

**SEABIRD AND MARINE MAMMAL MONITORING
AT GUALALA POINT ISLAND,
SONOMA COUNTY, CALIFORNIA,
APRIL TO AUGUST 2010**

Prepared by
Ron LeValley
and
Annessa Musgrove

Mad River Biologists

417 Second Street, Suite 201
Eureka CA 95501

26 October 2011

Suggested Citation: LeValley, R. and Musgrove, A. 2011. Seabird and marine mammal monitoring at Gualala Point Island, California, Sonoma County, May to August 2010. Unpublished report. The Sea Ranch California Coastal National Monument Stewardship Task Force and the Bureau of Land Management, Department of Interior. 56 pp

EXECUTIVE SUMMARY

This study continues the examination of colony attendance patterns and relative breeding parameters for seabirds and marine mammals at Gualala Point Island (GPI). The 2010 data furnish further baseline information for GPI seabirds and marine mammals, which will refine future monitoring efforts and guide federal management of the California Coastal National Monument (CCNM).

The monitoring program of the Bureau of Land Management and The Sea Ranch CCNM Task Force (hereafter, 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 the same three islands; and (4) the daily Intensive Monitoring at GPI over a 20-day period in June and July.

Surveys demonstrated that the same five species of seabirds nested on GPI in 2010 as in the previous surveys of the island (Carter *et al.* 1992, Weigand and McChesney, 2008, LeValley, 2009, LeValley, 2010a, LeValley, 2010c).

As in the previous three years, 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 11% 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 71 pairs of Brandt's Cormorants on GPI in 2010. The number of nests decreased dramatically compared to 2009 (152). Overall, 75% of nests hatched eggs (compared to 67% in 2009). This decrease in nest numbers was likely correlated with ocean conditions rather than a local event.

Western Gulls nested in apparently larger numbers than in 2008-09, with 58 nests monitored in 2010 compared to 41 in 2009. Apparent nesting success with an estimated hatching rate of 2.5 chicks per nest, was higher than in 2009, but still lower than in 2007-2008.

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

ACKNOWLEDGMENTS

The Sea Ranch CCNM Stewardship Task Force undertook protocol development, design of field sheets, logistics, data collection, data management, and funding for this project. In particular, the following people:

RICHARD KUEHN and DIANE HICHWA for organizing and shepherding equipment, data sheets, and volunteers to needed locations;
ROZANNE RAPOZO, CRAIG TOOLEY, BONNIE PLAKOS, and DEAN SCHULER for planning and undertaking daytime, and aerial photography;

The following people donated their time and skills to assist with monitoring:

SHARON BEALS	JUDY HARDY
SANDY BUSH	BRYANT HICHWA
CARYL CARR	DIANE HICHWA
JOSEPH CAYTING	JOHN HOLLOWAY
JAMIE EDWARDS	LINDA KEIR
MOLLY ENGELBRECHT	PAT KIRKPATRICK
MARIANNE FOGEL	ERICK KRITZ
JULIA GIBSON	RICHARD KUEHN
BARBARA GOMES	HARRY LUTZ
DOROTHY GREGOR	LOIS LUTZ
JOAN GRIFFITH	GEORGE MARSHALL
URSULA HAMILTON	MICHELE MARSHALL

In addition, fieldwork and photographic analysis accomplished for this study could not have happened without the assistance of BLM wildlife biologist JAMES WEIGAND (PRESENT FOR EVERY SHIFT FOR THE 20 DAYS AND FOR ALL THE COUNTS OF WESTERN GULL NESTS!). HERRICK HANKS, manager of the BLM California Coastal National Monument, and FRANK BELL, Community Manager of The Sea Ranch Association, provided funding, logistical support, and public relations efficiently and capably to support this effort. The Sea Ranch CCNM Stewardship Task Force thanks GERARD MCCHESENEY at the US Fish and Wildlife Service, San Francisco Bay National Wildlife Refuge Complex, and

DAVE PRESOTTO, ERIC KRITZ AND TOM OSBORNE for piloting skills to expand the aerial inventories;
SANDRA BUSH, MOLLY ENGLEBRECHT and BONNIE PLAKOS for Harbor Seal monitoring;
BONNIE PLAKOS, ROZANNE RAPOZO, BARBARA RICE and JULIE GIBSON for data entry and proofing, and database management; and
BARBARA RICE for providing meeting notes.

We thank others who have assisted in all manner of logistics.

TARRAN MCDAID	DEAN SCHULER
JOYCE OMER	BEVERLY SLOANE
RHONDA ORTMAN	ROBERT SPECKELS
TOM OSBORNE	TOM STREET
BONNIE PLAKOS	JIM TACKETT
DAVE PRESOTTO	CRAIG TOOLEY
ROZANNE RAPOZO	NANCY TRISSEL
BARBARA RICE	RICHARD TRISSEL
JAN SAUFFERER	JOHN YOUNG
RANDY SAUFFERER	
CONNIE SCHIMBOR	
PHYLLIS SCHMITT	

PHILLIP CAPITOLO of University of California, Santa Cruz, and for providing the historical photo documentation of GPI in 1996-2006.

This report benefitted from the thoughtful and thorough reviews by DIANE HICHWA and JAMES WEIGAND as well as by ROZANNE RAPOZO, BONNIE PLAKOS and DOROTHY GREGOR.

Thanks also go to Madrone Audubon Society of Sonoma County and the Bureau of Land Management for funding the analysis of data and the report.

TABLE OF CONTENTS

Introduction	1
Methods.....	2
Results.....	6
Discussion.....	47
Literature Cited	51
Appendix 1: Histories of Brandt’s Cormorant nest and territorial sites recorded in aerial photographs, Gualala Point Island, 3 May to 16 September 2010.....	53
Appendix 2: Western Gull nests counted on aerial photograph, Gualala Point Island, 8 June, 2010	56

LIST OF TABLES

Table 1	Brandt’s Cormorant nest fates during the period 3 May to 16 September 2010.	7
Table 2	Brandt’s Cormorant nest fates during the 2010 season.....	7
Table 3	Summary of the status of Brandt’s Cormorant nests and territorial sites as determined from aerial photographs, Gualala Point Island, 3 May to 16 September 2010	8
Table 4	Brandt’s Cormorant (adult) counts weekly from 3 April – 27 August, and daily between 25 June and 14 July.	18
Table 5a	Summary of status for the 7 Brandt’s Cormorant nests monitored from the mainland on Gualala Point Island, 21 May – 30 June 2010	19
Table 5b	Summary of status for the 7 Brandt’s Cormorant nests monitored from the mainland on Gualala Point Island, 1 July – 8 July 2010..	20
Table 5c	Summary of status for the 7 Brandt’s Cormorant nests monitored from the mainland on Gualala Point Island, 9 July – 27 August 2010... ..	21
Table 6	Pelagic Cormorant counts weekly from 3 April – 28 August, and daily between 25 June and 14 July..	27
Table 7	Western Gull counts (adults) weekly from 3 April – 28 August, and daily between 25 June and 14 July.....	28
Table 8 a-c	Western Gull nest status by survey date	28-30
Table 9	Western Gull chicks, 20 June - 14 July.	31
Table 10	Pigeon Guillemot counts weekly from 3 April – 28 August, and daily between 25 June and 14 July	32

Table 11	Pigeon Guillemot nest site activity	32
Table 12	Common Murre adults counted from Aerial Surveys Gualala Point Island 2010	33
Table 13	Black Oystercatcher counts weekly from 3 April – 28 August, and daily between 25 June and 14 July	34
Table 14	Brown Pelican counts weekly from 3 April – 28 August, and daily between 25 June and 14 July.	34
Table 15	Western Gull nests on Black Point Island	35
Table 16	Black Point Island Western Gulls	36
Table 17	Black Point Island Black Oystercatcher	36
Table 18	Western Gull nests on Galleon’s/Arch Rock	37
Table 19	Total Counts of Harbor Seals	39
Table 20 a-m	Harbor Seal counts.....	40-46
Table 21	Numbers of monitored nests of seabird species on Gualala Point Island, 2007-2010.....	47
Table 22.	Brandt's Cormorant Nesting Trend 1996-2010.....	48
Table 23.	Brandt's Cormorant Nesting Numbers 1996-2010	49
Table 24	Harbor Seal counts 2008-- 2010	50

LIST OF FIGURES

Figure 1	Map of Gualala Point Island and vicinity, Mendocino and Sonoma counties, California	2
Figure 2	Gualala Point Island from North Vantage Point for mainland-based surveys	4
Figure 3	Gualala Point Island from South Vantage Point for mainland-based surveys	4
Figure 4	Aerial photograph of Gualala Point Island from the southeast, 19 July 2010.....	6
Figure 5 a-i	Time series of aerial photographs of the Brandt’s Cormorant colony on Gualala Point Island, 3 May to 10 September 2010.	9-17
Figure 6	Left portion Gualala Point Island from the North Vantage Point	22
Figure 7	Middle portion Gualala Point Island from the North Vantage Point	23
Figure 8	Right portion Gualala Point Island from the North Vantage Point	24
Figure 9	Middle portion Gualala Point Island from the South Vantage Point	25
Figure 10	Right portion Gualala Point Island from the South Vantage Point	26
Figure 11.	Cormorant Nest Distribution Fish Rock	38

INTRODUCTION

This report summarizes the fourth 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 fourth 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 2010. This report summarizes the study results from 2010. 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 (*Cephus 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.

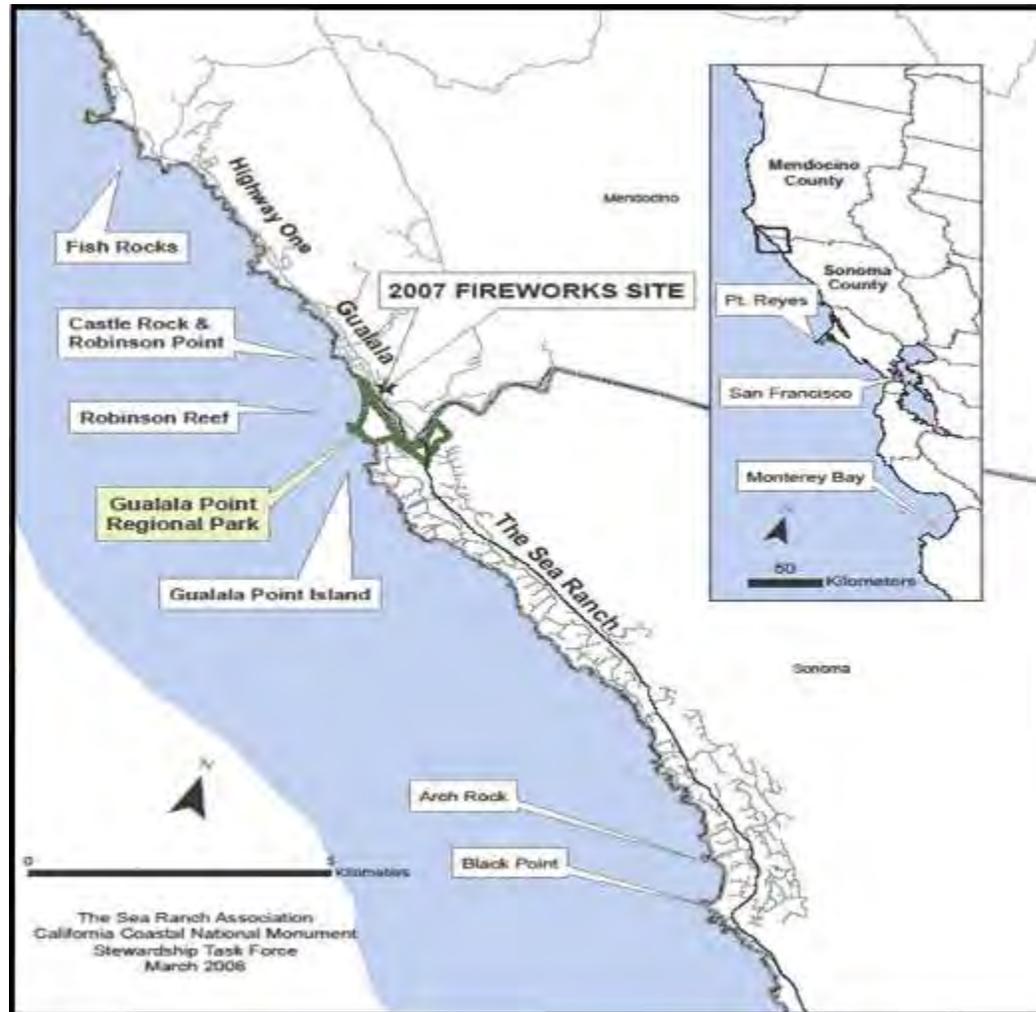


Figure 1 – Map of Gualala Point Island and vicinity, Mendocino and Sonoma counties, California.

Monitoring

The study period extended from 2 April to 27 August 2010, with a more intensive 20-day monitoring period (hereafter referred to as the “count period”) between 25 June and 14 July 2010, the period ten days before and ten days after the night of the 4th 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 2010) is available from the Task Force.

Aerial Photography: A volunteer pilot and a volunteer professional photographer flew surveys of GPI on 3 and 18 May, 8 June, 1, and 19 July, 4, 19, and 25 August and 16 September, using a protocol comparable to that used by the USFWS (see LeValley, 2010a). 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. Survey altitudes were high enough to avoid disturbance to seabirds from these types of fixed-wing aircraft. Digital photographs were taken through the open side window with an unobstructed view. Photos from these flights were taken with a Nikon D700 or D3s camera with a 200-400mm lens. 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 from nest status.

Seabird Counts from Mainland Vantage Points: Adults and ambulatory chicks of all seabirds on GPI were counted using 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 – 18 June and again from 16 July – 27 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

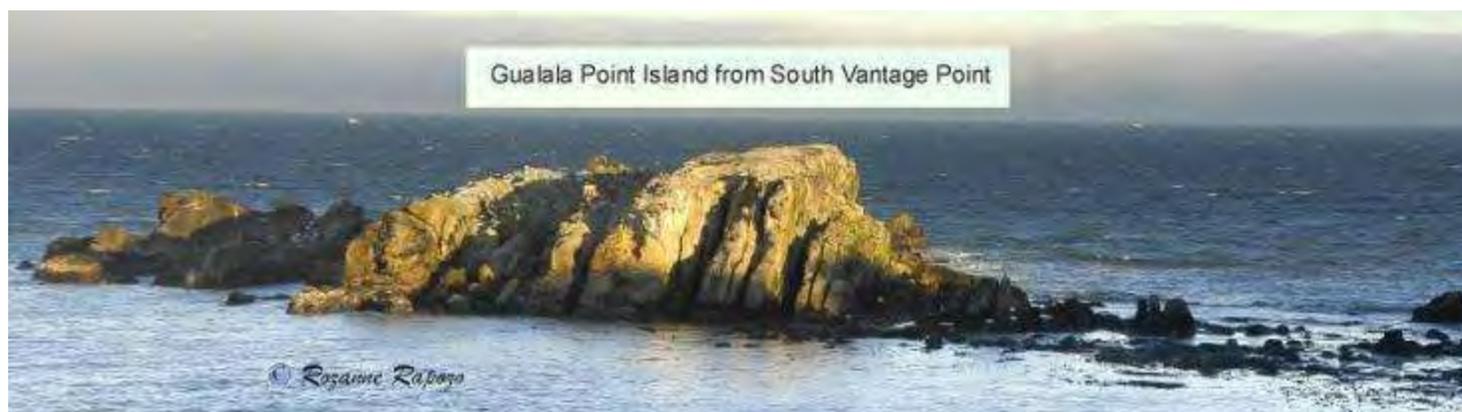


Figure 3. Gualala Point Island from South Vantage Points for mainland-based surveys. Photo ©Rozanne Rapozo

Seabird Nest Monitoring from Mainland Vantage Points: Nest monitoring was conducted using 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, Western Gull, and Pigeon Guillemot. 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), the number of visible eggs and chicks, and chick development stage.

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). Since 2009, Wildlife Disturbance Reporting has 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. Periodically, high-resolution photographs of GPI were taken using a Nikon DSLR D700 or D3s equipped with a Nikon 600mm lens.

RESULTS

Brandt's Cormorant

Aerial Photography of the Brandt's Cormorant Colony

As in the three previous years, the 2010 Brandt's Cormorant colony occupied part of the west side of GPI (Figure 4). Figure 5 (a-i) shows aerial photographs of the entire GPI Brandt's Cormorant colony from seven surveys between 3 May to 10 September 2010. During the survey period, 71 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 one single survey were considered not actual nesting sites and were not assigned site numbers.



Figure 4. Aerial photograph of Gualala Point Island from the east, 19 July 2010. The red arrow points to the Brandt's Cormorant colony, outlined in red. The green arrow points approximately North. Photo © Craig Tooley.

Of the 71 sites documented with Brandt's Cormorant pairs, 63 were identified as breeding sites (classified as such if chicks were present during the season or if adults demonstrated incubation behavior for more than two consecutive flights) and 8 were identified as territorial sites (*i.e.*, where egg-laying was not likely to have occurred). Twenty-one nests were active in the first photograph on 5 May (Table 1). Nest establishment continued and by 18 May, 14 new nests were added bringing the total of active nests to 35. By 8 June, 17 new nests were active but three sites were reclassified as territorial, bringing the total of active nests to 49. On the 1 July flight, 12 new nests had been established bringing the total of active nests to 61. Only one new nest was established between 1 July and 19 July while 23 nests continued to be incubated and 38 nests had hatched chicks. By the 4 August flight, another 4 nests had been established, 12 nests continued to be incubated, 8 additional hatched chicks and 2 nests with chicks had failed. One more nest was established by the 19 August flight, six nests continued to be incubated, six nests hatched chicks, 30 nests continued with chicks and 10 nests appeared to have fledged chicks. On the 25 August flight, one nest was still being incubated, one more nest hatched chicks, 14 nests had continuing chicks and 19 more nests appeared to have fledged chicks. On the 16 September flight, no birds were on the colony, indicating that 2 of the later nests had failed and resulting in an estimated 43 nests having fledged chicks (Table 1).

Survey Date	5/3	5/18	6/8	7/1	7/19	8/4	8/19	8/25	9/16
New nests since previous survey	21	17	17	12	1	4	1	0	0
Continuing nests since previous survey		18	32	49	23	12	6	1	0
Failed since previous survey			1	0	0	9	1	8	2
Failed before previous survey			0	1	1	1	10	11	19
Newly hatched			0	0	38	8	6	1	0
Continuing chicks				0	0	32	30	14	0
Probably fledged					0	0	10	29	43
Vacant or territorial site	50	36	21	9	8	5	7	7	7
Total	71								

Table 1. Brandt's Cormorant nest fates during the period 3 May to 16 September 2010.

In summary, 71 pairs of cormorants appeared to either breed or set up a territorial site. Of these, 18 (25%) (including sites designated territorial only) were unsuccessful at hatching chicks. Fifty-three (75%) of the nests hatched chicks (Tables 2 and 3). Based on the presence of chicks during two or more of the flights, it is likely that 43 (60%) of the nests fledged chicks.

2010 Season			
Unsuccessful		18	25%
Hatched		53	75%
Fledged		43	60%
Total		71	100%

Table 2. Brandt's Cormorant nest fates during the 2010 season.

Reproductive Stage	5/3	5/18	6/8	7/1	7/19	8/4	8/19	8/25	9/16
S	21	35	49	61	24	17	12	10	0
D	1	10	5	0	0	9	10	34	0
T	7	1	0	1	2	0	0	0	0
C	0	0	0	0	38	40	35	15	0
V	0	0	5	4	4	4	12	12	71
<hr/>									
Active Nests	21	35	49	61	62	57	47	25	0
Nests with chicks	0	0	0	0	38	40	35	15	0
TOTAL	29	46	59	66	68	70	69	71	71
Percent Active	33%	56%	78%	97%	98%	90%	75%	40%	0%

Table 3 - Summary of the status of Brandt's Cormorant nests and territorial sites as determined from aerial photographs, Gualala Point Island, 3 May to 16 September 2010. 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 i) – Time series of aerial photographs of the Brandt’s Cormorant colony on Gualala Point Island, 3 May to 10 September 2010. 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 individual photos but their status was confirmed on other photos Not all inactive nests were numbered on the photos.



Photo © Craig Tooley, The Sea Ranch School of Photography
Figure 5a. Brandt’s Cormorant Colony Gualala Point Island 3 May 2010



Photo © Craig Tooley, The Sea Ranch School of Photography
Figure 5b. Brandt's Cormorant Colony Gualala Point Island 18 May 2010



Photo © Craig Tooley, The Sea Ranch School of Photography
Figure 5c. Brandt's Cormorant Colony Gualala Point Island 8 June 2010



Photo © Craig Tooley, The Sea Ranch School of Photography
Figure 5d. Brandt's Cormorant Colony Gualala Point Island 1 July 2010



Photo © Craig Tooley, The Sea Ranch School of Photography
Figure 5e. Brandt's Cormorant Colony Gualala Point Island 19 July 2010



Photo © Craig Tooley, The Sea Ranch School of Photography
Figure 5f. Brandt's Cormorant Colony Gualala Point Island 4 August 2010



Photo © Craig Tooley, The Sea Ranch School of Photography
Figure 5g. Brandt's Cormorant Colony Gualala Point Island 19 August 2010



Photo © Craig Tooley, The Sea Ranch School of Photography
Figure 5h. Brandt's Cormorant Colony Gualala Point Island 25 August 2010



Photo © Craig Tooley, The Sea Ranch School of Photography
Figure 5i. Brandt's Cormorant Colony Gualala Point Island 10 September 2010

Brandt's Cormorant Counts from Mainland Vantage Points

Seven (11%) of the Brandt's Cormorant breeding nests were visible from the mainland and only from the south vantage point (Table 4, Figure 9). Numbers of adults remained nearly constant through the season, dropping off after most chicks had fledged in late July but some individuals were still present in late August. This timing is consistent with the aerial photography data. Gaps in the graph are related to days when fog obscured the island.

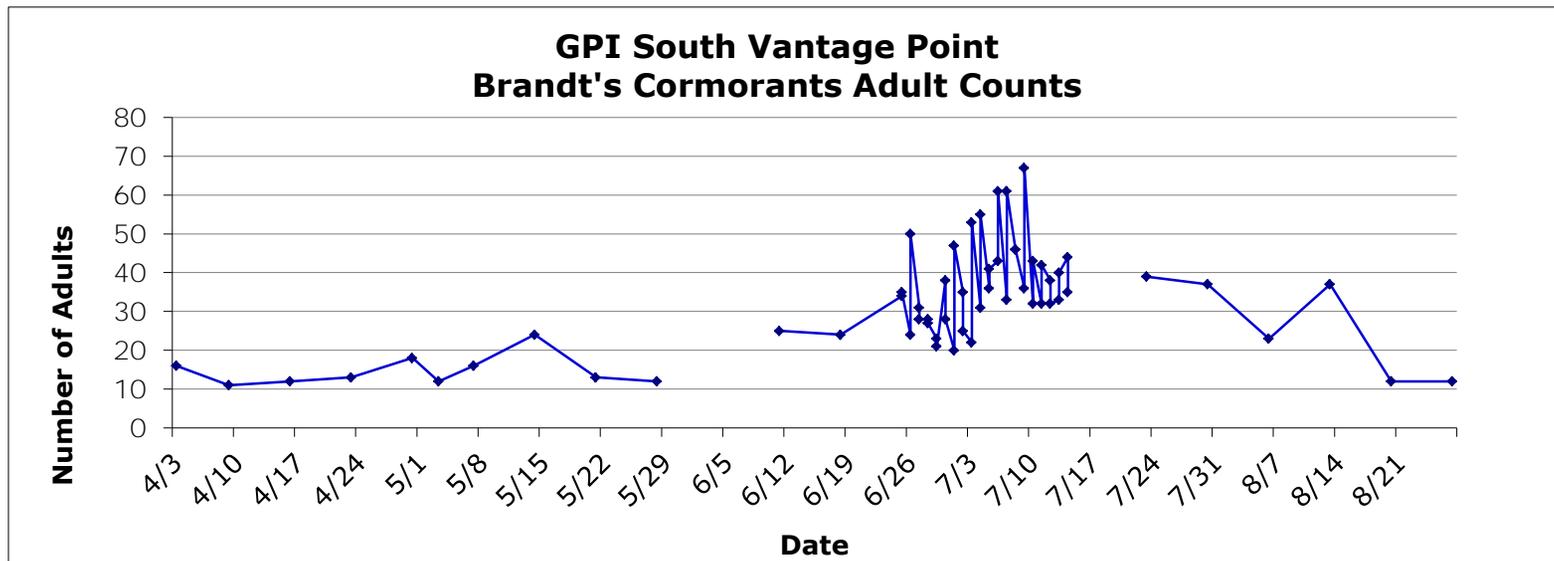


Table 4. Brandt's Cormorant (adult) counts weekly from 3 April – 27 August, and daily between 25 June and 14 July.

Brandt's Cormorant Nest Monitoring from Mainland Vantage Points: Observations from the mainland were sufficient to establish nesting status during the count period for 7 nest sites (Table 5 a-c). Six nests had breeding confirmed by the presence of chicks. An estimated 12 chicks hatched from 6 nests. The fledging rate was not determined as the older chicks were not visible at the time of presumed fledging.

Data on nest initiation and the timing of hatching 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. The first chick was noted on 1 July, two more nests had chicks on 6 July, and a fourth had chicks on 7 July. Two later nests did not show chicks until 13 July and 30 July.

Nesting success was difficult to assess in 2010, as most fledging took place well after the daily surveys were completed. 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	Start																		
	Date	Time	5/21	5/28	6/11	6/18	6/25		6/26		6/27		6/28		6/29		6/30		
	06:57	06:52	06:48	06:49	05:30	10:30	05:30	10:30	05:30	10:30	05:30	10:40	05:55	10:30	05:30	10:30			
11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
30		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
31		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
41					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
42						1	1					1	1						
50																	1	1	
Adults Total	2	4	4	4	5	6	6	5	5	5	6	6	5	5	6	5	6	5	5
Chicks Total	0																		

Table 5a - Summary of status for the 7 Brandt's Cormorant nests monitored from the mainland on Gualala Point Island, 21 May – 30 June 2010. Nest numbers correlate with Figure 9. 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. Cells highlighted in brown indicate chicks present in the nest. When chicks are present, the first number indicates the number of adults at the nest and the second number indicates the number of chicks seen followed by the size of the chicks.

¹The 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.

²Key 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	Date		Start Time		7/1		7/2		7/3		7/4		7/5		7/6		7/7		7/8	
	05:30	10:35	05:30	10:30	05:30	10:30	05:31	10:30	05:32	10:35	05:32	10:33	05:32	10:30	05:34	10:30				
11	1	2	1	2	1	1	1	1	1	1		1	1	1	1	1				
12	1	1	1	2	1	1	1	1	1	1		1	1	1	1	1				
30	1	1	1	1	1	1	1	1	1	2/1-C1	0	1/1-C1	1	1/1-C1	1	2/1-C2				
31	1	1	1	2	1		1	1	1	1		1/1-C1	1	1/3-C3	1/2-C2	1/2-C3				
41	1	1	1	1	1	1	1	2	1	1		1/2-C1	1	1/2-C2	1/1-C2	2/1-C2				
42				2				1				1	1		1					
50	1		1		1			1					1/1-C2	1/2-C2	1	1				
Adults Total	6	6	6	10	7	4	5	8	5	6	0	6	7	7	7	8				
Chicks Total	0	0	0	0	0	0	0	0	0	1	0	4	1	9	3	4				

Table 5b - Summary of status for the 7 Brandt's Cormorant nests monitored from the mainland on Gualala Point Island, 1 July – 8 July 2010. Nest numbers correlate with Figure 9. 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. Cells highlighted in brown indicate chicks present in the nest. When chicks are present, the first number indicates the number of adults at the nest and the second number indicates the number of chicks seen followed by the size of the chicks.

¹The 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.

²Key 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)

	Date	Start Time																
	7/9		7/10		7/11		7/12		7/13		7/14		7/23	7/30	8/6	8/13	8/20	8/27
Nest	05:30	10:30	05:30	10:30	05:30	10:35	05:30	10:30	05:30	10:30	05:30	10:30	07:09	07:11	07:20	07:28	07:34	07:37
11	1	1		1	1	1	1	1	1	1	1	1	1	1/2-C2	1/2-C2			
12	1	1			1	1	1	1	1/2-C	1	1	1	1	1/1-C2				
30	1/1-C	1/1-C2	1	2	1/1-C	1	1	2	1/2-C	1/1-C2	1	1/2-C	1/2-C3	2/1-C3				
31	1	0/2-C4		1/1-C4	1/1-C3	1/1-C4	1	0		1/2-C3	1/1-C3					2		
41	1/2-C3	1/2-C2		1/1-C2	1	1/2-C3	1/2-C4	1	1	1/1-C4	1/1-C	1/2-C3	1/2-C3					
42					1			1										
50	1	1/2-C4			1/1-C3	1/2-C3	1		0/1-C	1								
Adults Total	6	5	1	5	7	6	6	6	4	6	5	4	4	4	1	2	0	0
Chicks Total	3	7	0	2	3	3	2	0	5	4	2	4	4	4	2	0	0	0

Table 5c - Summary of status for the 7 Brandt's Cormorant nests monitored from the mainland on Gualala Point Island, 9 July – 27 August 2010. Nest numbers correlate with Figure 9. 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. Cells highlighted in brown indicate chicks present in the nest. When chicks are present, the first number indicates the number of adults at the nest and the second number indicates the number of chicks seen followed by the size of the chicks.

¹The 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.

²Key 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)

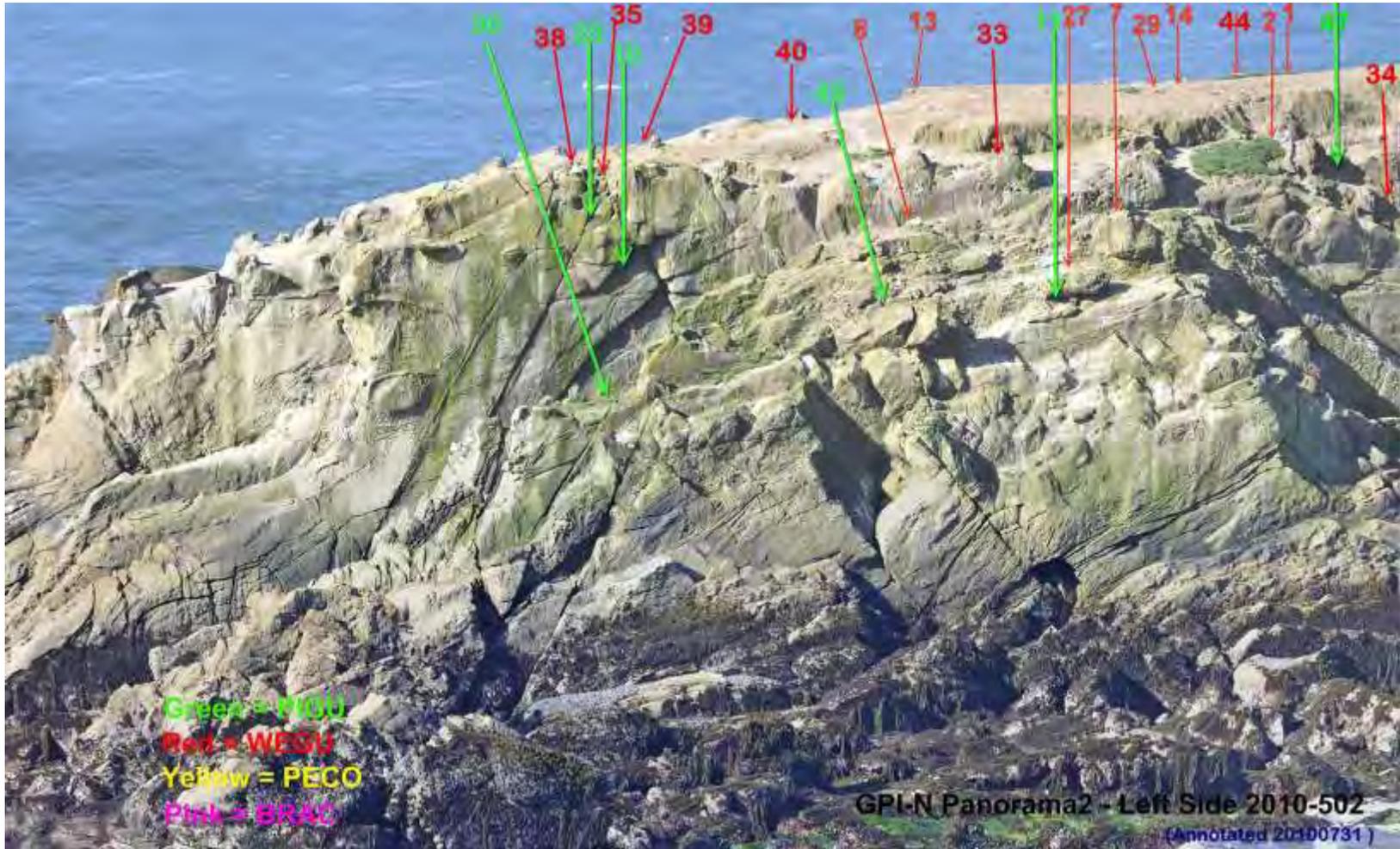


Figure 6. Left portion Gualala Point Island from the North Vantage Point. Photo by Rozanne Rapozo.



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

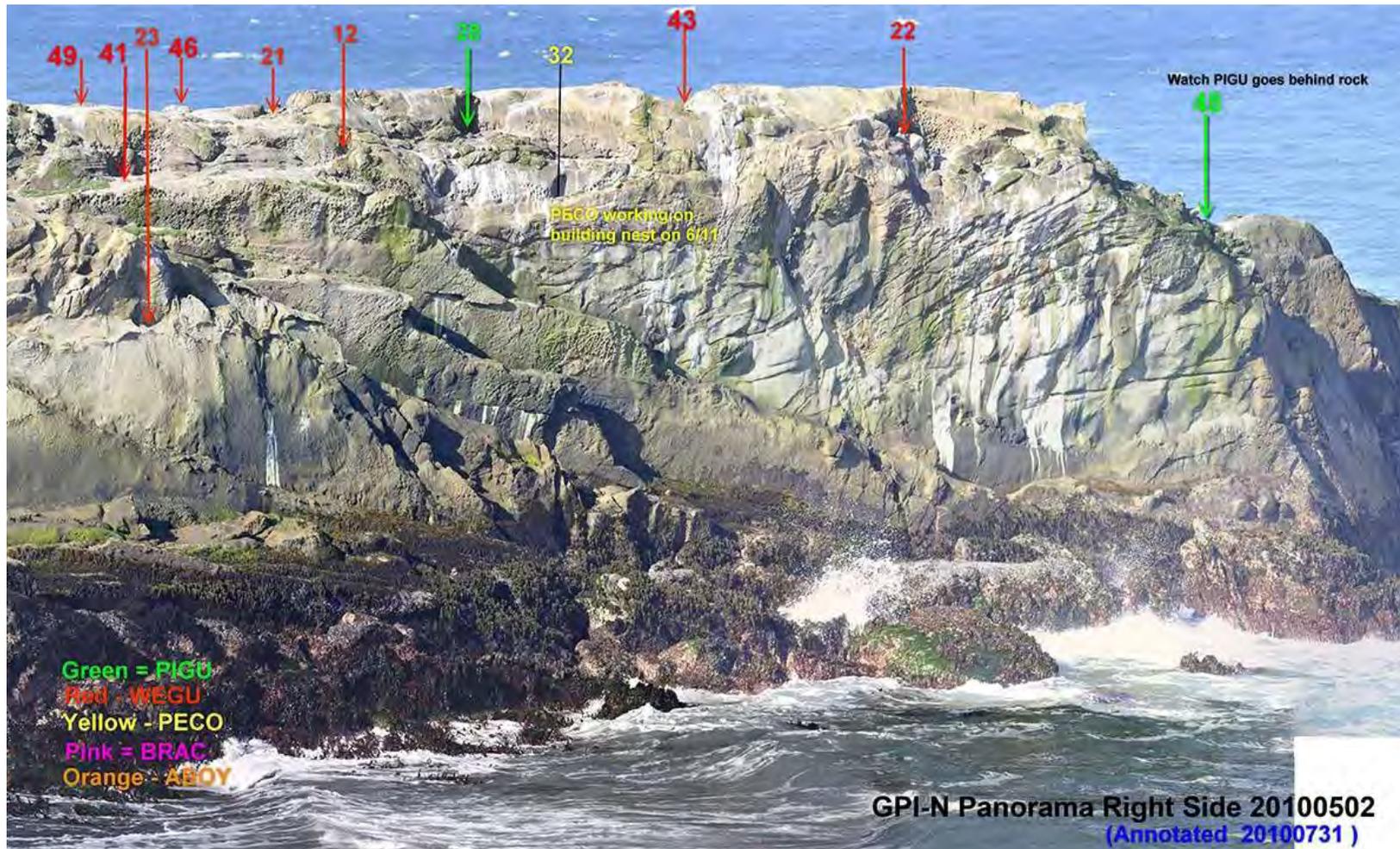


Figure 8. Right portion Gualala Point Island from the North Vantage Point. *Photo by Rozanne Rapozo.*

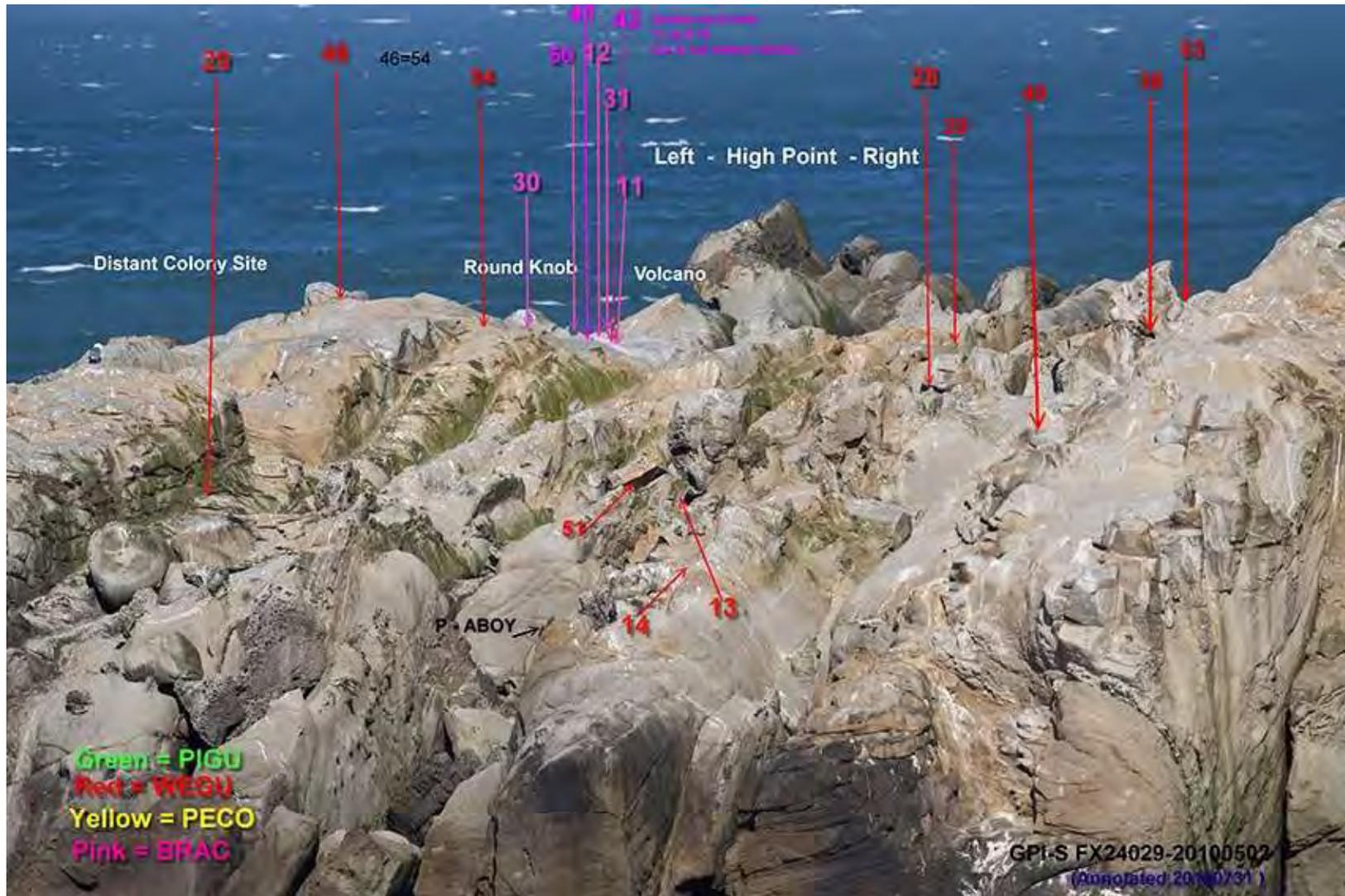


Figure 9. Middle portion of Gualala Point Island from the South Vantage Point . Red circles indicate monitored nests. *Photo by Rozanne Rapozo.*

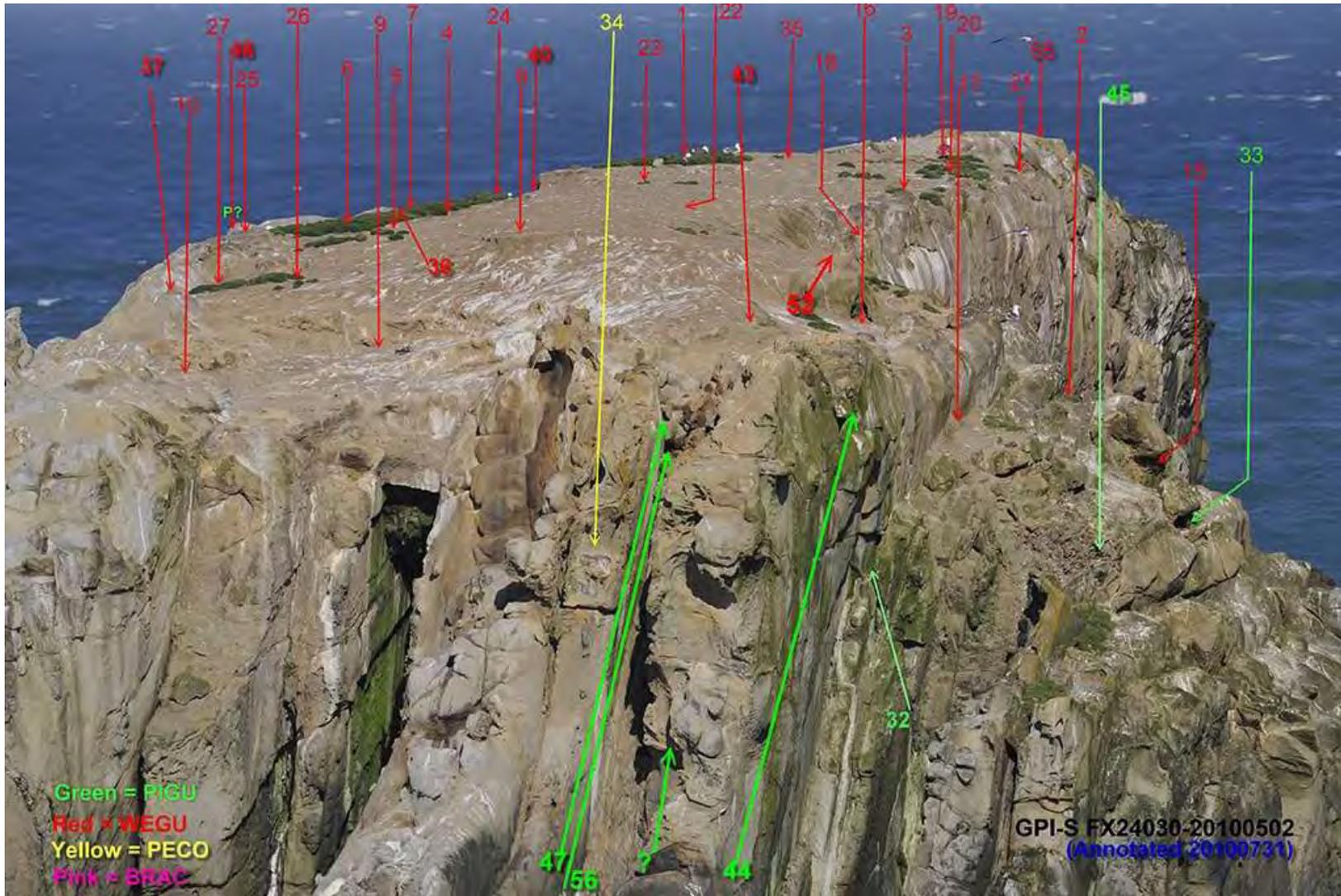


Figure 10. Right portion of Gualala Point Island from the South Vantage Point. *Photo by Rozanne Rapozo.*

Pelagic Cormorant

Pelagic Cormorant Counts from Mainland Vantage Points

Counts of Pelagic Cormorants on GPI consisted mostly of non-breeding birds. Bird counts averaged about 6 birds spotted from each vantage point during the daily counts with a peak of 19 birds from the north vantage point and 17 birds from the south vantage point (Table 6). No particular trend in counts was evident during the count period. Gaps in the graph are related to days when fog obscured the island.

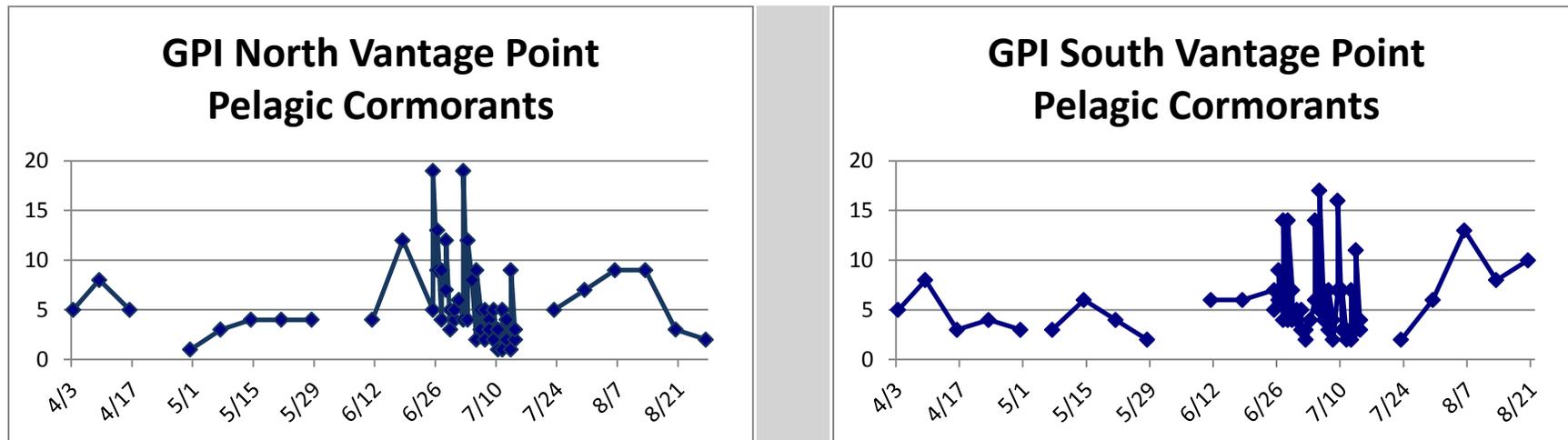


Table 6. Pelagic Cormorant counts weekly from 3 April – 28 August, and daily between 25 June and 14 July.

Pelagic Cormorant Nest Monitoring

Three Pelagic Cormorant nests were detected in 2010, an increase over past years (Figures 8, 10). One nest (#32) had a chick as early as 3 July and eventually fledged 3 chicks. A second nest (#34) had a chick on 10 July that was last seen on 6 August, but was not considered old enough to have fledged. A third nest (#50) was established very late in the season on 6 August and likely did not have eggs.

Western Gull

Western Gull Counts from Mainland Vantage Points

Counts of adult Western Gulls were similar from the north and south vantage points (Figures 6-10, Table 7). Numbers remained fairly steady throughout the nesting season, dropping off after late July. Gaps in the graph are related to days when fog obscured the island.

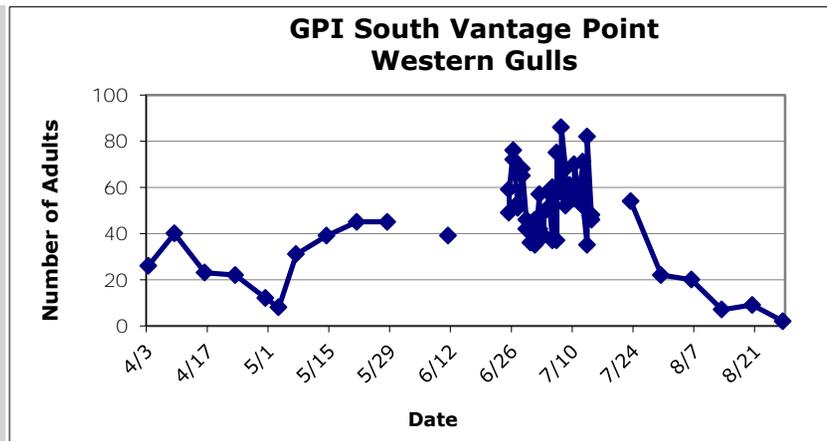
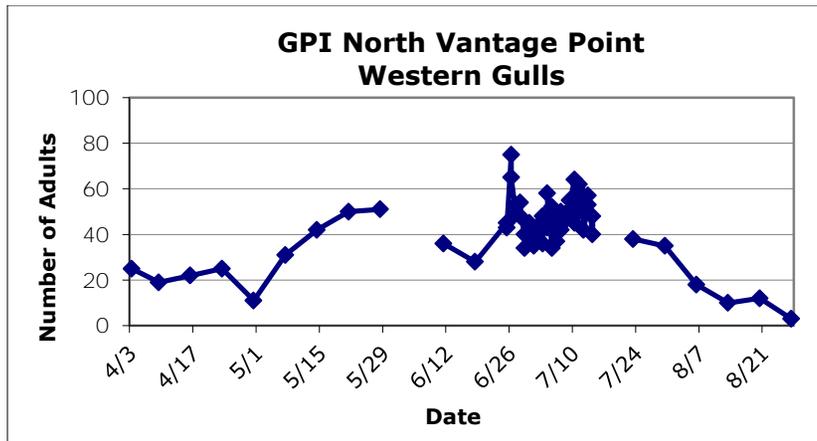


Table 7. Western Gull counts (adults) weekly from 3 April – 28 August, and daily between 25 June and 14 July.

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. A total of 58 sites were considered active nests by the observers, 9 of these were only monitored in the Mobile Chick Monitoring effort. Of these 58 nests, 51 (88%) successfully hatched chicks. (Table 8a-c) with the first chicks being noted 11 June. A total of 129 chicks were recorded during the monitoring, indicating approximately 2.5 chicks hatched per successful nest. Aerial photos on 8 June revealed approximately 70 Western Gull nests on the island (Appendix 2).

Nest	6/11	6/18	6/20	6/25	6/26	6/27	6/28	6/29	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
N-01																							
N-02		2	3	2	2	2	2	2			2	2	2	2	2	2	2	2	2	1	2	1	2
N-03/S-03		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
N-04/S-01	3			2																			
N-05		2	2	3	3	3		3	3	3	2	3	3		3	2	2	2	2	2	2	2	2
N-06				2	3	3	3	3	3	2	2		2	2		2	2	2	2	2		2	2
N-07/S-02						2	2	2									2						
N-08/S-17				3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	1	3	3	3	3

Table 8a. Western Gull nest status by survey date. These are combined Nest Monitoring and Mobile Chick Monitoring Data. Gray shaded cells denote the number of chicks. * indicates nests only monitored in the Mobile Chick Monitoring effort. "Wandering" chicks are chicks not associated clearly with a particular nest.

Nest	6/11	6/18	6/20	6/25	6/26	6/27	6/28	6/29	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
N-09																							
N-12					2	2	2	1	2		2	1	2	2	2	2	2	2	2	1	2	2	2
N-13			2	2	2	2	2	3	2	2	2		2	2	2	1	2	2	1	1	1	1	1
N-14/S-23				2		1	1	1	1	1		1	1	1	2	1	1	1	1	1	1	1	1
N-15				1		1		1	1	2	1		1	1		1	1	1	1	1	1	1	1
N-16/S-20							1		2		1	1	1	1	1	1	1	2	1	1	1	1	1
N-17				2	2	2	2	2	2	1	1												
N-18				3	3	3	3	3		3			2	2	1	2		2	2	2		2	
N-19			1	2	2	1			2	2	2	2	2		2	3	3	3	3	3	3	3	3
N-20			1	1	2	2	2		1		2		1	1	2	2	1	2	2	2	2	2	2
N-21				1	2	2		2		2	2	2	2	2	2	2	2	1	2	2	1	2	2
N-22					3	2			1	1	2	2	2	2	1	1	2	1	1	2	1	2	2
N-23				2	2	3	3	2	3	1	3	1	3	3	2	3	3	3	3	3	3	3	2
N-26/S-18				2	3	2	2	3	3	3	3	3	3	2	3	3	4	4	4	4	3	4	4
N-27/S-15				3	1	3	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
N-28						3	3	3	1	2	3	3	3	3	3	1	3	3	3	3	3	3	3
N-29/S-22																							
N-30/S-35						2								1		2	1		1	1	1	1	1
N-33/S-52				2	2	2	3	1		2	2	2	2	3	3	3	2	2	2	3	3	2	2
N-35		2		2	1	1				2	1			1	1	1	1	1	1	1			
N-37																							
N-38/S-43						3			2	1	3			3	2			2	1	1	1	1	2
S-04					2					3		1											
S-05																							
S-06				3	1			3	2			1					3						
S-07					3	2			1		2					1							

Table 8b. Western Gull nest status by survey date. These are combined Nest Monitoring and Mobile Chick Monitoring Data. Gray shaded cells denote the number of chicks. * indicates nests only monitored in the Mobile Chick Monitoring effort. "Wandering" chicks are chicks not associated clearly with a particular nest.

Nest	6/11	6/18	6/20	6/25	6/26	6/27	6/28	6/29	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
S-08			2		2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	1	1	1
S-09		2	2	3	3	2		2	1	3	2	1									1		
S-10					3	1	3		2	2	2	3	3	3	2	2	2	1	1	1	2	1	1
S-13				2	1	3	2	2		2	2	1	2	1	2		2	1	2	2	1		
S-14				2																			
S-16				3	2	1	3		1	2	2	2	2	2	3	3							
S-19				2																			
S-24				2	2	2		3	2		3	3											
S-25						3											1						
S-26				2	1	1	2	1	1	1	2	2	1	2	1	2	2	2	2				2
S-27					2	1	3							2	1	1	2		2				
S-28		2					2	1	1				1	1		1	3	2	2	2	1	2	
S-29				2		1	2				1	2	2	1	1	2	2	1	1	1	1	1	1
S-36																							
S-37*						3								3					2				
S-38*					2		2	1		1	2	3	2	2	2	2	1	1		1	1	2	1
S-39																							
S-40*					2	2	3					1	2	1	1	1		1					
S-46/54*						1	2						3		1	3	2	3	1	3	3		
S-48*							2																
S-49*									1				1						1	1			1
S-51*													1										
S-53*													1		1		2						
S-55*																						1	
Wandering				2	2	6		4			3		11	8	3		3	11	5	9	7	9	8
Total	3	12	15	62	68	83	67	58	50	54	67	53	76	70	62	63	72	70	64	67	57	61	57

Table 8c. Western Gull nest status by survey date. These are combined Nest Monitoring and Mobile Chick Monitoring Data. Gray shaded cells denote the number of chicks. * indicates nests only monitored in the Mobile Chick Monitoring effort. "Wandering" chicks are chicks not associated clearly with a particular nest.

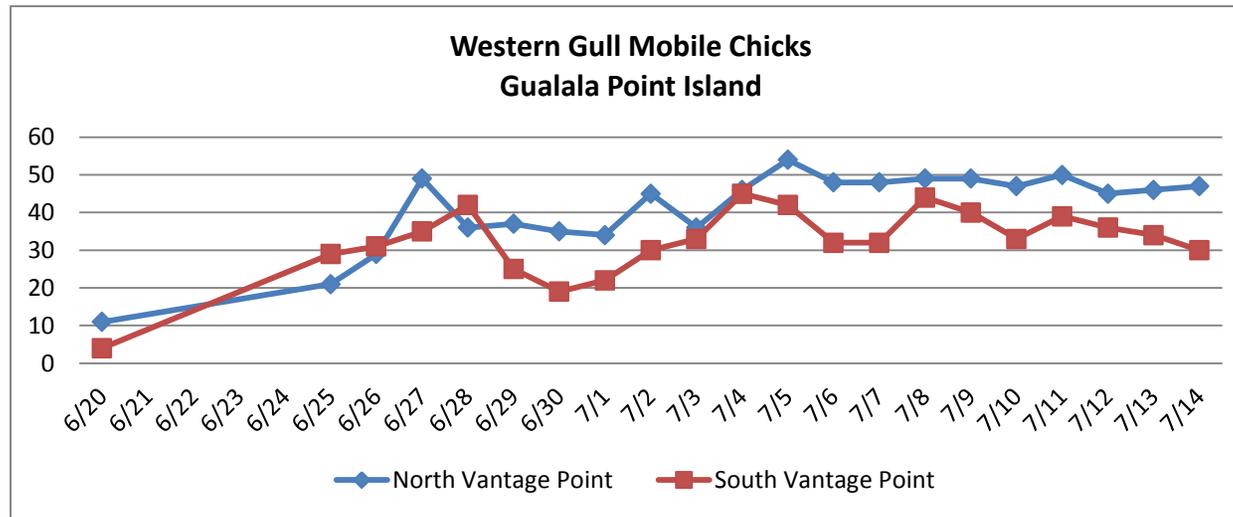


Table 9. Western Gull chicks, 20 June - 14 July.

As can be seen from Table 8 (a-c) by the end of June, chicks were no longer easily associated with a known nest. Mobile Chick Monitoring attempts to count the chicks daily and associate them with a nest. Chick numbers remained steady after 1 July (Table 9) with a final count on 14 July of a maximum of 57 chicks and an average of 64 chicks during the last week of surveys. Using this average number, an estimated fledging rate of 1.25 chicks per successful nest (that hatched at least one chick).

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 6-10). Numbers were consistent throughout the season and similar to numbers from last year (Table 10). As has been the case in previous years, the numbers increase slightly during the season as the adults become more visible when incubation is finished. Pigeon Guillemot nests are difficult to locate from land, and even more difficult to assess for nesting success. Ten sites had adults regularly sitting at or near a crevice (Table 11). Five nests had visible chicks at some point during the season.

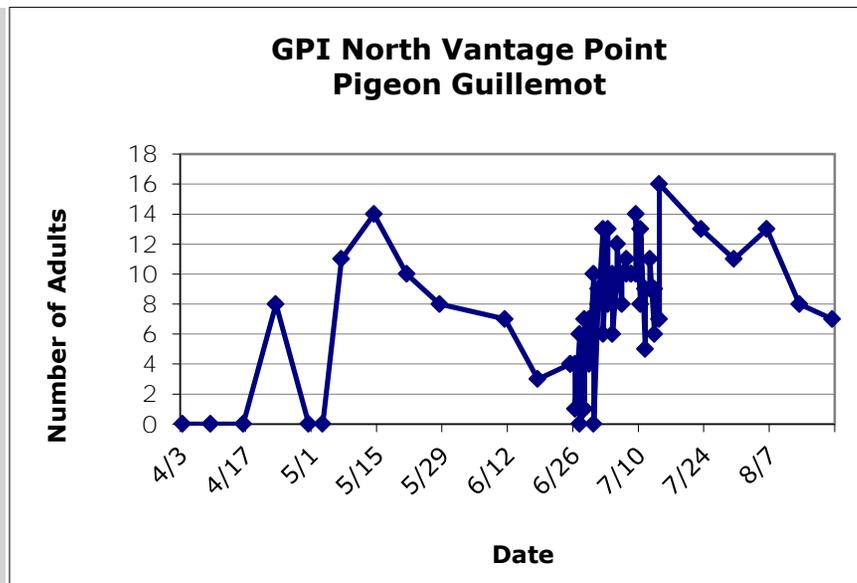
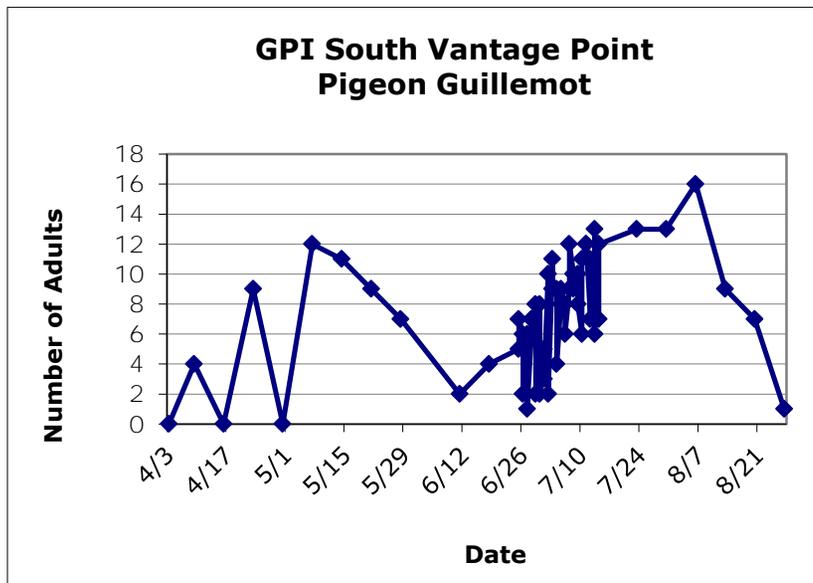


Table 10. Pigeon Guillemot counts weekly from 3 April – 28 August, and daily between 25 June and 14 July.

Nest #	Chick Seen	Adult Carrying Fish
10 (N)	None Seen	None noted
11 (N)/33 S	7/30, 8/6	None noted
25 (N)/44 S	8/13	None noted
32 (S)	7/13, 8/6, 8/20	None noted
34 (N)	7/14	None noted
36 (N)	None seen	None noted
45(N,S)	8/6	7/6
47 (S)	None seen	None noted
48 (N)	None seen	None noted
56 (S)	None seen	None seen

Table 11. Pigeon Guillemot nest site activity

Common Murre

Small numbers of Common Murres were detected on GPI during the 2010 season (Table 12). Small groups were visible on a number of the aerial surveys as well. These numbers are a slight increase from the past few years, but no nesting was suspected. Most of the murres were standing individually and incubation postures were not evident. In addition, only a few birds were noted in the same location from one aerial survey to the next.

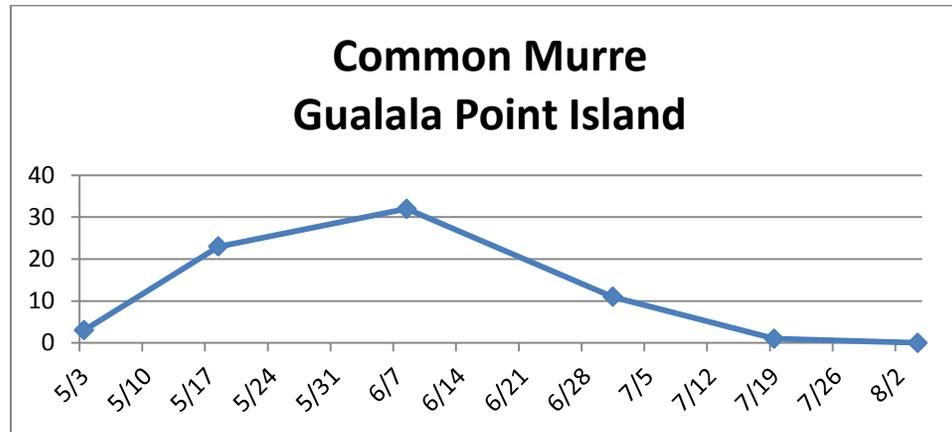


Table 12. Common Murre adults counted from aerial surveys Gualala Point Island 2010.

Black Oystercatcher

Black Oystercatcher Counts from Mainland Vantage Points

Only one active Black Oystercatcher nest was noted in 2010 (Figure 7), and one other was suspected (Figure 9). The one active nest produced two chicks that were only seen on two days (13-14 July). Oystercatcher chicks can be difficult to follow and their fledging is not known.

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 six birds (Table 13).

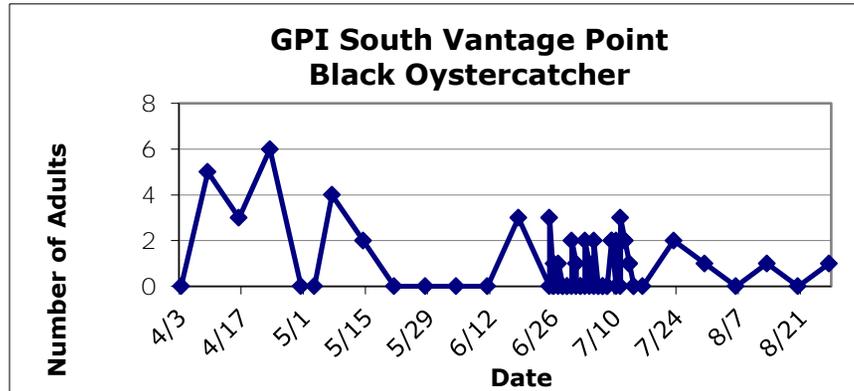
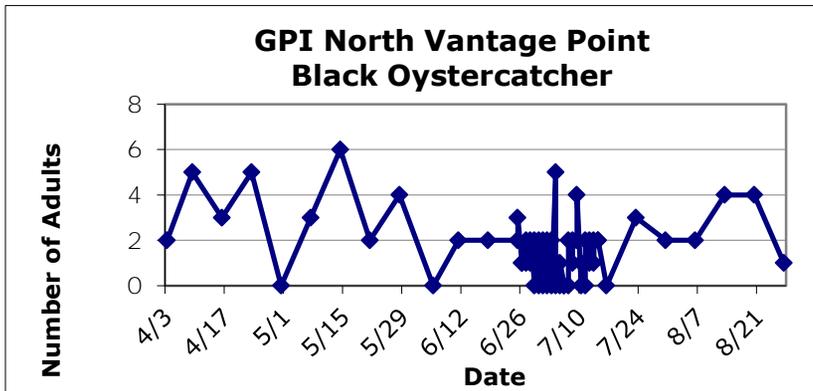


Table 13. Black Oystercatcher Counts weekly from 3 April – 28 August, and daily between 25 June and 14 July.

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 2010, a few pelicans were observed in mid-April and in late June their numbers reached 10-20, many fewer than in previous years (Table 14).

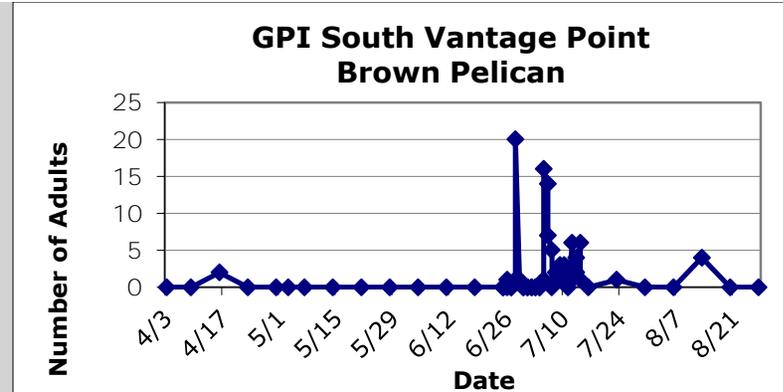
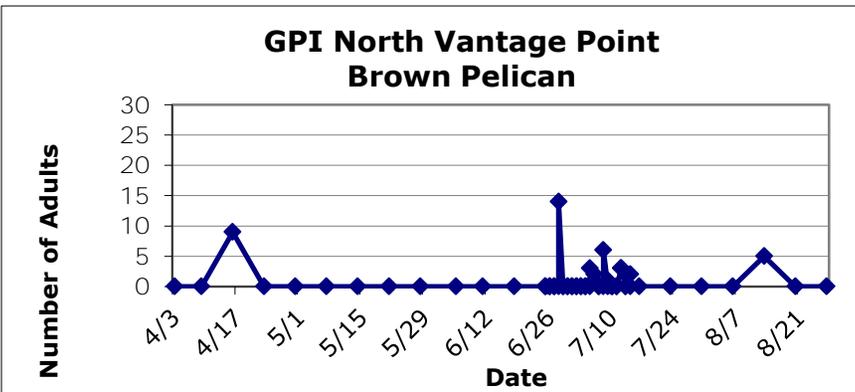


Table 14. Brown Pelican counts weekly from 3 April – 28 August, and daily between 25 June and 14 July.

Seabird Counts on Other Islands

Black Point

Western Gull

Nests were checked weekly between 15 May and 10 July. Twenty-five nests were identified (Table 15). At least 11 nests hatched chicks. Chicks were noted at nests between 12 June and 3 July (Table 15). Starting 17 June mobile chicks were monitored and numbers diminished slowly through mid August when many chicks presumably fledged (Table 16).

Sum of Adults Present #				Date					
Nest	5/15/2010	5/22/2010	5/29/2010	6/5/2010	6/12/2010	6/19/2010	6/26/2010	7/3/2010	7/10/2010
1	1	2	1	1	1	1	1	1	
2	1	1	1	1	1	2			
3	1	1	1	1	1				
4	1	1	2	1	1	1			
5	1	1	1	1	1				
6	1	1	1	1	1				
7	1	1	1	1	1	1			
8	1	1							
9		1	1	1	1	1	1	1	
10		1	1	1	1	1			
11		1	1	1	1	1	1	1	
12		1	1	1	1	1			
13		1	1	1	1	1			
14		1	1	1	1	1			
15		1	1	1	1	1			
16		1	1	1	1				
17				1	1	1			
18			1	0					
19			1	1	1	1	1		
21			1	1	1	1			
22			1	1	1	1	1	1	
23				1					
24				1	1	1			
25					1	1	1	1	

Table 15. Western Gull nests on Black Point Island. Numbers indicate adults at the nest. Brown shading indicates chicks at the nest.

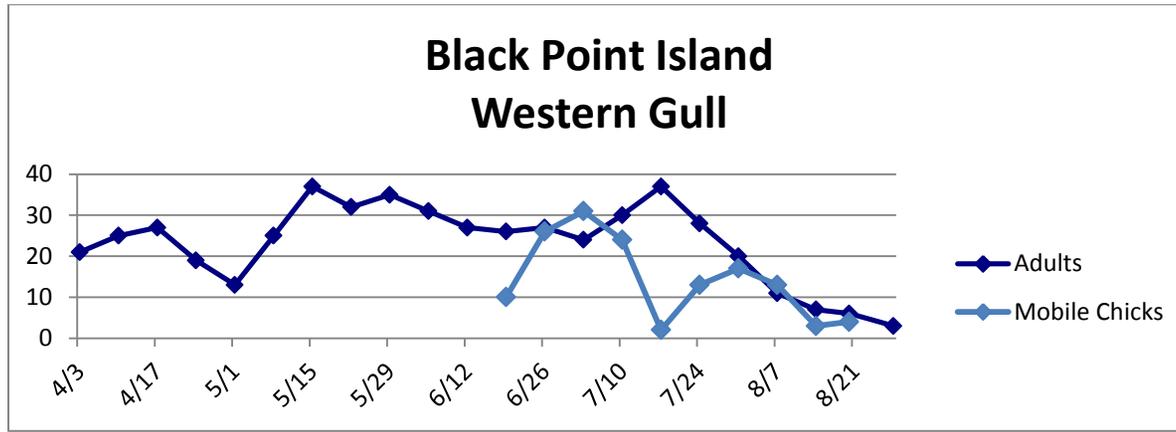


Table 16. Black Point Island Western Gulls

Black Oystercatcher

As many as seven adults were counted during the season, and one pair apparently nested. One mobile chick was noted between 3 July and 10 July (Table 17).

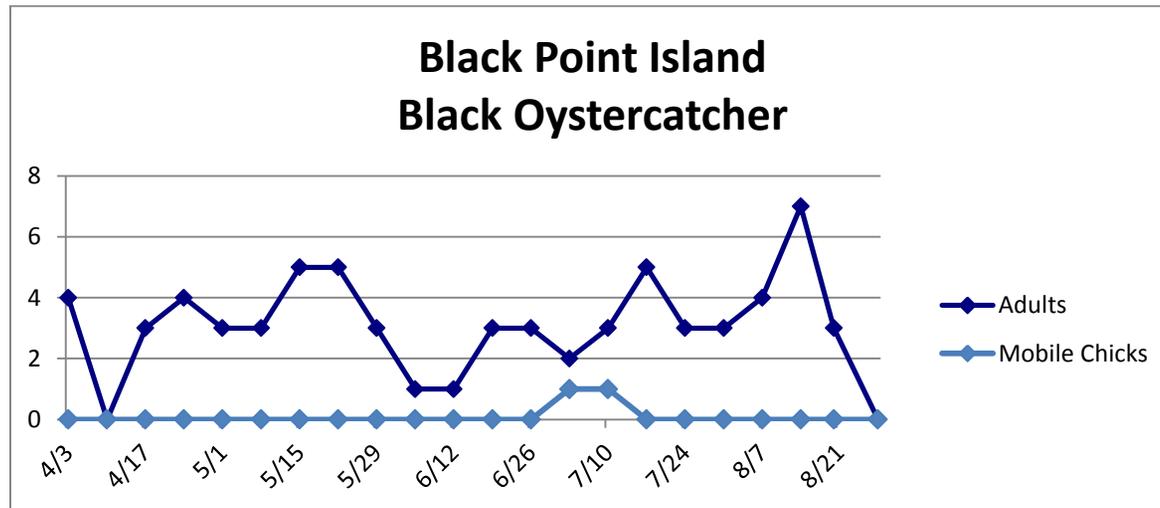


Table 17. Black Point Island Black Oystercatcher

Pigeon Guillemot

One pair of guillemots was noted throughout the season but no confirmation of nesting (e.g. adults carrying fish, chick at burrow) was observed.

Galleon's/Arch Rock

Galleon's/Arch Rock was surveyed weekly from 28 May to 12 August.

Western Gull

Six Western Gull nest sites were observed, and chicks hatched at all nests. Unlike the past two years when all chicks disappeared shortly after hatching, many of these chicks appeared to fledge.

Nest	Date											
	5/28	6/3	6/10	6/17	6/24	7/1	7/8	7/15	7/22	7/29	8/5	8/12
1	2	1	1	1	1	2	1	1	2	1	1	0
2	1	1	1	1	2	2	2	1	1	2	0	0
4	2	1	1	1	2	1	2	1	1	2	0	0
5	1	1	1	2	1	1	1	1	1	1	1	0
7	2	2	1	1	1	1	2	1	2	2	1	0
8	1	1	2	1	1	1	1	1	1	0	0	0

Table 18. Western Gull nests on Galleon's/Arch Rock. Numbers indicate adults at the nest. Brown shading indicates chicks at the nest.

Black Oystercatcher

Three Black Oystercatcher nests were observed. Nest #3 was only observed on one day. Nest #6 hatched at least three chicks and likely fledged at least one while nest #9 hatched and probably fledged one chick.

Fish Rocks

Fish Rocks was typically photographed on the same flights as GPI, however the weather hindered accurate photos on a number of the flights. Birds were counted on 4 dates (8 June, 1 July, 19 July and 4 August). These counts were marked on photographs that will be filed with the Task Force and the CCNM office.

Brandt's Cormorant

The Cormorants on Fish Rocks were difficult to monitor this year due to their choice of nesting location (Figure 11). A large majority of the population nested in a shaded canyon with many rocks, making it difficult to see nests and impossible to follow nests from flight to flight. In spite of the difficulty, counts were done on the four count flight dates listed above. The number counted is likely an underestimate, but is a good indication of the nesting effort for 2010.

During the 8 June flight, at least 156 cormorants appeared to be on territory. By 1 July an estimated 244 nests were counted. On the 19 July flight an estimated 193 nests were counted. By August 4, some chicks appeared to be present and 154 nests were still visible. Thus the nesting effort population appeared to be around 200 pairs, substantially fewer than the 424 nests 2009 but above the average of 160 from 1996-2010.

Common Murre

Murres were present during three of the flights. On 8 June a group of 95 were counted. On the 1 July flight a minimum of 354 murres were present. On the 19 July flight a minimum of 584 murres were counted. None were present on 4 August. No chicks were visible in the photographs. This is a substantial increase in murre numbers for Fish Rocks.



Figure 11. Cormorant Nest Distribution Fish Rock

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. No seals were noted with shark bites in 2010 and only two dead pups were encountered, one on 19 March at Dune Drift and one on 27 May at Green Cove..

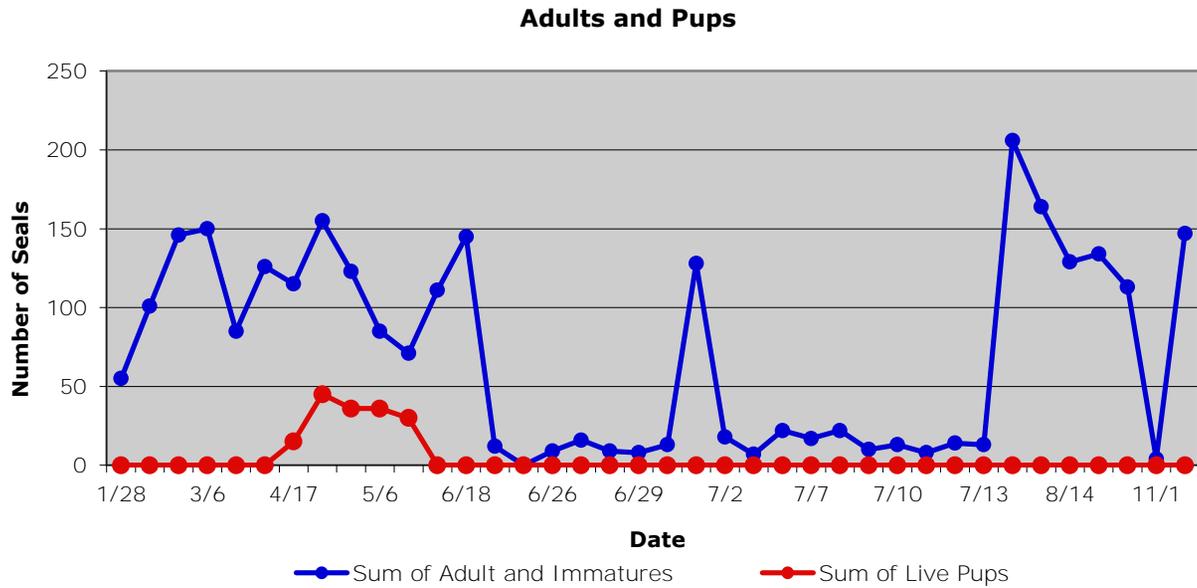


Table 19. Total counts of Harbor Seals.

Breaker Reach – A maximum of 30 adult seals were counted on 30 January (Table 20a) and a maximum of 3 pups were noted on 7 May.

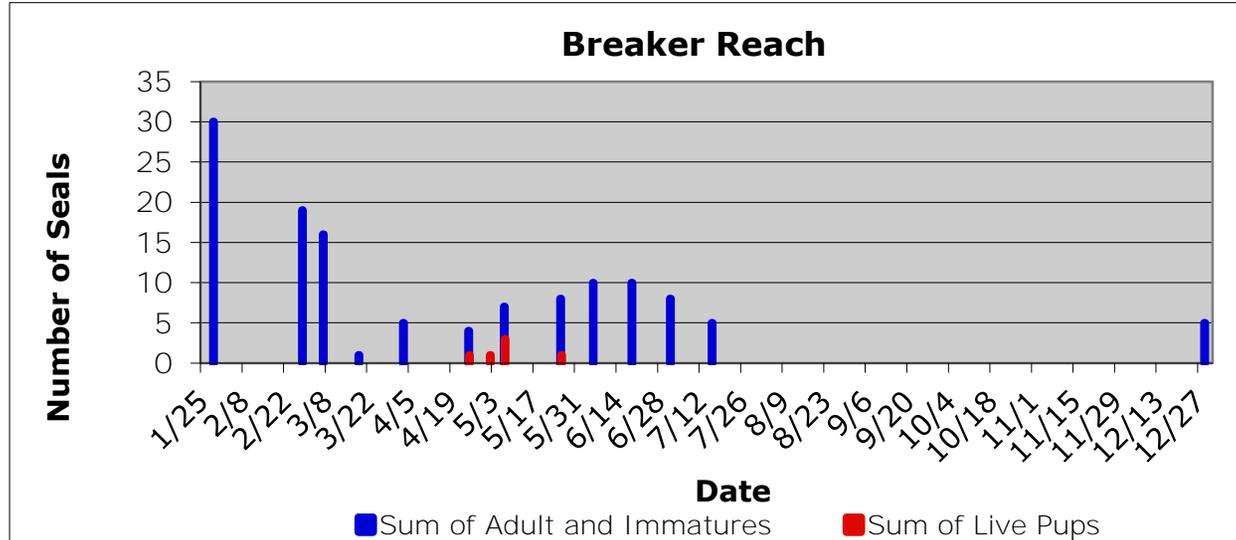


Table 20a. Harbor Seal Counts at Breaker Reach

Buckeye -- A maximum of 19 adult seals were counted on 31 July (Table 20b) and one pup was noted on 31 May.

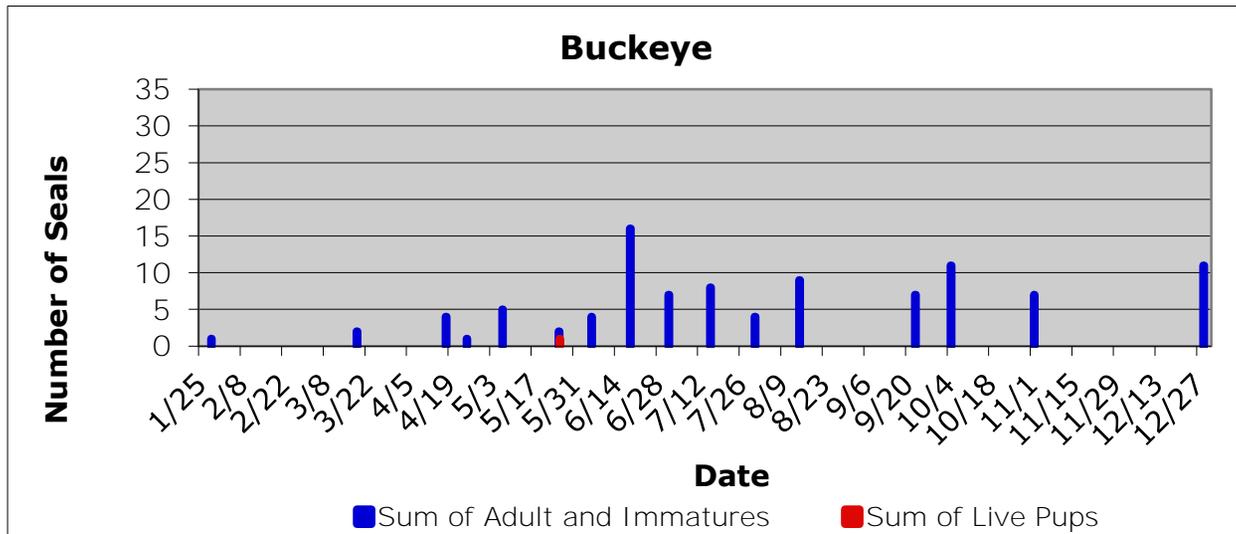


Table 20b. Harbor Seal Counts at Buckeye

Cormorant Close – A maximum of adult 25 seals were counted on 16 July (Table 20c) and a maximum of 7 pups were noted on 25 April.

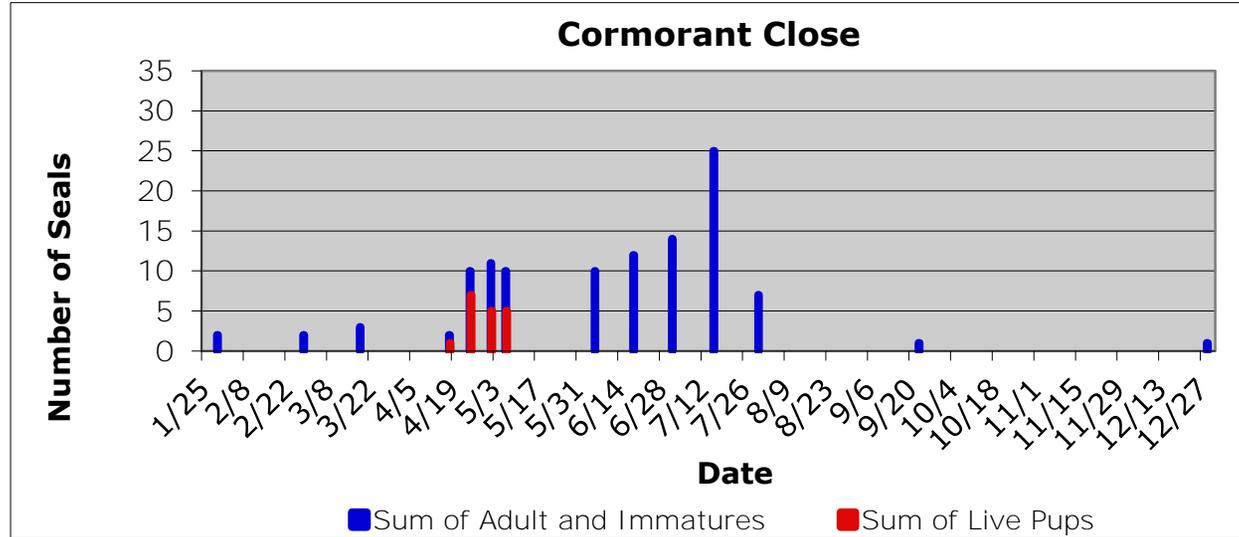


Table 20c. Harbor Seal Counts at Cormorant Close

Del Mar (N) A maximum of 24 adult seals were counted on 15 August and 23 September (Table 20d) and one pup was noted on 26 May.

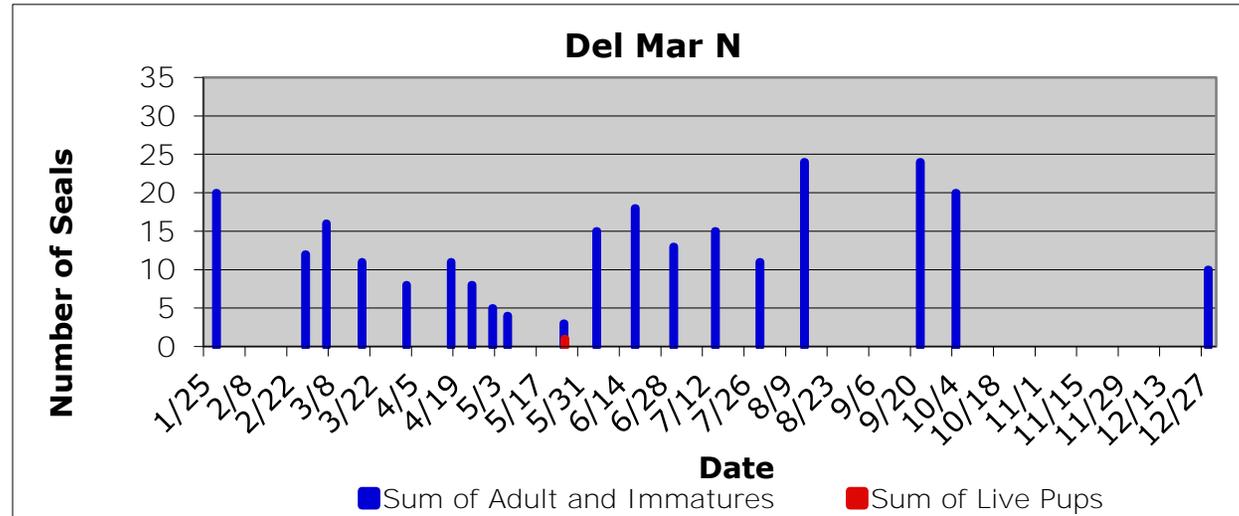


Table 20d. Harbor Seal Counts at Del Mar N

Del Mar (S) A maximum of 18 adult seals were counted on 23 September (Table 20e) and one pup was noted 2 May.

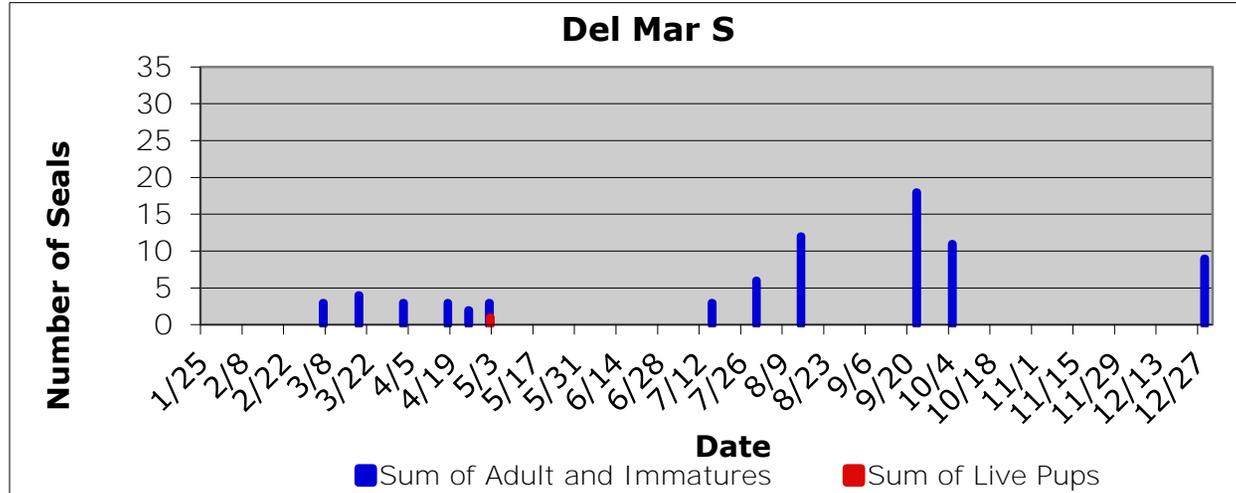


Table 20e. Harbor Seal Counts at Del Mar S

Dune Drift -- A maximum of 26 adult seals were counted on 31 July (Table 20f) and a maximum of 7 pups were noted on 7 May.

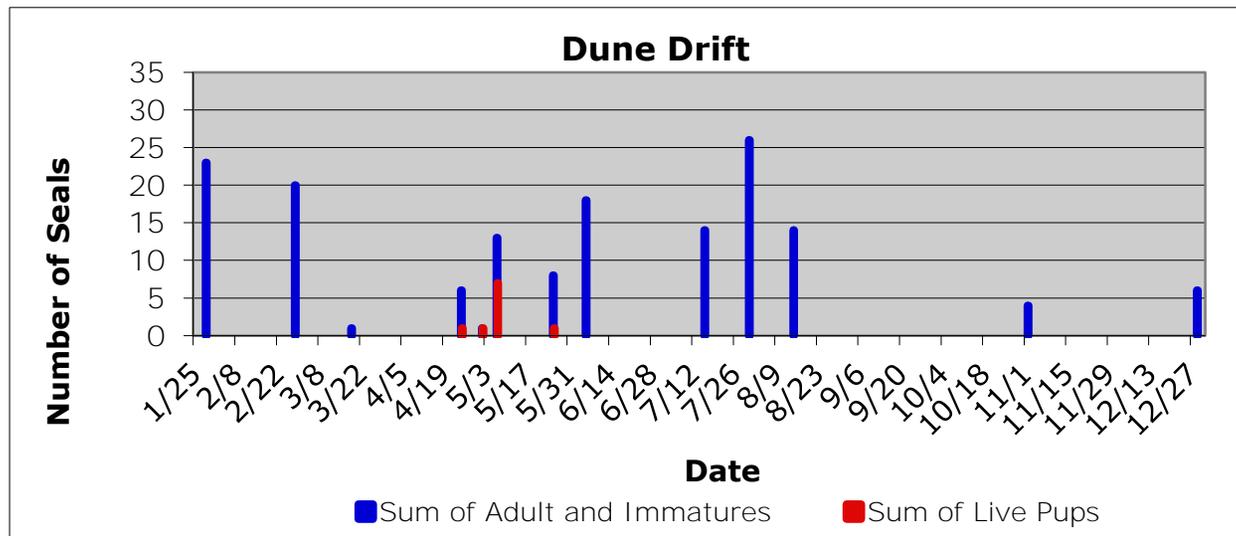


Table 20f. Harbor Seal Counts at Dune Drift

Green Cove-- A maximum of 54 adult seals were counted on 29 December (Table 20g) and a maximum of 11 pups were noted on 7 May.

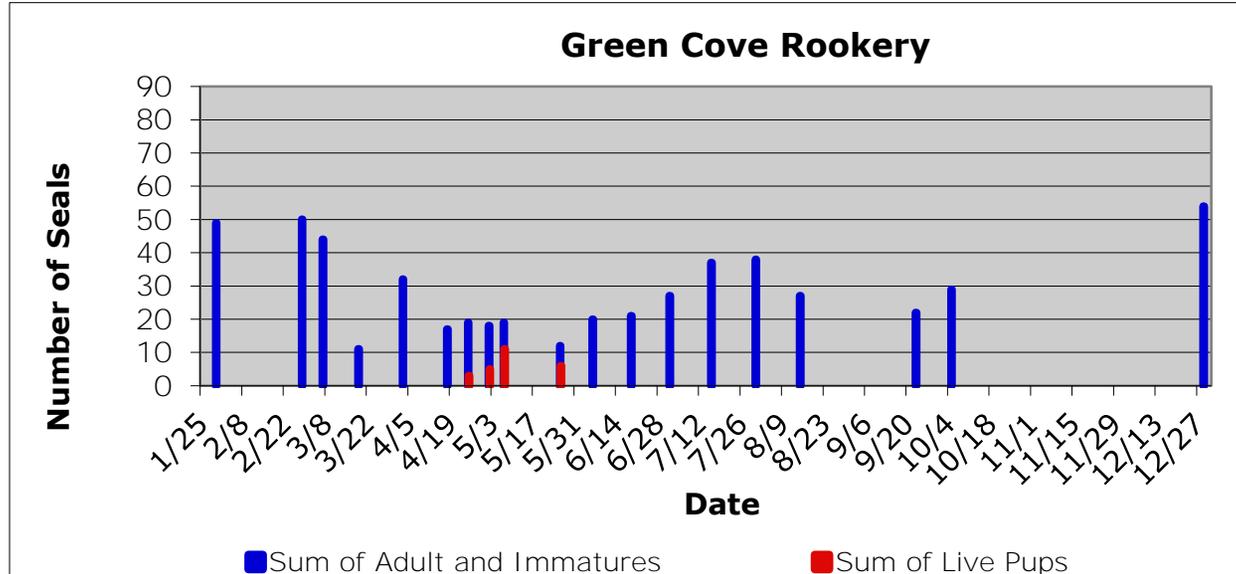


Table 20g. Harbor Seal Counts at Green Cove

Gualala Pt. Island (N) -- A maximum of 11 adult seals were counted on 7 March (Table 20h) and no pups were observed.

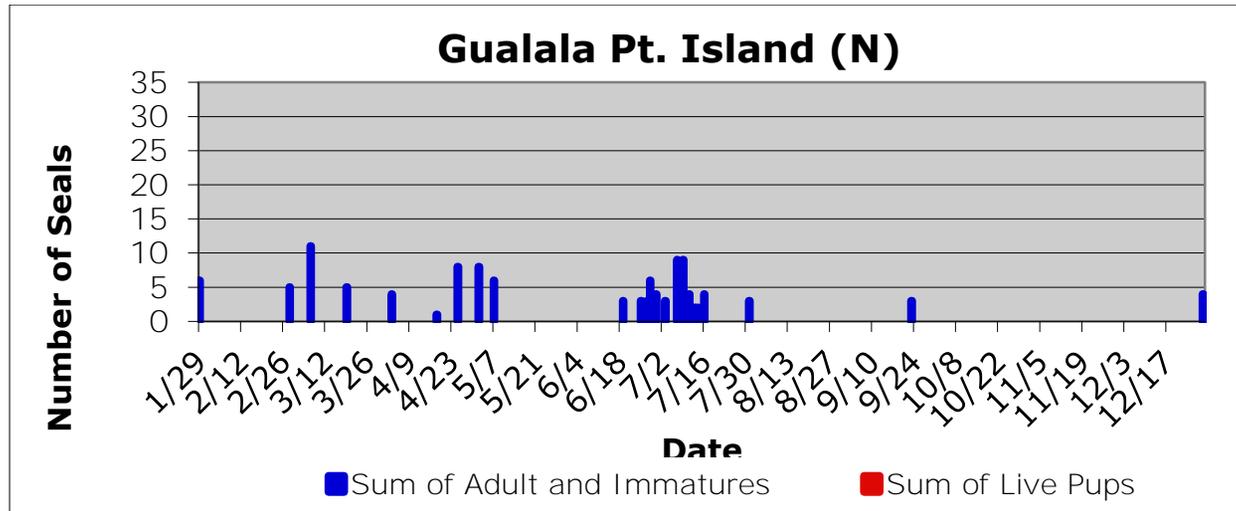


Table 20h. Harbor Seal Counts at Gualala Point Island North

Gualala Pt. Island (S) -- A maximum of 9 adult seals were counted on 25 June (Table 20i) and no pups were observed.

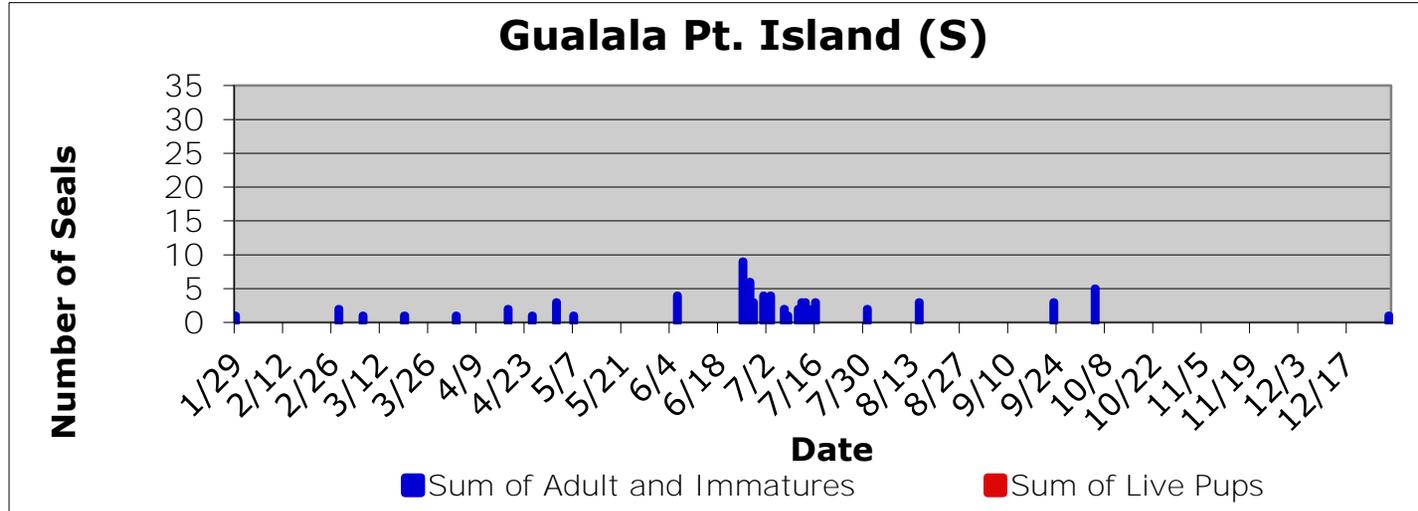


Table 20i. Harbor Seal Counts at Gualala Point Island South

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

Pebble Beach -- A maximum of 14 adult seals were counted on 30 January and 29 December and (Table 20j) and one pup was noted on 2 and 7 May.

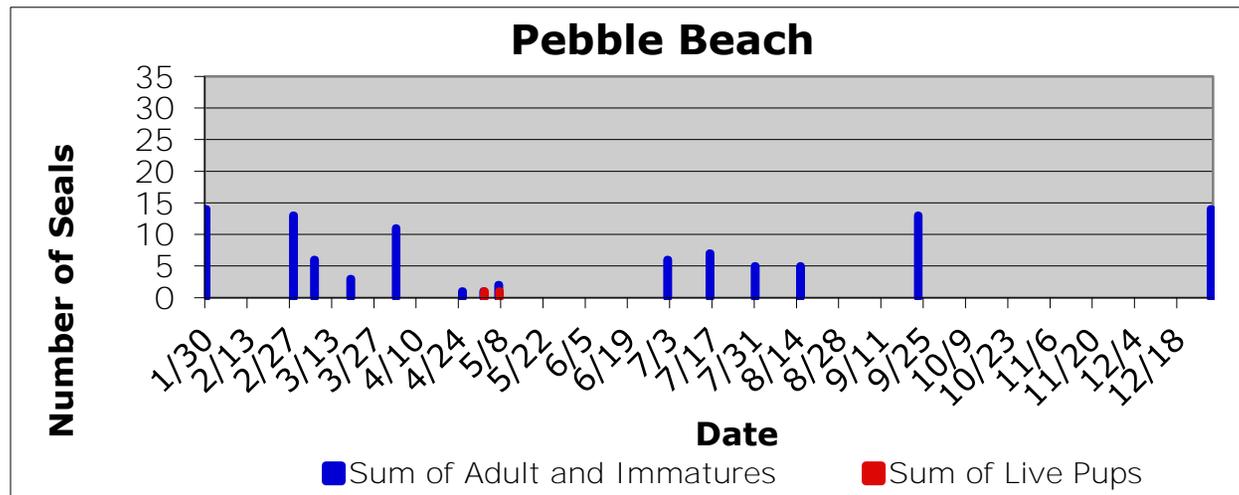


Table 20j. Harbor Seal Counts at Pebble Beach

Public Shell -- A maximum of 9 adult seals were counted on 18 April (Table 20k) and a maximum of 2 pups were noted on 18 and 25 April.

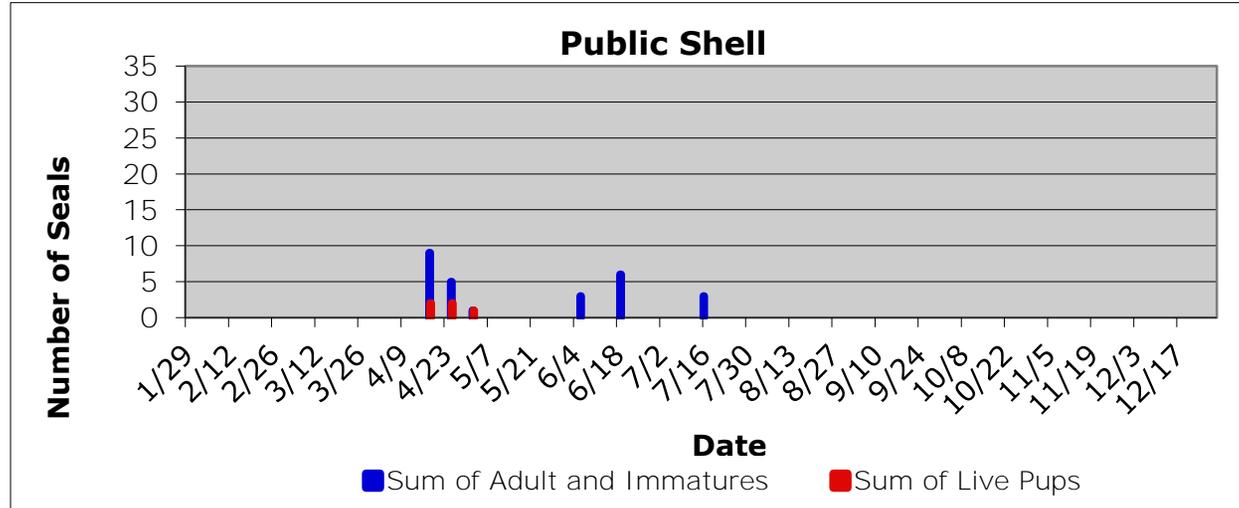


Table 20k. Harbor Seal Counts at Public Shell

South of The Lodge -- A maximum of 14 adult seals were counted on 18 April (Table 20l) and a maximum of 1 pup was noted on 25 April, 7 and 26 May.

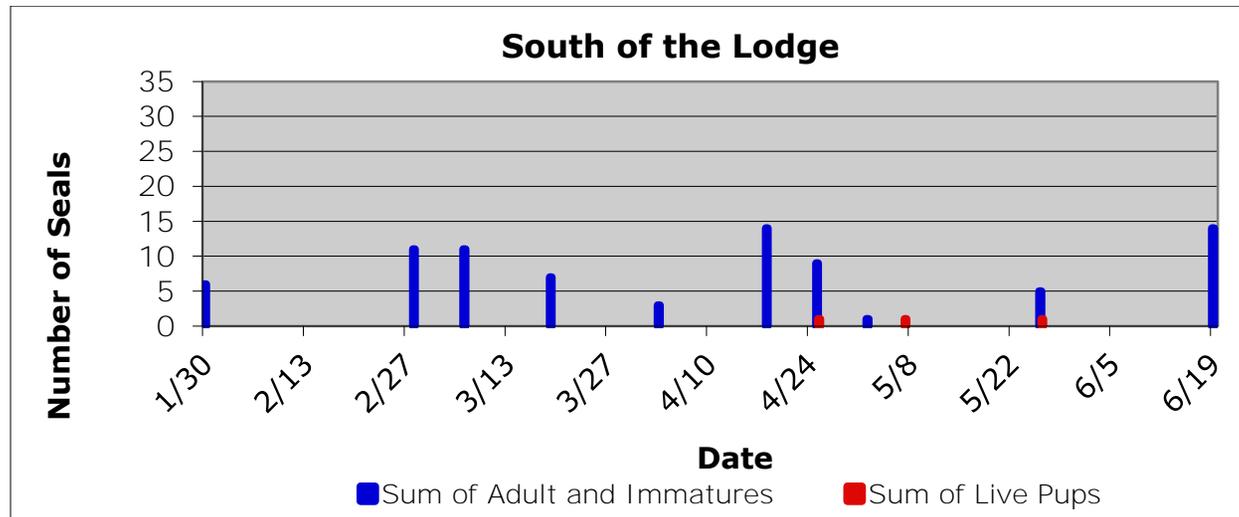


Table 20l. Harbor Seal Counts at South of the Lodge

Tidepool Rookery -- A maximum of 81 adult seals were counted on 25 April (Table 20m) and a maximum of 30 pups were noted on 25 April.

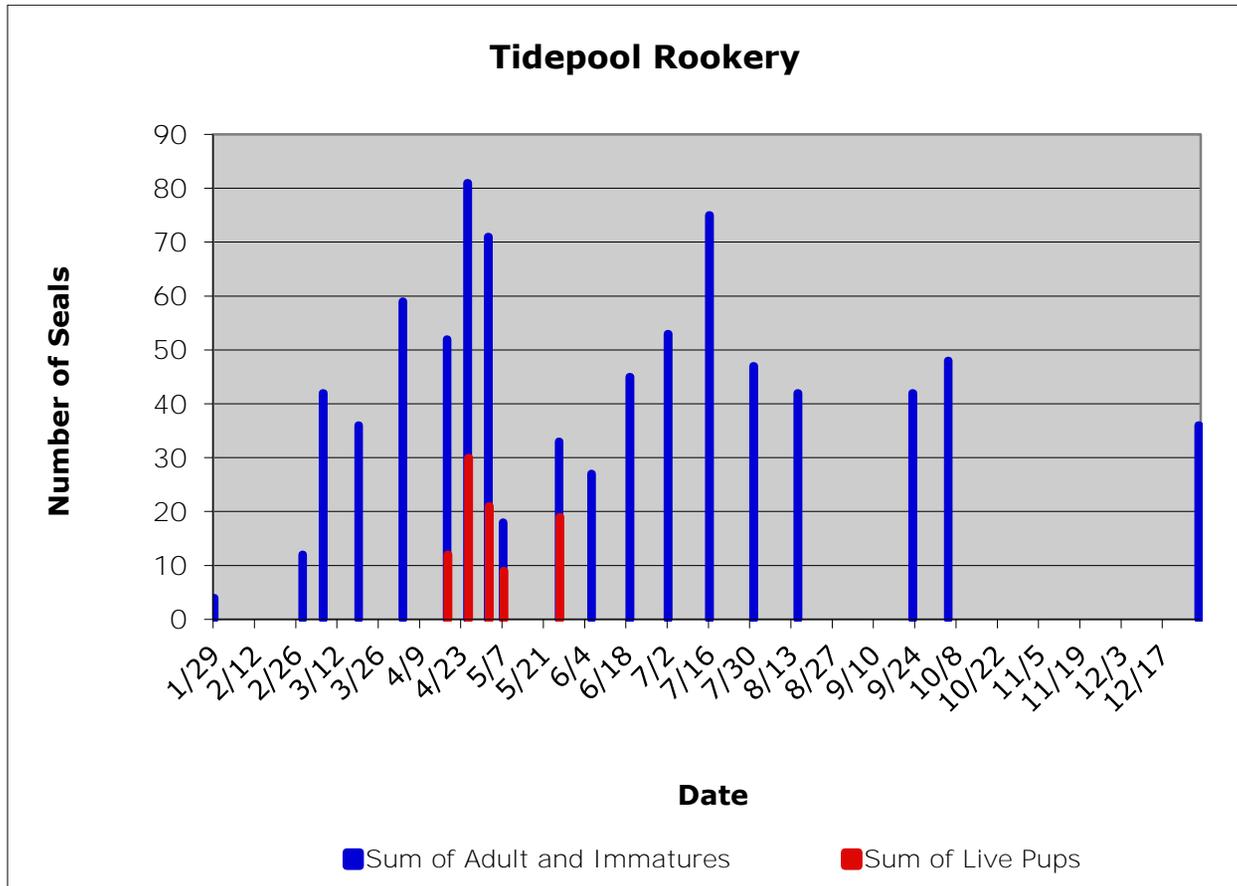


Table 20m. Harbor Seal Counts at Tidepool Rookery

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 noted was on 17 April when two persons in wet suits swam around the back side of Black Point Island. At one point two Black Oystercatchers flew but it is not clear if the swimmers were the cause.

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 2010 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 to 2010 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, LeValley 2010c). Brandt's Cormorants declined dramatically to only 71 pairs after two years of more than 140 pairs. This was consistent with the Brandt's Cormorant colony at the Mendocino Headlands (LeValley, 2010b, LeValley and Musgrove, 2011) and is likely related to ocean conditions. Western Gulls continued a slight increase and Black Oystercatcher and Pelagic Cormorant populations were about the same as last year. (Table15)

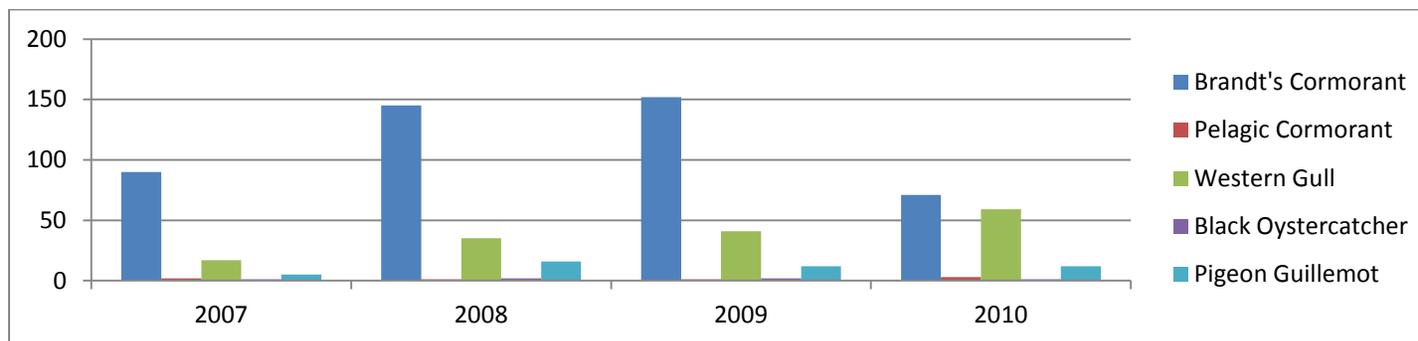


Table 21. Numbers of monitored nests on Gualala Point Island 2007-2010. Brandt's Cormorant numbers are aerial total for the island, other species are the numbers detected from consistent mainland-based surveys.

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 11% 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, 61 breeding sites of Brandt’s Cormorants were identified on GPI in 2010, a decrease from the past three years, a divergence from the increasing trend and slightly below the average from 1996-2010 of 89 nests (Table 22). Hatching success was estimated at 75%, up from the 63% in 2009 and 50% estimated in 2008. An estimated 60% of the nests fledged chicks.

In comparison, the number of cormorant pairs at Fish Rock also showed a decrease from last year, but was still above the average (Table 23)

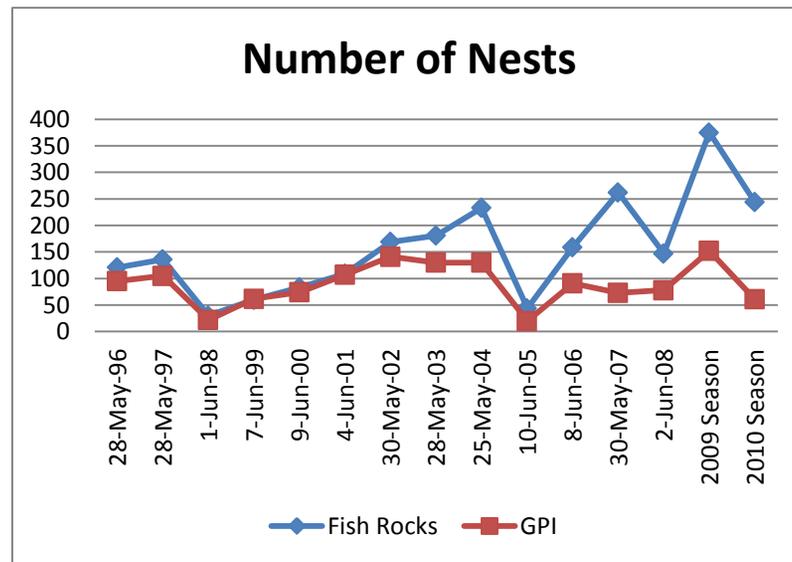


Table 22 Brandt's Cormorant Nesting Trend 1996-2010.
 (see [LeValley 2010 for details regarding 1996-2009 data](#))

	Fish Rocks		Gualala Point
28-May-96	121		95
28-May-97	136		105
1-Jun-98	30		22
7-Jun-99	60		62
9-Jun-00	83		74
4-Jun-01	109		107
30-May-02	169		141
28-May-03	181		130
25-May-04	233		130
10-Jun-05	44		20
8-Jun-06	159		91
30-May-07	262		73
2-Jun-08	147		78
2009 Season	375		152
2010 Season	244		61
Average	157		89
Maximum	375		152
Minimum	30		20

Table 23. Brandt's Cormorant Nesting Numbers 1996-2010
(see [LeValley 2010 for details regarding 1996-2009 data](#))

Pelagic Cormorants continue to struggle in the vicinity of Gualala Point, similar to three monitored colonies farther north in Mendocino County (LeValley, 2010b, LeValley and Musgrove, 2011). In The Sea Ranch area, most Pelagic Cormorants nest along the steep bluffs and are difficult to see from shore. In 2010, only one of three nests on GPI successfully fledged chicks.

Western Gulls appeared to nest in higher numbers than in 2009, with 59 monitored nests in 2010 compared to 35 nests in 2008 and 41 nests in 2009. Nesting success was higher in 2010 with an apparent hatching rate of 2.1 chicks per nest compared to 1.8 in 2009 but still lower than that estimated in 2008 with an apparent hatching rate of 2.82 chicks per nest and in 2007 with 2.29.

Small numbers of Common Murres were detected visiting GPI in 2010 but no nesting was detected as the murres were standing individually and incubation postures were generally not evident. Common Murre numbers on Fish Rock increased over previous years, but the aerial photos were not able to distinguish any chicks. Farther north, Common Murre reproduction at the Mendocino Headlands colony was very low in 2010 (LeValley and Musgrove, 2011). During June 2010 approximately 1700 murres were on the islands off the Mendocino Headlands. A majority of these birds remained through the breeding season. In spite of their constant presence, only a few adults were seen carrying fish (an indication of possible presence of chicks) and no chicks were ever noted on the islands.

Harbor Seal numbers continued to decline slowly based on maximum counts (Table 16). However, since Table 16 is a compilation of the maximum totals at each site, there could be movement between sites between surveys, which could result in counting the same animal more than once. These numbers include counts both in and out of the CCONM jurisdiction.

	<u>2008</u>		<u>2009</u>		<u>2010</u>	
	Adults	pups	Adults	pups	Adults	pups
Breaker Beach	34	18	31	5	30	3
Buckeye	25	13	24	5	19	1
Cormorant Close	47	17	33	9	25	7
Del Mar N	27	1	28	2	24	1
Del Mar S	14	0	12	2	18	1
Dune Drift	41	9	21	8	26	7
Green Cove	63	12	50	6	54	11
GPI N	14	5	11	1	11	0
GPI S	13	4	9	1	9	0
Galleons/Arch Rock	0	0	0	0	0	0
Pebble Beach	15	2	19	1	14	1
Public Shell	11	4	3	1	9	2
South of the Lodge	35	9	30	2	14	1
Tidepool Rookery	104	51	121	65	81	30
Total	443	145	392	108	334	65

Table 24. Harbor Seal counts 2008 -- 2010

LITERATURE CITED

- Carney, KM; Sydeman, WJ. 1999. A review of human disturbance effects on nesting colonial waterbirds. *Waterbirds* 22(1): 68-79.
- Carter, HR; McChesney, GJ; Jaques, DL; Strong, CS, Parker, MW; Takekawa, JT; Jory, DL; Whitworth, DL. 1992. Breeding populations of seabirds in California, 1989-1991. Unpublished draft report, 2 volumes. Dixon, CA: USDI Fish and Wildlife Service, Northern Prairie Wildlife Research Center. Various pagination
- Hunt, GL, Jr.; Pitman, RL; Naughton, M; Winnett, K; Newman, A; Kelly, PR; Briggs, KT. 1981. Summary of marine mammal and seabird surveys of the Southern California Bight area 1975-1978. Vol. III – Investigators' Reports. Part III. Seabirds – Book II. Publication PB-81-248-05. Springfield, VA: US Department of Commerce, National Technical Information Service. 337 pp
- Jaques, D; Strong, C. 2002. Disturbance to Brown Pelicans at communal roosts in southern and central California. Report prepared for the American Trader Trustee Council. Astoria, OR: Crescent Coastal Research. 26 pp
- LeValley, R. 2009. Seabird and marine mammal monitoring at Gualala Point Island, California, Sonoma County, May to August 2008. Unpublished report. The Sea Ranch California Coastal National Monument Stewardship Task Force and the Bureau of Land Management, Department of Interior.
- LeValley, R. 2010a. Brandt's Cormorant reproductive efforts on Gualala Point Island, Sonoma County, and Fish Rocks, Mendocino County, California, 1996 to 2008. Unpublished report. Madrone Audubon Society, Mendocino Coast Audubon Society, and the Bureau of Land Management, Department of Interior. 21 pp.
- LeValley R. 2010b. Citizen Science Cormorant Monitoring in central Mendocino County, California – 2009 Season. Unpublished Report to the Mendocino Coast Audubon Society. P.O. Box 2297 Fort Bragg, CA 95437. 11 pp.
- LeValley, R. 2010c. Seabird and marine mammal monitoring at Gualala Point Island, California, Sonoma County, May to August 2009. Unpublished report. The Sea Ranch California Coastal National Monument Stewardship Task Force and the Bureau of Land Management, Department of Interior.
- LeValley R. and A. Musgrove. 2011. Citizen Science Cormorant Monitoring in central Mendocino County, California – 2010 Season. Unpublished Report to the Mendocino Coast Audubon Society. P.O. Box 2297 Fort Bragg, CA 95437. 11 pp.
- Manna, J; Roberts, D; Press, D; Allen, S. 2006. Harbor Seal monitoring: San Francisco Bay area. Point Reyes Station, CA: USDI Point Reyes National Seashore. 22 pp
- McChesney, GJ. 1997. Breeding biology of the Brandt's Cormorant on San Nicolas Island, California. M.S. Thesis. Sacramento, CA: California State University. 201 pp
- McChesney, GJ; Eigner, LE; Poitras, TB; *et al.* 2007. Restoration of Common Murre colonies in central California: annual report 2006. Unpublished report, US Fish and Wildlife Service, San Francisco Bay National Wildlife Refuge Complex, Newark, California. 70 pp
- Rojek, NA; Parker, MW; Carter, HR; McChesney, GJ. 2007. Aircraft and vessel disturbances to Common Murres *Uria aalge* at breeding colonies in central California, 1997–1999. *Marine Ornithology* 35(1): 67–75.
- Thayer, JA; Sydeman, WJ; Fairman, NP; Allen, SG. 1999. Attendance and effects of disturbance on coastal Common Murre colonies at Point Reyes, California. *Waterbirds* 22(1): 130-139.

- USDI Bureau of Land Management; The Sea Ranch CCNM Stewardship Task Force. 2008. Protocol documentation for seabird and marine mammal monitoring on offshore rock islands in Sonoma and Mendocino counties, California: 2007. Unpublished report. Sacramento, CA: USDI Bureau of Land Management, California State Office. 46 pp.
- Wallace, EAH; Wallace, GE. 1998. Brandt's Cormorant (*Phalacrocorax penicillatus*). In *The Birds of North America*, No. 362 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.
- Weigand, JF; and McChesney, GJ. 2008. Seabird and marine mammal monitoring and response to a fireworks display at Gualala Point Island, California, Sonoma County, May to August 2007. Unpublished report, USDI Bureau of Land Management, California State Office, Sacramento, CA; and USDI Fish and Wildlife Service, San Francisco Bay National Wildlife Refuge Complex, Newark, CA. 38 pp

APPENDIX 1

Histories of Brandt's Cormorant nest and territorial sites recorded in aerial photographs, Gualala Point Island, 3 May to 16 September 2010.

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

Nest #	5/3	5/18	6/8	7/1	7/19	8/4	8/19	8/25	9/16
30			D	S	S	C	C	C	V
31			S	S	S	S	C	C	V
32	T	S	S	S	C	C	S	C	V
33	T	S	S	S	C	C	S	D	V
34		D		S	S	S	C	D	V
35			S	S	S	C	C	D	V
36				S	S	C	C	C	V
37	S	S	S	S	C	D	D	V	V
38	T	D	S	S	C	C	C	D	V
39				S	S	C	C	C	V
40		D		S	S	S	C	C	V
41		D	S	S	C	C	C	C	V
42	S	S	S	S	C	D	D	D	V
43		D	D	S	S	S	S	D	V
44				S	S	S	C	C	V
45	S	S	S	S	C	C	C	V	V
46		S	S	S	S	D	D	D	V
47	S	S	S	S	C	D	D	D	V
48			D	S	S	S	C	D	V
49				S	S	S	S	C	V
50		S	S	S	C	C		D	V
51	S	S	S	S	C	C	C	C	V
52	S	S	S	S	C	C	C	D	V
53		S	S	S	C	C	D	S	V
54	S	D	S	S	S	S	S	S	V
55	S	S	S	S	C	C		D	V
56		S	S	S	C	C	C	D	V
57		S	S	S	C	C	S	S	V
58	S	S	S	S	C	C	V	V	V
59	T	S	S	S	C	C	C	S	V
60	T	S	S	S	C	C	C	D	V

Nest #	5/3	5/18	6/8	7/1	7/19	8/4	8/19	8/25	9/16
61	T	D	V	T	T	S	D	V	V
62				T	T	S	V	V	V
63		D	V	V	V	V	V	V	V
64		S	V	V	V	V	V	V	V
65		S	V	V	V	V	V	V	V
66			S	S	S	S	V	D	V
67	S	S	V	V	V	V	V	V	V
68						S	S	S	V
69						S	V	D	V
70					S	D	V	V	V
71							S	S	V

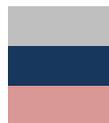
¹ Codes are as follows:

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



Appendix 2
Possible Western Gull nests counted on aerial photograph, Gualala Point Island, 8 June, 2010

