

HERON AND EGRET MONITORING RESULTS AT MARIN ISLANDS NATIONAL WILDLIFE REFUGE: 2022 NESTING SEASON

A Report to the San Pablo Bay National Wildlife Refuge



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INTRODUCTION

Audubon Canyon Ranch (ACR) has been monitoring the number of nesting herons and egrets at Marin Islands since 1979, and the annual reproductive success of Great Egrets and Great Blue Herons there since 1993. The Marin Islands supported large numbers of nesting herons and egrets from at least as early as 1979 through 2015 (Table 1). In 2015, all the nesting Snowy Egrets and Black-crowned Night-Herons abandoned the site before completing the nesting cycle and there were substantially reduced numbers of Great Egrets and Great Blue Herons (Kelly and Fischer 2018). Since the 2016 season, West Marin Island has supported zero nesting herons or egrets. East Marin Island supported only small numbers of nesting Great Blue Herons between 2016-2019. Here I present my detailed observations of heron and egret nesting activity on the Marin Islands in 2020 and 2021.

METHODS

Detailed methods for monitoring the numbers of heron and egret nests and estimating reproductive success of Great Egrets and Great Blue Herons are described in Kelly et al. (2006). In 2020, I made 5 visits to Marin Islands (March 11, Apr 4, May 24, June 3, and July 12). On each visit I circled the islands by boat (18-foot Boston Whaler or 13-foot kayak) and when tide allowed, I landed on the gravel spit to the north of East Island. On March 11 I also landed on East Island and walked the main ridge of the island. I used 10x binoculars and a 30-60x spotting scope to search all trees and shrubs for evidence of nesting herons and egrets. I also searched all appropriate habitat for nesting Black Oystercatchers and counted the number of nesting Western Gulls (almost exclusively on West Marin Is.) from the boat and while on East Marin Island.

RESULTS AND DISCUSSION

In 2022, there were no observed nesting attempts by herons and egrets on West Marin Island. On East Marin Island there was no observed Great Blue Heron nesting attempt during the normal time of regional nest initiation (March). However, on May 24 2 Great Blue Herons were observed building a nest on the north side of East Island. On June 3 a Great Blue Heron was observed laying on this nest, suggesting that ≥ 1 eggs may have been laid. However, on the July 12 visit this nest was unoccupied and appeared inactive. Because of the late initiation date of this nest, I suspect this pair were either young, inexperienced breeders or were a pair who failed in their first nesting attempt elsewhere and tried a second time at East Marin Island. I am very confident that this nest did not produce any young. Indeed, I am not certain that any eggs were even laid.

Great Blue Herons last nested on East Marin Island in 2019 (Table 1). Recolonization of abandoned nesting sites by Great Blue Herons is likely within 18.8 years after colony abandonment, but may happen sooner (Kelly et al. 2018), however, the specific mechanisms of recolonization are not well understood. Thus, because the timing of the nesting attempt this year was abnormal and no young were produced, it is unclear whether this represents a true recolonization or some other process.

Table 1. Annual number of active heron and egret nests on East and West Marin Islands based on early-June counts conducted by boat and from East Marin Island, 1979-2019.

Year	Great Egret	Snowy Egret	Black-crowned Night-heron	Great Blue Heron
1979	58	262	98	0
1981	75	325	109	0
1982	187	500	80	0
1983	190	345	89	0
1984	139	347	54	0
1985	84	161	79	0
1986	160	126	40	0
1987	89	239	41	0
1988	77	212	35	0
1989	79	245	61	0
1990	119	300	37	1
1991	90	277	45	2
1992	189	220	30	1
1993	120	98	41	0
1994	163	8	32	2
1995	172	16	18	2
1996	148	36	22	3
1997	167	119	24	5
1998	155	117	53	7
1999	101	84	47	8
2000	134	156	50	9

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2001	94	217	26	7
2002	121	204	64	7
2003	81	103	51	10
2004	83	59	29	12
2005	161	91	44	12
2006	126	116	41	9
2007	60	43	21	10
2008	52	132	40	6
2009	64	175	63	9
2010	64	102	31	8
2011	61	89	48	10
2012	53	121	26	8
2013	42	59	11	10
2014	36	94	26	6
2015	26	0	0	5
2016	0	0	0	1
2017	0	0	0	4
2018	0	0	0	8
2019	0	0	0	4
2020*	Unk	Unk	Unk	Unk
2021	0	0	0	0
2022	0	0	0	1**

* Incomplete surveys in 2020 prevented confirmation of nesting activity.

** Late initiation.

Disturbance and Colony abandonment

As in previous years, I suspect but could not confirm that pair of Common Ravens was nesting on East Marin Island in 2022. As noted in previous reports (e.g. Kelly and Fischer 2018), the occasional, opportunistic predation of heron and egret nests by ravens is unlikely the primary cause of the widespread nest failure and abandonment observed in 2015 and 2016, or of the Great Blue Heron abandonment of East Island in 2019.

Other bird species

As in previous years, I opportunistically observed the presence of other bird species, on or within 100 m of the Marin Islands. I recorded all observations in eBird on Mar 11, which was the only day I landed on East Island and walked through the upland portion of the island (Table 2). I detected no evidence of Black Oystercatcher nesting on West or East Marin Island in 2022. As in 2020 and 2021, there appeared to be < ½ the active nests (≤ 10) along the grassy south- and west-facing slopes of West Marin Island as I observed prior to 2020. Among passerines, I

observed direct or indirect evidence that Allen's Hummingbird and Song Sparrow were nesting on East Marin Island in 2022.

Table 2.

Species	Mar 11
Canada Goose	x
Mourning Dove	x
Anna's Hummingbird	x
Allen's Hummingbird	x
Rufous/Allen's Hummingbird	x
Spotted Sandpiper	x
Osprey	x
Belted Kingfisher	x
American Crow	x
Common Raven	x
Ruby-crowned Kinglet	x
House Finch	x
Golden-crowned Sparrow	x
Song Sparrow	x

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REFERENCES CITED

Kelly, J. P., K. L. Etienne, C. Strong, M. McCaustland, and M. L. Parkes (2006). Annotated Atlas and Implications for the Conservation of Heron and Egret Nesting Colonies in the San Francisco Bay Area. Audubon Canyon Ranch, Marin, CA.

2022 Heron and Egret Monitoring at West Marin Island

Kelly, J. P., and B. Fischer (2018). Heron and egret monitoring results at Marin Islands National Wildlife Refuge: 2018 nesting season. Audubon Canyon Ranch, Cypress Grove Research Center 1990-03-46.

Kelly, J. P., S. A. Millus, and T. E. Condeso (2018). Nesting dynamics of four Ardeid species at subregional scales: recovery rates after sudden major declines in nest abundance. *Waterbirds* 43:223–239.