

Regional Colonial Waterbird Survey Report Los Angeles County, California

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EXECUTIVE SUMMARY

To help evaluate the status of heron, egret, and cormorant rookeries in Marina del Rey in a wider regional context, Hamilton Biological, Inc., researched the 2024 population levels of these colonial waterbirds on the coastal slope of Los Angeles County (from the peaks of the San Gabriel Mountains coastward). This report analyzes results of this current research together with 2024 data on colonial waterbird rookeries in Marina del Rey, and compares it to data collected County-wide and in Marina del Rey in 2009, 2012, and 2019, when comparable surveys were undertaken. The purpose of this research and analysis is to assist planners and administrators from the County of Los Angeles Department of Beaches and Harbors in ongoing efforts to effectively conserve and manage colonial waterbird rookeries in Marina del Rey. In summary:

- From 2009 to 2024, Marina del Rey has accounted for 21–24% of all nesting colonial waterbirds on the coastal slope of Los Angeles County.
- The number of colonial waterbird nests detected in Marina del Rey increased from 137 nests in 2009 to 156 nests in 2024 (+14%).
- The number of colonial waterbird nests detected elsewhere in the County (outside of Marina del Rey) increased from 434 in 2009 to 546 in 2024 (+26%).
- Combining these totals, the number of colonial waterbird nests detected County-wide increased from 571 in 2009 to 702 in 2024 (+23%).
- The number of known active rookery *sites* in the County outside of Marina del Rey increased from 19 in 2009 to 30 in 2019, with 29 sites found in 2024.
- Two new colonial waterbird species colonized Los Angeles County during the past five years: Yellow-crowned Night Heron (*Nyctanassa violacea*; 9 nests at three locations, including 3 nests in Marina del Rey, in 2024) and Neotropic Cormorant (*Nannopterum brasilianum*; 8 nests at three locations, none in Marina del Rey, in 2024).

The magnitude of the 15-year increase identified in the County outside of Marina del Rey may be somewhat inflated due to lack of information on the locations of rookeries in 2009 compared with later years. If the 2009 surveys covered all of the rookery sites now known in the County, outside of Marina del Rey, the County-wide baseline from 2009 presumably would have been higher, resulting in a smaller apparent 15-year increase outside of Marina del Rey in 2024. The potential importance of this effect is unknown.

The 2019 report noted that the number of known active rookery sites across Los Angeles County had increased by 58% during the past decade, even as the overall number of colonial waterbird nests had decreased by 18%. This suggested that the birds were spreading out, discovering more suitable nesting areas, and incorporating themselves into the broader avian community; but if large numbers of young were dispersing from

established rookeries, instead of remaining and replenishing them, this could have resulted in an overall short-term reduction in numbers. From 2019 to 2024, the number of active rookery sites, outside of Marina del Rey, remained nearly constant while the overall number of colonial waterbird nests increased by 52% and two new species colonized Los Angeles County.

Strict protections for actively nesting birds provided under the federal Migratory Bird Treaty Act and Section 3503 of the California Fish and Game Code, and additional protections for the inactive nests of colonial waterbirds in the coastal zone provided under the California Coastal Act, have promoted protection of rookery sites and contributed to the encouraging results documented in Marina del Rey and elsewhere in Los Angeles County in 2024. Apart from the protection of known nesting sites, fluctuations of colonial waterbird populations in the county over the past 15 years appear to reflect large-scale factors acting at the regional scale, and not specific management actions undertaken at any given location.

Regardless of any other considerations, analysis of the local and regional study results demonstrates that, 15 years after the first survey efforts in Marina del Rey, the rookeries in this area continue to account for a significant percentage (22%) of colonial waterbirds known to be nesting in the County. For this reason, continued careful management and monitoring of all known and potential colonial waterbird nesting sites in Marina del Rey remains a valid priority for County managers and leaseholders.

INTRODUCTION

Nesting waterbirds declined dramatically in southern California by the start of the 20th Century, as feathers for the millinery trade led to the decimation of heron, egret, and other species nationwide. As of the mid-1900s, virtually no colonial-nesting waterbirds were known from the Los Angeles area, but by the 1990s a handful of rookeries had been established, mainly in exotic landscape trees near marinas and fishing lakes. In 2009, during preparation of the *Conservation & Management Plan for Marina del Rey, Los Angeles County, California*¹ Robert Hamilton and Dan Cooper conducted surveys of the heron, egret, and cormorant rookeries/nesting colonies of Marina del Rey, as well as those known to us on the coastal slope of Los Angeles County, outside of the Marina del Rey (see Map 1 on the next page). The aim of these surveys was to evaluate the relative importance of rookeries in Marina del Rey in a wider regional context.

The 2010 Plan recommended that the County undertake periodic County-wide research on the status of these colonies, results of which would be evaluated together with survey data from Marina del Rey to help administrators evaluate the efficacy of local conservation and management approaches. Toward this end, surveys of the coastal slope of Los Angeles County have been undertaken in 2012, 2019, and now in 2024. The current effort involved (1) re-surveying nearly all of the colonies that were surveyed in 2009, 2012, and 2019; (2) surveying potential rookery sites elsewhere in the County and adjacent areas; and (3) reviewing all relevant 2024 nesting data for colonial waterbirds in the County provided by eBird (<https://ebird.org/>), iNaturalist (<https://inaturalist.org/>), and other published and unpublished sources. Thus, data from 2009, 2012, 2019, and 2024 surveys provide a 15-year baseline of rookery status in the Los Angeles area during the first quarter of the 21st Century, against which future surveys may be compared.

¹ Hamilton, R. A., and D. S. Cooper. 2010. *Conservation & Management Plan for Marina del Rey, Los Angeles County, California*. Report dated September 6, 2010, prepared for Los Angeles County Dept. Beaches and Harbors.

2019 data: Hamilton, R.A. and D.S. Cooper. 2019. *Regional Colonial Waterbird Survey Report, Los Angeles County, California*. Report dated November 18, 2019, prepared for County of Los Angeles, Dept. Beaches and Harbors.

2024 data for Marina del Rey: Environmental Intelligence, LLC. 2024. *Marina del Rey Annual Nesting Bird Survey Project, 2024 Annual Report*. Report dated September 5, 2024, prepared for County of Los Angeles, Dept. Beaches and Harbors.

On all four regional surveys (2009, 2012, 2019, 2024), observers – generally Robert A. Hamilton (RAH) and Daniel S. Cooper (DSC) – checked nearly all known rookeries¹ maintained by Great Blue Herons (*Ardea Herodias*; GBHE), Great Egrets (*Ardea alba*; GREG), Snowy Egrets (*Egretta thula*; SNEG), Black-crowned Night Herons (*Nycticorax nycticorax*; BCNH) and Double-crested Cormorants (*Phalacrocorax auratus*; DCCO) on the coastal slope of Los Angeles County (i.e., from the peaks of the San Gabriel Mountains coastward; see Map 1, above). During the past five years, the Yellow-crowned Night Heron (*Nyctanassa violacea*) and Neotropic Cormorant (*Nannopterum brasilianum*) have colonized multiple sites in Los Angeles County, and are now added to the list of species tracked in this study.

Since 2009, many rookeries containing ten or fewer nests have been discovered, as well as a few larger ones. While many rookeries have been active since 2009 (and in some cases since the 1990s), multiple sites were not used during one or more years of the study. Maps B-1 to B-6 in Appendix B show the locations of all nesting sites/rookeries.

Nesting trees are generally recognizable by deposits of fresh guano (also called whitewash) on the ground, and by the often-conspicuous presence of adult birds in the trees. Later in the nesting season, the vocalizations of young birds and adults, in and out of nests, may also help observers in finding active nesting areas.

The survey methods consisted of driving to a known or suspected rookery site and slowly walking around and visually inspecting (from the ground) all potential nest trees at least once during the spring/early summer nesting season, as time allowed, following methods developed for the U.S. Fish and Wildlife Service by Point Reyes Bird Observatory/Point Blue Conservation Science. RAH also drove as many roads as possible around known hotspots for nesting waterbirds (e.g., Alamitos Bay) searching for trees and structures that would likely hold nesting waterbirds. Biologist Brandon Stidum of Merkel & Associates (pers. comm.) provided additional nesting information from nesting surveys conducted at the Port of Los Angeles and Port Long Beach.

Because nesting is protracted in the local area, monthly checks between December and August would be required to determine with a high degree of accuracy the total

¹ In 2019 and 2024, we were not able to access a small, very remote Great Blue Heron rookery at Cogswell Reservoir, on the West Fork of the San Gabriel River; this rookery contained three nests in 2009 and five nests in 2012.

number of active nests each year at each colony. By contrast, the regional survey effort represents a “snapshot” of local nesting, typically at the height of the breeding season, that may be compared to subsequent regional surveys.

The total count of active nests at a given location during 2024 was determined conservatively using RAH’s best judgment. If, for example, a rookery held 14 active nests of a given species in March and 16 active nests of that species in April, the total count for that location would be 16 nests. By contrast, if a rookery held 12 active nests of a given species in March and two active nests of that species in July, the total count for that location would be 14 nests. If a rookery held ten active Black-crowned Night Heron nests in February, and then five of those nests were being used by Snowy Egrets later in the year, the counts would be ten heron nests and five egret nests.

The survey effort in 2009 consisted of a small number of visits to known/likely nesting areas between May 20 and August 26, with all surveys performed by RAH and DSC. In 2012, surveys were conducted between May 3 and July 15 by DSC, working with subcontractors Kimberly Oldehoeft and Matt Whitmire. In 2019, surveys were conducted by RAH and DSC between April 16 and August 31, with more follow-up surveys than had been conducted in 2009 or 2012, to more comprehensively survey all known sites. In 2024, surveys were conducted by RAH between March 29 and September 5, and were comparable to those conducted in 2019.

Following each year’s regional survey effort, data from eBird and iNaturalist were reviewed and filtered for all colonial waterbird species known to nest in Los Angeles County for that year.

An important limitation in the data is that, each year, some of the surveys were not conducted early enough in the nesting season to allow SNEG nests to be distinguished from BCNH nests (these species often use the same nests). In summary:

- The 2009 survey recorded 110 undetermined SNEG/BCNH nests at the East Ocean Boulevard rookery in Long Beach.
- The 2012, 44 undetermined SNEG/BCNH nests were recorded in Marina del Rey; 138 undetermined SNEG/BCNH nests were recorded at four sites elsewhere.
- In 2019, 21 undetermined SNEG/BCNH nests were recorded at West Harbor (former Ports O’ Call Village) in San Pedro.
- In 2024, 35 undetermined SNEG/BCNH nests were recorded in Marina del Rey; this is similar to the total numbers of confirmed SNEG nests (33) and confirmed BCNH nests (37) recorded in Marina del Rey in 2024.

In light of these uncertainties, population trend data on these two species is accompanied by appropriate caveats, and this report also combines SNEG + BCNH nesting populations to consider them together.

RESULTS

Marina del Rey

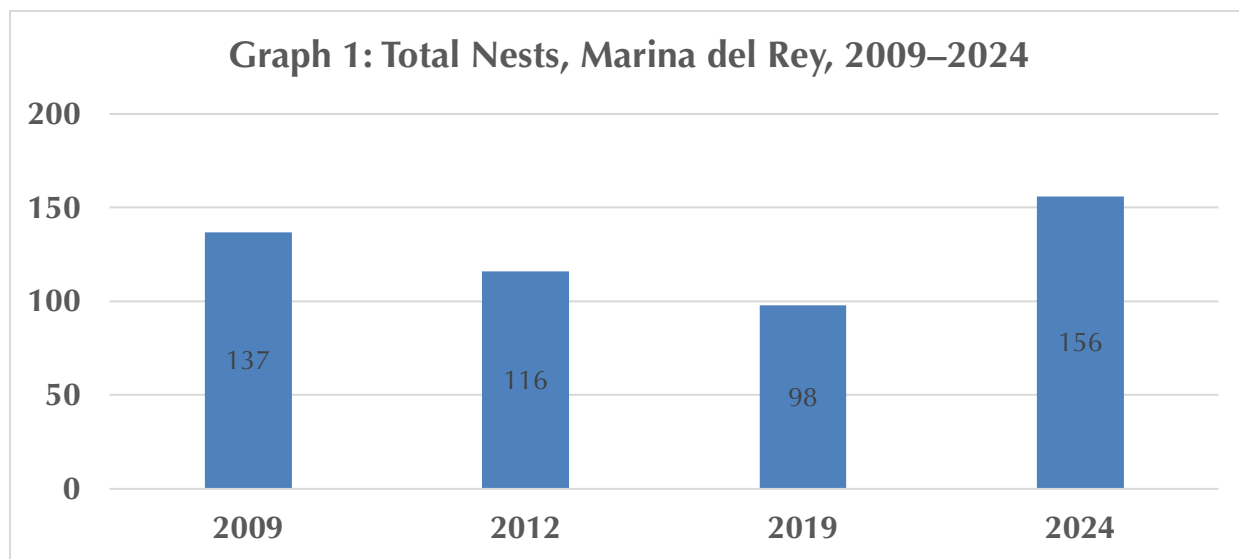
Table 1, below, summarizes the results of colonial waterbird nesting surveys conducted in Marina del Rey in 2009, 2012, 2019, and 2024.

Table 1: Summary of Nests Detected in Marina del Rey, 2009 – 2024.

| Species | Nests | | | |
|----------------------------------|------------|------------|-----------|------------|
| | 2009 | 2012 | 2019 | 2024 |
| Great Blue Heron | 33 | 28 | 19 | 17 |
| Great Egret | 5 | 1 | 0 | 0 |
| Snowy Egret | 35 | 10 | 14 | 33 |
| Black-crowned Night Heron | 45 | 9 | 48 | 37 |
| Yellow-crowned Night Heron | 0 | 0 | 0 | 3 |
| SNEG or BCNH (species uncertain) | 0 | 44 | 0 | 35 |
| Double-crested Cormorant | <u>19</u> | <u>24</u> | <u>17</u> | <u>31</u> |
| TOTAL | 137 | 116 | 98 | 156 |
| | | | | |
| <i>SNEG + BCNH (combined)</i> | 80 | 63 | 62 | 105 |

Trend for Colonial Waterbirds in Marina del Rey (All Species Combined)

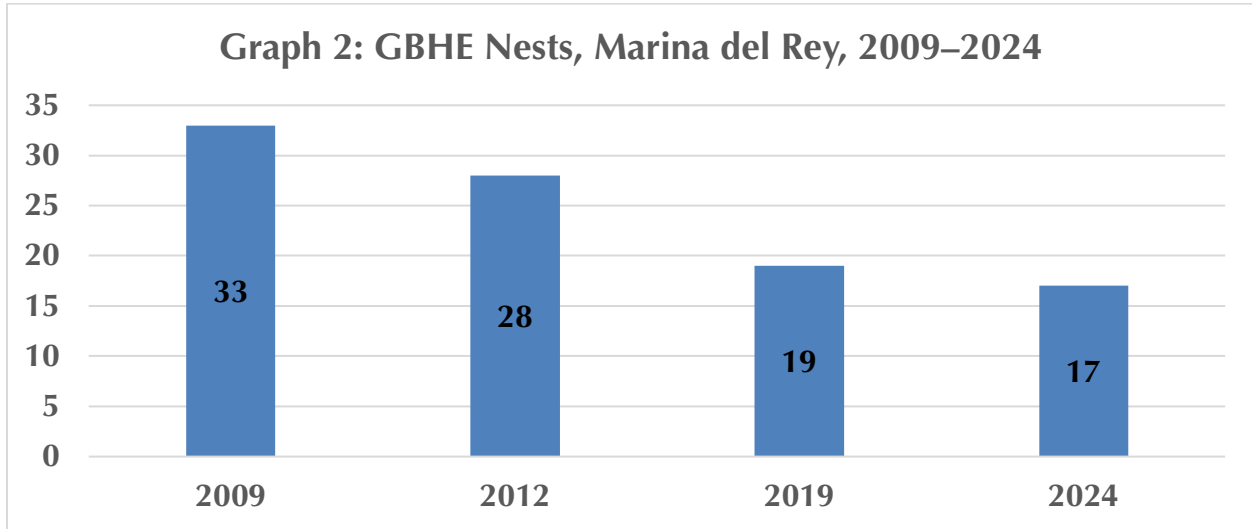
As shown in Table 1, above, the number of colonial waterbird nests recorded in Marina del Rey dropped steadily from 2009 through 2019 before rebounding during the most recent five-year period to establish an overall increase of 14%. See Graph 1, below.



Trends for each species, except for the newly established Yellow-crowned Night Heron, are briefly discussed and graphically depicted on the following pages.

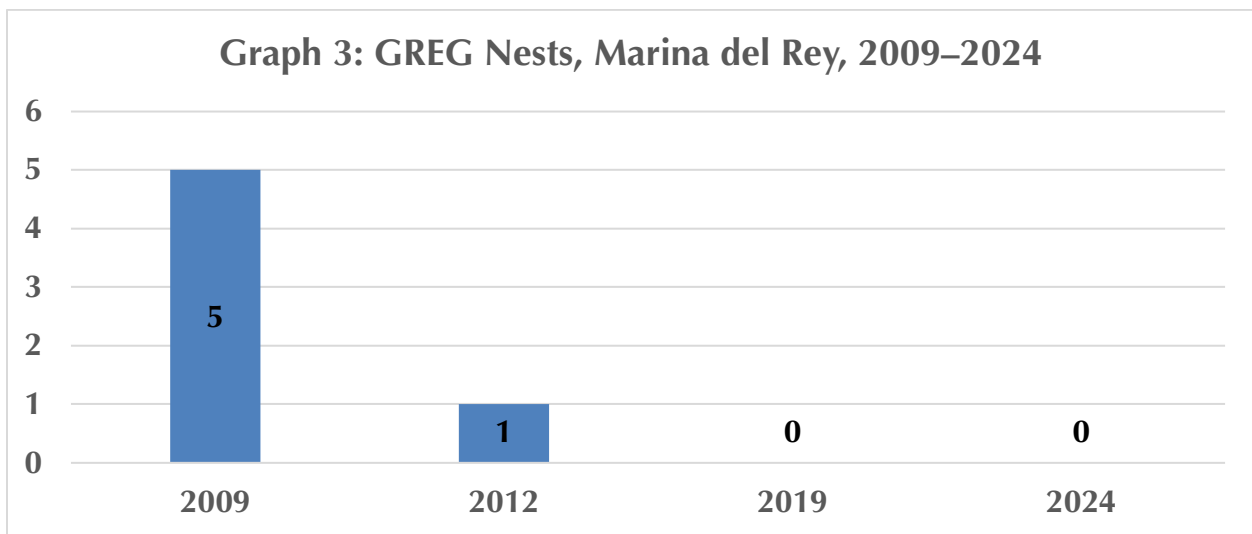
Trend for the Great Blue Heron in Marina del Rey

From 2009 to 2024, the number of GBHE nests steadily declined from 33 to 19 (-48%). See Graph 2.



Trend for the Great Egret in Marina del Rey

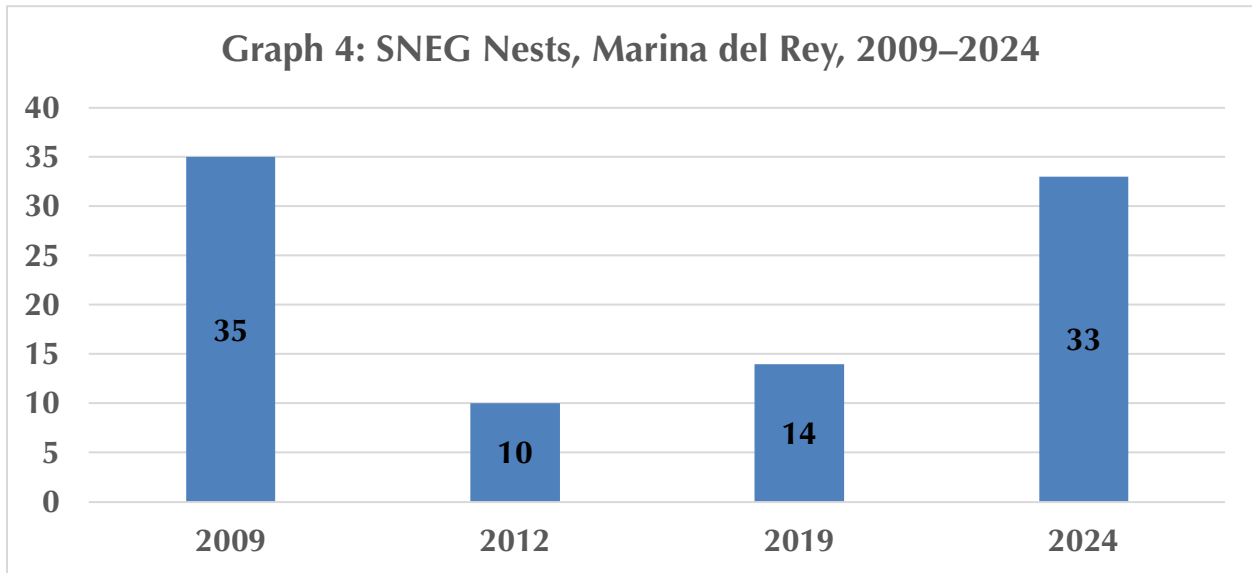
The five GREG nests in 2009 declined to a single nest by 2012, with zero recorded in 2019 and 2024 (Graph 3).



Note that the Great Egret remains a very rare breeding species in the region, with only two known active nesting colonies known from the coastal slope of Los Angeles County (see Table A-2 in Appendix A).

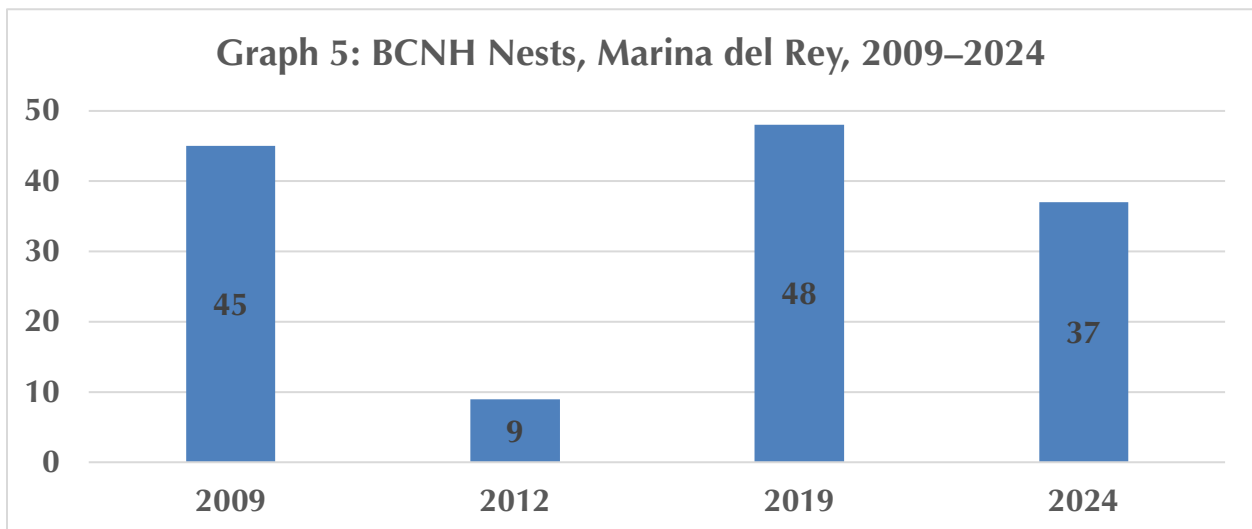
Trend for the Snowy Egret in Marina del Rey

The trend of the SNEG population is unclear, given that 44 SNEG/BCNH nests were not identified to species in 2012 and 35 SNEG/BCNH nests were not identified to species in 2024. See Graph 6.



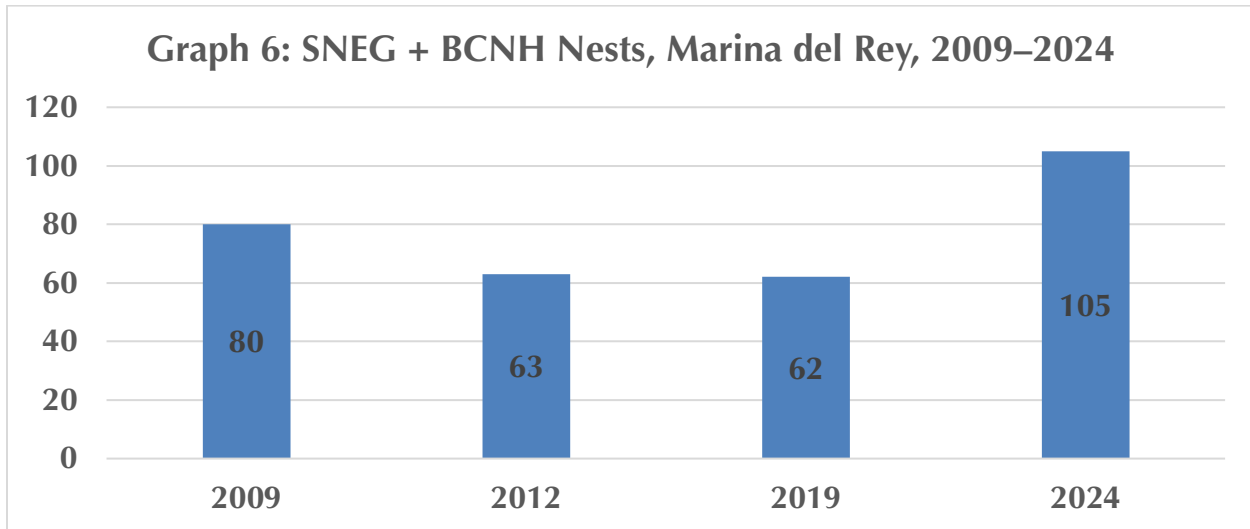
Trend for the Black-crowned Night Heron in Marina del Rey

The trend of the BCNH population is unclear, given that 44 SNEG/BCNH nests were not identified to species in 2012 and 35 SNEG/BCNH nests were not identified to species in 2024. See Graph 6.



Trend for SNEG + BCNH in Marina del Rey

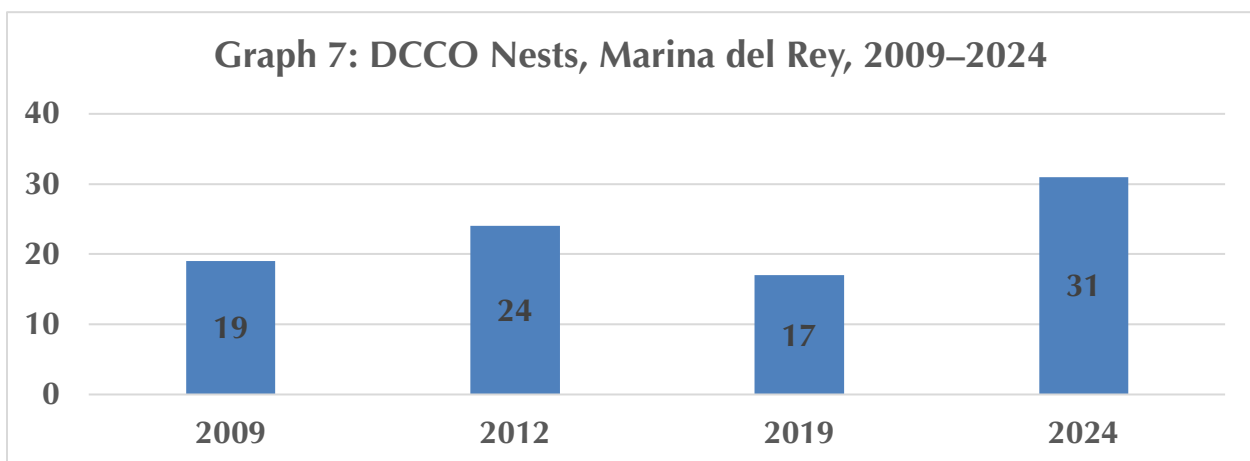
From 2009 to 2024, the total number of SNEG + BCNH nests in Marina del Rey – including the unidentified SNEG/BCNH nests in 2012 and 2024 – increased from 80 to 105 (+31%).



Given that the number of SNEG nests decreased by 42% from 2009 to 2019 (see Graph 4), as the number of BCNH nests increased by 7% (see Graph 5), it is likely that reduced SNEG nesting accounted for most or all of the decline recorded from 2009 to 2019.

Trend for the Double-crested Cormorant in Marina del Rey

The number of DCCO nests has fluctuated over the years, with the 31 nests recorded in 2024 representing a 63% increase over the 19 nests recorded in 2009. See Graph 7.



Los Angeles County Outside of Marina del Rey

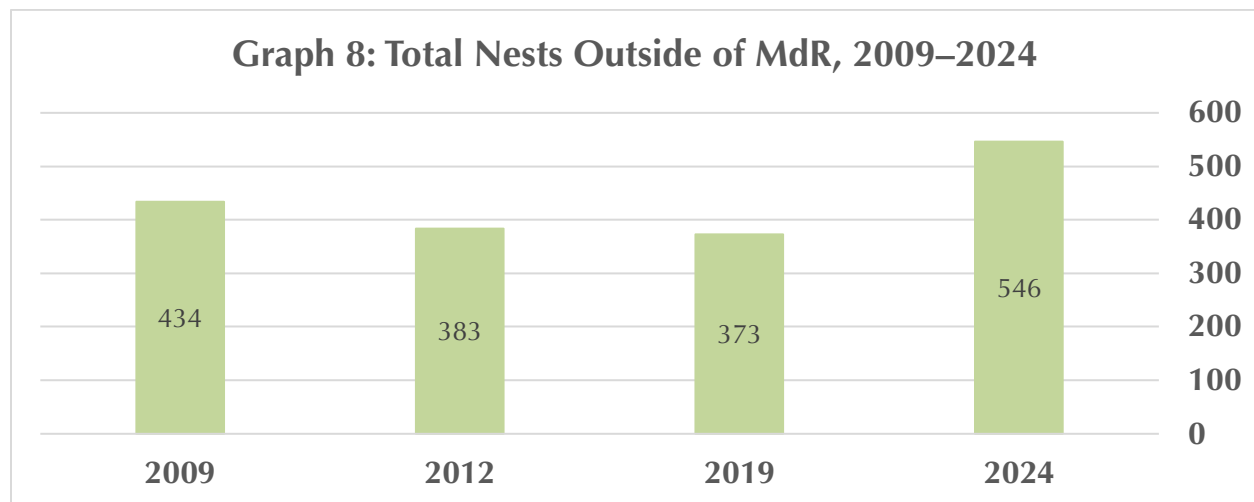
Overall Trends for Colonial Waterbirds Outside of Marina del Rey

The overall number of colonial waterbird nests detected in the County, outside of Marina del Rey, increased from 434 in 2009 to 546 in 2024 (+26%), following a short-term decline of 16% between 2009 and 2019. See Table 2 and Graph 8, below.

Table 2: Colonial Waterbird Nests and Nesting Sites in Los Angeles County (exclusive of Marina del Rey), 2009 – 2024

| Species | Nests (Sites) | | | |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|
| | 2009 | 2012 | 2019 | 2024 |
| Great Blue Heron | 85 (9) | 98 (13) | 86 (16) | 123 (19) |
| Great Egret | 10 (1) | 3 (1) | 3 (1) | 12 (2) |
| Snowy Egret | 0 (1)* | 54 (7)* | 27 (7)* | 50 (7) |
| Black-crowned Night Heron | 105 (6)* | 48 (9)* | 161 (8)* | 232 (8) |
| SNEG or BCNH (uncertain) | 110 (1) | 138 (4) | 21 (1) | 0 (0) |
| Yellow-crowned Night Heron | 0 (0) | 0 (0) | 0 (0) | 6 (2) |
| Double-crested Cormorant | 124 (3) | 42 (2) | 75 (5) | 115 (6) |
| Neotropic Cormorant | 0 (0) | 0 (0) | 0 (0) | 8 (3) |
| TOTAL | 434 (19) | 383 (25) | 373 (30) | 546 (29) |
| <i>SNEG + BCNH (combined)</i> | <i>215 (6)</i> | <i>240 (9)</i> | <i>209 (8)</i> | <i>282 (9)</i> |

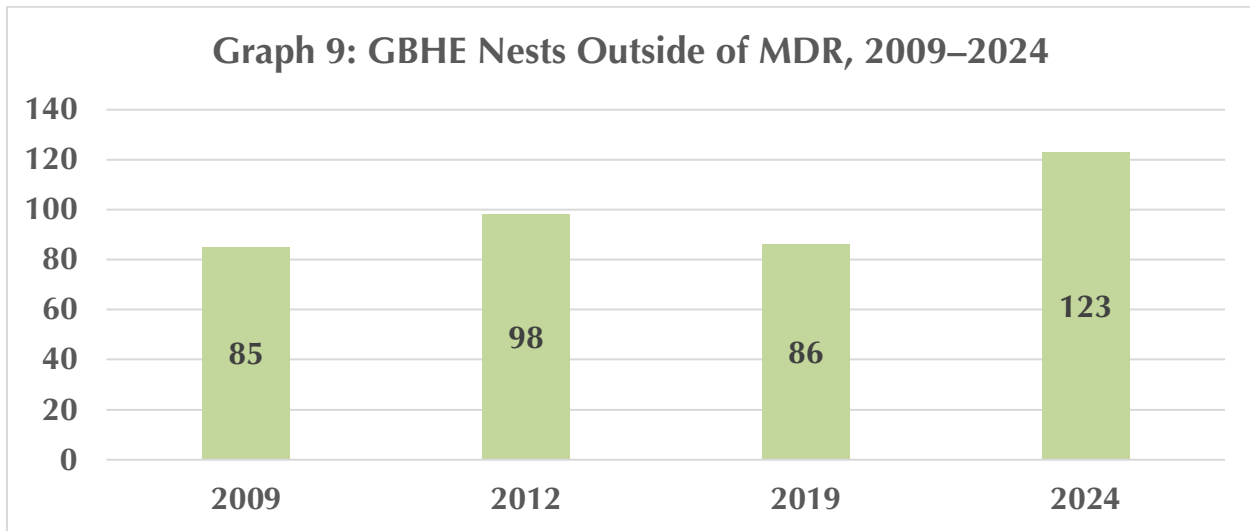
* From 2009 to 2019, many SNEG and BCNH nests in the county, outside of Marina del Rey, were not determined to species.



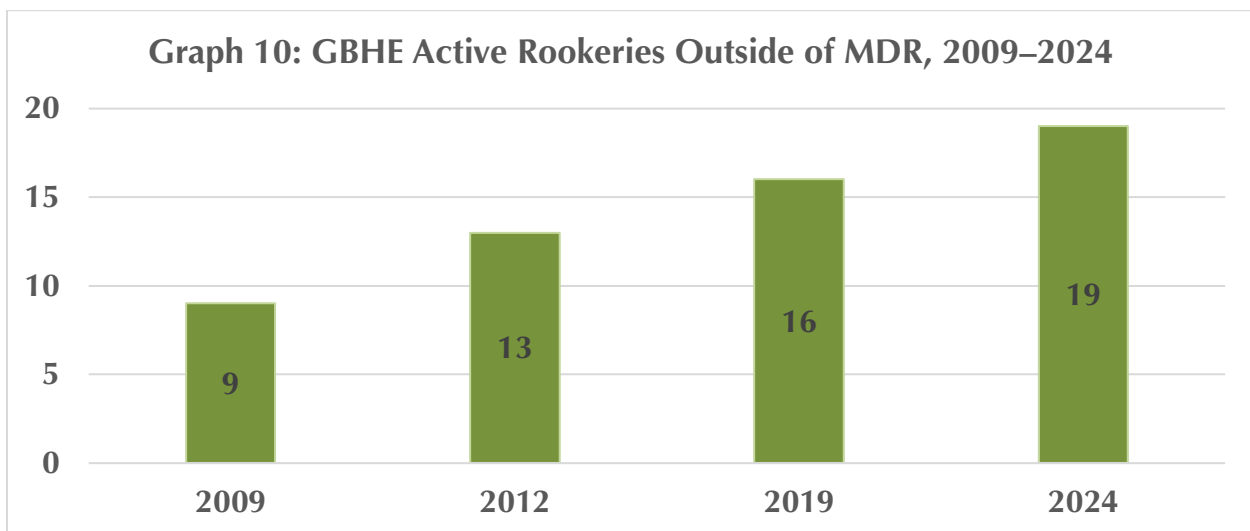
Results for each species are provided on the following pages.

Trends for the Great Blue Heron Outside of Marina del Rey

The number of GBHE nests has fluctuated over the years, with the 123 nests recorded in 2024 representing a 45% increase over the 85 nests recorded in 2009 (Graph 9, below). This stands in contrast to a localized 48% decline in the number of GBHE nesting in Marina del Rey during the same 15-year period (see Graph 2 on page 6).

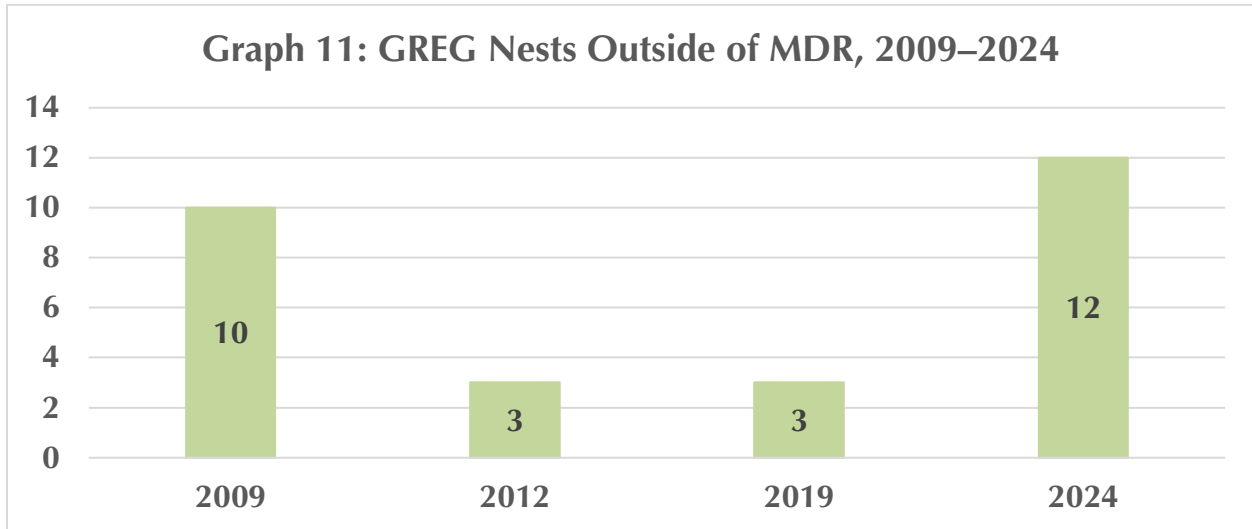


The number of known active GBHE rookery sites has steadily increased from nine in 2009 to 19 in 2024. See Graph 10, below.

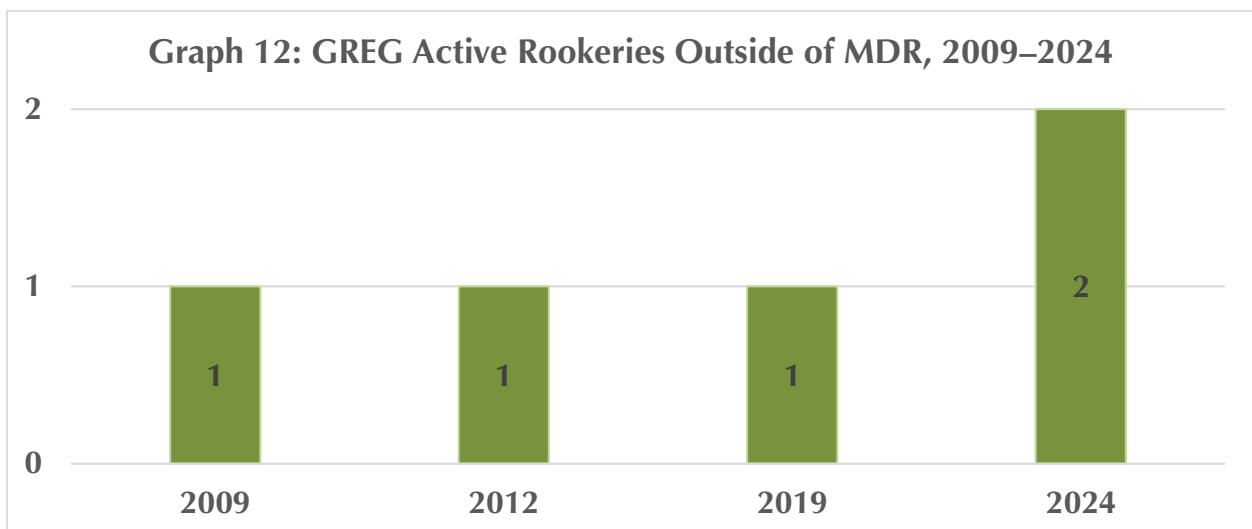


Trends for the Great Egret Outside of Marina del Rey

Ten known GREG nests in 2009 declined to only a few pairs by 2019, but the 12 nests detected in 2024 corresponds to a 15-year increase of 20% (Graph 11, below). During the same period, the one small GREG colony in Marina del Rey was not sustained (see Graph 3 on page 6).

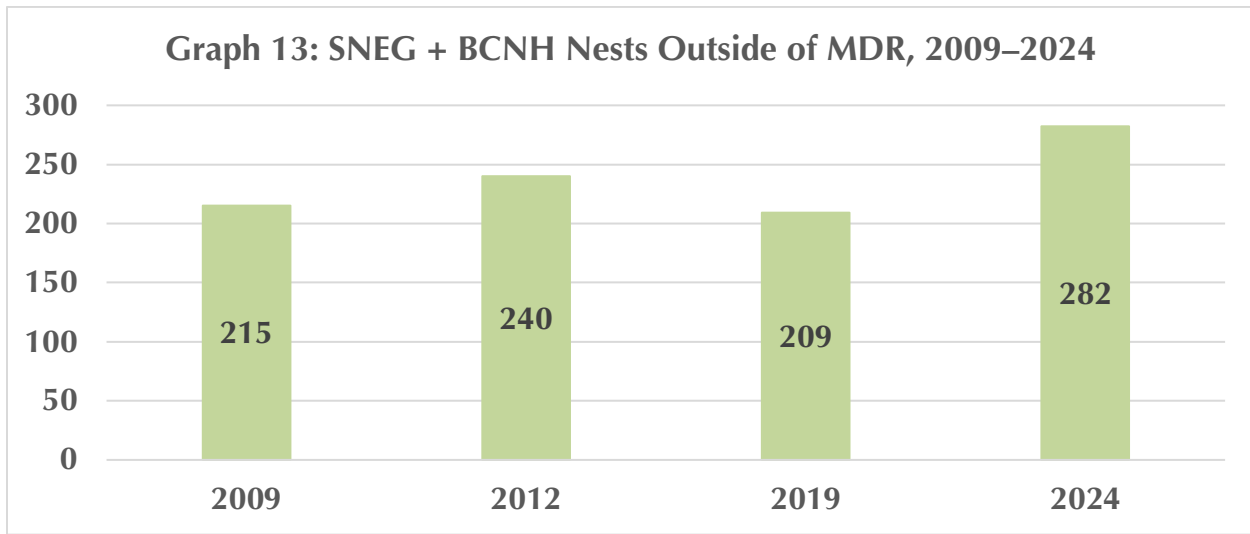


From 2009 to 2024, Great Egrets nested at only one location outside of Marina del Rey, at the Cross Creek Road rookery in Malibu. In 2024, a second rookery was documented at Santa Fe Dam in Irwindale. See Graph 12, below.

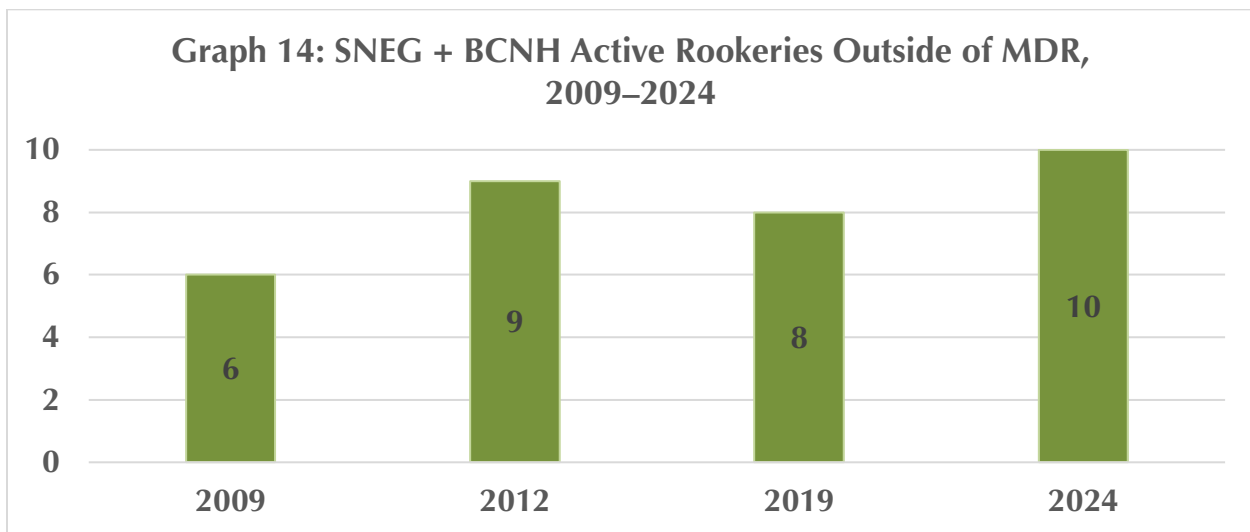


Trends for SNEG + BCNH Outside of Marina del Rey

From 2009 to 2019, large numbers of nests could only be identified as belonging to either SNEG or BCNH, which is why this report combines these two species for analytical purposes. From 2009 to 2019, 209 to 240 SNEG/BCNH nests were detected, a total that increased to 282 nests in 2024, yielding a 15-year increase of 31% for SNEG + BCNH combined (Graph 13, below). This mirrors a 31% increase for SNEG + BCNH at Marina del Rey during the same period (see Graph 6 on page 8).

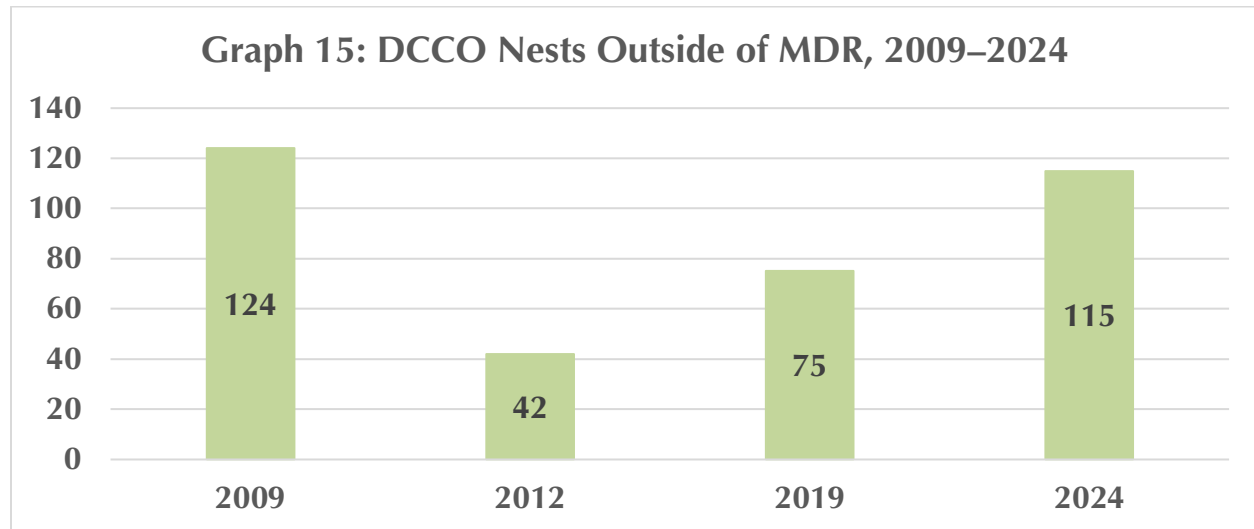


From 2009 to 2024, the number of known active SNEG/BCNH rookery sites increased from 6 to 10, for a 15-year increase of 67%. See Graph 14.

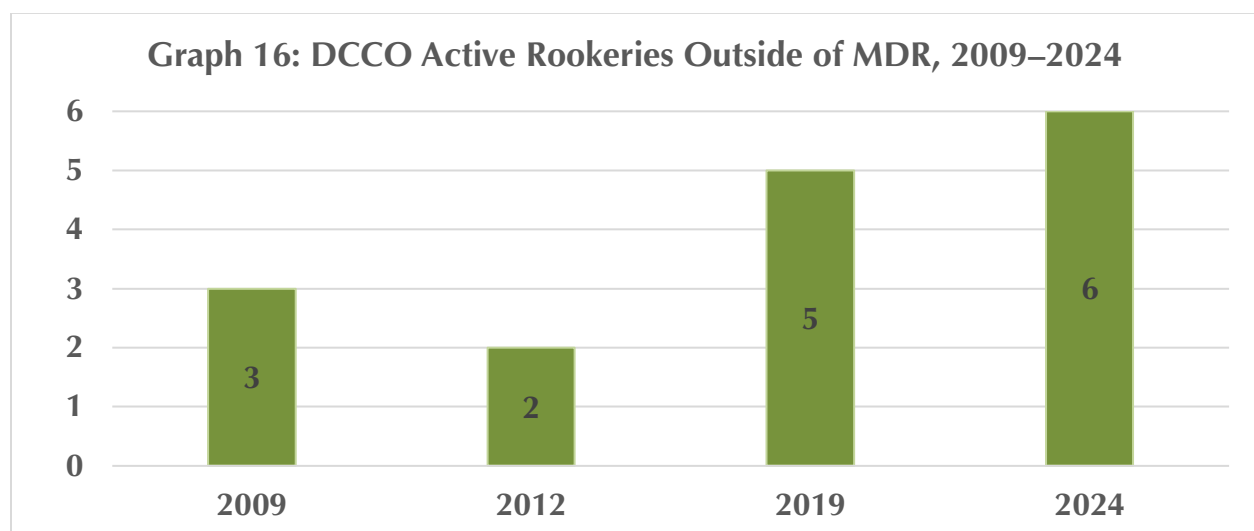


Trends for the Double-crested Cormorant Outside of Marina del Rey

From 2009 to 2019, 42 to 124 DCCO nests were detected, and 115 nests were detected in 2024, yielding an overall (15-year) decrease of 7%. See Graph 9, below. The County-wide status of this species was affected, to some degree, by removal of the Commodore Schuyler Heim bridge, which by itself held 89 DCCO nests in 2008/2009. Following a ten-year bridge removal process that ended in 2021, a total of eight DCCO nests detected on structures near the old bridge location in 2024 was thought to represent only a fraction of the actual total nesting in that general area (B. Stidum pers. comm.).



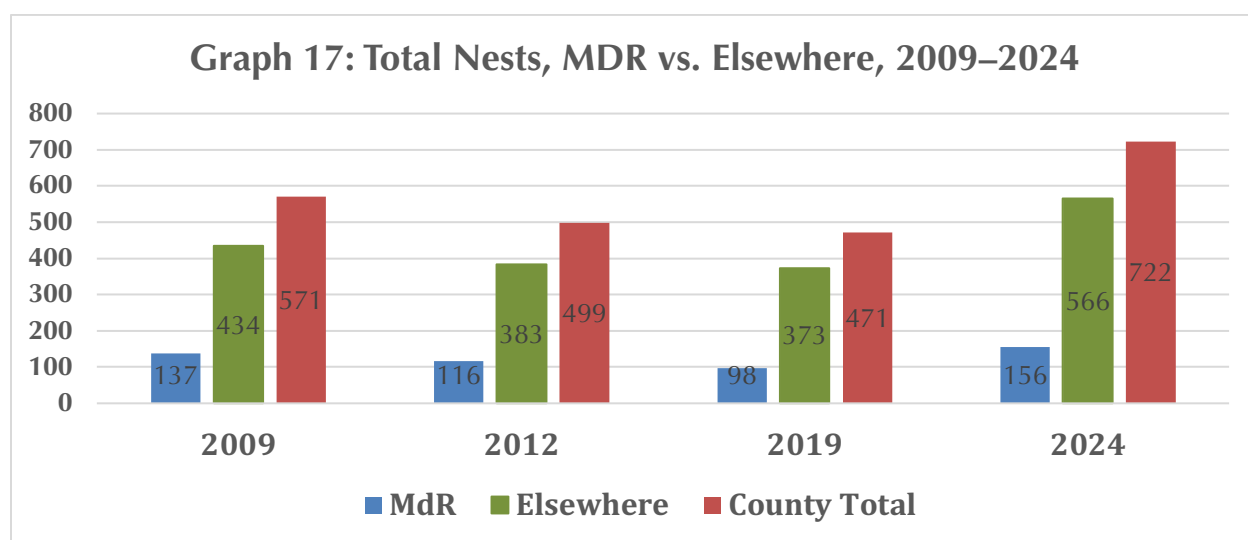
From 2009 to 2024, as the number of DCCO nests detected fluctuated markedly, the number of known active rookery sites increased from 3 to 6 (+100%). See Graph 16.



Two colonial waterbirds that have been colonizing southern California in recent years were first recorded in this study in 2024: the Yellow-crowned Night Heron (three pairs in Marina del Rey plus six pairs at two sites elsewhere in the County in 2024) and Neotropic Cormorant (eight pairs at three sites outside of Marina del Rey in 2024). If the local nesting populations of these species persist in Los Angeles County, they should be tracked as part of this study.

ANALYSIS

Graph 17, below, relates the total number of colonial waterbird nests recorded in Marina del Rey to the total number of nests recorded elsewhere in the County, and to the County-wide total, in 2009, 2012, 2019, and 2024.



From 2009 to 2012, the number of nests detected in Marina del Rey declined by 15% and the number of nests detected outside of Marina del Rey declined by 12%, yielding a County-wide decline of 13% for that three-year period.

From 2012 to 2019, the number of nests detected in Marina del Rey declined by 16% and the number of nests detected outside of Marina del Rey declined by 3%, yielding a County-wide decline of 6% for that seven-year period.

From 2019 to 2024, the number of nests detected in Marina del Rey increased by 59% and the number of nests detected outside of Marina del Rey increased by 52%, yielding a County-wide increase of 53% for that five-year period.

From 2009 to 2024, the number of nests detected in Marina del Rey increased by 14% and the number of nests detected outside of Marina del Rey increased by 30%, yielding a County-wide increase of 26% for that 15-year period.

From 2009 to 2019, Marina del Rey's share of the County-wide total for colonial waterbird nests remained nearly constant, decreasing from 24% to 22%.

Tables 3–6, below, provide species-specific breakdowns of nests recorded in Marina del Rey, nests recorded elsewhere in the County, and the County-wide totals, for 2009, 2012, 2019, and 2024.

Table 3: Representation of Marina del Rey Nests in County-wide Total, 2009

| Species | Active Nests | | | |
|-------------------------------|--------------|----------------|------------|-----------|
| | 2009 MDR | 2009 Elsewhere | TOTAL | % in MDR |
| Great Blue Heron | 33 | 85 | 118 | 28 |
| Great Egret | 5 | 10 | 15 | 33 |
| Snowy Egret | 35 | 0 | 35 | N.A.* |
| Black-crowned Night Heron | 45 | 105 | 150 | N.A.* |
| SNEG or BCNH (uncertain) | 0 | 110 | 110 | N.A.* |
| Double-crested Cormorant | 19 | 124 | 143 | 13 |
| TOTAL | 137 | 434 | 571 | 24 |
| <i>SNEG + BCNH (combined)</i> | <i>80</i> | <i>215</i> | <i>295</i> | <i>27</i> |

* The proportion of “uncertain” SNEG/BCNH nests was too high to allow for the proportion of either SNEG or BCNH nests in MDR to be determined.

Table 4: Representation of Marina del Rey Nests in County-wide Total, 2012

| Species | Active Nests | | | |
|-------------------------------|--------------|----------------|------------|-----------|
| | 2012 MDR | 2012 Elsewhere | TOTAL | % in MDR |
| Great Blue Heron | 28 | 98 | 126 | 22 |
| Great Egret | 1 | 3 | 3 | 33 |
| Snowy Egret | 10 | 54 | 64 | N.A.* |
| Black-crowned Night Heron | 9 | 48 | 57 | N.A.* |
| SNEG or BCNH (uncertain) | 44 | 138 | 182 | N.A.* |
| Double-crested Cormorant | 24 | 42 | 66 | 36 |
| TOTAL | 116 | 383 | 499 | 23 |
| <i>SNEG + BCNH (combined)</i> | <i>63</i> | <i>240</i> | <i>303</i> | <i>21</i> |

* The proportion of “uncertain” SNEG/BCNH nests was too high to allow for the proportion of either SNEG or BCNH nests in MDR to be determined.

Table 5: Representation of Marina del Rey Nests in County-wide Total, 2019

| Species | Active Nests | | | |
|-------------------------------|--------------|----------------|------------|-----------|
| | 2019 MDR | 2019 Elsewhere | TOTAL | % in MDR |
| Great Blue Heron | 19 | 86 | 105 | 18 |
| Great Egret | 0 | 3 | 3 | 0 |
| Snowy Egret | 14 | 27 | 41 | 34 |
| Black-crowned Night Heron | 48 | 161 | 209 | 23 |
| SNEG or BCNH (uncertain) | 0 | 21 | 21 | N.A. |
| Double-crested Cormorant | 17 | 75 | 92 | 18 |
| TOTAL | 98 | 373 | 471 | 21 |
| <i>SNEG + BCNH (combined)</i> | <i>62</i> | <i>209</i> | <i>271</i> | <i>23</i> |

Table 6: Representation of Marina del Rey Nests in County-wide Total, 2024

| Species | Active Nests | | | |
|-------------------------------|--------------|----------------|------------|-----------|
| | 2024 MDR | 2024 Elsewhere | TOTAL | % in MDR |
| Great Blue Heron | 17 | 131 | 148 | 11 |
| Great Egret | 0 | 12 | 12 | 0 |
| Snowy Egret | 33 | 50 | 83 | N.A.* |
| Black-crowned Night Heron | 37 | 232 | 269 | N.A.* |
| SNEG or BCNH (uncertain) | 35 | 0 | 35 | N.A.* |
| Double-crested Cormorant | 31 | 127 | 158 | 20 |
| Yellow-cr. Night Heron | 3 | 6 | 9 | 33 |
| Neotropic Cormorant | 0 | 8 | 8 | 0 |
| TOTAL | 156 | 566 | 722 | 22 |
| <i>SNEG + BCNH (combined)</i> | <i>105</i> | <i>282</i> | <i>387</i> | <i>27</i> |

* The proportion of “uncertain” SNEG/BCNH nests was too high to allow for the proportion of either SNEG or BCNH nests in MDR to be determined.

As shown in the preceding tables, Marina del Rey has long functioned as an important rookery area in Los Angeles County, accounting for roughly one-third of the Snowy Egret nests; roughly one-eighth to one-fifth of the Double-crested Cormorant and Black-crowned Night Heron nests; and one-ninth to one-quarter of the Great Blue Heron nests.

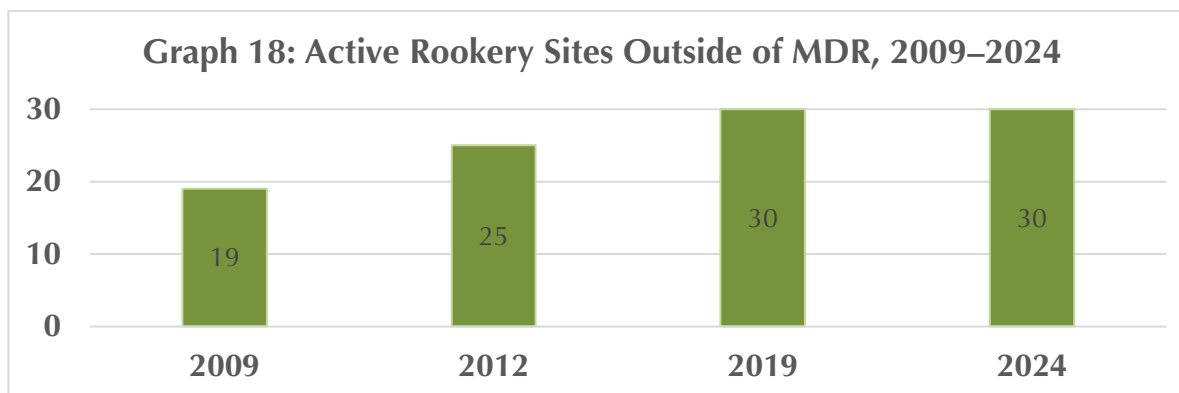
Considered in aggregate, population fluctuations observed for colonial waterbirds in Marina del Rey from 2009 to 2024 have mirrored fluctuations observed for the same species across the coastal slope of Los Angeles County. The main exception to this rule

involves the Great Blue Heron, nests of which decreased 48% in Marina del Rey between 2009 and 2024, a period when the rest of the County posted a 52% increase. The potential cause of this inequality is not clear, and may simply represent the vagaries of small sample sizes.

In general, County-wide, tree structure and layout of the rookery sites in 2024 appeared comparable to the conditions in previous years. Even trees harshly trimmed nearly annually (e.g., at Cross Creek Road near Malibu Lagoon, and at the Portofino Hotel at Kings Harbor in Redondo Beach) generally remain capable of supporting nesting waterbirds. The fluctuations in waterbird nesting numbers represented in the data do not appear to be correlated with any major changes in management practices in Marina del Rey or elsewhere in the County. Given the synchronous nature of these fluctuations (i.e., with populations in Marina del Rey rising and falling in concert with the same populations elsewhere in the County), it is likely that these fluctuations generally reflect large-scale environmental factors beyond the scope of local management practices.

With many colonies, including the largest ones, located along the immediate coast, it is possible that recurring anomalous warm-water conditions in the ocean off the coast of southern California (<https://scripps.ucsd.edu/research/climate-change-resources/californias-marine-heatwaves>), combined with a record-setting drought that lasted from 2011 to 2015, reduced the amount of prey available to colonial waterbirds in Marina del Rey and across the wider region during the period from 2009 to 2019. Notably, however, warm-water conditions off the California coast have persisted during the most recent five-year period (<https://www.integratedecosystemassessment.noaa.gov/regions/california-current/california-current-marine-heatwave-tracker-blobtracker>) even as colonial waterbird populations have rebounded across Los Angeles County. This suggests that any causal relationship between ocean temperatures and short-term changes in populations of colonial waterbirds in the County is complicated, if it exists.

Referring back to Table 2 on page 10, and Graph 18 below, note that the number of known active rookery sites in the County, outside of Marina del Rey, increased by 58% from 2009 to 2019 before leveling off during the most recent five-year period.



See also the species-specific graphs on pages 9–13, which show that nearly all species were found nesting at more locations across the County, outside of Marina del Rey, in 2024 than in previous years. The overall number of active sites leveled off at 30 in both 2019 and 2024, with more multi-species rookeries being found in 2024 compared with 2019.

The identification of several new rookeries outside of Marina del Rey in 2012, 2019, and 2024 probably reflects, to some degree, the general accumulation of information over time (as more birders cover larger areas and report their observations more frequently into eBird and other online databases) as well as the more comprehensive nature of the more recent County-wide surveys compared with the initial 2009 effort. If the 2009 surveys covered all of the rookery sites now known, the County-wide baseline from 2009 probably would have been somewhat higher, resulting in a somewhat smaller apparent 15-year increase outside of Marina del Rey in 2024. The potential importance of this effect is unknown.

Along the coast of southern California, colonial waterbirds seem to be following a “colonize-expand-increase” pattern seen in invasive and successful species globally. A rather dramatic proliferation of nesting colonial waterbirds on the coastal slope of Los Angeles County, which started in the 1990s, may have reached a natural plateau at roughly 500 nesting pairs. That the number of known active rookery sites across Los Angeles County, outside of Marina del Rey, increased by 58% from 2009 to 2019, even as the detected number of colonial waterbird nests decreased by 18%, suggested that these birds were spreading out and discovering more habitable areas in which to breed. It was noted in the 2019 survey report that this could have the effect of certain colony sites dwindling as offspring increasingly disperse across the region in search of new breeding territories, thus failing to completely replace the adults lost to mortality in their natal colony. The 2019 survey report noted that, “as the newer colony sites become more firmly established, the overall numbers of nesting waterbirds could jump again in the future.” Consistent with this hypothesis, the total number of colonial waterbird nests detected in Los Angeles County, outside of Marina del Rey, increased by 52% between 2019 and 2024, without any increase in the known number of nesting sites.

RECOMMENDATIONS

Analysis of the local and regional study results demonstrates that, 15 years after our first survey efforts, Marina del Rey continues to account for roughly one-fifth of the total number of colonial waterbirds nesting on the coastal slope of Los Angeles County. For this reason, continued careful management and monitoring of known and potential colonial waterbird nesting sites in Marina del Rey (and the larger Los Angeles coastal slope) remains a valid priority for County managers and leaseholders.

In all likelihood, the main drivers of the population fluctuations observed in Marina del Rey, and across the wider region, involve variations in prey availability resulting from large-scale environmental phenomena, such as droughts, rather than inadequacies in

protection of rookery sites. As such, this report does not identify any habitat-management recommendations beyond maintaining the policies identified in the 2010 *Conservation & Management Plan*. Those policies protect actively nesting birds as well as trees that have been used by nesting colonial waterbirds during the preceding five years. Over the past 15 years, these policies have effectively (a) maintained multiple active rookeries at Marina del Rey and (b) documented the annual status of colonial waterbird populations in this important area. For these reasons, these policies warrant continuation into the future.

Because colonial waterbirds have such a protracted nesting period, often starting in January and continuing in “waves” through August, we recommend that any efforts to document the status of these species in Marina del Rey, or elsewhere in the region, commence no later than mid-March and continue into August. The larger rookery sites, especially, warrant multiple visits during the nesting season.

Finally, conducting regional surveys every five years or so has provided the County of Los Angeles with important data on large-scale fluctuations in the nesting populations of colonial waterbirds across the coastal slope of Los Angeles County, fluctuations that in most cases have been synchronous with those observed in Marina del Rey. Because the regional information would not otherwise be available, it is recommended that the County continue to implement the regional surveys every five years.

APPENDIX A

COLONIAL WATERBIRD NESTING RECORDS, 2009–2024

Tables A-1 to A-8, below, provide complete lists of colony sites in the County *exclusive of Marina del Rey* and the status of each breeding species in 2009, 2012, 2019, and 2024.

Maps B-1 to B-6, after the tables, show the locations of each rookery site.

Source for 2009 data: Hamilton, R.A. and D.S. Cooper. 2010. *Conservation and Management Plan, Marina del Rey, Los Angeles County, California*. Report dated September 16, 2010, prepared for County of Los Angeles, Dept. Beaches and Harbors and Dept. Regional Planning. The 2009 data are not included in eBird checklists.

Source for 2012 data: Shuford, W.D., J.P. Kelly, T.E. Condeso, D.S. Cooper, K.C. Molina, and D. Jongsomjit. 2020. *Distribution and abundance of colonial herons and egrets in California, 2009–2012*. *Western Birds* 51:190–220.

Source for 2019 data: Hamilton, R.A. and D.S. Cooper. 2019. *Regional Colonial Waterbird Survey Report, Los Angeles County, California*. Report dated November 18, 2019, prepared for County of Los Angeles, Dept. Beaches and Harbors.

Source for 2024 data: Observations by Robert A. Hamilton (RAH) or other observers, generally supported by eBird checklists or iNaturalist records with photo documentation; see hyperlinks in right column of Tables A-1 to A-8. In most cases, the total number of nests for the year was determined during a single visit, with inactive nests being included in the total if they appeared to have been recently used. In a few instances, additional nests were counted from a second visit later in the nesting season. In such cases, the observation dates and supporting documentation are cited/linked in the comments.

A multi-species rookery near Malibu Lagoon, identified in previous reports as “Malibu Country Mart,” is herein identified more generally as “Cross Creek Road”.

“0” denotes failure to detect any nests at a location (a) surveyed by RAH, or (b) surveyed by at least one other observer who submitted a detailed eBird checklist for the site during the nesting season (i.e., a checklist including photos and/or notes on nesting of other species).

“–” denotes a site for which, during a given year, bird nesting data was not collected by RAH or other eBird contributors.

Abbreviations: GBHE = Great Blue Heron; GREG = Great Egret; SNEG = Snowy Egret; BCNH = Black-crowned Night Heron; DCCO = Double-crested Cormorant; NECO = Neotropical Cormorant; YCNH = Yellow-crowned Night Heron.

**Table A-1: Great Blue Heron Rookeries
 Los Angeles County Outside of MDR, 2009, 2012, 2019, 2024**

| Location | 2009 | 2012 | 2019 | 2024 | Details (2024 Observations) |
|-------------------------------------|------|------|------|------|--|
| Alamitos Bay | 14 | 0 | 3 | 10 | Long Beach, Fire Station Mole; RAH 4/24/24 ; https://ebird.org/checklist/S170174088 RAH 7/16/24; https://ebird.org/checklist/S190356081 |
| Alamitos Bay | 0 | 20 | 5 | 0 | Long Beach, East Marina Drive |
| Alamitos Bay | 0 | 0 | 2 | 0 | Long Beach, East Ocean Blvd. |
| Queensway Bay | 0 | 15 | 30 | 31 | Long Beach, vic. Harry Bridges Memorial Park; RAH 5/11/24 https://ebird.org/checklist/S174051585 |
| Port of Long Beach | 3 | 0 | 0 | 2 | Navy Mole; B. Stidum 4/7/2024 (pers. comm.) |
| Port of Los Angeles | 5 | 0 | 0 | 0 | Pier 400 |
| Port of Los Angeles | 0 | 0 | 0 | 1 | Breakwater vic. Navy Way; B. Stidum 4/6/24 (pers. comm.) |
| Port of Los Angeles | 0 | 0 | 0 | 7 | Everport Terminal Services; B. Stidum 4/6/24 (pers. comm.) |
| Port of Los Angeles | 0 | 0 | 0 | 1 | Yusen Terminal, Berth 212-225; B. Stidum 4/6/24 (pers. comm.) |
| Port of Los Angeles | 2 | 0 | 4 | 4 | Signal Street; RAH 5/24/24 https://ebird.org/checklist/S176883940 |
| Port of Los Angeles | 0 | 16 | 3 | 0 | So. Seaside Ave./USGS Station |
| Port of Los Angeles | — | — | 6 | 7 | Newmarcks Marina/Holiday Harbor; RAH 5/24/24 https://ebird.org/checklist/S176885072 |
| El Dorado Regional Park | — | 2 | 1 | 2 | Long Beach, Area 2; RAH 5/1/24 https://ebird.org/checklist/S171443469 |
| La Mirada Regional Park | — | — | — | 1 | La Mirada; J. Rowley 4/17/24 https://ebird.org/checklist/S169105639 |
| San Gabriel River Spreading Grounds | 9 | — | 0 | 0 | Pico Rivera |
| Legg Lake | 35 | 6 | 11 | 18 | South El Monte; RAH 5/1/24 https://ebird.org/checklist/S171442481 ; C. Furutani 7/16/24 https://ebird.org/checklist/S187394090 |
| Puddingstone Reservoir | 0 | 1 | 0 | 0 | San Dimas |
| Santa Fe Dam | — | — | 1 | 0 | Irwindale |
| San Gabriel Reservoir | — | 14 | 0 | 0 | San Gabriel Mts. |
| Cogswell Reservoir | 3 | 5 | — | 0 | San Gabriel Mts. |
| Atwater Village | — | — | 2 | 7 | Deodar cedars at varying locations; Tyburn St. at Garden Ave. in 2024; 7 large nests and recent guano on 9/5/24 (RAH pers. observation) |
| Silver Lake Reservoir | — | 3 | 3 | 5 | Los Angeles; "5 total nests" on 5/20/24 (D. Cooper pers. comm.); B. Rumble 8/6/24 https://ebird.org/checklist/S190508187 |
| Echo Park Lake | 4 | 0 | 0 | 0 | Los Angeles |
| Alondra Park | — | — | — | 1 | Lawndale; S. Boscoe 6/7/24 https://ebird.org/checklist/S180244734 |
| Vic. Lake Balboa | 10 | 4 | 6 | 6 | Van Nuys; RAH 5/9/24 https://ebird.org/checklist/S173139232 |
| Hansen Spreading Grounds | — | — | 3 | 2 | Pacoima; RAH 5/5/24 https://ebird.org/checklist/S172330582 |
| Castaic Lagoon | — | — | — | 1 | Castaic; V. Pierszalowski 3/24/24 https://ebird.org/checklist/S165904998 |
| Westlake Lake | — | 10 | 2 | 4 | Westlake Village; RAH 5/3/24 https://ebird.org/checklist/S171814191 |
| Malibou Lake | 0 | 0 | 4 | 13 | Agoura Hills; RAH 5/3/24 https://ebird.org/checklist/S171815014 |

| Location | 2009 | 2012 | 2019 | 2024 | Details (2024 Observations) |
|---------------------|------------|-------------|-------------|-------------|---|
| King Gillette Ranch | — | 1 | 0 | 0 | Calabasas |
| Malibu Colony Road | 0 | 1 | 0 | 0 | Malibu |
| | 85 | 98 | 86 | 123 | Great Blue Heron Nests |
| | [9] | [13] | [16] | [19] | Great Blue Heron Nesting Locations |

**Table A-2: Great Egret Rookeries
 Los Angeles County Outside of MDR, 2009, 2012, 2019, 2024**

| Location | 2009 | 2012 | 2019 | 2024 | Details (2024 Observations) |
|------------------|------------|------------|------------|------------|--|
| Cross Creek Road | 10 | 3 | 3 | 6 | Malibu; RAH 5/3/24 https://ebird.org/checklist/S171813526 |
| Santa Fe Dam | — | — | 0 | 6 | Irwindale; E. Stonick 3/20/24; https://ebird.org/checklist/S165512626 |
| | 10 | 3 | 3 | 12 | Great Egret Nests |
| | [1] | [1] | [1] | [2] | Great Egret Nesting Locations |

**Table A-3: Snowy Egret Rookeries
 Los Angeles County Outside of MDR, 2009, 2012, 2019, 2024**

| Location | 2009 | 2012 | 2019 | 2024 | Details (2024 Observations) |
|-------------------------|------------|------------|------------|------------|---|
| Alamitos Bay | 0 | 7 | 3 | 17 | Long Beach, Fire Station Mole; RAH 4/24/24 https://ebird.org/checklist/S170174088 RAH 7/16/24; https://ebird.org/checklist/S190356081 |
| Alamitos Bay | 0 | 0 | 0 | 13 | Long Beach, Appian Way; RAH 4/24/24 https://ebird.org/checklist/S170155400 RAH 7/16/24 https://ebird.org/checklist/S190357179 |
| Belmont Shore | 0* | 6* | 4 | 0 | Long Beach; East Ocean Blvd. |
| Queensway Bay | 0 | 7* | 0 | 1 | Long Beach, Harry Bridges Memorial Park; RAH 5/11/24 https://ebird.org/checklist/S174050244 |
| Port of Los Angeles | 0 | 25 | 0 | 0 | Terminal Island, Ferry Street |
| Port of Los Angeles | 0 | 0 | 1* | 0 | West Harbor (former Ports O' Call Village) |
| Port of Los Angeles | — | — | 6 | 14 | Newmarcks Marina/Holiday Harbor; RAH 5/10/24 https://ebird.org/checklist/S173327258 |
| El Dorado Regional Park | — | 3 | 10 | 0 | Long Beach; Duck Ponds (southwestern part of park) |
| King Harbor | — | — | 0 | 1 | Redondo Beach, Portofino Hotel; RAH 7/31/24 https://ebird.org/checklist/S190346594 |
| Lincoln Park | 0 | 0 | 0 | 2 | Los Angeles; RAH 5/9/24 https://ebird.org/checklist/S173139629 |
| Westlake Lake | — | — | 2 | 2 | Westlake Village; RAH 5/3/24 https://ebird.org/checklist/S171814191 |
| Cross Creek Road | 0 | 6 | 1 | 0 | Malibu |
| | 0* | 54* | 27* | 50 | Snowy Egret Nests |
| | [1] | [6] | [7] | [7] | Snowy Egret Nesting Locations |

* Unknown numbers of Snowy Egrets nested at Belmont Shore in 2009, at Belmont Shore and Queensway Bay in 2012, and at West Harbor (former Ports O' Call Village) in 2019, when the survey timing did not allow for distinguishing SNEG nests from BCNH nests. For purposes of this report, all such "unknown" nests are treated as SNEG/BCNH (see Table A-5).

**Table A-4: Black-crowned Night Heron Rookeries
 Los Angeles County Outside of MDR, 2009, 2012, 2019, 2024**

| Location | 2009 | 2012 | 2019 | 2024 | Details (2024 Observations) |
|-------------------------|-------------|------------|-------------|------------|---|
| Alamitos Bay | — | 1* | 6 | 12 | Long Beach; Fire Station Mole; RAH 4/24/24 https://ebird.org/checklist/S170174088 ; RAH 7/16/24 https://ebird.org/checklist/S190356081 |
| Alamitos Bay | 0 | 0 | 0 | 59 | Long Beach, Appian Way; RAH 4/24/24 https://ebird.org/checklist/S170155400 RAH 7/16/24 https://ebird.org/checklist/S190357179 |
| Belmont Shore | 0* | 2* | 75 | 0 | Long Beach; East Ocean Blvd. |
| Queensway Bay | 35 | 0 | 0 | 0 | Long Beach, Shoreline Drive |
| Queensway Bay | 22 | 2 | 4 | 51 | Long Beach, Harry Bridges Memorial Park; RAH 5/11/24 https://ebird.org/checklist/S174050244 |
| Queensway Bay | 0 | 4 | 0 | 0 | Long Beach, Catalina Landing |
| Port of Los Angeles | 0 | 25 | 0 | 0 | Terminal Island, Ferry |
| Port of Los Angeles | 20 | 0 | 0 | 0 | Terminal Island, Customhouse |
| Port of Los Angeles | 18 | 0 | 0 | 0 | Terminal Island, Ways Street |
| Port of Los Angeles | 0 | 6 | 7* | 0 | West Harbor (former Ports O' Call Village) |
| Port of Los Angeles | — | — | 62 | 75 | Newmarcks Marina/Holiday Harbor; RAH 5/10/24 https://ebird.org/checklist/S173327258 |
| El Dorado Regional Park | — | 2 | 2 | 0 | Long Beach; Duck Pond |
| Redondo Beach Esplanade | — | 2 | 0 | 0 | Redondo Beach |
| King Harbor | — | — | 0 | 30 | Redondo Beach, Portofino Hotel; RAH 5/24/24 https://ebird.org/checklist/S176883634 ; RAH 7/31/24 https://ebird.org/checklist/S190346594 |
| Lincoln Park | 0 | 0 | 1 | 1 | Los Angeles; RAH 5/9/24 https://ebird.org/checklist/S173139629 |
| MacArthur Park | 0 | 0 | 4 | 3 | Los Angeles; RAH 5/3/24 https://ebird.org/checklist/S173139472 |
| Vic. Lake Balboa | 10 | 0 | 0 | 0 | Van Nuys |
| Cross Creek Road | 0 | 4 | 0 | 1 | Malibu; RAH 5/3/24 https://ebird.org/checklist/S171813526 |
| | 105* | 48* | 161* | 232 | Black-crowned Night Heron Nests |
| | [6] | [9] | [8] | [8] | Black-crowned Night Heron Nesting Locations |

* Unknown numbers of Black-crowned Night Herons nested at Belmont Shore in 2009, at Alamitos Bay and Belmont Shore in 2012, and at Ports O' Call Village in 2019 (survey timing did not allow for distinguishing BCNH nests from SNEG nests). For purposes of this report, all such "unknown" nests are treated as SNEG/BCNH (see Table A-5).

**Table A-5: Unknown SNEG/BCNH Rookeries
 Los Angeles County Outside of MDR, 2009, 2012, 2019, 2024**

The timing of some surveys in 2009, 2012, and 2019 did not allow for numerous nests of small egret/heron species to be identified to species. The following table provides the data on these “unknown” nests, which belonged either to Black-crowned Night Herons or to Snowy Egrets. In 2024, no unknown nests were recorded.

| Location | 2009 | 2012 | 2019 | 2024 | Details (2024 Observations) |
|---------------------|------------|------------|-----------|----------|--|
| Alamitos Bay | 0 | 14 | 0 | 0 | Long Beach; North Marina Drive |
| Belmont Shore | 110 | 45 | 0 | 0 | Long Beach; East Ocean Blvd |
| Queensway Bay | 0 | 45 | 0 | 0 | Long Beach; Harry Bridges Memorial Park |
| Queensway Bay | 0 | 34 | 0 | 0 | Long Beach; Catalina Landing |
| Port of Los Angeles | 0 | 0 | 21 | 0 | West Harbor (former Ports O' Call Village) |
| | 110 | 138 | 21 | 0 | Unknown BCNH/SNEG Nests |

**Table A-6: Yellow-crowned Night Heron Rookeries
 Los Angeles County Outside of MDR, 2009, 2012, 2019, 2024**

| Location | 2009 | 2012 | 2019 | 2024 | Details (2024 Observations) |
|--------------|----------|----------|----------|----------|---|
| Alamitos Bay | 0 | 0 | 0 | 2 | Long Beach, Fire Station Mole; RAH 4/24/24 https://ebird.org/checklist/S170174088 RAH 7/16/24; https://ebird.org/checklist/S190356081 |
| Alamitos Bay | 0 | 0 | 0 | 4 | Long Beach, Appian Way; RAH 4/24/24 https://ebird.org/checklist/S170155400 RAH 7/16/24 https://ebird.org/checklist/S190357179 |
| | 0 | 0 | 0 | 6 | Yellow-crowned Night Heron Nests |
| | [0] | [0] | [0] | [2] | Yellow-crowned Night Heron Nesting Locations |

**Table A-7: Double-crested Cormorant Rookeries
 Los Angeles County Outside of MDR, 2009, 2012, 2019, 2024**

| Location | 2009 | 2012 | 2019 | 2024 | Detail (2019 Unless Stated Otherwise) |
|--------------------------|------------|-----------|-----------|------------|---|
| Port of Los Angeles | 89 | 0 | 0 | 8 | Inner Harbor vic. Schuyler F. Heim Bridge (now removed); B. Stidum 4/7/24 (pers. comm.). |
| Legg Lake | 15 | 30 | 24 | 29 | South El Monte; RAH 5/1/24 https://ebird.org/checklist/S171442481 ; C. Furutani 7/16/24 https://ebird.org/checklist/S187394090 |
| San Gabriel Reservoir | — | 0 | 1 | 0 | San Gabriel Mts. |
| Hansen Spreading Grounds | — | — | 3 | 20 | Pacoima; RAH 5/5/24 https://ebird.org/checklist/S172330582 |
| Sepulveda Basin | 20 | 12 | 19 | 10 | Van Nuys; A. Yan 3/16/24 https://ebird.org/checklist/S165079285 S. Picciotto 3/22/24 https://ebird.org/checklist/S165720894 ; nest total estimated by RAH |
| Westlake Lake | — | — | 26 | 27 | Westlake Village; RAH 5/3/24 https://ebird.org/checklist/S171814191 |
| Cross Creek Road | 0 | 0 | 5 | 21 | Malibu; RAH 5/3/24 https://ebird.org/checklist/S171813526 |
| | 124 | 42 | 75 | 115 | Double-crested Cormorant Nests |
| | [3] | [2] | [5] | [6] | Double-crested Cormorant Nesting Locations |

***Table A-8: Neotropic Cormorant Rookeries
 Los Angeles County Outside of MDR, 2009, 2012, 2019, 2024***

| Location | 2009 | 2012 | 2019 | 2024 | Detail (2019 Unless Stated Otherwise) |
|--------------------------|-------------|-------------|-------------|-------------|--|
| Legg Lake | 0 | 0 | 0 | 4 | South El Monte; RAH 5/1/24 https://ebird.org/checklist/S171442481 |
| Santa Fe Dam | 0 | 0 | 0 | 2 | Irwindale; Naresh Satyan 6/28/24 https://ebird.org/checklist/S184277703 |
| Hansen Spreading Grounds | — | — | 0 | 2 | Pacoima; 2 nests on 5/31/24 (Van Pierszalowski pers. comm.) Brad Rumble 6/16/24 https://ebird.org/checklist/S182380509 |
| | 0 | 0 | 0 | 8 | Neotropic Cormorant Nests |
| | [0] | [0] | [0] | [3] | Neotropic Cormorant Nesting Locations |

APPENDIX B

MAPS OF ROOKERIES, 2009, 2012, 2019, 2024



Map B-1. Great Blue Heron Nests.

(Nests detected in 2009, 2012, 2019 and 2024)
 "-" indicates not surveyed that year.

- Nesting Site (Local Area)
- ▭ Nesting Site (Multiple Areas)
- ~ Boundary of Marina Del Rey
- ~ Upper Boundary of Coastal Slope Study Area
- - - Los Angeles County Boundary

MAP CREDITS: World Topographic Map (ESRI). Coastal Slope boundary from National Hydrography Dataset. Nesting data compiled by Robert A. Hamilton and Daniel S. Cooper. Prepared for Department of Beaches and Harbors by Hamilton Biological. November 2024.

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APPENDIX C
PHOTOS OF COLONIAL WATERBIRDS AND NESTING SITES



Photo C-1. Great Blue Heron.
Adult at nest in ficus tree.
Fire Station Mole, Alamitos Bay,
Long Beach. April 24, 2024.

Photo: Robert A. Hamilton.

Photo C-2. Great Blue Heron.
Adult at nest in eucalyptus tree.
Vic. Harry Bridges Park, Queensway Bay,
Long Beach. April 25, 2024.

Photo: Robert A. Hamilton.



Photo C-3. Great Blue Heron. Adult
with three juveniles at nest in pine.
El Dorado Regional Park, Long Beach.
May 1, 2024.

Photo: Robert A. Hamilton.



Photo C-4. Great Blue Heron.
Juvenile at nest in eucalyptus tree.
Legg Lake, South El Monte.
May 1, 2024.

Photo: Robert A. Hamilton.

Photo C-5. Great Blue Heron.
Adults at nests in pines.
Vic. Lake Balboa, Van Nuys.
May 9, 2024.

Photo: Robert A. Hamilton.



Photo C-6. Great Blue Heron. Adults
at nests in a eucalyptus tree.
Malibou Lake, Agoura Hills.
May 3, 2024.

Photo: Robert A. Hamilton.



Photo C-7. Great Egret.
Pair building nest a in ficus tree.
Cross Creek Road, Malibu.
May 3, 2024.

Photo: Robert A. Hamilton.

Photo C-8. Ficus tree with six
Great Egret nests.
Cross Creek Road, Malibu.
May 3, 2024.

Photo: Robert A. Hamilton.





Photo C-9. Snowy Egret.
Adult in ficus tree.
Fire Station Mole, Alamitos Bay,
Long Beach. April 24, 2024.

Photo: Robert A. Hamilton.

Photo C-10. Snowy Egret.
Juvenile at nest in ficus tree.
Newmarcks Marina, Port of Los Angeles.
May 24, 2024.

Photo: Robert A. Hamilton.



Photo C-11. Snowy Egret.
Juvenile begging in ficus tree.
Fire Station Mole, Alamitos Bay,
Long Beach. May 29, 2024.

Photo: Robert A. Hamilton.



Photo C-12. Black-crowned Night Heron.
Adults in ficus tree.
Appian Way, Alamitos Bay, Long Beach.
April 24, 2024.

Photo: Robert A. Hamilton.

Photo C-13. Black-crowned Night Heron.
Nestling in ficus tree.
Fire Station Mole, Alamitos Bay,
Long Beach. April 24, 2024.

Photo: Robert A. Hamilton.



Photo C-14. Black-crowned Night Heron.
Nestling in ficus tree.
Fire Station Mole, Alamitos Bay,
Long Beach. April 24, 2024.

Photo: Robert A. Hamilton.



Photo C-15. Black-crowned Night Heron.
Adult at nest in ficus tree.
Harry Bridges Park, Queensway Bay,
Long Beach. April 25, 2024.

Photo: Robert A. Hamilton.

Photo C-16. Black-crowned Night Heron.
Fledgling in ficus tree.
Portofino Hotel, King Harbor,
Redondo Beach.
May 24, 2024.

Photo: Robert A. Hamilton.



Photo C-17. Ficus nesting trees.
Portofino Hotel, King Harbor,
Redondo Beach. May 24, 2024.

Photo: Robert A. Hamilton.



Photo C-18. Yellow-cr. Night Heron.
Adult at nest in ficus tree.
Appian Way, Alamitos Bay, Long Beach.
April 25, 2024.

Photo: Robert A. Hamilton.

Photo C-19. Yellow-cr. Night Heron.
Subadult at nest in ficus tree.
Appian Way, Alamitos Bay, Long Beach.
April 25, 2024.

Photo: Robert A. Hamilton.



Photo C-20. Yellow-cr. Night Heron.
Nestlings in ficus tree.
Appian Way, Alamitos Bay, Long Beach.
May 29, 2024.

Photo: Robert A. Hamilton.



Photo C-21. Double-crested Cormorant.
Adult bringing stick to nest.
Legg Lake, South El Monte.
May 1, 2024.

Photo: Robert A. Hamilton.

Photo C-22. Double-crested Cormorant.
Several active nests in eucalyptus tree.
Hansen Spreading Grounds, Pacoima.
May 5, 2024.

Photo: Robert A. Hamilton.



Photo C-23. Double-crested Cormorant.
Adults at nests in Queensland Pine.
Cross Creek Road, Malibu.
May 3, 2024.

Photo: Robert A. Hamilton.



Photo C-24. Neotropic Cormorant.
Juveniles begging from adult at nest in
eucalyptus tree.
Legg Lake, South El Monte.
May 1, 2024.

Photo: Robert A. Hamilton.

Photo C-25. Neotropic Cormorant.
Adults and juveniles at nests in
eucalyptus tree.
Legg Lake, South El Monte.
May 1, 2024.

Photo: Robert A. Hamilton.



Photo C-26. Double-crested and
Neotropic Cormorants congregating
near their nesting colony.
Legg Lake, South El Monte.
May 1, 2024.

Photo: Robert A. Hamilton.