through September. While CLT breed from San Francisco Bay south to Baja California, significant nesting sites are present in San Diego County including the site within the Airport. CLT have historically nested on beaches that are undisturbed, sparsely vegetated and flat areas with loose, sandy substrate near water. As a result, the habitat found on the Airport grounds, specifically in the southeastern area of the Airport, is especially appealing to CLT. The current program to protect CLT and its habitat at the Airport, which is driven by regulations and permits, is highly effective. The Airport habitat has regularly produced a robust ratio of number of CLT fledglings to number of nests.

In addition to maintaining habitat for the CLT, the Authority is committed to reducing the number of nuisance birds onsite that create aircraft hazards. Installation of bird deterrent instruments or mechanisms on all new structures will reduce available space for nuisance birds at the Airport and encourage them to perch, loaf, roost, or nest elsewhere, increasing safety for both birds and airline passengers. These methods are in contrast to other more aggressive bird deterrent or removal methods such as removing nests or trapping birds, and have the potential to enhance CLT predator control.

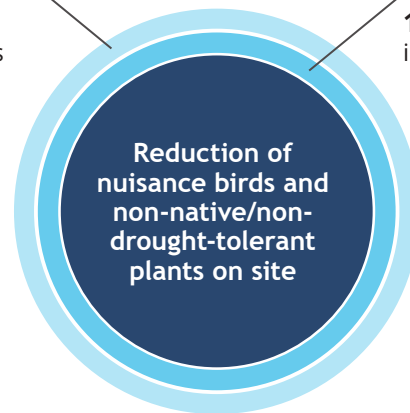
Another way the Authority can maintain wildlife compatibility is through the use of native and drought-tolerant plant species in landscaped areas. The Authority is committed to ensuring 100% of all new landscaped areas at the Airport include native plant species. By incorporating native plants into new and redevelopment projects, the Authority will enhance wildlife habitat for species compatible with Airport operations (such as pollinators like butterflies) and reduce the use of water for irrigation.

2025

100% bird deterrent installed on structures that can attract birds

2025

100% all new landscaped areas include native plant species



Enabling Factors

- Current programs (such as the Wildlife Hazard Management Plan and Wildlife Rescue Plan) display year-to-year, continuous improvement
- Long-standing regulations for successful management of CLT habitat; timeframe allows for flexibility to explore options for reconfiguring CLT habitat
- Large capital projects (such as the proposed Terminal 1 Redevelopment Project) allow for the use of native and drought-tolerant plant species in landscaped areas

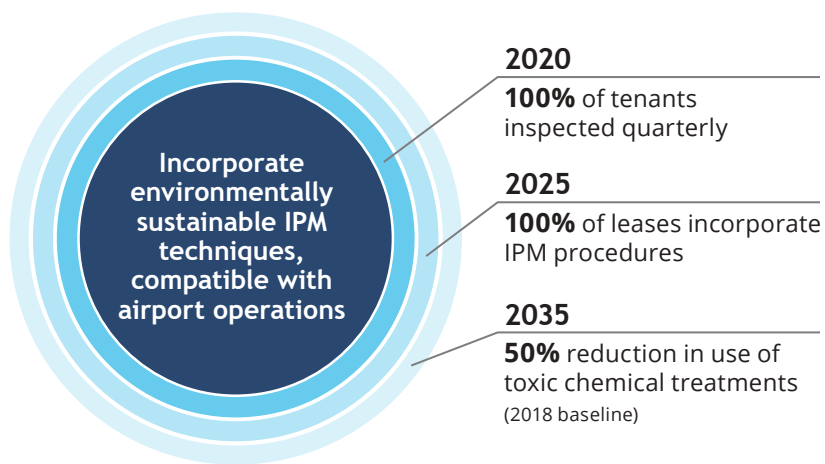
Potential Obstacles

- Changes to Airport operational requirements and/or public health and safety concerns
- Wildlife regulatory and permitting agency requirements

Goal #2 - Integrated Pest Management. Incorporate IPM techniques to control pest populations in a manner that promotes environmental stewardship and public health and safety, while maintaining Airport operations.

Over the period from 2013 to 2015, the Authority developed and implemented an IPM program to control pest populations at the Airport. IPM is defined as “an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, and modification of cultural practices.”⁶ An IPM program consists of a cycle of monitoring, control, and evaluation. Pest populations and other factors are monitored, systematic inspections are conducted at regular intervals, and pesticides are used only when monitoring indicates specific action thresholds have been observed and other control methods have not been effective. Development of an IPM program and action thresholds is predicated on the idea that some pests can be tolerated at low population levels, if there are no impacts to public health, safety, facilities, or operational activities. IPM encourages the use of least-toxic products and establishes criteria when a non-least-toxic option would be acceptable, which not only reduces threats to the environment but also to public health and safety.

As part of this goal, the Authority intends to inspect 100% of tenant spaces at least quarterly to ensure compliance with the IPM program and to identify potential pest issues before infestation occurs. To conform to the IPM approach of using pesticides only when other control methods haven proven ineffective, the Authority aims to decrease the number of non-least toxic chemical treatments by 50% by the year 2035. The Authority entered into a new pest control contract in 2018 to assist in implementing the IPM program; therefore, year 2018 will serve as the baseline for measuring goal progress.



Enabling Factors	Potential Obstacles
• An IPM program is already in place which allows the Authority to immediately work toward meeting targets and implementing associated initiatives • IPM is a credit option for Leadership in Energy and Environmental Design (LEED) certification and presents an opportunity for the certification of new projects to benefit from the implementation of IPM • Consistent marketplace improvements in the variety, quality, and effectiveness of environmentally-preferred pest control products	• Successful implementation of the IPM program involves tenant coordination • Environmentally-preferred pest control options alone may not be feasible to adequately control pest populations and the potential for infestation in an airport environment

Goal #3 - Education and Leadership. Demonstrate regional and industry leadership in wildlife compatibility and biodiversity in an urban airport setting.

Recognizing that the pursuit of biodiversity goals should encompass a regional approach, the Authority will promote and share biodiversity best practices both regionally and in the aviation industry at large. The Authority also intends to increase regional awareness of their efforts related to biodiversity. Maintaining current partnerships with regional entities that have a focus on biodiversity and fostering new partnerships helps promote biodiversity here in San Diego and beyond. The Authority also aims to employ creative strategies with education and leadership by using art installations and live video to increase awareness.

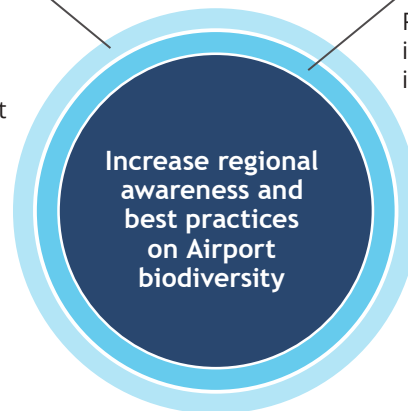
Education and leadership will also be a focus within the Airport itself, by training tenants on IPM, educating staff, tenants, and contractors on CLT protection and other biodiversity strategies, and working with adjacent land owners to reduce wildlife hazards and attractants. The Authority intends to incorporate biodiversity strategies into ongoing operations, for example, incorporating IPM into the existing Green Concessions Program and communicating CLT-related construction guidelines through weekly meetings with contractors and updating construction guidelines.

2025

Report biodiversity leadership and education efforts in the Airport's annual sustainability report

2025

Promote and participate in regional biodiversity initiatives



Enabling Factors

- An already robust public outreach program is present, into which new education and leadership strategies can feed
- Commitment from Authority leadership to biodiversity principles
- A history of effective collaboration with local groups and leaders

Potential Obstacles

- Knowledge-sharing requires time and organization
- Most organizations tend to prioritize resources internally rather than externally





03

Biodiversity Initiatives

The Authority has established a comprehensive and progressive set of initiatives to support biodiversity within the control and influence of the Authority operating in an urban airport environment.

Supporting the achievement of the Authority's goals are a set of initiatives to advance progress for the biodiversity strategy. The initiatives serve as the basis for evaluating performance and organizing the goals, targets, and initiatives that the Authority will implement to improve biodiversity. The selection of initiatives was informed by the analysis of current Airport operations and validated with feedback from Airport stakeholders.

Developing Initiatives for Biodiversity

A fundamental step in the development of the BDP and organizing the initiatives was to evaluate existing biodiversity-related efforts in place at the Airport. The basis for this analysis was discussions with Authority staff and document reviews.

As noted earlier, there are three goals that have been identified for inclusion in the BDP, namely:

- Wildlife Compatibility – continuing to support and ensure the suitability of the CLT habitat on-site, eliminating the presence of nuisance wildlife that may create a hazard to aircraft or public health and safety, and incorporating native and drought-tolerant plant species in new construction and redevelopment
- IPM – implementing an environmentally sensitive approach to pest management to reduce the use of pesticides
- Education and Leadership – developing awareness and promoting participation in achieving biodiversity goals

Each goal was evaluated, and a baseline inventory was completed to document existing programs and activities (Appendix A). The results of the baseline effort helped to identify the most appropriate initiatives and tactics that will allow the Authority to achieve the stated goals and targets.

The initiatives and tactics support progress towards one or more goals, as well as the advancement of the biodiversity strategy as a whole. The following sections provide a comprehensive summary of each initiative and tactic. Further information about the implementation of these initiatives is provided in the Implementation and Monitoring section of the plan.

Wildlife Compatibility

Wildlife compatibility refers to the concept that human life and plant and animal life can coexist. As it relates to the Airport, this involves ensuring that plant and animal life is compatible with Airport operations to eliminate safety conflicts and public health concerns. Depending on the consequences, wildlife compatibility can mean managing or limiting interactions, while in other cases it can mean promoting interactions. To appropriately balance the degree of wildlife compatibility at the Airport, the Authority has identified the following initiatives. Table 2 summarizes the aspirational goals supported, tactics, Authority lead department, and time horizon associated with each of the following wildlife compatibility initiatives.

Spotlight: Chula Vista Wildlife Reserve

While the Authority is required and committed to ensuring the suitability of CLT habitat on the Airport grounds, they also maintain an approximately 6-acre portion of CLT habitat at the existing Chula Vista Wildlife Reserve in south San Diego Bay. Each year, the Authority and its contractors conduct site preparation activities to remove vegetation and modify substrate if high tides events have significantly altered the habitat. After the site has been prepared, the Authority conducts monitoring of nesting colonies to record data, which then feeds up to the federal and state CLT records. This area is adjacent to the San Diego Bay National Wildlife Refuge, which encompasses approximately 2,260 acres of land and water in and around San Diego Bay.



Initiatives

- **WC-1: Continue to ensure suitability of CLT habitat.** In compliance with the Authority's existing permits and the federal and state Endangered Species Acts, the Authority successfully implements a variety of methods to protect and maintain the CLT habitat at the Airport. The Authority will maintain the designated CLT habitat onsite in the southeastern portion of the Airport by continuing to conduct annual weed abatement in this area and continuing to install and maintain chick fencing before and during nesting season. Other methods to ensure the suitability of the habitat include continuing to maintain visual screening along the adjacent roadway and modifying the habitat surface to vary topography and add shell fragments or other similar materials which will improve the habitat for CLT. The Authority will also continue to conduct routine CLT surveys to understand how the habitat is being used and any changes to its use from year to year.
- **WC-2: Maintain compliance with wildlife permits, plans, and regulations.** In addition to complying with CLT permits and regulations, the Authority is required to adhere to several other regulations related to species and habitat. The Authority implements a Wildlife Hazard Management Plan to prevent or eliminate wildlife that may present a hazard to aircraft. The Authority also implements a Wildlife Rescue Plan and complies with the strategies set forth therein to ensure appropriate response for injured and non-injured birds. Through this initiative, the Authority intends to expand their Wildlife Rescue Plan to cover non-bird species and offer suitable non-lethal removal methods. The Authority also commits to conducting annual reviews of all permit requirements to ensure adherence and revisit obligations. One additional regulation applicable to particular Authority projects on the shores of San Diego Bay is the National Marine Fisheries Service's California Eelgrass Mitigation Policy, which recommends a no net loss of eelgrass habitat function. The Authority will continue to comply with this policy when new projects or operations have the potential to impact eelgrass in the adjacent portions of San Diego Bay.
- **WC-3: Consider broader application of anti-perching and anti-roosting devices and other deterrents for birds that create a hazard to aircraft or are a public health concern.** The habitat surrounding and within the Airport supports only a limited number of biological resources since much of the area is extensively urban and developed. Nonetheless, being adjacent to San Diego Bay tends to provide for an increased number of birds in the area, which can be a hazard to aircraft or create a public health and safety concern. To reduce the number of birds at the Airport, the Authority will continue to inspect facilities on a routine basis to understand where birds are perching and roosting to better determine appropriate deterrent measures. The Authority will also continue to research bird abatement methods and implement where needed. As discussed in the Wildlife Hazard Assessment prepared for the Airport in 2015, there are several areas where bird perching occurs, including the trash compactor at Terminal 1, light posts throughout the property, and fence lines. Each of these areas would require different types of deterrents based on site conditions and frequency of bird activity.
- **WC-4: Explore opportunities for reconfiguring CLT habitat to improve airfield operations and maintain or enhance productivity of the habitat.** Over the years, relocation of the Airport's CLT colony to an off-Airport location has been discussed with USFWS. Adjacent sites and other sites within the vicinity were last studied in 2013, but it was concluded that the best approach was to avoid or minimize impacts to the existing colony. More recently, the Authority and USFWS have discussed the potential reconfiguration of the current site without impacting the site's productivity. The Authority currently has a CIP to develop a comprehensive plan that identifies future capital improvements in the vicinity of the designated CLT habitat. This project would allow the Authority to explore reconfiguration opportunities in tandem with future Airport planning needs. The project would focus on continuing to meet obligations to protect the habitat and coordination with USFWS would be required.
- **WC-5: Incorporate native species to enhance wildlife habitat in a manner that is compatible with Airport environment and operations.** As discussed in the initiatives above, the Authority has committed to protecting habitat onsite for the endangered CLT. While protecting habitat is an important tactic, other types of conservation such as restoration, reintroduction, and the control of invasive species can also show positive impacts. In alignment with this concept, the Authority will look to incorporate native plant species within the Airport to enhance wildlife habitat with a heightened consideration of effects on Airport operations. First, the Authority will consider which locations are best suited for cultivating native plant species so that there is no conflict or unintended consequence related to Airport operations. Then, the Authority will create a palette of native plants to attract specific types of native pollinators such as butterflies.

- WC-6: Ensure native and drought-tolerant plant species are used in new construction and redevelopment.** To ensure that future projects incorporate appropriate plant species, the Authority aims to generate a list of preferred native and drought-tolerant species so that designers and contractors are in compliance with applicable regulations. For example, plantings at the Airport are required to be approved by the Facilities Management Department and must conform to applicable Coastal Development Permit requirements. The Authority sees this as an opportunity to streamline the process and ensure maximum incorporation of native and drought-tolerant species. After understanding which native species would be appropriate to incorporate at the Airport and where plantings could occur (from initiative WC-5), the Authority intends to incorporate those native plant species into the preferred species list. The Authority will also look for opportunities to remove lawn and grass from existing landscaped areas to reduce water use and incorporate more native species. This initiative parallels the Airport's Water Stewardship Plan, specifically Action 3, Integrate water stewardship in operations & maintenance.

Table 2: Wildlife Compatibility Initiatives and Tactics

ID	Initiative	Goals Supported	Tactics	Authority Lead Department	Time Horizon
WC-1	Continue to support and ensure suitability of CLT habitat	1	Conduct annual weed abatement within CLT habitat	P&E, FMD, A&T	Ongoing
			Continue to conduct routine CLT surveys		
			Maintain chick fence before and during nesting season		
			Maintain visual screening along adjacent roadway		
			Modify CLT habitat surface to vary topography and add shell fragments or similar suitable materials		Near-Term
WC-2	Maintain compliance with wildlife permits, plans, and regulations	1	Conduct annual reviews of permit requirements (1993 Biological Opinion, 2018 Informal Consultation, Depredation Permit, Wildlife Hazard Management Plan)	P&E, FMD, A&T	Ongoing
			Continue to conduct ongoing monitoring associated with permit requirements		
			Continue to implement the California Eelgrass Mitigation Policy, as applicable		
			Continue to implement and expand the Wildlife Rescue Plan to cover non-bird species and appropriate non-lethal removal methods		Ongoing/ Near-Term
WC-3	Consider broader application of anti-perching and anti-roosting devices and other deterrents for birds that create a hazard to aircraft or are a public health concern	1	Inspect facilities on a routine basis to determine where birds are perching, loafing, roosting, and nesting	P&E	Ongoing
			Research bird abatement methods and install, where needed		

ID	Initiative	Goals Supported	Tactics	Authority Lead Department	Time Horizon
WC-4	Explore opportunities for reconfiguring CLT habitat to improve airfield operations and maintain or enhance the productivity of the habitat	1	Implement the Authority's Capital Improvement Project to develop a comprehensive plan that identifies and coordinates future capital improvements in the vicinity of the CLT habitat to ensure that the Authority meets its obligations to protect the habitat	P&E, ADC	Near-Term
WC-5	Incorporate native species to enhance wildlife habitat, in a manner that is compatible with airport environment and operations	1	Consider optimal locations for native species planting Create native planting palette to attract specific types of native pollinators (e.g., butterflies)	P&E	Near-Term
WC-6	Ensure native and drought-tolerant plant species are used in new construction and redevelopment	1	Generate a list of preferred native species for designers and contractors that is consistent with applicable regulations Look for opportunities to remove lawn/ grass from landscaped areas	P&E, FMD	Near-Term

Notes:

Goal 1 – Maintain wildlife compatibility

Goal 2 – Incorporate IPM techniques

Goal 3 – Demonstrate regional and industry leadership in wildlife compatibility and biodiversity

Near-Term – 0 to 5 years

A&T – Airside and Terminal Operations

ADC – Airport Design and Construction

FMD – Facilities Management

P&E – Planning and Environmental Affairs

Spotlight: Landscaping at the Airport

The Authority has been successful at incorporating xeriscaping at the Airport, most recently in the construction of the Rental Car Center, Admiral Boland Way, and the Terminal 2 Parking Plaza. Xeriscaping is an environmentally-friendly landscaping practice that includes a variety of native and drought-tolerant plants, shrubs, and ground cover to minimize watering needs. With an established xeriscaping program in place, the Authority can focus on formalizing the incorporation of native and drought-tolerant plant species into future development projects. The California Native Plant Society website includes several plant species native to San Diego that could be incorporated at the Airport.⁷



Integrated Pest Management

Since the Authority has an established IPM program at the Airport, there is an opportunity to incorporate key program elements into ongoing Airport operations and to ensure coordination with Airport tenants. Similarly, with new projects and redevelopment at the Airport, the potential exists to incorporate IPM best practices from the beginning of a building's life so that pest problems can be eliminated and/or more easily addressed and mitigated. Incorporating IPM into all applicable facets of the Airport's operations will further promote environmental stewardship and public health and safety. To support its IPM goals, the Authority has identified the following initiatives. Table 3 summarizes the aspirational goals supported, tactics, Authority lead department, and time horizon associated with each of the following IPM initiatives.

Initiatives

- **IPM-1: Incorporate IPM guidance into Airport operations.** Successful implementation of the Authority's IPM program depends on how the Authority can best integrate the program into ongoing operations. One way is by continuing to conduct routine, quarterly inspections and enforcement consistent with IPM standards. The Authority will also review tenant leases when they are up for renewal to make sure appropriate IPM requirements are included. Each year, the Authority intends to conduct an Airport-wide records review of the IPM program to better understand its effectiveness and areas for improvement or enhancement. One way that the Authority can do this is by tracking IPM activities and the number of non-least toxic chemical treatments applied. This will serve as a method to measure the IPM goal metric of decreasing the use of toxic chemical treatments by 50%.
- **IPM-2: Ensure new construction and redevelopment projects comply with, and incorporate, IPM requirements.** Similarly to incorporating IPM into ongoing operations, IPM can be employed during project planning and construction. When new and redevelopment projects are in the design phase, the Authority can add an IPM focus to normal plan check procedures. The Authority can do this by creating a checklist for IPM to standardize the way best practices are implemented across all new projects. In the past, the Authority has experienced ineffective installation of pest exclusion methods and bird deterrent instruments. Therefore, after any IPM requirements are identified for a project during plan check, the Authority will also ensure pest exclusion and bird deterrent methods are installed properly. Clear guidance can be provided in the project's specifications and Authority construction inspectors can ensure proper installation.

Spotlight: IPM at the Airport

In 2016, the Airport was recognized with an IPM Achievement Award from the California Department of Pesticide Regulation (DPR). Each year the DPR identifies and awards leaders that have adopted techniques that increase the benefits and reduce the risks of pest control. The Authority was recognized for IPM leadership based on our efforts to work with Airport tenants on reporting, pest prevention, and pest-proof food storage. The Authority uses an iPad-based program, which logs about 900 inspections monthly at a variety of locations throughout the Airport. The detailed application prompts inspectors to enter the type of pest, how to exclude it, and how to remedy the situation through cleaning practices. Since establishment of the program, communication among the Authority, pest management professionals, and Airport tenants has reduced the potential for infestation and eliminated the need for pesticide application.

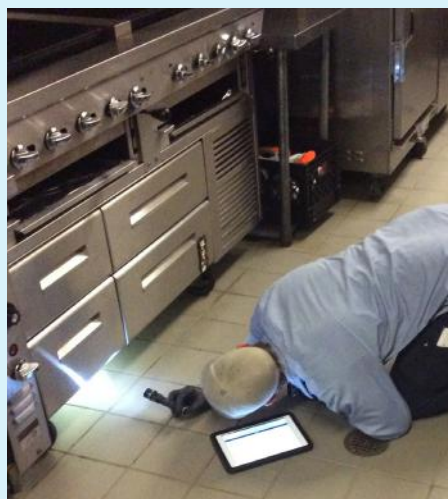


Table 3: Infrastructure and Development Initiatives and Tactics

ID	Initiative	Goals Supported	Tactics	Authority Lead Department	Time Horizon
IPM-1	Incorporate IPM guidance into airport operations	2	Review tenant leases as they are submitted for renewal to ensure appropriate IPM requirements are included	P&E, Real Estate	Ongoing
			Continue to conduct routine IPM inspections and enforcement		
			Maintain records of IPM and pesticide applications		
			Conduct annual review of IPM program effectiveness		
IPM-2	Ensure new construction and redevelopment projects comply with and incorporate IPM requirements	2	Review projects during the design and plan check phase to ensure incorporation of IPM best practices	P&E, ADC	Near-Term
			Enhance guidance and requirements for plan check and construction inspection with a focus on proper installation of pest exclusion methods and bird deterrents		

Notes:

Goal 1 – Maintain wildlife compatibility

Goal 2 – Incorporate IPM techniques

Goal 3 – Demonstrate regional and industry leadership in wildlife compatibility and biodiversity

Near-Term – 0 to 5 years

ADC – Airport Design and Construction

P&E – Planning and Environmental Affairs

Education and Leadership

Beyond developing appropriate protocols and procedures to facilitate biodiversity efforts, the Authority acknowledges the vital roles that education and leadership play in an effective BDP. Education and leadership can be focused both internally (within the Airport) and externally (within the region). Internally, the Authority can ensure all staff, contractors, and tenants receive adequate training related to the direct effects of their daily tasks on particular facets of biodiversity (CLT protection, IPM, native plants, etc.). Externally, the Authority can expand their reach to promote and support wildlife and plant biodiversity efforts throughout the region. summarizes the goals supported, tactics, Authority-led department, and time horizon associated with each of the following education and leadership initiatives.

Initiatives

- **EL-1: Provide regular IPM training to tenants.** Successful implementation of the IPM program is dependent on adequate training. The Authority will work with all tenants to ensure they receive annual IPM training and other important resources that ensure effective IPM outcomes. Training will focus on best practices for food storage, water and spills, and other maintenance activities, and encourage tenants to develop a list of cleaning duties and frequencies. Finally, the Authority will track and document all training sessions.
- **EL-2: Continue to conduct trainings to educate staff, tenants, and contractors on CLT and other biodiversity efforts.** Separate from IPM training for tenants, which is more technical and implementation-focused, the Authority will continue to train staff, tenants, and contractors on the importance of protecting the CLT and other native species. The Authority currently conducts annual trainings for all employees during the initial and badge renewal processes, and participates in weekly construction meetings so that work activities are completed in an environmentally-friendly way. Weekly construction meetings help ensure CLT protection measures are being followed. In addition to ongoing training efforts, the Authority seeks to update their construction guidelines and standards to more clearly communicate requirements to ensure protection of the CLT. The Authority will also aim to integrate IPM into the Airport's Green Concessions Program. By adding IPM to this program, the Authority will encourage the further promotion of IPM best practices between tenants.
- **EL-3: Enhance public awareness about San Diego County biodiversity at the Airport.** The Authority annually conducts public outreach activities to educate staff, tenants, and members of the public on a variety of Airport sustainability efforts, including components related to biodiversity. With over 24 million passengers traveling through the Airport in 2018, there is an opportunity to further promote biodiversity awareness. As such, the Authority intends to expand their current outreach efforts to generate more interpretive education and awareness materials, and incorporate the importance of native species into existing outreach materials, trainings, and tours. Possibilities for interpretive outreach include a live video of the Airport's CLT habitat during nesting season, or biodiversity-related art installations.
- **EL-4: Work with adjacent land owners to reduce wildlife hazards and attractants.** Due to the Airport's location in an urban area, there is an opportunity to enhance outreach with adjacent landowners such as the San Diego Fire Rescue Training Facility and the Marine Corps Recruit Depot. By coordinating and holding regular meetings with these groups, the Authority can promote the protection of wildlife and work to reduce wildlife hazards. Working together to implement best practices to deter birds and other wildlife has the potential to reduce wildlife hazards for aircraft and to ensure public health and safety.
- **EL-5: Coordinate with regional entities on future conservation opportunities at the Airport and relevant biodiversity initiatives.** One area where the Authority can focus education and leadership efforts involves continuing to maintain partnerships and engaging in regionwide biodiversity-related opportunities. Attending monthly San Diego Management and Monitoring Program Coordination Meetings (SDMMP)⁸ will be prioritized. The SDMMP facilitates the implementation of conservation management and monitoring throughout San Diego County and provides direction for a variety of local jurisdictions, wildlife agencies, and other regional stakeholders of land management. Participation in the program can be used to showcase biodiversity-related actions at the Airport, and provide for learning opportunities, identification of best practices, and potentially foster new partnerships.

- **EL-6: Promote and support wildlife and plant biodiversity in the region.** Biodiversity loss has become an issue of increasing importance both within our region and globally. In 2016, the United Nations developed a Sustainable Development Goal (Goal 15)⁹ centered on biodiversity, which aims to protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and reduce land degradation. The Authority will continue conducting annual reviews of the IPM program, and any finding that would have a significant impact would be reflected in updates to the BDP, as needed. Revised versions of the BDP would be subject to a public review period to allow for stakeholders to provide feedback and guidance. The Authority will also track the Airport's biodiversity progress in their annual sustainability report, comparing it to United Nations' targets and indicators. The Authority will continue to promote and support their existing biodiversity-related sustainability programs (for example, encouraging ocean-friendly restaurants at the Airport in coordination with the Surfrider Foundation and promoting the Good Traveler Program to mitigate environmental impacts of air travel). The Authority will also promote "off-Airport" programs to influence regional biodiversity efforts such as carbon sequestration through local forest conservation and land use projects.

Spotlight: Ocean Friendly Restaurants¹⁰

The Authority promotes and encourages Airport food service concessionaires to participate in the Surfrider Foundation's Ocean Friendly Restaurant program. Recently, the Airport recognized its first ocean friendly restaurant, which is also the first airport ocean-friendly restaurant in the country. Ocean friendly restaurants are dining establishments that institute self-regulated policies to reduce disposable plastic waste and minimize impacts on oceans, beaches, and species. Promoting this program at the Airport aligns with the Authority's commitment to the environment, especially the local San Diego coastline. The Authority will continue to encourage other food service establishments at the Airport to become ocean friendly restaurants to further promote biodiversity.



Source: <https://www.surfrider.org/coastal-blog/entry/the-ocean-friendly-restaurant-program-picks-up-steam>

Table 4: Training and Education Infrastructure Initiatives and Tactics

ID	Initiative	Goals Supported	Tactics	Authority Lead Department	Time Horizon
EL-1	Provide regular IPM training to tenants	2, 3	Ensure and document that all tenants receive annual IPM training and resources	P&E	Ongoing
EL-2	Continue to conduct trainings to educate staff, tenants, and contractors on CLT and other biodiversity efforts	3	Continue to conduct annual training through new employee initial and badge renewal processes, and tours	P&E	Ongoing
			Continue to participate in weekly construction meetings to ensure work activities occur in an environmentally friendly manner with a focus on CLT protection measures		
			Update construction guidelines to ensure protection of CLT and their habitat		Near-Term
			Integrate IPM into the Airport's Green Concessions Program		

ID	Initiative	Goals Supported	Tactics	Authority Lead Department	Time Horizon
EL-3	Enhance public awareness about biodiversity efforts at the airport	3	Generate education and awareness interpretive materials, such as a live video of CLT nesting areas or biodiversity-related art installations from local artists Incorporate discussion of the importance of native species into existing education and awareness materials, trainings, and tours	P&E, MAS	Near-Term
EL-4	Work with adjacent land owners to reduce wildlife hazards and attractants	1, 3	Meet regularly and coordinate with the San Diego Fire-Rescue Training Facility and Marine Corps Recruit Depot	P&E, A&T	Ongoing
EL-5	Coordinate with regional entities on future conservation opportunities at the airport and other relevant regional biodiversity initiatives	3	Maintain working relationships with past and current teaming partners such as the Port of San Diego, San Diego Zoo, and San Diego Natural History Museum, among others Attend and/or present at the monthly U.S. Geological Survey San Diego Management and Monitoring Program Coordination Meetings to promote biodiversity actions at the Airport and learn from other regional entities	P&E, Public Affairs	Ongoing Near-Term
EL-6	Promote and support wildlife and plant biodiversity in the region	3	Continue to encourage ocean-friendly restaurants at the Airport, in coordination with the Surfrider Foundation Promote the Good Traveler Program to mitigate environmental impacts of air travel and fund emissions-reducing projects involving restoration and forests Promote "off-Airport" programs to influence regional efforts Promote carbon sequestration through local forest conservation and land-use projects Include information on how the Airport's biodiversity efforts support the United Nations Sustainable Development Goal 15 in the Authority's annual sustainability report.	P&E	Ongoing

Notes:

Goal 1 – Maintain wildlife compatibility

Goal 2 – Incorporate IPM techniques

Goal 3 – Demonstrate regional and industry leadership in wildlife compatibility and biodiversity

Near-Term – 0 to 5 years

A&T – Airside and Terminal Operations

ADC – Airport Design and Construction

FMD – Facilities Management

MAS – Marketing and Air Service Development

P&E – Planning and Environmental Affairs







04

Funding Sources and Strategy

The Authority has established a process for identifying and pursuing potential funding opportunities for biodiversity-related initiatives.

Meeting the Authority's biodiversity goals may result in shifting budget priorities. As such, additional resources may be required to support biodiversity. The Authority has identified a number of external funding sources that will assist in leveraging resources towards successful implementation of the initiatives outlined in this plan. It should be noted that airports do not receive revenue from local taxes, but rather are financially self-sufficient enterprises relying on user fees. In addition, there are federal restrictions for using this revenue for non-airport purposes.

Beyond utilizing the traditional operating budget for capital improvement projects detailed in the CIP and ADP, the Authority has created a list of potential opportunities (see Table 5) to augment funding for projects and activities support innovation in biodiversity.

The funding mechanisms identified are comprised of both aviation industry-specific instruments as well as those available locally for biodiversity efforts in general. Originating at the federal, state, and local government level, and from private and/or public foundations, there are many strong programs from which to choose. Below is a summary of the potential options.

Table 5: Potential Funding Sources for Biodiversity-related Initiatives

Funding Program	Program Summary	Potential Areas for Application
FAA's Airport Improvement Program (AIP)	As summarized on the FAA website: The Airport Improvement Program (AIP) provides grants to public agencies — and, in some cases, to private owners and entities — for the planning and development of public-use airports that are included in the National Plan of Integrated Airport Systems (NPIAS). Eligible projects include those improvements related to enhancing airport safety, capacity, security, and environmental concerns.	The Authority has successfully utilized AIP grants for a variety of projects in the past. Moving forward, funds may be applied towards implementing bird deterrent mechanisms and other record keeping and annual review efforts related to IPM and native plants. Goal(s) Supported: Wildlife Compatibility, IPM, Education and Leadership
The San Diego Foundation ¹¹	The San Diego Foundation (Foundation) works with a variety of donors, including individuals, businesses and organizations, to award grants that develop new, sustainable ways to enrich the lives of local residents. The Foundation offers donor-advised corporate and mitigation funds.	The Authority could apply for grant funds for a native plant pilot program. Goal(s) Supported: Wildlife Compatibility, IPM
San Diego County's Community Enhancement Program ¹²	Funded by a portion of the County's Transient Occupancy Tax revenues, the goal of the Community Enhancement Program is to stimulate tourism, promote the economy, create jobs, and/or a better quality of life. Entities and activities currently funded are cultural activities, museums, visitor and convention bureaus, economic development councils, and other similar institutions/organizations, which promote and generate tourism and/or economic development within San Diego County.	The Authority could apply for grant funds for education and leadership outreach. Goal(s) Supported: Education and Leadership, Wildlife Compatibility

Funding Program	Program Summary	Potential Areas for Application
Western IPM Center ¹³	One of four regional centers funded by the U.S. Department of Agriculture National Institute of Food and Agriculture to promote IPM. Grants are available for project initiation, work groups, outreach and implement, and IPM planning documents.	The Authority could apply for grant funds for outreach and implementation projects such as training for Airport tenants or an IPM tracking database. Goal(s) Supported: IPM
California Department of Pesticide Regulation (DPR) Pest Management Grants (Alliance Grants Program) ¹⁴	As summarized on the DPR website: DPR promotes the adoption and implementation of effective IPM systems and practices that reduce risks from pesticide use to human health and the environment in agricultural and non-agricultural settings. Projects funded support this goals through collaboration among commodity group representatives, growers, pest control advisors and businesses, university researchers, pesticide industry representatives, conservation agencies, non-governmental organizations, sustainability certification programs, and other groups.	The Authority could apply for grant funds for outreach and implementation projects such as training for Airport tenants or an IPM tracking database. Potential to partner with a local group such as a local university. Goal(s) Supported: IPM





05

Implementation and Monitoring Program

The Authority has developed a monitoring program to track progress of the biodiversity strategy and facilitate data collection, sharing, evaluation, and reporting among Airport stakeholders.

The BDP is, by design, both a strategic framework and a tactical guide for implementation. The Authority recognizes that the finalized results represent the best path forward for the Airport to synchronize with Federal, State, and local initiatives and regulations, and demonstrate a commitment to leadership both locally and throughout the aviation industry. It is also understood that the Plan is a living document and thus carries with it the requirement for update and re-design as internal or external factors dictate that changes be made. Given potential regulatory changes or feasibility constraints, the Authority will remain vigilant in assuring that the BDP continues to remain up-to-date, focusing on the most efficient approaches possible.

To help facilitate the successful implementation of species protection and other biodiversity-related efforts in the past, the Authority relied on several mechanisms to monitor progress and encourage improvement. These included ongoing meetings with applicable Airport departments for species and biodiversity related topics, and consistent interaction with employees and tenants regarding IPM. With a focus on instruction and reinforcement of expectations, both physically and via multiple secondary outlets including social media, monthly newsletters, email, and signage, consistent programmatic improvement has been attained.

Beyond the aforementioned strategies, a commitment to the stewardship of plants and wildlife within an urban airport environment will require additional efforts to foster more impactful feedback and oversight. Table 6 summarizes the established goals and targets that have been previously discussed with the additional accompanying monitoring techniques that will be used.

Table 6: Authority Goals and Targets Monitoring

Aspirational Goals	Metric(s)	Target(s)	Target Timeframe	Monitoring
1. Maintain wildlife in a manner that is compatible with Airport operations	Reduction in the number of nuisance birds on site that create a hazard to aircraft, are a public health concern, or prey on CLT	100% of all new structures, solar panels, light and other poles, and any other structure that creates an area for birds to perch, loaf, roost, or nest include bird deterrents	2025	Maintain a comprehensive map or list of deterrents and update as new ones are installed
	Reduction in the amount of non-native/non-drought-tolerant plant species used in landscaped areas	100% of all new landscaped areas include native and/or drought-tolerant plant species	2025	Conduct an annual review of new projects that incorporated native/drought-tolerant species

Aspirational Goals	Metric(s)	Target(s)	Target Timeframe	Monitoring
2. Incorporate IPM techniques to control pest populations in a manner that promotes environmental stewardship and public health and safety, while maintaining Airport operations	Number of tenant spaces inspected; Number of tenant leases with IPM procedures incorporated	100% of all tenant spaces are inspected at least quarterly; 100% of all leases incorporated IPM procedures	2025	Keep ongoing inspection records; Complete an annual review of IPM program effectiveness
	Reduction in the use of non-least toxic chemical treatments	Decrease the number of non-least toxic chemical treatments by 50% (with 2018 as the baseline year)	2035	Keep ongoing records of toxic chemical treatment; Keep ongoing records of tenant IPM participation; Complete an annual review of IPM program effectiveness
3. Demonstrate regional and industry leadership in wildlife compatibility and biodiversity in an urban airport setting	Increase regional awareness of the Authority's biodiversity efforts	Report biodiversity leadership and education efforts in the Authority's annual sustainability report and other outreach materials and engage with regional organizations	2025	Revisit the annual sustainability report mid-year to check in on progress of biodiversity leadership and education efforts; Share innovations with other organizations

By adopting the supplemental monitoring measures listed above, the Authority will build on the strong foundation of oversight and collaboration already in place and complete a robust and highly-effective system of monitoring and feedback delivery. This framework will continue to support the efforts laid forth in this plan, serving to guide successful implementation by promoting a step-by-step process and sensible accountability measures.

Finally, progress towards the achievement of goals and implementation of sustainability initiatives is communicated in the Authority's annual Sustainability Report. This report, available online at sustain.san.org, is developed in accordance to Global Reporting Initiative (GRI) and provides updated information for several of the Authority's sustainability focus areas, including biodiversity.

List of Acronyms

A4A	Airlines for America
AAAE	American Association of Airport Executives
ACI	Airport Council International
ADC	Airport Design and Construction
ADP	Airport Development Plan
AIP	Airport Improvement Program
Airport	San Diego International Airport
A&T	Airside and Terminal Operations
Authority	San Diego County Regional Airport Authority
BDP	Biodiversity Plan
CAC	California Airports Council
CALGreen	California Green Building Standards Code
CDFW	California Department of Fish and Wildlife
CIP	Capital Improvement Program (or Plan)
CLT	California Least Tern
CNP	Carbon Neutrality Plan
COM	Communications Department
CRP	Climate Resilience Plan
DPR	California Department of Pesticide Regulation
EL	Education and Leadership
FAA	Federal Aviation Administration
FMD	Facilities Management Department
ICAO	International Civil Aviation Organization
IPM	Integrated Pest Management
IATA	International Air Transport Association
LEED	Leadership in Energy and Environmental Design
MAS	Marketing & Air Service Development Department
NPIAS	National Plan of Integrated Airport Systems
P&E	Planning and Environmental Affairs
SANDAG	San Diego Association of Governments

SDMMP	San Diego Management and Monitoring Program
SMP	Sustainability Management Plan
STEP	Strategic Energy Plan
USFWS	U.S. Fish and Wildlife Service
WC	Wildlife Compatibility
WSP	Water Stewardship Plan
ZWP	Zero Waste Plan

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Communications (COM)

Facilities Management (FMD)

Marketing & Air Service Development (MAS)

Media & Public Relations (M&PR)

Planning & Environmental Affairs (P&E)

Revenue Generation & Partnership Development (RGP)

Endnotes

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Appendices

Appendix A: Baseline Memorandum

Memorandum

Date	July 30, 2019
From	Craig Riley, AECOM
To	Brendan Reed, San Diego International Airport (SAN)
Cc	Richard Gilb (SAN), KariLyn Merlos (SAN) Lyndon Quon (AECOM), Erin Phillips (AECOM)
Subject	Sustainability Management Plan – Biodiversity Plan Baseline Assessment

Introduction

The San Diego County Regional Airport Authority (SDCRAA, or Authority) is developing a Sustainability Management Plan (SMP) for the San Diego International Airport (SAN, or Airport). The SMP, which is supported by a Federal Aviation Administration (FAA) grant through the Airport Improvement Program, covers seven programmatic sustainability elements. Each programmatic area includes a strategic action plan that serves as an operational plan for the Authority to advance sustainability performance at the Airport and allow for ongoing, future program assessment and evaluation.

Two of the seven SMP plans, namely, the Water Stewardship Plan and the Strategic Energy Plan were prepared in 2016 and 2017, respectively. Over the past three years, four of the remaining seven SMP plans have been developed, including the Carbon Neutrality Plan, the Clean Transportation Plan, the Climate Resilience Plan, and the Zero Waste Plan. The final SMP plan and the object of this baseline assessment is the Biodiversity Plan, which will outline the Authority's vision for the stewardship of plants and wildlife within the control and influence of the Authority. The Biodiversity Plan will provide a framework for how the Authority manages on-site habitat for the endangered California least tern (*Sterna antillarum browni*; CLT), reduces the use of biocides through their Integrated Pest Management (IPM) program, and identifies robust drought-tolerant plant species for their campus-wide xeriscape landscape program.

The focus areas that have been established for the Biodiversity Plan and are consequently in this baseline assessment include the following:

- Wildlife Compatibility
- Native Species Enhancement
- Education & Awareness
- Leadership & Development

In May 2019, AECOM submitted a request for information to the Authority seeking information to establish a baseline for the Biodiversity Plan, based on the above focus areas. In response, the Authority submitted several documents satisfying the request. As such, the following topics form the basis of the Biodiversity Plan baseline.

- California Least Tern
- Integrated Pest Management
- Drought-Tolerant and Native Plant Species
- Eelgrass

- Biodiversity at SAN
- Education, Awareness, and Leadership
- Regional Biodiversity Studies

This assessment summarizes findings regarding baseline conditions for these biodiversity-related topics. In some cases, the information provided is more quantitative; in other cases, it will be more descriptive and qualitative depending on the available data.

Context

The Authority's strategies for this plan are driven by federal and state regulatory requirements and the Authority's motivation to be a leader in addressing biodiversity while optimizing airport operations. In most cases, regulatory requirements or actions are triggered because the Authority is implementing a development project. For example, the 1993 Immediate Action Program (Lindbergh Field Facilities Improvements) involved terminal and fuel farm expansion and new airfield pavement and the current Airport Development Plan (ADP) effort centers around replacement of Terminal 1. The following is a summary of these key regulatory and non-regulatory drivers.

Federal Endangered Species Act

The federal Endangered Species Act (ESA) of 1973, as amended, provides for listing of endangered and threatened species of plants and animals and designation of critical habitat for listed animal species. The ESA also prohibits all persons subject to U.S. jurisdiction from "taking" endangered species, which includes any harm or harassment. Section 7 of the ESA requires that federal agencies, prior to project approval, consult the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) to ensure adequate protection of listed species that may be affected by a project.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) is a federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The list of bird species covered by the MBTA is extensive, and the regulatory definition of "migratory bird" is broad and includes any mutation or hybrid of a listed species, including any part, egg, or nest of such a bird. Migratory birds are not necessarily federally listed endangered or threatened birds under the federal ESA. The MBTA, which is enforced by USFWS, makes it unlawful "by any means or in any manner, to pursue, hunt, take, capture, [or] kill" any migratory bird or attempt such actions, except as permitted by regulation. The applicable regulations prohibit the take, possession, import, export, transport, sale, purchase, barter, or offering of these activities, except under a valid permit or as permitted in the implementing regulations.

California Endangered Species Act

Similar to the federal ESA, the California ESA of 1970 provides protection to species considered threatened or endangered by the State of California. The California ESA recognizes the importance of threatened and endangered fish, wildlife, and plant species and their habitats, and prohibits the taking of any endangered, threatened, or rare plant and/or animal species unless specifically permitted for education or management purposes.

Clean Water Act Sections 401 and 404 and the California Eelgrass Mitigation Policy

Sections 401 and 404 of the federal Clean Water Act outline state and federal requirements, respectively, that must be addressed before dredged or fill material may be discharged into the waters of the State or United States. When such activities are proposed in areas of eelgrass habitat in California, the California Eelgrass Mitigation Policy applies. The NMFS Southwest Region developed the California Eelgrass Mitigation Policy in 2014 to establish and support a goal of protecting eelgrass and its functions, including spatial coverage and density of eelgrass beds. The intent of the policy is to help ensure consistent and effective mitigation of unavoidable impacts to eelgrass habitat throughout California and to ensure there is no net loss of habitat functions. The policy includes detailed guidance and recommendations for (1) avoiding and minimizing impacts to eelgrass, (2) surveying eelgrass beds, (3) assessing impacts to eelgrass, and (4) mitigating for impacts to eelgrass. It also encourages local comprehensive management strategies and allows for modifications to specific elements of the policy for temporary, local impacts to eelgrass.

1993 Biological Opinion and 2018 Informal Section 7 Consultation

In 1993, as part of the Airport's Immediate Action Program (Lindbergh Field Facilities Improvements), the Airport was issued a Biological Opinion (BO) pursuant to Section 7 of the ESA, which authorized project activities that may impact CLT, a federal and state listed endangered species (USFWS 1993). The BO issued by USFWS relied on a Biological Assessment prepared by the Airport, which includes additional detail on the mitigation approach accepted by USFWS and the California Department of Fish and Wildlife (CDFW) (USFWS 1993). Pursuant to the BO, the Airport agreed to incorporate several measures to avoid and minimize impacts to CLT.

In 2018, the FAA engaged in informal Section 7 consultation with USFWS regarding the potential effects of the Airport's Clear Object Free Area Project. Based on that consultation, the Authority continues to implement the 1993 BO measures, in addition to several other measures, to avoid effects to CLT during construction within 1,200 feet of CLT nests during the nesting season.

Based on the 1993 BO and 2018 informal consultation, the Authority has created a program to protect CLT at the Airport. The program and its requirements are discussed in more detail below.

Other Drivers

In addition to federal and state regulatory requirements mentioned above, the Authority is committed to actively managing biodiversity at the Airport as part of its operational requirements and social responsibility. These additional drivers include:

- Airport Operations:
 - » Educating Airport staff, contractors, and tenants about regulatory requirements and providing streamlined approaches to navigating them
 - » Balancing public health/safety and environment considerations
- Leadership:
 - » Being socially responsible for CLT conservation, given the limited number of viable nesting locations around San Diego Bay
 - » Being recognized as a leader in environmental sustainability and biodiversity

Assessment of the Baseline Information

California Least Tern

The CLT is a federally and state listed endangered species. The CLT was listed by USFWS on October 13, 1970, and applies to the entire population. Critical habitat has not been designated by USFWS, although there is an approved recovery plan for the species (USFWS 1980). The state listed the subspecies as endangered on June 27, 1971.

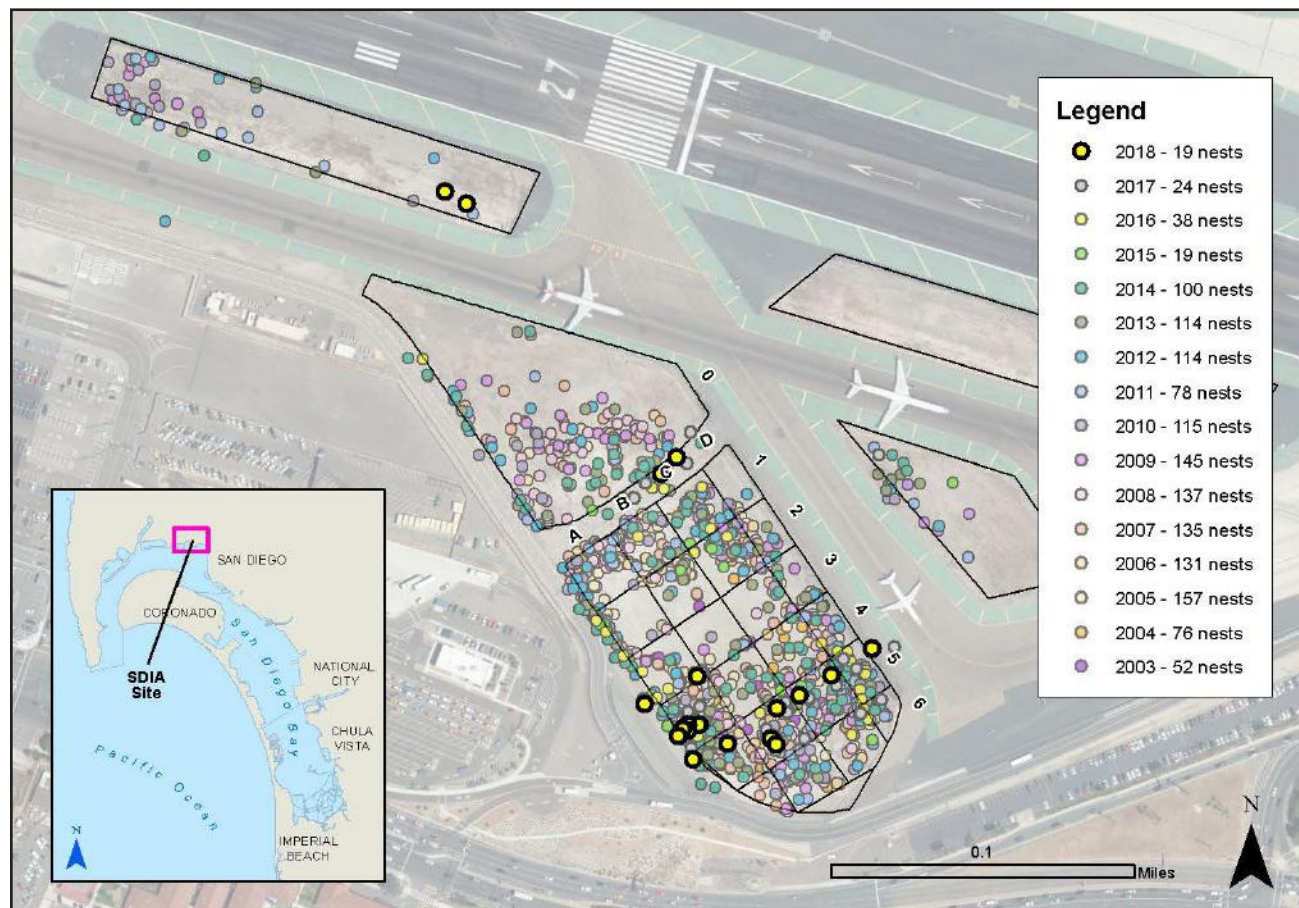
The CLT breeds from San Francisco Bay south to Baja California. In San Diego County, it is a fairly common summer resident from early April to the end of September (Unitt 2004). Significant nesting sites in the county include Mission Bay, Aliso Creek, Batiquitos Lagoon, Tijuana River mouth, Chula Vista, North Island Naval Air Station, San Elijo Lagoon, and Lindbergh Field. Wintering areas are thought to be along the Pacific coast of South America. The CLT historically nested colonially on beaches that are undisturbed, sparsely vegetated, flat areas with loose, sandy substrate near water. Few beach nesting areas remain and least terns are now found in varied habitats ranging from mudflats to airports. Adults roost primarily on the ground. They typically forage in areas with water less than 60 feet in depth and within 2 miles of roosting sites, although they are considered opportunistic and often shift their behavior in response to local prey patterns. This small migratory tern begins nesting in mid-May and is present at nesting colonies from April through August. Due to the habitat found on the Airport grounds and the species nesting habitat preferences, the southeastern area of the Airport is especially appealing to CLT.

Much of the CLT's habitat has been lost because of human development and disturbance, and there are likely few opportunities to create or restore habitat to increase the number of nesting sites. Subsequent management of nesting sites, including fencing and predator control at nesting colonies, contributed to an increase in the population in California to approximately 7,100 pairs in 2005 (USFWS 2006). In San Diego County, the CLT population has increased from approximately 500 pairs in the 1970s to 2,100–2,800 pairs in 1997–2002 and nearly 4,000 pairs in 2003 (Unitt 2004). In 2005, USFWS recommended that the CLT be downlisted from endangered to threatened based on the increase in the species' population from 600 in 1973 to approximately 7,100 pairs in 2005. In addition, at the time of that recommendation, the number of CLT nesting sites had nearly doubled since the species was listed (USFWS 2006). USFWS is currently working on an update to the 2005 update; however, no formal documents have been released at this time.

As documented in the Airport's Climate Resilience Plan, CLT habitat at the Airport is also vulnerable to climate change (SDCRAA 2019a). Climate change, specifically flooding and extreme heat, have the greatest potential to impact CLT and their nesting habitat; CLT nesting areas are expected to be impacted by sea level rise in year 2100. Extreme heat (over 113 degrees Fahrenheit) and flooding in the nesting areas during nesting season have the potential to result in fatalities of unhatched or newly hatched CLT, possibly affecting future CLT populations. The most western nesting areas were identified with the highest risk of flooding from heavy rain events. The nesting areas closest to San Diego Bay were identified as areas where ponding may occur due to sea level rise conditions in 2050 coupled with heavy rain events. There is potential for CLT to adapt to rising sea levels and increased precipitation by migrating to nearby areas. However, since CLT nesting is limited to flat, sandy areas close to San Diego Bay, nearby areas would also be vulnerable to future climate effects.

Figure A-1 illustrates the CLT nesting sites at the Airport since 2003. While Figure A-1 shows nests dating back to 2003, CLT have been documented roosting and nesting at the Airport since 1970.

Figure A-1: California Least Tern Nests at San Diego International Airport (2003–2018)



As discussed above, the Airport was issued a BO, which authorized project activities that had the potential to impact CLT. The 1993 BO required that the Airport maintain four areas in the southeastern portion of the Airport to allow nesting use by the CLT. These areas are referred to as ovals in the 1993 BO and are shown in Figure A-1. To meet 1993 BO requirements, the Authority implements their California Least Tern Protection Program that includes guidelines for all airport, tenant, and contractor activities during the nesting season (SDCRAA n.d.). Requirements within the program include, but are not limited to:

- Prohibiting activities within designated CLT ovals during the nesting season (April 1 through September 15). If such activities take place within the ovals, Airport personnel must contact the Planning & Environmental Affairs Department for coordination prior to repairs or other activities.
- Placing protective fencing around the designated areas during the CLT nesting season to preclude chicks from crossing onto the runway or taxiways.
- Maintaining a minimum of 6.2 acres of CLT habitat at the existing Chula Vista Wildlife Reserve in south San Diego Bay. Conducting site preparation activities annually prior to April 1 to remove vegetation and modify substrate if compaction or excessive mineral deposition from high tide events has occurred.
- Conducting monitoring of nesting colonies at the Chula Vista Wildlife Reserve and the Airport.
- Providing annual funding for predator control.
- Reducing vehicle speeds near the designated CLT areas at the Airport to 15 miles per hour.
- Minimizing potential construction impacts by focusing lights away from the ovals during nighttime activities and lowering any equipment having a height of 25 feet or greater at the end of each work day.
- Properly disposing trash and keeping trash dumpsters covered to minimize CLT predators.

The Airport's CLT colony is considered one of the more productive colonies in San Diego Bay and greater San Diego County. However, as shown in Figure A-1, there have been fluctuations in the number of nests over the years. According to a report by CDFW, the recent reduction (2014 to 2015) is most likely a cause of disturbances from construction activity and predators, specifically predation early in nesting season (SDCRAA 2018). The report also discusses that it is possible that above average water temperatures have lead to less fish available for prey, as well as the overall decline of CLT throughout the southern California region.

Over the years, relocation of the Airport's colony to an off-airport location has been discussed with USFWS. Currently, there are no successful examples of relocating an entire CLT colony to a specifically targeted mitigation site. Adjacent sites for relocation were studied in 2013, but it was concluded that the best approach was to avoid or minimize impacts to the existing colony. More recently, the Authority and USFWS have discussed the potential reduction in the acreage of the current site without impacting the site's productivity. These discussion have been very preliminary and conceptual in nature.

Integrated Pest Management (IPM)

The Authority currently implements an Integrated Pest Management (IPM) Program with the support of a contracted pest control company. The IPM Program includes routine inspections and monitoring of pest populations in order to prevent infestations before they occur. In January 2019, an initial assessment was conducted to document methods for identifying pest populations and assess current levels of activity as well as potential for infestations (Cartwright 2019a). The assessment concluded that while there did not appear to be any current infestations at the Airport, due to the Airport's location, proximity to San Diego Bay, and operational characteristics, heavy populations of rats and certain other pests have the potential to build quickly if ongoing prevention and control is not conducted. The initial assessment report also includes maps showing the general distribution of each pest type across the Airport. Pests at the Airport and information related to population size and potential for infestation are described in Table A-1.

Table A-1: Pest Populations and Potential for Infestation at the Airport

Pest	Population and Potential for Infestation
Exterior	
American Roaches	Population is endemic and was growing at the time of the assessment; potential for infestation is approximately 3 months (unless manholes are serviced).
Ants	Populations mainly found in planter beds; but infestations have the potential to occur overnight if food source is present; no current negative impact at the Airport.
Rodents	Roof rats are the main exterior population; current population is manageable and no negative impact is noticed; potential for infestation is 3-6 months without appropriate use of rodent control devices.
Interior	
Mice	Population is very light (only a few caught in recent months and most likely were brought in from deliveries since there were no signs of harborage); potential for infestation is 4-6 months if not monitored and controlled as needed.
Rats	Population is light (most captures have been in the ceiling); potential for infestation is 6-9 months.
German Roaches	Population is light to moderate (mostly in food and beverage areas; directly linked with corrugated cardboard from deliveries); potential for infestation is 4-6 weeks.
American Roaches	Population is light to moderate (comparable to the exterior population; limited to areas with floor drains); potential for infestation is 3-6 months from exterior sewer infestation.
Fruit and Drain Flies	Population is generally light, but moderate in food/beverage areas (specifically those with bars); potential for infestation is 1-2 weeks.
Unidentified Biting Insects/Fleas	Reported only, unable to confirm presence during assessment (Note: mosquitos have been confirmed present in summer 2019).

Source: Cartwright 2019a

Using the findings from the assessment report, a work plan was developed for implementation of IPM at the Airport (Cartwright 2019b). IPM is defined by the University of California Statewide IPM Program as “an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, and modification of cultural practices.” An IPM program consists of a cycle of monitoring, control, and evaluation. Pest levels and other factors are monitored through documented, systematic inspections conducted at regular intervals and pesticides are used only when monitoring indicates specific action thresholds have been observed and other control methods have not been effective. The idea behind IPM and action thresholds is that some pests can be tolerated at low levels if there are no impacts to public health, safety or operational activities. Because of potential for public health impacts and property damage from rodents for example, the action threshold is lower than for some other pests (e.g., if there are any rodents or evidence of rodents observed indoors or any burrows or activity in planter areas observed outdoors). If the pest activity or observation is above the threshold, some pest management action would be necessary, but may include non-chemical methods of control such as sanitation, trapping or structural modifications (exclusion) rather than pesticide application. The management action is determined by the responsible technician.

Use of IPM also minimizes environmental impacts by targeting application areas more carefully and being conscious of pest-specific strategies. IPM also encourages the use of least-toxic products and establishes criteria when a non-least-toxic option would be acceptable, which not only reduces threats to the environment but also to public health and safety.

To implement IPM, visual inspections are routinely conducted to determine whether pest populations are present and represent an infestation. Assessments are conducted by the use of monitoring devices placed in areas where pest activity has occurred in the past or is likely to occur. Recurring inspections are conducted at specified timeframes, such as monthly or quarterly, depending on the use of the building or area being inspected. Depending on the monitoring and inspection results, control strategies are implemented.

The Authority has also prepared a draft IPM plan as part of the LEED campus accreditation process. This will support design guidelines and early incorporation of IPM in new and redeveloped buildings to avoid and minimize pest populations before they can become established.

Drought-Tolerant and Native Plant Species

All Airport project construction documents contain a section for landscape architecture features that includes standards for plant material and irrigation. With respect to plant material, all plant species must be approved by the Airport's Facilities Management Department and conform to applicable Coastal Development Permit requirements. The standards also encourage the use of non-exotic plants that are readily available locally and meet the planting criteria. Specific criteria within the standards include using drought-tolerant plants that will survive if supplemental water is discontinued or becomes unavailable and selecting plants that are well suited to the Airport's site-specific environmental conditions, such as sun exposure, climate, annual precipitation, temperature extremes, soil type, recycled water quality, and wind (SDCRAA 2019b).

The Authority also requires that landscaping and irrigation systems follow and comply with the requirements of Title 23, Division 2, Chapter 2.7, Model Water Efficient Landscape Ordinance (MWELo) of the California Code of Regulations. MWELo mandates that new development and certain rehabilitated landscape projects reduce the amount of water used for landscape irrigation by encouraging the use of more efficient irrigation systems, graywater, and on-site storm water capture. The Authority also requires several other irrigation conditions above those contained in MWELo; for example, designing irrigation systems for automatic operation and centralized remote control capable of programming; scheduling; monitoring water use; preparing reports; and detecting, reacting to, and alerting maintenance personnel of system failures.

The Authority adheres to the landscape architecture design guidelines in Chapter 900 of the California Department of Transportation Highway Design Manual and incorporates applicable requirements into design and construction specifications. Chapter 900 includes guidance for plant selection and location as well as irrigation.

It is this type of detail and planning related to landscaping and irrigation that assists the Authority in meeting their sustainability goals, environmental commitments, and development permit requirements.

Eelgrass

Eelgrasses (*Zostera marina* and *Z. pacifica*) are highly productive temperate underwater flowering plant species that function as primary/secondary producers and provide several key ecological services, such as sediment stabilization and nutrient cycling facilitation, habitat structuring, substrate for epifauna, and spawning surfaces for invertebrates and commercially important fish. Eelgrass species also provide important recruiting and foraging areas to young fish and invertebrates, as well as food for migratory birds and sea turtles. In San Diego Bay, eelgrasses are common habitats found along the southern shallow section of the bay and the western gradual soft shorelines. It is estimated that the San Diego Bay eelgrass beds represent approximately 50% of the southern California eelgrass resources (Merkel 2018a). Other smaller beds are scattered throughout the more developed regions of the bay where shallows allow for appropriate light levels necessary to support eelgrass habitat. Eelgrass beds also exist at the mouth of the bay within the shallows outside of Ballast Point and along Zuniga Jetty on North Island.

The California Eelgrass Mitigation Policy (CEMP) and Implementing Guidelines published by the National Marine Fisheries Service (NMFS 2014) recommend a no net loss of eelgrass habitat function in California. Due to their ecological, physical, and economic significance, eelgrass beds warrant a strong protection strategy and have been designated essential fish habitat (EFH) areas of particular concern (defined as "areas where fisheries management identifies a need to conserve sensitive, rare habitats from anthropogenic activities such as fishing practices or

developmental stress”) for various federally-managed fish species (NPFMC 2010). As such, the CEMP recommends compensatory mitigation for the loss of existing eelgrass habitat function.

Eelgrass near the Airport is located along the shores of the Naval Training Center Channel (channel), formerly the San Diego River Channel, which is adjacent and west of the Airport (Merkel 2018a). Eelgrass also exists south of the Airport in areas between Harbor Island and Spanish Landing Park and areas west of the U.S. Coast Guard Sector San Diego (Merkel 2018a).

The Airport has 16 storm drain outfalls that release into the channel and the larger San Diego Bay (SDCRAA 2019c). Due to the Airport’s location and proximity of the outfalls to eelgrass, the Authority is required to meet NMFS requirements. When a project takes place within the channel and/or San Diego Bay, the Authority takes the appropriate steps to ensure compliance with Clean Water Act 401, 404, and eelgrass regulations as well as promote conservation. This begins with designing the project to avoid direct impacts and minimize indirect impacts to eelgrass. In many cases, conducting eelgrass surveys before and after project construction is required to comply with permit conditions set forth by NMFS. If required by NMFS, other permit conditions may include staking the eelgrass limits above and below the water prior to and during project construction and conducting subsequent post-construction surveys for up to five years after construction is complete. The Authority has completed surveys and implemented other minimization measures for recent projects in the channel (URS 2009; Merkel 2015).

Biodiversity at SAN

The habitat surrounding and within the Airport supports a limited number of biological resources as much of the area is extensively urban and developed. A majority of the land cover within the Airport is developed/paved or disturbed and contains no native vegetation. The largest swaths of unpaved surfaces are ovals designated for CLT nesting discussed above consist primarily of bare soil and gravel with dispersed patches of weeds and other grasses.

The Airport conducted a Wildlife Hazard Assessment from August 2014 through July 2015 and prepared a report documenting findings (SDCRAA 2015). The assessment consisted of bird surveys (both on- and off-site), large mammal spotlight surveys, a perimeter fence survey, and a review of the Airport’s wildlife strikes and current management practices. As detailed in the report, 525 wildlife strikes have been reported at the Airport between January 1990 and July 2015 with 23 of those strikes causing some degree of damage to aircraft. Approximately half of the strikes that occurred involved unidentified birds. Of the strikes involving identified birds (approximately 277 strikes), gulls accounted for the highest struck bird group likely due to the Airport’s proximity to San Diego Bay and the Pacific Ocean.¹

As echoed in the report, wildlife strike data provide the Airport with information about wildlife hazards, including daily and seasonal trends. As encouraged by the FAA, the Authority regularly reports strike data. This information is publicly available online and is important for the Authority to analyze as it assists in understanding which species are most commonly struck and offers solutions to mitigate hazards through the use of species-specific management activities. The Authority’s CLT Protection Program discussed above provides an added benefit of reducing the potential for strikes by implementing a variety of predator control measures such as lowering construction equipment of a certain height at the end of each work day and ensuring dumpsters and other containers that are nuisance attractants for gulls and corvids are covered when not in use.

The Airport also implements a Wildlife Hazard Management Plan that provides guidance for installing wildlife deterrents, nest removal, trapping, and removal of vegetation and standing water. As detailed in the Wildlife Hazard Management Plan, the Authority holds a depredation permit from the USFWS that authorizes the capture or kill of migratory birds for the purpose of ensuring safe aircraft operation, when deterrents such as hazing and habitat modification prove unsuccessful (SDCRAA 2016). Migratory birds that frequent the Airport are mostly limited to western gulls, American crows, horned larks, rock pigeons, and mourning doves. There 3 other special-status bird species, in addition to the CLT, are occasionally seen at the Airport: the American peregrine falcon

¹ A review of the FAA’s wildlife strike online database found that only four CLT strikes have been recorded since 1990 (FAA 2019).

(*Falco peregrinus anatum*) and the California brown pelican (*Pelecanus occidentalis californicus*) (SDCRAA 2018), and the burrowing owl (*Athene cunicularia*) The American peregrine falcon is fully protected by the California Fish and Game Code and the MBTA, and occasionally hunts the airfield. The California brown pelican is also fully protected by the California Fish and Game Code and the MBTA, and uses areas of San Diego Bay in close proximity to the Airport as foraging habitat. The burrowing owl has been also documented at the Airport and in the region. The burrowing owl is also fully protected by the California Fish and Game Code and the MBTA. None of these 3 birds, however, have been documented as breeding or nesting at the Airport.

To manage wildlife hazards associated with these birds, the Authority has adopted and implemented a successful program. The Authority has also prepared a Wildlife Rescue Plan to appropriately plan for and execute response related to injured and non-injured wildlife (SDCRAA 2019d). In addition, all dead or injured wildlife found on the airfield are documented in the wildlife strike database and all available documentation is forwarded to the FAA (SDCRAA 2016).

Education, Awareness, and Leadership

The Authority participates and holds several activities and events annually that educate staff, tenants, and the public on the Authority's biodiversity efforts. The Authority, specifically Planning & Environmental Affairs Department staff, routinely posts information related to CLT protection efforts on social media outlets, leads annual tours of CLT nesting sites, leads sustainability tours that includes CLT information, places sustainability and CLT informational signage throughout the Airport, and occasionally holds a kids' camp that highlights the CLT and other endangered species. The Authority also participates in the annual Creek to Bay cleanup event and the annual Coastal Cleanup Day. The Authority gives trainings to different Airport departments regarding wildlife rescue, CLT status and preservation, and IPM. To conduct these internal and external outreach events, the Authority teams with local partners such as the San Diego Zoo Institute for Conservation Research, San Diego Natural History Museum, USFWS, I Love a Clean San Diego, Wildcoast, Coast Keepers, YMCA, U.S. Navy, Port of San Diego, and other Airport tenants (Merlos 2019).

Regional Biodiversity Studies

San Diego County is known for its plant and animal diversity as well as the number of species that are considered rare or endangered (San Diego County n.d.). Due to population growth coupled with military, technological, and tourism industries, biodiversity is a key topic for San Diego County. Below are important considerations for biodiversity within the region.

The U.S. Department of Agriculture prepared a guiding document "Planning for Biodiversity: Bringing Research and Management Together" which was the result of a symposium for the south coast ecoregion (USDA 2000). The document highlights 14 technical papers on a variety of biodiversity topics that were presented at the symposium. Technical paper of interest to the Airport which will be considered in the Biodiversity Plan include "Assessing Estuarine Biota in Southern California" and "Up, Down, or Stable: Populations of Endangered Birds in Beach and Estuarine Areas in Southern California."

CDFW implements a Natural Community Conservation Plan (NCCP) program that looks at an ecosystem-wide approach to planning for biodiversity and includes a variety of private and public partners. An NCCP identifies and provides for regional protection of species and their habitats in consideration of economic activity and development (CDFW 2018). There are currently 14 approved NCCPs and over 20 NCCPs in different stages of planning, covering more than 7 million acres and providing conservation for about 400 species. San Diego County has an approved Multiple Species Conservation Program (MSCP) under the NCCP program for south San Diego County and is currently in the planning phase for east and north San Diego County plans. There are also several approved MSCP subarea plans for the cities of Carlsbad, Chula Vista, La Mesa, Poway, and San Diego, and several other subarea plans currently in the planning phase (Encinitas, Escondido, Oceanside, San Marcos, Coronado, Del Mar, El Cajon, Santee, and the Otay Water District). San Diego Gas & Electric and the San Diego County Water Authority also have approved plans.

San Diego State University has also conducted a variety of research related to biodiversity, including studying biodiversity relative to wildfire recovery. SDSU's San Diego Wildfires Education Project promotes environmental

stewardship by increasing knowledge about environmental fire damage and recovery to help school-aged children develop skills to make informed decisions on resolutions. SDSU's project resources have been incorporated into local elementary and middle school curriculums (SDSU 2009).

CLT conservation is a regional and state-wide effort and the Authority shares information and participates in studies and surveys. CDFW prepares annual reports regarding the status of CLT at nesting sites across the state, including the San Diego International Airport.

In 2017, the U.S. Navy Region Southwest Naval Facilities Engineering Command (U.S. Navy) and the Port prepared an eelgrass inventory for the entire San Diego Bay (Merkel 2018a). These surveys are a tool for tracking ecological and water quality conditions, detecting trends or patterns derived from human/urban influences or climatic changes, and for natural resource and development planning. The U.S. Navy and the Port plan to continue baywide eelgrass surveys every five years as memorialized in the San Diego Bay Integrated Natural Resource Management Plan (INRMP).

Additionally, as discussed in the San Diego Bay INRMP, the Naval Training Center Channel is identified as an area of enhancement/restoration potential (Navy and Port 2013). The opportunity for the channel revolves around softening the shoreline and providing beneficial shoreline structures, improving the wetland-upland transition, and considering vegetated swales for storm water runoff filtration.

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Appendix B: Authority Biodiversity-Related Guidelines

Guideline for Standard Lease/Use Permit Language regarding Integrated Pest Management

Effective date: **July 1, 2019**

A) Purpose

The Authority is responsible for controlling the potential negative impacts of pest on the health and safety of the visiting and traveling public, our tenants, and staff. The Authority must also control the potential detrimental impacts of pest on building materials, furnishings, and other infrastructure. The Authority has established and implemented an integrated pest management (or IPM) program to limit and control the variety of pests and their populations at Authority-owned real property. The IPM approach identifies the conditions that promote or support pest (food, water, and harborage) so that these conditions can be eliminated or suppressed. The IPM approach uses education, inspection, sanitation, habitat modification, and exclusion, as the primary means of eliminating pests, so that the use of pesticides is minimal. This program is a principle component of the Authority's efforts for preventing and managing pests, such as rodents, ants, flies, and bees at the airport and at off-airport Authority-owned facilities, including tenant and concession spaces.

B) Scope

This guideline applies to all leases and use permits and similar agreements allowing for use of Authority-owned real property.

C) Goals

1. Incorporate IPM techniques to control pest populations in a manner that promotes environmental stewardship and public health and safety while maintaining Airport operations.
2. Reduce the use of toxic chemicals in controlling pests.

D) Roles and Responsibilities

1. Department issuing lease, permit, or agreement for use of Authority-owned real property.
Incorporates standard language in Section E into lease, permit, or agreement.
2. Planning and Environmental Affairs
Annually reviews the guideline. Updates the guideline as necessary in consultation with General Counsel.
3. General Counsel
Consults with Planning and Environmental Affairs in response to inquiry from Planning and Environmental Affairs or others. Advises Planning and Environmental Affairs on need to update the guideline and/or standard language.

E) Standard Language

Pest Control and Housekeeping. Tenant shall use good housekeeping to prevent the attraction and harborage of pests on the Premises. Tenant acknowledges that Authority has established and implemented an integrated pest management (IPM) program to eliminate and control pests or the damage they can cause through a combination of cultural practices, mechanical and physical controls, biological controls, and chemical controls such that pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made with the goal of removing only the target organism. Tenant agrees to allow access rights to Authority or Authority's pest control contractor within the Premises for inspection and recommendations of housekeeping standards and mitigation of pests. Tenant shall be provided twenty-four (24) hour advanced notice prior to the Authority or pest control contractor accessing Premises, unless it is an emergency as determined by Authority in its sole discretion, in which case no advance notice will be required by Authority to Tenant. In the event of emergency access, Authority will provide Tenant notice within three (3) days after such access. Tenant shall reimburse Authority for costs resulting from the IPM program based on the proportionate share of Tenant's leased square footage and any direct cost for the Premises or operations. Tenant's late payment shall be subject to the same delinquency provisions identified in Section AA.bb. Authority may assess additional fees and charges for repeated violations and failures to maintain the Premises in a manner that prevents the attraction or harborage of pests. Further, Authority reserves the right to discontinue the IPM program at the Airport or at the Premises. If Authority exercises this right, Tenant shall implement an integrated pest management program of its own. Failure to comply with this Section may be considered a material breach of this Agreement.

F) Notes

The standard language in Section E above may be modified, as appropriate and reasonable, based on consultation with and approval by the Planning & Environmental Affairs Department and General Counsel.

Guideline for Integrated Pest Management at Authority-owned Real Properties

Effective date: **July 1, 2019**

A) Purpose

Integrated Pest Management (IPM) is a comprehensive strategy that focuses on long-term prevention of pests. An IPM program reduces the impacts of pests on human health and on building maintenance by incorporating non-chemical control options and minimizing the use of pesticides. Pesticides are to be used only when other lower risk control methods have not been effective and monitoring indicates they are needed according to established guidelines. Pest control measures and materials are selected and applied in a manner that minimizes risk to human health, beneficial and non-targeted organisms, and the environment.

B) Scope

This plan applies to all interior spaces in the buildings and all portions of the site and grounds for Airport property. This plan will be consulted prior to taking action on pest management in the buildings or on the grounds. Pests include insects and other invertebrates, animals or plants that are detrimental to the property, a nuisance to building occupants or visitors, a public health hazard, or unwanted on the grounds for other reasons.

Due to the unique nature of the airport facility and the specific challenges that "pests" present at an airport, IPM must be tailored to ensure that safety and public health priorities are considered along with environmental factors. The Integrated Pest Management (IPM) plan is designed to guide the use of environmentally sensitive pest management strategies and least-toxic control methods to enhance the health and safety of airport users and protect the environment.

C) Goals

Operational element	Goal	Performance measurement unit
Cases that do not warrant emergency treatment	Prior to applying chemical pesticides, alternative pest control methods will be used in 100% of cases	Number or percentage of cases (based on inspection numbers) where no pesticide used
Cases that do not warrant emergency treatment	If alternative methods fail, least-toxic pesticides will be used prior to resorting to the use of non-least toxic pesticides or baits in 100% of cases	Number or percentage of cases
Occupant notification	In 100% of non-least toxic pesticide applications, occupants will receive notification according to the notification procedures described below	Number of notifications

D) Roles and Responsibilities

Integrated Pest Management Team

Name/Title	Responsibilities
Overall responsible party: SDCRAA – Senior Environmental Specialist	1. Ensuring that this plan is executed 2. Ensuring that the contracted IPM contractor is fully trained on this plan and adheres to the plan procedures 3. Coordinating site visits by the contractor for regular inspections and as needed for implementation of pest controls 4. Overseeing work performed by the contractor 5. Approving the use of pesticides when they are necessary 6. Ensuring tenant contracts are aware of the procedures in this plan 7. Evaluating performance and making updates to the plan as necessary
Pest control contractor (or Dedicated Authority staff person)	1. Adhering to the procedures outlined in this plan as supplemented by approved contractor-specific IPM work plan. 2. Identifying pests during site visits and inspections 3. Reporting the results of site visits and inspections to tenants and the overall responsible party 4. Notifying the overall responsible party when pest action thresholds are reached or exceeded 5. Obtaining approval from the overall responsible party for use of non-least toxic pesticides when necessary 6. Providing proper notification to occupants when non-least toxic pesticides are applied
Tenant contacts	1. Ensuring best practices for sanitation in their facilities is conducted 2. Reporting pest issues in respective tenant spaces to the overall responsible party and/or pest control contractor 3. Reporting any observed building defects that may contribute to pest access to responsible party

The pest control contractor is responsible for adhering to the procedures outlined in this plan and reporting the results of site inspections to the Airport contact. If at any time integrated and alternative pest control methods fail and non-least toxic chemical pesticides are necessary, the pest control contractor must notify the Airport contact prior to using the chemical pesticides, and wait for approval prior to applying the pesticides.

Each tenant in the building has the designated contact information for communications regarding pest control. The tenants are responsible for reporting pest issues in their space to the pest control contractor and/or Airport contact. When the use of non-least toxic pesticides is necessary, the pest control contractor will notify the tenant contacts, and the tenant contacts are then responsible for notifying the occupants in their space.

E) Standard Operating Procedures and Implementation Strategies

1. Pest Control Strategies

The building interior and exterior will be routinely inspected for the presence of pests and preventive measures will be taken to avoid pests. If any pests are detected, additional monitoring will be conducted and integrated (nonchemical) methods will be implemented as the first control step, including sanitation measures, exclusion measures, and the use of traps.

- » **Sanitation:** Potential food and water sources available to pests will be evaluated and minimized or eliminated. This can be done by thoroughly cleaning and maintaining food service areas, break rooms and waste collection areas, fixing leaking pipes and faucets, and altering landscape features to eliminate standing water.
- » **Exclusion:** Cracks, crevices, and holes in the building envelope will be sealed. A plant-free zone will be maintained immediately adjacent to buildings.
- » **Traps:** For insects and rodents, non-chemical baits will be used to trap pests.

If integrated pest control measures are unable to resolve the problem, least toxic pesticides will be used prior to resorting to the use of non-least toxic pesticides. Least toxic pesticides include any pesticide product for which all active ingredients and known inert ingredients meet the least toxic Tier III hazard criteria under the San Francisco Hazard Review Process (<http://sfenvironment.org/article/residents/leasttoxic-pesticides-for-green-buildings>).

No chemical baits for rodents will be used indoors. If chemical rodent baits are necessary outdoors, they will only be used as solid blocks placed in locked outdoor dispensers. The need for and quantity of bait stations will be evaluated at least twice yearly with a goal to reduce the amount of chemical bait used for rodent control, while still maintaining effective rodent control (as measured by observations of rodent activity in bait stations and reports of rodent sightings).

Products that are not regulated as pesticides by the EPA because they primarily contain low-risk ingredients, such as garlic oil, may also be considered least toxic options, even if they are not listed as Tier 3 by San Francisco. Non-rodent pesticides that exceed the Tier 3 criteria are considered least toxic if they are used in self-contained baits and placed in locations that are inaccessible to occupants. Rodent baits are not considered least toxic under any circumstances.

Non-least toxic pesticides include all chemical rodent baits and any product that meets the Tier 1 or 2 criteria according to the San Francisco Hazard Review Process. Non-least toxic pesticides may only be used under the following circumstances:

- 1) Alternative, integrated, and least toxic pest control measures have been exhausted (or shown not to be effective) and the pest action threshold is still exceeded
 - a. In this situation, notification (according to the procedures below) must be given to building occupants at least 24 hours before the pesticide is applied to the building or grounds
- 2) The emergency action threshold has been exceeded
 - a. In this situation, notification (according to the procedures below) must be given to building occupants no more than 24 hours after the pesticide is applied to the building or grounds

Non-least toxic pesticides will not be continuously applied in the building and on the site. Integrated and alternative pest control measures will be resumed once the action threshold specified for the applicable pest is no longer exceeded.

General preventative practices include housekeeping and landscaping procedures that eliminate sources of food, water and shelter that attract pests to the airport grounds and interior. All construction and landscaping projects will be designed and constructed to incorporate structural IPM controls to prevent attraction and harborage of pests. The Airport will use the following methods as the first and primary means for controlling pests and preventing infestations:

» **Landscaping**

- Use of mulch and other landscaping best practices to promote soil and plant health
- Use weed-free soil amendments where needed
- Maintain and plan landscape features to eliminate harborage for pests and rodents
- Remove plant debris timely
- Remove invasive plants that are known to harbor or provide food for pests
- Ensure irrigation is in good repair to prevent pooling of water

» **Building Infrastructure**

- Plan new construction projects to ensure building envelope is sealed
- Maintain building exclusion by ensuring weather-stripping around windows and doors is installed and in good condition, installing door sweeps on exterior doors, installing screens or other barriers where applicable and sealing cracks to prevent pest entry
- Working with tenants and building occupants to eliminate water sources by fixing leaky pipes, cleaning out drains and preventing water from pooling
- Manage trash receptacles and dumpster areas to minimize food sources and harborage

2. Pesticide Application Notification

When non-least toxic pesticides are to be used, the tenant contacts are notified via email of the pesticide application, including the pesticide name, the EPA registration number, reason for the application, the treatment location, and the date/time of the application. The tenant contacts are then responsible for distributing the notification to the occupants in their space. In addition, the overall responsible party will post a sign at the application site, such that an occupant reading the sign can choose to avoid the application area (for example, if the pesticide is applied in a break room, all entrances to the break room shall have a sign posted). The sign will also include the pesticide name, the EPA registration number, the treatment location, and the date/time of the application.

3. Tenant Communication Plan

If pests are observed in a tenant space, it is the responsibility of the tenant to notify the overall responsible party of the pest via email or phone call. Within one business day, the overall responsible party will contact the pest control contractor to inspect the situation and determine whether the regular action threshold or the emergency action threshold has been met. The pest control contractor will then take the appropriate actions.

Following the investigation, the responsible party will provide follow up information to the tenant regarding actions taken and recommendations on prevention of future pest activities including housekeeping and exclusion needs.

4. Action thresholds

Regular treatment includes the use of first non-chemical controls (sanitation, exclusion, traps using non-chemical baits), followed by the use of least-toxic control methods if the situation is not resolved, and then non-least toxic control methods if the situation is still not resolved.

Emergency treatment may include the use of the most effective control method as a first step, which may be non-least toxic.

Pest	Action Threshold
Ants (common)	Offices and other public areas: 5 ants/room; kitchen/food and beverage: 3 ants/room; maintenance, baggage handling and storage areas: 5 ants/100 square feet in two successive monitoring periods; outside grounds: 2 field ant mounds/square yard.
Ants (carpenter or Fire)	Offices, public areas, maintenance areas: 3 ants/room; kitchen/food and beverage: 2 ants/room; immediate action if ant colony suspected inside or within 25 feet of any building.
Bees (Honey)	Offices, kitchen/food and beverage and public areas (inside): 1 bee; maintenance and baggage handling areas: 3 bees; outdoors: no action unless people are threatened.
Wasps/Hornets/Bees (Africanized-like behavior)	Offices and other public areas: 1: outdoors: action necessary if nests are present in or near traveling public or employee area.
Cockroaches	Offices and other public areas: 2 cockroaches/room. Kitchen/food and beverage: 1 cockroach/room; maintenance areas: 5 cockroaches/room; outside grounds: no action unless noticeable infestation.
Crickets	Offices and other public areas: 3 crickets/room; kitchen/food and beverage: 2 crickets/room; maintenance areas: 10 crickets/room; outside grounds: no action unless causing problems.
Grain and Flour/Pantry Pests	Found in food for human consumption: 1/package or container; if found in package pheromone traps; 2 of any one species (total of all traps).
Flies	Offices and other public areas: 3 flies/room; kitchen/food and beverage: 1 fly/room; maintenance areas: 5 flies/room; outside grounds: 5 flies around any one trash can or 10 flies around a dumpster.
Rodents	Indoors: any rodent sighting or evidence of rodents (such as new fecal droppings, tracks, etc.) triggers pest management action; outdoors: any noticeable burrows or activity in planter areas. Emergency treatment may be used if the presence of rats or mice is confirmed in two or more different spaces within a building.
Other pests	If the pests pose a threat to occupants' health or if there are three or more reported cases or complaints of nuisance insects within a two day period, emergency treatment may be sought. Otherwise, regular treatment will be performed.
Bed bugs	Emergency treatment may be used if the presence of bed bugs is confirmed in a building.

F) Performance measurement and schedule for reassessment

All pest control activity, including inspections, is recorded in the IPM tracking tool. The following items are tracked:

- Inspection date and location
- Pests or pest evidence observed
- Sanitation issues
- Prevention measures implemented
- Product applied (name & quantity)
- Date and time of product application (if applicable)
- Date and time of occupant notification (if applicable)
- Emergency or preventive application? If emergency, an explanation of the emergency will be included.

The overall responsible party will record each incidence of pest activity that is reported by tenants or airport staff. The pest control contractor will record the applicable items from each site visit in the IPM tracking tool.

On an annual basis, performance will be evaluated against the goals specified above. If the goals are not being met adjustments will be made to this plan in order to facilitate goal achievement. If adjustments to the action thresholds are necessary, the overall responsible party will work with tenant contacts and the IPM contractor as necessary in order to appropriately adjust the action thresholds.

G) Quality Assurance/Quality Control Processes

On an annual basis, the overall responsible party will evaluate performance against the goals specified earlier in this plan. If the goals are not being met, adjustments will be made to this plan in order to facilitate goal achievement, and the pest contractor and tenant contacts will be educated on the adjustments made to the plan.

H) Notes

None.

Guideline for Construction Activities Near the Airfield California Least Tern Nesting Habitat

Effective date: **July 1, 2019**

A) Purpose

As part of the project approval process for SAN Lindbergh Field improvements, as outlined in the Final Environmental Impact Report (EIR SCH#89010009) dated December of 1992, the San Diego Unified Port District (now the San Diego County Regional Airport Authority – Authority) and the Federal Aviation Administration (FAA) agreed to certain measures to protect the endangered California least tern known to at San Diego International Airport (the airport or SDIA). Those measures were outline by the Unites States Fish and Wildlife Service (USFWS) in a 1993 Biologic Opinion. The Authority is responsible for implementation of: (1) the applicable measures specified in the 1993 Biological Opinion (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. This guideline has been developed to outline the requirements described therein.

B) Scope

This guideline applies to all construction activities at San Diego International Airport (SAN) that occur within 1,200 feet of the California Least Tern Nesting Habitat. Construction activities include but are not limited to: 1) potholing, excavating, grading, paving any surface; 2) erecting any structure, fence, pole, or appurtenance; 3) repair or replacement of any underground utility, paved surface, or above ground structure, fence, pole, or appurtenance.

C) Goals

1. Incorporate CA Least Tern protection measures into construction activities within 1,200 feet of the CA Least Tern Nesting Habitat.

D) Roles and Responsibilities

1. Department executing or contracting for the execution of construction activities within 1,200 feet of the California Least Tern Nesting Habitat.

Incorporates standard language in Section E into project plans, specifications, contracts, and approvals.

Ensures that procedures and conditions are met.

2. Planning and Environmental Affairs

Oversees implementation of procedures and conditions.

Provides services of a least tern biologist as needed.

Annually reviews the project specification language and implementation guidance with those departments executing or contracting for construction activities at SAN. Updates the specification language and guidance as necessary in consultation with those departments.

Annually reviews the guideline. Updates the guideline as necessary in consultation with General Counsel.

3. General Counsel

Consults with Planning and Environmental Affairs in response to inquiry from Planning and Environmental Affairs or others. Advises Planning and Environmental Affairs on need to update the guideline.

E) Standard Language

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.

F) Notes

The standard language in Section E above may be modified, as appropriate and reasonable, based on consultation with and approval by the Planning & Environmental Affairs Department and General Counsel.

