

HERON AND EGRET MONITORING RESULTS AT MARIN ISLANDS NATIONAL WILDLIFE REFUGE: 2018 NESTING SEASON

A Report to the San Pablo Bay National Wildlife Refuge



John P. Kelly^a and Binny Fischer
Cypress Grove Research Center, Audubon Canyon Ranch
P. O. Box 808, Marshall, CA 94940

^ajohn.kelly@egret.org



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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. 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 (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; however, seven Great Blue Heron nests were established on East Marin (Kelly et al. 2017). 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. In this report, we present our observations of nesting activity on the Marin Islands in 2018.

METHODS

In 2018, 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 three visits to East Marin Island in 2018 (19 March, 23 May, and 4 June). To avoid potential disturbance to arriving Great Blue Herons, we did not land on East Marin Island during the May visit and decided not to visit the islands in April. 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 addition, on 2 June, we counted the nests of Western Gulls on West Marin Island and searched carefully for oystercatcher nests on both the East and West Marin Islands. We were cautious and careful avoid disturbance to the nesting herons, by limiting the number and length of visits to East Marin Island, and staying as far as possible from active nests while monitoring nesting status. No evidence of observer disturbance was detected. Viewing conditions were

good.

During our visits, we mapped the nest locations and 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 clearly estimate the overall productivity of successful Great Blue Heron nests.

RESULTS AND DISCUSSION

In 2018, eight Great Blue Heron nests were established on East Marin Island, (Table 1) and all of those nests were apparently successful in fledging young, based on the extent of gano and other signs of active nesting observed in seven of the nests soon after the expected fledging date, in late-May/early-June, strongly suggesting that the nests were active long after the period of expected brood reduction. However, because these nests were empty on 4 June, our estimate of 100% nest success (that each nest fledged at least one young) carries some uncertainty. Similarly, because of limited observations and constraints on viewing those nests, we could not determine the number of young fledged. The other (eighth) nest was active on 4 June, with two “stage 4” nestlings expected to fledge successfully (old enough to be left alone by the parents and expected to have survived the the brood reduction period). As in previous years, all the Great Blue heron nests were in Monterey Pines (none in *Eucalyptus*). Great Blue Herons have nested on East Marin Island in only seven years since 1979 (1999, 2009, 2012, 2013, 2016, 2017; and 2018; 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	
Snowy Egret	0	0	0	0	0	
Black-crowned Night-Heron	0	0	0	0	0	
Great Blue Heron	0	0	0	8	8	
Western Gull	16	32	2	(not counted)	50	
Black Oystercatcher	0	0	0	2	2 ^a	

^aAn apparent pair of adult Black Oystercatchers was observed on the west side of East Marin Island on 4 June 2018.

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		Great Blue
			Night-Heron	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
2017	0	0	0		8 ^l

^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).

^l eight Great Blue Heron nests on East Marin Island in 2018.

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 the continuing absence of nesting Great Egrets, Snowy Egrets, and Black-crowned Night-Herons in 2018. Observations of Common Ravens on 4 June confirmed that a pair of Common Ravens nested successfully on East Marin Island in 2018 and fledged at least four young. We did not observe any disturbance of the nesting Great Blue Herons in 2018, either by humans or by potential nest predators.

There is no way to predict if any herons or egrets will return to nest on the Marin Islands in 2019, 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 (Kelly 2014, 2018).

Other bird species

An apparent pair of Black Oystercatchers was observed on the west end of East Marin Island on 4 June; no other oystercatchers were observed on our visits in 2018. A pair of Common Ravens nested successfully on East Marin Island, fledging at least four young. 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	19 March	4 June
Canada Goose	X	
Mallard	X	X
American Wigeon	X	
Common Goldeneye		X
Greater Scaup	X	
Double-crested Cormorant	X	X
Great Blue Heron	X	X
Turkey Vulture		X
Red-tailed Hawk	X	
Osprey	X	X
American Coot	X	
Black Oystercatcher		X
Western Gull	X	X
Mourning Dove	X	
Belted Kingfisher	X	

Bewick's Wren		X
Common Bushtit		X
American Crow	X	
Common Raven	X	X
Song Sparrow	X	X
House Finch		X

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