



SAN FRANCISCO BAY  
BIRD OBSERVATORY

Colonial Waterbird Nesting Summary for the South San Francisco Bay, 2007

Including the Don Edwards San Francisco Bay National Wildlife Refuge and  
Eden Landing Ecological Reserve



Prepared for:  
Joelle Buffa, biologist  
Clyde Morris, refuge manager  
Don Edwards San Francisco Bay National Wildlife Refuge  
And  
John Krause, Associate Wildlife Biologist  
Eden Landing Ecological Reserve  
California Dept. of Fish and Game

By:  
Cynthia Padula and Danielle Le Fer  
524 Valley Way  
Milpitas, CA 95035  
[cpadula@sfbbo.org](mailto:cpadula@sfbbo.org)  
[dlefer@sfbbo.org](mailto:dlefer@sfbbo.org)  
(408) 946-6548

As part of the San Francisco Bay Bird Observatory's Birds of the Baylands Program, staff biologists and volunteers monitored active waterbird nesting sites in the South San Francisco Bay during the 2007 nesting season. We focused mainly on colonies of California Gull, Forster's Tern, Caspian Tern, Great Blue Heron, Great Egret, Snowy Egret, and Double Crested Cormorant. American Avocets, Black-necked Stilts and Black Skimmers were counted only when nesting with Forster's terns or when data was provided by Cal Fed mercury studies as in the case of Newark, A17, A8, Ravenswood, and New Chicago Marsh. Black-crowned Night Herons were also counted only when nesting with Great Egrets, Snowy Egrets or Great Blue Herons. Because of their stealthy nature Black-crowned Night Heron numbers are probably under-represented here.

The Observatory biologists and volunteers monitored colonies using binoculars and scopes during 7 sequenced 4-day periods during the season, counting chicks, adults and nests. The Observatory also performed "walk-throughs" for California Gulls and tern colonies to count all existing nests, eggs and chicks. American Avocets and Black-necked stilts were included when present. All colonies monitored by the Observatory are included in this report. Numbers of total nests at all breeding bird colonies surveyed are listed in Tables 1 and 2. We used nest counts as our standard of colony measurement, but not for determining productivity.

Ponds used by nesting Snowy Plovers and the total number of nests for each pond are also included in this report (Table 3). These ponds are the only areas known to be used by nesting plovers in the entire San Francisco Bay. Although Snowy Plovers have not recently nested in the North Bay, Observatory biologists surveyed potential habitat at Knight's Island (Napa) on July 10 for signs of nesting. We did not find Snowy Plovers in the area. The South Bay houses the entire population of Recovery Unit 3 for plovers. For more information see *Western Snowy Plover Numbers, Nesting success, and Predator Surveys in the San Francisco Bay During Breeding Season, 2007* (Robinson et al. 2007, in progress).

During Avian Disease and Prevention Program surveys from June to October on Guadalupe, Alviso and Artesian (Mallard) sloughs we found little evidence of botulism during the 2007 season. The Observatory also participated in fieldwork for the CalFed shorebird tern mercury contamination study. Nesting numbers of colonies covered by CalFed are included in this report as specified above. Detailed results from this research will be reported by USGS and USFWS.

### **Anhingidae: cormorants**

Double-crested cormorants nested in substantial numbers at the power towers along Schlumberger slough and the power towers along A2W in the Moffett area; they are known to taken over nests used by Great Blue Herons in these colonies

as well as others located around the Bay. The total number of Double-crested cormorants nests remained similar to 2006 (Table 1).

The Double-crested cormorant colony nesting in conjunction with a CAGU colony along the A9/A10 levee in the Alviso complex in 2006 did not successfully nest in 2007. Nests were found untouched but devoid of eggs, a possible den was discovered on the levee, and 4 CAGU corpses were found showing signs of predation. Cormorants nesting on the bridges that span the Bay were not included in this report.

### **Ardeidae: herons and egrets**

The Great Blue Heron colonies located on Eden Landing ponds B6B and B9 are the only substantial nesting sites for this species located on the Bay (Table 1). Pond B14 was also utilized this year by a pair of GBHE nesting on old duck hunting blinds. All Eden Landing rookeries exist on dilapidated duck hunting club structures that are collapsing with time and effort should be made to support this colony in the future. The total number of GBHE nests in Eden Landing increased from 10 in 2006 to 21 individuals in 2007. These colonies appear to be well isolated from mammalian predators. Western Snowy Plovers share some of the nesting ponds with GBHE (B12, B6B, and B14), but herons do not appear to impact the plovers. However, GBHE have been observed depredating American Avocet eggs and chicks in Pond B8A (personal communication, Caitlin Robinson, SFBBO).

### **Laridae: Terns**

Numbers of Forster's terns and Caspian Terns decreased greatly from 2006. The Forster's tern population was reduced to near half of the numbers nesting in 2006. This may be due to the abandonment of a large colony (650 nests) settled in 2006 at South Coyote Hills Regional Park (on levee between N6/N7). This may represent annual variation in breeding site use, or sensitivity to disturbance by researchers during the 2006 breeding season.

Forster's Terns also abandoned the following colonies in 2007, with no observable causes of abandonment:

Eden Landing Pond B8A (5 nests in 2006)

Alviso Pond A8 (61 nests in 2006)

Coyote Hills Pond N3 (3 nests in 2006)

New Chicago Marsh (78 nests in 2006)

Forster's Terns attempted to nest at Belmont slough, but abandoned, possibly because the seasonal pond around the island dried up as the season progressed.

Returning (abandoned in 2006) Forster's Terns colonies included (see Table 2 for nest numbers):

Eden Landing –Turk 4/7  
Mountain View – A1  
Alviso – A5  
Moffett – B1  
Moffett – B2  
Marin – Corte Madera

The Foster's Tern colony at Corte Madera in Marin county had a successful come back this year with a total of 35 nests. Since 2003 several nesting attempts were made but were abandoned without any apparent cause.

Overall, the number of Caspian Tern colonies in the South Bay were reduced by more than half its previous size in 2006. The largest colony in the south bay, located on the levee between pond N2A and N3A at Coyote Hills in 2006, did not breed this year. 89 adults were observed at the site but no nests were observed. This colony was established in the middle of a large California Gull nesting colony (2192 nests).

It is likely that any attempted nests were interrupted due to gull predation. The other abandoned Caspian tern colony is Alviso levee A5/A7 (30 nests in 2006).

Returning Caspian tern colonies (not nesting in 2006) include:

Moffet B2.

California Least Terns nested on pond B8A for the first time this year and at Hayward shoreline for the third year in a row (see Table 2). However the total number of nests at Hayward shoreline decreased from 15 in 2006 to 5 in 2007.

### **Laridae: gulls**

We counted a total of 18,452 California Gull nests in the south bay. This species continues to increase steadily in the South Bay. The largest colony is still the Knapp property (pond A6), a dry salt pond located in Alviso with a total of 12,348 nests.

Colony nest numbers remained stable in areas like Coyote Hills' 2A/3A/4Ab levee and Mowry pond's M1/M2 levee (see Table 2). A new colony has been spotted at the Palo Alto Flood Control basin (103 nests).

A large number of California gulls located on the Mowry levee M4/M5 used the levee for roosting and as a strategic stop over point in order to feed at the Tri Cities landfill, but not for nesting as in previous years.

## **Recommendations:**

Recommendations for conservation of heron and egret colonies from the *Annotated Atlas and Implications For The Conservation Of Heron And Egret Nesting Colonies In The San Francisco Bay Area* (2006, by J.P Kelly, K. Ettiene, C. Strong, M. McCaustland, and M.L Parkes) suggest the conservation efforts focus on the protection of colony sites with more than 100 nests. While smaller colonies are also important to maintain, they may be more sensitive to disturbance and more likely to be abandoned than larger sites. (Atlas available at <http://www.egret.org/atlas.html>.)

The North Bay (Knight's Island) should be monitored during the breeding season for signs of Snowy Plover nesting.

Walkthroughs are crucial for obtaining information on gull colony location and size, particularly as salt pond restoration proceeds and habitat changes occur in the south San Francisco Bay. Monitoring gull colony size and location will also help determine the effectiveness of current abatement strategies at local landfills.

## **Acknowledgements:**

We would like to thank the following volunteers for their hard work and dedication in collecting these data: Donna Nicoletti, Larry Manning, Spike Marlowe, Corina and Troy Rahmig, Laurie Bechtler, Mike T. Chaves, Catherine Dobbins, Ken Phenicie, Nina Bubert, Liz and Bob Bathgate, Tom Stewart, Steve Huckabone, John Harris, Jan Hintermeister, Bob Richmond, Alan Goggins, Patricia Lindsey, Lisa Weber, Art Carey, Dan Murphy, Ray Fontaine, Phil Lacroute, Laurie Bechtler, Barbara and Ron Mc Dow, Mary Betlach, Dolores Morrison, Robin Smith, Charles Coston, Laurie Bechtler, Brittany Stieg, Jane Moss, Katherine Ulrich, Nancy DeStefanis, Linda Sullivan, Lou and Jean Young, Caitlin Robinson. The Observatory would also like to thank Clyde Morris, Refuge manager for their assistance in obtaining permits and access. Thanks to the San Francisco Estuary Project for funding to help to train and coordinate volunteers.

Front page photo: Nesting Caspian Tern by K. Larson

Table 1. Numbers of nests within heron, egret, and cormorant colonies nesting in the South Bay as reported by SFBBO volunteers and staff, 2007. Counts are based on peak numbers of adults and/or nests estimated during the breeding season.

Land owner/operator	site location	Pond # or tower location	Double Crested Cormorant	Great Blue Heron	Great Egret	Snowy Egret	Black-crowned night Heron	Method	Notes
Refuge	Alviso	A9/A10	0					SFBBO staff	
CDFG/Ref.	Bair Island - outer-	n/a	15		8	5		SFBBO staff	
CDFG	Eden Landing	B9		8				volunteer	1
CDFG	Eden Landing	B6B		11				volunteer	2
CDFG	Eden Landing	B14		1				volunteer	3
CDFG	Eden Landing	B12		1				volunteer	4
Refuge	Moffett	Power towers by A2W	43					volunteer	
Refuge	Schlumberger slough	n/a	240	3		2	8	volunteer	
other	Almaden Lake	n/a			10	8	2	volunteer	
other	Bay Farm Island - Alameda	n/a			14	6		volunteer	5
other	Calaveras Reservoir	n/a		2				volunteer	
other	Coyote Parkway Lakes	n/a		3				volunteer	
other	Crocker Lake	n/a		2				volunteer	
other	Don Castro	n/a		7				volunteer	
other	San Pablo Reservoir (EBMUD)	n/a		14	8			volunteer	
other	Grant Ranch	n/a		2				volunteer	
other	Hayward Shoreline	n/a				107	35	volunteer	
other	Lake Chabot	n/a		7				volunteer	
other	Lake Cunningham	n/a			1		18	volunteer	
other	Lake Merced -SOUTH	n/a	204	1				volunteer	
other	Lake Merced -MESA	n/a	35	3				volunteer	6
other	Lake Merced -NORTH	n/a		8				volunteer	
other	Lake Elizabeth	n/a			?	?	?	volunteer	7
other	Lake Merritt	n/a	141					volunteer	
other	Morgan Hill, Llagas Creek	n/a		10	3			volunteer	
other	Ovation court	n/a		15				volunteer	
other	Oyster Cove Pier	n/a		1				volunteer	
other	Palo Alto Duck Pond	n/a			3	28	70	volunteer	
other	Portola Valley	n/a		15				volunteer	
other	Ruus Park	n/a			41			volunteer	
other	Shadow Cliffs	n/a	23	15	7			volunteer	
other	Stow Lake	n/a		5				volunteer	
other	Shorebird way	n/a			44			volunteer	
other	Vasona County Park	n/a		7				volunteer	
other	Vasona Reservoir Island	n/a				1		volunteer	
other	Veterans Park, Livermore	n/a		1				volunteer	
	2007 TOTALS		701	127	139	138	133		
	(2006 TOTALS)		769	106	133	168	112		
	(2005 TOTALS)		662	102	123	272	59		

**Notes:**

- 1- Nested on hunting blinds
- 2- Nested on old duck club "heron house"
- 3- New pair
- 4- On wooden " wheel" in pond
- 5- New colony.
- 6- New colony. Possibly new relocation of "old" Lake Merced impound colony.
- 7- Colony nested in dense foliage. "Beak" numbers only, no accurate number of nests.

Table 2. Number of nests within shorebird, tern and gull colonies nesting in the South Bay as reported by SFBBO volunteers, staff, and the CalFed Mercury Project 2007. Counts are based on peak numbers of adults and/or nests estimated during the breeding season from levees or areas adjacent to colonies (volunteer), from a single walk through the colony (SFBBO walk-through), or from CalFed studies.

Site location	Land owner/operator	Pond # or tower location	American Avocet	Black-Necked Stilt	California Gull	Caspian Tern	Forster's Tern	Least Tern	Black Skimmer	Method	Notes
Eden Landing	CDFG	Turk 4/7					35			volunteer	
Eden Landing	CDFG	B8A					0	6		SFBBO staff	
Mountain View	Refuge	A1	51		46		183			CalFed/SFBB O	
Alviso	Refuge	A5	3				17			CalFed	
Alviso	Refuge	A7	39				107			Cal Fed	
Alviso	Refuge	A5/A7 levee					0			volunteer	
Alviso	Refuge	A6			12348					SFBBO walkthrough	
Alviso	Refuge	A8	205							Cal Fed	
Alviso	Refuge	A16	105	6			253		2	CalFed	
Alviso	Refuge	A9/A10			0					SFBBO staff	
Alviso	Refuge	A17	92							Cal Fed	
Coyote Hills	Refuge	2A/3A/4Ab levee			2192		0			SFBBO walkthrough	
Coyote Hills	Refuge	N6/N7					0			SFBBO staff	
Dumbarton	Refuge	N1					4 poss.			volunteer	1
Dumbarton	Refuge	N3	2				0			volunteer	
Mowry	Refuge	M1/M2			3692					SFBBO walkthrough	
Moffett	Refuge	B1	63	15			12			Cal Fed	
Moffett	Refuge	B2	5	0	71	12	4			volunteer/Cal Fed	
Moffett	Refuge	A2W	50	10			1			Cal Fed	
New Chicago Marsh	Refuge	n/a	351	186						Cal Fed	
Newark	Refuge	n/a	202	20						Cal Fed	
Ravenswood	Refuge	R1	59	5			1		1	volunteer/Cal Fed	
Agua Vista	other	n/a					9			volunteer	
Belmont slough	other	n/a	9	5			0			volunteer	
Charleston slough	other	n/a	9				99			volunteer	
Corte Madera	other	n/a	7	18			35			volunteer	
Hayward shoreline	other	n/a	51	1			5	5		volunteer	
Palo Alto Flood Control Basin	other	n/a			103					SFBBO walkthrough	
Redwood shores	other	n/a	1				15			volunteer	
2007 TOTALS			1304	266	18452	22+	766	11	3		
2006 TOTALS			448	345	16475	84	1214	15	5		
2005 TOTALS			437	144	13800	72	771	8	5		

**Notes:**

1- Bad visibility, no accurate nest counts

Table 3. Number of Snowy Plover sites and corresponding nests numbers for 2007as reported by Caitlin Robinson.

<b>Region</b>	<b>Pond</b>	<b>Number of nests</b>
Alviso	A8	2
Eden Landing	B6B	4
Eden Landing	B8	4
Eden Landing	B8A	26
Eden Landing	B8X	5
Eden Landing	B11	7
Eden Landing	B12	14
Eden Landing	B14	13
Eden Landing	B16B	2
Eden Landing	B6	5
Ravenswood	R1	4
Ravenswood	R3	2
Ravenswood	RSF2	1