Western Snowy Plovers and California Least Terns on Guadalupe-Nipomo Dunes National Wildlife Refuge, Guadalupe CA

2016 Mid Season Report

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This mid-season report summarizes western snowy plover (C*haradrius nivosus nivosus*) (snowy plover, plover) and California least tern (*Sternula antillarum browni*) (least tern, tern) activities on Guadalupe-Nipomo Dunes National Wildlife Refuge (Refuge) from April 6 through June 30, 2016. Snowy plover and least tern monitoring was conducted by Thomas Applegate, Wildwing Recovery Permit #TE-823990.

Methods

The snowy plover breeding season extends from March 1 through September 30. Least terns typically nest between mid May and late August, within plover nesting areas. Monitoring on the Refuge began in early April. Applegate surveyed breeding habitat 17 times during the reporting period. All surveys were conducted on foot and covered as much plover and tern nesting habitat on the Refuge as possible. Survey activities include searches for new nests, monitoring of existing nests, observations of plover and tern behavior, brood activity, predator activity, and other factors that may affect plovers and terns on the Refuge.

The primary monitoring goal is to locate all plover and tern nests. When found, nests are consecutively numbered and pertinent information including location, numbers of eggs, subsequent nest check data, fates, and depredation information is recorded. Human activities that may affect the behavior or nesting success of plovers and terns is also documented.

Nest fates and causes for failure are determined by evidence at the nest sites. Nests that disappear before their expected hatch date are examined to determine the probable cause of failure. Empty nests near or past their expected hatch date are checked for chicks in the vicinity of the nest, displaying adults, eggshell pips, a flattened nest area, and the presence of predator tracks. During periods of high winds, evidence at some nests is lost and fates cannot be determined.

One plover population census was conducted as part of the coordinated range wide survey for the U.S. Fish and Wildlife Service (Service), and onsite breeding plover estimates are noted each monitoring session. Attempts are made to check each observed plover for colored leg bands.

The Service installed seasonal closure signs above the beach high tide line to deter beach visitors from entering breeding habitat. The sign positions were adjusted by the Service as the habitat naturally changed during the reporting period.

Results

Snowy Plover Population

One snowy plover population census was conducted on May 20 as part of a coordinated range wide survey. Fourteen adults and 3 chicks were seen during the survey. Five of the adults were males, 8 were females, and 1 was of an undetermined sex. All but 2 plovers were checked for color bands. Three adult female plovers were color banded. Bands were PV:YG, VV:RG, NO:PB.

Snowy Plover Nesting

Nesting occurred throughout suitable breeding habitat from the beaches to deep into the blowouts between the foredunes. During the early season the beaches were eroded back to the foredunes in many places leaving steep banks. This significantly reduced suitable beach nesting habitat, but by the end of the reporting period deposits of sand had widened the beach in some areas.

Thirty-two snowy plover nests were located during the reporting period. Nine nests were initiated in April, 12 were initiated in May, and 15 were initiated in June. The first known plover nest was initiated on approximately April 3. Of the 32 nests, 9 were extant at the end of the reporting period, 14 nests had hatched at least 1 chick producing 31 chicks, 3 were lost to predators, 3 were abandoned, and the fates of the remaining 3 nests could not be determined (Table 1).

Table 1. The number of snowy plover nests and their fates through June 30, 2016.

	Hatch	Destroyed Predator	Abandoned	Unkown Fate	Total Complete	Extant Nests	Total nests
Number of nests	14	3	3	3	23	9	32
Percent of Total	44%	9%	9%	9%	72%	28%	100%

Broods were not often observed after hatch, but evidence of broods was observed on the beaches and foredune areas regularly. Unbanded fledglings began to be observed in mid June.

Predators

Three plover nests were destroyed by predators during the reporting period. A gull of undetermined species destroyed 1 nest, an unidentified avian predator destroyed 1 nest, and an undetermined predator destroyed 1 nest (Table 2).

Coyote tracks were observed regularly in all areas of suitable breeding habitat, and coyotes were observed in breeding habitat on 3 occasions. On many occasions, feral pig tracks were observed in breeding habitat on the southern half of the Refuge. Documented plover and tern predators observed on the Refuge are listed in Appendix 1.

Table 2. Number of known-fated nests lost to predators through June 30, 2016.

Predator	Number lost to predators
Gull sp.	1
Unidentified Avian Predator	1
Unknown Predator	1

California least terns

No least terns were observed, and no nests were known to have been initiated on the Refuge during the reporting period.

Human Disturbance

Visitors utilize the Refuge for hiking, fishing and wildlife viewing. In an attempt to deter visitors from entering the seasonally closed breeding habitat closure signs are placed along the western boundary of suitable breeding habitat. To protect breeding habitat, the signs were moved as the beach conditions changed.

Visitors observed during the reporting period included 9 fishermen, 3 hikers, and 1 jogger. Tracks provided evidence of other fishermen and hikers. Eighteen incidences of trespass into breeding habitat were recorded by track evidence. Some intrusions were of a short distance and others were more extensive. Tracks indicated that both fishermen and hikers entered breeding habitat. One person spent a period of time sitting in breeding habitat 30 feet from an active nest. This nest eventually hatched 2 chicks. Two Land Conservancy personnel accessed the beach through breeding habitat on one occasion and walked extensively in foredune breeding habitat on another occasion.

Two low flying aircraft were observed over the Refuge. On June 10 a Navy turbine T34 aircraft flew from south to north along the beach at approximately 700 feet above ground level. On June 28, a Robinson helicopter flew from south to north at approximately 300 feet above ground level just in from the beach. Both were over breeding habitat.

Appendix 1. Documented snowy plover and least tern predators or their sign observed on the Refuge during the reporting period.

California gull (*Larus californicus*)
Coyote (*Canis latrans*)
Feral pig (*sus scrota*)
Great horned owl *(Bubo virginianus*)
Merlin (*Falco columbarius*)
Northern harrier (*Circus cyaneus*)
Raccoon (*Procyon lotor*)
Red-tailed hawk (*Buteo jamaicensis*)
Ring-billed gull (*Larus delawarensis*)
Peregrine falcon *(Falco peregrines*)
Western gull (*Larus occidentalis*)