

FINAL NESTING BIRD SURVEY REPORT

MARINA DEL REY

LOS ANGELES COUNTY, CALIFORNIA

Prepared For: **Department of Beaches and Harbors**

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1.0 INTRODUCTION

Environmental Intelligence, LLC (EI) was retained by the Los Angeles County Department of Beaches and Harbors (DBH) to conduct a colonial waterbird and raptor nest survey within the unincorporated community of Marina del Rey, Los Angeles County, California. The nest survey is an annual requirement in accordance with Tree Management Policies No. 23 and 34 from the Marina del Rey Land Use Plan (LUP; County of Los Angeles Department of Regional Planning 2012). This report provides colonial waterbird and raptor species background information, nest survey methodology and results, a discussion of colony trends, and recommendations on easing potential conflicts between humans and birds.

1.1 Project Location and Description

Marina del Rey is an unincorporated community in Los Angeles County, bound by development to the north, Ballona Wetlands Ecological Reserve to the east and south, and development and Venice City Beach to the west (Appendix A: Exhibit 1). The 804-acre community includes 401 acres of developed land and 403 acres of water, of which 292 acres of land and 148 acres of water are leased to the private sector. Numerous non-native trees line the streets, medians, and pedestrian pathways of Marina del Rey; species include *Erythrina caffra*, *Eucalyptus globulus*, *Ficus elastica*, *Ficus rubiginosa*, *Melaleuca quinquenervia*, and *Washingtonia robusta*. Several areas within Marina del Rey have been or will be restored: Oxford Retention Basin (10.27 acres of open water/marsh habitat); Proposed Wetland Park (1.46 acres of tidally influenced saltmarsh habitat at Parcel 9); and the margin of Ballona Wetlands Ecological Reserve Area A (non-native tree/shrub removal).

1.2 Purpose and Need

The purpose of the annual nesting bird survey is to comply with Tree Management Policies No. 23 and 34 of the 2012 Marina del Rey LUP, which are based on recommendations from the Conservation and Management Plan for Marina del Rey (Hamilton Biological, Inc. 2010). Tree Management Policies No. 23 and 34 propose to establish guidelines within Marina del Rey for the pruning and removal of trees in accordance with the federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (FGC), and to ensure the long-term protection of breeding, roosting, and nesting habitats of federal and state-listed species, California Species of Special Concern, and colonial waterbirds. The Policies also provide County staff with guidelines and procedures for tree pruning and/or tree removal within Marina del Rey in consideration of the colonial waterbird species and raptor species and the desire to reduce or eliminate impacts to their nesting habitats.

2.0 REGULATORY SETTING

2.1 Federal

2.1.1 MIGRATORY BIRD TREATY ACT

The protection of birds is regulated by the Migratory Bird Treaty Act (MBTA). Any activity, intentional or unintentional, resulting in take of migratory birds is prohibited unless otherwise permitted by the USFWS (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668[a]). The MBTA makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to federal regulations. The migratory bird species protected by the MBTA are listed in 50 CFR 10.13.



2.2 State

2.2.1 CALIFORNIA ENDANGERED SPECIES ACT

The California Endangered Species Act (CESA) states that all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation, will be protected or preserved. CESA prohibits the take (defined as to hunt, pursue, catch, capture, or kill) of any species of wildlife designated by the California Fish and Game Commission as endangered, threatened, or candidate species. The California Department of Fish and Wildlife (CDFW) works with all interested persons, agencies and organizations to protect and preserve such sensitive resources and their habitats. CDFW may authorize the take of any such species if certain conditions are met.

2.2.2 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE SPECIAL ANIMALS

CDFW maintains a list of Special Animals, which refers to all the animal taxa tracked by the CDFW California Natural Diversity Database (CNDDB), regardless of their legal or protection status. This list is also referred to as the list of "species at risk" or "special-status species." Species of Special Concern (SSC) is a designation applied to species with declining population levels, limited ranges, and/or continuing threats causing them to be vulnerable to extinction. The goal of designating species as SSC is to halt or reverse their decline by calling attention to their plight and addressing the issues of concern early enough to secure their long-term viability. Watch List species consist of taxa that were previously designated as SSC but no longer merit that status, or which do not yet meet SSC criteria, but for which there is concern and a need for additional information to clarify status.

2.2.3 CALIFORNIA FISH AND GAME CODE

California Fish and Game Code (FGC) Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the Code or any associated regulation. Section 3503.5 makes it unlawful to take, possess, or destroy birds of prey or their nests or eggs.

2.3 Local

2.3.1 Los Angeles County

The 2012 Marina del Rey LUP indicates the kind, location, and intensity of land uses; the applicable resource protection and development policies; and a listing of implementing actions. The LUP provides direction for development while conserving natural resources.

3.0 EXISTING CONDITIONS

Marina del Rey has been separated into ten potential nesting areas (Appendix A: Exhibit 2). A description of each area is provided below.

3.1 Admiralty Way

Admiralty Way runs in a general east-west direction along the northern edge of Marina del Rey. The western portion dead ends into Via Marina and includes Marina Beach, Oxford Retention Basin, and the Marina City Club. The central portion includes Yvonne B. Burke Park, Marvin Braude Bike Path, hotels, and restaurants. The eastern portion dead ends into Fiji Way and includes commercial buildings and ongoing construction. Suitable nesting/roosting trees line the central portion of Admiralty Way. Prior to 2018, historic nesting by colonial waterbirds and peregrine falcons (on Ritz-Carlton hotel) has occurred in this area.



3.2 Palawan Way

Palawan Way runs north of Marina Beach and provides access to Wayfarer Apartments and Basins D and E. Suitable nesting/roosting trees line Palawan Way and are incorporated into the Wayfarer Apartments landscape. Prior to 2018, no historic nesting by colonial waterbirds or raptors has been documented in this area.

3.3 Panay Way

Panay Way runs south of Marina Beach and provides access to numerous residential complexes and Basins C and D. Suitable nesting/roosting trees line Panay Way. Prior to 2018, no historic nesting by colonial waterbirds or raptors has been documented in this area.

3.4 Marquesas Way

Marquesas Way provides access to numerous residential complexes and Basins B and C. Active construction is currently occurring on the south side of the western half of Marquesas Way. Suitable nesting/roosting trees line Marquesas Way. Prior to 2018, historic nesting by colonial waterbirds has occurred in this area.

3.5 Tahiti Way

Tahiti Way provides access to numerous residential complexes and Basins A and B. The 1.46-acre Proposed Wetland Park is located on the northeast corner of Tahiti Way and Via Marina. Few suitable nesting/roosting trees are located on Tahiti Way; most of the trees are palms. Prior to 2018, no historic nesting by colonial waterbirds or raptors has been documented in this area.

3.6 Bora Bora Way

Bora Bora Way provides access to numerous residential complexes and Basin A. Suitable nesting/roosting trees are incorporated into the residential complexes' landscape. Prior to 2018, historic nesting by colonial waterbirds has occurred in this area.

3.7 Mariner's Village

Mariner's Village is a large residential complex located in the southwest corner of Marina del Rey. Suitable nesting/roosting trees are incorporated into the Mariner's Village's landscape. Prior to 2018, historic nesting by colonial waterbirds has occurred in this area.

3.8 Bali Way

Bali Way provides access to the Marina del Rey Hotel and Basins F and G. Suitable nesting/roosting trees line Bali Way. Prior to 2018, no historic nesting by colonial waterbirds or raptors has been documented in this area.

3.9 Mindanao Way

Mindanao Way provides access to Burton Chace Park and Basins G and H. Suitable nesting/roosting trees line Mindanao Way and are incorporated into the Park's landscape. Prior to 2018, historic nesting by colonial waterbirds has occurred in this area.

3.10 Fiji Way

Fiji Way runs from the northeast corner to the southeast corner of Marina del Rey, providing access to boatyards, commercial areas, the DBH Headquarters, and the Breakwater Apartment Community. The Ballona Wetlands Ecological Reserve Area A is located adjacent to Fiji Way to the south and east. Prior to 2018, historic nesting by colonial waterbirds has occurred in this area.



4.0 TARGET SPECIES

4.1 Colonial Waterbirds

The 2012 Marina del Rey LUP defines colonial waterbirds as the following five species: double-crested cormorant (*Phalacrocorax auritus*), great blue heron (*Ardea herodias*), great egret (*Ardea alba*), snowy egret (*Egretta thula*), and black-crowned night-heron (*Nycticorax nycticorax*). These species have likely been nesting in Marina del Rey since the mid-1990s (Hamilton Biological, Inc. 2010).

4.1.1 DOUBLE-CRESTED CORMORANT (PHALACROCORAX AURITUS)

Nesting colonies of double-crested cormorants are on the CDFW Watch List. Double-crested cormorants occur in a variety of aquatic habitats, including ponds, lakes, artificial impoundments, slow-moving rivers, lagoons, estuaries, and open coastlines. Colonies are established at sites safe from ground predators and close to feeding areas (typically less than 6 miles away and within 1.5 miles of shore). When nesting (or roosting) in trees, the trees are usually standing in or near water, on islands, in swamps, or at tree-lined lakes; nesting activity often kills the trees within 3 to 10 years (Dorr et al. 2014).

4.1.2 Great Blue Heron (Ardea Herodias)

Great blue herons occur in marine and fresh water habitats. Colony sites, located in habitats from pristine wetlands and woodlands to highly developed areas such as urban centers, are typically located between 1.5 to 4 miles from their primary foraging location. They usually nest near water in trees, bushes, on the ground, and on artificial structures. Nests located in trees can be up to 100 feet or more above ground and can be found with other species of herons and waterbirds (Vennesland and Butler 2011).

4.1.3 Great Egret (Ardea Alba)

Great egrets nest in colonies with other great egrets or other waterbirds. Colony sites are located in lakes, ponds, marshes, estuaries, human-made impoundments, and on natural and dredge-material islands. Their nests are usually located on or near the top of trees or woody vegetation, and occasionally on the ground or on artificial nest platforms. Great egrets feed in a wide variety of wetland habitats, including marshes, swamps, streams, rivers, ponds, lakes, impoundments, lagoons, tidal flats, canals, ditches, and fish-rearing ponds (McCrimmon Jr. et al. 2011).

4.1.4 Snowy Egret (*Egretta Thula*)

Snowy egrets nest in mixed-species colonies. Colony sites are typically located in irrigation channels, estuarine habitats, marshes, and river courses. Their nests are typically placed on stable branches away from the trunk. Snowy egrets prefer to forage in relatively shallow water in saltmarsh pools, tidal channels/flats, freshwater marshes/swamps, ocean inlets, and lake margins (Parsons and Master 2000).

4.1.5 BLACK-CROWNED NIGHT-HERON (NYCTICORAX NYCTICORAX)

Black-crowned night-herons are known to nest in non-native trees with other colonial waterbirds. Nests in trees have variable locations; they can be near the trunk or in distal forks of branches, in the open, or deep in foliage. They nest in areas that provide good cover with nearby freshwater, saltwater, or brackish foraging areas. Their preferred foraging habitat includes swamps, streams, rivers, margins of pools, ponds, lakes, lagoons, tidal mudflats, salt marsh, freshwater marshes, man-made ditches, canals, ponds, reservoirs, and wet agricultural fields. While some black-



crowned night-herons are known to return to their natal colony to breed, others have been known to disperse to new breeding grounds (Hothem et al. 2010).

4.2 Raptors

Some raptor species are tolerant to disturbance and are able to adapt to urban landscapes, nesting in trees, on transmission poles/towers, and on ledges of buildings. The following accipiters and falcons have the potential to occur and nest in and around Marina del Rey:

- osprey (*Pandion haliaetus*)
- white-tailed kite (*Elanus leucurus*)
- northern harrier (*Circus hudsonius*)
- Cooper's hawk (Accipiter cooperii)
- red-shouldered hawk (*Buteo lineatus*)
- red-tailed hawk (Buteo jamaicensis)
- barn owl (*Tyto alba*)
- American kestrel (Falco sparverius)
- peregrine falcon (Falco peregrinus)

4.3 Passerines

Although colonial waterbirds and raptors were the focus of the nesting bird survey, incidental observations of other nesting birds were recorded during the survey. Many passerine species are adapted to nesting in urban landscapes. The following native species, although not a comprehensive list, have the potential to occur and nest in and around Marina del Rey:

- mourning dove (*Zenaida macroura*)
- Anna's hummingbird (*Calypte anna*)
- Cassin's kingbird (*Tyrannus vociferans*)
- black phoebe (Sayornis nigricans)
- American crow (*Corvus brachyrhynchos*)
- barn swallow (*Hirundo rustica*)
- bushtit (*Psaltriparus minimus*)
- house wren (*Troglodytes aedon*)
- northern mockingbird (Mimus polyglottos)
- house finch (Haemorhous mexicanus)
- lesser goldfinch (*Spinus psaltria*)

5.0 METHODOLOGY

EI Qualified Avian Biologists Matt Amalong, Curtis Marantz, and Sean Wolfe conducted nesting bird surveys, focusing on colonial waterbirds and raptors and in accordance with the annual nesting bird survey requirements of the 2012 Marina del Rey LUP, on June 7, June 11, and July 10, 2018 (Table 1).



TABLE 1. SURVEY DATA

Date (2018)	Time	Avian Biologists*	Weather Conditions
June 7	0700-1430	MA, SW	62-69°F, mostly cloudy, winds 0-10 mph
June 11	0700-1430	MA, SW	65-75°F, partly cloudy, winds 0-10 mph
July 10	0700-1430	CM, SW	73-82°F, mostly cloudy, winds 0-10 mph

^{*}Avian Biologists: MA = Matt Amalong; CM = Curtis Marantz; SW = Sean Wolfe

The Avian Biologists conducted pedestrian surveys throughout all accessible areas of Marina del Rey, recording colonial waterbird and raptor nests (active and inactive) and colonial waterbird roost locations (identified by whitewash on vegetation and ground) using Collector for ArcGIS (3-meter accuracy). Historic nest locations were checked during surveys. Passerine nests incidentally identified during the surveys were also recorded. Active nests are defined as (1) nests with adults and/or young observed in the nest; or (2) adults and/or young observed near the nest, and the nest appears to have been used in 2018 (whitewash, feathers, and/or fresh nesting material present). Inactive nests are defined as nests without adults and/or young in or near the nest, and the nest does not appear to have been used in 2018.

6.0 RESULTS

The 2018 survey was initiated in early June; nesting/hatching that occurred in prior months was not observed or recorded. During the first survey, the majority of colonial waterbird nests already contained hatched chicks, and many chicks had already left the nest (not clearly associated with a specific nest). EI identified 117 colonial waterbird nests (113 active, 4 inactive) during the 2018 nesting bird surveys. Table 2 presents the colonial waterbird nest numbers by species and location. Exhibit 2 (Appendix A) displays all the nest locations by area and includes historic nest data (most recent year active). Appendix B contains the nest data table showing the nesting history by species from 2009-2018 for each nesting area location and tree number. Appendix C presents site photographs from 2018 surveys. Appendix D lists all avian species identified during 2018 surveys.

TABLE 2. COLONIAL WATERBIRD NESTS (2018)

Species²

	Species ²										
Location ¹	GBHE	Large Unknown	BCNH	SNEG	Small Unknown	DCCO	Total				
Marquesas Way	0	0	41	33	0	0	74				
Tahiti Way	0	0	0	0	1*	0	1*				
Mariner's Village	13+1*	1*	1*	0	0	25	38+3*				
Mindanao Way	0	0	0	0	0	1	1				
Total	13+1*	1*	41+1*	33	1*	26	113+4*				

¹ No colonial waterbird nests present in Admiralty Way, Palawan Way, Panay Way, Bora Bora Way, Bali Way, and Fiji Way

6.1 Admiralty Way

No colonial waterbird nests were observed in the Admiralty Way nesting area in 2018. The peregrine falcons that nested in 2014-2016 were not observed. A juvenile Cooper's hawk was



² GBHE = great blue heron; Large Unknown = great blue heron or great egret; BCNH = black-crowned night-heron; SNEG = snowy egret; Small Unknown = black-crowned night-heron or snowy egret; DCCO = double-crested cormorant

^{*} Indicates inactive nest

observed in a *Eucalyptus* tree near a presumed Cooper's hawk nest located at the east edge of the Oxford Retention Basin (Appendix A: Exhibit 2A). Incidental passerine nests observed during surveys included 14 American crow nests (all inactive), most of which were located in *Eucalyptus* trees north of the Marvin Braude bike path (Appendix A: Exhibit 2H).

6.2 Palawan Way

No colonial waterbird or raptor nests were observed in the Palawan Way nesting area in 2018. One incidental passerine nest, an inactive American crow nest, was located in a *Melaleuca* tree (Appendix A: Exhibit 2H).

6.3 Panay Way

No colonial waterbird or raptor nests were observed in the Panay Way nesting area in 2018. Two incidental passerine nests, both inactive American crow nests, were located in a *Melaleuca* and *Ficus* tree (Appendix A: Exhibit 2H).

6.4 Marquesas Way

The eastern portion of Marquesas Way contained 41 black-crowned night-heron nests and 33 snowy egret nests, all considered active due to the presence of adults, young, and fresh sign on and around the nests. The nests were located in 16 trees (number of nests per tree ranged from 1 to 7), situated in the median of Marquesas Way as well as along the north side of the road (Appendix A: Exhibit 2B). The eastern portion of Marquesas Way appears to be preferred over the western portion due to one or more of the following reasons: (1) closer to the water; (2) more sheltered by the buildings; (3) more densely vegetated and more shaded; and/or (4) less disturbance (construction activity). Three dead black-crowned night-herons were observed hanging from the branches of several trees. Three incidental passerine nests, two inactive American crow nests and one inactive northern mockingbird nest, were identified in the Marquesas Way nesting area (Appendix A: Exhibit 2H).

6.5 Tahiti Way

One small unknown colonial waterbird nest was observed in the Tahiti Way nesting area (Appendix A: Exhibit 2C). The nest appeared inactive and was located in a *Eucalyptus* tree. One incidental passerine nest, an inactive American crow nest, was located in the same *Eucalyptus* tree (Appendix A: Exhibit 2H).

6.6 Bora Bora Way

No colonial waterbird or raptor nests were observed in the Bora Bora Way nesting area in 2018. Two colonial waterbird roosting locations were identified due to the presence of large amounts of whitewash on the trees and the ground underneath (Appendix A: Exhibit D). Two incidental passerine nests, both inactive American crow nests, were located in a *Eucalyptus* tree (Appendix A: Exhibit 2H).

6.7 Mariner's Village

Mariner's Village contained 14 great blue heron nests (13 active and 1 inactive) in 4 trees, 1 inactive unknown large colonial waterbird nest, 1 inactive black-crowned night-heron nest, 25 active double-crested cormorant nests in 4 trees (one of which contained 21 nests), and 1 black-crowned night-heron roost area (Mariner's Village pond; Appendix A: Exhibit 2E). Twelve incidental passerine nests (10 inactive American crow nests and 2 inactive northern mockingbird nests) were identified throughout Mariner's Village (Appendix A: Exhibit 2H).



6.8 Bali Way

No nests were observed in the Bali Way nesting area in 2018.

6.9 Mindanao Way

One double-crested cormorant nest in a *Eucalyptus* tree and three juvenile Cooper's hawks (potentially associated with two nests) were observed in the Mindanao Way nesting area in 2018 (Appendix A: Exhibit 2F). Three incidental passerine nests, all inactive American crow nests, were located in Mindanao Way; two were located in Chace Park, and one was located in a parking lot (Appendix A: Exhibit 2H).

6.10 Fiji Way

No colonial waterbird or raptor nests were observed in the Fiji Way nesting area in 2018. One great blue heron roost location was identified at the south terminus of Fiji Way (Breakwater Apartments) (Appendix A: Exhibit 2G). Eight incidental passerine nests (1 active American crow nest, 2 inactive American crow nests, 2 active Cassin's kingbird nests, and 3 inactive house finch nests) were identified throughout the Fiji Way nesting area (Appendix A: Exhibit 2H).

7.0 DISCUSSION AND RECOMMENDATIONS

7.1 Population Trends

Table 3 presents a 5-year population trend by colonial waterbird species.

TABLE 3. 5-YEAR POPULATION TREND BY SPECIES, BASED ON NUMBERS OF ACTIVE NESTS

Chasing			Tuond			
Species	2014	2015	2016	2017	2018	Trend
Black-crowned night-heron ¹	61	81	64	69	41	Decrease in 2018
Snowy egret ¹	38	33	33	29	33	Stable
Great blue heron	22	16	16	17	13	Stable
Double-crested cormorant	30	19	22	20	26	Stable
Total	151	149	135	135	113	Decrease in 2018

¹ For 2014 through 2017, half of small colonial waterbird (BCNH/SNEG) nests ascribed to BCNH and half ascribed to SNEG.

The number of active black-crowned night-heron nests in 2018 (41), all located within the Marquesas Way nesting area, was lower than nest numbers observed during each of the previous four years (range 61-81). Since surveys started late this year, some nests that may have been active could have fledged and been reused by black-crowned night-herons or snowy egrets. Other possibilities include a reduced nesting effort due to active construction along Marquesas Way to the west; nests falling out of trees; a low prey-base causing a reduced nesting effort; and/or individuals choosing to nest elsewhere (outside of Marina del Rey). Regardless, the Marquesas Way black-crowned night-heron nesting population continues to be productive in this heavily populated area.

The number of active snowy egret nests in 2018 (33), all located within the Marquesas Way nesting area, was similar to nest numbers observed during each of the previous four years (range 29-38). The Marquesas Way snowy egret nesting population continues to be productive in this heavily populated area.

The number of active great blue heron nests in 2018 (13), all located within the Mariner's Village nesting area, was slightly lower than nest numbers observed during each of the previous four years (range 16-22). Despite a few nests from 2017 being absent in 2018, the Mariner's village great



blue heron nesting population appears to be stable. Great egrets have not been observed nesting in Marina del Rey since 2012 (Rincon 2017).

The number of double-crested cormorant nests in 2018 (26), all but one located within the Mariner's Village nesting area, was similar to nest numbers observed during the previous four years (range 19-30). The colony site at Mariner's Village is well-established and has persisted over the years.

Table 4 presents a 5-year population trend by nesting area. Selection of nesting areas by colonial waterbirds from year-to-year is unpredictable and variable. A persistent colony can relocate for a variety of reasons, including human disturbance, predation, severe weather events, and competition for nesting habitat (Parnell et al. 1988).

TABLE 4. 5-YEAR POPULATION TREND BY NESTING AREA, BASED ON NUMBERS OF ACTIVE NESTS

Location			Trend			
Location	2014	2015	2016	2017	2018	1 rena
Admiralty Way	33	17	2	0	0	Decrease
Marquesas Way	66	97	96	85	74	Stable
Bora Bora Way	11	0	1	0	0	Decrease
Mariner's Village	41	35	37	49	38	Stable
Mindanao Way	0	0	0	1	1	Stable
Total	151	149	136	135	113	Decrease in 2018

Nesting in the Admiralty Way nesting area by black-crowned night-herons and snowy egrets has been decreasing since 2009, shifting to the Marquesas Way nesting area, where it has remained stable. Likewise, nesting in the Fiji Way nesting area by double-crested cormorants and great blue herons shifted in 2012 to the Mariner's Village nesting area, where it has remained stable. The double-crested cormorant nest tree in the Bora Bora nesting area was removed following the 2014 nesting season for health and safety issues, and the cormorants have not returned to that area. One double-crested cormorant was observed nesting in the Mindanao Way nesting area in 2018. Overall, there was a slight decrease in total nests, but that decrease is likely attributable to one or more of the reasons mentioned above.

7.2 Potential Conflicts

This section makes recommendations for how potential conflicts might be resolved in ways that best respond to the 2010 Conservation and Management Plan. Consultation with the County of Los Angeles Department of Regional Planning, USFWS, and CDFW should occur before any actions are implemented. Hamilton identified five sources of potential conflict, each described below.

7.2.1 Nuisances and Costs to Residents, Workers, Lessees, and the Landowner

Considerable amounts of waste (guano, feathers, decomposing eggs and food, and other debris) from colonial waterbirds result in foul smells, stains on property, and health risks. Costs are incurred by public and private landowners to clean and maintain these areas. Noise from the nesting colonies can also be a nuisance.

Currently, this potential conflict occurs in the Marquesas Way and Mariner's Village nesting areas. In the Marquesas Way nesting area, numerous black-crowned night-heron and snowy egret nests are densely packed into an approximately 700-foot long stretch of Marquesas Way and surrounded by residential complexes. In addition to the noise, smell, and potential health risks, some young



birds fall from trees into Marquesas Way and are run over by automobiles; there is the potential an automobile could swerve or brake to avoid hitting a bird and could cause an accident resulting in human injury and/or property damage. At Mariner's Village, nest tree 24 has contained approximately 20 double-crested cormorant nests over each of the past 5 years. This nest tree is adjacent to a residential complex, so noise, smell, and health risks exist, and there are parking spots under the tree that are coated with guano.

Conflict in the Marquesas Way nesting area could be resolved by (1) removing nests during the non-breeding/non-nesting season; (2) pruning the trees during the non-breeding/non-nesting season to make them unsuitable as nest trees (e.g., trim/reduce the canopy, which in turn reduces the amount of shade and protection from predators, wind, and rain; trim/reduce the amount of branching, which in turn reduces the amount of nesting space and the amount of potential nesting materials from within the tree); (3) removing the trees entirely (root systems are causing problems in the street as well); or (4) relocating the entire colony. If nest removal and/or tree pruning is implemented, there are numerous trees in the immediate vicinity (i.e., north side of Marquesas Way) suitable for these two species to relocate to and nest; however, it is impossible to predict where the birds will relocate. The trees selected as nesting sites can and do change from year-toyear, or even within the same year (Hamilton 2010). Should nesting occur in other trees along Marquesas Way, similar conflicts may persist. If tree removal is implemented, replacement trees are required at a 1:1 ratio, as described in the 2012 LUP. Black-crowned night-heron and snowy egrets tend to prefer smaller and more densely vegetated trees, so new tree species (e.g., natives Platanus racemosa, such Aesculus californica, and Lyonothamnus floribundus var. asplenifolius; non-natives such as Platanus x acerifolia, Eucalyptus nicholii, Callistemon viminalis, and Washingtonia robusta) could be selected to avoid future conflict. Great blue herons and double-crested cormorants seem to prefer large trees (often large Eucalyptus) with relatively open vegetation, so if this type of tree is selected for replacement, there is the possibility of other colonial waterbird species moving into the area.

Relocating the entire colony would be a significant undertaking, but it is possible. In 1999, the Port of Long Beach relocated a black-crowned night-heron colony (approximately 500 pairs) to a park approximately 1 mile away by transplanting 50 *Ficus*, *Olea*, and *Melaleuca* trees to the new site to supplement existing vegetation. To attract nesting night-herons to the site, night-heron decoys were placed in the trees, heron vocalizations were played, and public access to the site was limited. Early results showed the colony relocation was successful, with nest and chick numbers similar to pre-relocation numbers; however, due to disturbances from Navy cleanup operations, the colony has since dispersed to other locations in southern California (Crouch et al 2002). To conduct a successful colony relocation, an area with existing suitable nest trees would be required to supplement the transplanted trees. Section 7.3 below discusses potential restoration areas that may be suitable for relocation.

Conflict in the Mariner's Village nest tree 24 would be best resolved by removing the nest tree (and possibly the adjacent suitable trees). This tree will likely die soon, as double-crested cormorant nest trees typically die within 10 years. Double-crested cormorants prefer nest trees as close to the water as possible, so if nest tree 24 were removed, they would likely relocate to the adjacent trees (e.g., nest tree 22 or 23).

7.2.2 DEATH OF TREES THROUGH GUANOTROPHY

The deposition of guano on leaves and under trees can cause defoliation and impact the soils to a level that causes the tree to die, which can ultimately result in limbs or the entire tree falling and injuring people or damaging property.



This conflict tends to be more evident with double-crested cormorant nest trees. Current double-crested cormorant nest trees include nest trees 22, 23, 24, 64 (Mariner's Village) and MN-24 (Mindanao Way). If trees are removed, replacement trees are required at a 1:1 ratio. Certain species of trees may be more susceptible to guanotrophy than others, so an arborist should be consulted to identify at-risk trees.

7.2.3 POTENTIAL HEALTH RISKS

Airborne particles from guano can cause bacterial infections and other health problems. Currently, this potential conflict occurs in the Marquesas Way and Mariner's Village nesting areas. See Section 7.2.1 for possible resolutions.

7.2.4 POTENTIAL CONFLICTS WITH NATURAL RESOURCE MANAGEMENT

Some colonial waterbirds (e.g., great blue heron and black-crowned night-heron) prey upon smaller birds. The federal and state endangered California least tern (*Sternula antillarum browni*) and the federal threatened western snowy plover (*Charadrius alexandrinus nivosus*) nest on nearby beaches, so propagating colonial waterbird nesting populations could conflict with conservation and management efforts of other listed species in the vicinity.

This potential conflict addresses the Marina del Rey colonial waterbird population as a whole, and more specifically the great blue heron and black-crowned night-heron populations. The population appears to be relatively stable over the past 5 years, so maintaining the current local population is preferred rather than increasing the local population. Hamilton (2010) recommends against modifying what little natural habitat remains in the area to create still more tree nesting sites for colonial waterbirds that have been thriving in the area since the latter half of the 1990s. Therefore, except for mitigated replacement trees, no new trees should be planted in Marina del Rey that would allow for a noticeable increase in population size.

7.2.5 POTENTIAL CONFLICTS WITH PLANNED HUMAN LAND USES

Marina del Rey is an urban landscape. The additional burden of managing colonial waterbird colonies conflicts with the constant need of community maintenance, upgrades, and planning. The colonial waterbird population has adapted to the urban landscape, so they will likely adapt to ongoing community activities and redevelopment. The LUP provides a balance between development and natural resources.

7.3 Compensatory Mitigation Measures

As stated above, replacement trees must be mitigated at a 1:1 ratio. The location of the replacement trees can be anywhere within Marina del Rey. The three areas discussed in this section are potential restoration sites where suitable nesting, foraging, and/or roosting habitat could be created. To encourage nesting in an area, a restoration area should be created that satisfies the following criteria: (1) large trees suitable for nesting; (2) close to the water and/or suitable foraging habitat; (3) minimal disturbance (at least to begin with, until the new colony is established); and (4) as close as possible to the current colony location. However, even if an ideal site is created, it may be difficult to get the birds to move there, and it will be very unpredictable. As discussed above, relocation efforts (e.g., transplanted trees, decoys, vocalizations) can help attract birds to new locations.

7.3.1 OXFORD RETENTION BASIN

The Oxford Retention Basin occupies 10.27 acres in the northwest corner of Marina del Rey. Historically (pre-2009), several dozen black-crowned night-herons were documented nesting in



the *Eucalyptus* row northeast of the basin, but likely relocated to Marquesas Way for some reason. The primary and dominant purpose of the basin is a storm water retention facility (flood control). The basin must be periodically maintained by excavating materials and must be managed in terms of tides and water levels prior to storms to fulfill its flood control function.

This relatively large area is approximately 0.6 mile from the Marquesas Way nesting area. Restoration of salt-marsh, coastal sage scrub, and willow scrub habitat along with suitable nest trees would make this area an ideal colonial waterbird nesting, roosting, and foraging area. Combined with tree removal/pruning at the Marquesas Way nesting area, colony relocation efforts (e.g., transplanted trees, decoys, vocalizations) could be implemented to help attract the black-crowned night herons and snowy egrets away from Marquesas Way. Since the area is large, suitable nest trees for great blue herons and double-crested cormorants could be planted/transplanted to help alleviate the Mariner's Village colonial waterbird conflicts as well.

7.3.2 PROPOSED WETLAND PARK AT PARCEL 9

The Proposed Wetland Park at Parcel 9 would occupy 1.46 acres at the northeast corner of Via Marina and Tahiti Way. Residential complexes (existing as well as under construction) and Basin B surround the site. Restoration of the site to saltmarsh habitat with tidal influence is proposed, and the site would be maintained and managed as a native wildlife sanctuary.

This small area would serve more as a foraging/roosting area for birds, but several trees could be planted that could provide suitable nesting habitat for colonial waterbirds. However, if too many nests become established, similar conflicts as those currently occurring in the Marquesas Way and Mariner's Village nesting areas could arise.

7.3.3 BALLONA WETLANDS ECOLOGICAL RESERVE AREA A

The eastern shoulder of Fiji Way adjacent to Area A contains non-native trees and shrubs, including *Nerium oleander*, *Juniperus* sp., and *Eucalyptus* sp. It has been proposed to remove these non-native trees and shrubs to promote the natural, open features along the northern margin of Area A. This area is approximately 0.5 mile east of the Marquesas Way and Mariner's Village nesting areas and likely serves as a corridor from current nesting areas to foraging grounds within Ballona Wetlands Ecological Reserve. If Area A can be restored to more natural conditions (in coordination with CDFW), colonial waterbirds may be attracted to this area that is closer to preferred foraging grounds and has less disturbance.

7.3.4 OTHER POTENTIAL RESTORATION AREAS

Other areas within Marina del Rey available for enhancement of their biological value include Yvonne B. Burke Park and Burton W. Chace Park. However, these areas are high-use pedestrian areas and could succumb to the potential conflicts discussed in Section 7.2.

Other areas outside Marina del Rey, but in the immediate vicinity, that could be enhanced include Ballona Lagoon, Del Rey Lagoon, Ballona Wetlands Ecological Reserve Area B, Ballona Freshwater Marsh, and Ballona Creek. Restoration efforts in these "off-site" areas would need to be in concert with other municipal and/or state agencies.

8.0 REFERENCES

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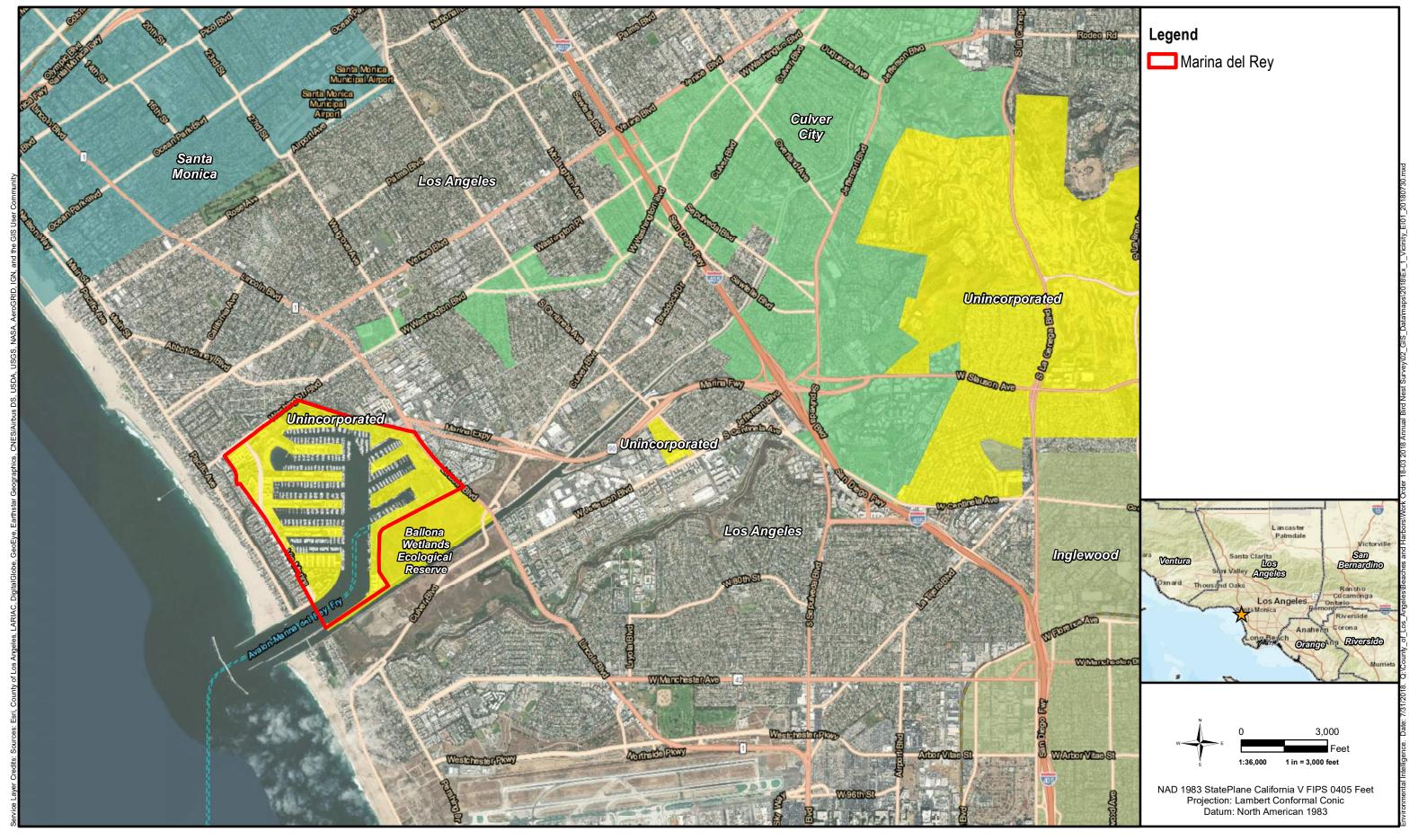
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Appendix A:

EXHIBITS

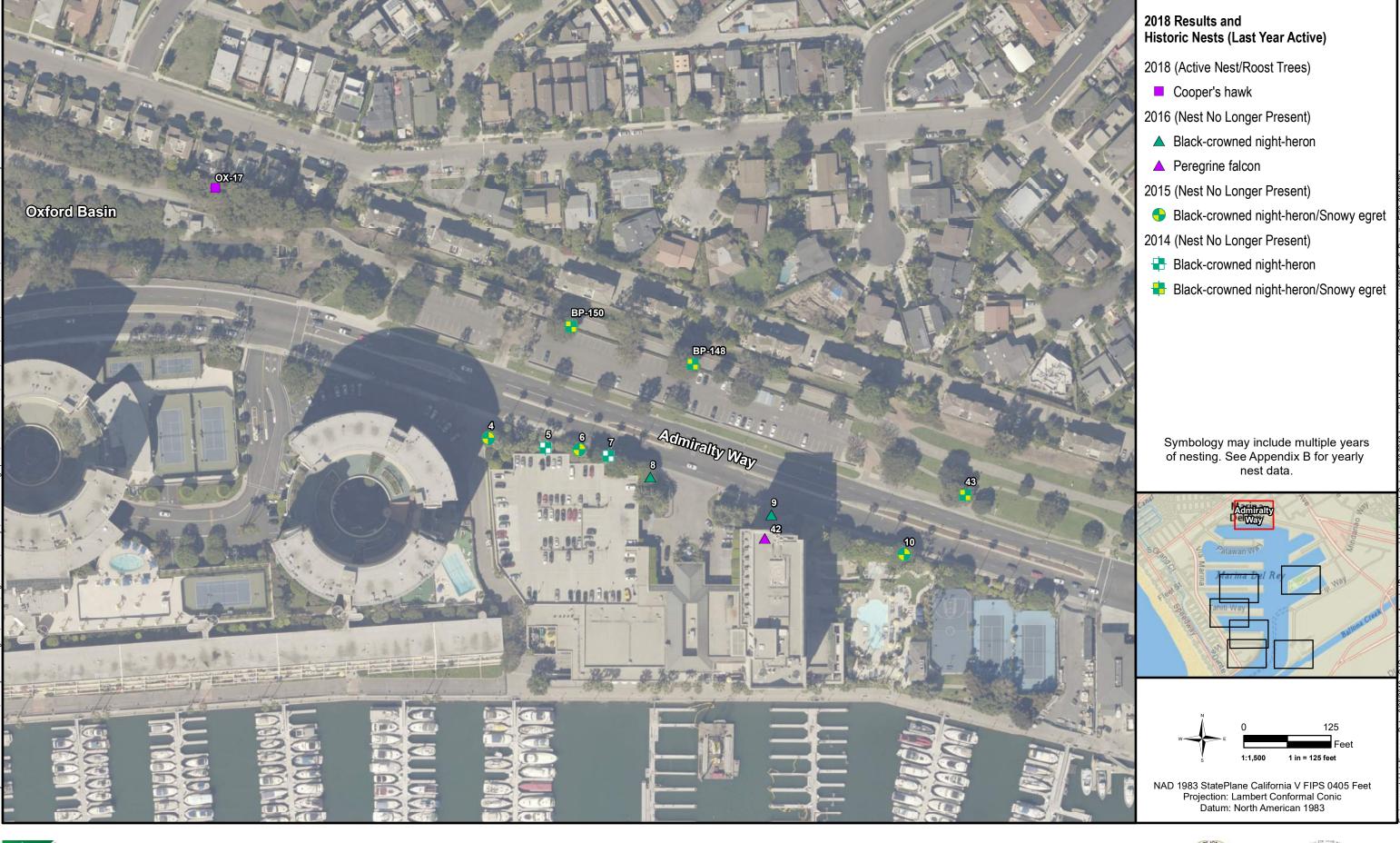
















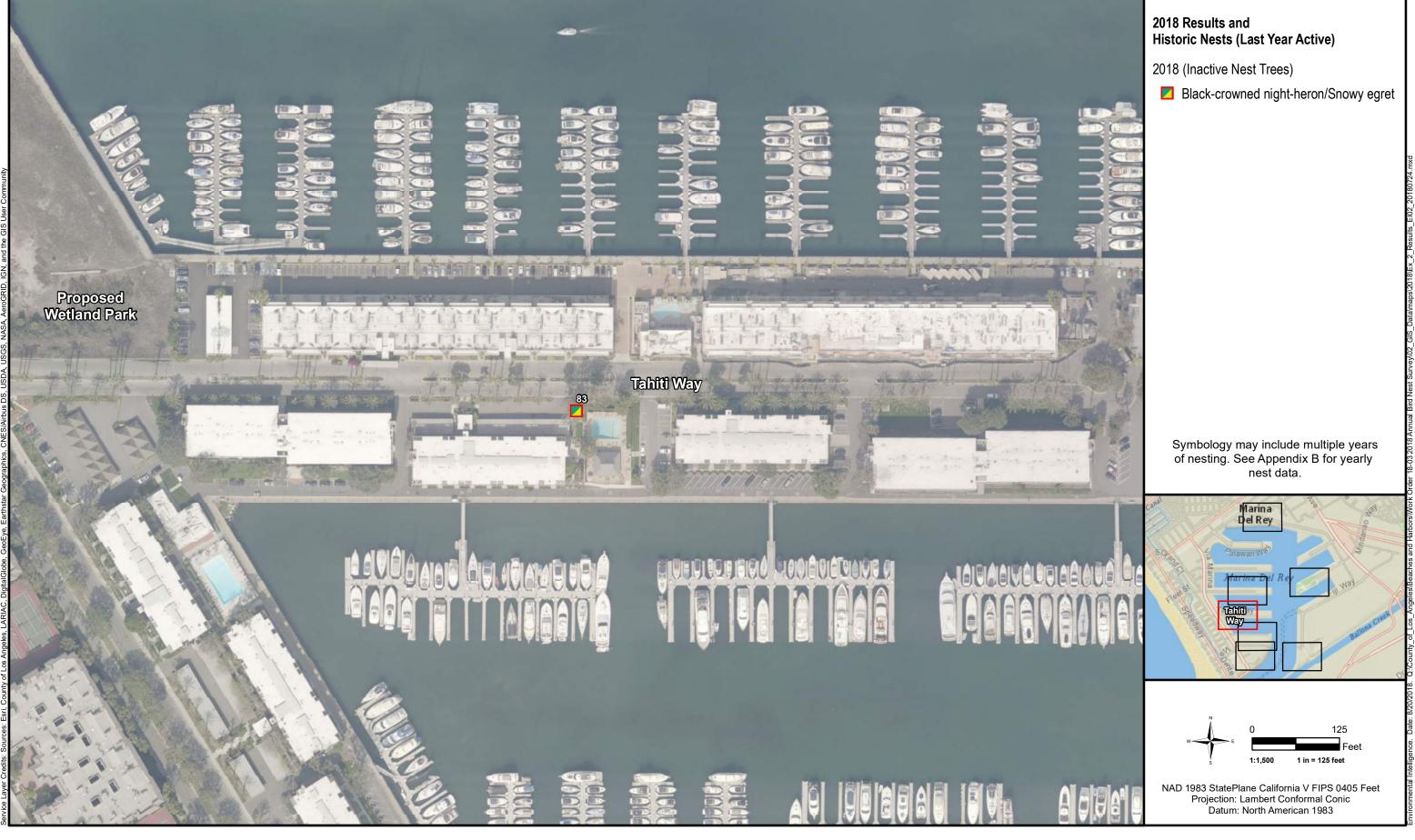








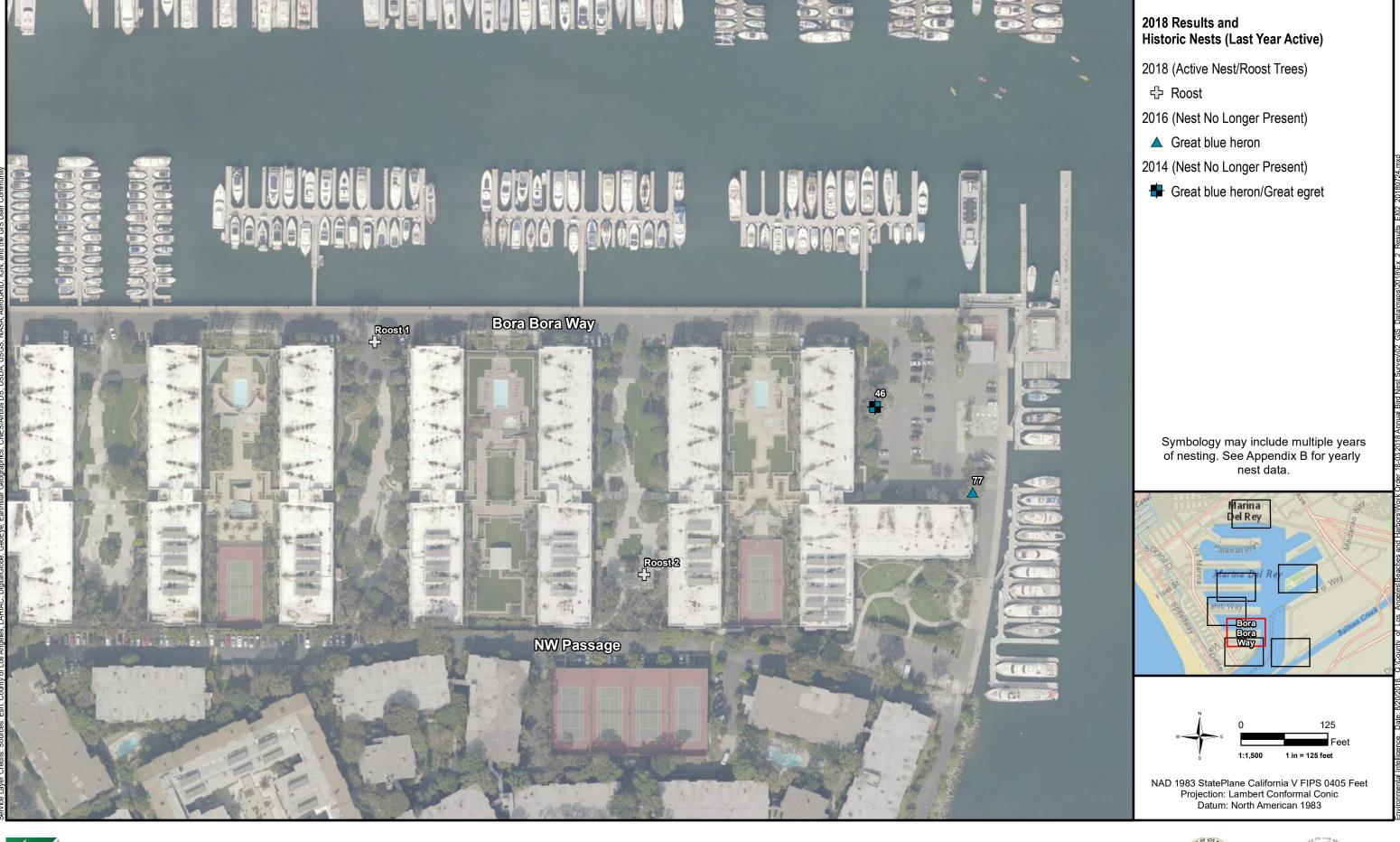








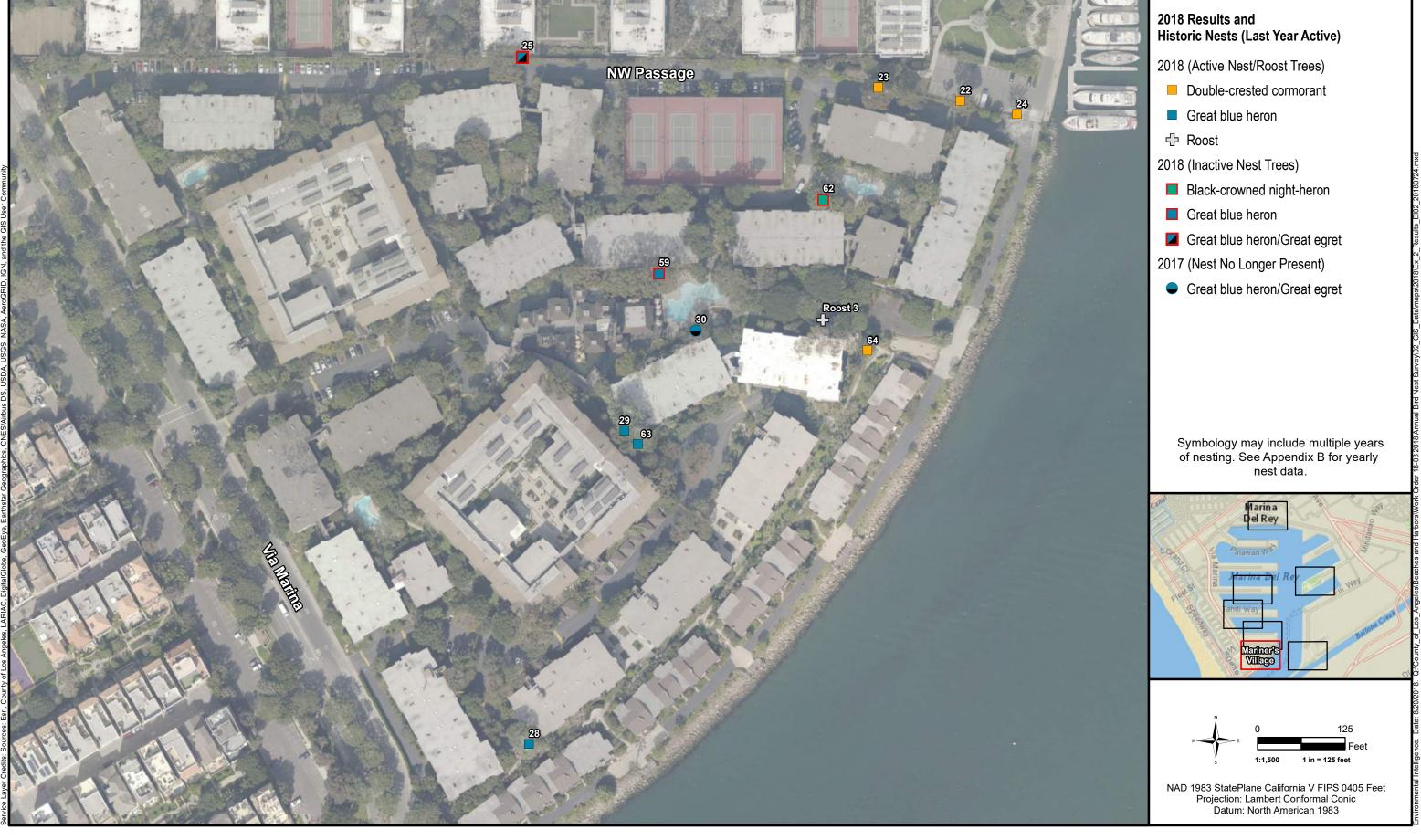








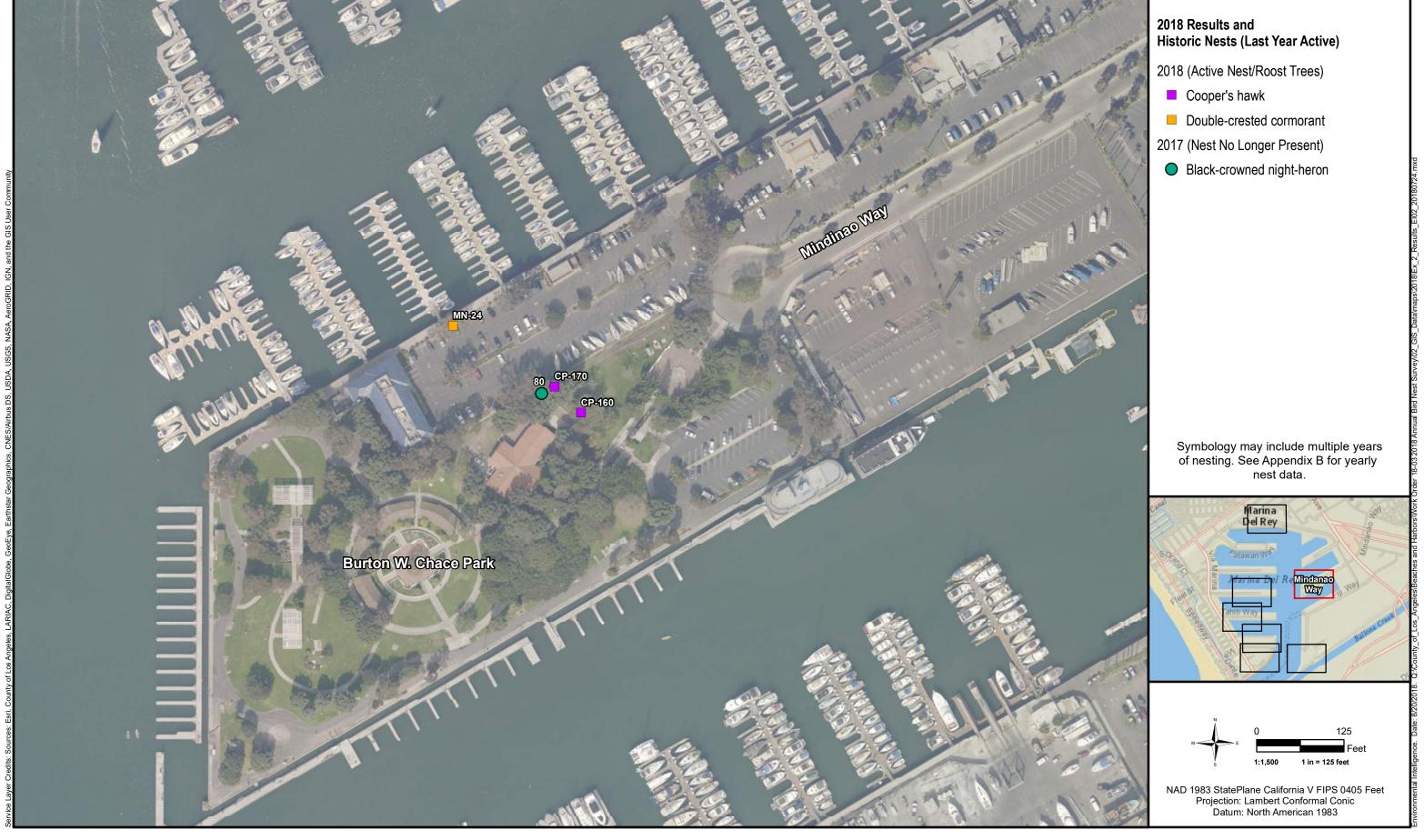


































Appendix B:

 $Nest\ Data\ Table\ 2009-2018$

Location	Tree Name	Tree Species	Year	Great Blue Heron	Large Unknown (Great Blue Heron or Great Egret)	Black-crowned Night-heron	Snowy Egret	Small Unknown (Black-crowned Night-heron or Snowy Egret)	Double-crested Cormorant	Peregrine Falcon	Cooper's Hawk
Admiralty Way	4	Ficus	2014 2015	0	0	0 1	0	4 3	0	0	0
	5	Ficus	2013	X	x	X	x	X	x	x	x
	3	ricus	2011	×	X	x x	×	X	×	x x	×
			2012	Ô	0	1	0	0	0	0	0
	6	Ficus	2011	X	x	x	x	x	x	x	x
	Ü	11603	2012	x	x	x	x	x	×	x	×
			2014	0	0	1	0	2	0	0	0
			2015	0	0	0	0	1	0	0	0
	7	Ficus	2009	Х	Х	х	х	Х	х	х	х
			2011	x	x	x	x	x	х	х	х
			2012	x	x	x	x	х	x	x	x
			2014	0	0	1	0	0	0	0	0
	8	Ficus	2009	Х	X	X	X	Х	Х	х	X
			2011	x	x	x	x	x	x	x	x
			2012	X	x	x	x	x	x	x	x
			2014	0	0	2	0	0	0	0	0
			2015	0	0	3	0	3	0	0	0
			2016	0	0	1	0	0	0	0	0
	9	Ficus	2009	X	Х	X	X	X	X	Х	Х
			2011	X	х	X	x	Х	X	х	X
			2012	x	X	X	X	X	x	X	x
			2014	0	0	1	0	3	0	0	0
			2015 2016	0 0	0 0	1 1	0 0	3 0	0 0	0	0 0
	10	Figure	2016								
	10	Ficus	2011	x x	x x	x	x x	x x	x x	x	x x
			2012	x 0	0	x 2	0	x 0	х О	х 0	х О
			2014	0	0	0	0	2	0	0	0
	42	N/A	2014	0	0	0	0	0	0	1	0
	-12	14//1	2015	0	0	0	0	0	0	1	0
			2016	0	0	0	0	0	0	1	0
	43	Eucalyptus	2014	0	0	0	0	1	0	0	0
	BP-147	Ficus	2012	x	Х	x	х	Х	x	x	x
	BP-148	Eucalyptus sp.	2011	Х	Х	х	х	Х	х	х	х
		,	2012	x	х	x	x	x	x	x	x
			2014	0	0	1	0	1	0	0	0
	BP-150	Eucalyptus sp.	2012	Х	х	х	х	х	х	х	х
			2014	0	0	1	0	11	0	0	0
	OX-10	Eucalyptus	2011	Х	х	х	Х	Х	х	х	х
	OX-17	Eucalyptus sp.	2018	0	0	0	0	0	0	0	1
Bora Bora Way	46	Pinus	2014	0	1	0	0	0	0	0	0
	77	Pinus	2016	1	0	0	0	0	0	0	0
Fiji Way	73	Washingtonia	2012	Х	х	х	Х	Х	х	х	х
	FJ-209	Washingtonia robusta	2012	X	Х	X	X	Х	Х	Х	X
Mariner's Village	22	Eucalyptus	2014	2	0	0	0	0	0	0	0
			2015	2	0	0	0	0	0	0	0
			2016	2	0	0	0	0	0	0	0

Location	Tree Name	Tree Species	Year		Large Unknown (Great Blue Heron or Great Egret)	Black-crowned Night-heron	Snowy Egret	Small Unknown (Black-crowned Night-heron or Snowy Egret)	Double-crested Cormorant	Peregrine Falcon	Cooper's Hawk
Mariner's Village	22	Eucalyptus	2017	2	0 0	0	0	0	0	0	0
	22	F a a b . mate . a	2018	0		0	0	0	2	0	0
	23	Eucalyptus	2011	x	X	x	X	X	x	X	X
			2012 2014	x 2	x 1	х О	х 0	х О	х 0	х 0	х 0
			2014	3	0	0	0	0	0	0	0
			2015	3	0	0	0	0	0	0	0
			2017	2	0	0	0	0	0	0	0
			2018	0	0	0	0	0	1	0	0
	24	Eucalyptus	2011	x	x	x	x	x	x	x	x
		Lucuiyptus	2012	x	x	x	x	x	x	x	x
			2014	0	0	0	0	0	19	0	0
			2015	0	0	0	0	0	19	0	0
			2016	0	0	0	0	0	22	0	0
			2017	0	0	0	0	0	20	0	0
			2018	0	0	0	0	0	21	0	0
	25	Eucalyptus	2014	1	1	0	0	0	0	0	0
			2015	2	0	0	0	0	0	0	0
			2016	1	0	0	0	0	0	0	0
			2018	0	1	0	0	0	0	0	0
	28	Pinus	2011	x	X	x	х	X	х	Х	х
			2012	X	X	X	x	X	X	x	X
			2014	4	1	0	0	0	0	0	0
			2015	1	0	0	0	0	0	0	0
			2016	1	0	0	0	0	0	0	0
			2017	2	1	0	0	0	0	0	0
	20	6'	2018	4	0	0	0	0	0	0	0
	29	Pinus	2014 2015	3 2	1 2	0 0	0 0	0 0	0 0	0 0	0 0
			2015	5	0	0	0	0	0	0	0
			2016	5	0	0	0	0	0	0	0
			2017	8	0	0	0	0	0	0	0
	30	Eucalyptus	2014	1	0	0	0	0	0	0	0
	30	Lucuiyptus	2017	0	1	0	0	0	0	0	0
	59	Eucalyptus	2014	0	2	0	0	0	0	0	0
	33	Lacaryptus	2014	1	0	0	0	0	0	0	0
			2016	1	0	0	0	0	0	0	0
			2017	1	0	0	0	0	0	0	0
			2018	1	0	0	0	0	0	0	0
	62	Ficus	2014	0	1	0	0	0	0	0	0
			2015	1	0	0	0	0	0	0	0
			2017	0	0	0	0	1	0	0	0
			2018	0	0	1	0	0	0	0	0
	63	Pinus	2014	0	1	0	0	0	0	0	0
			2015	1	0	0	0	0	0	0	0
			2016	1	0	0	0	0	0	0	0
			2017	2	0	0	0	0	0	0	0
			2018	1	0	0	0	0	0	0	0

Location	Tree Name	Tree Species	Year	Great Blue Heron	Large Unknown (Great Blue Heron or Great Egret)	Black-crowned Night-heron	Snowy Egret	Small Unknown (Black-crowned Night-heron or Snowy Egret)	Double-crested Cormorant	Peregrine Falcon	Cooper's Hawk
Mariner's Village	64	Eucalyptus	2015	1	0	0	0	0	0	0	0
			2016	1	0	0	0	0	0	0	0
			2017	1	0	0	0	0	0	0	0
			2018	0	0	0	0	0	1	0	0
Marquesas Way	65	Pinus	2015	0	0	2	0	0	0	0	0
			2016	0	0	1	0	0	0	0	0
			2017	0	0	0	0	1	0	0	0
	66	Pinus	2015	0	0	2	0	0	0	0	0
			2016	0	0	0	1	0	0	0	0
	60	D'	2017	0	0	1	0	0	0	0	0
	68	Pinus	2015	0 0	0	0	0	1 0	0 0	0 0	0 0
			2016 2017	0	0 0	2 1	0 0	2	0	0	0
			2017	0	0	4	0	0	0	0	0
	69	Ficus	2015	0	0	3	0	0	0	0	0
	70	Melaleuca quinquenervia	2015	0	0	1	0	0	0	0	0
	70	ivicialeuca quiliquellei via	2015	0	0	1	0	0	0	0	0
	76	Pinus	2016	0	0	1	0	0	0	0	0
	70	i iius	2017	0	0	1	0	1	0	0	0
	78	Pinus	2017	0	0	2	0	0	0	0	0
	79	Pinus	2017	0	0	2	0	0	0	0	0
	81	Olea europaea	2018	0	0	1	0	0	0	0	0
	82	Olea europaea	2018	0	0	1	0	0	0	0	0
	MQ-1	Ficus elastica	2018	0	0	4	0	0	0	0	0
	MQ-10	Melaleuca quinquenervia	2011	x	X	х	x	x	x	x	х
		4. 4	2012	x	х	x	x	x	x	x	х
			2014	0	0	3	2	1	0	0	0
			2015	0	0	4	3	1	0	0	0
			2016	0	0	4	1	2	0	0	0
			2017	0	0	3	2	4	0	0	0
			2018	0	0	3	2	0	0	0	0
	MQ-11	Melaleuca quinquenervia	2011	х	Х	Х	х	х	х	х	Х
			2012	x	x	x	x	x	x	x	x
			2014	0	0	3	1	3	0	0	0
			2015	0	0	7	0	0	0	0	0
			2016	0	0	5	1	0	0	0	0
			2017	0	0	4	0	1	0	0	0
			2018	0	0	7	0	0	0	0	0
	MQ-12	Melaleuca quinquenervia	2011	X	X	x	x	X	x	X	x
			2012	x	x	x	x	x	x	X	x
			2014	0 0	0 0	6	0	2 0	0	0	0
			2015	0		11	0	_	-	0	0
			2016 2017	0	0 0	4	1 0	1 2	0 0	0 0	0 0
			2017	0	0	4 2	4	0	0	0	0
	MQ-13	Melaleuca quinquenervia	2018								
	IVIQ-13	ivierareuca quiriqueriervia	2011	X X	x x	x x	x x	x x	x x	x x	x x

Location	Tree Name	Tree Species	Year	Great Blue Heron	Large Unknown (Great Blue Heron or Great Egret)	Black-crowned Night-heron	Snowy Egret	Small Unknown (Black-crowned Night-heron or Snowy Egret)	Double-crested Cormorant	Peregrine Falcon	Cooper's Hawk
Marquesas Way	MQ-13	Melaleuca quinquenervia	2015	0	0	2	0	0	0	0	0
			2016	0	0	2	0	0	0	0	0
			2017	0	0	0	0	1	0	0	0
			2018	0	0	2	0	0	0	0	0
Γ	MQ-16	Melaleuca quinquenervia	2011	X	X	X	x	X	x	х	x
			2012	x	x	x	x	X	x	x	x
			2014	0	0	0	0	1	0	0	0
	MQ-2	Ficus elastica	2018	0	0	4	0	0	0	0	0
	MQ-3	Ficus elastica	2011	X	X	x	х	X	х	Х	x
			2012	X	X	X	X	X	х	х	x
			2014	0	0	2	0	4	0	0	0
			2015	0	0	6	1	1	0	0	0
			2016	0	0	14	0	0	0	0	0
			2017	0	0	11	0	0	0	0	0
			2018	0	0	4	0	0	0	0	0
	MQ-4	Melaleuca quinquenervia	2011	X	X	X	x	X	x	x	X
			2012	X	X	X	X	X	X	X	X
			2014	0	0	4	5	1	0	0	0
			2015	0	0	7	6	0	0	0	0
			2016	0	0	4	6	3	0	0	0
			2017	0	0	0	10	4	0	0	0
			2018	0	0	1	7	0	0	0	0
	MQ-5	Melaleuca quinquenervia	2011	X	X	X	x	X	X	x	x
			2012	x	X	x	X	X	X	X	X
			2014	0	0	2	2	1	0	0	0
			2015	0	0	3	4	0	0	0	0
			2016	0	0	2	4	0	0	0	0
			2017 2018	0 0	0 0	2 1	2 4	0 0	0 0	0 0	0 0
	140.6										
	MQ-6	Melaleuca quinquenervia	2011	X	X	x	X	X	X	X	X
			2012	x	x	x	x	X	x	x	x
			2014	0	0 0	2	3 3	1 0	0 0	0 0	0
			2015 2016	0 0	0	4 4	3 4	1	0	0	0 0
			2016	0	0	6	0	1	0	0	0
			2017	0	0	1	4	0	0	0	0
	MQ-7	Molalousa quinquononia	2013	x		X	X	x			
	IVIQ-7	Melaleuca quinquenervia	2012	x 0	x 0	x 2	3	x 1	х 0	х 0	х 0
			2014	0	0	5	5	1	0	0	0
			2015	0	0	4	4	2	0	0	0
			2010	0	0	8	1	3	0	0	0
			2017	0	0	1	6	0	0	0	0
	MQ-8	Melaleuca guinguenervia	2013	x	x	X	x	x	X	x	x
	WIQ-0	meiareaca quiriqueriervia	2011	×	X	x x	X	X	X	X	X
	Ī		2012	0	0	0	1	0	0	0	Ô
	Ī		2014	0	0	3	1	0	0	0	0
	Ī		2016	0	0	3	2	2	0	0	0
	Ī		2017	0	0	2	2	1	0	0	0

Location	Tree Name	Tree Species	Year	Great Blue Heron	Large Unknown (Great Blue Heron or Great Egret)	Black-crowned Night-heron	Snowy Egret	Small Unknown (Black-crowned Night-heron or Snowy Egret)	Double-crested Cormorant	Peregrine Falcon	Cooper's Hawk
Marquesas Way	MQ-8	Melaleuca quinquenervia	2018	0	0	3	0	0	0	0	0
	MQ-9	Melaleuca quinquenervia	2011	Х	Х	х	х	Х	х	Х	х
			2012	x	x	X	x	x	x	x	x
			2014	0	0	6	0	0	0	0	0
			2015	0	0	8	2	0	0	0	0
			2016	0	0	4	2	3	0	0	0
			2017	0	0	9	1	1	0	0	0
			2018	0	0	2	6	0	0	0	0
Mindanao Way	80	Metrosideros	2017	0	0	1	0	0	0	0	0
	CP-113	Pinus pinea	2012	X	Х	Х	Х	Х	Х	X	Х
	CP-160	Erythrina caffra	2018	0	0	0	0	0	0	0	1
	CP-170	Metrosideros excelsa	2018	0	0	0	0	0	0	0	1
	CP-66	Pinus	2012	X	Х	Х	Х	Х	Х	X	х
	CP-8	Metrosideros excelsa	2012	Х	Х	Х	Х	Х	Х	X	Х
	MN-24	Eucalyptus sideroxylon	2018	0	0	0	0	0	1	0	0
Panay Way	49	Melaleuca	2009	Х	Х	х	Х	Х	х	Х	Х
	51	Melaleuca	2009	Х	Х	X	X	Х	X	Х	Х
	52	Melaleuca	2009	Х	Х	х	Х	Х	х	Х	Х
Tahiti Way	58	Washingtonia	2012	Х	Х	X	X	Х	X	Х	Х
	83	Eucalyptus	2018	0	0	0	0	1	0	0	0

Appendix C:

SITE PHOTOGRAPHS



Рното 1:

MARQUESAS WAY 12 BLACK-CROWNED NIGHT-HERON NESTS IN TREES MQ-1, MQ-2, AND MQ-3

Рното 2:

MARQUESAS WAY 4 BLACK-CROWNED NIGHT-HERON AND SNOWY EGRET NESTS IN TREE MQ-4.



Рното 3:

MARQUESAS WAY

1 BLACK-CROWNED NIGHT-HERON AND 4 SNOWY
EGRET NESTS IN TREE MQ-5

Рното 4:

MARQUESAS WAY

1 BLACK-CROWNED NIGHT-HERON AND 4

SNOWY EGRET NESTS IN TREE MQ-6





Рното 5:

MARQUESAS WAY
4 BLACK-CROWNED NIGHT-HERON NESTS IN
TREE 68

Рното 6:

MARQUESAS WAY

1 BLACK-CROWNED NIGHT-HERON AND 6

SNOWY EGRET NESTS IN TREE MQ-7



Рното 7:

MARQUESAS WAY
3 BLACK-CROWNED NIGHT-HERON NESTS IN
TREE MQ-8

Рното 8:

MARQUESAS WAY 2 BLACK-CROWNED NIGHT-HERON AND 6 SNOWY EGRET NESTS IN TREE MQ-9





Рното 9:

MARQUESAS WAY
3 BLACK-CROWNED NIGHT-HERON AND 2
SNOWY EGRET NESTS IN TREE MQ-10

Рното 10:

MARQUESAS WAY 7 BLACK-CROWNED NIGHT-HERON NESTS IN TREE MQ-11

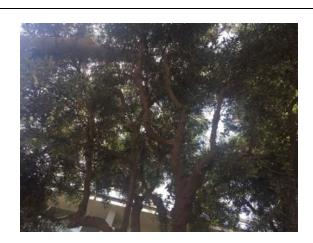


Рното 11:

MARQUESAS WAY
2 BLACK-CROWNED NIGHT-HERON AND 4
SNOWY EGRET NESTS IN TREE MQ-12

Рното 12:

MARQUESAS WAY 1 BLACK-CROWNED NIGHT-HERON NEST IN TREE 81





Рното 13:

MARQUESAS WAY

1 BLACK-CROWNED NIGHT-HERON NEST IN
TREE 82

Рното 14:

MARQUESAS WAY 2 BLACK-CROWNED NIGHT-HERON NESTS IN TREE MQ-13



Рното 15:

TAHITI WAY

1 SMALL COLONIAL WATERBIRD NEST IN TREE
83

Рното 16:

Bora Bora Way Roost 1





Рното 17:

BORA BORA WAY ROOST 2

Рното 18:

MARINER'S VILLAGE 2 DOUBLE-CRESTED CORMORANT NESTS IN TREE 22



Рното 19:

MARINER'S VILLAGE

1 DOUBLE-CRESTED CORMORANT NEST IN
TREE 23

Рното 20:

MARINER'S VILLAGE
21 DOUBLE-CRESTED CORMORANT NESTS IN
TREE 24





Рното 21:

MARINER'S VILLAGE
1 LARGE COLONIAL WATERBIRD NEST IN TREE
25

Рното 22:

MARINER'S VILLAGE 4 GREAT BLUE HERON NESTS IN TREE 28



Рното 23:

MARINER'S VILLAGE 8 GREAT BLUE HERON NESTS IN TREE 29

Рното 24:

MARINER'S VILLAGE
1 GREAT BLUE HERON NEST IN TREE 59





Рното 25:

MARINER'S VILLAGE

1 BLACK-CROWNED NIGHT-HERON NEST IN
TREE 62

Рното 26:

MARINER'S VILLAGE
1 GREAT BLUE HERON NEST IN TREE 63



Рното 27:

MARINER'S VILLAGE

1 DOUBLE-CRESTED CORMORANT NEST IN
TREE 64

Рното 28:

Mariner's Village Roost 3





Рното 29:

MINDANAO WAY 1 DOUBLE-CRESTED CORMORANT NEST IN TREE MN-24

Рното 30:

MINDANAO WAY JUVENILE COOPER'S HAWK AT CHACE PARK





Рното 31:

FIJI WAY ROOST 4 Appendix D:

AVIAN COMPENDIUM

SCREAMERS, SWANS, GEESE, AND DUCKS

Ducks, Geese, and Swans

Mallard

PIGEONS AND DOVES

Pigeons and Doves

Rock Pigeon

Eurasian Collared-Dove

Mourning Dove

SWIFTS AND HUMMINGBIRDS

Swifts

White-throated Swift

Hummingbirds

Anna's Hummingbird

Allen's Hummingbird

SHOREBIRDS, GULLS, AUKS, AND ALLIES

Lapwings and Plovers

Killdeer

Gulls, Terns, and Skimmers

Western Gull

California Least Tern

Caspian Tern

FRIGATEBIRDS, BOOBIES, CORMORANTS, DARTERS, AND ALLIES

Cormorants

Double-crested Cormorant

PELICANS, HERONS, IBISES, AND ALLIES

Pelicans

Brown Pelican

Herons, Bitterns, and Allies

Great Blue Heron

Snowy Egret

Black-crowned Night-Heron

HAWKS, KITES, EAGLES, AND ALLIES

Ospreys

Osprey

Hawks, Kites, Eagles, and Allies

Cooper's Hawk

PASSERINE BIRDS

Tyrant Flycatchers

Cassin's Kingbird

Pacific-slope Flycatcher

Black Phoebe

Crows and Jays

American Crow

ANSERIFORMES

Anatidae

Anas platyrhynchos

COLUMBIFORMES

Columbidae

Columba livia

Streptopelia decaocto

Zenaida macroura

APODIFORMES

Apodidae

Aeronautes saxatalis

Trochilidae

Calypte anna

Selasphorus sasin

CHARADRIIFORMES

Charadriidae

Charadrius vociferus

Laridae

Larus occidentalis

Sternula antillarum browni

Hydroprogne caspia

SULIFORMES

Phalacrocoracidae

Phalacrocorax auritus

PELECANIFORMES

Pelecanidae

Pelecanus occidentalis

Ardeidae

Ardea herodias

Egretta thula

Nycticorax nycticorax

ACCIPITRIFORMES

Pandionidae

Pandion haliaetus

Accipitridae

Accipiter cooperii

PASSERIFORMES

Tyrannidae

Tyrannus vociferans Empidonax difficilis

Sayornis nigricans

Corvidae

Corvus brachyrhynchos



Swallows

Northern Rough-winged Swallow

Barn Swallow

Long-tailed Tits and Bushtits

Bushtit

Wrens

House Wren

Mockingbirds and Thrashers

Northern Mockingbird

Starlings

European Starling

Old World Sparrows

House Sparrow

Fringilline and Cardueline Finches and Allies

House Finch

New World Sparrows

Song Sparrow Dark-eyed Junco

Blackbirds

Hooded Oriole Great-tailed Grackle

Wood-Warblers

Orange-crowned Warbler

Hirundinidae

Stelgidopteryx serripennis

Hirundo rustica

Aegithalidae

Psaltriparus minimus

Troglodytidae

Troglodytes aedon

Mimidae

Mimus polyglottos

Sturnidae

Sturnus vulgaris

Passeridae

Passer domesticus

Fringillidae

Haemorhous mexicanus

Passerellidae

Melospiza melodia Junco hyemalis

Icteridae

Icterus cucullatus Quiscalus mexicanus

Parulidae

Oreothlypis celata

