

**SEABIRD AND MARINE MAMMAL MONITORING  
AT GUALALA POINT ISLAND,  
SONOMA COUNTY, CALIFORNIA,  
MAY TO AUGUST 2009**

Prepared by  
Ron LeValley

Mad River Biologists  
417 Second Street, Suite 201  
Eureka CA 95501

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This report is dedicated to the memory of Jerry Rench, the pilot who volunteered for three summers his skills and time to make the critically important aerial surveys possible.

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## EXECUTIVE SUMMARY

This study continues examination of colony attendance patterns and relative breeding parameters for seabirds and marine mammals at Gualala Point Island (GPI). The 2009 data furnish further baseline information for GPI seabirds and marine mammals. The monitoring program of the Bureau of Land Management and the Sea Ranch CCNM Task Force (the Task Force) includes (1) a quarterly Coastal Island Survey along the ten miles of the Sea Ranch coastline; (2) a monthly Non-breeding Season Survey at three islands; (3) a weekly Breeding Season Survey at three islands and (4) the daily Intensive Monitoring at GPI over a 20-day period in June and July.

The 2009 season data will refine future monitoring efforts and guide federal management. Surveys demonstrated that the same five species of seabirds nested on GPI in 2009 as in the previous surveys of the island (Carter et al. 1992, Weigand and McChesney, 2008, LeValley, 2009).

As in 2008, data were collected on all species observed; however, efforts focused on the colony of Brandt's Cormorants because of their known sensitivity to human disturbance (Hunt *et al.* 1981, McChesney 1997, Wallace and Wallace 1998, Thayer *et al.* 1999) and the relatively large sample size that could be monitored. For this species, colony monitoring combined land-based nest monitoring and bird count data from a series of aerial photographs. The aerial photography established "snapshots" in time and provided coverage of the entire

cormorant colony. Land-based nest monitoring was constrained because only about 16% of the colony was visible from the mainland vantage point. Still, land-based nest monitoring provided relatively detailed information on individual visible nests and helped interpret aerial photographic results.

The aerial photographs showed 152 breeding pairs of Brandt's Cormorants on GPI in 2009. Overall, 63% of nests hatched eggs. The nesting success was in marked contrast with cormorant colonies in the San Francisco Bay area (Alcatraz and the Farallon Islands) where essentially no successful nesting occurred. The number of nests increased slightly compared to 2008 (145). The colony at GPI continued a slight increase for the third year to 152 pairs. Hatching success was greater than in 2008.

Western Gulls also nested in apparent larger numbers than in 2008, with 41 nests monitored in 2009 compared to 35 in 2008. In spite of the larger number, apparent nesting success was substantially lower with an estimated hatching rate of 1.80 chicks per nest compared to 2.82 chicks per nest in 2008 and 2.29 in 2007).

The Task Force also monitored other species such as Pelagic Cormorants, Pigeon Guillemots, Black Oystercatchers, Brown Pelicans and Harbor Seals.

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## INTRODUCTION

This report summarizes the third year of monitoring seabirds and marine mammals on Gualala Point Island (GPI). Analysis of population estimates and characterization of disturbances to seabirds during their reproductive cycles is critical to guiding adaptive management to preserve and augment California seabird populations. Documented sources of human disturbance on offshore rock islands in California include habitat destruction, close-approaching boats, humans approaching on foot, and low-flying aircraft (*e.g.*, McChesney 1997, Carney and Sydeman 1999, Rojek *et al.* 2007).

Seabird monitoring began in response to a 2006 Independence Day fireworks display near GPI, an island within the California Coastal National Monument (CCNM). The US Department of Interior, Bureau of Land Management (BLM), administers the CCNM. Concern about potential impacts to nesting seabirds led to designing and implementing this study. The goal is to provide a long-term data set that identifies concerns for marine wildlife and guides wildlife management for GPI and other CCNM islands.

The BLM, the California Department of Fish and Game, the US Fish and Wildlife Service (USFWS), and the National Marine Fisheries Service (NMFS) wanted to assess whether the fireworks display in the community of Gualala, California, in 2007 had impacted breeding success of seabirds and/or attendance patterns of marine mammals at GPI. Also, they wanted to address a gap in knowledge about the current status of the island's wildlife resources. For the third year, BLM and USFWS biologists worked with The Sea Ranch CCNM Stewardship Task Force (hereafter "the Task Force") to monitor seabirds and marine mammals on GPI during the seabird nesting season using a combination of aerial and land-based techniques. Aerial Surveys of Brandt's Cormorants extended to Fish Rocks, an island in southern Mendocino County five miles north of GPI. No fireworks display took place during 2009. This report summarizes the study results from 2009. Besides Brandt's Cormorants, four other seabird species were monitored: Pelagic Cormorant (*Phalacrocorax pelagicus*), Black Oystercatcher (*Haematopus bachmanni*), Western Gull (*Larus occidentalis*), and Pigeon Guillemot (*Cepphus columba*) as well as Harbor Seal (*Phoca vitulina*).

**METHODS**

*Study Area*

Gualala Point Island (California Seabird Colony Number SO-384-01; 38°45'04" N, 123°31'42" W) is located just offshore at the northern border of Sonoma County, California and just south of the Gualala River mouth (Figure 1). Weigand and McChesney (2008) described the geology of the island.

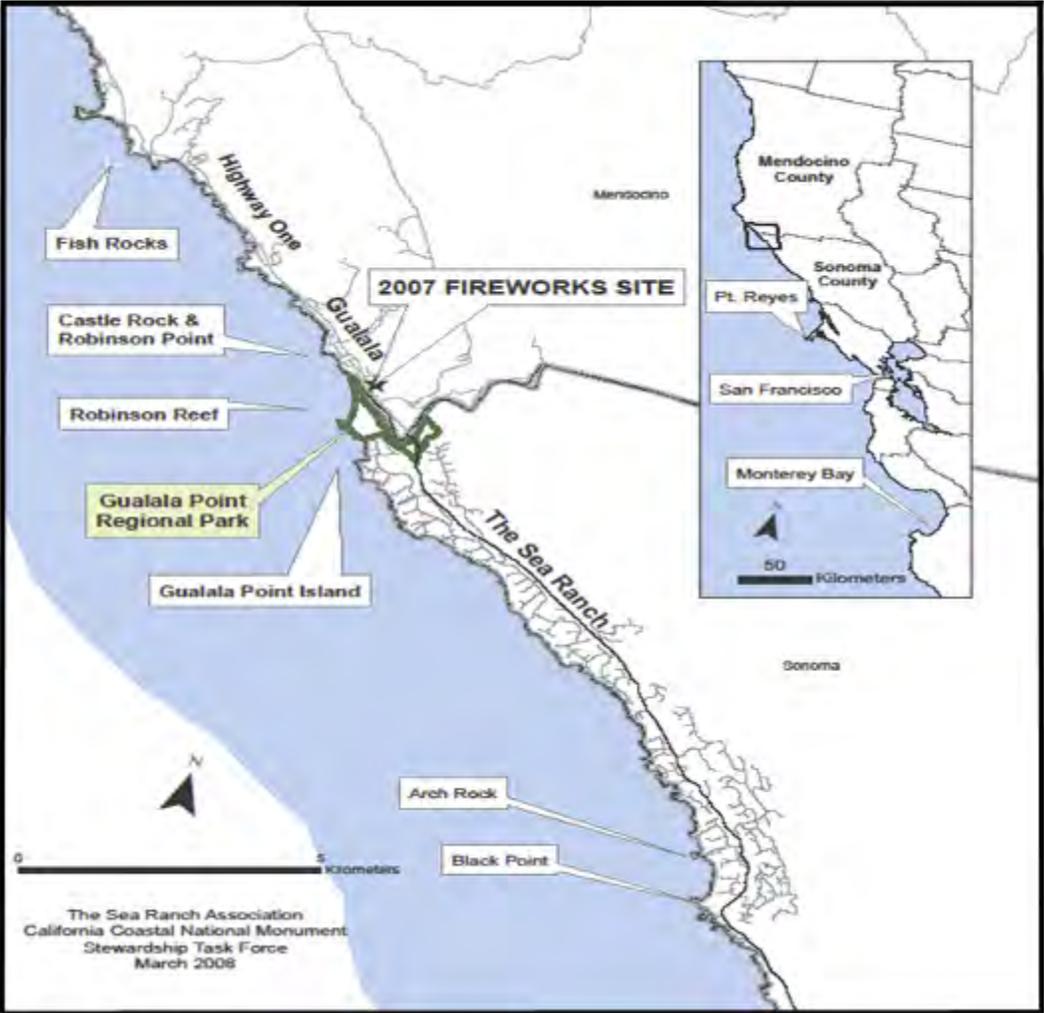


Figure 1 – Map of Gualala Point Island and vicinity, Mendocino and Sonoma counties, California.

## Monitoring

The study period extended from 3 April to 28 August 2009, with a more intensive 20-day monitoring period (hereafter referred to as the “count period”) between 25 June and 14 July 2009, the period ten days before and ten days after the night of the 4<sup>th</sup> of July holiday and a potential fireworks display. Multiple methods recorded bird and mammal numbers, reproductive success, and potential impacts from disturbances. These methods included aerial photography, land-based surveys, and land-based photography. Task Force volunteers and BLM staff collected data except where indicated below.

Documentation of the monitoring protocol used for this study (USDI Bureau of Land Management and The Sea Ranch CCNM Stewardship Task Force 2008) is available from the Task Force.

Aerial Photography: The USFWS, in cooperation with Humboldt State University and the California Department of Fish and Game, photographed GPI on 26 May 2009 during an annual aerial photographic survey of Common Murre, Brandt’s Cormorant, Pelagic Cormorant, and Double-crested Cormorant colonies in northern and central California. This flight was conducted at 210-230 m (700-750 ft) altitude in a fixed-wing, high-wing Partenavia aircraft. Photographs were taken through a belly port by two photographers with Canon 30D digital cameras and 70-200 mm or 300 mm telephoto lenses. Subsequently, a volunteer pilot and a volunteer professional photographer flew additional surveys of GPI on 7 May, 15 June, 6, 9, and 23 July, 5 August, using a protocol comparable to that used by the USFWS. As requested by the US Fish and Wildlife Service, these flights were conducted above 300 m (1000 ft) altitude in a fixed-wing Cessna 172-M aircraft and digital photographs were taken through open side window with unobstructed view. Survey altitudes were high enough to avoid disturbance to seabirds from these types of fixed-wing aircraft. Photos from these flights were taken with a Nikon D300 camera with the 18-200 3.5-5.6 lens and a Nikon D700 camera equipped with a 70-200mm lens with a 1.7 teleconverter. Photographs were taken of the entire island, with a focus on the Brandt’s Cormorant colony.

From each aerial survey, the photograph with the highest quality and most complete coverage of the cormorant colony was the primary photo source used, augmented by additional photos as needed for complete views of all Brandt’s Cormorant nests. From the photographs, active nest sites were identified and assigned unique site numbers. For each survey, the status of each nest was coded as follows:

E = empty nest

C = chick(s) visible

S = adult sitting on nest

D = adult standing at nest site

T = territorial site, *i.e.*, adult bird(s) on territory but no nest

V = vacant site, *i.e.*, no birds present

“Active nests” were nests with either an adult sitting on the nest, or standing at a nest containing visible eggs or visible chicks. “Territorial sites” had one of three characteristics: adults standing or sitting at a potential nest site having little or no nesting material; adults on a poorly built nest; or adults sitting or standing at a well-built or fairly well-built nest that was visibly empty or known to have failed recently. These data established a history of each nest site, including seasonal site status (breeding or territorial), approximate breeding phenology, and the fate of the nest site during the survey period. Breeding sites had confirmed eggs or chicks or where breeding was inferred by nest status (e.g. and adult sitting on a nest over multiple flights). Territorial sites were those sites where breeding could not be confirmed or inferred by nest status.

Seabird Counts from Mainland Vantage Points: Adults and ambulatory chicks of all seabirds on GPI were counted through adjustable 20x-to-60x spotting scopes from two mainland vantage points twice daily, once at 05:30 h and again at 10:30 h, visibility permitting, during the 20-day count period from 25 June to 14 July. Weekly counts were conducted 3 April – 19 June and again from 17 July – 28 August between 07:00 and 08:00. One vantage point viewed the north side, and the other viewed the east (“South”) side of the island (Figures 2-3).

While the views from the mainland vantage points do not give a complete view of the colonies, the data gathered are valuable in the long-term. These data are summarized briefly here. The complete data sets are available from the Task Force.

UTM locations in Zone 10N (NAD 1983) for the vantage points are as follows:

North Vantage Point:	454244 E	4289459 N	about 245 m from the island
South Vantage Point:	454411 E	4289224 N	about 305 m from the island

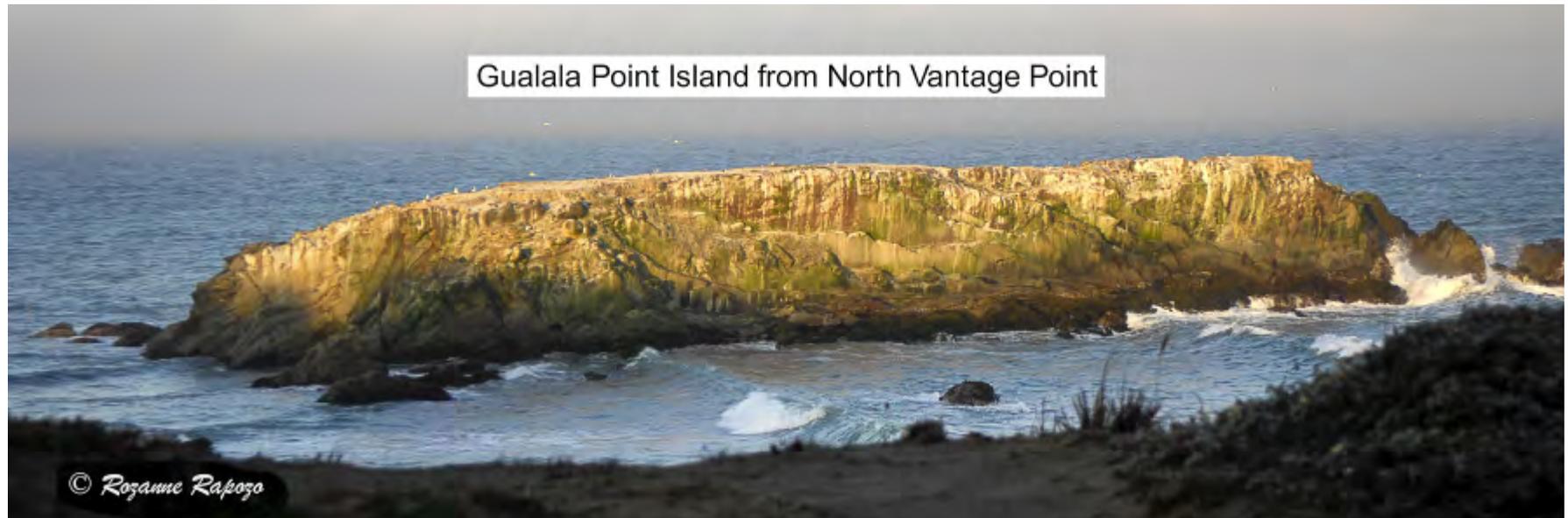


Figure 2. Gualala Point Island from North Vantage Point for mainland-based surveys. Photo ©Rozanne Rapozo



Figure 3. Gualala Point Island from South Vantage Points for mainland-based surveys. Photo ©Rozanne Rapozo

Seabird Nest Monitoring from Mainland Vantage Points: Nest monitoring used a modified version of the USFWS Common Murre Restoration Project protocol for Brandt's Cormorant nest monitoring (McChesney *et al.* 2007). Along with Brandt's Cormorants, the protocol included nest monitoring for four other species on GPI: Pelagic Cormorant, Black Oystercatcher (*Haematopus bachmanni*), Western Gull (*Larus occidentalis*), and Pigeon Guillemot (*Cepphus columba*). Observers recorded nest data during the same times that seabird counts took place. For each species, visible nests had assigned unique numbers, and photographs of the island identified nest locations. During the count period, observers recorded the status of each nest, the number of adults present, adult behavior (sitting or standing), and the number of visible eggs and chicks.

Mobile Chick Monitoring: During the count period, mobile Western Gull chicks were counted and associated with a specific previously identified nest. Tracking mobile gull chicks was important as the chicks frequently move about and often away from their nest, in contrast to other species monitored during this project.

Daytime Marine Mammal Monitoring: The count form for monitoring Harbor Seals (*Phoca vitulina*) used at Point Reyes National Seashore and along the Sonoma County coast including The Sea Ranch (Manna *et al.* 2006) was adopted for this project. Censuses of Harbor Seals took place at the daytime low tide closest to seabird count times as well as during seabird counts.

Daytime Disturbance Monitoring: Disturbances to seabirds were recorded systematically. The protocol to monitor and characterize disturbances combined pre-established protocols from PRBO Conservation Science (unpubl. data), USFWS (McChesney *et al.* 2007), and Jaques and Strong (2002). All aircraft flying below 300 m (1000 ft) and boats approaching to within 300 m (1000 ft) of GPI were recorded, as well as any visible disturbance behaviors by seabirds or seals (*e.g.*, flushing or displacement). In 2009, Wildlife Disturbance Reporting used the California Seabird Protection Network protocol (<http://farallones.noaa.gov/eco/seabird/welcome.html>).

Daytime Land Photography from Mainland Vantage Points: An initial photographic survey of GPI was conducted before the count period. Photographers used DSLR cameras with a minimum of 10 megapixels. Cameras are equipped with a minimum 300mm focal length lens using a 1.4x or 1.7x teleconverter. Nikon image-stabilized f4.0, 200-400mm zoom telephoto lens, combined with a 1.4x teleconverter or f2.8 300mm prime lens with a 1.7x teleconverter were routinely used.

## RESULTS

### Brandt's Cormorant

#### Aerial Photography of the Brandt's Cormorant Colony

As in the three previous years, in 2009 the Brandt's Cormorant colony occupied part of the west side of GPI (Figure 4). The colony configuration differed slightly from recent years, however, as cormorants established 30+ nests on the small ridge to the north just above the main colony. The 7 May flight identified nine territorial sites to the northeast of the main colony, but these had all been abandoned by the time of the 26 May flight. These birds were visible from the North Vantage Point and one nest appeared on the north side in late May, an unusual occurrence. On the 15 June flight, Brown Pelicans were roosting at the site of the abandoned nests. Brown Pelicans have been known to displace nesting seabirds, but it is not known whether they had any effect here. These nests were not counted in this year's analysis, as these individuals may have subsequently joined the main colony to nest. Figure 5 (a-g) shows aerial photographs of the entire GPI Brandt's Cormorant colony from seven surveys between 7 May and 5 August 2009. During the survey period, 152 sites were identified in the aerial photos as being nest sites. The Appendix provides the histories of each site. A small number of apparent territorial sites found only on a single survey were considered not actual nesting sites and not assigned site numbers.

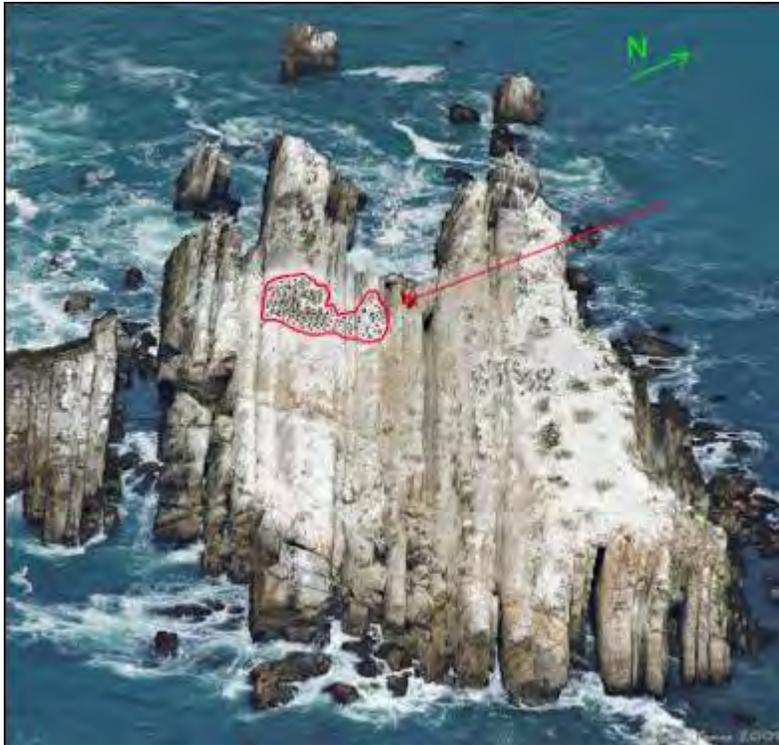


Figure 4

Aerial photograph of Gualala Point Island from the southeast, 15 June 2009. The red arrow points to the Brandt's Cormorant colony, outlined in red. The green arrow points approximately North. Photo © Craig Tooley.

Of all sites followed, 142 were identified as breeding sites and 10 as territorial sites (*i.e.*, where egg-laying was not likely to have occurred). Refer to the Appendix. Fifty nests (36%) of breeding sites recorded during the study period were active in the first photograph on 7 May (Table 1); many nests were well-formed and adults were sitting on nests in incubation postures. Nest establishment continued and by 26 May, 71 new nests were added bringing the total of active nests to 121. By 15 June, 28 new nests were active and three had failed bringing the total of active nests to 146, 9 of which had chicks. Ainley and Boekelheide (1990) indicate that the typical egg-laying period on the Farallon Islands is during April and May. Unlike last year when substantial egg-laying took place late in the season (LeValley, 2009), the egg laying season in 2009 was consistent with the patterns on the Farallon Islands.

Only one new nest site was established after the 15 June flight. By 6 July, 43 nests (28%) had visible chicks (*ca.* two to four weeks old). Of these, 35 nests had hatched between the flight dates. Eleven (7%) of the nests failed during the interval between 15 June and 6 July and 93 (61%) exhibited incubation behavior (Table 1).

Survey Date	5/7	5/26	6/15	7/6	7/9	7/23	8/5
New Nests since previous survey	50	71	28	1	0	0	0
Continuing nests since previous survey		50	109	92	70	12	0
Failed since previous survey			3	11	5	24	12
Failed before Previous Survey			0	3	14	19	42
Newly Hatched			9	35	18	34	0
Continuing Chicks				8	42	6	0
Probably Fledged					1	10	18
Unknown chick fate						45	78
Vacant or Territorial site	102	31	3	2	2	2	2
<b>Total</b>	<b>152</b>						

Table 1. Brandt's Cormorant nest fates during the period 7 May to 5 August 2009.

Between 6 July and 9 July, 70 nests (46%) continued incubation. There were five newly failed nests, bringing the total of failed nests to 19 (13%). Sixty nests (40%) had chicks on 9 July of which, 18 nests (12%) had hatched in the three days between flights. One nest appeared to have fledged chicks during this interval (Table 1).

By the 23 July flight, chicks had left most nests and were wandering around the colony or had fledged. Forty nests still had chicks apparently associated with the nest site; 34 (22% of the total nests) had hatched between the 9 July and the 23 July flights. At this date, most of the newly hatched and still active nests were the latest to have been established and were located on the slight ridge to the north of the main colony site (see Figure 5f).

By 5 August, the colony was essentially empty except for a few adults at the perimeter of the colony. One of the last nests to hatch (Nest 4, see Figure 5g) appeared to have an adult and two chicks present, but all other birds had left the nests. Therefore, it is not certain that these birds were actually associated with that nest site.

In summary, 152 pairs of cormorants appeared to either breed or set up a territorial site. Of these, 56 (37%) were unsuccessful at hatching chicks. Ninety-six (63%) of the nests hatched chicks (Tables 2 and 3). Unfortunately, fledging success cannot be estimated this year due to the timing of the aerial surveys. The interval between the 9 July and 23 July flights (14 days) was too long to estimate whether chicks had fledged or not, however, it is likely that many of the chicks from the hatching nests actually fledged based on the results from the land-based monitoring (see below).

<b>2009 Season</b>		
Unsuccessful	56	37%
Hatched	96	63%
<b>Total</b>	<b>152</b>	<b>100%</b>

Table 2. Brandt's Cormorant nest fates during the 2009 season.

<b>Reproductive Stage</b>	<b>7-May</b>	<b>26-May</b>	<b>15-Jun</b>	<b>6-Jul</b>	<b>9-Jul</b>	<b>23-Jul</b>	<b>5-Aug</b>
S	50	121	137	93	71	14	0
D	3	0	4	4	2	6	0
T	8	12	0	4	10	1	0
C	0	0	9	43	60	42	1
V	91	19	2	8	9	89	151
<b>TOTAL</b>	<b>152</b>	<b>152</b>	<b>152</b>	<b>152</b>	<b>152</b>	<b>152</b>	<b>152</b>
Active Nests (S+C)	50	121	146	136	131	56	1
<b>Percent Active</b>	<b>34%</b>	<b>83%</b>	<b>100%</b>	<b>93%</b>	<b>90%</b>	<b>38%</b>	<b>&lt;1%</b>

Table 3 - Summary of the status of Brandt's Cormorant nests and territorial sites as determined from aerial photographs, Gualala Point Island, 7 May to 5 August 2009. S = Adult sitting on nest, D = Adult standing at nest site (no eggs or chicks visible), T = Territorial Site, C = chicks present, V = vacant.

Figure 5 (a through g) – Time series of aerial photographs of the Brandt’s Cormorant colony on Gualala Point Island, 7 May to 5 August 2009. Site numbers used for monitoring are indicated in each photograph. Red numbers were active nests, Yellow numbers were active nests that were not visible on these photos but their status was confirmed on other photos, Green numbers were abandoned nests. Not all abandoned nests were numbered on the later photos.



Photo © Craig Tooley, The Sea Ranch School of Photography  
**Figure 5a. Brandt’s Cormorant Colony Gualala Point Island 7 May 2009**

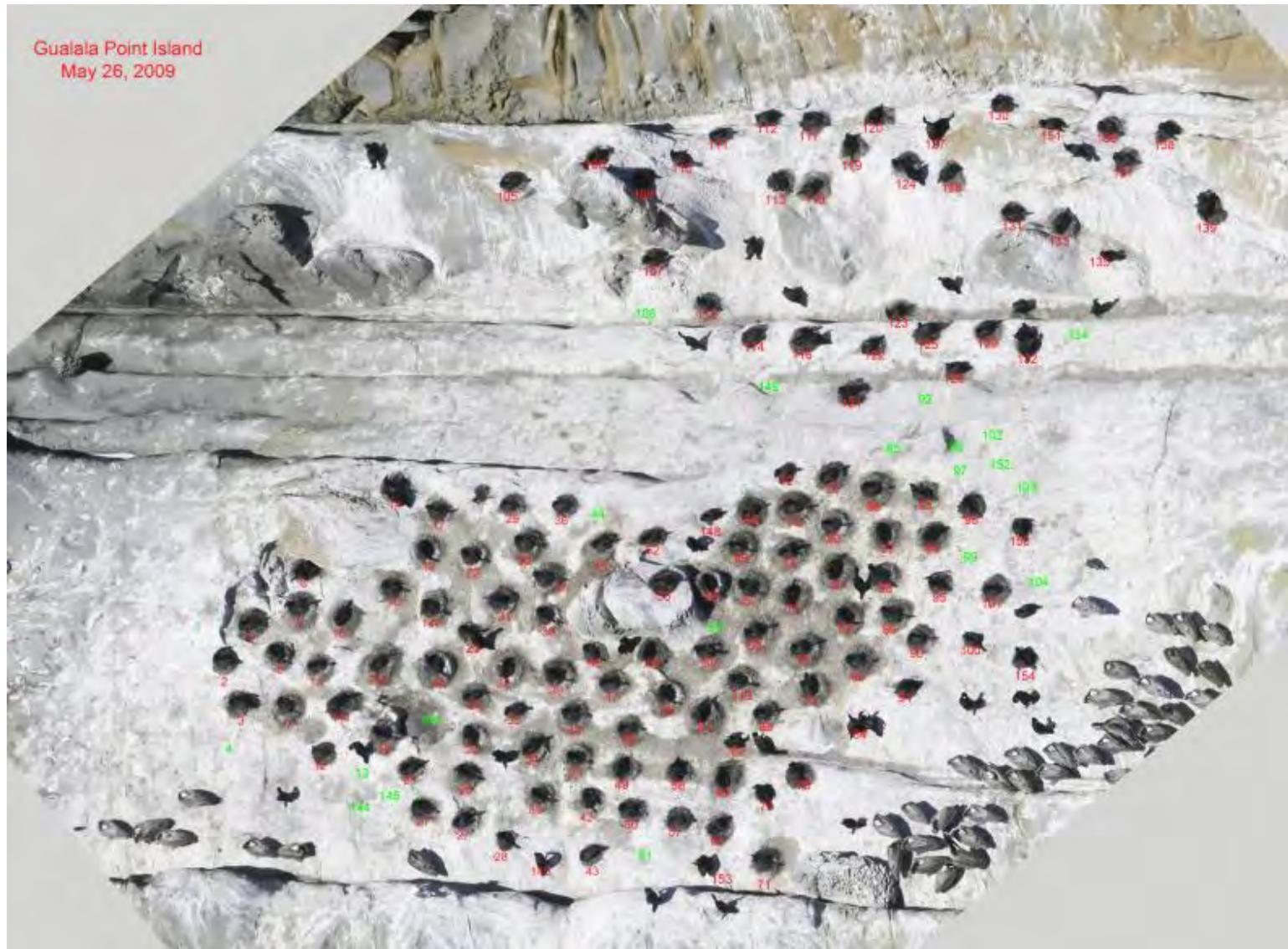


Photo by US Fish and Wildlife Service  
**Figure 5b. Brandt's Cormorant Colony Gualala Point Island 26 May 2009**



Photo © Craig Tooley, The Sea Ranch School of Photography  
**Figure 5c. Brandt's Cormorant Colony Gualala Point Island 15 June 2009**



Photo © Craig Tooley, The Sea Ranch School of Photography  
**Figure 5d. Brandt's Cormorant Colony Gualala Point Island 6 July 2009**



Photo © Craig Tooley, The Sea Ranch School of Photography  
**Figure 5e. Brandt's Cormorant Colony Gualala Point Island 9 July 2009**



Photo © Craig Tooley, The Sea Ranch School of Photography  
**Figure 5f. Brandt's Cormorant Colony Gualala Point Island 23 July 2009**



Photo © Craig Tooley, The Sea Ranch School of Photography  
**Figure 5g. Brandt's Cormorant Colony Gualala Point Island 5 August 2009**

Brandt's Cormorant Counts from Mainland Vantage Points

Only a small portion (16%) of the active Brandt's Cormorant nests was visible from the mainland and only from the south vantage point (Table 4, Figure 6). Numbers of nests remained nearly constant through the season, dropping off after most chicks had fledged in mid-July. This timing is consistent with the aerial photography data, but especially fills in the gap between the 9 July and 23 July flight.

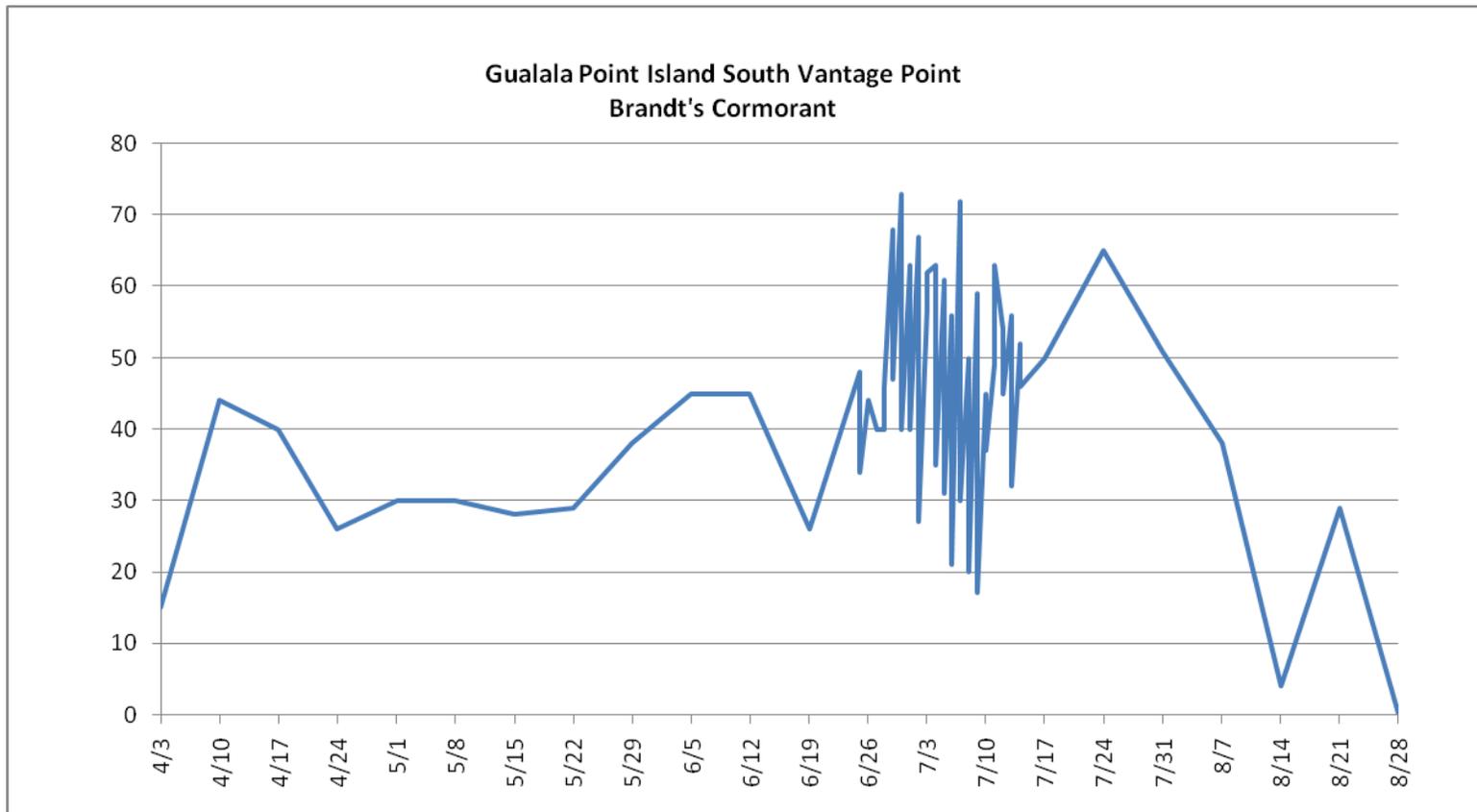


Table 4. Brandt's Cormorant (adult) counts weekly from 3 April – 28 August, and daily between 25 June and 14 July.

Brandt's Cormorant Nest Monitoring from Mainland Vantage Points: Although views were not ideal, the data obtained were sufficient to establish nesting status during the count period for 21 nest sites (Table 5 a-b). All 21 had breeding confirmed by the presence of chicks. The other three sites were only attended by adults for 1-3 survey days and likely did not get to the egg-laying stage. Of these 21 sites, an estimated 25 chicks fledged, resulting in a fledging rate of 1.2 chicks per nest.



Figure 6 Brandt's Cormorant nests on Gualala Point Island monitored from the South Vantage Point, 27 June 2009. *Photo by Rozanne Rapozo.*

Data on nest initiation gathered from ground-based surveys were consistent with data from the aerial surveys.

Actual hatching dates are difficult to ascertain because the small chicks remain out of sight low in the nest for several days. Three nests contained visible chicks as early as 19 June, while the others contained visible chicks by the third week of July.

Nesting success was easier to assess in 2009 than in 2008, as most fledging took place in mid to late July, when daily surveys were still active for part of the time. Actual fledging rates are difficult to determine as large chicks begin to wander from their nests once they become mobile, and they can show up at nest sites far from their hatch site. For this reason, hatching success is probably the best assessment of the annual reproduction.

Nest #	4/17	5/15	5/22	5/29	6/5	6/12	6/19	6/25	6/25	6/26	6/26	6/27	6/27	6/28	6/28	6/29	6/29	6/30	6/30	7/1	7/1	7/2	7/2	7/3	7/3
2 (S)							1 C3	ND			ND	1 C3		1 C3	1 C3		ND	ND	2 C3	1 C3	2 C3	ND	2 C3		3 C3
3 (S)	ND						2 C1			1 C2			1 C3	1 C3	1 C3	1 C3			2 C3	1 C3	2 C3		2 C3	2 C3	2 C3
4 (S)	ND																								
16 (S)	ND						1 C3																		1 C3
17 (S)	ND	ND											1 C3		1 C3				1 C3	1 C3	2 C3				
18(S)	ND	ND													1 C3										
19 (S)	ND	ND																						1 C2	
20 (S)	ND	ND																							
21 (S)	ND	ND							1 C2			1 C1						1 C1		1 C2	2 C2		2 C1	2 C2	
22 (S)	ND	ND																							
23 (S)	ND	ND																							
24 (S)	ND	ND																							
39 (S)	ND	ND	ND																						1 C1
40 (S)	ND	ND	ND																						
46 (S)	ND	ND	ND	ND																					
48 (S)	ND	ND	ND	ND																					1 C1
49 (S)	ND	ND	ND	ND	ND	ND																			
50 (S)	ND	ND	ND	ND	ND	ND	ND																		
51 (S)	ND	ND	ND	ND	ND	ND	ND																		
52 (S)	ND	ND	ND	ND	ND	ND	ND	ND																	
55 (S)																									
58 (S)																									
59 (S)																									
3 (N)	ND	ND	ND																						

Table 5a - Summary of status for the 24 Brandt's Cormorant nests monitored from the mainland on Gualala Point Island, 17 April – 3 July 2009. Surveys started 3 April but no nests had been established. Nest numbers correlate with Figure 6<sup>1</sup>. Survey dates appear in the table header. Dates with two columns reflect two surveys conducted on that date. Cells highlighted in blue indicate adults present at the nest.

<sup>1</sup>The sequence of numbered nests used here differs from the numbers used in Figure 5 and in the Appendix. It is not possible to correlate the nests visible from the south vantage point with nests photographed from the air.

<sup>2</sup>Key to abbreviations:

- C = cormorant chick(s) seen (unknown age)
- C1 = cormorant chick(s) seen (1-8 days)
- C2 = cormorant chick(s) seen (8-15 days)

- C3 = cormorant chick(s) seen (15-25 days)
- C4 = cormorant chick(s) seen (25-40days)

Nest #	7/4	7/4	7/5	7/5	7/6	7/6	7/7	7/7	7/8	7/8	7/9	7/9	7/10	7/10	7/11	7/11	7/12	7/12	7/13	7/13	7/14	7/14	7/17	7/24	7/31	8/7
2 (S)	2 C4	3 C4		2 C4			2 C3	ND	2 C3		2 C3	ND	2 C4	2 C4	2 C4	1 C4	2 C4	2 C4	2 C4	1 C4	2 C4	ND	ND	1 C3	ND	ND
3 (S)	NV	2 C3	3 C3	3 C4	3 C4	3 C4								2 C4	2 C4	2 C4	2 C4	1 C4	2 C4	1 C4				NV		
4 (S)				1 C2		1 C2									1 C2		1 C2	1 C2	2 C2	1 C2	1 C2	2 C3		3 C4		
16 (S)											2 C3					1 C2		1 C4					1 C4			
17 (S)									1 C3		1 C3					1 C2			1 C4					1 C2		
18 (S)				1 C3				2 C2																1 C2		
19 (S)						1 C2	1 C3				1 C3		2 C2						2 C2	2 C3			2 C2			
20 (S)		1 C2											2 C2			1 C3		1 C3			C2			2 C2		
21 (S)		2 C2		2 C3	1 C2					2 C2		1				1 C3		2 C4	1 C3	1 C4		2 C3		1 C2		
22 (S)		1 C3		1 C2								1 C2				1 C2		1 C2		1 C3	1 C2	2 C2		2 C2		
23 (S)							1 NV	1 C2					2 C2	1 C2		2 C2		2 C2	2 C2	2 C2	2 C3	3 C3		2 C3		
24 (S)			1 C2															1 C2			2 C2	2 C2		2 C4		
39 (S)				1 C2	1 C2					1	1 C2		1 C2		2 C2			1 C2	1 C3		1 C3		1 C3	2 C4		
40 (S)													1 C2											1 C3		
46 (S)																1 C2										
48 (S)												1 C2	1 C2	1 C2		1 C3			1 C3	1 C2	1 C2	1 C3				
49 (S)				1 C2									1 C2		1 C2						1 C2	2 C3			2 C2	
50 (S)																										
51 (S)							1 C3								1 C3			1 C3					2 C3			
52 (S)																1 C2							1 C3		2 C2	
55 (S)																										
58 (S)											1							1 C2					1 C3		1 C3	
59 (S)									1 C2						2 C3	2 C3	1 C3		1 C3	1 C3		2 C3				
3 (N)																										

Table 5b - Summary of status for the 24 Brandt's Cormorant nests monitored weekly from the mainland on Gualala Point Island, 4 July – 7 August 2009. Nest numbers correlate with Figure 6<sup>1</sup>. Survey dates appear in the table header. Dates with two columns reflect two surveys conducted on that date. Cells highlighted in blue indicate adults present at the nest.

<sup>1</sup>The sequence of numbered nests used here differs from the numbers used in Figure 5 and in the Appendix. It is not possible to correlate the nests visible from the south vantage point with nests photographed from the air.

<sup>2</sup>Key to abbreviations:

C = cormorant chick(s) seen (unknown age)

C1 = cormorant chick(s) seen (1-8 days)

C2 = cormorant chick(s) seen (8-15 days)

C3 = cormorant chick(s) seen (15-25 days)

C4 = cormorant chick(s) seen (25-40 days)

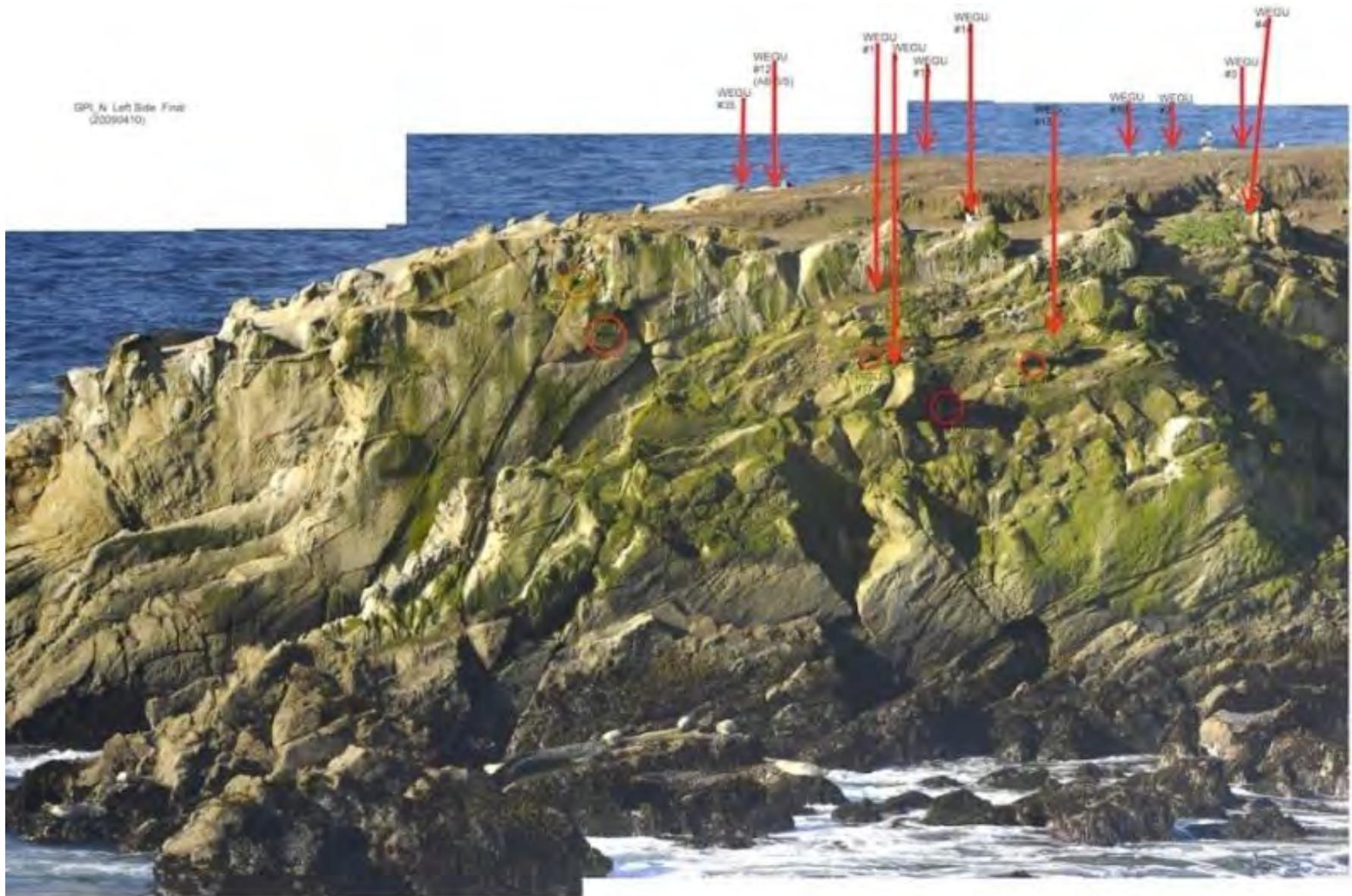


Figure 7. Left portion Gualala Point Island from the North Vantage Point. *Photo by Rozanne Rapozo.*



Figure 8. Middle portion Gualala Point Island from the North Vantage Point. *Photo by Rozanne Rapozo.*

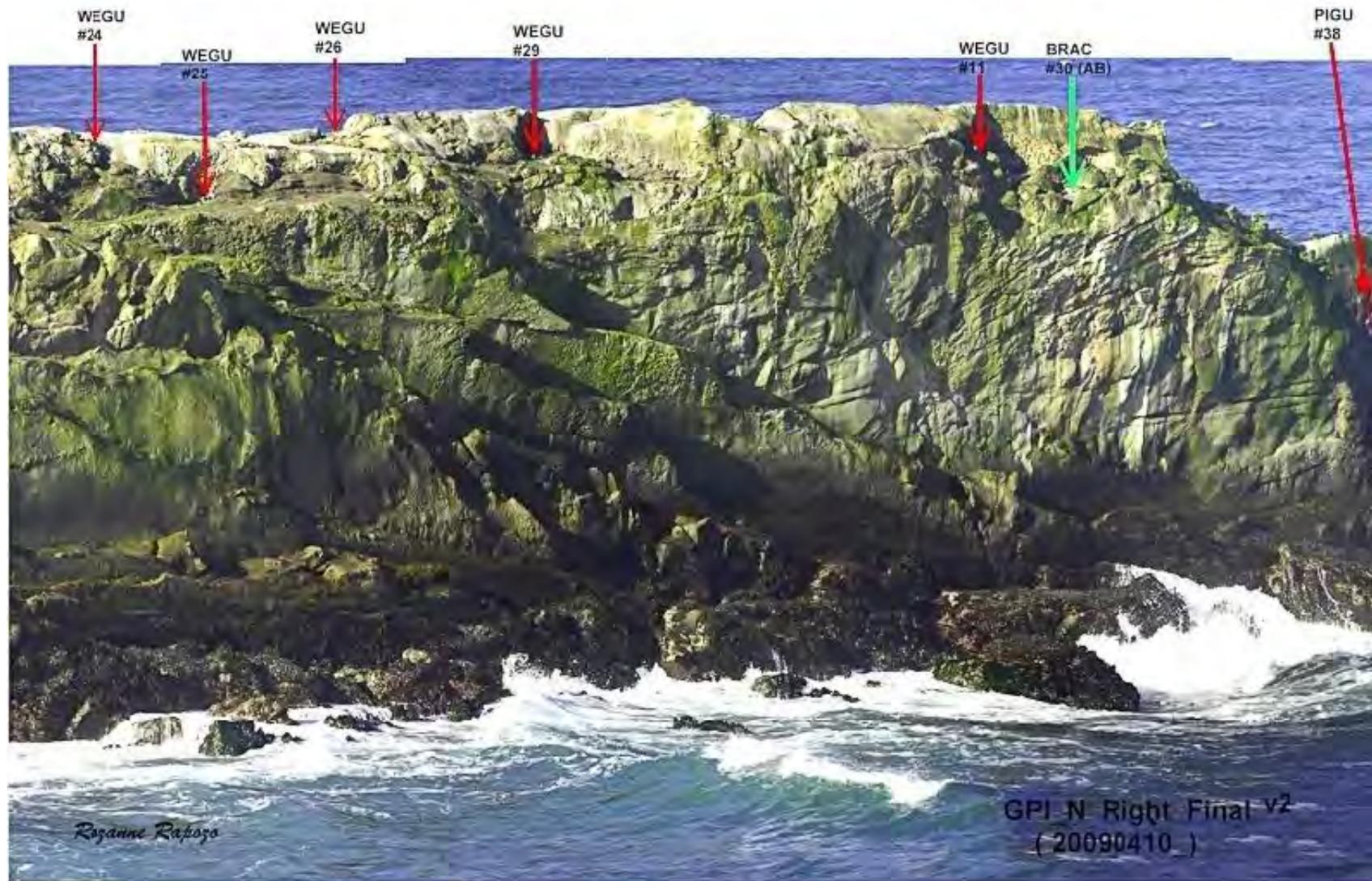


Figure 9. Right portion Gualala Point Island from the North Vantage Point. *Photo by Rozanne Rapozo.*



Figure 10. Middle portion of Gualala Point Island from the South Vantage Point . Red circles indicate monitored nests. *Photo by Rozanne Rapozo.*

Figure 11. Right portion of Gualala Point Island from the South Vantage Point, 21 May 2009. Red circles indicate monitored nests. *Photo by Rozanne Rapozo.*

## Pelagic Cormorant

### Pelagic Cormorant Counts from Mainland Vantage Points

Counts of Pelagic Cormorants on GPI consisted mostly of non-breeding birds. Most birds congregated on ledges along the north side of the island. Bird counts indicated about 10 birds on most days during the daily counts (Table 6). No particular trend in counts was evident during the count period.

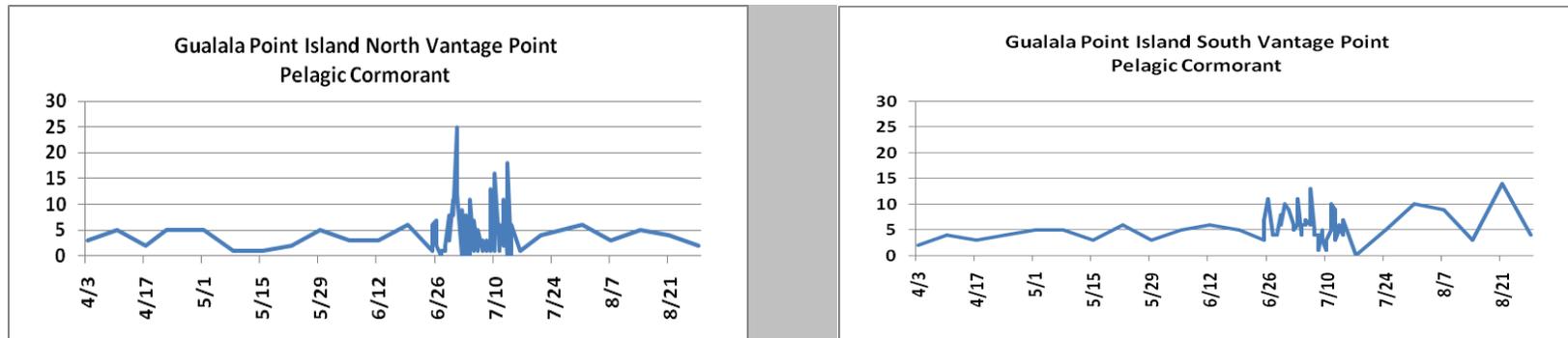


Table 6. Pelagic Cormorant counts weekly from 3 April – 28 August, and daily between 25 June and 14 July.

### Pelagic Cormorant Nest Monitoring

As in 2008, only one Pelagic Cormorant nest was located on GPI during 2009 (Nest #1, Figure 11). This nest had a single chick that died in the nest. The number of nests remains low in comparison to 2006, when seven nests were recorded on the east side cliffs of the island (R. Kuehn, pers. comm.).

## Western Gull

### Western Gull Counts from Mainland Vantage Points

Counts of adult Western Gulls were similar from the north and south vantage points (Figures 7-11, Table 7). Numbers remained fairly steady throughout the nesting season.

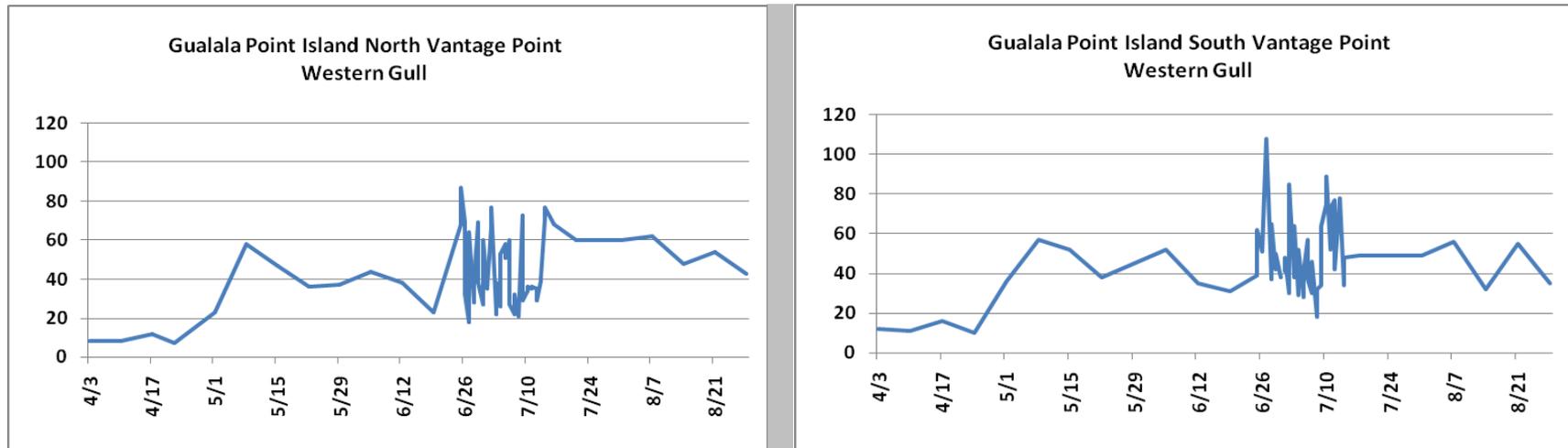


Table 7. Western Gull counts (adults) weekly from 3 April – 28 August, and daily between 25 June and 14 July.

Western Gull Nest Monitoring from Mainland Vantage Points and Mobile Chick Monitoring

Observers at both the north and south vantage points observed Western Gull nests and young in nests weekly from 1 May to 28 August and then daily from 25 June to 14 July. Western Gull nests occupied either the relatively flat top surface at the north end of the island or wide ledges and nooks just below the top of the island. Eleven nests were visible only from the north vantage point, thirteen nests were visible only from the south vantage point and an additional 17 nests were visible from both locations for a total of 41 monitored nests (Table 8a-c).

Nest #	6/12	6/19	6/25	6/26	6/27	6/28	6/30	7/1	7/2	7/3	7/4	7/5	7/6	7/7	7/8	7/9	7/10	7/11	7/12	7/13	7/14
1 (N)		2			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 (N)		2			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 (N)					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 (N)	1	2			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 (N)	2	3			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 (S)	1	2			1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	2	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 (N)	3				2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 (S)		3			2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	3	3	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 (N)					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 (S)		3			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 (N)					3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 (S)					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 (N)		2			2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 (S)	1		1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	1	2	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 (N)					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 (S)	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 (N)		2			2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 (S)		3	3		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	3	3	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 (N)					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 (S)					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 (N)		2			0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 (S)		2		1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	2	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 8a. Western Gull nest status by survey date. # = number of chicks observed. Green shaded cells denote the presence of chicks.

Nest #	6/12	6/19	6/25	6/26	6/27	6/28	6/30	7/1	7/2	7/3	7/4	7/5	7/6	7/7	7/8	7/9	7/10	7/11	7/12	7/13	7/14
14 (N)		2			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 (S)		2		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 (N)		2			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 (S)		1		1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	2	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
16 (N)					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 (N)			2		2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 (N)		2			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 (N)		3			4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	3	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 (N)					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 (N)					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 (N)					2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 (N)					3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25		2		2	3	3	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	2	0	2	3	3	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0
26 (N)		2			2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 (S)				4	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	2	0	4	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 (N)			2		2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 (S)					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 (N)					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 (S)		3		3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	3	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 (N)					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 (S)		2		2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 8b. Western Gull nest status by survey date. # = number of chicks observed. Green shaded cells denote the presence of chicks.

Nest #	6/12	6/19	6/25	6/26	6/27	6/28	6/30	7/1	7/2	7/3	7/4	7/5	7/6	7/7	7/8	7/9	7/10	7/11	7/12	7/13	7/14
30 (S)					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 (N)		2			1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 (S)					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32 (S)					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 (S)			1		0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	1	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
34 (S)		2	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	2	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 (S)		2		2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	2	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 (S)					0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38 (S)					1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 (S)		2			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42 (S)		3	1		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45 (S)			1	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	1	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53 (S)				1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54 (S)					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56 (S)					2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total associated with a known nest</b>	<b>10</b>	<b>54</b>	<b>17</b>	<b>26</b>	<b>39</b>	<b>20</b>	<b>3</b>	<b>6</b>	<b>0</b>												
Not with a nest																					
North Vantage Point				19	34	40	38	23	38	42	45	50	31	39	31	35	38	10	36	34	41
South Vantage Point				13	35	30	27	22	38	48	42	35	27	39	30	33	42	35	41	34	35
<b>Maximum not associated</b>				<b>19</b>	<b>35</b>	<b>40</b>	<b>38</b>	<b>23</b>	<b>38</b>	<b>48</b>	<b>45</b>	<b>50</b>	<b>31</b>	<b>39</b>	<b>31</b>	<b>35</b>	<b>42</b>	<b>35</b>	<b>41</b>	<b>34</b>	<b>41</b>
<b>Total Chicks</b>	<b>10</b>	<b>54</b>	<b>17</b>	<b>45</b>	<b>74</b>	<b>60</b>	<b>41</b>	<b>29</b>	<b>38</b>	<b>48</b>	<b>45</b>	<b>50</b>	<b>31</b>	<b>39</b>	<b>31</b>	<b>35</b>	<b>42</b>	<b>35</b>	<b>41</b>	<b>34</b>	<b>41</b>

Table 8c. Western Gull nest status by survey date. # = number of chicks observed. Green shaded cells denote the presence of chicks.

Thirty (73%) of the monitored nests produced chicks. The first chicks of the year were noted on 12 June when 10 were counted from five nests. A maximum of 74 chicks were counted on 27 June (Table 9). Chick numbers reported here were calculated by combining the Nest Monitoring data and the Mobile Chick Monitoring data. The number of chicks associated with a specific nest was tabulated from either the Nest Monitoring data or the Mobile Chick Monitoring data, whichever was greater. It is uncommon for a Western Gull brood to have more than three chicks associated with it unless two broods have combined. Numbers of chicks greater than three were counted so that total chick numbers included all chicks present even if chicks were observed at a nest other than their natal site. This total was then added to the total number of chicks NOT associated with a known nest from the Mobile Chick Monitoring data. Since there were often two counts for the unassociated chicks (one from the north vantage point and one from the south point), the larger of these numbers was used to prevent double counting chicks. The resulting totals probably undercount the total number of chicks present. This peak chick estimate calculates to 1.80 chicks hatched per nest, lower than in previous years.

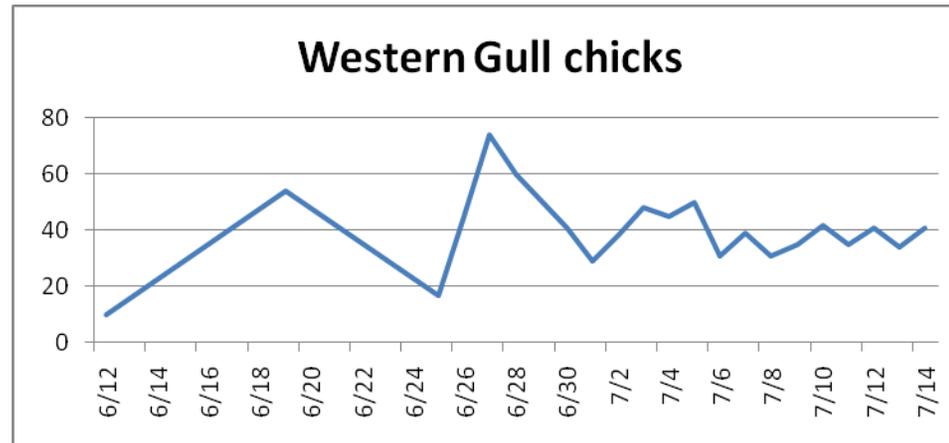


Table 9 Western Gull chicks, 12 June - 14 July.

As can be seen from Table 8 (a-c) by the end of June, chicks were no longer associated with a known nest. Chick numbers remained steady after 1 July with a final count on 14 July Of 41 chicks, resulting in an estimated fledging rate of 1.0 chick per nest, much lower than in the past two years (see summary discussion).

### Pigeon Guillemot

#### Pigeon Guillemot Counts from Mainland Vantage Points

Observers at both the north and south vantage points regularly noted Pigeon Guillemots resting on ledges and cliffs as well as entering crevices where birds appeared to be nesting (Figures 8, 9, 11). Numbers were consistent throughout the season and similar to numbers from last year (Table 10). It is important to note that there is some overlap in the actual nests counted from the north and south vantage points; therefore these samples are not independent of one another. Pigeon Guillemot nests are difficult to locate from land, and even more difficult to assess for nesting success. Twelve sites had adults regularly sitting at or near a crevice (Table 11). One nest (Nest 43 S) visible from the south vantage point had two chicks that were seen regularly throughout the month of July.

Chicks were seen at six nests, and adults were carrying fish to two additional nests suggesting at least 8 nests had successfully hatched chicks.

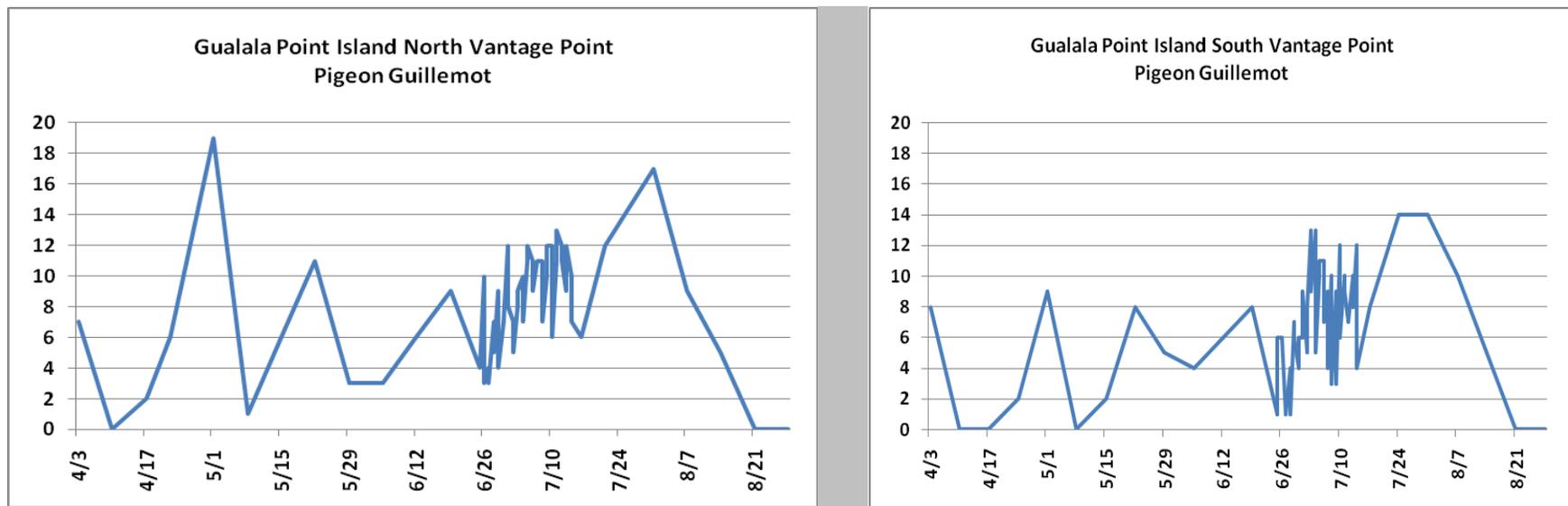


Table 10. Pigeon Guillemot counts weekly from 3 April – 28 August, and daily between 25 June and 14 July.

Nest #	Chick Seen	Adult Carrying Fish
17 (N)	7/3	7/5, 7/10, 7/11, 7/12, 7/13
18 (N)	7/3	7/10, 7/31
32 (N)	None seen	7/12
33 (N)	None seen	7/1, 7/11, 7/21
36 (N)	7/7	7/7, 7/11
37 (N)	None seen	None seen
38 (N)	None seen	None seen
43 (S)	6/19, 7/2-7/31 (2 present)	7/4
44 (S)	None seen	None seen
47 (S)	8/7	None seen
60 (S)	7/12	7/7, 7/10, 7/13
61 (S)	None seen	None seen

Table 11. Pigeon Guillemot nest site activity

## Black Oystercatcher

### Black Oystercatcher Counts from Mainland Vantage Points

As in 2008, two breeding pairs of oystercatchers were detected in 2009, one pair visible from the north vantage point and another pair visible from the south vantage point. (Figures 9, 10). Adults were seen feeding chicks at the nest visible from the north vantage point in early July. One or two chicks were seen from the north vantage point between 29 June and 21 July and a single juvenile was detected through 14 August. From the south vantage point, a single chick was detected outside of the formal surveys on 28 June, but was never seen again. It is likely that two chicks fledged from GPI in 2009.

On most days, the total numbers of adult oystercatchers using GPI for feeding and resting included only the breeding pair visible from each vantage point, but on a few days one or two extra birds were seen. Daily maximum counts ranged from two to eleven birds (Table 12).

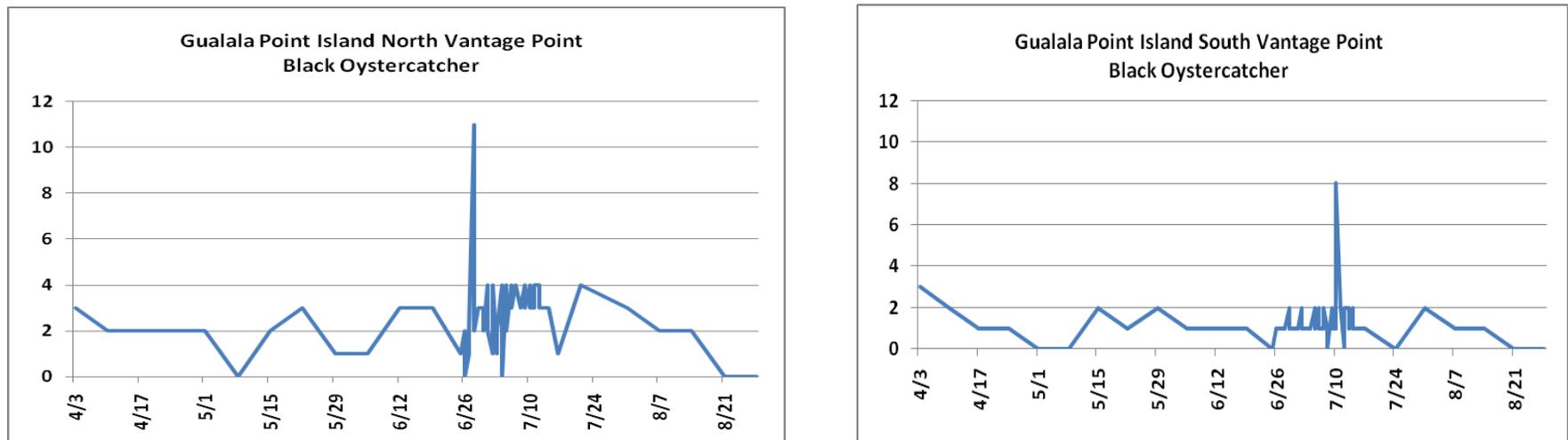


Table 12. Black Oystercatcher Counts weekly from 3 April – 28 August, and daily between 25 June and 14 July.

## Brown Pelican

### Brown Pelican Counts from Mainland Vantage Points

Brown Pelicans do not currently nest north of Anacapa Island in the Channel Islands, but disperse north along the coast after their nesting season. GPI is frequently a nocturnal roost for Brown Pelicans during their post-breeding dispersal. In 2009, the occasional pelican was observed in late May, but in early June their numbers began to increase with peak numbers in mid-June numbering up to 139 individuals visible from the north vantage point and 150 from the south vantage point (Table 13).

While these data do not provide definitive information on pelican population changes, they do provide an important perspective on the potential impact of roosting pelicans on local nesting seabirds. Brown Pelicans may occasionally have an adverse effect on breeding seabirds such as Common Murres (McChesney, pers. comm.; McChesney et al., 2008) and California Gulls (LeValley, pers. obs.) in northern California by displacing them from

their nesting sites. It is possible that the early abandonment of some Brandt’s Cormorant nests resulted from displacement by roosting pelicans. Refer to the discussion under [Aerial Photography of the Brandt’s Cormorant Colony – Page 5.](#)

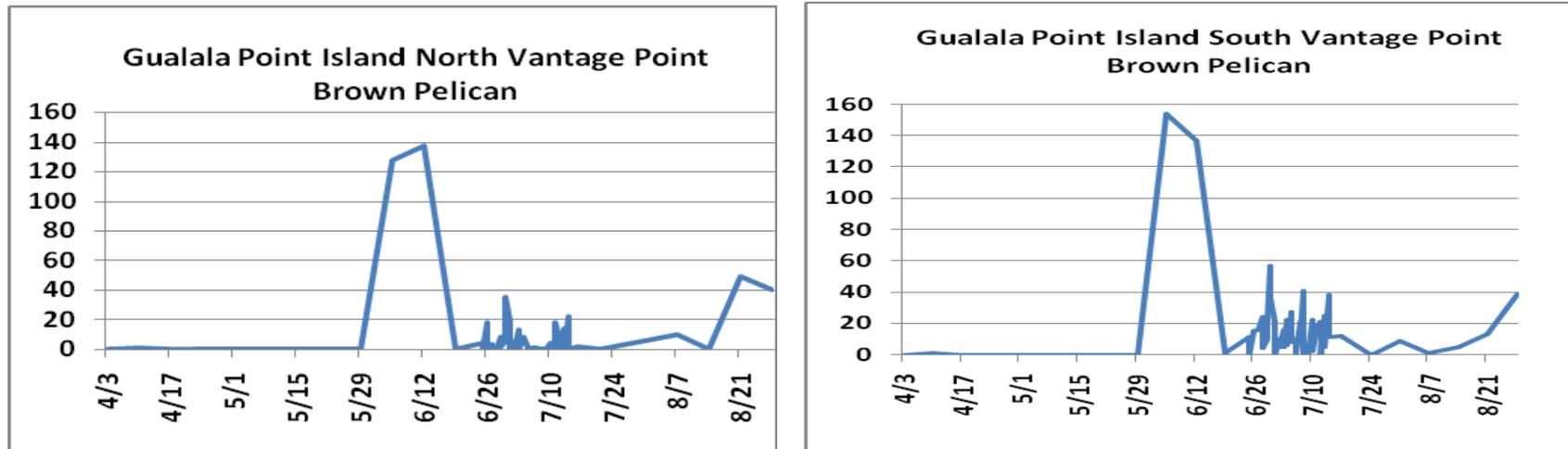


Table 13. Brown Pelican counts weekly from 3 April – 28 August, and daily between 25 June and 14 July.

**Seabird Counts on Other Islands**

Surveys on other islands were conducted weekly or, in the case of Fish Rocks, from aerial surveys only.

**Fish Rocks Summary**

Brandt’s Cormorant

Aerial photographs were taken of Fish Rocks on 7 May, 15 June, 6 July and 23 July (Figure 12). Fish Rocks is a complicated geologic feature, making it difficult to photograph all of the nests consistently from flight to flight. In addition, the gaps between flights made it difficult to follow nests through the season. In spite of these limitations, at least 424 nests were documented on the island during 2009. Of these nests, a minimum of 213 (50%) hatched chicks and 42 (10%) failed to hatch chicks. The fate of the remaining 169 (40%) could not be determined. Considering only those nests whose fate was determined, 84% of those nests hatched chicks indicating an overall successful reproductive effort.

These numbers are notable for the greatly increased numbers of Brandt’s Cormorants at this site. The number of nests counted during the years 1998 – 2008 averaged 133 and peaked in 2007 at 262 (LeValley, 2010a).



Figure 12. Fish Rocks Island with 2009 Brandt's Cormorant nesting areas highlighted.

**Black Point**

Western Gull

Twenty-three nests were identified. A maximum of 20 chicks were counted on 26 June and numbers diminished to 8 or 9 by the end of July. The fate of these chicks is unknown.

Black Oystercatcher

As many as six adults were counted during the season, and one pair apparently nested. One mobile chick was noted between 11 – 25 July

Pigeon Guillemot

Only one potential nest was noted, but there was no evidence of successful nesting (e.g. adults carrying fish, chick at burrow). Weekly surveys do not allow enough data to determine nesting success.

## Galleon's/Arch Rock

### Western Gull

At least eight nest sites were observed, but no chicks were noted. Incubation behaviors for several weeks were followed the next week by abandonment of all nests. In 2008 at this site, chicks were observed at nest sites and the following week all nests were abandoned.

### Black Oystercatcher

No Black Oystercatcher activity was noted during 2009.

## Marine Mammal Surveys

### Harbor Seals

#### Harbor Seal Counts from Mainland Vantage Points

For this protocol, the Task Force incorporated the existing protocol established by Dr. Sarah Allen of Point Reyes National Seashore. Area residents use this protocol to census Harbor Seals and to document disturbances to Harbor Seals. Harbor Seals were counted from the various locations at a time close to the low tide of the day. Seals were counted from fifteen different locations. Locations included sites both in and out of the California Coastal National Monument jurisdiction. Numbers were slightly down at most sites compared to 2008, but pup numbers were up slightly at the Tidepool rookery. No seals were noted with shark bites in 2009.

**Breaker Reach** – A maximum of 31 adult seals were counted on 24 July (Table 14a) and a maximum of 5 pups were noted on 4 May.

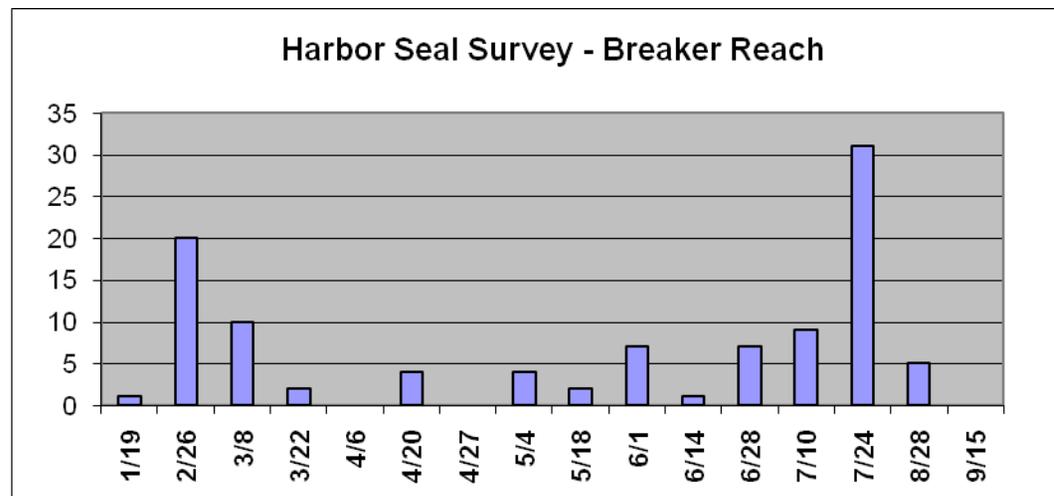


Table 14a. Harbor Seal Counts at Breaker Reach

**Buckeye** -- A maximum of 24 adult seals were counted on 2 July (Table 14b) and a maximum of 5 pups were noted on 18 May and 1 June.

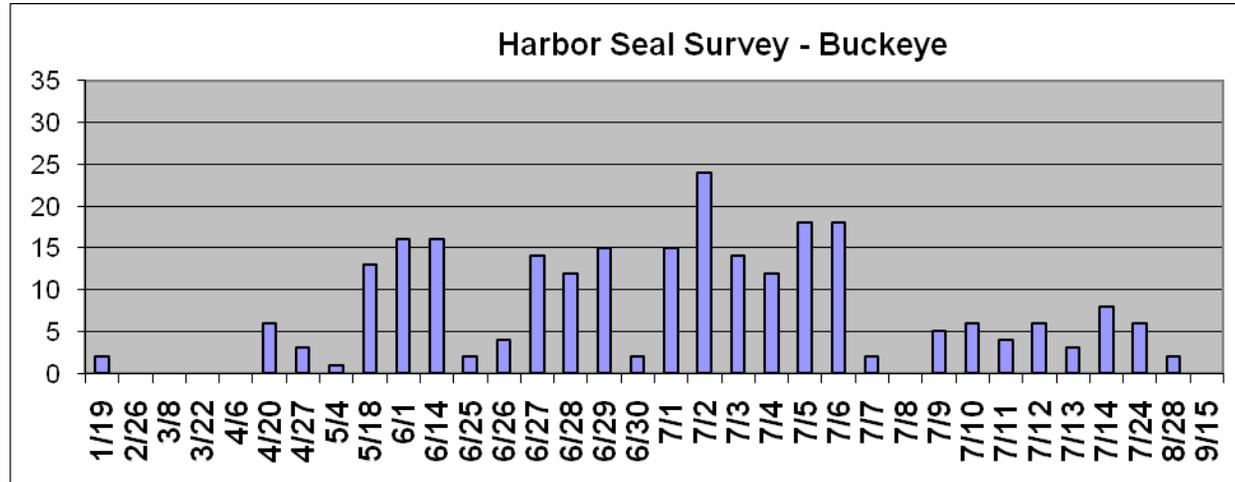


Table 14b. Harbor Seal Counts at Buckeye

**Cormorant Close** – A maximum of adult 33 seals were counted on 228 June (Table 14c) and a maximum of 9 pups were noted on 18 May.

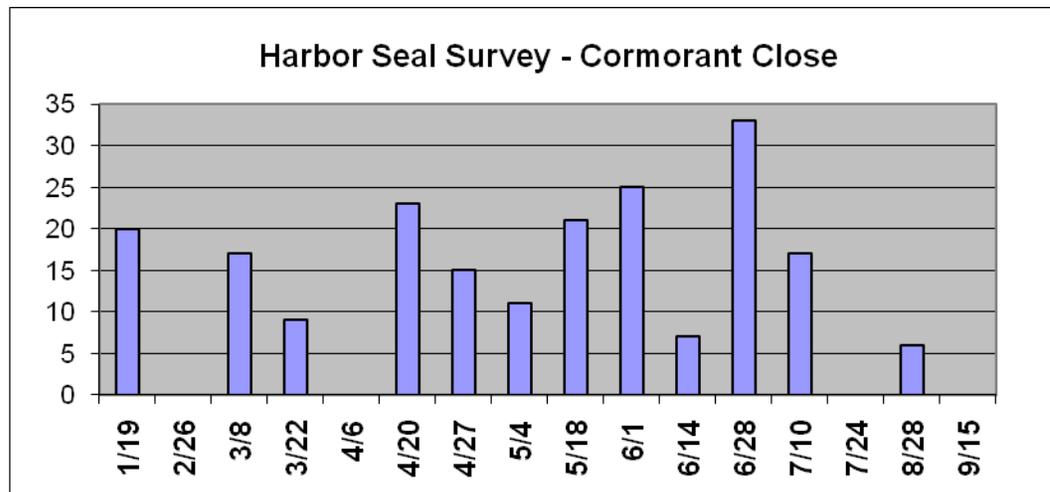


Table 14c. Harbor Seal Counts at Cormorant Close

**Del Mar (N)** A maximum of 27 adult seals were counted on 19 January (Table 14d) and two pups were noted on 1 June.

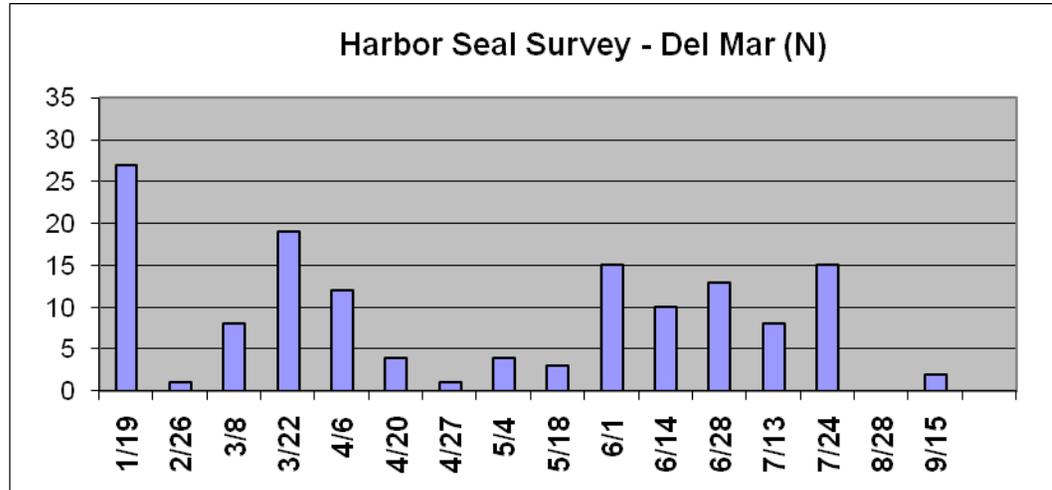


Table 14d. Harbor Seal Counts at Del Mar N

**Del Mar (S)** A maximum of 12 adult seals were counted on 8 March (Table 14e) and two pups were noted 13 July.

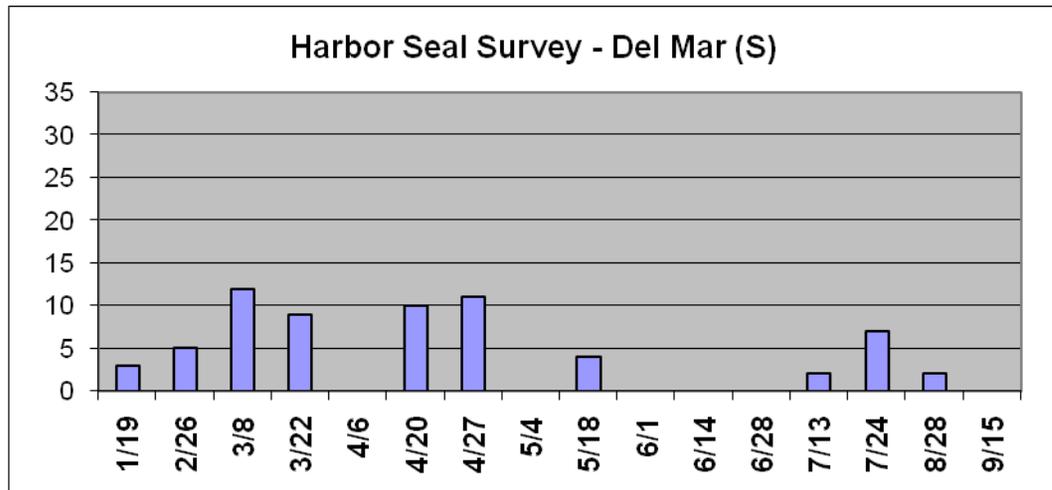


Table 14e. Harbor Seal Counts at Del Mar S

**Dune Drift** -- A maximum of 21 adult seals were counted on 19 January (Table 14f) and a maximum of 8 pups were noted on 1 June.

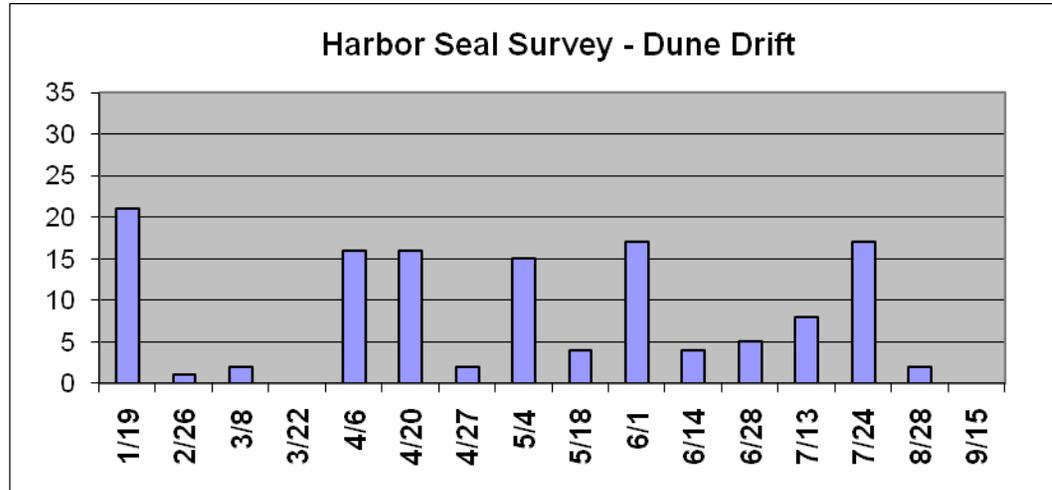


Table 14f. Harbor Seal Counts at Dune Drift

**Green Cove**-- A maximum of 50 adult seals were counted on 1 June (Table 14g) and a maximum of 7 pups were noted on 18 May.

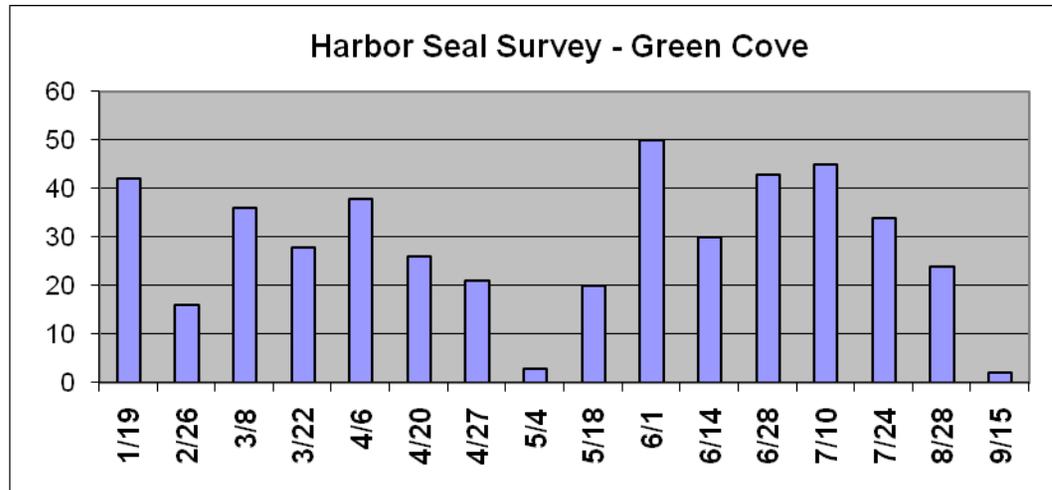


Table 14g. Harbor Seal Counts at Green Cove

**Gualala Pt. Island (N)** -- A maximum of 11 adult seals were counted on 7 July (Table 14h) and a maximum of one pup was noted on 4 May, and 1 June.

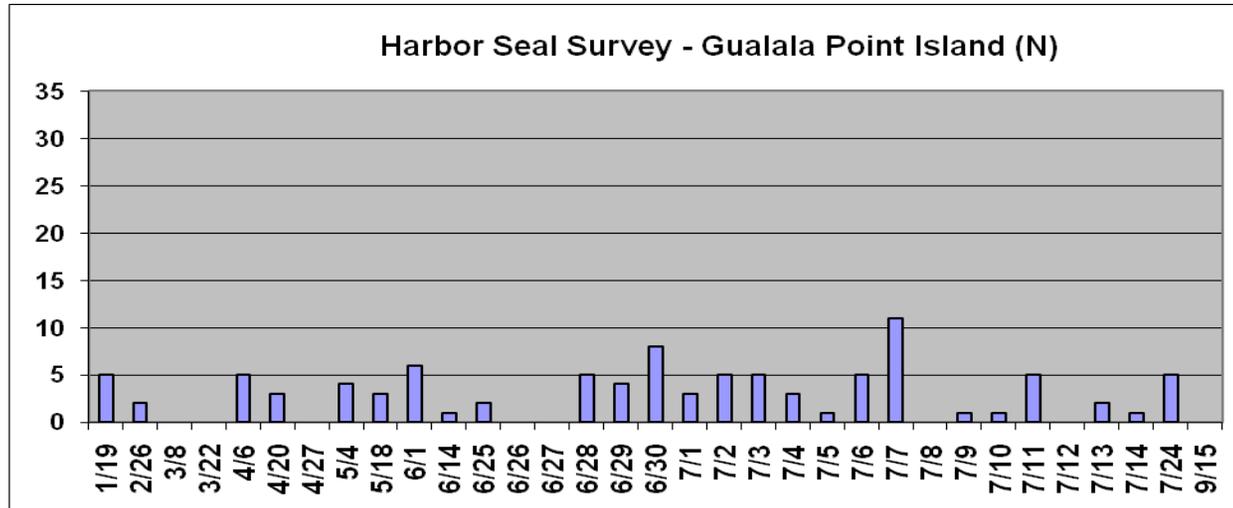


Table 14h. Harbor Seal Counts at Gualala Point Island North

**Gualala Pt. Island (S)** -- A maximum of 9 adult seals were counted on 8 July (Table 14i) and a maximum of 2 pups were noted on 18 May.

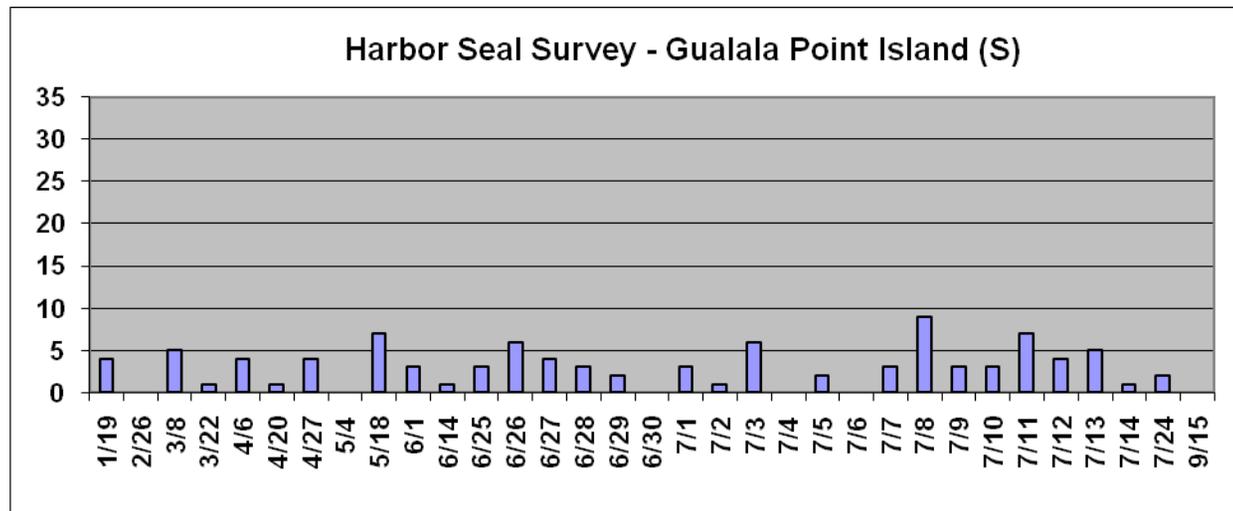


Table 14i. Harbor Seal Counts at Gualala Point Island South

**Galleons/Arch Rock** No Harbor Seals were recorded at this site

**Pebble Beach** -- A maximum of 19 adult seals were counted on 8 March (Table 14j) and a maximum of 1 pup was noted on 18 May.

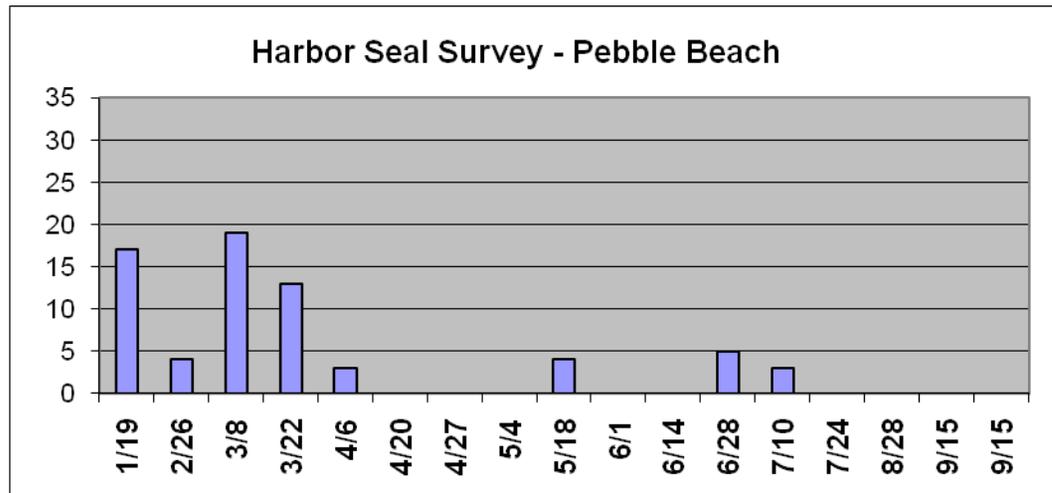


Table 14j. Harbor Seal Counts at Pebble Beach

**Public Shell** -- A maximum of 3 adult seals were counted on 1 June (Table 14k) and 1 dead pup was noted on 6 April.

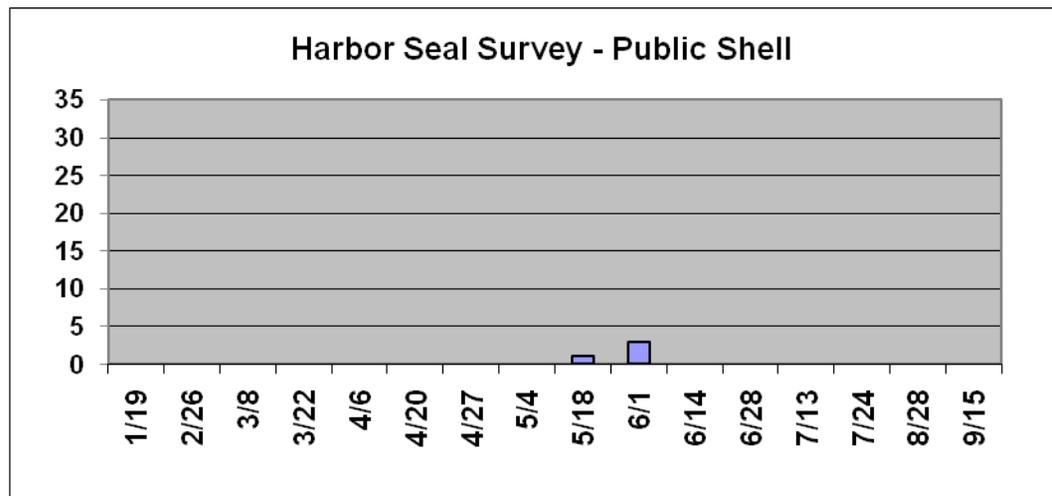


Table 14k. Harbor Seal Counts at Public Shell

**South of The Lodge** -- A maximum of 30 adult seals were counted on 10 July (Table 14l) and a maximum of 2 pups were noted on 18 May.

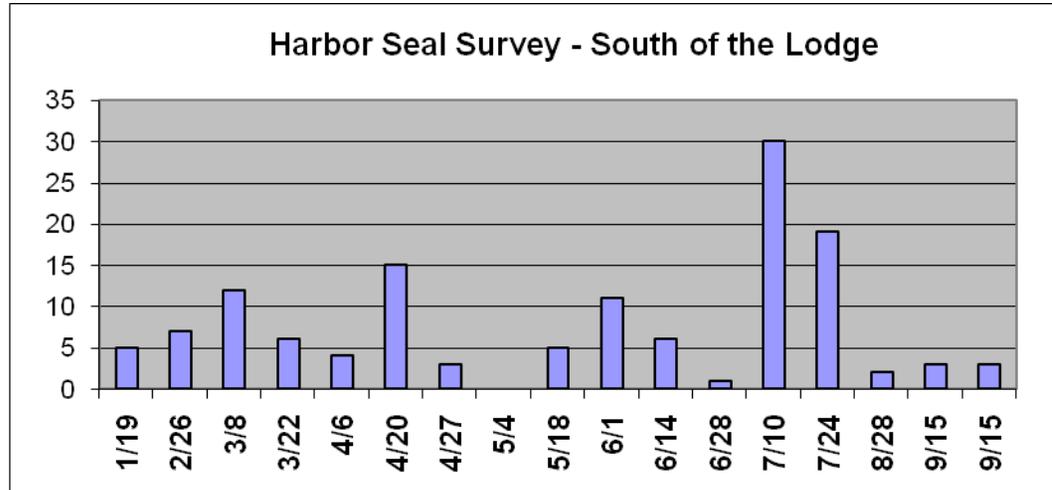


Table 14l. Harbor Seal Counts at South of the Lodge

**Tidepool Rookery** -- A maximum of 121 adult seals were counted on 7 May (Table 14m) and a maximum of 65 pups were noted on 7 May. A single dead pup was noted on 27 April and two dead pups were noted on 4 May.

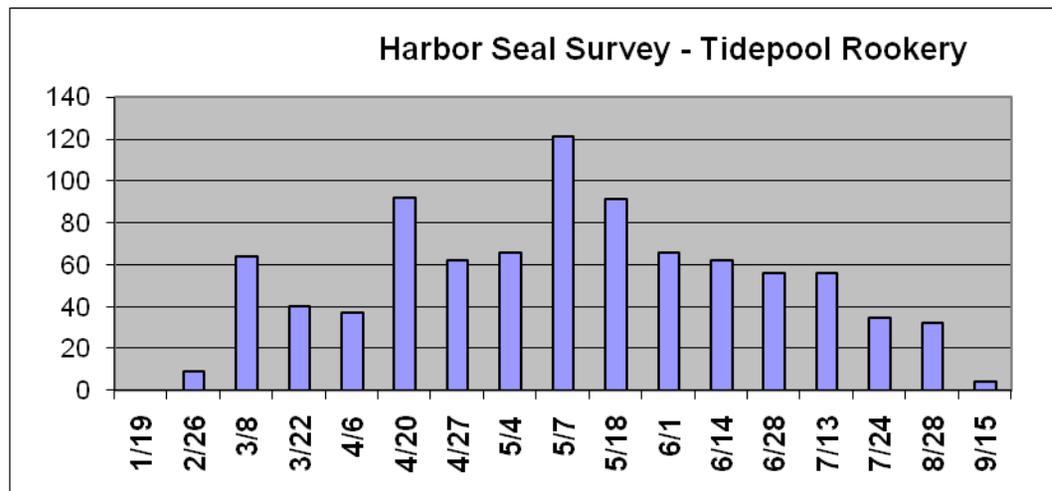


Table 14m. Harbor Seal Counts at Tidepool Rookery

### *Daytime Disturbance Monitoring*

To assess overall agents of disturbance and their effects at GPI, all potential human disturbances and all non-human disturbances were recorded during daytime seabird counts. Daytime disturbance agents and disturbances to seabirds, whether human- or animal-caused, were fortunately rare and minor during the count period. The single instance of ground disturbance on 25 June was more disruptive. One instance of ground disturbance, four instances of aircraft passing over the island and a single instance of a vessel approaching the island are all described below.

On 25 June, two teenage boys visiting from Sacramento crossed over to the island at low tide and walked around a large portion of the island, at times stopping to inspect Western Gull nests. They apparently did not enter the Brandt's Cormorant colony because it would have required crossing a deep ravine. About 50 Western Gulls, 150 Brandt's Cormorants, 50 Pelagic Cormorants, 12 Pigeon Guillemots, 6 Brown Pelicans and 3 Harbor Seals were disturbed. This disturbance lasted 15-30 minutes. The two boys did not appear to have malicious intent, but were met upon return to the mainland by The Sea Ranch Association Security, the Sonoma County Sheriff's Office and Task Force members. No citations were issued. A sheriff's deputy drove them to their rental house and apparently spoke to their parents. The extent of potential nest failure involving Western Gulls, Pelagic Cormorants and Pigeon Guillemots was not determined, but could have been significant for the Pelagic Cormorants which are particularly sensitive to one-time disturbances.. None of the Brandt's Cormorants being monitored from mainland stations had any change in status in the days immediately following this event, and the boys had not entered the Brandt's Cormorant colony itself.

On 27 June, observers on the ground noted the Cessna 172 performing the aerial photography flight associated with the Task Forces efforts circle GPI for about three minutes. No disturbance was noted.

Also on 27 June, just before the survey plane arriving, a small ultralight flew one pass over the island at an altitude approximately twice the survey's planes altitude. No disturbance was noted.

On 10 July a twin-engine aircraft (N 5602) made two passes at an altitude of about 500 feet. No disturbance was noted.

On 11 July a large single rotor army green helicopter at an altitude estimated at less than 500 feet made a single pass over GPI. About 15 Brown Pelican and 50+ Western Gulls flew downwind and returned to this island in approximately 20-30 seconds.

On 3 July, an 18' Proliner fishing vessel approached the south point of GPI with two fishermen aboard. No disturbance was noted.

## DISCUSSION

This study continues to examine colony attendance patterns and relative breeding parameters for seabirds and marine mammals at GPI. The original impetus for the study was to examine potential impacts of a fireworks display conducted from a low coastal bluff 1.8 km from the island on 6 July 2007. The 2009 data add to the baseline of information for the island with no fireworks occurring. As a part of the Sea Ranch Stewardship Agreement with the BLM for the CCNM, the study also provides a baseline for the long-term monitoring effort that in 2008 was expanded to include a quarterly Coastal Island Survey along the ten miles, a monthly Non-breeding Season Survey at three islands, a weekly Breeding Season Survey at three islands and the daily Intensive Monitoring at GPI.

The 2008 and 2009 data will provide valuable baseline information for guiding future monitoring efforts, management, or other studies. Surveys demonstrated the same five species of seabirds nesting on GPI as in the previous surveys of the island (Carter et al. 1992, Weigand and McChesney, 2008, LeValley, 2009). Brandt's Cormorants and Western Gulls continued to increase slightly while Black Oystercatcher remained the same and Pelagic Cormorant populations continue to decline. (Table 15)

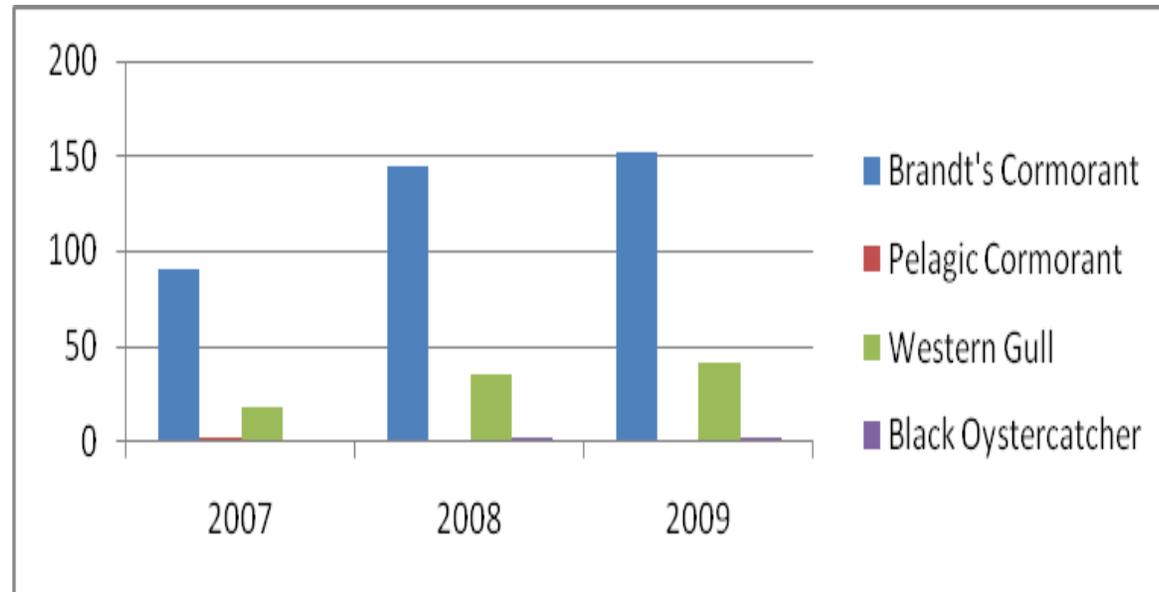


Table 15. Numbers of monitored nests on Gualala Point Island 2007-2009. Brandt's Cormorant numbers are aerial total for the island, other species are the numbers detected from consistent mainland-based surveys.

While data were collected on all species observed, efforts focused on the colony of Brandt's Cormorants because of their known sensitivity to human disturbance (Hunt *et al.* 1981, McChesney 1997, Wallace and Wallace 1998, Thayer *et al.* 1999) and the relatively large sample size that could be monitored. For this species, colony monitoring combined land-based nest monitoring and bird counts with data from a series of aerial photographs. The aerial photography established "snapshots" in time and provided coverage of the entire cormorant colony. As in previous years, land-based nest

monitoring, was limited because only about 16% of the colony was visible from the mainland vantage points. Still, land-based nest monitoring provided relatively detailed information on the nests that could be viewed and helped interpret aerial photographic results.

From the aerial photographs, 152 breeding pairs of Brandt's Cormorants were identified on GPI in 2009, continuing a slight increasing trend from 90 in 2007 and 145 in 2008. Hatching success was estimated at 63%, up from the 50% estimated in 2008. Fledging success was difficult to estimate from the aerial surveys, but the land based monitoring corroborated the high hatching success and documented 84% of the nests fledging chicks.

This nesting success was even more interesting when compared to cormorant colonies in the San Francisco Bay area. The colonies on Alcatraz Island and the Farallon Islands essentially had complete nesting failure. The Fish Rocks colony had a dramatic increase in the number of nests with an estimated 424 active nests, over triple the average nest count from 1996 to 2008 (LeValley, 2010a). Farther north in Mendocino County, the Brandt's Cormorant Colony on the Mendocino Headlands had an estimated fledging success of 1.50 chicks per nest for the 60 nests monitored with over 400 nests estimated in the colony (LeValley, 2010b). Based on conversations with researchers along the Pacific Coast, colonies to the north in Oregon and Washington and to the south in California appeared to have had average nesting success.

Pelagic Cormorants continue to struggle in the vicinity of Gualala Point, in contrast to very high nesting success in two monitored colonies farther north in Mendocino County (LeValley, 2010b). In the Sea Ranch area, most Pelagic Cormorants nest along the steep bluffs and are difficult to see from shore.

Western Gulls also nested in slightly larger numbers than in 2008, with 41 monitored nests in 2009 compared to 35 nests in 2008. In contrast, nesting success was much lower than in previous years with an apparent hatching rate of only 1.80 chicks per nest compared to a hatching rate of 2.82 chicks per nest in 2008 and 2.29 in 2007.

Common Murres were only detected visiting GPI on three days this year. Their numbers at Fish Rocks were difficult to count, but at least 101 were present on 15 June and 129 were present on 6 July indicating slight increase over the high of 93 counted 2008.

Harbor Seal numbers were slightly lower based on maximum counts (Table 16) although this does not take into account movements of individual animals between surveys, which could result in counting the same animal more than once. Of interest was the higher total of pups noted in 2009. . The 2008 numbers are slightly different from those reported in the 2008 report (LeValley, 2009) as in this comparison we have separated adults and pups rather than reporting them together. Also, all of these numbers include counts both in and out of the CCNM jurisdiction.

	<b>2008</b>		<b>2009</b>	
	<b>Adults</b>	<b>pups</b>	<b>Adults</b>	<b>pups</b>
Breaker Beach	34	18	31	5
Buckeye	25	13	24	5
Cormorant Close	47	17	33	9
Del Mar N	27	1	28	2
Del Mar S	14	0	12	2
Dune Drift	41	9	21	8
Green Cove	63	12	50	6
GPI N	14	5	11	1
GPI S	13	4	9	1
Galleons/Arch Rock	0	0	0	0
Pebble Beach	15	2	19	1
Public Shell	11	4	3	1
South of the Lodge	35	9	30	2
Tidepool Rookery	104	51	121	65
<b>Total</b>	<b>443</b>	<b>145</b>	<b>392</b>	<b>108</b>

Table 16. Harbor Seal counts 2008 and 2009

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APPENDIX

Histories of Brandt's Cormorant nest and territorial sites recorded in aerial photographs, Gualala Point Island, 7 May to 5 August 2009.<sup>1</sup>

Nest #	5/7	5/26	6/15	7/6	7/9	7/23	8/5
1	V	V	S	S	S	V	V
2	V	S	S	S	C	V	V
3	V	S	S	S	S	C	V
4	V	V	S	S	S	C	C
5	V	S	S	S	C	V	V
6	V	S	S	C	C	V	V
7	D	S	S	S	C	V	V
8	V	S	S	S	C	V	V
9	S	S	S	C	C	V	V
10	S	S	S	C	C	V	V
11	T	S	S	S	C	V	V
12	V	S	S	S	S	C	V
13	V	V	S	S	S	S	V
14	V	S	S	S	S	C	V
15	S	S	S	C	C	V	V
16	S	S	S	C	C	C	V
17	S	S	S	C	C	V	V
18	S	S	S	S	T	V	V
19	D	S	S	T	T	V	V
20	V	S	S	S	S	C	V
21	V	S	S	S	S	C	V
22	S	S	S	C	C	V	V
23	S	D	S	C	C	V	V
24	S	S	S	S	S	V	V
25	S	S	S	C	C	V	V
26	V	S	S	C	C	V	V
27	V	S	S	C	C	V	V
28	V	S	S	S	S	V	V
29	V	S	S	S	S	V	V

Nest #	5/7	5/26	6/15	7/6	7/9	7/23	8/5
30	S	S	S	C	C	V	V
31	S	S	D	S	T	V	V
32	S	S	D	C	C	V	V
33	V	S	S	S	S	C	V
34	S	S	C	C	C	V	V
35	S	S	S	C	C	V	V
36	V	S	S	S	C	S	V
37	S	S	C	C	C	V	V
38	S	S	S	S	S	V	V
39	S	S	C	C	C	V	V
40	S	S	S	C	C	V	V
41	S	S	C	C	C	V	V
42	S	S	S	C	C	V	V
43	V	S	S	S	S	C	V
44	T	V	S	S	S	C	V
45	S	S	S	C	C	S	V
46	V	S	S	S	S	V	V
47	S	S	C	C	C	V	V
48	S	S	S	T	T	V	V
49	S	S	S	S	S	V	V
50	V	S	S	S	S	V	V
51	T	V	S	S	S	S	V
52	T	S	S	S	S	V	V
53	S	S	S	S	C	V	V
54	S	S	C	C	C	V	V
55	S	S	C	T	S	V	V
56	V	S	S	S	C	V	V
57	V	S	S	S	C	C	V
58	S	S	S	C	C	V	V
59	NOT	USED					
60	S	S	S	C	C	V	V
61	S	S	S	C	C	V	V

Nest #	5/7	5/26	6/15	7/6	7/9	7/23	8/5
62	V	T	S	S	T	V	V
63	S	S	S	S	S	V	V
64	V	S	S	S	S	S	V
65	V	S	S	S	C	V	V
66	S	S	S	C	C	V	V
67	V	S	S	C	C	V	V
68	S	S	C	C	C	V	V
69	S	S	S	S	C	V	V
70	V	T	S	S	S	C	V
71	T	S	S	S	C	V	V
72	V	T	S	S	S	C	V
73	S	S	S	C	C	V	V
74	S	S	S	C	C	C	V
75	V	S	S	C	C	V	V
76	S	S	S	C	C	V	V
77	S	S	S	C	C	V	V
78	V	S	S	S	S	C	V
79	V	S	S	C	C	V	V
80	S	S	S	C	C	V	V
81	S	S	S	C	C	V	V
82	S	S	S	S	C	V	V
83	S	S	S	S	C	V	V
84	T	T	S	S	S	D	V
85	V	V	D	S	S	V	V
86	S	S	S	S	S	V	V
87	S	S	S	S	C	V	V
88	S	S	S	C	C	V	V
89	S	S	S	S	C	V	V
90	V	S	S	C	C	C	V
91	T	S	S	C	C	D	V
92	V	V	S	S	S	C	V

Nest #	5/7	5/26	6/15	7/6	7/9	7/23	8/5
93	V	S	S	S	S	S	V
94	V	S	S	S	S	S	V
95	V	S	S	S	S	C	V
96	V	V	S	S	S	S	V
97	V	V	S	S	S	S	V
98	V	S	S	S	S	C	V
99	V	V	S	S	S	S	V
100	V	T	S	S	S	S	V
101	V	S	S	S	S	C	V
102	V	V	S	S	S	S	V
103	V	V	S	S	S	S	V
104	V	V	S	S	S	V	V
105	V	S	S	S	C	C	V
106	V	S	S	S	T	V	V
107	V	S	S	S	S	D	V
108	V	V	S	S	S	C	V
109	V	S	S	C	C	C	V
110	V	T	S	S	S	S	V
111	V	S	S	S	S	V	V
112	V	S	S	S	S	C	V
113	T	S	S	S	C	C	V
114	V	S	S	S	S	V	V
115	V	S	S	S	S	V	V
116	V	S	S	S	S	D	V
117	V	S	S	S	S	C	V
118	S	S	S	C	C	C	V
119	V	S	S	S	S	C	V
120	V	S	S	S	S	V	V
121	V	S	S	S	S	C	V
122	V	S	S	S	S	C	V
123	V	S	S	S	S	C	V

Nest #	5/7	5/26	6/15	7/6	7/9	7/23	8/5
124	V	S	S	S	S	C	V
125	V	S	S	S	S	C	V
126	V	S	S	S	S	C	V
127	V	T	S	S	S	C	V
128	V	S	S	S	S	C	V
129	V	S	S	S	S	V	V
130	V	S	S	S	S	V	V
131	V	S	S	S	S	D	V
132	V	S	S	S	S	C	V
133	V	S	S	D	D	V	V
134	V	V	S	S	S	C	V
135	V	T	S	S	S	D	V
136	V	S	S	S	S	C	V
137	V	S	S	S	S	C	V
138	V	S	S	S	S	C	V
139	V	S	S	S	S	C	V
140	V	T	S	D	D	V	V
141	D	S	D	D	T	T	V
142	S	S	S	V	T	V	V
143	S	S	C	C	V	V	V
144	V	V	S	V	V	V	V
145	V	V	S	V	V	V	V
146	V	V	S	D	V	V	V
147	V	S	D	T	T	V	V
148	V	T	S	V	T	V	V
149	V	V	D	V	V	V	V
150	V	T	S	V	V	V	V
151	V	S	S	S	V	V	V
152	NOT	USED					
153	V	T	V	V	V	V	V
154	V	S	V	V	V	V	V

Reproductive Stage	7-May	26-May	15-Jun	6-Jul	9-Jul	23-Jul	5-Aug
S	50	121	135	93	71	14	0
D	3	1	6	4	2	6	0
T	8	12	0	4	10	1	0
C	0	0	9	43	60	42	1
V	91	19	2	8	9	89	151
Active Nests	50	120	144	136	131	56	1
Nests with chicks	0	0	9	43	60	42	1
<b>TOTAL</b>	<b>152</b>						
<b>Percent Active</b>	<b>34%</b>	<b>82%</b>	<b>99%</b>	<b>93%</b>	<b>90%</b>	<b>38%</b>	<b>1%</b>

<sup>1</sup> Codes are as follows:

**Nest Site Condition by Date:**

- D = adult standing at nest site
- S = adult sitting on nest
- T = adult bird(s) on territory with little or no nest material
- C = chick(s) visible in nest
- V = vacant site
- E = empty nest

Color Codes are as follows:

Adults present	
Chicks present	
Vacant nest	