

HERON AND EGRET MONITORING RESULTS AT MARIN ISLANDS NATIONAL WILDLIFE REFUGE: 2017 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. Nests are monitored annually, during repeated visits, from viewing positions on East Marin Island and by boat. This work is part of an ongoing, regional study of heron and egret colonies in the northern San Francisco Bay area (see previous reports in References Cited).

In 2015, all of the nesting Snowy Egrets and Black-crowned Night-Herons abandoned their nest sites on West Marin Island before completing the nesting cycle and, by 2 June 2015, only five Great Blue Heron nests and 26 Great Egret nests remained active (Kelly et al. 2015). The cause of the 2015 abandonments is unknown. In 2016, we found no evidence of successful nesting by herons or egrets on West Marin Island, where widespread nest failure resulted in overall reproductive success of zero for Great Egrets, Snowy Egrets, and Black-crowned Night-Herons at the Marin Islands (Kelly et al. 2017). However, seven Great Blue Heron nests were established on East Marin Island and a few of those nests were apparently successful in fledging young. In this report, we present our observations of heron and egret nesting activity on the Marin Islands in 2017.

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. (1996, 2006a, 2007a). In 2017, we monitored the presence of any nesting herons or egrets from viewing positions on East Marin Island, from a mainland vantage point on Dunfries Terrace (above the Loch Lomond Marina), and from an 18-foot Boston Whaler. We made four visits to East Marin Island in 2017 (7 March, 4 April, 9 May, and 2 June). To avoid potential disturbance to arriving Great Blue Herons, we did not land on East Marin Island during the 7 March visit.

In addition on 2 June, we counted the nests of Western Gulls and Black Oystercatchers on

West Marin Island, and searched carefully for oystercatcher nests on both the East and West Marin Islands. Observers were careful to maintain viewing distances that avoid disturbance to nesting herons or egrets. No evidence of observer disturbance was detected. Viewing conditions were good.

In 2017, five Great Blue Heron nests that were established on East Marin Island. During our visits, we mapped the nest location and measured or inferred the fate of each nest. It was impossible to clearly observe the contents of Great Blue Heron nests on East Marin Island without risk of disturbance to the nesting herons; therefore, we could not estimate the overall productivity of successful Great Blue Heron nests.

RESULTS AND DISCUSSION

In 2017, no Great Egret, Snowy Egret, or Black-crowned Night-Heron nests were established at the Marin islands and no herons and egrets nested on West Marin Island. However, five Great Blue Heron nests were initiated on East Marin Island (Table 1) and four of those nests were successful in fledging young. All of the Great Blue heron nests were in Monterey Pines (none in *Eucalyptus*). Great Blue Herons have nested on East Marin Island in only six years since 1979 (1999, 2009, 2012, 2013, 2016, and 2017; Table 2).

Table 1. Number of active nests observed on West Marin Island and East Marin Island on 2 June 2017.

	Number of occupied nests					Total nests
	West Marin Island			East Marin Island		
	West side	South side	Northeast side			
Great Egret	0	0	0	0	0	0
Snowy Egret	0	0	0	0	0	0
Black-crowned Night-Heron	0	0	0	0	0	0
Great Blue Heron	0	0	0	4 ^a		4 ^a
Western Gull	15	39	7	(not counted)		61
Black Oystercatcher	0	0 ^b	0	0		0 ^b

^aObservations of monitored nests indicated that five pairs of Great blue Herons initiated nests on East Marin Island in 2017.

^bOn 9 May 2017, an apparent pair of adult Black Oystercatchers (foraging together) was observed on the south side of West Marin Island on 9 May 2017.

Table 2. 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.

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 ^a	2
1996	148	36	22	3
1997	167	119	24	5
1998	155	117	53	7
1999	101	84	47	8 ^b
2000	134	156	50	9
2001	94 ^c	217	26	7 ^d
2002	121	204	64	7
2003	81	103	51	10
2004	83	59	29	12
2005	161	91	44 ^e	12
2006	126	116	41	9
2007	60	43	21	10
2008	52	132	40	6
2009	64	175	63	9 ^f
2010	64	102	31	8
2011	61	89	48	10
2012	53	121	26 ^g	8 ^h
2013	42	59	11	10 ⁱ
2014	36	94	26	6
2015	26	0	0	5
2016	0	0	0	1 ^j
2017	0	0	0	4 ^k

^a 115 Black-crowned Night-Herons were present on adjacent mudflats on 17 April 1995.

^b Number includes one nest on East Marin Island.

^c Number of active nests during the standard early-June census window, on 5 June 2001. A count on 10 May indicated an earlier peak number of 161 active Great Egret nests.

^d Number of active nests during the 5 June 2001 census, but 8 pairs nested in 2001.

^e 215 Black-crowned Night-Herons were observed along the shoreline of the West Marin Island on 11 April 2005.

^f Includes four Great Blue Heron nests on East Marin Island.

^g Approximately 100 Black-crowned Night-Herons were observed in a fly-up from the colony on 5 April, 2012.

^h Includes two Great Blue Heron nests on East Marin Island.

ⁱ Includes four Great Blue Heron nests on East Marin Island.

^j The only active Great Blue Heron nest on 6 June was on East Marin Island.

^k five Great Blue Heron nests were established on East Marin Island in 2017, by five pairs of herons).

Disturbance by humans and nest predators

Given that the herons and egrets nesting on the Marin Islands have tolerated the presence of territorial, nesting Common Ravens for more than 20 years, including opportunistic nest predation by ravens (Kelly et al. 2005), we do not believe that disturbance by resident ravens was the primary cause of either the widespread nest failure and abandonment observed in 2016 or the absence of nesting Great Egrets, Snowy Egrets, and Black-crowned Night-Herons in 2017. Observations of an active Common Raven nest on 4 April, 9 May, and 2 June confirmed that a pair of Common Ravens nested on East Marin Island in 2017. We did not determine the whether the ravens nested successfully or how many young they may have fledged.

We did not observe any disturbance the nesting Great Blue Herons (or other nesting birds at the Marin Island in 2017, either by humans or potential nest predators.

The decisions by herons or egrets to nest on the Marin Islands are of course, completely up to the birds. Accordingly, we advise against attempts to lure them back using artificial means such as decoys. If an underlying threat of nest disturbance or predation persists—which may have led to the nest failure and abandonment in 2015 and 2016—decisions by the birds to nest elsewhere in 2017 or in subsequent years, might be adaptive, allowing them to avoid further disturbance.

There is no way to predict if any herons or egrets will return to nest on the Marin Islands in 2018, although the continuing use of East Marin Island by nesting Great Blue Herons is a hopeful sign that other herons and egrets will return in the future. Any reduction in the presence of potential nest predators or human intrusion might help facilitate the natural tendency of these species to recolonize traditional colony sites, such as the Marin Islands (Kelly 2014).

Black Oystercatcher

Black Oystercatchers were observed flying in the vicinity of both islands on all visits. We surveyed the entire shoreline of both islands for oystercatcher nests during each of four trips this season. On 7 March, we observed three unconfirmed “pairs” of oystercatchers (all on East Marin Island); on 4 April we observed two individual oystercatchers; on 9 May we observed three oystercatchers, including an apparent “pair” on West Marin Island; and on 2 June, we observed two Black Oystercatcher (one on each of the Marin Islands). However, we did not observe any oystercatcher nests or (hatch-year) juvenile oystercatchers in 2017.

Other bird species

While monitoring the heron and egret colonies at the Marin Islands in 2017, we opportunistically observed the presence of other bird species, on or within 200 feet of the Marin Islands (Table 3).

Table 3. Bird species observed on or within 200 ft. of the Marin Islands.

Species name	7 March	4 April	9 May	2 June
Canada Goose	X	X	X	X
Mallard	X	X	X	X
Gadwall		X	X	
Bufflehead	X			
American Wigeon		X		
Clark's Grebe	X	X		
Double-crested Cormorant	X	X	X	X
Pelagic Cormorant			X	
Great Blue Heron	X	X	X	X
Turkey Vulture	X			X
Osprey	X	X	X	X
American Coot	X			
Black Oystercatcher	X	X	X	
Western Gull	X	X	X	X
Mourning Dove			X	
Anna's Hummingbird		X	X	
Allen's Hummingbird		X		X
Black Phoebe		X	X	X
Bewick's Wren			X	X
House Wren				X
Bushtit			X	
Common Raven	X		X	X
Tree Swallow		X	X	
Song Sparrow			X	X
Spotted Towhee		X	X	
House Finch		X	X	

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