



Marina del Rey Annual Nesting Bird Survey Project

2023 Annual Report

prepared for

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Table of Contents

1	Introduction	1
1.1	Project Location and Existing Conditions	1
1.2	Local Jurisdiction	5
2	Methodology	7
2.1	Literature Review	7
2.2	Nesting Surveys	7
3	Survey Results	10
3.1	2023 Annual Survey Results	10
3.2	Annual Nesting Trends	11
4	Conclusions	18
4.1	Mariner’s Village	18
4.2	Marquesas Way	18
4.3	Mindanao Way (Burton Chace Park)	19
5	References	20
6	List of Preparers	23

Tables

Table 1	Survey Details	7
Table 2	Species Acronyms	9
Table 3	Active Colonial Waterbird Nests in 2023	10
Table 4	Population Trends by Species, Based on Number of Active Nests ¹	16
Table 5	Population Trends by Nesting Area, Based on Number of Active Nests ¹	17

Figures

Figure 1	Regional Location	2
Figure 2	Project Location and Nesting Areas	4
Figure 3	Incidental Nest Locations and Waterbird Roosts	12
Figure 4	Mariner’s Village Nesting Area	13
Figure 5	Marquesas Way Nesting Area	14
Figure 6	Mindanao Way (Burton Chace Park) Nesting Area	15

Appendices

Appendix A	Species Compendium
Appendix B	Site Photographs
Appendix C	Nest Data Table 2009-2023

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1 Introduction

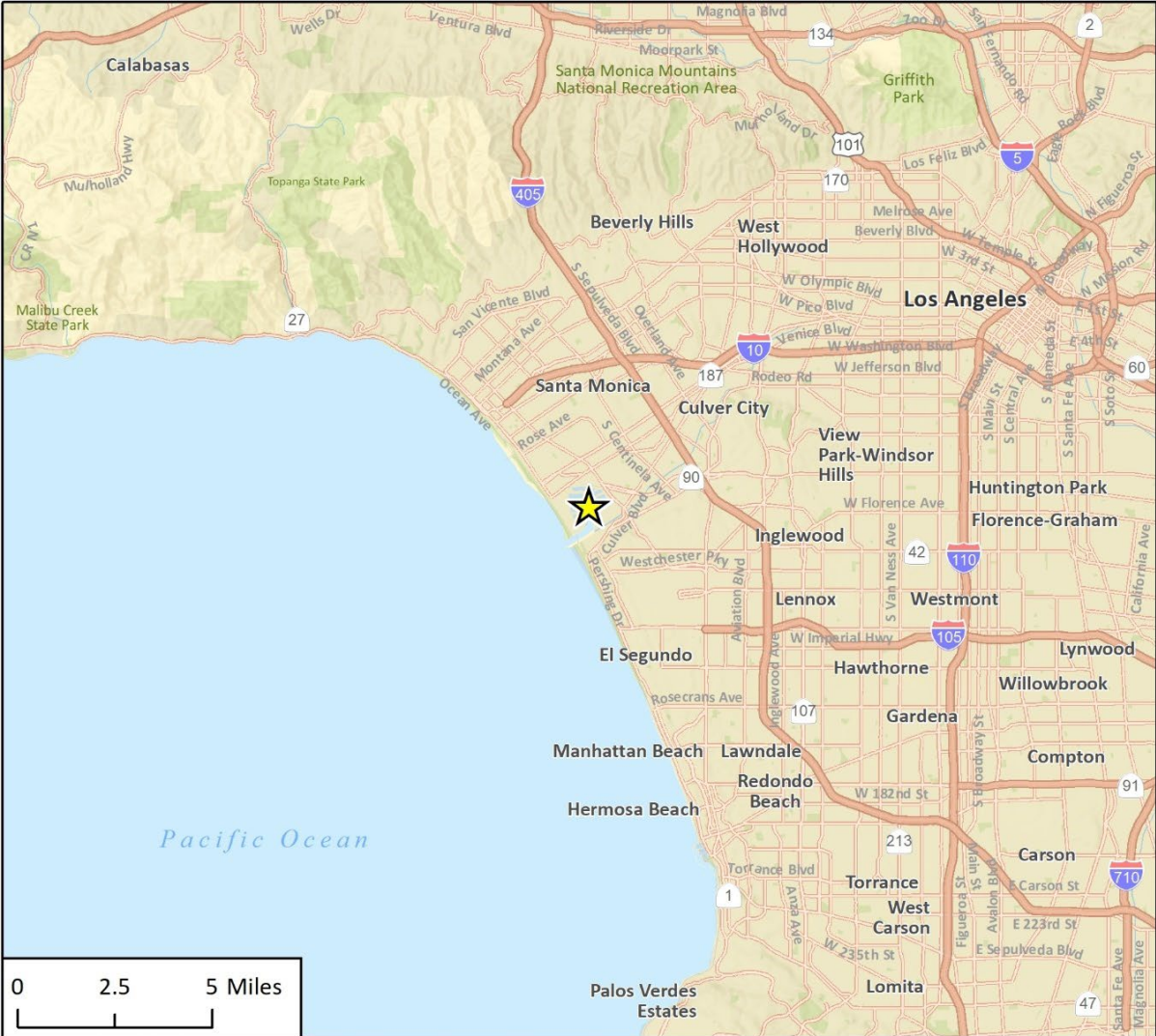
This report presents the results of the 2023 nesting bird surveys conducted for the Los Angeles County Department of Beaches and Harbors in accordance with the annual nesting bird survey requirements of the 2012 Marina del Rey Local Coastal Program (LCP). Rincon Consultants, Inc. (Rincon) conducted four surveys during the nesting bird season (January 1 to September 30) to determine the presence/absence of nesting colonial waterbirds and raptors that may nest in the trees within the unincorporated area of Marina del Rey. The nest surveys are 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) and have been conducted in 2009, 2011, 2012, and 2014-2023. The results of these surveys are referenced to monitor trends in nesting behavior, recommend mitigation measures regarding new plantings or nest removals, and provide information on potential public health, safety, and access concerns. This report provides colonial waterbird and raptor species background information, 2023 nest survey methodology and results, and a discussion of colony trends.

1.1 Project Location and Existing Conditions

Marina del Rey is an unincorporated community in the southwestern portion of Los Angeles County, southeast of the incorporated neighborhood of Venice and north of the incorporated neighborhood of Playa del Rey. The community is surrounded by development to the north and west, and the Ballona Wetlands Ecological Reserve to the east and south (Figure 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 private entities. Numerous ornamental trees and shrubs such as coast coral tree (*Erythrina caffra*), Monterey pine (*Pinus radiata*), stone pine (*Pinus pinea*), Tasmanian blue gum “blue gum” (*Eucalyptus globulus*), rubber fig (*Ficus elastica*), rusty fig (*Ficus rubiginosa*), common olive (*Olea europaea*), broad-leaved paperbark (*Melaleuca quinquenervia*), and Mexican fan palm (*Washingtonia robusta*) border roadways and pedestrian paths in Marina del Rey. Several areas within and adjacent to Marina del Rey have been restored including Oxford Retention Basin (10.27 acres of open water/marsh habitat), Wetland Park (1.46 acres of tidally influenced saltmarsh habitat at Parcel 9), and the margin of Ballona Wetlands Ecological Reserve Area A.

Overall, the conditions of the project area have remained relatively unchanged, with human activity and vehicle traffic levels comparable to 2022. Similar to 2022, colonial waterbird nesting in 2023 appeared to start earlier in the year. Two notable construction activities were observed during the April 21, 2023, survey: parking lot maintenance at the eastern end of Bora Bora Way and renovation of Panay Way’s Dolphin Apartments complex (which continued throughout the 2023 surveys). Additionally, emergency removal of two blue gum trees occurred at Yvonne B. Burke Park (on the north side of Admiralty Way, north of the marina) on June 14, 2023. No other notable construction activities were observed during the surveys.

Figure 1 Regional Location



★ Project Location

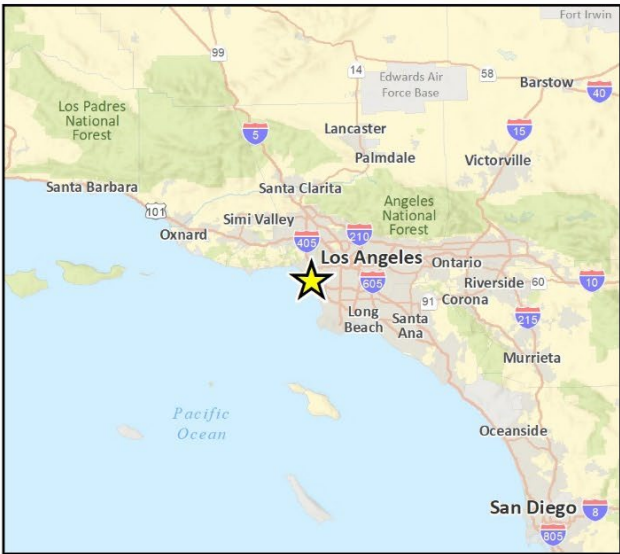


Fig 1 Regional Location

Nesting Bird Survey Area

The nesting bird survey area covered the unincorporated community of Marina del Rey. The survey area is further separated into ten distinct nesting areas based on historical nesting data and to maintain consistency with previous years' reports (Figure 2). Each survey area is briefly described below including general location, land use, and nesting observations from prior surveys.

Admiralty Way

The Admiralty Way nesting area is the northern-most area, located on the northern boundary of Marina del Rey. Admiralty Way is a heavily traveled, four-lane road bordered by Yvonne B. Burke Park and residences to the north. The 10.7-acre Oxford Basin is located on the northwest corner of Admiralty Way.

The southern side of Admiralty Way consists of residential areas, a fire station, and commercial area. The harbor is directly south of this area. A black-crowned night-heron (*Nycticorax nycticorax*, BCNH) colony has previously been documented at this location, and Peregrine falcons (*Falco peregrinus*, PEFA) have also been documented nesting in this area. No other nesting waterbird colonies have been documented within the Admiralty Way area since 2016.

Bali Way

Bali Way nesting area is located southwest of Admiralty Way, one street east of Mindanao Way, and provides access to the Marina del Rey Hotel and Harbor Basins F and G, on the east side of the marina. Suitable nesting/roosting trees line Bali Way; however, no colonial waterbird nesting has been documented in this area since annual surveys began in 2009.

Bora Bora Way

The Bora Bora Way nesting area is south of Tahiti Way along Via Marina. This area is primarily residential with harbor waters located to the north and east. Great blue heron (*Ardea herodias*, GBHE) nesting was documented in the eastern portion of Bora Bora Way in 2016 and again in 2022.

Fiji Way

Fiji Way is located south of Burton Chace Park, across the main channel from Bora Bora Way and Mariner's Village. This area consists of a mix of commercial and residential uses, with several large parking lots. Directly south and east of Fiji Way is Ballona Creek and the Ballona Wetlands Ecological Preserve, a 600-acre conservation site. One active GBHE nest was observed in 2021 on a pine tree. Prior to this 2021 sighting, no active colonial waterbird nests have been documented since 2012.

Mariner's Village

The Mariner's Village nesting area is a primarily residential area with some commercial uses interspersed between apartment complexes. Harbor waters are located to the east and south. Historically, GBHE and double-crested cormorant (*Nannopterum auritum*, DCCO) nest colonies have been documented at this location since annual surveys began in 2009.

Figure 2 Project Location and Nesting Areas



Marquesas Way

The Marquesas Way nesting area is south of Panay Way. It is primarily a residential area, with several apartment complexes and harbor waters to the north, east, and south. Snowy egret (*Egretta thula*, SNEG) and BCNH nest colonies have been observed here each year since annual surveys began in 2009.

Mindanao Way (Burton Chace Park)

The Burton Chace Park nesting area is located east of Marquesas Way across the main channel. The area contains a 10-acre public park that frequently hosts fairs, festivals, and concerts for the community. Harbor waters are located to the north, south and west of the park. DCCO and BCNH nesting colonies were documented previously in this area in 2011, and 2017 through 2021. Cooper's hawk (*Accipiter cooperii*, COHA) nests were documented in 2018 and 2019.

Palawan Way

The Palawan Way nesting area is south of Admiralty Way and is located along the access to Wayfarer Apartments and Basins D and E. Suitable nesting/roosting trees line Palawan Way and are incorporated into the Wayfarer Apartments landscape. No historic nesting by colonial waterbirds has been documented in this area.

Panay Way

The Panay Way nesting area is south of the Palawan Way nesting area and includes trees interspersed throughout the residential and commercial areas, including the parking areas for the marina. There is a public beach north of this area and harbor waters to the north, east, and south. No nesting waterbird colonies have been documented within the Panay Way area.

Tahiti Way

Tahiti Way nesting area is primarily residential and consists of trees along the access to numerous residential complexes and Basins A and B. The 1.46-acre Wetland Park is located on the northeast corner of Tahiti Way and Via Marina. The palm trees along Tahiti Way could be suitable nesting/roosting trees for GBHE; however, most of the trees are along the far north and south sides of the street are completely exposed to prevailing winds. Nesting by colonial waterbirds last occurred in this area in 2018.

1.2 Local Jurisdiction

The Marina del Rey LUP is a component of the Marina del Rey LCP, which was adopted in 1996 and amended in 2012. The LUP guides development in the 804-acre County-owned marina. The LUP was developed to address future land use, new access, recreation and resource protection areas, and improvement of existing facilities. The implementation program for the LUP is the Marina del Rey Specific Plan, which is contained in County Code Title 22 (Planning and Zoning Code). According to the LUP, despite the area being completely urbanized and man-made, colonial waterbirds and their nests exist within the bounds of Marina del Rey which require policy protection as coastal resources per Coastal Act sections 30230, 30231, 30233, and 30250. This protection is also intended to be consistent with the California Environmental Quality Act. Marina del Rey is also bordered by several Environmentally Sensitive Habitat Areas (ESHA) including the Ballona Wetlands, Ballona Lagoon, and the California least tern (*Sterna antillarum browni*, CLTE) roosting area on Venice Beach. As such,

Tree Management Policies 23 and 34 from the LUP of the LCP require an annual survey of breeding and nesting for federal and state-listed species, California Species of Special Concern, and waterbirds on all properties (including private leasehold properties) within the unincorporated area of Marina del Rey that are covered by the LCP.

2 Methodology

2.1 Literature Review

A literature review was conducted that included information on the target species as defined by the Department of Beaches and Harbors. The LUP defines colonial waterbirds as the following five species: double-crested cormorant, great blue heron, great egret (*Ardea alba*, GREG), snowy egret, and black-crowned night-heron. These species have likely been nesting in Marina del Rey since the mid-1990s (Hamilton Biological 2010).

Annual nesting reports for the survey area from previous years were also reviewed:

- Final Report on Nesting Waterbirds and Raptors, Marina del Rey, Los Angeles County, CA (Hamilton Biological 2014)
- Final Report on Nesting Waterbirds and Raptors, Marina del Rey, Los Angeles County, CA (Hamilton Biological 2015)
- Final 2016 Report on Nesting Colonial Waterbird and Raptor Survey Results for Marina del Rey, Los Angeles County, California (Rincon 2016)
- Final 2017 Report on Nesting Colonial Waterbird and Raptor Survey Results for Marina del Rey, Los Angeles County, California (Rincon 2017)
- Final Nesting Bird Survey Report Marina del Rey, Los Angeles County, California (Environmental Intelligence 2018)
- Final Nesting Bird Survey Report Marina del Rey, Los Angeles County, California (Environmental Intelligence 2019).
- Final 2020 Report on Nesting Colonial Waterbird and Raptor Survey Results for Marina del Rey, Los Angeles County, California (Rincon 2020)
- Final 2021 Report on Nesting Colonial Waterbird and Raptor Survey Results for Marina del Rey, Los Angeles County, California (Rincon 2021)
- Final 2022 Report on Nesting Colonial Waterbird and Raptor Survey Results for Marina del Rey, Los Angeles County, California (Rincon 2022)

2.2 Nesting Surveys

The nesting bird surveys for colonial waterbirds and raptors were conducted by Rincon Biologist Nicholas Fager between April 21, 2023, and July 17, 2023. Table 1 provides the timing and environmental conditions during the surveys.

Table 1 Survey Details

Survey Date	Time	Observers	Weather
April 21, 2023	0645-1830	Nicholas Fager	62-68°F, 1-9 mph, 0% cloud cover AM – 20% cloud cover PM
May 23, 2023	0700-1856	Nicholas Fager	60-61°F, 0-6 mph, 100% cloud cover AM – 100% cloud cover PM
June 20, 2023	0800-1515	Nicholas Fager	66-69°F, 1-13 mph, 20% cloud cover AM – 0% cloud cover PM
July 17, 2023	0930-1400	Nicholas Fager	75-76°F, 4-8 mph, 80% cloud cover AM – 0% cloud cover PM

The nesting survey area included all 10 nesting areas, including the entire Survey Boundary as shown in Figure 2. The biologist searched both active and inactive colonial waterbird nests and raptors in accordance with the requirements outlined in Policies 23 and 34 in the Marina del Rey LCP, including all suitable and historic nesting sites. The biologist made observations from the ground, surveying for existing and remnant nest structures, whitewash, birds exhibiting breeding/nesting behavior (i.e., courtship displays, copulation, vegetation or food carries, and territorial displays), and the presence of fledglings. Where nests or young were suspected, close physical inspection of the tree was conducted to confirm presence or absence of nests or birds. Binoculars (8x42) were used to aid in the identification of birds and nests. Inaccessible areas (i.e., fenced construction zones and private properties) were also surveyed from the nearest accessible vantage point with the aid of binoculars. The locations of all trees containing waterbird nests were recorded using a Samsung Tablet Geographic Information System (GIS) tracker and Field Maps application.

Nests were identified as “active” based on observations of at least one adult constructing or attending the nest, including incubation, brooding, and nest maintenance. Nests with at least one offspring were also considered “active”, as were nests that appeared to be recently constructed (new nesting material and recent whitewash present on or under the nest) with an adult bird perching nearby. The survey methods documented in the 2009, 2011, 2012, and 2014 – 2022 reports for determining “active” or “likely active” nests were referenced to compare the previously documented nesting trends from 2009 onward. “Roost” trees are those that did not contain nest structures but were observed with a significant amount of white-wash underneath and/or a colonial waterbird was observed sitting on a branch.

Where possible, waterbird nests observed during the surveys were identified by avian species. Smaller waterbird colonial nests were presumed to belong to BCNH and/or SNEG if the bird was not directly observed, and larger waterbird colonial nests were presumed to belong to GBHE or GREG. Other indicators that waterbird nesting was occurring on these unoccupied nest structures include feather and guano deposits, other avian activity, and/or presence of broken eggs or dead fledglings. Incidental and non-waterbird nests were also documented during the surveys per Los Angeles County Department of Beaches and Harbors request. Some nests were unable to be determined down to species due to inactivity, degradation, and isolation from other colonial nests. Unspecified small nests were classified as unknown passerine nests while unspecified large nests were classified as unknown corvid nests. All nests not determined to be utilized by waterbirds are considered “incidental” regardless of species. Nest counts were compared with those from similar waterbird nesting surveys conducted at Marina del Rey, including: 2009 (Hamilton Biological 2010), 2014 (Hamilton Biological 2014), 2015 (Hamilton Biological 2015), 2016 (Rincon 2016), 2017 (Rincon 2017), 2018 (Environmental Intelligence 2018), 2019 (Environmental Intelligence 2019), 2020 (Rincon 2020), 2021 (Rincon 2021), and 2022 (Rincon 2022). Birds are referred to by their four-letter species acronym throughout this report as defined in Table 2 below.

Table 2 Species Acronyms

Species Name	Acronym
black-crowned night heron	BCNH
double-crested cormorant	DCCO
great blue heron	GBHE
great egret	GREG
snowy egret	SNEG
American crow	AMCR
Cooper's hawk	COHA
* Large colonia waterbirds include GBHE and GREG and small colonial waterbirds include SNEG and BCNH.	

3 Survey Results

3.1 2023 Annual Survey Results

During the 2023 breeding season, 180 active colonial waterbird and 19 incidental passerine and American crow (*Corvus brachyrhynchos*, AMCR) nests were detected. The following species were observed: BCNH, DCCO, GBHE, and SNEG, including several small unknown colonial waterbird nests (Table 3). No nesting GREG were observed during the 2023 surveys. As indicated in Table 3 below, the 180 active nests were in 35 trees within three nesting areas: Mariner's Village (seven trees), Marquesas Way (24 trees), and Mindanao Way at Burton Chace Park (four trees). No active colonial waterbird nests were observed in the Admiralty Way, Bali Way, Bora Bora Way, Fiji Way, Palawan Way, Panay Way, or Tahiti Way nesting areas in 2023; however, waterbirds were observed roosting at Admiralty Way, Bora Bora Way, Mariner's Village, Marquesas Way, Mindanao Way at Burton Chace Park, and Palawan Way. Roost locations and incidental passerine nests observed are depicted on Figure 3. As shown, 12 AMCR nests were observed: one along Via Marina, four within Mariner's Village, one along Tahiti Way, three along Admiralty Way, two near the visitor center located at the intersection of Mindanao Way and Admiralty Way, and one along Fiji Way. An additional seven unknown passerine nests were observed within the survey area. See Appendix A for a list of all avian species observed through all surveys, Appendix B for nest photos, and Appendix C for tree numbers, locations, and descriptions.

Table 3 Active Colonial Waterbird Nests in 2023

Location	GBHE	BCNH	SNEG	DCCO	Large Unknown	Small Unknown	Total
Mariner's Village	19	1	0	16	0	0	36
Marquesas Way	0	57	34	0	0	32	123
Mindanao Way (Burton Chace Park)	0	2	0	18	0	1	21
Total	19	60	34	34	0	33	180

Mariner's Village

A total of 36 active nests were detected in the Mariner's Village nesting area in 2023 (Figure 4). Of these 36 nests, 19 were confirmed to be GBHE nests, one was confirmed to be a BCNH nest, and 16 were confirmed to be DCCO nests. The 19 confirmed GBHE nests were located within five different trees, including three pine trees and two blue gum trees; 16 DCCO nests were in one blue gum tree; and one BCNH nest was observed within a pine tree. In addition, six incidental nests were observed throughout Mariner's Village in 2023, four of which were identified as inactive AMCR nests, and two nests were determined to belong to smaller unknown passerine species.

Marquesas Way

A total of 123 waterbird nests were observed in the Marquesas Way nesting area (Figure 5). The biologist determined that 57 of these nests belonged to BCNH, 34 to SNEG, and 32 nests were small unknown nests, but presumed to have been used by either BCNH or SNEG based on historical nesting trends, nest structure/material, excrement, and feathers present. Most of the waterbird nests were in broad-leaved paperbark trees along the road median throughout Marquesas Way,

while several nests were also observed in rubber fig trees, pine trees, and common olive trees located in adjacent private property.

Mindanao Way (Burton Chace Park)

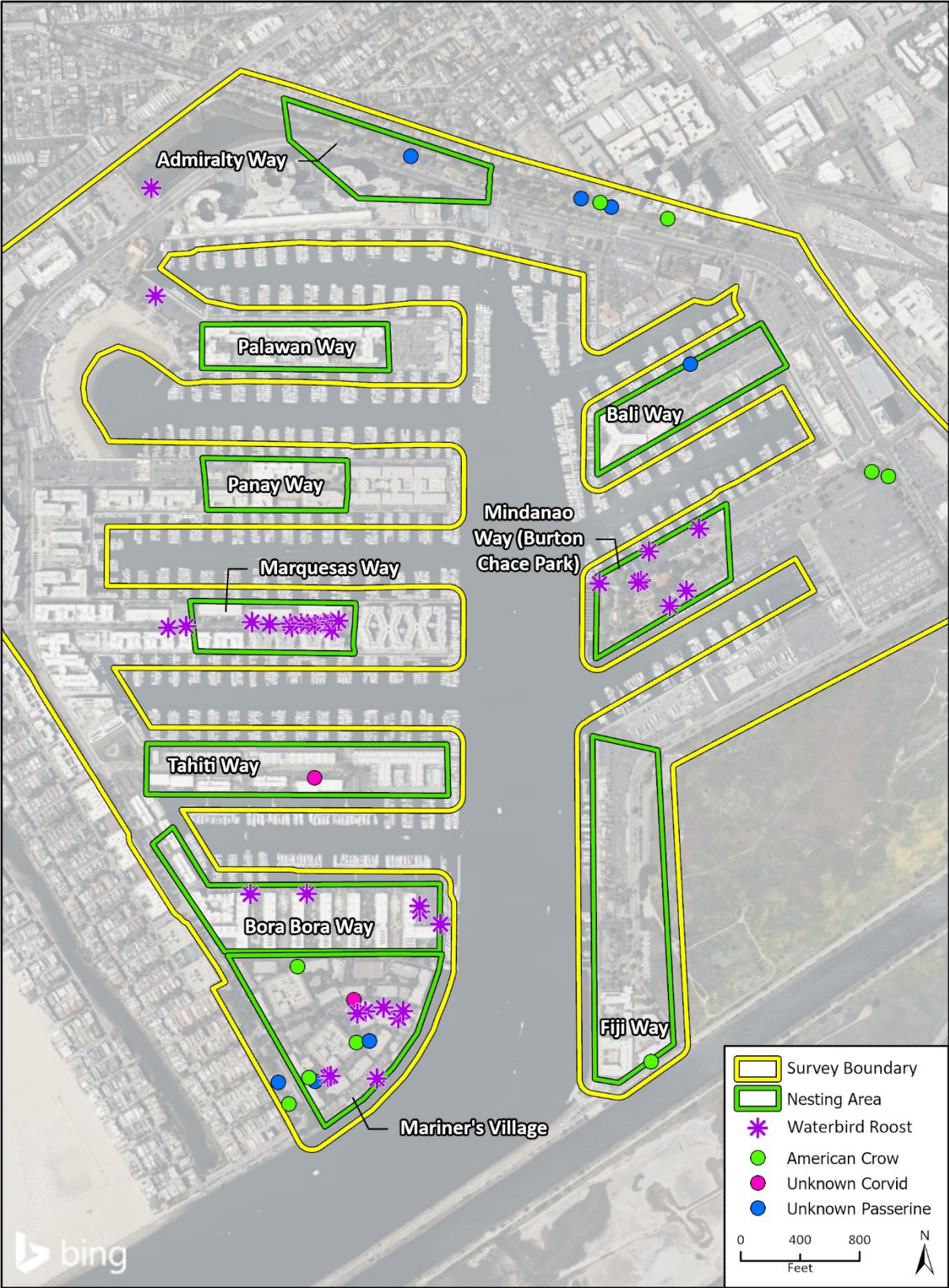
A total of 21 active waterbird nests were observed in the Mindanao Way nesting area. Most of the waterbird nesting observations were comprised of 17 DCCO nests located in a historically occupied gum tree on the east side of Burton Chace Park, northeast of the boathouse building at 13640 Mindanao Way. A single DCCO nest was also observed in a new nesting tree near the southeast corner of the park (Figure 6). Additionally, two BCNH nests were observed in a gum tree north of the park's central seating area and one unidentified waterbird nest was observed within a gum tree located in an adjacent parking lot north of the park. The biologist determined that the small unknown nest was likely used by either BCNH or SNEG based on historical nesting trends, nest structure/material, tree species, excrement, and feathers present. Two inactive AMCR nests were observed near the Mindanao Way nesting area and were located within the visitor center parking lot at the intersection of Mindanao Way and Admiralty Way.

3.2 Annual Nesting Trends

Table 4 provides waterbird population trends by species between 2009 and 2023. Data analysis suggests that BCNH populations have fluctuated over the past five years, with 2020 and 2023 representing the most nesting BCNH occurrences at 64 and 60, respectively. Populations of SNEG have continued to fluctuate over this time frame as well, with nesting occurrences peaking in 2021 and 2023. GBHE nesting reached its highest levels since 2014, as GBHE nesting increased 137 percent from 2022 to 2023 (14 nests in 2022 and 19 nests in 2023). Although there was a dip in population during the 2019 surveys, DCCO populations continued to increase since 2018, with 2023 representing the most nesting DCCO observations since surveys began in 2009. Survey results in 2023 continue the trend of no nesting GREG observations, as they have not nested in any of the nesting areas since 2012 following a decline from an already low population.

Table 5 provides waterbird population trends at each nesting area between 2009 and 2023. Results continue to indicate that GBHE are selecting nest sites in Mariner's Village and DCCO are selecting nest sites in both Mariner's Village and Burton Chace Park. The GBHE and DCCO nesting trees in Mariner's Village and Burton Chace Park contained significantly more nests in 2023 than in 2022 (Appendix C). Despite the observation of one GBHE nest in Bora Bora Way in 2022, no nesting activity was observed there in 2023. Trends in BCNH and SNEG populations continue to show an increasing affinity for the Marquesas Way nest area. Unknown passerine and corvid nest observations decreased from 2022 (48 nests) to 2023 (19 nests) but were largely located in the same nesting areas along Admiralty Way and within Mariner's Village. Colonial waterbird nesting activity trends in each of the three nesting areas are described in more detail below.

Figure 3 Incidental Nest Locations and Waterbird Roosts



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23-14248 Mdr Bird Surveys 2023

Figure 4 Mariner's Village Nesting Area



Figure 5 Marquesas Way Nesting Area



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23-14248 Mdr Bird Surveys 2023

Figure 6 Mindanao Way (Burton Chace Park) Nesting Area



Table 4 Population Trends by Species, Based on Number of Active Nests¹

Species	2009	2011 ¹	2012 ³	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Trend
Black-crowned night-heron (BCNH) ²	43	81	64	81	73	57	56	41	48	64	51 ⁵	41	60	Mixed
Snowy egret (SNEG)	35	24	10	18	25	26	18	33	14	32	34	21	34	Mixed
Great blue heron (GBHE)	32	25	28	22	14	16	17	13	19	12	12	8	19	Decrease, then mixed
Great egret (GREG) ⁴	5	1	1	0	0	0	0	0	0	0	0	0	0	Decrease, then absent
Double-crested cormorant (DCCO)	19	22	24	30	19	22	20	26	17	26	32	29	34	Increase, then stable
Small Unknown	N/A	N/A	N/A	N/A	16	14	24	0	0	2	42	32	33	Mixed, then stable
Large Unknown	N/A	N/A	N/A	N/A	2	0	0	0	0	0	1	0	0	Stable
Total	134	153	127	151	149	135	135	113	98	136	176	133	180	

¹ This data does not include 2010 and 2013 because surveys were not conducted in those years

² Consistent with previous year's surveys, this data includes undetermined small colonial waterbird nests (SNEG/BCNH)

³ Based on Hamilton Biological (2015) that noted this was from a single day survey

⁴ Includes undetermined large colonial waterbird nests (GBHE/GREG)

⁵ An early nesting season led to a high number of unknown small waterbird nests, many of these were likely BCNH

Table 5 Population Trends by Nesting Area, Based on Number of Active Nests¹

Location ¹	2009	2011	2012	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Trends
Admiralty Way	71	64	25	33	17	2	0	0	0	0	0	0	0	Decrease
Bora Bora Way ²	N/A	N/A	N/A	11	0	1	0	0	0	0	1	1	0	Decrease
Fiji Way	25	29	12	0	0	0	0	0	0	0	1	0	0	Decrease
Mariners Village	29	18	41	53	35	37	49	38	34	32	31	28	36	Mixed, then stable
Marquesas Way	9	38	49	66	97	96	85	74	62	95	127	93	123	Mixed
Mindanao Way (Burton Chace Park)	0	4	0	0	0	0	1	1	2	9	16	11	21	Increase
Tahiti Way	0	0	0	0	0	0	0	1	0	0	0	0	0	Anomaly in 2018
Total	134	153	127	163	149	136	135	113	98	136	176	133	180	

¹ Bali Way, Palawan Way, and Panay Way are not included as no active colonial waterbird nests were observed in those nesting areas during any of the survey years.

² No data was recorded for Bora Bora Way during the 2009, 2011, and 2012 surveys conducted by Hamilton Biological.

4 Conclusions

Similar to previous years, nesting waterbird colonies were concentrated within three nesting areas during the 2023 nesting season: Marquesas Way, Mariners Village, and Mindanao Way (Burton Chace Park). No colonial waterbird nesting was observed in the other seven nesting areas; therefore, they are not discussed in further detail. In general, avian activity during all four surveys was higher compared to the 2022 nesting season, as the number of active nests for all colonial waterbird species increased from 133 in 2022 to 180 in 2023. As observed during the 2022 surveys, nesting activity appeared to occur earlier in the season in 2023 compared to previous years for all observed waterbird species. High levels of waterbird activity and several fledglings were observed during the first survey on April 21. As the end of the survey period approached, waterbird activity decreased as fledglings left the nests.

The survey area supported more nesting waterbirds than in 2022 (133 nests), and the 180 active nests identified in 2023 resemble a similar observation in 2021, during which 176 active nests were recorded. This year's survey results also indicate that BCNH are expanding their nesting range by selecting trees further west along Marquesas Way while SNEG nesting remains concentrated near the eastern end. The increase and geographical expansion in nesting waterbird observations compared to 2022 may be explained in part due to a combination of waterbird breeding cycles as well as this year's rain season, in which Los Angeles County experienced its wettest season since 2004-2005 (National Weather Service 2023) that extended into the month of March. Greater precipitation in 2022-2023 resulted in increased foliage and canopy cover throughout the survey area, which may have improved the waterbird roosting and nesting habitat. In addition, the increase in nesting observations may have also been attributed to a high number of nestlings reaching sexual maturity in 2023 from the 2020/2021 nesting season; BCNH, DCCO, and GBHE generally reach sexual maturity at 2-3 years of age and SNEG at 1-2 years (Dorr et al. 2014; Hothem et al. 2010; Parsons and Master 2000; Vennesland and Butler 2011).

4.1 Mariner's Village

Mariner's Village continues to be the most active GBHE nesting site within the survey area, as a grove of pine trees at the eastern end of the apartment complex, along with decorative water features, serves as active roosting and foraging habitat. This nesting area supports larger waterbird species, which roost within the mature pine tree canopy at Mariner's Village. In 2023, GBHE nesting activity was concentrated in two pine trees near the center of the apartment complex, with one pine tree and two blue gum trees being utilized as nesting sites along the outskirts of the apartment complex as well. DCCO nesting activity in Mariner's Village has remained stable throughout the previous five years, with DCCO's utilizing a single blue gum tree on the northeast end of Mariner's Village in 2023.

4.2 Marquesas Way

Marquesas Way continues to be the most active SNEG and BCNH nesting area within the survey area. The total number of nests in 2023 increased by 33 percent compared to 2022, which is likely a result of the juveniles reaching sexual maturity from the 2020/2021 nesting season. Consistent with 2022 survey observations, an increased rate of nest development (construction, incubation,

brooding, etc.) was observed early in the 2023 survey period compared to prior nesting seasons. Fledglings were observed during the first survey in April and throughout the subsequent three surveys. This indicates that early nesting in this area does not negatively impact the hatch fate of SNEG and BCNH nests. BCNH young leave the nest at approximately one month of age to forage on the ground, despite their inability to fly until they are six weeks old (Hothem et.al 2010). Likewise, SNEG young are capable of leaving the nest as early as ten days of age when disturbed, although they typically return to the nest if feasible (Parsons and Master 2000). SNEG fledglings typically remain near the colony for approximately seven to eight weeks. The behavior of these two species presents a challenge at this nesting area due to the high level of vehicle and pedestrian traffic, as a total of three fledgling BCNH carcasses were observed during the June and July surveys along Marquesas Way. Communication with local law enforcement during the June 20 survey suggests that vehicle strikes are the leading cause of fledgling mortality; however, these numbers have not been quantified.

To reduce vehicle strikes, the County installed traffic caution signs in early July 2016 along Marquesas Way to encourage drivers to slow down and watch for birds. Additional sign postings, enforcement of speed limits, and general community education/outreach may help decrease the death toll of young birds in the Marquesas Way nesting area.

4.3 Mindanao Way (Burton Chace Park)

Since 2019, a single gum tree located on the east side of the Burton Chace Park continues to contain the majority of waterbird nests in the Mindanao Way nesting area. The biologist observed 18 DCCO nests in this tree in 2023, as well as one DCCO nest in an adjacent tree (CP-137). Additionally, two BCNH nests were observed in a gum tree located in the northern section of the park, and one unidentified small waterbird nest was observed in a parking lot north of the park. Mindanao Way's waterbird nesting activity has increased throughout the previous five years, with 2023 representing the highest number of observed nests since surveys began. Burton Chace Park's proximity to open water in the harbor, coupled with the current trend of increasing waterbird nesting observations, suggests that Burton Chace Park will remain an active waterbird nesting habitat in the upcoming years.

5 References

- American Ornithologists' Union (AOU). 2010. Check-list of North American Birds. Retrieved from: <http://www.americanornithology.org/content/checklist-north-and-middle-american-birds> (Accessed July 2023).
- Beaver, D.L., Osborn, R.G., and Custer, T.W. 1980. Nest site and colony characteristics of wading birds in selected Atlantic coast colonies. *The Wilson Bulletin*, vol. 92 (2): 200-220.
- California Department of Fish and Wildlife (CDFW). 2020a. California Natural Diversity Database, Rarefind V. (Accessed July 2023).
- _____. 2020b. Special Animals List. Biogeographic Data Branch, California Natural Diversity Database. July 2020.
- _____. 2020c. Biogeographic Information and Observation System (BIOS). Retrieved July 20, 2020. www.wildlife.ca.gov/data/BIOS (Accessed July 2023).
- County of Los Angeles Department of Regional Planning. 2012. Marina del Rey Land Use Plan. Certified by the California Coastal Commission, February 8, 2012.
- Crouch, S., C. Paquette, and D. Vilas. 2002. Relocation of a large Black-crowned Night Heron colony in southern California. *Waterbirds*, no. 25 (4):474-478. (Accessed July 2023).
- Dorr, B.S., J.J. Hatch, and D.V. Weseloh. 2014. Double-crested Cormorant (*Phalacrocorax auritus*), version 2.0. In *The Birds of North America* (A.F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bna.441> (Accessed July 2023).
- Dorr, B.S., Sullivan, K.L., Curtis, P.D., Chipman, R.B., and McCullough, R.D. 2016. Wildlife damage management technical series: Double-crested Cormorants. U.S. Department of Agriculture, Animal & Plant Health Inspection Service.
- Environmental Intelligence, LLC. (EI). 2018. Final Nesting Bird Survey Report Marina del Rey, Los Angeles County, California. Prepared for County of Los Angeles Department of Beaches and Harbors and Department of Regional Planning. August 2018.
- _____. 2019. Final Nesting Bird Survey Report Marina del Rey, Los Angeles County, California. Prepared for County of Los Angeles Department of Beaches and Harbors and Department of Regional Planning. August 2019.
- Gibbs, J. P., Woodward, S., Hunter, M.L., Hutchinson, A.E. 1987. Determinants of Great Blue Heron Colony Distribution in Coastal Maine. *The Auk*, vol. 104 (1):38–47. <https://doi.org/10.2307/4087230> (Accessed July 2023).
- Hamilton Biological, Inc. 2010. Conservation and Management Plan for Marina del Rey, Los Angeles County, California. Prepared for County of Los Angeles Department of Beaches and Harbors and Department of Regional Planning. September 16, 2010.
- _____. 2014. Final Report on Nesting Waterbirds and Raptors, Marina del Rey, Los Angeles County, CA. Prepared for County of Los Angeles Department of Beaches and Harbors. September 11, 2014.

- _____. 2015. Final Report on Nesting Waterbirds and Raptors, Marina del Rey, Los Angeles County, CA. Prepared for County of Los Angeles Department of Beaches and Harbors. August 31, 2015.
- Harkinezhad, T., Geens, T., and Vanrompay, D. 2009. Chlamydophila psittaci infections in birds: A review with emphasis on zoonotic consequences. *Veterinary Microbiology* 135:68–77.
- Hothem, R.L., B.E. Brussee, and W.E. Davis Jr. 2010. Black-crowned Night-Heron (*Nycticorax nycticorax*), version 2.0. In *The Birds of North America* (A.F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bna.74> (Accessed July 2023).
- Jones, H.P., Kress, S.W. A Review of the World's Active Seabird Restoration Projects. *The Journal of Wildlife Management*, 76(1):2-9. (Accessed July 2023).
- McCrimmon Jr., D.A., J.C. Ogden, and G.T. Bancroft. 2011. Great Egret (*Ardea alba*), version 2.0. In *The Birds of North America* (A.F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bna.570> (Accessed July 2023).
- Minias, P. 2014. Evolution of within-colony distribution patterns of birds in response to habitat structure. *Behavioral Ecology and Sociobiology*, 68:851-859.
- National Weather Service (NWS). 2023. NWS Forecast Office Los Angeles, CA. Accessed July 10, 2023.
- Parnell, J.F., D.G. Ainley, H. Blokpoel, B. Cain, T.W. Custer, J.L. Dusi, S. Kress, J.A. Kushlan, W.E. Southern, L.E. Stenzel, and B.C. Thompson. 1988. Colonial Waterbird Management in North America. *Journal of the Colonial Waterbird Society*, vol. 11 (2):129-169.
- Parsons, K.C. and T.L. Master. 2000. Snowy Egret (*Egretta thula*), version 2.0. In *The Birds of North America* (A.F. Poole and F.B. Gill, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bna.489> (Accessed July 2023).
- Rincon Consultants, Inc. (Rincon). 2016. Final 2016 Report on Nesting Colonial Waterbird and Raptor Survey Results for Marina del Rey, Los Angeles County, California. Prepared for County of Los Angeles Department of Beaches and Harbors. August 15, 2016.
- _____. 2017. Final 2017 Report on Nesting Colonial Waterbird and Raptor Survey Results for Marina del Rey, Los Angeles County, California. Prepared for County of Los Angeles Department of Beaches and Harbors. July 31, 2017.
- _____. 2020. Final 2020 Report on Nesting Colonial Waterbird and Raptor Survey Results for Marina del Rey, Los Angeles County, California. Prepared for County of Los Angeles Department of Beaches and Harbors. July 31, 2020.
- _____. 2021. Final 2021 Report on Nesting Colonial Waterbird and Raptor Survey Results for Marina del Rey, Los Angeles County, California. Prepared for County of Los Angeles Department of Beaches and Harbors. August 10, 2021.
- _____. 2022. Final 2022 Report on Nesting Colonial Waterbird and Raptor Survey Results for Marina del Rey, Los Angeles County, California. Prepared for County of Los Angeles Department of Beaches and Harbors. August 10, 2022.
- Vennesland, R.G. and R.W. Butler. 2011. Great Blue Heron (*Ardea herodias*), version 2.0. In *The Birds of North America* (A.F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bna.25> (Accessed July 2023).

County of Los Angeles Department of Beaches and Harbors
Marina del Rey Annual Nesting Bird Survey Project

United States Fish and Wildlife Service (USFWS). 1973. The Endangered Species Act of 1973, as amended (16 U.S.C 1531 et seq.).

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Appendix A

Species Compendium

Species Name	Acronym	Scientific Name
Allen's hummingbird	ALHU	<i>Selasphorus sasin</i>
American crow	AMCR	<i>Corvus brachyrhynchos</i>
barn swallow	BARS	<i>Hirundo rustica</i>
black-crowned night heron	BCNH	<i>Nycticorax nycticorax</i>
black phoebe	BLPH	<i>Sayornis nigricans</i>
brown pelican	BRPE	<i>Pelecanus occidentalis</i>
California towhee	CALT	<i>Melospiza crissalis</i>
Canada goose	CANG	<i>Branta canadensis</i>
Caspian tern	CATE	<i>Hydroprogne caspia</i>
common raven	CORA	<i>Corvus corax</i>
common yellowthroat	COYE	<i>Geothlypis trichas</i>
Cooper's hawk	COHA	<i>Accipiter cooperii</i>
dark-eyed junco	DEJU	<i>Junco hyemalis</i>
double-crested cormorant	DCCO	<i>Phalacrocorax auritus</i>
elegant tern	ELTE	<i>Thalasseus elegans</i>
European starling	EUST	<i>Sturnus vulgaris</i>
great blue heron	GBHE	<i>Ardea herodias</i>
great egret	GREG	<i>Ardea alba</i>
hooded oriole	HOOR	<i>Icterus cucullatus</i>
house finch	HOFI	<i>Haemorhous mexicanus</i>
house sparrow	HOSP	<i>Passer domesticus</i>
mallard	MALL	<i>Anas platyrhynchos</i>
mourning dove	MODO	<i>Zenaida macroura</i>
northern harrier	NOHA	<i>Circus hudsonius</i>
orange-crowned warbler	OCWA	<i>Leiothlypis celata</i>
red-tailed hawk	RTHA	<i>Buteo jamaicensis</i>
ring-billed gull	RBGU	<i>Larus delawarensis</i>
rock pigeon	ROPI	<i>Columba livia</i>
song sparrow	SOSP	<i>Melospiza melodia</i>
snowy egret	SNEG	<i>Egretta thula</i>
turkey vulture	TUVU	<i>Cathartes aura</i>
western gull	WEGU	<i>Larus occidentalis</i>
white-throated swift	WTSW	<i>Aeronautes saxatalis</i>
yellow-crowned night heron	YCNH	<i>Nyctanassa violacea</i>
yellow-rumped warbler	YRWA	<i>Setophaga coronata</i>

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Appendix B

Site Photographs



Photograph 1. GBHE nest located in tree 28 at Mariner’s Village during April 21, 2023, survey, facing south.



Photograph 2. BCNH roosting in tree located at Mariner’s Village during May 23, 2023, survey, facing southeast.



Photograph 3. Deceased DCCO in tree 22 located at Mariner's Village during May 23, 2023, survey, facing southeast.



Photograph 4. Nesting GBHE in tree 63 located at Mariner's Village during May 23, 2023, survey, facing east.



Photograph 5. Two GBHE nests in tree 23 located at Mariner's Village during July 17, 2023, survey, facing west.



Photograph 6. Sidewalk maintenance construction occurring at northeastern end of Bora Bora Way during April 21, 2023, survey, facing east.



Photograph 7. Guano deposits under roost tree located at Bora Bora Way during May 23, 2023, survey, facing south.



Photograph 8. Deceased juvenile BCNH under tree 81 located at Marquesas Way during June 20, 2023, survey, facing north.



Photograph 9. DCCO nests in tree CP-220 located at Burton Chace Park during April 21, 2023, survey, facing south.



Photograph 10. Guano deposits under tree CP-26 located at Burton Chace Park during April 21, 2023, survey, facing west.

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Appendix C

Nest Data Table 2009-2023

Nest Data Table 2009-2023

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	0	0	0	0	4	0	0	0
			2015	0	0	1	0	3	0	0	0
	5	Ficus	2011	x	x	x	x	x	x	x	x
			2012	x	x	x	x	x	x	x	x
			2014	0	0	1	0	0	0	0	0
	6	Ficus	2011	x	x	x	x	x	x	x	x
			2012	x	x	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	x	x	x	x	x	x	x	x
			2011	x	x	x	x	x	x	x	x
			2012	x	x	x	x	x	x	x	x
			2014	0	0	1	0	0	0	0	0
	8	Ficus	2009	x	x	x	x	x	x	x	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	x	x	x	x	x	x	x
			2011	x	x	x	x	x	x	x	x
			2012	x	x	x	x	x	x	x	x
			2014	0	0	1	0	3	0	0	0
			2015	0	0	1	0	3	0	0	0
			2016	0	0	1	0	0	0	0	0
	10	Ficus	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	0	0	2	0	0	0
	42	N/A	2014	0	0	0	0	0	0	1	0
			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	x	x	x	x	x	x	x
	BP-148	Eucalyptus sp.	2011	x	x	x	x	x	x	x	x
			2012	x	x	x	x	x	x	x	x
			2014	0	0	1	0	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
	BP-150	Eucalyptus sp.	2012	x	x	x	x	x	x	x	x
			2014	0	0	1	0	11	0	0	0
	OX-10	Eucalyptus	2011	x	x	x	x	x	x	x	x
	OX-17	Eucalyptus sp.	2018	0	0	0	0	0	0	0	1
Bali Way	BA-1	Erythrina caffra	2019	0	0	0	0	1	0	0	0
Bora Bora Way	46	Pinus	2014	0	1	0	0	0	0	0	0
			2021	0	0	1	0	0	0	0	0
			2022	1	0	0	0	0	0	0	0
	77	Pinus	2016	1	0	0	0	0	0	0	0
Fiji Way	73	Washingtonia	2012	x	x	x	x	x	x	x	x
	FJ-209	Washingtonia robusta	2012	x	x	x	x	x	x	x	x
	FJ-2021-1	Pinus	2021	1	0	0	0	0	0	0	0
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
			2017	2	0	0	0	0	0	0	0
			2018	0	0	0	0	0	2	0	0
			2019	0	0	0	0	0	1	0	0
			2020	0	0	0	0	0	2	0	0
			2021	0	0	0	0	0	1	0	0
			2022	0	0	0	0	0	1	0	0
			2023	0	0	0	0	0	16	0	0
	23	Eucalyptus	2011	x	x	x	x	x	x	x	x
			2012	x	x	x	x	x	x	x	x
			2014	2	1	0	0	0	0	0	0
			2015	3	0	0	0	0	0	0	0
			2016	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
			2019	0	0	0	0	0	2	0	0
			2021	0	1	0	0	0	0	0	0
			2022	0	0	2	0	0	0	0	0
			2023	2	0	0	0	0	0	0	0
	24	Eucalyptus	2011	x	x	x	x	x	x	x	x
			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

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
	25	Eucalyptus	2017	0	0	0	0	0	20	0	0
			2018	0	0	0	0	0	21	0	0
			2019	0	0	0	0	0	12	0	0
			2020	0	0	0	0	0	16	0	0
			2021	0	0	0	0	0	15	0	0
			2022	0	0	0	0	0	17	0	0
			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
			2023	1	0	0	0	0	0	0	0
	28	Pinus	2011	x	x	x	x	x	x	x	x
			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
			2018	4	0	0	0	0	0	0	0
			2019	5	0	0	0	0	0	0	0
			2020	5	0	0	0	0	0	0	0
			2022	1	0	0	0	0	0	0	0
			2023	3	0	0	0	0	0	0	0
	29	Pinus	2014	3	1	0	0	0	0	0	0
			2015	2	2	0	0	0	0	0	0
			2016	5	0	0	0	0	0	0	0
			2017	5	0	0	0	0	0	0	0
			2018	8	0	0	0	0	0	0	0
			2019	12	0	0	0	0	0	0	0
			2020	2	0	0	0	0	0	0	0
			2021	8	0	0	0	0	0	0	0
			2022	2	0	0	0	0	0	0	0
			2023	9	0	0	0	0	0	0	0
	30	Eucalyptus	2014	1	0	0	0	0	0	0	0
			2017	0	1	0	0	0	0	0	0
			2020	0	1	0	0	0	0	0	0
	59	Eucalyptus	2014	0	2	0	0	0	0	0	0
			2015	1	0	0	0	0	0	0	0
			2016	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
	62	Ficus	2017	1	0	0	0	0	0	0	0
			2018	1	0	0	0	0	0	0	0
			2019	0	1	0	0	0	0	0	0
			2020	1	0	0	0	0	0	0	0
			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
			2019	0	0	0	0	1	0	0	0
			2014	0	1	0	0	0	0	0	0
	63	Pinus	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
			2019	1	0	0	0	0	0	0	0
			2020	4	0	0	0	0	0	0	0
			2021	3	0	0	0	0	0	0	0
			2022	3	0	0	0	0	0	0	0
			2023	4	0	0	0	0	0	0	0
			2015	1	0	0	0	0	0	0	0
	64	Eucalyptus	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
			2019	1	0	0	0	0	0	0	0
	86	Eucalyptus	2022	1	0	0	0	0	0	0	0
			2020	0	0	0	0	3	0	0	0
	100	Eucalyptus	2020	0	0	0	0	4	0	0	0
	101	Eucalyptus	2020	0	0	0	0	2	0	0	0
	102	Eucalyptus	2020	0	0	0	0	0	0	0	0
	103	Eucalyptus	2020	1	0	0	0	0	0	0	0
	119	Pinus	2020	0	0	2	0	0	0	0	0
			2022	0	0	1	0	0	0	0	0
			2023	0	0	1	0	0	0	0	0
	MV-2021-1	Ficus	2021	0	0	2	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
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
			2021	0	0	1	0	1	0	0	0
			2022	0	0	1	0	0	0	0	0
	66	Pinus	2015	0	0	2	0	0	0	0	0
			2016	0	0	0	1	0	0	0	0
			2017	0	0	1	0	0	0	0	0
			2022	0	0	1	0	0	0	0	0
	68	Pinus	2015	0	0	0	0	1	0	0	0
			2016	0	0	2	0	0	0	0	0
			2017	0	0	1	0	2	0	0	0
			2018	0	0	4	0	0	0	0	0
			2019	0	0	1	0	4	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
			2016	0	0	1	0	0	0	0	0
	76	Pinus	2016	0	0	1	0	0	0	0	0
			2017	0	0	1	0	1	0	0	0
			2019	0	0	0	0	1	0	0	0
			2020	0	0	1	0	0	0	0	0
	78	Pinus	2017	0	0	2	0	0	0	0	0
			2021	0	0	1	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
			2019	0	0	0	0	1	0	0	0
			2020	0	0	1	0	0	0	0	0
			2021	0	0	0	0	1	0	0	0
			2022	0	0	1	0	0	0	0	0
			2023	0	0	1	0	0	0	0	0
	82	Olea europaea	2018	0	0	1	0	0	0	0	0
			2021	0	0	0	0	1	0	0	0
			2022	0	0	1	0	0	0	0	0
			2023	0	0	1	0	0	0	0	0
	84	Eucalyptus	2019	0	0	0	0	1	0	0	0
			2021	0	0	0	0	1	0	0	0
			2023	0	0	0	1	0	0	0	0
	87	Pinus	2019	0	0	1	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
	88	Pinus	2021	0	0	3	0	0	0	0	0
			2019	0	0	1	0	0	0	0	0
			2021	0	0	2	0	0	0	0	0
			2022	0	0	1	0	0	0	0	0
	89	Pinus	2019	0	0	0	0	1	0	0	0
	90	Pinus	2019	0	0	1	0	0	0	0	0
			2023	0	0	1	0	0	0	0	0
	91	Ficus	2019	0	0	2	0	2	0	0	0
			2023	0	0	1	0	0	0	0	0
	200	Melaleuca quinquenervia	2020	0	0	1	0	0	0	0	0
	201	Pinus	2020	0	0	1	0	0	0	0	0
	203	Melaleuca quinquenervia	2020	0	0	1	0	0	0	0	0
			2022	0	0	2	0	0	0	0	0
	MQ-1	Ficus elastica	2018	0	0	4	0	0	0	0	0
	MQ-2	Ficus elastica	2018	0	0	4	0	0	0	0	0
			2019	0	0	2	0	2	0	0	0
			2021	0	0	0	0	4	0	0	0
			2022	0	0	3	0	3	0	0	0
			2023	0	0	1	3	0	0	0	0
	MQ-3	Ficus elastica	2011	x	x	x	x	x	x	x	x
			2012	x	x	x	x	x	x	x	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
			2019	0	0	4	0	1	0	0	0
			2020	0	0	6	0	0	0	0	0
			2021	0	0	1	1	4	0	0	0
			2022	0	0	2	0	4	0	0	0
			2023	0	0	0	0	3	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

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
	MQ-5	Melaleuca quinquenervia	2018	0	0	1	7	0	0	0	0
			2019	0	0	4	3	4	0	0	0
			2020	0	0	5	4	0	0	0	0
			2021	0	0	1	5	3	0	0	0
			2022	0	0	3	6	3	0	0	0
			2023	0	0	4	5	1	0	0	0
			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	0	0	2	2	0	0	0	0
			2018	0	0	1	4	0	0	0	0
			2019	0	0	5	1	0	0	0	0
			2020	0	0	2	4	0	0	0	0
	MQ-6	Melaleuca quinquenervia	2021	0	0	3	4	3	0	0	0
			2022	0	0	2	2	3	0	0	0
			2023	0	0	5	5	0	0	0	0
			2011	x	x	x	x	x	x	x	x
			2012	x	x	x	x	x	x	x	x
			2014	0	0	2	3	1	0	0	0
			2015	0	0	4	3	0	0	0	0
			2016	0	0	4	4	1	0	0	0
			2017	0	0	6	0	1	0	0	0
			2018	0	0	1	4	0	0	0	0
			2019	0	0	3	3	0	0	0	0
			2020	0	0	6	5	5	0	0	0
			2021	0	0	6	5	5	0	0	0
			2022	0	0	2	4	2	0	0	0
			2023	0	0	1	5	5	0	0	0
	MQ-7	Melaleuca quinquenervia	2012	x	x	x	x	x	x	x	x
			2014	0	0	2	3	1	0	0	0
			2015	0	0	5	5	1	0	0	0
			2016	0	0	4	4	2	0	0	0
			2017	0	0	8	1	3	0	0	0
			2018	0	0	1	6	0	0	0	0
			2019	0	0	3	3	3	0	0	0
			2020	0	0	4	6	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
	MQ-8	Melaleuca quinquenervia	2021	0	0	5	3	3	0	0	0
			2022	0	0	3	2	1	0	0	0
			2023	0	0	6	6	5	0	0	0
			2011	x	x	x	x	x	x	x	x
			2012	x	x	x	x	x	x	x	x
			2014	0	0	0	1	0	0	0	0
			2015	0	0	3	1	0	0	0	0
			2016	0	0	3	2	2	0	0	0
			2017	0	0	2	2	1	0	0	0
			2018	0	0	3	0	0	0	0	0
			2019	0	0	4	1	0	0	0	0
			2020	0	0	4	2	0	0	0	0
			2021	0	0	3	3	3	0	0	0
			2022	0	0	2	3	3	0	0	0
			2023	0	0	4	3	1	0	0	0
	MQ-9	Melaleuca quinquenervia	2011	x	x	x	x	x	x	x	x
			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
			2019	0	0	5	1	0	0	0	0
			2020	0	0	3	5	0	0	0	0
			2021	0	0	4	7	2	0	0	0
			2022	0	0	5	1	4	0	0	0
			2023	0	0	4	3	0	0	0	0
	MQ-10	Melaleuca quinquenervia	2011	x	x	x	x	x	x	x	x
			2012	x	x	x	x	x	x	x	x
			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
			2019	0	0	3	1	5	0	0	0
			2020	0	0	8	2	0	0	0	0
			2021	0	0	2	4	2	0	0	0
			2022	0	0	2	3	2	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
	MQ-11	Melaleuca quinquenervia	2023	0	0	4	2	1	0	0	0
			2011	x	x	x	x	x	x	x	x
			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
			2019	0	0	3	0	1	0	0	0
			2020	0	0	7	1	4	0	0	0
			2022	0	0	3	0	3	0	0	0
			2023	0	0	6	0	7	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	6	0	2	0	0	0
			2015	0	0	11	0	0	0	0	0
			2016	0	0	4	1	1	0	0	0
			2017	0	0	4	0	2	0	0	0
			2018	0	0	2	4	0	0	0	0
			2019	0	0	4	1	2	0	0	0
			2020	0	0	3	2	0	0	0	0
			2021	0	0	4	1	3	0	0	0
			2022	0	0	3	0	3	0	0	0
			2023	0	0	3	2	3	0	0	0
	MQ-13	Melaleuca quinquenervia	2011	x	x	x	x	x	x	x	x
			2012	x	x	x	x	x	x	x	x
			2014	0	0	1	0	0	0	0	0
			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
			2019	0	0	2	0	2	0	0	0
			2020	0	0	3	0	0	0	0	0
			2021	0	0	2	0	0	0	0	0
			2022	0	0	1	0	1	0	0	0
			2023	0	0	4	2	0	0	0	0
	MQ-16	Melaleuca quinquenervia	2011	x	x	x	x	x	x	x	x
			2012	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
Mindanao Way	MQ-18	Melaleuca quinquenervia	2014	0	0	0	0	1	0	0	0
			2023	0	0	1	0	0	0	0	0
			2023	0	0	1	0	0	0	0	0
			2020	0	0	2	0	0	0	0	0
			2021	0	0	1	0	0	0	0	0
			2021	0	0	3	0	0	0	0	0
			2021	0	0	0	0	1	0	0	0
			2023	0	0	1	0	0	0	0	0
			2023	0	0	0	0	1	0	0	0
	80	Metrosideros	2017	0	0	1	0	0	0	0	0
	CP-8	Metrosideros excelsa	2012	x	x	x	x	x	x	x	x
	CP-66	Pinus	2012	x	x	x	x	x	x	x	x
	CP-111	Ficus rubiginosa	2019	0	0	0	0	0	0	0	1
			2020	0	0	1	0	0	0	0	0
	CP-113	Pinus pinea	2012	x	x	x	x	x	x	x	x
	CP-137	Metrosideros excelsa	2023	0	0	0	0	0	1	0	0
	CP-160	Erythrina caffra	2018	0	0	0	0	0	0	0	1
			2019	0	0	0	0	0	0	0	1
	CP-170	Metrosideros excelsa	2018	0	0	0	0	0	0	0	1
			2019	0	0	0	0	0	0	0	1
	CP-220	Eucalyptus sideroxylon	2020	0	0	0	0	0	12	0	0
			2021	0	0	0	0	0	16	0	0
			2022	0	0	0	0	0	10	0	0
			2023	0	0	0	0	0	17	0	0
	CP-2022-4	Sycamore	2022	0	0	0	0	0	1	0	0
	CP-2023-1	Eucalyptus	2023	0	0	2	0	0	0	0	0
	MN-23	Eucalyptus polyanthemos	2019	0	0	0	0	0	1	0	0
	MN-24	Eucalyptus sideroxylon	2018	0	0	0	0	0	1	0	0
			2019	0	0	0	0	0	1	0	0
	MN-18	Eucalyptus polyanthemos	2023	0	0	0	0	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
Panay Way	49	Melaleuca	2009	x	x	x	x	x	x	x	x
	51	Melaleuca	2009	x	x	x	x	x	x	x	x
	52	Melaleuca	2009	x	x	x	x	x	x	x	x
	PN-1	Ficus elastica	2019	0	0	0	0	1	0	0	0
	PN-6	Melaleuca quinquenervia	2020	0	0	0	0	3	0	0	0
Tahiti Way	58	Washingtonia	2012	x	x	x	x	x	x	x	x
	83	Eucalyptus	2018	0	0	0	0	1	0	0	0
x = species and/or number of nests undetermined											

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