

# Golden Gate Audubon

SAN FRANCISCO CONSERVATION COMMITTEE



## Western Snowy Plover Monitoring

at the

Crissy Field Wildlife Protection Area of  
The Presidio of San Francisco

and the

Effectiveness of the Seasonal Use Restriction

2007/2008

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## Introduction

The bayside beach within the Wildlife Protection Area (WPA) at Crissy Field in the Presidio is of an ecological composition found nowhere else in San Francisco. From its shallow bay waters to its open, intertidal beach to its vegetated dunes, this area supports a variety of birds and other wildlife as an important foraging and roosting location. One species which had been considered to be an irregular and rare visitor to this location is the Western Snowy Plover, a federally threatened species.

With the discovery of two color banded Western Snowy Plovers within the WPA in January of 2005, the opportunity was presented to study individuals of this species over a period of time. It was determined that the same individuals occupied the WPA throughout the winter and spring, departing during the breeding season and returning in the fall. Continued study, through a Golden Gate Audubon volunteer monitoring program, has established that the WPA is a regular wintering area for the Western Snowy Plover, and as a result it has been included in the U.S. Fish & Wildlife Services recovery plan for the species (USFW, 2007).

Monitoring has also identified conflicts between recreational use of the WPA and the Western Snowy Plover recovery effort. As the result of a court ruling in 2005, the WPA, previously closed to pets, was opened up to off-leash dog walking just prior to the 2006 wintering season. Recognizing the incompatibility of off-leash dog recreation and Western Snowy Plover protection efforts, park management initiated an emergency temporary use limit that requires pets to be on-leash during the plover wintering season (approx. July 1 – May 1). Through continued monitoring, it has been possible to determine the effectiveness of this use restriction.

This report contains the results of 38 surveys carried out from August 2007 through April 2008.

## Observers

Richard Horrigan

Terry Horrigan

Hildy Serbin

Lynn Strandberg

Matt Zlatunich

## Survey Area

The survey area includes the bayside beach and dunes within the Wildlife Protection Area from the Coast Guard Pier eastward to the shoreline rip-rap and extending 100m offshore.

## Survey Technique

One hour surveys were conducted from the wooden observation platform using binoculars and spotting scope. Survey times included mornings, afternoons, weekdays, weekends, high and low tides. All bird and mammal species were recorded as well as all wildlife disturbances both natural and human induced.

## Survey Dates

August	5, 6, 8, 13, 22
September	9, 19, 29
October	3, 8, 10, 15, 16, 31
November	23, 28
December	3, 5, 19, 23, 31
January	16, 30
February	8, 11, 13, 17, 18, 29
March	2, 4, 10, 12, 19, 24, 27
April	10, 24

## Outreach and Education

In November of 2006, the National Park Service erected protective signage at entry points to the WPA and at Ocean Beach alerting the public of the presence of Western Snowy Plovers and indicating that off-leash dogs, disturbing wildlife and disturbing threatened species are violations of the law.

Additionally, a color brochure, *Protecting the Snowy Plover*, was produced and on-site public education was carried out by park rangers and volunteers daily from November 3<sup>rd</sup> through November 11<sup>th</sup>.

On-site public education was again carried out during the first week of July, 2007 when the temporary use limit was re-established.

In February of 2008, the National Park Service initiated a volunteer outreach program and began recruiting and training volunteers to educate park visitors within the plover habitats.

## Oil Spill

On November 7<sup>th</sup>, 2007, the cargo ship Cosco Busan spilled 58,000 gallons of bunker oil into the bay having widespread environmental impact throughout the bay and coastal areas including much of the GGNRA. The spill resulted in the closure of many of the areas beaches, including those at Crissy Field, during the subsequent clean-up effort. At this time, PRBO Conservation Science began intensive monitoring of Western Snowy Plovers at Crissy Field as well as at Ocean Beach, capturing many of the plovers and installing color bands on their legs.



# Results

## Species Observed

The following fifty-two species of birds, as well as two marine mammal species (Harbor Seal and California Sea Lion), were observed within the Wildlife Protection Area during the course of the surveys:

Canada Goose  
Surf Scoter  
Black Scoter  
Red-breasted Merganser  
Red-throated Loon  
Pacific Loon  
Common Loon  
Pied-billed Grebe  
Horned Grebe  
Red-necked Grebe  
Western Grebe  
**Clark's Grebe**  
**Brown Pelican**  
Double-crested Cormorant  
Brandt's Cormorant  
Pelagic Cormorant  
Great Egret  
Great Blue Heron  
Red-tailed Hawk  
Black-bellied Plover  
**Snowy Plover**  
Killdeer  
Willet  
Whimbrel  
**Long-billed Curlew**  
**Sanderling**

Mew Gull  
Ring-billed Gull  
California Gull  
Glaucous-winged Gull  
Western Gull  
**Heermann's Gull**  
**Elegant Tern**  
Forster's Tern  
Rock Pigeon  
Anna's Hummingbird  
Belted Kingfisher  
Black Phoebe  
Say's Phoebe  
Common Raven  
American Crow  
Barn Swallow  
American Pipit  
Horned Lark  
Yellow-rumped Warbler  
Savannah Sparrow  
White-crowned Sparrow  
Song Sparrow  
Western Meadowlark  
Brewer's Blackbird  
Lesser Goldfinch  
American Goldfinch

**BOLD** = species of concern

## Western Snowy Plovers Observed

There were, at minimum, six Western Snowy Plovers observed in the WPA throughout the wintering season, with the first seasonal observation occurring on 8/1/2007 and the last occurring on 3/19/2008. Two banded birds that had been observed in the previous three seasons were resident in the WPA throughout the fall, winter and spring; PG:BY, a male banded in 2004 at Pismo Beach and OG:YO, a female banded at the Monterey Bay Aquarium in 2003. Three individuals that were banded subsequent to the oil spill, LW:WB, LW:YY and LW:BR, were also observed throughout the survey period.

One individual, LW:BR which was banded at Crissy Field, was observed at Ocean Beach on 11/27/07 and on 1/30/08, indicating that some birds use both sites throughout the winter season.



## Recreational Use & Disturbance Rates

The WPA at Crissy Field is currently open to a variety of recreational activities. Observed activities include: walking, jogging, dog walking, kite flying, fishing, boating, swimming, golfing, ball playing, photography and wildlife viewing.

The following recreational uses are those that have been determined by previous survey data to have the greatest disturbance impact within the WPA (Zlatunich, 2007).

Off-leash dogs = 23% disturbance rate.

Joggers = 18% disturbance rate.

On-leash dogs = 2% disturbance rate.

Walkers = 2% disturbance rate.

The tables below (Tables 1 & 2) show results of the currently completed survey period and make comparisons to previous survey periods.

**Table 1. Recreational use of the WPA, 8/5/2007 – 4/24/2008**

DATE	DAY	TIME	WALKERS	JOGGERS	ON-LEASH DOGS	OFF-LEASH DOGS
8/5/2007	Su	3:03-4:03p	12	1	3	0
8/6/2007	M	8:38-9:38a	2	0	0	1
8/8/2007	W	12:25-1:25p	5	0	1	0
8/13/2007	M	9:20-10:20a	6	0	4	2
8/22/2007	W	9:45-10:45a	6	0	2	0
9/9/2007	Su	11:08-12:08p	24	1	0	9
9/19/2007	W	11:40-12:40p	6	0	0	0
9/29/2007	Sa	2:56-3:56p	21	1	0	6
10/3/2007	W	8:10-9:10a	10	4	1	5
10/8/2007	M	10:30-11:30a	2	0	0	1
10/10/2007	W	1:20-2:20p	7	0	0	1
10/15/2007	M	11:30-12:30p	4	0	2	0
10/16/2007	Tu	10:05-11:05a	3	2	0	1
10/31/2007	W	11:10-12:10p	2	1	0	2
11/23/2007	F	10:50-11:50a	8	1	1	2
11/28/2007	W	11:45-12:45p	12	1	1	1
12/3/2007	M	12:00-1:00p	6	0	1	10
12/5/2007	W	9:50-10:50a	3	1	0	2
12/19/2007	W	9:30-10:30a	2	0	0	0
12/23/2007	Su	1:15-2:15p	52	0	6	7
12/31/2007	M	11:45-12:45p	40	0	0	6
1/6/2008	W	10:05-11:05a	7	0	2	0
1/30/2008	W	1:50-2:50p	8	0	3	0
2/8/2008	F	2:55-3:55p	32	1	0	6
2/11/2008	M	12:20-1:20	7	0	2	4
2/13/2008	W	9:50-10:50a	8	4	2	3
2/17/2008	Sa	12:12-1:12p	51	1	3	19
2/18/2008	M	11:15-12:15p	21	4	1	3
2/29/2008	F	2:00-3:00p	10	0	2	3
3/2/2008	Su	11:05-12:05p	62	7	4	17
3/4/2008	Tu	10:00-11:00a	19	4	0	9
3/10/2008	M	11:15-12:15p	5	2	0	0
3/12/2008	W	9:35-10:35a	27	2	1	1
3/19/2008	W	2:25-3:25p	3	3	0	2
3/24/2008	M	12:00-1:00p	5	1	0	0
3/27/2008	Th	10:05-11:05a	23	1	6	10
4/10/2008	Th	10:30-11:30a	19	0	0	1
4/24/2008	Th	10:50-11:50a	13	1	3	3
<b>TOTAL</b>		<b>38 Hours</b>	<b>553</b>	<b>44</b>	<b>51</b>	<b>137</b>

## Survey Period

Survey Period 1, 7/25/06 – 10/25/06, represents the pre outreach/education period, when the WPA was open to all forms of dog walking.

Survey Period 2, 11/10/06 – 4/18/07, represents the post outreach/education period, when the use limit restriction was enacted, new signage was posted, and one week of intensive outreach and education was carried out.

Survey Period 3, 8/5/07 – 4/24/08, represents the currently completed survey period.

**Table 2. Period comparison of totals per survey hour.**

	Period 1	Period 2	Period 3
Walkers	11.1	12.8	14.55
Joggers	1.25	1.08	1.16
On-leash Dogs	0.25	1.15	1.34
Off-leash Dogs	8.45	3.74	3.61

## Equestrian

One observation was made of a U.S. Park Police officer riding his horse into the WPA dune area to contact the handler of an off-leash dog. This mounted police officer then became a disturbance source.

## **Conclusions**

Survey data shows that outreach, education and enforcement have been effective in reducing the presence of off-leash dogs within the WPA. However, these methods, as currently employed, have not been adequate in bringing park users into compliance with the temporary use limit rule. Survey results show little change in use patterns from November of 2006 through April of 2008 and the occurrence of off-leash dogs is still nearly three times greater than that of on-leash dogs.

Pedestrian use of the WPA has shown a slight increase and walkers clearly represent the dominant recreational use of the WPA with a survey rate of 14.55 per hour. With access points at both ends of the beach and from a variety of locations along the Crissy Promenade, pedestrian traffic occurs at the shoreline and throughout the dunes.

## **Natural and Cultural Significance**

- The presence of a wintering population of the Western Snowy Plover at Crissy Field offers a prime opportunity to educate the general public about endangered species, keystone species, the importance of preserving biological diversity, unique habitats, and ecosystem stewardship.
- As a keystone species, the Western Snowy Plover is representative of an array of flora and fauna that share this unique habitat. Over fifty species of birds have been observed within the WPA as well as several mammal species, including the federally threatened Southern Sea Otter.
- The Western Snowy Plover is culturally significant in that the type specimen (the individual specimen used as a basis for determining the characteristics for the species) was collected in the Presidio of San Francisco by Lt. William P. Trowbridge on May 8, 1854 (Grinnell, 1932).

## **Recommendations**

In response to the results of this study the following actions are recommended to the management of the Golden Gate National Recreation Area:

- Implement policies and practices that will align with the U.S. Fish and Wildlife Service recovery plan for the Western Snowy Plover.
- Implement enforceable policies and practices that will preclude park visitors from bringing pets into the Wildlife Protection Area.
- Improve signage so that messaging will be easily and accurately conveyed.
- Consider possible methods of reducing pedestrian use of the WPA, especially through the deflation plane and foredune areas.
- Develop, to the fullest extent, interpretation of the Wildlife Protection Area as a tool to convey the notions of ecological stewardship, biodiversity, and endangered species protection.

## **References**

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