

**California State Parks  
Western Snowy Plover Management  
2006 Systemwide Annual Report**

**Management Activities:**

- **Public Education.** Districts continued to distribute western snowy plover (WSP) brochures developed in 2002 by the Department, providing information on the threatened status of WSP, and how State Parks is providing protection for nesting pairs on their beaches. These brochures also explain pertinent rules put in place for beach visitors and why they should be followed to assure protection and minimize impacts to the bird.
- **Training.** Many districts used volunteers to help with plover monitoring, and provided training. Parks employees and concessionaires were also trained in WSP natural history and stewardship responsibilities, such as the importance of driving Parks vehicles slowly in the wet sand zone, away from breeding and foraging plovers. For example, the Mendocino District has been working with the local Audubon Society chapter, which has provided volunteers, as well as sponsoring educational presentations at the local high school.
- **Enforcement.** Public compliance of the dogs off leash rule continued to be an enforcement issue and was especially challenging in certain park units. Both San Luis Obispo Coast and Mendocino Districts offered the public a solution by designating certain beaches known to be unused by plovers as “dog walking” beaches, while continuing to enforce dog leash rules and dogs prohibited rules at nesting beaches. However, monitors in some districts continue to note many dogs off leash.
- **Beach Restoration.** Restoration efforts, most notably the removal of the exotic European beach grass, continued in several districts along the coast. Methods utilized included controlled burning followed by judicious use of herbicides by certified applicators. Two WSP nests were recorded this year in the North Coast redwoods district in a restoration plot.
- **Predator Control.** Predation of nests and chicks continues to be the top limiting factor in WSP reproductive success. Many districts had contracts with permitted predator control specialists to monitor and remove predatory species where they posed a special threat to WSP reproduction. Most depredations of nests identified in 2006 (70%) were done by mammal species including skunks, coyotes, and red fox. Avian predators also caused nest failure, including gull, corvid, and raptor species. Wire nest enclosures were put over many nests in high predation areas to protect nests during the incubation and brooding period of the breeding season.
- **Field Management and Monitoring.** Management effort continues to focus on nest area protection and nest monitoring. Actions include installing temporary symbolic fencing and signage, providing for public education, enforcement of State

Parks regulations, conducting habitat restoration and monitoring all nesting areas. Nest monitoring is performed in most nest areas at least 5 times per week in order to record the number of nest initiated and the number of chicks hatched and their fate. Intensive nest monitoring allows for early detection of nest disturbance and predation and provides information necessary to take appropriate corrective management actions. WSP monitoring activities are achieved in cooperation and collaboration between State Parks, Point Reyes Bird Observatory, U. S. Fish & Wildlife, and other conservation organizations. Volunteers continue to do much to help State Parks in protection of breeding WSP. The Department also participates in range-wide WSP summer and winter population surveys.

### **Major Results:**

Western snowy plover nesting was reported in 19 units managed by the Department, down from 23 units in 2005. A total of 372 nests were reported to successfully hatch a clutch in state park units, a 3% decrease in the number of successful nests documented in 2005. These successful nests comprised 60% of the 616 total nests initiated in 2006, which was a 14% decrease in nests initiated from the previous year. However, only using the number of initiated nests is not a reliable indicator of reproductive success, especially when following long-term trends. Snowy plover pairs often re-nest several times if the adults are disturbed, if the eggs are taken by predators, or the nests are destroyed by high tides or wind. This number of additional nests initiated by a pair can vary from year to year depending on their fitness.

Causes of nest loss were varied, but 62% of system wide losses were directly attributed to predation, with mammalian predators reported more than avian predators. Nest abandonment was the next highest cause of nest loss (20%), with wind and tide inundation the third in importance (9.7%). Nest abandonment is commonly caused by disturbance of the breeding pair during the process of egg laying and incubation.

Of a systemwide total of 727 banded or otherwise intensively monitored chicks, 35% (255) of those were reported to have reached fledging age (28 days from hatching), a decrease from a 42% fledging rate for the chicks in 2005.

The following is a summary of each of the California coastal areas where State Parks manages land for the year 2006.

- Santa Cruz and Monterey Bay area units, stretching from Manresa State Beach to the Fort Ord Dunes acquisition, reported 136 nests (63% of 216 nest initiations) were successful in hatching one or more eggs. These nests produced 393 chicks, an 18% increase over the number of chicks hatched the previous year, although the nest attempts totaled 35 more nests in 2005. Of these chicks, 218 were reported to have successfully fledged, a 55% fledging rate. This is the second highest recorded fledging rate in State Parks for this region since the program commenced. The fledging rate of chicks hatched in 2005 was 45%, a lower success in spite of more nest attempts. A possible explanation might be found in the lower number of predation-caused clutch losses; down by 36% from the previous year. This lower predator pressure was

probably beneficial to hatched chicks, as well as possibly causing less pairs to re-nest.

The Santa Cruz/Monterey Bay area has the longest record of plover monitoring and protection in the state, dating back to the mid-1980s with Point Reyes Bird Observatory (PRBO) leading the efforts. Since then, State Parks and USFWS have become increasingly involved in cooperative monitoring and management activities in the larger study area, which includes State Park System units, other state lands, federal property, and other lands. PRBO prepares and publishes annual reports on nesting activities for the study area, which include lands other than State Parks, and stretches from Waddell Creek to the City of Monterey.

In 2006, 62% of the total nests documented in the PRBO study area (State Park and other lands) were on State Park System lands, the same as in 2005.

Nest hatching success on DPR lands in the study area was 63%, and for non-DPR lands it was 59%. Fledging success on State Park lands was 55%, again higher than on non-DPR lands (38%).

- Estero and Morro Bay units reported 103 nests successfully hatching at least one egg (46% of a total of 225 nest initiated). The number of successfully hatched nests were down 29% from the previous year.

At Montana de Oro State Park, 73 nests were successful at hatching at least one egg (51% of 142 nest initiations). All nests were located in the Sandspit area of the park, and comprise the largest population for this State Parks region. Determination of an accurate chick count and fledging rate was not possible due to the lack of a banding program at the San Luis Obispo Coast District. Other park units in this region with nesting reported in 2006 included the Estero Bay/Villa Creek Beach unit with a total of 38 nest initiations (about equal to 2005), and 14 successful nests. Morro Strand State Beach had a total of 34 nest initiations in 2006 (up slightly from 2005), but only 9 nests successfully hatching (down from 19 successful nests in 2005). Finally, San Simeon State Park had a total of 11 nest initiations with 7 successful; many of these were on the recently acquired 13-mile strip of coastline.

- Oceano Dunes State Vehicular Recreation Area reported a total of 87 nests hatching eggs successfully (74% of the 117 nest initiations).

This is slightly up from a total of 80 successful nests in 2005. However, hatching success at Oceano Dunes SVRA has been consistently higher than other regions over the past five years. Nests this year produced 230 chicks and fledged 17 young (7% fledging success). This drop in fledging success has been attributed to a high predation rate.

Some habitat enhancement was practiced on an experimental basis in one large fenced-off section of the breeding area. Wood chips were spread in 21 small areas throughout the enclosure, and ten of these areas (48% of the wood

chip areas) had one or more nests. A total of 38 nests were initiated in the general area, twelve of which were located in wood chip areas. Snowy plovers are known to be attracted to areas that have some debris.

- San Diego coast area reported a total of 29 successful nests (81% of the 36 nest initiations), slightly more than 2005, and consistent with the past few years of monitoring.

At Silver Stand State Beach, 19 of the 20 reported nests were successful in hatching chicks (95%). However, only 8 of the 53 chicks produced (15%) reached fledging age. Heavy predation on the nests and chicks was again this year the primary cause of poor fledgling success. Although nests were not monitored for cause of failure, incidental observations of predators were recorded. These include crows, ground squirrels, raptors, herons, and gull-billed terns.

At Border Field SP, 10 of the 16 nests initiated were reported successful in hatching (63%). Counts of chicks reported 29 hatched and 4 fledging (14%). Again, the low fledging rate has been attributed to predation. Potential predators include ground squirrels, corvids, and raptors.

- Santa Barbara and Ventura area units reported 14 nests being successful on property managed by State Parks, 82% of the 17 initiated nests. This is slightly up from 10 successful nests in 2005.

In 2006, 11 nest initiations were reported from McGrath State Beach and 6 nests from Mandalay State Beach, operated by Ventura County. At McGrath State Beach, 9 nests hatched eggs successfully (82%) and at Mandalay State Beach 5 nests were reported to be successful (83%). Reliable information on fledgling success was not obtained because chicks were not banded.

- Del Norte and Humboldt coast units reported 1 successful nest out of 2 initiated nests, a decrease from 2005. Both nests were found in an area of beach where European beach grass had been removed just prior to the breeding season in 2005.

Both nest attempts were reported from Little River State Beach, the other beaches did not report nest attempts. Of the 1 nest that was successful in hatching eggs, none of the 3 chicks were reported to have fledged.

- San Mateo and Northern Santa Cruz area units reported a total of 2 nests initiated (an 83% decrease from 2005); 1 at Half Moon Bay State Beach and 1 at Wilder Ranch State Park (Wilder Creek beach). Of these nests, 1 nest at Half Moon Bay successfully hatched 3 chicks; 1 of which is known to have fledged.

- Mendocino coast units reported a total of 1 nest successful at hatching chicks (at Manchester State Park). MacKerricher State Park reported no nests. At Manchester SP, 3 chicks hatched, but none fledged.
- Sonoma coast units reported no nest initiations at Sonoma Coast State Beach.

### **Overview:**

A major goal of State Park's WSP management efforts is to assist the recovery of WSP by protecting important nesting and wintering sites and by restoring native coastal habitats as part of the Department's broader natural heritage stewardship responsibility. Lands managed by the Department comprise a significant portion of the WSP nesting habitat. Annual State Park funding for WSP management exceeds that which is spent by the Department on any other single species.

This report summarizes data obtained from thousands of hours of nest monitoring during the 2006 breeding season. It also provides trend information in the 5-year Annual Summary chart. The chart shows, by region and year, the number of nests where at least one egg was reported to have hatched, called successful nests. The relationship between the number of successful nests to the total number of nests reported is also shown in "percent successful". Many nests are not successful due to predation, damage by storms or other disturbances. The chart also includes data on the number of chicks fledged (reaching flying age) in State Park System units in Monterey Bay and at Oceano Dunes SVRA. In these areas chicks can be individually monitored because each are banded before leaving the nest. This information provides the fledging rate (percentage of chicks fledged) which is one of the best indicators of breeding success and trends.

By assessing the trends of both hatching success and nesting attempts, and including productivity and fledging rate data where possible, a region by region view of each year can be obtained. This data, along with monitoring data from other locations in California, Oregon and Washington, provides valuable information used to assess management measure and success.

The Department's complete 2006 Annual Report on systemwide western snowy plover management actions, results, and recommendations for the next breeding season is on file in the Natural Resources Division Headquarters. This includes separate reports from each of the districts participating in the WSP program.