



San Francisco Bay Bird Observatory

Colonial Waterbird Nesting Summary  
for Don Edwards San Francisco Bay National Wildlife Refuge  
and Eden Landing Ecological Reserve,  
South San Francisco Bay  
2005



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8 November 2005

As part of SFBBO's Birds of the Baylands Program, staff biologists and volunteers monitored active waterbird nesting sites in the San Francisco Bay south of the San Mateo Bridge during the 2005 nesting season. We focused mainly on colonies of California Gull, Forster's Tern, Caspian Tern, Great Blue Heron, Great Egret, Snowy Egret, Black-crowned Night Heron and Double-crested Cormorant. SFBBO biologists and volunteers monitored colonies using binoculars and scopes during 5 sequenced 4-day periods during the season, counting adults and nests. SFBBO also performed "walk-throughs" of certain colonies to count all nests, eggs, and chicks present. While ponds used by Western Snowy Plovers are also included in this report, for more information see *Western Snowy Plover Numbers, Nesting Success, and Predator Surveys in the San Francisco Bay During Breeding Season, 2005* (Tucci et al. in prep.).

Numbers of total nests at all breeding bird colonies surveyed are listed in Table 1. We use nest counts as our standard of colony measurement, not for determining productivity. Ponds used by Snowy Plovers are given in Table 2.

During Avian Disease and Prevention Program surveys on Guadalupe and Artesian (Mallard) Sloughs, SFBBO found no evidence of botulism during the 2005 season.

### **Ardeidae**

The colony of herons and egrets that established on Outer Bair Island in 2004 continues. The fact that this colony nests on or near the ground strongly suggests that foxes have been successfully eradicated from the island, and that no other mammal predators exist in large numbers.

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

Due to access and personnel limitations we were unable to survey Coyote Creek Lagoon, Artesian/Mallard Slough, or Guadalupe Slough.

### **Laridae: Terns**

Overall numbers of nesting Forster's Terns and Caspian Terns appear to have declined for the second year in a row. This appears to be a bay-wide trend as it was true in colonies not located on Refuge or Eden Landing properties also (SFBBO, unpub. data).

Predation may have been a factor that caused terns to abandon colonies at A8 in Alviso and possibly N3. In addition, some nests at A8 were flooded when SFBBO asked the Refuge to add water to the rapidly drying pond. We now know how much water needs to be added to the pond to prevent mammal access while not flooding the pond and will work towards this goal next season.

Pond A16 had some overtopping of islands and subsequent nest lost due to wind and wave action. This pond was also covered in gulls in early August due to a fish kill; and the few tern chicks still on the island disappeared after that probably due to gull predation.

Pond A1 remains the most densely populated and likely the most successful Forster's Tern colony in the South Bay. Every effort should be made to maintain this colony. Forster's Terns appear to have abandoned the islands at B2, possible due to gull encroachment. However, Caspian Terns did join the gulls at B2. A new Forster's Tern colony established itself on an island in B1.

There was a new colony of Caspian Terns established on pond 3A within the Coyote Hills area. California Gulls surrounded this colony, and only one tern likely fledged from here. It is unclear which species first set up nests here.

Ravenswood R1 was again dry at the beginning of the season and therefore likely abandoned by Forster's Terns early on, although we had reports of a Caspian Tern pair nesting here.

The only Forster's Tern colony at Eden Landing (Baumberg) this year was on pond 8A, although this site appears to have been abandoned before fledging young. Pond B10 is now muted tidal and has exposed mudflats at low tide; pond B11 was also abandoned by terns. Forster's Terns nesting in ponds in the south Eden Landing (Turk) area abandoned their colony for the second year in a row. Construction in the area is a possible explanation for this, although we cannot rule out predation as a cause. No Caspian Terns nested in Eden Landing in 2005.

The islands created at Eden Landing pond 2 (Turk) may be used in the future by nesting birds, although dredge spoil islands are very lumpy and therefore not good nesting habitat for birds for a few years as eggs and chicks get stuck in the cracks and die. In addition, these islands (like A16) were created to reduce wind fetch and therefore are liable to overtop during periods of high wind such as exist during the spring and summer in the Bay.

### **Laridae: Gulls**

We counted 13,800 California Gull nests in the south bay. Gulls abandoned the Alviso A9-A10 levee, probably due to the spoiling of the levee earlier in the year by Cargill maintenance crews. These gulls may have relocated and formed the new colony that appeared in the Coyote Hills area on pond 3A. The gulls continue to expand on A1 and B2 ponds and along the Mowry M1-M2 levee. The largest colony continues to be the Knapp property/pond A6 dry salt pond.

Gulls may be displacing other, less assertive species due to their aggressive nature and opportunistic feeding habits. For example, Western Snowy Plovers nested at pond A8 this year, but the chicks disappeared soon after hatching. In addition, significant numbers of radios from American avocet chicks and Black-necked stilt chicks (that were radioed as part of the CalFed mercury project) were found on the A6 gull

colony. When this area breaches, the large A6 colony of gulls 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.

Table 1. Colonial waterbirds nesting on the Refuge and CDFG as reported by SFBBO volunteers and staff, 2005. Counts are based on peak numbers of adults and/or nests estimated during the season from levees or areas adjacent to colonies, or from a single walk through the colony (in California Gull colonies). The following colonies were included in the USFWS/USGS CalFed study: A1, A8, A16, New Chicago Marsh, Baumberg B8A.

Family	Species	Site	Location	Peak # of adults	Peak # of nests	Comments
<b>Anhingidae</b>	Double-crested Cormorant	Alviso	A9-10 levee	438	29	1
		Bair Island	NW PG&E tower on Redwood Creek		50	
		Greco Island	PG&E tower on N-NW end of island on Redwood Creek	78	50	
		Moffett	PG&E tower at NE end of B2	15	6	
<b>Ardeidae</b>	Black-crowned Night Heron	Outer Bair Island	near CDFG mitigation site		6	2
	Great Blue Herons	Baumberg*	B6B	16	6	3
		Outer Bair Island	on PG&E towers on west end of island on Corkscrew Slough	4	3	
	Great Egrets	Outer Bair Island	near CDFG mitigation site		12	2
	Snowy Egrets	Outer Bair Island	near CDFG mitigation site		123	2
	NA	Coyote Creek lagoon				4
	NA	Guadalupe Slough				4
NA	Mallard/ Artesian Slough				4	
<b>Laridae</b>	Black Skimmer	Alviso	A16		0	5
		Alviso	A7	25		6
		Alviso	A8	4		6
		Baumberg*	B10		0	5
		Moffett	B1		5	
	California Gull	Ravenswood	R1		0	5
		Alviso	A1	620	416	7
		Alviso	A6		8559	8
		Alviso	A9-10	600	378	9
		Coyote Hills	2A/3A		2735	8
		Moffett	B2	415	188	10
		Mowry	M1/2		1524	8
	Western Gulls	Coyote Hills	2A/3A		1	11
		Mowry	M1/2		2	11
	Caspian Tern	Turk*	2	2	1	12
		Alviso	A7	102	14	
		Baumberg*	B10		0	13
		Coyote Hills	3C	97	49	14
		Moffett	B2	9	4	15
	Forster's Terns	Ravenswood	R1	2	1	
Alviso		A1	190	224	16	
Alviso		A16	157	168	17	
Alviso		New Chicago Marsh		17	18	

Table 1. Continued.

Family	Species	Site	Location	Peak # of adults	Peak # of nests	Comments	
<b>Laridae</b>	Forster's Terns	Alviso	A5	5		19	
		Alviso	A8	130	190	20	
		Alviso	A9-10		0		
		Baumberg*	B8A		29	21	
		Baumberg*	B10		0	13	
		Baumberg*	B11		0	22	
		Dumbarton	N3	90	23	23	
		Moffett	B2	0	0	5	
		Moffett	B1		112	24	
		Ravenswood	R1		0	22	
		Turk*	4	8	3	22	
		Turk*	7	50	1	25	
		Turk*	5C		0	25	
		Turk*	6C		0		
Turk*	4C	8	4	25			
<b>Recurvirostridae**</b>	American Avocet	Alviso	A1	303	12		
		Alviso	A8	30	188	20	
		Alviso	A16	140	164		
		Alviso	New Chicago Marsh		28		
		Baumberg*	all ponds lumped		24		
		Moffett	B2	7	3		
		Moffett	B1		10		
		Turk*	all ponds lumped	67	8		
		Black-necked Stilt	Alviso	A16	16	5	
			Alviso	New Chicago Marsh		98	
	Baumberg*		all ponds lumped		32		
	Moffett		B2	2			
		Moffett	B1		8		
		Turk*	all ponds lumped	48	1		

\*Baumberg and Turk are part of Eden Landing Ecological Reserve. Baumberg refers to the area north of Alameda Creek; Turk is the area just north of the Alameda Flood Control Channel.

\*\*Not all Recurvirostridae nests were counted in all sites.

## Comments from Table 1.

- 1 While the California Gull colony largely abandoned this site, cormorants still nesting here, possibly because cormorants build a nest off the ground and were therefore not disturbed by the recently spoiled levee.
- 2 Nests built in coyote brush, near ground level. The number of nests of each species was estimated from total colony count of nests after birds were gone.
- 3 Nests are on an old, dilapidated duck club house in middle of pond.
- 4 No data.
- 5 No nesting was reported here this year.
- 6 Three chicks reported from site.
- 7 Island in NE corner of pond.
- 8 Walk through data only.
- 9 Numbers estimated from far distance; colony later abandoned. These birds may have relocated to create new colony at Coyote Hills
- 10 Nests on duck blinds and islands.
- 11 Nests within California Gull colony, walk through data only.
- 12 Island along Bay side of pond.
- 13 Pond is now muted tidal and could allow access to predators at low tide; site abandoned by nesting birds.
- 14 Probably fledged one chick; colony in middle of California Gull colony.
- 15 Nests on islands in pond, within California Gull colony.
- 16 Island in SW corner of pond.
- 17 Some nests were lost due to islands overtopped by wind/waves.
- 18 Terns nested here in 2004 and 2005 possibly after being flooded out from A16; appear to be predated and therefore not successful. Late nesting birds at A16 could be these birds attempting to nest again after being predated out of NCM.
- 19 Eight chicks reported, islands in N end of pond.
- 20 Some nests (~6) were lost due to raising of water levels too high; entire colony abandoned by 16 June possibly due to predation.
- 21 This was the only tern colony in Baumberg this season.
- 22 Site abandoned by nesting birds.
- 23 Site largely abandoned by end of June due to unknown causes.
- 24 New colony site.
- 25 Site abandoned by late June for the second year in a row. There was levee work around ponds 2 and 7 ongoing, which may have been a disturbance to the colony, although we cannot rule out predation.

Table 2. Ponds used by Western Snowy Plovers during the 2005 breeding season. For more information, see *Western Snowy Plover Numbers, Nesting Success, and Predator Surveys in the San Francisco Bay During Breeding Season, 2005* (Tucci et al. in prep.).

Site	Location	Foraging?	Nesting?	Comments
Alviso	A8	X	X	chicks seen, but no nest found
	impoundment north of Alviso Marina	X		juveniles seen late in season
	New Chicago Marsh (near road to EEC*)	X		juveniles seen late in season
Dumbarton	PP1	X		
Ravenswood	RSF2	X	?	juveniles seen late in season
Warm Springs	A22	X	X	
Baumberg	B10	X		
	B11	X		
	B12	X	X	
	B14	X		
	B16	X		
	B6B	X		Due to high water levels caused by late rains, this pond was not used until very late in the season.
	B8	X		
	B8A	X	X	
B8X	X			
	B9	X		

\* The Refuge Environmental Education Center in Alviso.