Photo by: Alexis Frangis taken at San Buenaventura State Beach 2013

Western Snowy Plover Annual Report

2013

Channel Coast District

By

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Federal Fish and Wildlife Permit TE-31406A-0

State Scientific Collecting Permit SC-010923

INTRODUCTION

Goals and Objectives

The western snowy plover (*Charadrius nivosus nivosus*) (WSP) occurs on McGrath State Beach (SB), Mandalay SB, San Buenaventura SB, and Carpinteria SB within the Channel Coast District (CCD), of California State Parks. McGrath SB, Mandalay SB, and now San Buenaventura SB provide both critical winter foraging and breeding habitats for the WSP. Carpinteria SB provides only critical winter foraging habitat for the WSP. Figures 1-4 illustrate site information for these beaches. In 2001-2002, the CCD established a broad program for the protection of the federally threatened WSP and its habitat on the CCD beaches. The goal of the CCD WSP program is to aid in the recovery of the population by increasing the amount of suitable habitat on CCD beaches, reducing disturbance to nesting and wintering WSP, and by preventing the take of WSP nests and chicks. All of this must be accomplished while continuing to provide high quality outdoor recreation and educational opportunities for park visitors.

Ongoing Objectives:

1. Conduct comprehensive nesting surveys by a U.S. Fish and Wildlife Service (USFWS) 10(a)(1)(A) permit holder.
2. Increase the hatch rate by protecting eggs and nests with the use of fencing and exclosures.
3. Reduce disturbance of WSP during the breeding season by educating park visitors and staff.
4. Reduce disturbance of WSP during the winter roosting and foraging season by educating park visitors and staff.
5. Continue collecting breeding and wintering roosting and foraging data from McGrath SB, Mandalay SB and San Buenaventura SB.
6. Continue adding data to the CCD survey database.
7. Continue to use data collected in previous years to make both operational and resource management decisions.

2012-2013 Management Strategies

1. Increase monitoring capabilities and efficiencies by training additional CCD natural resources staff to be added to the 10(a)(1)(A) permit.
2. Enlist volunteers to assist with surveying and monitoring.
3. Conduct winter and breeding season population monitoring once per week.
4. Participate in campground fireside programs about WSP.
5. Install symbolic fencing for the breeding season.
6. Manage reduced budget by re-furbishing and reusing materials from past seasons.
7. Conduct breeding season nest monitoring once per week.
8. Continue efforts to reduce disturbance of WSP and destruction of their nests.
9. Monitor effectiveness of protection activities and modify if necessary.
10. Provide information to increase State Park employee, volunteer, and park visitor awareness of WSP and their habitat.
11. Collaborate and share information with other WSP program managers.
12. Reduce risk of nest vandalism by limiting the use of nest exclosures.

Program Overview and Milestones

- 2001 CCD begins a comprehensive WSP program involving nesting and year-round population surveys, nesting area protection, data driven management, public and staff education, and volunteer involvement.
- 2002 CCD staff installs a semi-permanent fence around the WSP and CLT nesting area near McGrath Lake to keep the area free from human activity, especially illegal Off-Highway Vehicle (OHV) recreation and camping.
- 2003 the use of large triangular nest enclosures begins.
- 2004 “dogs prohibited” signs were placed along various major access points to the beach near nesting and winter roosting areas at McGrath SB in response to disturbance study results. Staff suspects nest enclosures draw unnecessary attention to 2 nests which leads to vandalism and nest loss. A new mini exclosure is used for the remaining portion of nesting season.

- 2005 winter storms deposit a tremendous amount of debris onto the beach and reduced the amount of available habitat. A portion of the remaining available nesting habitat is inundated as estuary levels rise causing the loss of several nests.
- 2006 nesting areas change significantly due to changes in beach and lagoon morphology caused by winter storms in 2005.
- 2007 nest vandalism and off leash dog disturbances are still a major contributor to nest failures.
- 2008 nest hatch success rate is the highest since monitoring began in 2003 with 85% hatch rate. Incidents of human vandalism are down and predation becomes biggest cause of nest loss.
- 2009 state budget woes result in the inability to pay for a contracted 10(a)(1)(A) permit holder. Volunteers fill in the gaps. This year has most nesting attempts recorded since 2004. Human vandalism is biggest cause of nest loss this season
- 2010 10(a)(1)(A) permit holder, Reed Smith is contracted to assist with monitoring and to provide necessary training for CCD staff to successfully apply for a 10(a)(1)(A) permit for WSP.
- 2011 CCD Environmental Scientist obtains a 10(a)(1)(A) permit for WSP and CLT. This year has the highest recorded number of nests hatched on CCD beaches since nest monitoring began in 2003.
- 2012 Nest hatch success rate is lowest since 2003 at 55%; however this year has the most nesting attempts on record since nest monitoring began in 2003. Human vandalism incidents result in decision to discontinue the use of nest exclosures for the remainder of the season. San Buenaventura SB has its first documented nest.
- 2013 Nest hatch success is lowest since monitoring began in 2003 at 19%. Minimal use of nest exclosures resulted in high predation rates. Nesting continues at San Buenaventura SB.

METHODS

Survey Areas

McGrath State Beach

The 339-acre McGrath SB (Figure 1) is bordered on the north by the Santa Clara River Estuary Natural Preserve and to the south by the GenOn Energy plant. The park can be accessed from Harbor Boulevard and the Ventura Harbor. It contains a campground, day use area, coastal dune complex, sandy beach, and a small back-dune lake located at the southern end of the property. The beach is divided into several sections for WSP monitoring purposes and reference to nest locations (Figure 5). McGrath SB has both wintering and breeding WSP populations.

Mandalay State Beach

Mandalay SB (Figure 2) is an undeveloped 100-acre beach parcel largely made up of sandy beach and disturbed coastal dunes. The site is accessed by public streets Harbor Boulevard and West Fifth Street. California State Parks owns Mandalay SB, but the unit is operated though a Local Operating Agreement with Ventura County Parks Department. Mandalay SB has both wintering and breeding WSP populations

San Buenaventura State Beach

The 131-acre San Buenaventura SB (Figure 3) is primarily a day-use park with grassy turf, picnic facilities, coastal dunes, and a broad sandy beach. The site can be accessed by many public streets off of Harbor Boulevard and is adjacent a small residential community in Pierpont Bay. The wide expanse of sandy beach is ideal for sunbathing, kite flying, picnicking, volleyball, and general beach recreation. Intensive summer recreation at San Buenaventura SB has made this beach an unlikely breeding site for the WSP. San Buenaventura SB only had a wintering WSP population until a nest was documented in 2012.

Carpinteria State Beach

The 62-acre Carpinteria State Beach (Figure 4) is a highly developed recreational beach containing a campground, picnic areas, and a visitor's center. The sandy beach at Carpinteria is usually very narrow and does provide not consistent WSP habitat. Occasionally WSP are found on Carpinteria SB. WSP may use Carpinteria SB as a stopover during migration. Carpinteria SB is monitored irregularly by volunteers and CCD staff.

Monitoring

Population monitoring and nest monitoring are utilized to determine the progress of management. Year round population monitoring occurs on all beaches where WSP are found. The data collected consists of total number of WSP seen, location of WSP, and leg bands observed. Winter flock population monitoring and breeding season population monitoring that does not require entering delineated nesting areas is completed at least once a week by CCD staff and/or Ventura Audubon Society volunteers using the population monitoring protocols described in Table 1. During the breeding season, population monitoring is typically done in conjunction with nest monitoring by a 10(a)(1)(A) permit holder.

Table 1: WSP Population Monitoring Protocol

Monitors will:	Winter Season	Breeding Season
• Start the survey as early in the morning as possible.	❖	❖
• Walk the entire length of the beach in a large zigzag trajectory to see more of the beach at close range.	❖	❖
• Use binoculars to frequently scan the beach for WSP.	❖	❖
• Record the number of WSP and locations of banded WSP.	❖	❖
• Record anything else of interest.	❖	❖
• E-mail data to the WSP Coordinator after each survey.	❖	❖
• Avoid entering the designated or likely nesting areas.		❖
• Record the status of all known nests by observing them through binoculars or spotting scope.		❖

Nest monitoring occurs weekly during the breeding season. Objectives include identifying nest locations, protecting nests, and determining nest fate. This is done by entering known nesting areas which may cause adult WSP to flush off a nest. Only 10(a)(1)(A) permit holders or those accompanied by one are allowed to enter nesting sites during breeding season. Nest monitoring for the 2013 breeding season was conducted by CCD Environmental Scientist Alexis Frangis, a 10(a)(1)(A) permit holder. California Department of Fish and Game Environmental Scientist Jennifer Gold, CCD Environmental Scientist Adam Maingot also assisted with nest monitoring. WSP nest monitoring protocols are described in Table 2. A nest is considered a "hatch" if at least 1 egg is known to have hatched, "fail" if no eggs hatch, and "unknown" if fate cannot be determined for a given nest.

Overall nesting success for a breeding population is quantified as the percent of nests that hatch versus nests that don't hatch. Fledge rate cannot accurately be determined because chicks are not banded on any CCD beaches. To determine if a nest has hatched, monitors look for pips and/or chicks in the nest. Indirect evidence such as displaying adults, eggshell pieces, or chicks nearby may also indicate a nest has hatched. A fail designation is assumed if there is direct evidence of loss, abandonment, or signs of predation. Nests are labeled

unknown when there is no physical evidence of fate. Unknown designations are given to nests that lack chicks, eggshells, displaying adults, or signs of predation.

Table 2: WSP Nest Monitoring Protocol

Monitors will:
• Perform tasks in Table 1. • Enter the designated or likely nesting areas. • Note locations of pairs exhibiting nesting or breeding behavior. • Record information about all new nests found, including number of eggs and whether the nest is being incubated or guarded by adults. • Use GPS unit to record location of nests. • Mark located nests with natural driftwood or a plain numbered tongue depressor to aid in locating the nest in next survey. • Protect nests with a mini exclosure, if deemed necessary. • Check the status of all known nests. • Determine 1 of 3 possible nest fates: hatch, fail, or unknown

MANAGEMENT ACTIONS

Superintendent's Closure Order

A Superintendent's Order is in place from March 15 to September 15 each year for McGrath SB (see appendix) to prohibit people and vehicles from entering nesting areas that are delineated with semi-permanent or seasonal symbolic fencing. The WSP Coordinator sends updates and reminders to park staff when this seasonal order is in effect.

Nesting Habitat Protective Fencing

The 2000 linear feet of year round semi-permanent fence composed of t-posts and durable synthetic mesh installed around McGrath Lake was replaced with 2500 feet of new fence material purchased with the Audubon Endowment for State Parks grant. 6000 linear feet of seasonal symbolic fencing was installed at McGrath SB in March prior to the start of the breeding season. Oxnard City Corps (OCC) volunteers installed all fencing at McGrath

SB. Ventura County Parks installed an additional 3200 linear feet of seasonal semi-permanent fence at Mandalay SB under the guidance of a 10(a)(1)(A) permit holder. Semi-permanent fence was chosen for Mandalay SB because this unit is not regularly patrolled by State Parks personnel and has high visitor usage. 1600 linear feet of symbolic fence was installed at San Buenaventura SB to protect the nests during the 2013 season.

Symbolic fencing consists of thimble eye bolt anchor rods strung together with rope and posted with WSP seasonal closure signs. 250 new signs were purchased with funds from the Audubon Endowment for State Parks grant acquired in partnership with the Ventura Audubon Society. The appendix contains an illustration of the new WSP seasonal closure sign used at McGrath SB. Symbolic fencing was installed near McGrath Lake north and south of the semi-permanent fence and west of the campground. Individual symbolic fences were installed throughout the breeding season as nests were discovered in high use areas outside of the fencing. Fencing west of the campground has historically primarily protected a large nesting colony of federally endangered California least tern (CLT); however, it also provides protection for WSP because CLT and WSP have similar nesting habitats. The blue lines on the map in Figures 6 and 7 indicate locations of fences put up to protect nesting areas.

Mini Nest Exclosures

The triangular exclosures originally described in the recovery plan were used to protect nests until mid-way through the 2004 breeding season. Mini nest exclosures similar to those field tested at Bolsa Chica were used after some nests protected by triangular exclosures failed due to human tampering. The smaller footprint and the fact that the wire blends in with the background makes mini exclosures more difficult to see at a distance. Mini exclosures were constructed from 2" x 4" mesh welded wire fencing. It has a square shape with 36 inch sides and a top to prevent predation by avian and mammalian predators. The photo below shows a mini exclosure used on CCD beaches.

Mini exclosure on a nest

An effort is made to install exclosures at times when adverse effects to nesting fate are minimal. The recovery plan indicates conditions when placing nest exclosures is appropriate. Guidelines require air temperatures less than 80 deg F, wind speeds less than 20 mph, and fair weather. Additionally, exclosures are placed on nests no sooner than 1.5 hours after sunrise or 2 hours before sunset. Since 2010 mini exclosures have been constructed out of tomato cage wire which is a lighter and cheaper material with the same 2" x 4" mesh openings. The new material made construction and transportation of the mini enclosures onto the beach easier and more cost effective.

The CCD has relied heavily on nest exclosures to increase WSP hatch rate and reduce loss of WSP nests to predators. However, increased incidents of human disturbance to nest exclosures in recent years have driven the CCD to reexamine the use of exclosures. Exclosures are effective at deterring nest predators; however the risk of human vandalism needs to be carefully considered when deciding whether or not to place an exclosure over a nest. With approval of the USFWS next year nest exclosures will be reduced to 24 inch sides to minimize visibility by the public.

Public Education

WSP monitors routinely interact with park visitors recreating on the beach during population and nesting surveys. Typical contacts are initiated by monitors in order to address a situation where visitor activities are inconsistent with park rules and may disturb critical WSP habitat. Many contacts involve unauthorized dogs or dogs off leash. All dog owners encountered on the beach are informed about the park rules pertaining to dogs on state beaches and areas within the park or nearby where dogs are allowed. The "Dog Owner's Guide" created by park staff continues to be a great tool to provide for park visitors who wish to take their dogs to the beach (see appendix). Visitor education also consists of interpretive signs and educational pamphlets that include information regarding WSP status, threats, description of nesting and roosting zones, and how visitors can help protect the WSP. Informational signs are posted around all fenced areas. Pamphlets are distributed at the McGrath SB kiosk and by park staff when the park is open.

Volunteer Efforts

The Ventura Audubon Society and Oxnard City Corps (OCC) are the primary volunteers. Volunteers logged a total of 228 hours during this year's management efforts by monitoring wintering and nesting WSP, installing and removing protective fencing, and providing educational outreach. OCC volunteers put in 120 hours replacing, installing and removing fencing. Jennifer Gold provided 100 hours of winter and breeding season monitoring assistance. Ventura Audubon Society volunteer Debra Barringer provided 8 hours of monitoring. She and Danielle Glenn were available "on-call" when a permitted monitor was needed. This season McGrath SB did not have a volunteer Natural Resources Campground Host as anticipated. The park was closed for the majority of the year due to severe flooding cause by the Ventura Wastewater Reclamation Facility effluent discharge into the Santa Clara River Estuary during a closed berm condition.

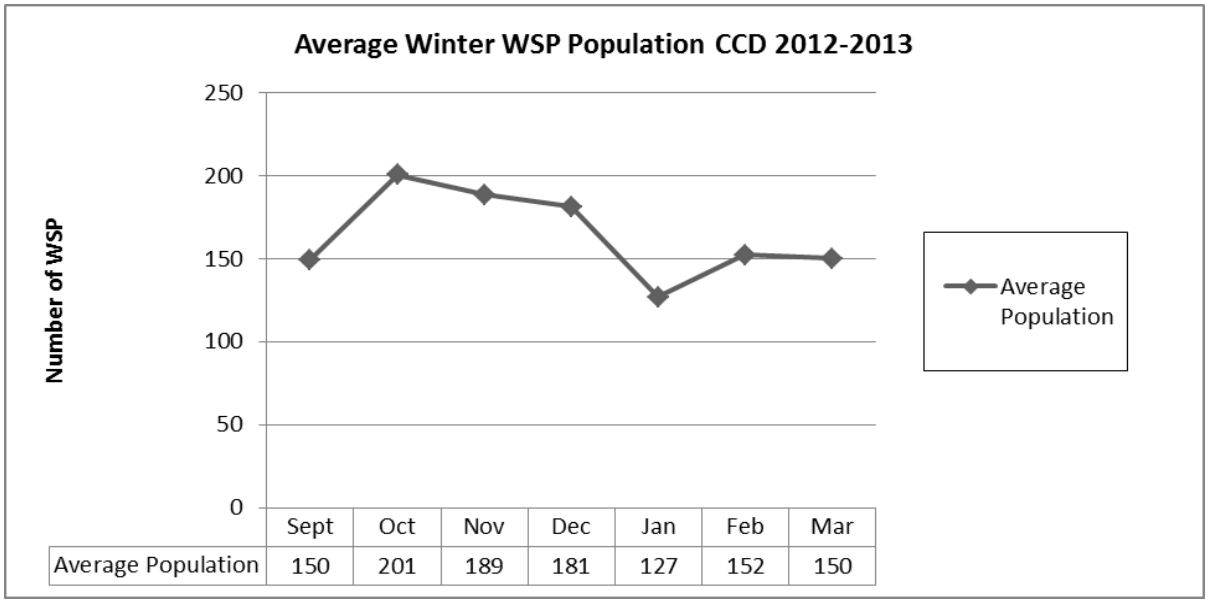
The Ventura Audubon Society was awarded an endowment grant from the National Audubon Society in the amount of $4,472 to support WSP and CLT protection and monitoring at McGrath SB. The grant provided for the purchase of 242 new regulatory signs

(new signs shown in appendix) and new fencing material to protect nesting areas, as well as covered minor expenses such as providing lunch and beverages for volunteers installing the new fencing.

RESULTS

Winter Surveys

Three CCD beaches, (McGrath SB, Mandalay SB, and San Buenaventura SB), provide consistent winter roosting and foraging habitat for WSP. These beaches support a significant number of WSP during migration and through the winter, with over 200 birds observed at these locations. In recent years San Buenaventura SB has become the preferred wintering site for the majority of WSP in the CCD. WSP population monitoring occurred weekly (weather permitting) during the 2012-2013 winter season. Observed band combinations indicate that birds hatched in Oceano Dunes SVRA, Vandenberg Air Force Base, Marina SB, Salinas SB, and Salinas National Wildlife Refuge in California, Coos Bay and North Overlook in Oregon wintered or stopped over during migration on CCD beaches. Numbers from the winter 2012-2013 season can be seen in the graph 1 and survey data including band combinations can be found in the appendix.



	Sept	Oct	Nov	Dec	Jan	Feb	Mar
Average Population	150	201	189	181	127	152	150

Graph 1. Average winter season WSP populations in the CCD.

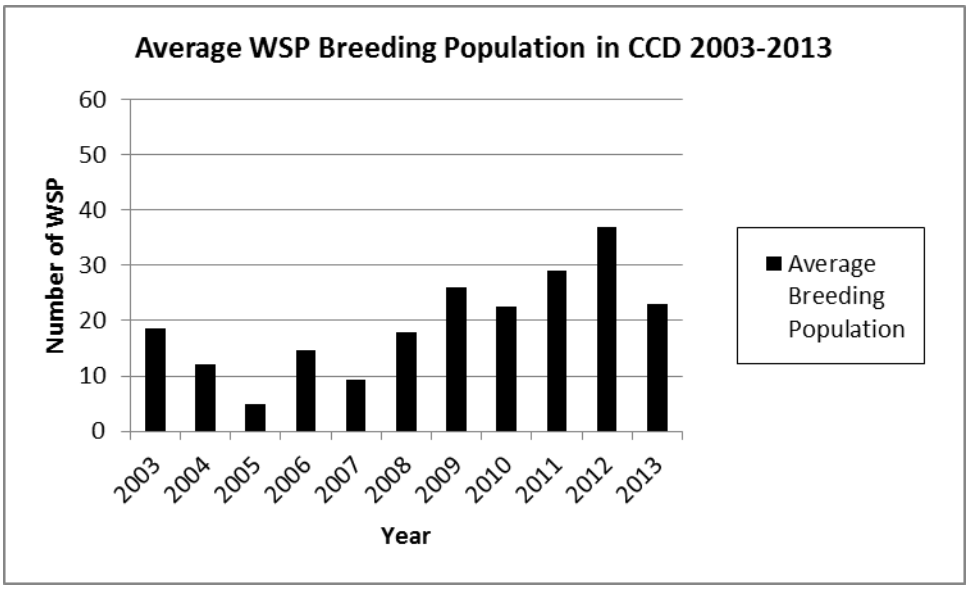
The results of monitoring efforts for the 2012-2013 winter season are summarized in Table 3.

Table 3: Winter Survey Season September 16, 2012 – March 14, 2013

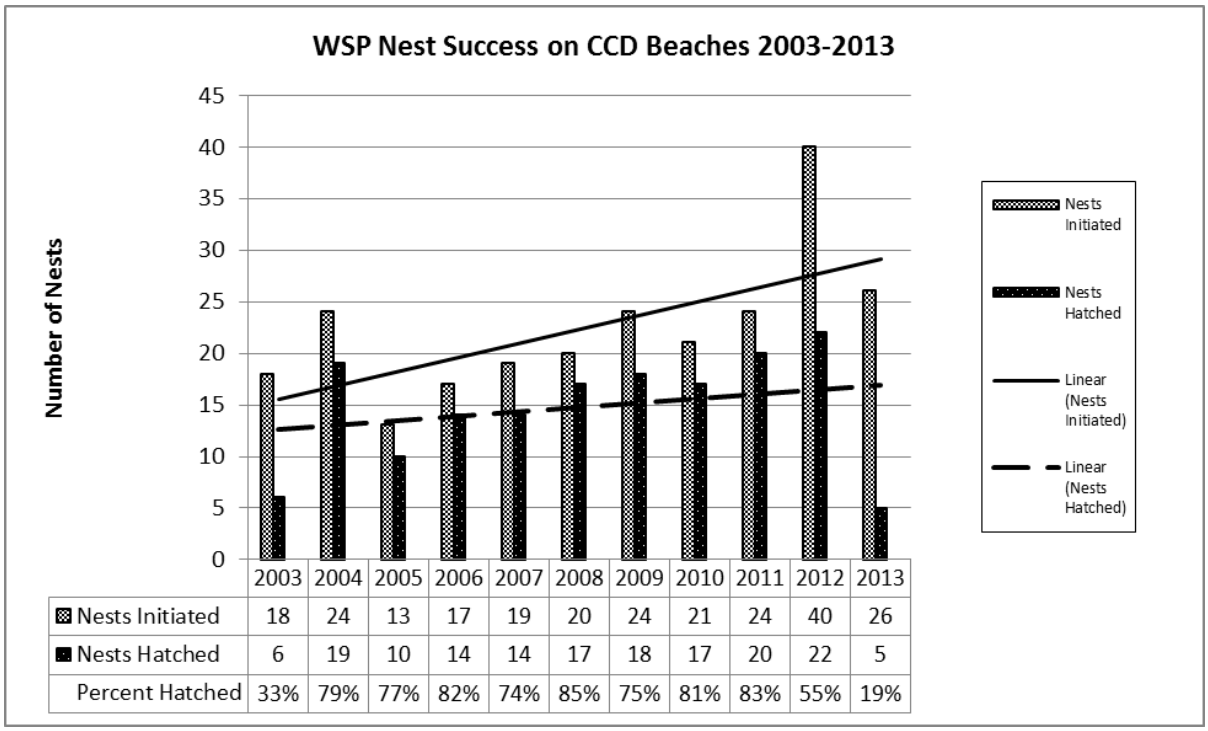
Beach Site	# Surveys	Date First WSP Seen	Date Last WSP Seen	Max # WSP Seen	Min # WSP Seen	Avg # WSP Seen
San Buenaventura	24	9/7/2012	WSP continued into breeding season	171	0	109
McGrath	24	WSP Occur Year Round	WSP Occur Year Round	127	0	28
Mandalay	24	WSP Occur Year Round	WSP Occur Year Round	48	0	29
Carpinteria	1 Winter Window Survey	NA	NA	0	0	0

Breeding Season Surveys

McGrath, Mandalay, and San Buenaventura SB support breeding WSP. Average WSP breeding population numbers in the CCD from 2003 to present are summarized in graph 2 and graph 3 shows hatch rate success for all breeding sites.



Graph 2. Average breeding season WSP populations in the CCD based on average populations from May surveys. The recovery goal for McGrath and Mandalay SB is 60 breeding adults. No recovery goals were set for San Buenaventura SB.



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Nests Initiated	18	24	13	17	19	20	24	21	24	40	26
Nests Hatched	6	19	10	14	14	17	18	17	20	22	5
Percent Hatched	33%	79%	77%	82%	74%	85%	75%	81%	83%	55%	19%

Graph 3. WSP hatch success for all CCD breeding sites from 2003 to 2013

The results of monitoring efforts in CCD for the 2013 breeding season are summarized in table 4. Maximum WSP numbers are observed during migration.

Table 4: Breeding Survey Season March 15, 2013 – September 15, 2013

Beach Site	# Surveys	Date First WSP Seen	Date Last WSP Seen	Max # WSP Seen	Min # WSP Seen	Avg # WSP Seen	# Nests	# Eggs	# Nests Hatched	# Eggs Hatched	# Nest Failures
San Buena-Ventura	21	Winter Flock Arrived 9/7/2012	7/26/2013	80	0	13	5	15	1	2	4
McGrath	28	WSP Occur Year Round	WSP Occur Year Round	45	0	14	13	33*	4	10**	9
Mandalay	31	WSP Occur Year Round	8/6/2013	39	0	8	8	20	0	0	8
Carp-interia	1 Spring Window Survey	NA	NA	0	0	0	WSP do not nest at Carpinteria				

*Number of eggs in undiscovered nests is not known and is based on the number of chicks observed.

**One egg hatched in captivity.

McGrath State Beach

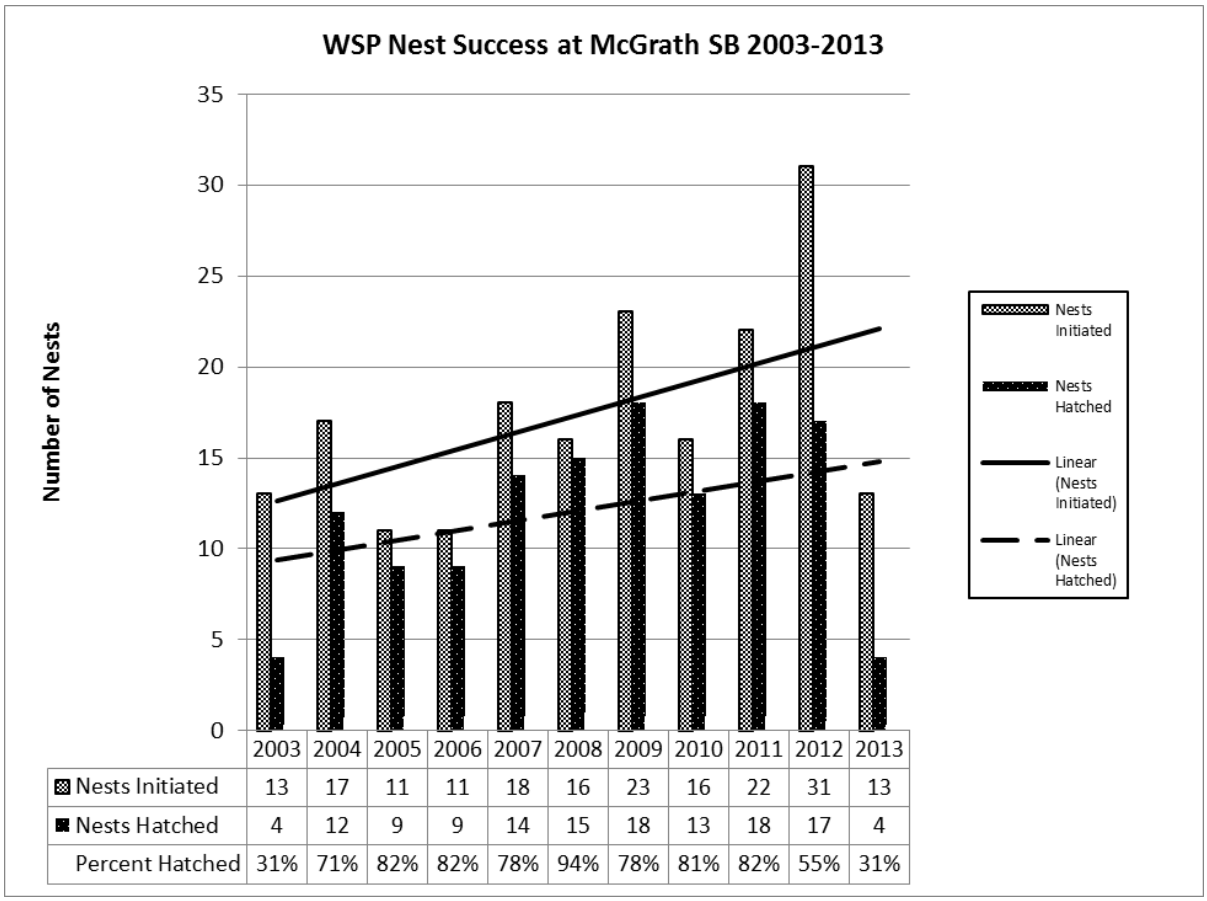
The first WSP nest of the 2013 breeding season at McGrath SB was found during the week of April 16, 2013 and the last nest was located July 23, 2013. This site had a total of 4 nests hatch out 13 known nests initiated by the end of the breeding season for a hatch success rate of 31 percent (Graph 4). See appendix for full nest data details and Figure 6 for nest locations.

Due to the nest vandalism experienced in the 2012 season a decision was made to minimize the use of mini exclosures in the 2013 season. 1 nest was lost to crows, 4 nests were lost to unidentified predators, 1 nest was washed out and a fate could not be determined for 3 nests, although it is likely they were lost to unidentified predators. Based on predators and tracks observed in and around the nesting area, suspected predators include opossum, raccoon, ground squirrel, crow, raven and other avian predators. Nest fates are shown in graph 5. In the latter part of the season many nests were concealed in or underneath vegetation rather than in an open scrape on exposed sand. This shift to more inconspicuous nest site selections may have been a response to nest predation.

9 of 13 WSP nests found were inside symbolic fencing and 1 of 13 nests was protected by a mini exclosure. The nest that was protected by a mini exclosure was washed out. This nest was laid outside of the fencing at the edge of the GenOn Power Plant outflow channel. The channel began to flow north, eroding the beach and dunes and ultimately resulting in the loss of the nest. CCD staff contacted the USFWS Ventura Office who authorized the eggs to be collected and taken to a facility for incubation and captive rearing. Two eggs were washed out and one was recovered and delivered to Coal Oil Point Reserve (COPR) where it hatched a few days later. The chick was given leg bands (color combination pa:Yy) and was released at COPR upon fledging in September.

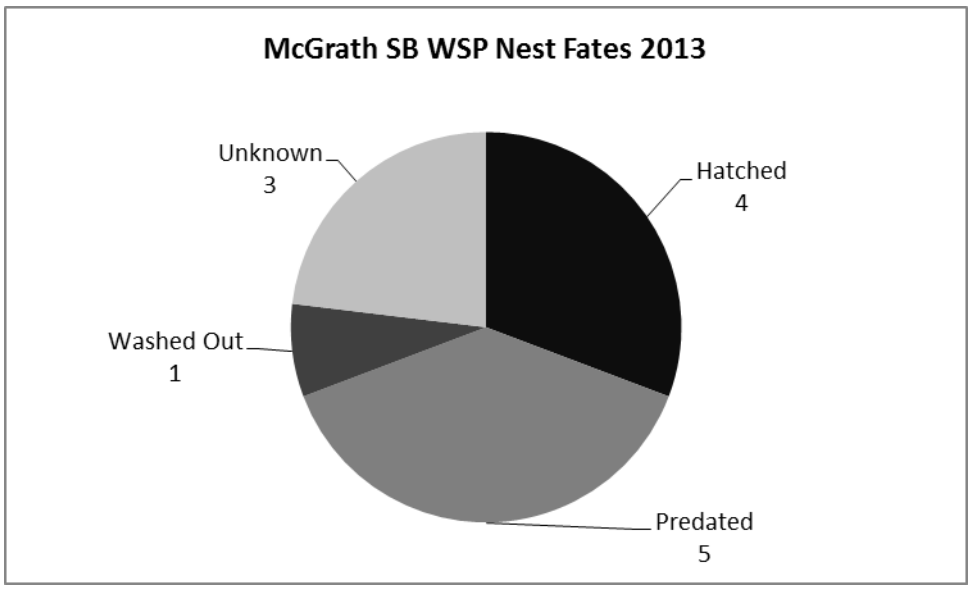
One successfully hatched nest was never physically located by weekly nest surveys but was determined to exist through indirect observations, in this instance, the presence of first week chicks. One banded female WSP nested at McGrath this year. The bird had a single aluminum band on the right leg and made one nest attempt which was lost to an unidentified predator. It was not possible to obtain numbers from the aluminum band so the origin of this bird is unknown.

Since nest numbers were low this year, it was possible to track broods throughout the season with some degree of accuracy. It is estimated that at least 3 chicks fledged at McGrath this season, 1 chick from 3 of the 4 hatched nests. 1 WSP egg from 1 nest failed to hatch. The egg was collected and delivered to the Western Foundation of Vertebrate Zoology in Camarillo.



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Nests Initiated	13	17	11	11	18	16	23	16	22	31	13
Nests Hatched	4	12	9	9	14	15	18	13	18	17	4
Percent Hatched	31%	71%	82%	82%	78%	94%	78%	81%	82%	55%	31%

Graph 4. WSP hatch success for McGrath SB from 2003 to 2013



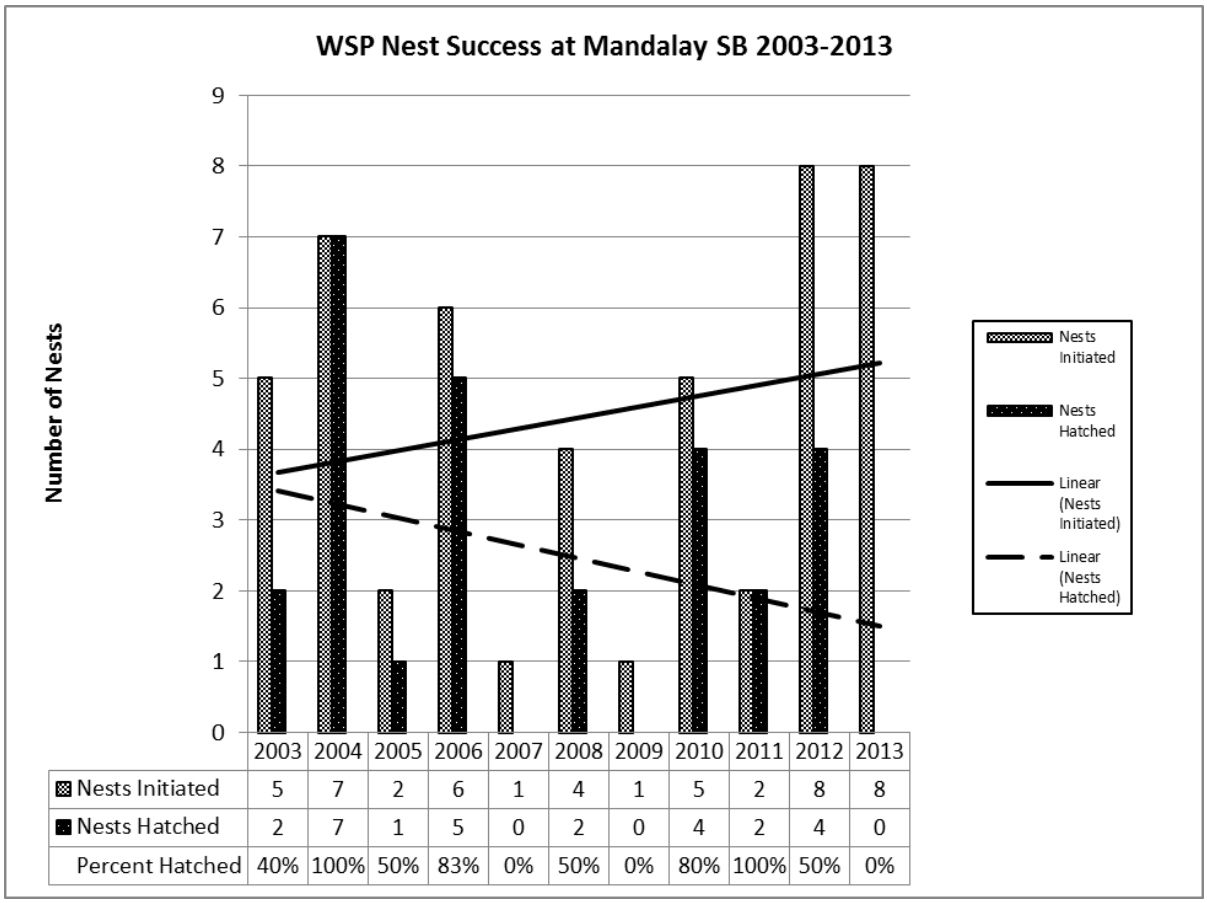
Graph 5. McGrath SB WSP nest fates 2013.

Mandalay State Beach

The first nest of the 2013 breeding season at Mandalay SB was discovered during the week of March 28, 2013 and the last nest was found during the week of June 11, 2013. This site had 0 nests hatch out 8 nests initiated by the end of the breeding season for a hatch success rate of 0 percent (Graph 6). See appendix for full nest data details and Figure 7 for nest locations.

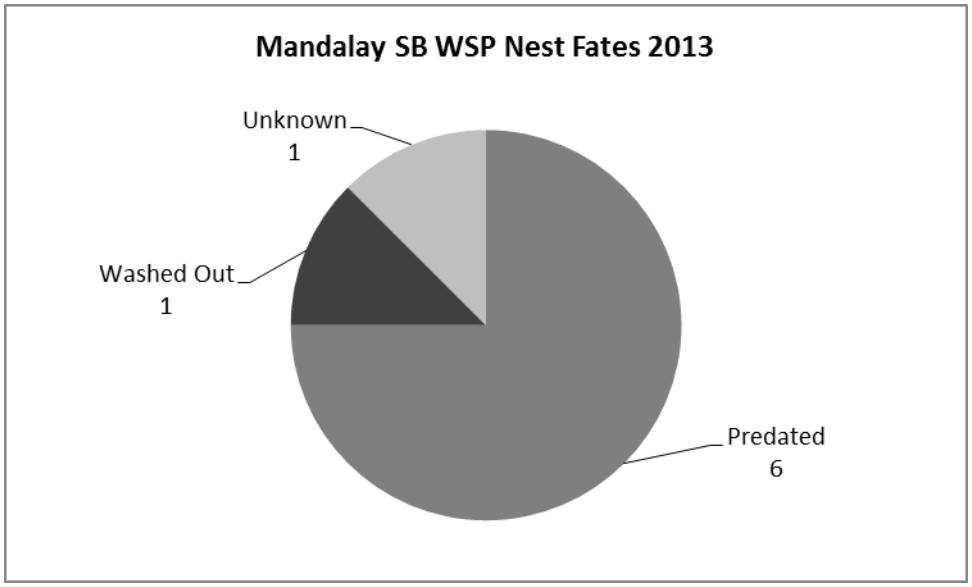
The use of mini exclosures has been minimized at Mandalay SB due to a history of human vandalism at this site. Still, the risk of predation is extremely high with crows and ravens being the primary predator. 4 nests were lost to crows or ravens, 2 nests were lost to an unidentified predator, 1 nest was lost to wave wash and/or high winds, and a fate could not be determined for 1 nest. Nest fates can be seen in graph 7. All 8 of the nests were laid inside of the protective fencing and none of the nests were protected by mini exclosures.

The nest given the unknown fate was incubated within a week of its expected hatch date, however no chicks were observed and pips were not located. It is unclear whether the eggs were predated prior to hatching or if the chicks were predated shortly after hatching. Throughout the season monitors observed nest scrapes that appeared to be predated but were never confirmed nests. It seemed that the predators, particularly crows, were finding and predating nests before monitors were able to locate them. The last 5 nests of the season were predated within a week or less of being discovered by the monitors. By late June the plovers had abandoned Mandalay and no additional nest attempts were made.



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Nests Initiated	5	7	2	6	1	4	1	5	2	8	8
Nests Hatched	2	7	1	5	0	2	0	4	2	4	0
Percent Hatched	40%	100%	50%	83%	0%	50%	0%	80%	100%	50%	0%

Graph 6. WSP hatch success at Mandalay SB from 2003 to 2013



Graph 7. Mandalay SB WSP nest fates 2013

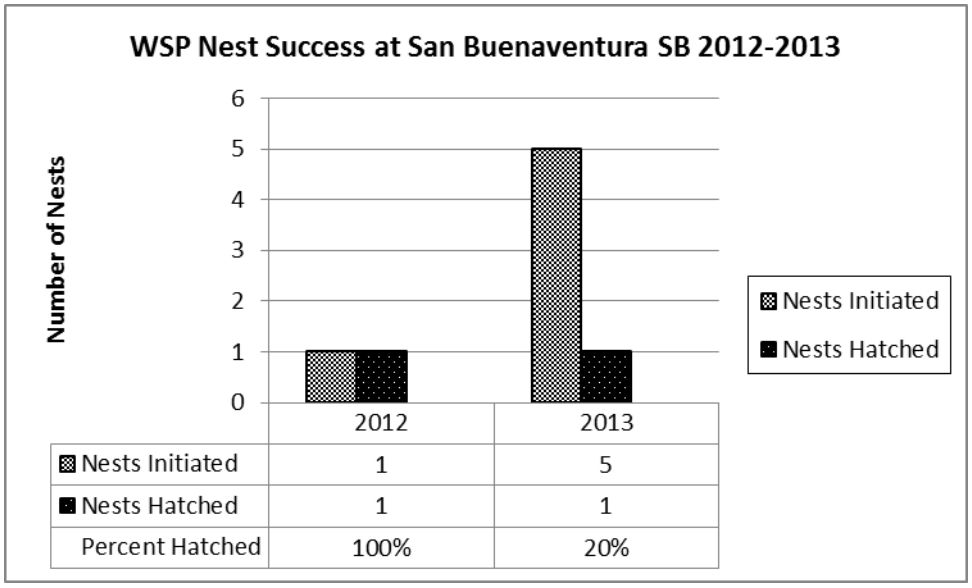
San Buenaventura State Beach

The first nest of the 2013 season was found during the week of March 28, 2013 and the last nest was found during the week of June 24, 2013. This site had 1 nest hatch out 5 nests initiated by the end of the breeding season for a hatch success rate of 20 percent (Graph 8). See appendix for full nest data details and Figure 8 for nest locations.

The upper portion of the beach at San Buenaventura is groomed to accommodate human recreation. Selective grooming of the beach has altered the beach profile. Cobble substrate above the wrack line is not groomed and provides prime winter roost and nesting habitat for WSP. Symbolic fencing was installed around individual nests as they were located. A mini exclosures was used on 1 of the 5 nests and was the only nest to hatch. One nest scrape was located that appeared to have been predated before it was a confirmed nest by monitors. 1 nest hatched, 2 nests were lost to crows, 1 nest lost to an unknown predator and a fate could not be determined for 1 nest.

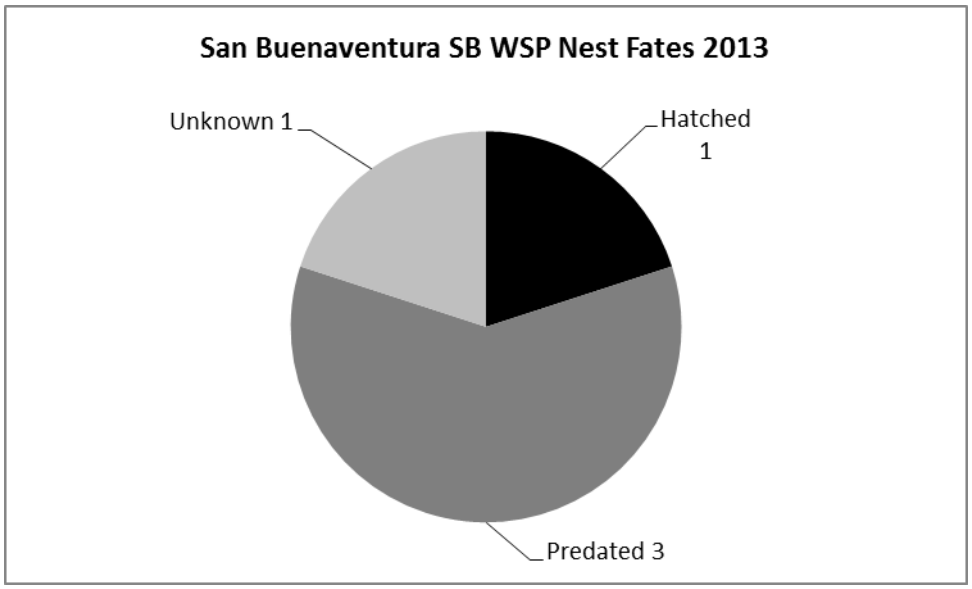
There were two snowy plover pairs nesting at San Buenaventura SB this year. The first pair made 2 failed nest attempts in the cobble near the volleyball courts at the south end of the beach. This coincidentally was the same location as the 2012 nest. The first nest was lost to a crow; predation of eggs was observed by nest monitors. The second nest was lost to an unknown predator, most likely a crow, however tracks were unclear. The second nesting pair made 2 failed nest attempts followed by 1 semi-successful nest attempt at the north end of the beach. The first nest of this pair was incubated to the expected hatch date, but chicks were not observed. The area had become windblown making it unclear whether the eggs were predated prior to hatching or if the chicks were predated after hatching. The scrape was uncovered and no egg contents were identified. The second nest attempt of this pair was lost to a crow as indicated by tracks present at the nest site. The final nest attempt was protected with a mini exclosure. The nest hatched, however the chicks were predated within the first week, most likely the first day. This nest was located in the cobble on the south side of lifeguard tower 4. The Junior Lifeguard program utilizes the beach on the north side of tower 4. A large gull roost had formed inside the symbolic fence, which unintentionally

offered the gulls protection from human disturbance and close proximity to forage opportunities. Nest fates can be seen in Graph 9.



	2012	2013
Nests Initiated	1	5
Nests Hatched	1	1
Percent Hatched	100%	20%

Graph 8. WSP hatch success at San Buenaventura SB from 2012 and 2013



Graph 9. San Buenaventura SB WSP nest fates 2013

CONCLUSION

Breeding Season

The 2013 breeding season should be viewed as a continuation of the recovery for the WSP in the CCD. While it is difficult to determine long term trends from the available data, we can conclude that since management efforts began in 2002, there appears to have been an increase in overall nesting attempts and relatively stable hatch rates, the last 2 years being exceptions. The goals of the monitoring and management efforts put forth by the CCD WSP Program are to benefit WSP nesting success on CCD beaches. The total hatch success collectively for all CCD beaches containing breeding WSP in 2013 was 19 percent as seen in graph 3. This is the lowest hatch rate on record. The decreased hatch rate can be attributed to the lack of reliance on mini exclosures and subsequent nest loss to predators. The recovery plan states a management goal of 60 breeding adult WSP for McGrath and Mandalay SB's combined. This year these beaches averaged just over 20 breeding adults which is a significant decrease from 2012 as seen in graph 2.

The 2013 season at McGrath SB saw a decrease in the total number of nests initiated and hatched resulting in a decreased hatch rate. McGrath SB exhibits an overall positive trend in nests initiated and hatch rate since 2003, as seen in graph 4. However, there has been a decrease in nests hatched in the last two years. This can be attributed to the nest vandalism event in 2012 and lack of use of mini exclosures this season. It is clear that mini exclosures can increase the hatch rate, however it is not possible to obtain accurate fledge data without banding chicks and/or more intensive monitoring.

A greater number of opossum and raccoon tracks were observed in the nesting areas this season. Similarly, coyotes usually decrease in numbers and are infrequently seen when the park is full of visitors during the peak use season, however coyotes were more abundant throughout the summer and more tracks were observed in the nesting area this season than usual. The abundance of predators combined with the lack of nest exclosure use resulted in significant nest loss to predation. This year McGrath SB was severely flooded causing closure of the campground. The flooding may have an unanticipated effect on predator distribution and prey resources. The campground has facilitated an abundance of opportunistic predators (crows, raccoons, opossums) and without anthropogenic sources of

food available because of the campground flooding and closure, these predators may have gone further away from the campground and into nesting areas in search of food. Given the extreme failure rate of nests without the use of exclosures this year, nest exclosures will be used next year with the goal of increasing the hatch rate. Until alternative methods of predator management are employed at this site nest exclosures are the only predator management tool available. The use of remote trail cameras will aid in monitoring of exclosed nests.

Mandalay SB had a significant decrease in the number of nests hatched in 2013 compared to 2012. Mandalay SB exhibits a positive trend in nests initiated, but a negative trend in hatch rate since 2003 as seen in graph 5. The increase in nests initiated is likely a result of the same pairs re-nesting after failed nest attempts and does not imply an increase in the local breeding population. This is evident by the negative trend in hatch success. This long term decrease in nest success is likely a result of the constant human disturbances on this beach as well as predation primarily from crows. The dunes at this site are also plagued with European beach grass which is not desirable nesting habitat. The fence surrounding the nesting area at Mandalay SB was in constant need of repair throughout the 2013 nesting season as it suffered repeated damage from human vandalism. Posts were knocked over or removed, the mesh fencing was ripped or cut and signs broken. Throughout the nesting season there was evidence of trespass from people and dogs inside the fenced area. Although the risk of human vandalism is extremely high at this site, without the use of nest exclosures all nests were lost to predators. Without alternative means of predator management, nest exclosures will be selectively utilized next year with the goal of increasing the hatch rate.

Nesting occurred at San Buenaventura SB again this year. At the time the WSP Recovery Plan was written nesting was not expected to occur at this site; therefore a recovery goal of breeding adults was not established for San Buenaventura SB. Although there was an increase in nests initiated at San Buenaventura SB this year, there was only 2 pair each making multiple nest attempts as a result of multiple failures. The hesitation to use nest exclosures is two-fold. There is the risk of human vandalism, but also it serves to encourage nesting on a beach with a very low chance of success. Chick survivability is low at this site due to the abundance of predators as well as anthropogenic sources of disturbance. A potential strategy to explore next year is to facilitate early season nest hatching with use of

nest exclosures. Chicks may have a better chance of surviving to fledging age earlier in the season before the beach gets busy with recreation, crows begin to fledge their young and large gull roosts form on the beach in late summer. Additional fencing closer to the wrack line would provide safe forage opportunities for chicks and would likely increase their chance of survival.

Although it is clear that predation on both WSP and CLT eggs and chicks does occur on CCD beaches, predator control efforts are not being pursued at this time. Lethal predator control is generally not feasible on heavily used public beaches such as those found in the CCD. Potential predators that have been observed in the vicinity of the nesting areas include various species of gull, crows, ravens, great blue herons, great egrets, loggerhead shrikes, peregrine falcon, red-tailed hawks, red-shouldered hawks, northern harriers, American kestrels, Cooper's hawks, white-tailed kites, merlins, coyotes, opossum, raccoon and ground squirrels. Despite the many possible predation sources, human caused disturbance can be a far greater threat to WSP nests than predation. Trespass into nesting areas, vandalism of nest exclosures, off-leash dogs, and equestrian use on the beaches are an ongoing issues at McGrath SB and Mandalay SB. Greater efforts are needed to better protect WSP nesting areas from trespass by beachgoers as well as protecting individual nests from vandalism. In addition to human disturbances, WSP also face environmental threats in the form of inclement weather, strong winds, and high tides.

CCD 10(a)(1)(A) Recovery Permit

The State Parks Environmental Scientist/WSP program coordinator holds a current USFWS 10(a)(1)(A) permit. An application was submitted to add additional CCD Natural Resources staff as authorized individuals under the existing recovery permit. Volunteer monitors Debra Barringer and Danielle Glen are also recovery permit holders. USFWS biologist Matthew Hillman received 8 hours of training from CCD staff towards a 10(a)(1)(A) permit.

Public Education

It is difficult to quantify the benefits of public education. This year no Natural Resources Campground Host was hired since the McGrath campground was closed due to flooding during the peak season. Education efforts consisted of public contacts made in the field by CCD Staff and distribution of pamphlets that included information about WSP. Informational signs are placed around all fencing areas, including signs created by the Ventura Audubon Society's Share the Shore Children's Poster Project. The Ventura Audubon Society promotes WSP and CLT awareness in their activities and at events. There is a need for a docent program to educate the public on the beach about WSP.

Dog Owner Contacts

The majority of dog owner contacts at McGrath are at the south end of the property with dog owners who enter the beach from Mandalay and near the Santa Clara River Estuary with dog owners who enter the beach from Surfer's Knoll at the Ventura Harbor. When the park is open dog contacts also occur near the campground beach access with park visitors who bring their dogs to the beach. Many dog owners who were contacted had their dogs off leash. Two "No Dogs" signs as well as WSP and CLT interpretive signs are in place near Surfer's Knoll, but they are up on the dry sand where they are not threatened by high surf. The majority of dog owners entering the beach from Surfer's Knoll walk directly to the wet sand and head on to State Property without seeing the "No Dogs" signs and unaware that they have entered a State Park. This is in part due to the slope of the beach and distance of the signs. The Ventura Port District installed signs at the beach entrances from Surfer's Knoll indicating where dogs are and are not allowed.

Many dog owner contacts occur at Mandalay SB where dogs are often observed off leash. When asked to leash their dogs, the majority of dog owners comply. Mandalay SB currently lacks signage indicating the location of the State Park boundary. It also lacks signage indicating regulations regarding dogs on the beach. Several "No Dogs" and "No Horses" signs were installed by Ventura County Parks at the park boundary near Fifth Street

in 2012. The signs and posts were entirely removed by vandals within a few days. Erecting permanent signage at Mandalay SB would aid in WSP recovery, potentially reduce the need for enforcement of dog rules and regulations, and create an opportunity for interpretation and public education.

Dog owner contacts also occur at San Buenaventura State Beach. The majority of beach entrances and lifeguard towers are well signed with "No Dogs"; however the beachfront community of Pierpont continually brings dogs onto the beach. Many dog owners also walk down the beach from the Ventura Pier or up the beach from Marina Park where dogs are allowed without seeing "No Dogs" signs. Dog owners are contacted and directed to adjacent City property where dogs are allowed.

Equestrians

Equestrian use of McGrath SB and Mandalay SB is a continuing issue. Horseback riding is not a permitted activity at McGrath or Mandalay SB. This activity can pose a significant threat to WSP nests and chicks. Equestrians have been observed accessing the beach from Fifth Street at Mandalay and riding north to McGrath SB. Evidence of equestrian use of the beach is frequently observed in the form of droppings. Contacts are made by State Parks environmental scientists, rangers, and lifeguards. Currently the park lacks any signage indicating that horses are prohibited.

Recommendations

Based on past observations and current funding, the recommendations for the 2014 season are to continue the existing level of protection and monitoring as well as to:

1. Enlist the assistance of trained volunteers to assist with WSP and CLT monitoring.
2. Continue to install fencing and signage based on data and annual changes in breeding site preference and document locations.
3. Reconfigure fencing and increase signage near the McGrath SB campground where trespass is most prevalent.
4. Protect outlier nests with individual symbolic fences, at least 100 feet on each side.
5. Selective use of mini exclosures. With approval of USFWS, reduce the size of mini exclosures to 24" sides to minimize visibility.
6. Use mini exclosures at San Buenaventura early in the season when the chance of chick survival is greater.
7. Explore non-lethal methods to deter predators.
8. Install temporary "No Dogs" signs closer to the shoreline at McGrath SB's northern boundary during the breeding season. Replace or install new "No Dogs" signs at beach access points throughout McGrath State Beach.
9. Install permanent "No Horses", "No Dogs", and WSP interpretive signs at Mandalay SB.
10. Encourage McGrath SB and San Buenaventura SB kiosk staff to distribute WSP pamphlets to every visitor during the breeding season.
11. Assign well trained Natural Resource Host(s) to assist with visitor contacts, collaboration with docents, and WSP habitat protection, pending McGrath opening.
12. Conduct pre-breeding season staff training and send memo to local agencies that may need to operate on CCD beaches.
13. Provide outreach to local communities (Pierpont and Oxnard Shores) to educate local public about nesting birds on adjacent beaches.
14. Deploy remote cameras in nesting areas to document depredation events and human disturbance and use the information as a tool to guide management decisions.

Acknowledgements

Thanks to all of the CCD staff for their cooperation and support protecting snowy plovers and least terns. A special thanks to Ventura Sector Lifeguards for assistance with fence installation at San Buenaventura SB. Big thanks to Jennifer Gold with the California Department of Fish and Wildlife for her assistance with surveys and monitoring. Thanks to Ventura Audubon Society volunteer Debra Barringer for her assistance with surveys and monitoring as well as the Ventura Audubon board members for securing a grant to purchase much needed signs, fencing and other supplies. Thanks to Frances Bidstrup with Point Blue Conservation Science (formerly Point Reyes Bird Observatory) for providing color band information and compiling WSP data from across the range. Thanks to Coal Oil Point Reserve staff Cristina Sandoval and April Price for hatching, fledging and releasing the salvaged snowy plover egg from McGrath SB and thanks to Doug George for banding the chick.

LITERATURE CITED

California Department of Parks and Recreation Channel Coast District. 2003. *McGrath State Beach Natural Resources Management Plan.*

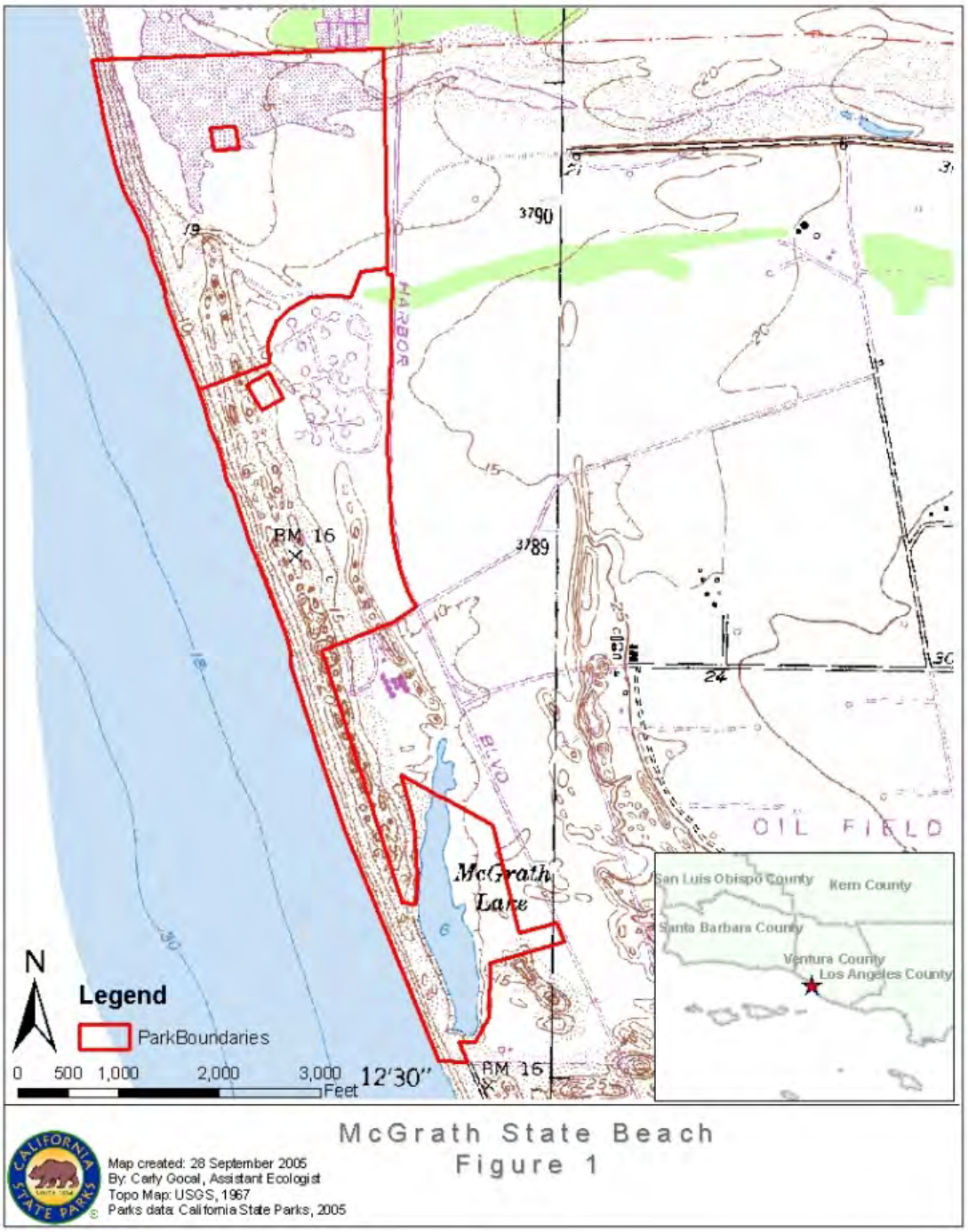
California Department of Parks and Recreation. 1979. *Santa Barbara/Ventura Coastal State Park System General Plan, McGrath.*

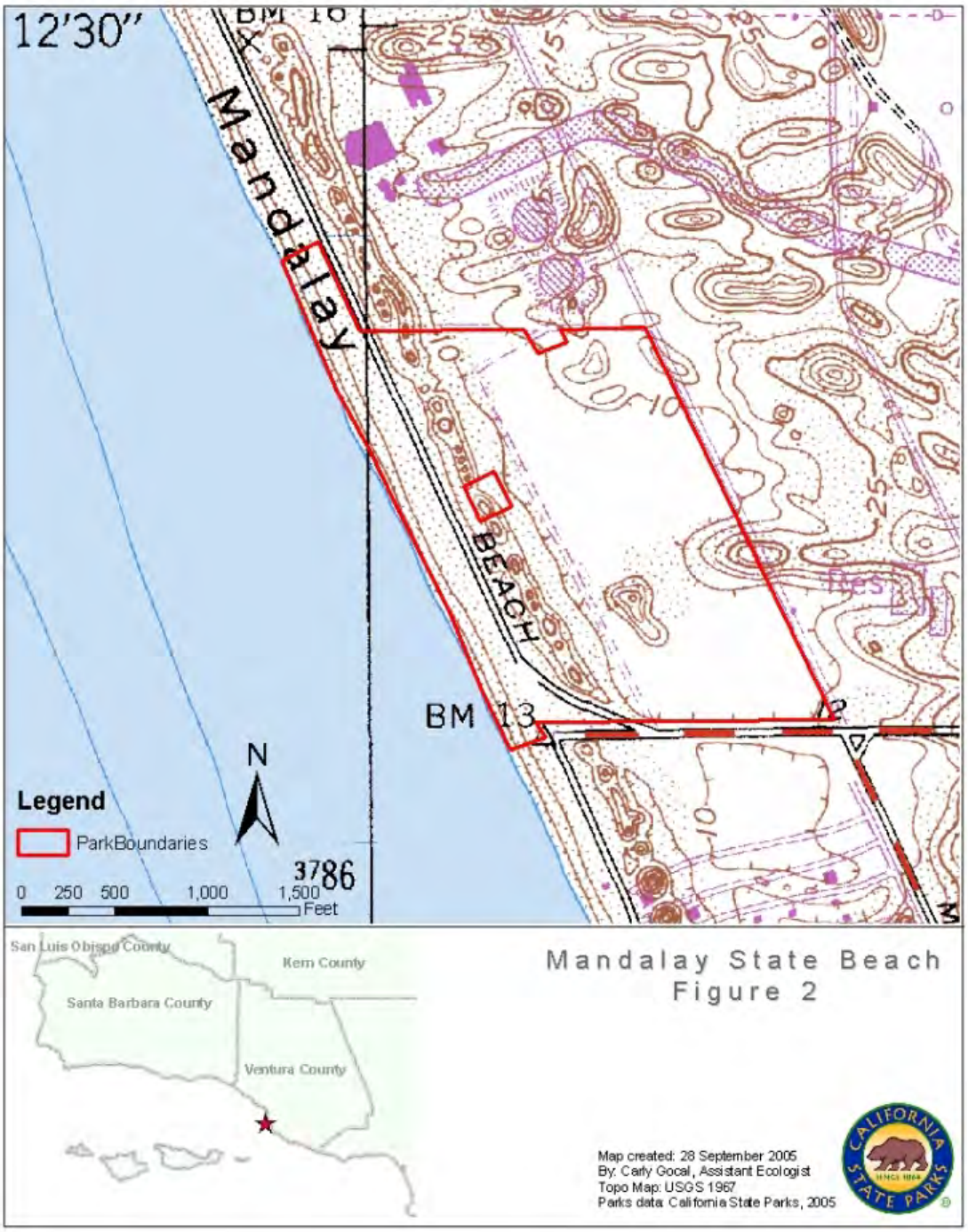
Fancher, J., L. Hays, and P. Knapp. 2002. Western snowy plover nesting at Bolsa Chica, Orange County, California 2002. A report of the Fish and Wildlife Service, Calsbad Office. December 2002.

Page, G. W., L. E. Stenzel (eds.). 1981. The Breeding Status of the Snowy Plover in California. Western Birds 12(1):1-40.

U.S. Fish and Wildlife Service. 2007. Western Snowy Plover (*Charadrius* alexandrinus nivosus) *Pacific Coast Population Recovery Plan. Portland, OR.*

U.S. Fish and Wildlife Service. 1995. Endangered Species Bulletin, Vol. XX, No. 5. 28pp.


3790
3789
HARBOR
BM 16
McGrath Lake
OIL FIELD
N
Legend
ParkBoundaries
0 500 1,000 2,000 3,000 Feet
12'30"
BM 16
San Luis Obispo County
Kern County
Santa Barbara County
Ventura County
Los Angeles County
McGrath State Beach
Figure 1
Map created: 28 September 2005
By: Carly Gocal, Assistant Ecologist
Topo Map: USGS, 1967
Parks data: California State Parks, 2005


12'30"
Mandalay
BEACH
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Legend
ParkBoundaries
0 250 500 1,000 1,500
Feet
3786
San Luis Obispo County
Kern County
Santa Barbara County
Ventura County
Mandalay State Beach
Figure 2
Map created: 28 September 2005
By: Carly Gocal, Assistant Ecologist
Topo Map: USGS 1967
Parks data: California State Parks, 2005


VENTURA
(SAN BUENAVENTURA)
BM 40
SP Station
THOMPSON
OCEAN
CATALINA
SAN
PIPE LINE
BM 10
BUENAVENTURA
PIERPONT
K V E N
K M A
Radio Towers
K M
BM 11
STATE
Bay
Pierpont Bay
Legend
ParkBoundaries
0 500 1,000 2,000 3,000
Feet
N
Kern County
Santa Barbara County
Ventura County
San Buenaventura
State Beach
Figure 3
Map created: 28 September 2005
By: Carly Gocal, Assistant Ecologist
Topo Map: USGS, 1967
Parks data: California State Parks, 2005


Carpinteria
State Beach
Sewage
Disposal
BM 20
32
Legend
ParkBoundaries
N
0 250 500 1,000 1,500
Feet
San Luis Obispo County
Kern County
Santa Barbara County
Los Angeles County
Ventura County
Carpinteria State Beach
Figure 4
Map created: 28 September 2005
By: Carly Gocal, Assistant Ecologist
Topo Map: USGS 1995
Parks data: California State Parks, 2005


Estuary
Campground
North
Outfall
North Lake
Lake
McGrath State Beach
WSP Monitoirng Sections
Figure 5
Map Created: August 30, 2011
By: Alexis Frangis, ES
Aerial: Microsoft Bing Imagery
0
0.125
0.25
0.5
Miles
N


13MC03
13MC10
13MC01
13MC02
13MC09
13MC04
13MC08
13MC05
13MC13
13MC11
13MC07
13MC06
13MC12
Legend
Nest Fate
Hatch
Fail/Pred
Washout
Unknown
Fence
McGrath State Beach
Western Snowy Plover Nests 2013
Figure 6
Map Created: October 21, 2013
By: Alexis Frangis, ES
Aerial: Microsoft Bing Imagery
0
0.125
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0.5
Miles
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13MN04
13MN06
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13MN02
13MN07
13MN03
13MN08
Legend
Nest Fate
Fail/Unkn
Fail/Pred
Washout
Unknown
Fence
Mandalay State Beach
Western Snowy Plover Nests 2013
Figure 7
Map Created: October 21, 2013
By: Alexis Frangis, ES
Aerial: Microsoft Bing Imagery
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125
250
500
Feet
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13SB02
13SB04
13SB05
13SB01
13SB03
Legend
Nest Fate
Hatch
Fail/Pred
Unknown
San Buenaventura State Beach
Western Snowy Plover Nests 2013
Figure 8
Map Created: October 21, 2013
By: Alexis Frangis, ES
Aerial: Microsoft Bing Imagery
0 125 250 500
Feet
N

APPENDICIES

State of California
Department of Parks and Recreation
Channel Coast District

Superintendent's Order No. 910-08-02

McGRATH STATE BEACH

1. To provide for the security, safeguarding, and preservation of natural resources, from March 15 to September 15 each year the area of McGRATH STATE BEACH described below shall be closed to people and vehicles. The area closed to people and vehicles is within the following borders:

   Northern Border: The Northern bank of the Santa Clara River
   Southern Border: The south end of State Park boundary
   Eastern Border: The top of coastal dunes from south end of main beach road to McGrath Lake
   Western Border: Pacific Ocean high water mark
   Annual nest exclosures, that are USFWS approved, will be constructed within the boundaries of McGrath State Beach
   See attached map

2. State Parks employees and their vehicles can enter this area during emergencies.

3. Only those individuals and vehicles authorized by the District Superintendent may enter this area.

4. Exception to this closure order may also be granted in writing by the District Superintendent, Channel Coast District, 911 San Pedro St., Ventura, CA 93001

5. Nothing in this order shall affect private contract or property rights.

6. Nothing herein shall be construed in derogation of other provisions of law.

So Ordered:

Richard Rozzelle, District Superintendent

Authority: California Public Resources Code, Division 5, Chapter 1, Sections 5003 and 5008.
California Code of Regulations, Title XIV, Division 3, Chapter 1, Section 4305 and 4312.

DECLARATION OF POSTING

DISTRICT SUPERINTENDENT'S ORDER No. 910-08-02

June 5, 2008

McGRATH STATE BEACH

I hereby declare that on June 5, 2008, the Department of Parks and Recreation, Channel Coast District posted order #910-08-02 attached hereto, and that the order was also posted at the Channel Coast District Office at 911 San Pedro, Ventura, CA 93301, as well as other locations which were determined necessary.

I declare under the penalty of perjury that the foregoing is true and correct.

Signed: _____
Richard Rozzelle
District Superintendent

Date: 3/9/09

Western Snowy Plovers and California Least Terns are just two of the wildlife species that find sanctuary within California State Parks.

Our Mission

The mission of the California Department of Parks and Recreation is to provide for the health, inspiration and education of the people of California by helping to preserve the state's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating opportunities for high-quality outdoor recreation.

Special Thanks to Ventura County, City of Ventura and City of Oxnard Parks and Recreation Departments for their assistance in compiling this information.

California State Parks does not discriminate against individuals with disabilities. To receive this publication in an alternate format, write to the Channel Coast District at the following address.

CALIFORNIA STATE PARKS
Channel Coast District
911 San Pedro Street
Ventura, CA 93001

A Dog Owner's Guide

To Selected Parks & Beaches in Western Ventura County

Providing opportunities for high-quality recreation while protecting California's priceless wildlife heritage is the difficult balancing act facing California's land management agencies. You as a dog owner can help.

As our coast becomes increasingly urbanized, wildlife species are being squeezed into smaller and smaller remnants of their once abundant habitat. Dogs, even when leashed, can frighten and harass wildlife, making their struggle for survival still harder.

There is an alternative. This brochure describes fourteen parks in western Ventura County that allow dogs. To protect coastal wildlife habitat, three beaches do not allow dogs. Dog owners can thus choose several areas to enjoy with their pets while at the same time helping to preserve critical coastal wildlife habitat.

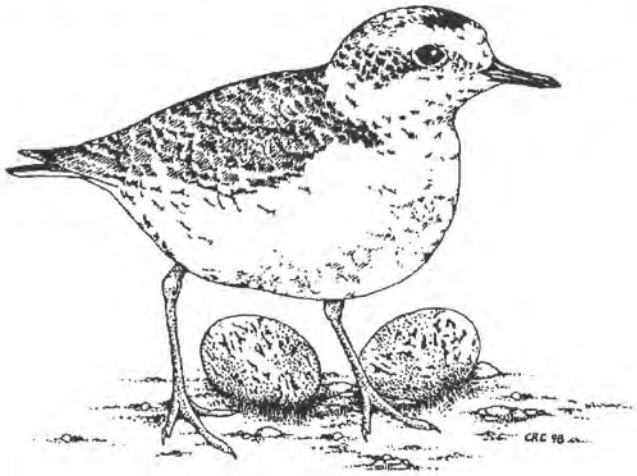
Thanks for your cooperation!

A Dog Owner's Guide to Selected Beaches & Parks in Western Ventura County

California State Parks (805) 585-1850 www.parks.ca.gov	N	L	O	Comments
Emma Wood State Beach	*	✓		OK in camp & picnic areas. *Not on beach.
McGrath State Beach	*	✓		OK in camp & picnic areas. *Not on beach.
San Buenaventura State Beach	*	✓		OK in picnic area & bike path. *Not on beach.
Ventura County Parks (805) 654-3951 www.ventura.org/gsa/parks				
Faria Beach Park		✓		On leash only.
Hobson Beach Park		✓		On leash only.
Rincon Parkway Beach Park		✓		On leash only.
Ventura County Parks				
Soul Park in Ojai		✓	*	*Dog park only. Hours: 7:30 to dusk, daily.
City of Oxnard (805) 385-7995 www.ci.oxnard.ca.us				
Channel View Park		✓		OK on beach; on leash only.
Oxnard Beach Park		✓		OK on beach; on leash only.
Peninsula Park		✓		OK on beach; on leash only.
City of Oxnard Inland Parks				
College Park		✓	*	*Dog park only. Hours: dawn to dusk, daily.
City of Ventura (805) 652-4594 www.ci.ventura.ca.us				
Marina Park		✓		OK on beach; on leash only.
Harbor Cove		✓		OK on beach; on leash only.
Promenade Park		✓		OK on beach; on leash only.
Surfers' Point at Seaside Park		✓		OK on beach; on leash only.
City of Ventura Inland Parks				
Arroyo Verde Park		✓	*	*Off-leash hours: 6-9am, Tu-Sun; 6-8am,
Camino Real Park		✓	*	*Dog park. Hours: dawn–dusk. Wed 9am-dusk

N = Dogs not allowed. **L** = Dogs allowed on leash. **O** = Dogs allowed off leash.

DO NOT ENTER



SENSITIVE NESTING AREA

VIOLATORS SUBJECT TO FINES

				Snowy Plover Nest Fates 2013					
San Buenaventura SB									
Nest #		**13SB-01**	**13SB-02**	**13SB-03**	**13SB-04**	**13SB-05**		**Monitors**	
Pred-Exclosure?		**N**	**N**	**N**	**N**	**Y**		AF= Alexis Frangis	
Inside Fence?		**N**	**N**	**Y**	**Y**	**Y**		JG= Jennifer Gold	
Bands								BS= Brooke Sheridan	
Lat		34.26805817	34.270089	34.26784	34.26932817	34.269148		AM= Adam Maingot	
Long		-119.2792817	-119.281666	-119.279445	-119.280222	-119.2805872		MH=Matthew Hillman	
DATE	**Monitor**							MB= Melissa Baffa	
3/28/2013	AF	3 eggs/F and M						EJ= Ellen James	
4/3/2013	AF, JG	3 eggs/F							
4/11/2013	AF	3 eggs/F						**Notes**	
4/12/2013	AF	Fail - Crow	3 eggs/F					POE = (egg) put on end	
4/17/2013	AF, MH		3 eggs/F					3 eggs/F = female incubating 3 eggs	
4/23/2013	AF, JG		3 eggs/F						
5/1/2013	AF, JG		3 eggs/F + M	3 eggs/F				F incubating = observed F incubating and did not flush to check eggs	
5/8/2013	AF		Unknown	F incubating					
5/15/2013	AF, JG			Fail - Unknown					
6/4/2013	AF				3 eggs/F			2 chicks/M = 2 chicks with male	
6/6/2013	AF, EJ				3 eggs/F				
6/11/2013	AF				Fail - Crow				
6/24/2013	AF					1 egg/F			
7/2/2013	AF					3 eggs/F			
7/10/2013	AF					2 eggs/F			
7/23/2013	AF					Hatch - 1 chick 1 egg			
Mandalay State Beach									
Nest #		**13MN-01**	**13MN-02**	**13MN-03**	**13MN-04**	**13MN-05**	**13MN-06**	**13MN-07**	**13MN-08**
Pred-Exclosure?		**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
Inside Fence?		**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Bands									
Lat N		34.201068	34.200038	34.198900	34.201681	34.200881	34.201353	34.199744	34.198522
Long W		-119.250123	-119.249984	-119.248971	-119.250443	-119.249996	-119.250135	-119.249750	-119.248618
DATE	**Monitor**								
3/28/2013	AF	2 eggs							
4/3/2013	AF, JG	3 eggs/F	1 egg						
4/4/2013	AF, MH	3 eggs/F	2 eggs						
4/12/2013	AF, JG	F Incubating	Fail - Wind/Wave						
4/17/2013	AF, MH	Fail - Unknown Pred		2 eggs					
4/23/2013	AF, JG			3 eggs/F					
5/1/2013	AF, JG			3 eggs/F	3 eggs/F				
5/8/2013	AF			3 eggs/F	Fail - Crow	3 eggs/F + M			
5/15/2013	AF, JG			Fail - Unknown		Fail - Crow			
5/29/2013	AF						3 eggs/F		
5/31/2013	AF						Fail - Crow		
6/6/2013	AF							1 egg	
6/11/2013	AF							Fail - Corvid	2 eggs/F
6/18/2013	AF								Fail - Unk

	Snowy Plover Nest Fates McGrath State Beach 2013								
McGrath State Beach									
Nest #		**13MC-01**	**13MC-02**	**13MC-03**	**13MC-04**	**13MC-05**	**13MC-06**	**13MC-07**	**13MC-08**
Pred-Exclosure?		**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
Inside Fence?		**N**	**N/Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
Area		**North/Outfall**	**North Lake**	**Campground**	**Lake**	**Lake**	**South Lake**	**South Lake**	**Lake**
Bands									U:S (F)
Lat		34.21912800	34.21397200	34.22583433	34.21257267	34.21078917	34.20934100	34.20934750	34.21169717
Long		-119.26044000	-119.25789300	-119.26276667	-119.25596833	-119.25520333	-119.25468867	-119.25516550	-119.25642083
DATE	**Monitor**								
4/16/2013	AF, BS	1 egg							
4/25/2013	AF, JG	Fail - Crow							
5/2/2013	AF, JG, AM		3 eggs/F						
5/9/2013	AF, AM, JG		Fail - Unknown						
5/15/2013	AF			3 eggs/F + M					
5/16/2013	AF, AM				3 eggs/F	3 eggs/F	3 eggs/F		
5/20/2013	AF, DB			3 eggs/F	3 eggs	3 eggs/F	3 eggs/F		
5/30/2013	AF, JG, MB			Fail - Unknown	3 eggs/F	Unknown - Possible Hatch	Unknown - Possible Hatch		
5/31/2013	AF							3 eggs/F	
6/5/2013	AF, JG				3 eggs			3 eggs/F	2 eggs/F
6/11/2013	AF								
6/12/2013	AF, JG				Hatch - 1 pip			3 eggs/F	2 eggs/F
6/19/2013	AF, JG							Hatch - 1st wk chick	Fail - Unk Pred
6/20/2013	AF, JG				2nd week chick			1st week chick	
6/25/2013	AF, JG				3rd week chick			2nd week chick	
7/3/2013	AF, JG							3rd week chick	
7/9/2013	AF, JG				Fledge with M			3rd week chick	
7/23/2013	AF, AM								
7/25/2013	AF, JG								
7/31/2013	AF, JG, EJ								
8/6/2013	AM, EJ								
8/14/2013	AF, AM								
8/22/2013	AF, EJ								
8/28/2013	AF, EJ								

McGrath State Beach					
Nest #	**13MC-09**	**13MC-10**	**13MC-11**	**13MC-12**	**13MC-13**
Pred-Exclosure?	**N**	**N**	**N**	**Y**	**N**
Inside Fence?	**Y**	**N**	**Y**	**Y**	**Unk**
Area	**North Lake**	**Backdunes North**	**Lake**	**Power Plant**	**Lake**
Bands					
Lat	34.21386217	34.22133133	34.21047433	34.20790883	34.21048050
Long	-119.25760250	-119.25949117	-119.25577867	-119.25431900	-119.25580383
DATE					
4/16/2013					
4/25/2013					
5/2/2013					
5/9/2013					
5/15/2013					
5/16/2013					
5/20/2013					
5/30/2013					
5/31/2013					
6/5/2013	1 egg/F + M	3 eggs/F			
6/11/2013		3 eggs/F			
6/12/2013	Fail - Unk Pred				
6/19/2013		Unknown - Possible Hatch	3 eggs/F		
6/20/2013					
6/25/2013			Hatch - 2 1st wk chicks		
7/3/2013			2nd week chick/collected 1 egg		
7/9/2013			2nd week chick		
7/23/2013				3 eggs/F	2 chicks 1st week/M+F
7/25/2013				3 eggs/F	2 chicks/M
7/31/2013				3 eggs/F	M displaying
8/6/2013				Fail - washed out	
8/14/2013					1 chick 3rd week/M
8/22/2013					
8/28/2013					Fledgling with M

McGrath SB WSP Population									
Date	**Male**	**Female**	**Unknown**	**Hatch Year**	**Chick**	**Total**	**# active nests**	**#broods**	**Bands**
3/13/2013	4	6	15			25			
3/21/2013	1	3	41			45			
3/28/2013	16	10				26			Yg:wr (M)
4/4/2013	10	5				15			
4/11/2013	25	10				35			NO:OY (F)
4/16/2013	7	9	1			17			
4/25/2013	6	7	1			14			
5/2/2013	8	9				17			NS:YR (F)
5/9/2013	6	10	3			19			NO:OY (F)
5/16/2013	5	8				13	4		
5/20/2013	9	12				21	4		
5/30/2013	7	9				16	2		
6/5/2013	7	10				17	5		X:S (F)
6/12/2013	8	4				12	3	1	NO:OY (F)
6/19/2013	2	3			1	5	1	2	
6/20/2013	4	3			2	7			
6/25/2013	4	1			4	5		3	
7/3/2013	5	4			2	9		3	
7/9/2013	3		1		2	4		3	
7/17/2013	1					1			
7/25/2013	2	2		1	2	5	1	1	
7/30/2013	1	1				2	1	1	
8/6/2013						0		1	
8/14/2013	1		11		1	12		1	
8/22/2013	1		10		1	11		1	
8/28/2013	1		13	1		15			
9/5/2013			10			10			
9/11/2013						10			

Mandalay SB WSP Population									
Date	**Male**	**Female**	**Unknown**	**Hatch Year**	**Chick**	**Total**	**# active nests**	**#broods**	**Bands**
3/13/2013			35			35			
3/21/2013	2	1	36			39			NO:YB (F)
3/28/2013	12	8	3			23			
4/3/2013	11	6				17	2		
4/12/2013	5	3				8			
4/17/2013	5	4				9			
4/23/2013	6	5				11			
5/1/2013	3	4				7	2		
5/8/2013	3	4				7	2		
5/15/2013	2	2				4			
5/20/2013	2	3				5	1		
5/29/2013	2	3				5			
6/6/2013	4	3				7	1		NO:YB (F)
6/11/2013	1	1				2	1		
6/18/2013	1	1				2			
6/24/2013	1					1			
7/2/2013	1	1				2			
7/10/2013	1	1				2			
7/18/2013	3	4	1	3		11			
7/23/2013		1				1			
7/30/2013			10			10			
8/6/2013	1					1			
8/15/2013						0			
8/21/2013						0			
8/28/2013						0			
9/5/2013						0			
9/11/2013						0			

San Buenaventura SB WSP Population									
Date	**Male**	**Female**	**Unknown**	**Hatch Year**	**Chick**	**Total**	**#active nests**	**#broods**	**Bands**
3/13/2013			80			80			G/R:B, NR:BW, NS:YR (all F)
3/21/2013			64			64			NS:YR (F), NR:BW (F), GA:AG (M
3/28/2013	20	10	38			68	1		NS:YR (F), G/R:B (M)
4/3/2013	1	2	51			54	1		NS:YR (F)
4/12/2013	3	2	34			39	1		GG:WW (F), NR:BW (F)
4/17/2013	1	3	45			49	1		NS:YR (F)
4/23/2013	6	3				9	1		
5/1/2013	4	5				9	2		NS:YR (F)
5/8/2013	2	3				5	1		
5/15/2013	1					1			
5/20/2013	3	2				5			
5/22/2013	3	2				5			
5/24/2013	3	1				4			
5/29/2013	1	2				3			
5/31/2013	1					1			
6/4/2013	1	1				2	1		
6/6/2013		1				1	1		
6/11/2013	1	1				2			
6/18/2013	1	1				2			
6/24/2013		1				1	1		
7/2/2013		1				1	1		
7/10/2013		1				1	1		
7/23/2013	1	1			1	2			
7/26/2013	1					1			
7/30/2013						0			
8/6/2013						0			
8/15/2013						0			
8/21/2013						0			
8/28/2013						0			
9/5/2013						0			
9/11/2013			2			2			

Nest Num	Date	Field Notes - McGrath
13MC01	4/16/2013	1 egg, pair near by but not displaying. North/outfall in low salt bush covered dune near water.
	4/25/2013	Fail. Crow tracks at nest. Clump of crusty yolk sand near scrape.
13MC02	5/2/2013	Moved fence seaward to enclose nest.
	5/9/2013	No eggs. No obvious sign of predation. Unknown predator?
13MC03	5/15/2013	3 eggs, female incubating male standing nearby. Not a strong distraction display from either. Nest under a canopy of dead beach primrose.
	5/30/2013	No eggs, no pip, no chicks. No signs of predation. Unknown.
13MC04	5/30/2013	3 eggs. Female in the vicinity, not displaying.
	6/12/2013	Hatch, 1 pip located.
13MC05	5/30/2013	Possible hatch. No eggs, no pips, no chicks, no signs of predation.
		Chicks not observed
13MC06	5/30/2013	Possible hatch. No eggs, no pips, no chicks, no signs of predation. Pair nearby.
		Chicks not observed
13MC07	5/31/2013	Fore dune, saltbush. Next to lake fence.
	6/19/2013	Hatch. No pips, no sign of predation. Male and Female with first week chick.
13MC08	6/5/2013	Inside/under dead sea rocket. Very near CLT nest #4.
	6/19/2013	Fail. Unknown predator, small mammal? Yolk crusted sand.
13MC09	6/5/2013	Observed Male making scrape week prior. Male and Female displayed. Male returned to nest and incubated egg at a very close distance to monitors.
13MC10	6/5/2013	Back dunes near North side of Venoco property. Under buckwheat canopy.
	6/19/2013	Possible hatch? No eggs, no sign of predation. Chicks or adults not observed.
13MC11	6/25/2013	Two chicks hatched. Remaining egg out of nest, rolled down dune. POE.
	7/3/2013	Egg down, but cold, POE again. Collected in afternoon.
13MC12	7/25/2013	3 eggs/female. South of south lake fence, outside of fence possibly on power plant property. Nest likely established at least a week, female observed in that location 2 days prior. Nest is approx. 100 foot from edge of power plant discharge channel. outlet is bermed causing discharge channel to move North, eroding beach/dunes. installed fence in afternoon and placed exclosure.
	7/26/2013	Called USFWS to contact power plant to open outflow channel. Tractor was out in the late afternoon opening the channel. Nest 50-75 ft. from edge.
	7/30/2013	Female incubating. Power plant discharge channel corrected and North flow cut off.
	8/6/2013	Power plant discharge flowing North again, eroding towards nest (within inches). USFWS authorized salvage of eggs and delivery to a facility for incubation. Salvaged 1 egg, other 2 lost to eroding bank/high flow water. Surviving egg sent to COPR.
13MC13	7/25/2013	Undiscovered nest. 2 first week chicks with male and female displaying. Lake, mid-fence near "turnaround"

	Date	Field Notes - McGrath
	3/13/2013	Walked thru from Mandalay. Lake - 1 killdeer nest K1 - 1 egg. 2 WSP scrapes. 10 WSP on SCRE sand bar, 15 at Surfers Knoll. Campground via Venoco Rd - 1 Northern harrier, 2 raven.
	3/21/2013	Walked thru from Mandalay. Lake - Killdeer nest K1 - 4 eggs. Outfall - 1 pair WSP, 1 Female WSP. 1 red-tailed hawk, 1 Northern harrier, 1 great blue heron. Pair black-necked stilts, Canada geese. Estuary - 1 Female WSP. Gull roost on sandbar. Campground via Venoco Rd. - 2 raven, coyote tracks. 4 pair killdeer, 1 scrape.
	3/28/2013	Lake to Surfers Knoll. Lake - 1 scrape, no WSP, Red-shouldered hawk. South Lake - 300 ft. of rope stolen from symbolic fence. North lake - 1 male, several scrapes. Outfall - 1 pair. North - Great blue heron. Sandbar - 1 banded male. Surfers Knoll - roosting WSP flock. Campground - 2 Canada geese, 3 pair killdeer, flocks of horned lark.
	4/4/2013	Lake to Surfers Knoll. Lake - 1 pair. North lake - 2 pair, several scrapes, Northern harrier. Sandbar - 1 pair territorial behavior. Campground - Great blue heron, raven. 3 pair killdeer nesting.
	4/11/2013	Lake to Surfers Knoll. Lake - K1 hatching (1 chick out of shell, 3 eggs still in nest), crow tracks, 3 pair WSP outside fence. North lake- 2 pair, 3 scrapes. Outfall - 1 pair. North - 2 avocets, semipalmated plovers. Sand bar/SCRE - flock of 13 WSP mostly male, large gull/pelican/cormorant roost, Caspian terns, 12 avocets. Surfers Knoll - 4 WSP.
	4/16/2013	Lake to Surfers Knoll. Lake - killdeer calling (chicks not observed.) collected 1 killdeer egg with dead chick inside (didn't pip out) from K1. 1 pair, 2 scrapes outside fence in salt bush. Red tailed-hawk, trespass (footprints) inside fence. South lake - 1 pair. North Lake - 1 pair, 3 scrapes. Outfall - 1 pair. Estuary - 1 pair WSP, 1 pair Avocet, large gull roost. Campground - 5 crows. Wind picked up around 10am
	4/25/2013	Lake to Surfers Knoll. Lake - 1 female making scalding call, observed sitting in scrape, no eggs. Second week killdeer chick. 6 scrapes inside fence, one outside in small dune hummock. 4 pair WSP. Crow overhead chased by flock of killdeer. North Lake - 2 pair outside fence. coyote tracks inside fence. 8 crows overhead. Outfall - 20 crows overhead. North - 2 avocets (pair). Sandbar - 1 avocet pair. Campground - no WSP. Checked Ventura Harbor for foraging CLT, none observed.
	5/2/2013	Lake to Surfers Knoll. Lake - crow and coyote tracks inside fence. Scrape with female sitting from last week was surrounded by crow tracks. Nest possibly predated before eggs were observed by monitors. Several killdeer scrapes near lake edge. Avocets calling, mobbing, check for nests next week. South Lake - killdeer nest. WSP pair with scrape outside fence (south end of property). North Lake - WSP nest. Outfall/North - WSP scrape in dried kelp. 2 pair avocets. 1 pair WSP with scrape at lagoon edge. 1 pair in tire tracks (NS:YR). Estuary - 2 pair avocet. Wind picked up, end survey early. Campground in afternoon - 1 scrape. Killdeer calling. 3 raven.
	5/8/2013	Lake western edge: Killdeer with chicks, killdeer nest. 2 raven, squirrel burrow. No WSP or avocet.
	5/9/2013	Lake to Surfers Knoll. Lake - 10 CLT overhead. 2 female WSP calling, head bobbing, then flew off. 2 scrapes at south end of fence. Dirt bike tracks behind south lake symbolic fence. South Lake - Female sitting on dune, flew off. 2 female flew over from lake fence, calling. Scrape outside fence at south end. Driftwood hut, smoldering bonfire. Predators: Raven, at lake, peregrine falcon at campground. North Lake: Pair outside fence. Outfall: Avocets nesting at lagoon edge. North: 2 white faced ibis, NO:OY with male plus additional pair. No WSP on sandbar or Surfers Knoll. Campground (afternoon): NO:OY with male and 2 scrapes outside fence south of LG rd.
	5/15/2013	Campground. 1 pair with 1 nest, no bands. Predators: Ravens, Red-tailed hawk.
	5/16/2013	Lake to Surfers Knoll. Lake - 20 CLT foraging, courting, flying over nesting area. Predators: white-tailed kite, great blue heron, gulls. North lake - 1 pair WSP. Outfall- 4 avocets, 1 nest. Lagoon - 1 pair WSP flew into campground. 2 black necked stilts.
	5/20/2013	Window Survey - walked through from Mandalay. South Lake - trespass (footprints) inside fence. Lake - Female displaying at south end of fence back dune area, did not locate nest. 1 pair WSP at south end, 1 pair at North end. North Lake - 1 pair. Outfall/lagoon - Raven, 1 pair WSP. 6 Avocets, second nest. Estuary - 1 pair. Blue oiled Brandt. Campground - 1 pair, 1 female. CLT calling overhead.
	5/30/2013	Lake to Surfers Knoll. Lake - 3 pair WSP, lone male and female. Approx. 50 CLT aerial courtship, 5 CLT flyover towards SCRE. First CLT nest found on way back through from S Lake. Low flying small red plane with checkered flag decal flushed most of CLT flock, also low flying military helicopter. South Lake - Possibly 2 WSP nests unfound, 1 female and 1 pair observed exhibiting nest behavior. North lake - male WSP making scrape, female nearby. Possible renest of MC02? Outfall - lone female WSP. 10 Avocets. Estuary/Sand bar - 1 pair WSP, possibly failed campground nest? Campground - no WSP. Predators: Red-tailed hawk, Raven, Great blue heron, gulls.
	5/31/2013	McGrath Lake - 5 male, 5 female WSP. Predators: Red-tailed hawk, gulls, coyote tracks. 3 pair WSP, 3 females and additional pair calling possibly for chicks? 1 female at south end of lake fence, likely nest not located. North lake, 1 pair and single WSP.

	6/5/2013	Lake to surfers knoll. Lake - Predators: Red-shouldered hawk, gulls, raven, at lake, 10 crows at SCRE/campground, Northern harrier at outfall. 1 pair WSP, 1 female. South Lake, female displaying, did not locate nest. North lake, Many CLT scrapes. Lagoon - 6 avocets, 4 stilts. Estuary - 1 female WSP flew over to campground. Campground - few scrapes.
	6/11/2013	Back dunes/Campground - Campground - 4 killdeer, 2 WSP scrapes, one outside fence at corner of access road. 2 CLT overhead at SCRE. 1 WSP scrape inside fence. Predators: 4 raven at lagoon/outfall, 1 raven at SCRE
	6/12/2013	Lake to Surfers Knoll. Lake - North end, female vocalizing, male head bobbing and displaying, likely for chicks from nest 13MC04. Female displaying, likely nest not located. South end, female displaying in back dunes, could not locate nest. Predators: Opossum tracks, coyote tracks. North Lake - 1 pair WSP, 1 vocalizing, may have been for chicks at lake. Lagoon - CLT foraging, 16 avocets, 2 raven. CLT foraging at wastewater treatment ponds. No WSP between outfall and SCRE.
	6/18/2013	Campground. No WSP. Predators observed: 4 raven, 1 crow, 1 barn owl, Red-tailed hawk, red-shouldered hawk
	6/19/2013	Lake to outfall. Lake - Fresh human footprints inside fence. Coyote tracks. 2 raven. Killdeer nests #5 and 6 failed (crow predation). 1 first week WSP chick with male and female (MC07?) outside fence. 2 males displaying and calling (second set of chicks not observed). No CLT adults at Lake, all nests predated except 1 abandoned. South Lake - 2 CLT overhead. Coyote, opossum tracks. North lake - no CLT or WSP. Back dunes WSP nest possible hatch.
	6/20/2013	Campground/back dunes/lagoon to SCRE. 2 CLT overhead at SCRE. 8 avocets at SCRE, 4 killdeer displaying and calling. Predators: great blue heron, coyote tracks, white-tailed kite, raven. North Lake - 1 second week WSP chick with male outside fence. Lagoon - lone male WSP. Lake - first week WSP chicks with male and female outside fence. 2 CLT overhead with fish. 4 CLT foraging at lake.
	6/24/2013	Campground dunes predators 4 great blue heron, 6 crow, white-tailed kite, raven. 1 male WSP on SCRE sandbar, 1 CLT overhead with fish.
	6/25/2013	Lake to North lake. 3 CLT overhead. Large gull roost in dunes inside lake fence. 1 second/third week WSP chick with male (nest MC07?) 2 new first week chicks with adult (MC11) outside fence. North lake - Male with second week chick (MC04). Possible pair. Lagoon - 4 ravens.
	7/3/2013	Lake to SCRE. Lake - CLT overhead. Muskrat in lake. North end of lake fence, female WSP displaying, nest unfound. Male with chicks mid-fence. 2 male WSP displaying and one additional male. 2nd week and third week chicks. North lake - 1 pair WSP, 1 female. SCRE - 1 CLT foraging. Campground - 3 raven.
	7/9/2013	end. 1 second week chick. Raccoon tracks. South lake - trespass inside fence (footprints), CLT overhead. North lake - male WSP with third week chick, male with fledge? SCRE - 2 CLT overhead, peregrine falcon. Campground - 6 crows, juvenile white-tailed kite, fence vandalism/cut rope.
	7/17/2013	Lake to SCRE. Lake - loggerhead shrike. 6 CLT foraging. 1 lone male, no chicks. Outfall - raven. SCRE - 4 CLT overhead.
	7/23/2013	Campground - peregrine falcon at SCRE. Booby (species unk) carcass in dunes retrieved and took to WFVZ.
	7/25/2013	Lake to SCRE - 2 ravens, SCRE - peregrine falcon, 10 CLT foraging.
	7/26/2013	Lake - 2 chicks with male WSP at lake moving in/outside of fence mid/south end. Power plant discharge channel flowing North, high velocity, eroding dunes, nest MC12 within 100-50 feet of edge. USFWS contacted power plant to redirect channel.
	7/31/2013	Male WSP displaying at lake (likely for chicks from MC13). Power plant outflow diminished. Outfall - ravens, 4 CLT foraging at lagoon and SCRE. Dead juv common dolphin at SCRE.
	8/7/2013	Adam Maingot survey, did not survey inside fence. Power plant discharge channel eroding towards nest. With permission from USFWS salvaged 1 egg, delivered to COPR. 2 eggs lost to eroding sands and high water flow.
	8/14/2013	offshore. 1 male WSP with chick at outfall. Flock WSP at surfers knoll jetty. 17 adult CLT, 31 fledglings at SCRE next to pumping staging area.

Nest Num	Date	Field Notes - Mandalay
13MN01	3/28/2013	No WSP present at nest
	4/3/2013	Female incubating full clutch
	4/12/2013	Female incubating
	4/17/2013	No eggs, no pip shells located. Fail, unknown predator. Wind blown sand, no tracks.
13MN02	4/3/2013	No WSP present
	4/4/2013	No WSP present
	4/12/2013	Wind blown and/or wave washed. Could not relocated scrape to attempt to unbury eggs.
13MN03	4/17/2013	Empty scrape marked last week. Pair nearby, but not displaying for nest.
	4/23/2013	3 eggs, female incubating. Flushed but did not display.
	5/1/2013	Female incubating. Male present as female displayed.
	5/15/2013	No eggs. No chicks. Messy scrape and raven tracks. May have hatched then chicks were predated.
13MN04	5/1/2013	Full clutch and displaying female. Nest may be 1 week old.
	5/8/2013	Fail. No eggs. Crow tracks and small mammal tracks.
13MN05	5/8/2013	Male sitting next to female at nest. Both displayed away from nest.
	5/15/2013	Fail. No eggs. Crow tracks.
13MN06	5/29/2013	Nest near backside of fence. Nest marker placed seaward of nest.
	5/31/2013	Fail, crow tracks.
13MN07	6/6/2013	Scrape marked week prior. Under dead sea rocket canopy. 1 eggs, no adult.
	6/11/2013	Fail, crow tracks
13MN08	6/11/2013	Female, 2 eggs. Near back corner of fence at south end.
	6/18/2013	Fail. Unknown predator.
	Date	**Field Notes - Mandalay**
	3/13/2013	Winter flock at 5th St, 3 WSP near nesting area. Walked thru to McGrath.
	3/21/2013	Winter flock at 5th St including banded female NO:YB. Fence vandalism at south corner. 1 pair WSP at north end of fence.
	3/28/2013	All birds north of 5th St in front of fence. 8 scrapes inside fence. 3 dogs off leash, owner evaded contact. 1 crow. Fence vandalism, 2 posts removed. Trespass inside fence.
	4/3/2012	Small flock (11 WSP) at 5th St. Many scrapes inside fence. Trespass inside fence from bonfire at 5th St. 1 crow.
	4/12/2013	2 pair WSP. Trespass inside fence (footprints) 1 dog contact, positive interaction.
	4/17/2013	2 pair WSP outside of fence at south end, territorial battles. Crows, gulls.
	4/23/2013	2 pair WSP. 3 scrapes with crow tracks, possibly predated nests? Sand clump (yolk) and egg shell membrane. 5 new scrapes, one in old bonfire remnants.
	5/1/2013	Trespass inside fence (many sets of footprints) Crow tracks, several crows flying overhead. 4 scrapes with crow tracks. Many new scrapes. 2 pair WSP.
	5/8/2013	Crows. Human footprints. 1 dog contact, positive interaction. 2 scrapes at north end of fence (seaward side). 2 pair WSP. 1 lone female.
	5/15/2013	1 scrape with raven tracks. Many human footprints inside fence, recent bonfire. Predators: crow.

	5/20/2013	Window survey. Walked thru to McGrath. Predators: Crow. Many human footprints inside fence. 1 pair WSP, 2 females, 1 lone male.
	5/29/2013	Fence vandalism at south west (5th St) corner. Trespass (footprints), bonfires inside fence. High wave wash inside fence. Scrape midway inside fence under dead sea rocket. 1 pair WSP near north end of fence. 1 pair outside fence at north end with a scrape. 3 dog contacts (1 off leash) Fence repair approx. 15 minutes. Predators: gulls, crow
	5/31/2013	Pair WSP outside fence at north end sitting on small dune, ran and vocalized
	6/6/2013	3 pair WSP and single male. NO:YB and male at south end of fence. CLT flyover ocean. 2 pair WSP in territorial battle. Scrape with crow tracks, possibly predated before nest was located. Trespass inside fence, bottle rockets. Fence repair. Front of fence is too short, needs heightened. Predators: gulls, 4 crows.
	6/11/2013	2 scrapes at south end of fence, 3 scrapes at north end of fence. Killdeer nest mid fence in dune. Predators: gulls, crow. Fence repair. 2 dog contacts, off leash. KEYT Ch. 3 news interview about nesting fences and dogs on beach.
	6/18/2013	Fence repair, 1 broken post. 1 dog contact, off-leash. 2 dogs off-leash not contacted. 2 crows, many gulls. Lone male at north end of fence, joined female mid fence. Likely pair from failed nest MN08. Placed 2 "decoy" exclosures inside fence over failed nests to observe potential
	6/24/2013	5 crows. Lone male sitting outside fence at north end. Illegal camping in dunes, called for LG assistance
	7/2/2013	Fireworks, bonfires, footprints inside fence. Fence condition good, no repairs needed. 1 pair WSP outside fence at north end. 5 scrapes inside fence. 2 "decoy" exclosures untouched. 2 scrapes in back dunes. 1 off-leash dog contact, positive interaction.
	7/10/2013	Lone male WSP at 5th street. Fence repair south east corner. 2 dog contacts, positive interactions. 3-5 new scrapes. 2 CLT overhead. Lone female WSP at north end of fence. Horse droppings on beach. 6 crows, trespass (footprints inside fence).
	7/18/2013	WSP pair at 5th street. 2 dog contacts, 1 positive interaction, 1 negative (woman demanded regulations be posted). North end of fence, female displaying, nest not located. Male with hatch year, flock of 7 migrant WSP. 4 CLT overhead. 7 crow.
	7/23/2013	Lone female outside south end of fence. Trespass (bike tracks, footprints, bonfire, fireworks) inside fence. Fledge and adult CLT. 2 dogs off leash. Dead juv bald eagle tag #86 at south end of McGrath. Accompanied NPS personnel to retrieve it. Discovered female plover possibly with nest at south end of McGrath.
	7/30/2013	No breeding birds, migrant flock at south end of fence.
	8/6/2013	Survey by Adam Maingot, did not survey inside fence.
	8/15/2013	No WSP. 1 dog contact, negative interaction. End nesting season.

Nest Num	Date	Field Notes - San Buenaventura
13SB01	3/28/2013	3 eggs, female incubating. Estimated to be 1 week old. Nest discovered by beachgoer who encircled scrape with large rocks, which were removed. Very tolerant birds. Symbolic fence installed, birds did not flush and incubated during installation. Observed male relieve female of incubation duties to forage. Numerous crows and gulls on beach. No exclosure.
	4/3/2013	Female incubating, did not flush to check eggs.
	4/11/2013	Observed female on nest from lifeguard vehicle.
	4/12/2013	Crow inside fence eating eggs. Yolk everywhere.
13SB02	4/12/2013	Female incubating 3 eggs. One egg damaged (leaking fluids), left in nest. Symbolic fence installed with LG assistance. Nest is on a narrow section of beach between LG Tower 4 and LGHQ jetty. Left walking space between fence and dune in attempt to reduce potential for trespass. Bird flushed easily. No exclosure.
	4/17/2013	Damaged egg still in nest. Bird becoming more tolerant, not flushing at such a far distance. 2 crows at shore line.
	4/23/2013	F incubating. Flushes easily. Crows and gulls on beach.
	5/1/2013	F incubating, male near by then flew off. Many crows on beach foraging.
	5/8/2013	Unknown fate. Previous week had very high winds. Located remnants of scrape beneath several inches of sand. No eggs. No chicks. 2 pair WSP down beach, may be this pair. Possibly predated then windblown or hatched, chicks predated, then windblown. Many crows, one raven and gulls on the beach.
	5/16/2013	Large piece of eggshell located nearby suggests hatched and chicks predated after hatching.
13SB03	5/1/2013	Likely renest from 13SB01. Nest within feet of last nest and inside same fence.
	5/15/2013	Fail. Unknown predator. Sand windblown, no tracks. Messy scrape and sand clumps of yolk.
13SB04	6/4/2013	In dunes just behind existing symbolic fencing near LG tower 4. Installed additional symbolic fence buffer. Female incubated and did not flush during fence install. Placed signs along trail through dunes.
	6/6/2013	F incubating, no male present. No reaction to tractor/grooming activities.
	6/11/2013	Fail, crow tracks.
13SB05	6/24/2013	1 egg, female incubating. Inside existing fence south of LG tower 4. Renest.
	7/5/2013	3 eggs, female displaying for gulls inside fence. ~25 gulls (heermans and western) roosting inside fence, attracted to Jr LG kids snacks/trash. Cleaned up trash inside fence. Male not observed. Predator exclosure placed.
	7/10/2013	2 eggs, female incubating. Unknown if 3 eggs noted previous week was observer error or if one egg was missing. No sign of a taken egg from the scrape (exclosure untouched). Male not observed.
	7/23/2013	Nest hatching. 1 chick 1 egg in nest inside exclosure. Male and female present.
	7/26/2013	Male alone at volleyball courts. No gulls in fence, but large flock adjacent. Several crows. No chicks, no female.
	7/30/2013	No WSP. Fence removed.
	Date	**Field Notes - San Buenaventura**
	5/8/2013	Predators: crows (10+), gulls, raven.
	5/15/2013	2 scrapes north of SB03 fence. Appeared windblown. Crows and gulls on beach. Fences removed.
	5/20/2013	2 scrapes and 1 pair, 1 lone male at volleyball courts. 1 pair at north end of beach. Tire tracks everywhere
	5/21/2013	Grooming monitoring - two pairs and lone male. All foraging in the morning. Once grooming began they moved north of tower 4 towards LGHQ and continued foraging in the sea rocket and lower wrack line.

	5/22/2013	Grooming monitoring - One pair near the volley ball courts, one pair north of tower 4, and lone male south of LG Tower 4. Throughout the morning, plovers were constantly moving around and foraging. Once groomer started making passes with the machinery all of the plovers eventually ended up north of LG Tower 4. The male from the "volleyball court" pair was actively making scrapes while the machinery was passing within 35ft of him. With each pass of the groomign equipment, the plovers would move down towards the water and/or into the back dunes.
	5/24/2013	Pre-Memorial Day weekend nest check. Scrape near LG Tower 4, northern most volleyball courts. 2 potential scrapes at second volleyball court. Pair foraging nearby. 2 territorial males at LG Tower 4 and 1 pair at volleyball courts. Walked from LGHQ to San Pedro St. jetty. checked cobble area and fenced dunes.
	5/29/2013	Walked from San Pedro St. to San Jon. 1 pair at volleyball courts near old nest sites. Male digging scrape at edge of cobble. Lone plover ran over and flapped wings, then flew off. Predators: gulls, crows. 2 dog contacts.
	5/31/2013	Lone male in cobble near volleyball courts. Empty scrape in cobble just north of male. Gull roost approx. 15.
	6/4/2013	1 male at volleyball courts, flew south when approached. Large school group at LG Tower 4. Predators: Gulls.
	6/11/2013	Footprints at base of dunes inside fence. Crow tracks in dunes, 7 crows on beach, including new fledglings. Pair of failed nest 13SB04 making new scrape and mating in cobble just south of LG Tower 4.
	6/18/2013	Jr Lifeguard program began Monday. Pair WSP in dry sand below cobble between LG Tower 4 and volleyball courts. No new nest, scrape appears unchanged. 15 crows, 20+ gulls.
	6/24/2013	crows, gulls
	7/2/2013	3 crows. Gull roosting inside plover fence. They appear to be attracted to Jr LG program food/trash, set up on the north side of LG Tower 4. School group on beach.
	7/10/2013	13 crows, 30+ gulls
	7/23/2013	Nest hatching. Large gull roost inside fence, next to exclosure. Attempted to flush gull roost. 10 crows. JG program.
	7/30/2013	No WSP. End nesting season.