



San Francisco Bay Bird Observatory

Colonial Waterbird Nesting Summary for the South San Francisco Bay, 2006

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



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As part of the San Francisco Bay Bird Observatory's (the Observatory) Birds of the Baylands Program, staff biologists and volunteers monitored active waterbird nesting sites in the South San Francisco Bay during the 2006 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 are counted only when nesting with Forster's Terns. Because of their stealthy nature, Black-crowned Night Herons are probably under-represented here. The Observatory biologists and volunteers monitored colonies using binoculars and scopes during 5 sequenced 4-day periods during the season, counting adults, chicks, and nests. The Observatory also performed "walk-throughs" of certain colonies to count all nests, eggs, and chicks 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 use nest counts as our standard of colony measurement, but not for determining productivity.

Ponds used by nesting Western Snowy Plovers 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. Nesting habitat appears to no longer exist for plovers in the North Bay; the South Bay houses the entire population of Recovery Unit 3 plovers. For more information see *Western Snowy Plover Numbers, Nesting Success, and Predator Surveys in the San Francisco Bay During Breeding Season, 2006* (Robinson et al. 2006, *in progress*).

During Avian Disease and Prevention Program surveys from June to October on Guadalupe and Artesian (Mallard) Sloughs, we found no evidence of botulism during the 2006 season. The Observatory also participated in fieldwork for the CalFed shorebird and tern mercury contamination study. Results from this research will be reported by USGS and USFWS.

Anhingidae: cormorants

Double-crested cormorants nested on power towers and on one levee in the Alviso system (A9/A10) along the Bay. We did not count cormorants nesting on the bridges that span the Bay. Cormorants nest in substantial numbers at the power towers at Steinberger Slough; they are known to take over nests used by Great Blue Herons in this colony as well as others located around the Bay (Table 1).

Ardeidae: herons and egrets

The Great Blue Heron rookery on Eden Landing pond B6B is now the only substantial nesting site for this species located on the Bay (Table 1). This colony exists on a dilapidated duck hunting club structure and effort should be made to support this colony in the future. This site appears to be well isolated from mammalian predators. Western Snowy Plovers also use this pond, but the herons do not appear to impact the plovers.

No count was made at the colony on Outer Bair Island. Because of the size of this colony (~140 nests of Snowy Egrets, Great Egrets, and Black-crowned Night Herons), a more concerted effort will be made to census this colony next season.

Laridae: terns

Numbers of nesting Forster's Terns and Caspian Terns increased slightly from 2005 (Table 2). In the 2006 season, many former Forster's tern colonies were abandoned in favor of a new nesting colony established in the Cargill managed salt ponds west of Coyote Hills Regional Park. Abandoned Forster's Tern colonies included: Moffett pond B1, Mountain View pond A1, Belmont Slough, and one island in Alviso pond A8. While high water levels may have been a factor in the abandonment some of these (for example, the A1 colony), some colonies were predated in 2005 (Belmont Slough and A8), and some colonies were disturbed during the 2005 field season by researchers, other colonies were abandoned for unknown reasons. We cannot determine the cause of abandonment, but suggest these as possible reasons.

Water level fluctuations affected established tern colonies. After the water control structure failed, high water levels flooded ~20-30 Forster's Terns nests and a few Caspian Tern nests in Alviso pond A7. High water levels also caused the flooding of about 13 Forster's Tern nests on pond A16.

For the first time, Caspian Terns nested on a levee between Alviso ponds A5 and A7. This year, very few Caspian Terns nested on islands within these same ponds this year.

Few terns nested in the Eden Landing area again this year with a single colony of five Forster's Terns nesting on pond B8A.

Caspian Terns continued to nest within the California Gull colony established in the Cargill managed ponds west of Coyote Hills Regional Park. Although this colony was not monitored to count fledglings it is doubtful that these terns fledged many (if any) young due to gull predation. The Coyote Hills region of salt ponds held a very high percentage of the South Bay's nesting colonial waterbirds this year with the new Forster's Tern colony.

California Least Terns nested on Hayward Shoreline for the second year in a row. While the creation of new habitat was successful in encouraging terns to nest here, we do not recommend further tern habitat enhancement or encouragement until a management plan is in place in order to limit depredation by California Gulls.

Laridae: gulls

We counted 16,475 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.

High water levels were evident at the California Gull colony in pond A1; the island here was separated into three parts with nests on the southernmost section built up over water.

California Gulls are increasingly sighted in the Eden Landing area, roosting and foraging over ponds used by Western Snowy Plovers. California Gulls are also blamed for the demise of the small, newly established California Least Tern colony at Hayward Shoreline, just north of Eden Landing (D. Reinsche, unpub. data).

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. Etienne, C. Strong, M. McCaustland, and M. L. Parkes) suggest that conservation efforts focus on the protection of colony sites with 20 or more active nests and afford long-term protection for 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>.)

Gulls may be displacing other, less assertive species due to their aggressive nature and opportunistic feeding habits. When Alviso pond A6 is breached as part of the Salt Pond Restoration Project as early as 2008, the colony will be displaced and the gulls then have the potential to take over large tracks of islands and levees currently used by other nesting species, including Forster's Terns, Caspian Terns, American Avocets, and Western Snowy Plovers. Efforts should be made by the Project Management Team to reduce gull impacts on other breeding birds and to determine where the displaced gulls may relocate once the A6 pond is breached.

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Table 1. Numbers of nests within heron, egret, and cormorant colonies nesting in the South Bay as reported by SFBBO volunteers and staff, 2006. Counts are based on peak numbers of adults and/or nests estimated during the breeding season from levees or areas adjacent to colonies ("volunteer") or from walking through the colony once ("walk-through").

Land Owner/ Operator	Site location	Pond #	Cormorant	Double-crested	Great Blue Heron	Egret	Great Egret	Snowy Egret	Heron	crowned Night	Black-crowned	Method	Note
CDFG	Eden Landing	B12				1						Volunteer	1
CDFG	Eden Landing	B6B				6						Volunteer	2
CDFG	Eden Landing	B9				3						Volunteer	3
Refuge	Alameda NWR					1						Volunteer	4
Refuge	Alviso	A9/A10			128							Walk-through	5
Refuge	Moffett	A2W			34							Volunteer	
Refuge	Moffett	AB1			4							Volunteer	
Refuge	Moffett	AB2			5							Volunteer	
Refuge	Steinberger Slough				305	2						Volunteer	
Other	Almaden Lake						8		9		4	Volunteer	
Other	Coyote Parkway Lakes					5						Volunteer	
Other	Crocker Lake					2						Volunteer	
Other	Don Castro					3						Volunteer	
Other	Grant Lake					2						Volunteer	
Other	Hayward Shoreline								94		15	Volunteer	
Other	Lake Chabot					10						Volunteer	
Other	Lake Cunningham					1					6	Volunteer	
Other	Lake Elizabeth						15		7		2	Volunteer	
Other	Lake Merced North				77	9						Volunteer	6
Other	Lake Merced South				211	1						Volunteer	
Other	Lake Merced, Impound Lake					1						Volunteer	
Other	Lake Merritt				158		16		27		42	Volunteer	
Other	Morgan Hill, Llagas Creek					8	8					Volunteer	
Other	Ovation Court					10						Volunteer	
Other	Oyster Cove Pier					2						Volunteer	
Other	Palo Alto Baylands Duck Pond						3		31		43	Volunteer	7
Other	Portola Valley					17						Volunteer	
Other	Ruus Park						46					Volunteer	
Other	Shadow Cliffs				13	16	11					Volunteer	
Other	Shorebird Way						26					Volunteer	
Other	Stow Lake					6						Volunteer	
Other	Vasona County Park					8						Volunteer	
Other	Veterans Park, Livermore					3						Volunteer	8
2006 TOTALS⁹					769	106	133	168			112		
2005 TOTALS					662	102	123	272			59		

Notes

- 1 On wooden "wheel" in pond.
- 2 At least six nests on old duck club "heron house".
- 3 On wooden structures within pond.
- 4 Data from R. Hurt.
- 5 Not a complete count; more nests present.
- 6 Disturbance caused by a man in kayak, provoked a nestling to abandon nest.
- 7 Four dead Black-crowned night-heron hung up in branches or on nests on 7/8.
- 8 Could have relocated from VA Hospital which is now abandoned.
- 9 Bair Island colony not counted.

Table 2. Numbers of nests within shorebird, tern and gull colonies nesting in the South Bay as reported by SFBBO volunteers and staff, 2006. Counts are based on peak numbers of adults and/or nests estimated during the breeding season from levees or areas adjacent to colonies (“volunteer”), or from a single walk through the colony (“walk-through”). Note that not all avocet and stilt nests were counted in all sites.

Land Owner/ Operator	Site location	Pond #	American Avocet	necked Stilt	Black- necked Gull	California Gull	Western Gull	Caspian Tern	Forster's Tern	Least Tern	Skimmer	Black	Method	Note
CDFG	Eden Landing	B8A								5			Volunteer	
CDFG	Eden Landing	Levee 4/7		2		1							Volunteer	
Refuge	Alviso	A16		22		6				132			Walk-through	
Refuge	Alviso	A5					42						Walk-through	
Refuge	Alviso	A5/A7		2					30				Walk-through	1
Refuge	Alviso	A6				9726		2					Walk-through	
Refuge	Alviso	A7		5						170			Walk-through	2
Refuge	Alviso	A8		208		2				61			Walk-through	
Refuge	Alviso	A9/A10					117						Walk-through	
Refuge	Coyote Hills	2A/3A				3721			42				Walk-through	
Refuge	Coyote Hills	Levee 6/7		83		36				650		5	Walk-through	3
Refuge	Dumbarton	N1								3			Volunteer	
Refuge	Dumbarton	N3								6			Volunteer	4
Refuge	Moffett	B1		6									Volunteer	5
Refuge	Moffett	B2		4			187						Volunteer	
Refuge	Mountain View	A1					190						Walk-through	5, 6
Refuge	Mowry	M1/M2				2492							Walk-through	
Refuge	New Chicago Marsh			77		300				78			Walk-through	
Refuge	Ravenswood	R1							1				Volunteer	
Other	Agua Vista								11				Volunteer	
Other	Belmont Slough												Volunteer	5
Other	Charleston Slough			13						70			Volunteer	
Other	Hayward Shoreline			26							15		Volunteer	
Other	Redwood Shores									39			Volunteer	
2006 TOTALS				448	345	16475	2	84	1214	15	5			
2005 TOTALS				437	144	13800	4	72	771	8	5			

Notes

- 1 New Caspian Tern colony on levee.
- 2 Some nests lost to flooding after water control structure failed.
- 3 New colony location.
- 4 On two islands in pond N3; islands flooded by July 8.
- 5 Abandoned by Forster's terns.
- 6 Minimum number of nests; most chicks out of nests when counted. Water levels very high, island in three parts.

Table 3. Ponds used by nesting Western Snowy Plovers during the 2006 breeding season. For more information, see *Western Snowy Plover Numbers, Nesting Success, and Predator Surveys in the San Francisco Bay During Breeding Season, 2006* (Robinson et al. 2006, *in progress*).

Region	Pond/Area
Alviso	A8
Alviso	Alviso Marina Impoundment
Alviso	New Chicago Marsh
Eden Landing	B11
Eden Landing	B12
Eden Landing	B14
Eden Landing	B4C
Eden Landing	B6B
Eden Landing	B8
Eden Landing	B8A
Warm Springs	A22
Ravenswood	RSF2