

## **APPENDIX B**

### **INFORMATION ON SNOWY PLOVER BREEDING AND WINTERING LOCATIONS**

This appendix provides information on numbers of breeding and wintering snowy plovers at specific locations along the U.S. Pacific coast (Table B-1). These locations are important for the recovery of the Pacific coast population of the western snowy plover. Locations are mapped in Appendix A (Figures A-1 through A-7) and Appendix L.

#### **WASHINGTON**

Data on numbers of snowy plovers nesting at primary areas (WA-2 and WA-5) in Washington are from years in which at least 20 surveys were completed at a given location. At Leadbetter Point/Gunpowder Sands (WA-5), this includes 1986 and 1994 to 1997. At Damon Point/Oyhut Wildlife Area (WA-2), this includes 1985, 1986, and 1992 to 1997. Data on nesting at Midway Beach (WA-4) are from window surveys in 1994 and 1995 and intensive monitoring in 1998. Breeding numbers were estimated by: (1) determining for each year which was greater, (a) the highest single-survey adult tally for May and June, or (b) the highest single-survey tally of males plus the highest single-survey tally of females for May and June; and then (2) reporting the lowest and highest estimates among all years.

Data on numbers of snowy plovers wintering in Washington are from November through February, 1977 to 1998. Sources include: (1) coordinated coastwide surveys between 1995 and 1998; (2) Christmas Bird Count data; (3) shorebird surveys completed by Buchanan (1992); and (4) incidental observations as summarized by the Washington Department of Fish and Wildlife (1995).

#### **OREGON**

Information on numbers of nesting snowy plovers at specific locations along the Oregon coast are derived from breeding season surveys conducted annually from 1990 to 1997 by the Oregon Department of Fish and Wildlife and

various cooperators. Surveys typically occurred in early June, and consisted of single-day counts of adult plovers at each site with all sites inventoried in a 1- to 2-day period. Winter numbers were from surveys conducted annually between 1990 to 1997 by the Oregon Department of Fish and Wildlife and various cooperators. Surveys typically occurred in January or February, and consisted of single-day counts of adult snowy plovers at each site with all sites inventoried in a 1- to 2-day period.

## **CALIFORNIA**

Numerical information on nesting snowy plovers at specific locations along the California coast are derived from:

1. four coast-wide May/June surveys coordinated by the Point Reyes Bird Observatory during 1977/80, 1989, 1991 and 1995;
2. a supplemental Point Reyes Bird Observatory survey of Del Norte and Humboldt Counties in May 1996;
3. intensive monitoring of breeding plovers by Point Reyes Bird Observatory in Marin and Sonoma Counties from 1986 to 1989 and from 1995 to 1997, and in Santa Cruz and Monterey Counties from 1994 to 1997;
4. U. S. Air Force surveys of nesting snowy plovers at Vandenberg Air Force Base (CA- 84) and the Santa Ynez River mouth (CA-85) by Phil Persons from 1994 to 1997;
5. U. S. National Park Service summer surveys on San Miguel Island (CA-92) from 1987 to 1997 and Santa Rosa Island (CA-93) from 1989 to 1997;
6. U. S. Navy summer surveys of San Nicolas Island (CA-100) from 1989 to 1997;

7. an estimate of the number of snowy plovers on Santa Cruz Island (CA-94) from surveys conducted 1994 to 1996 by The Nature Conservancy (R. Klinger pers. comm. 1997);
8. intensive monitoring of nesting snowy plovers in San Diego County by Abby Powell, U.S. Geological Survey, Biological Resources Division, and her colleagues from 1994 to 1998;
9. an estimate of the number of snowy plovers nesting at Salt Pond 7A levee (CA-25) in 1992 and at Little Island (CA-26) during 1989 to 1991 and 1993 (R. Leong pers. comm. 1997);
10. an estimate of the number of nesting snowy plovers at the Oakland Airport (CA-30) in 1996 and at Bay Farm Island (CA-29) from 1993 to 1995 (L. Feeney pers. comm. 1997);
11. an estimate of the number of snowy plovers nesting at Alameda Naval Air Station (CA-27) from 1982 to 1983 (L. Collins pers. comm. 1998); and
12. anecdotal information on a few sites provided by additional observers.

In the following table, breeding numbers from the four Point Reyes Bird Observatory coast wide-surveys, the supplemental Point Reyes Bird Observatory 1996 survey of Humboldt and Del Norte Counties, and the National Park Service and Navy surveys of the three Channel Islands are pooled and presented without parentheses as minimum and maximum numbers. Information for the Eel River Mouth to Van Duzan River (CA-11, not covered on the Point Reyes Bird Observatory surveys) is an estimate of the number of adults breeding there during summer 1997 (R. LeValley pers. comm. 1998). Numbers in parentheses for sites CA-16 and CA-20 to CA-23 represent maximum numbers of adults estimated to have nested there from 1980 to 1997. Numbers in parentheses for sites CA-63 to CA-65 indicate the range in numbers believed to have nested from 1994 to 1997. Also in parentheses are the number of adults estimated to have nested at site CA-

68 in 1997. For sites CA-84 and CA-85, Point Reyes Bird Observatory data for surveys prior to 1994 are supplemented in parenthesis by the range of annual maxima on May/June surveys conducted by Phil Persons between 1994 to 1997. For Orange and San Diego Counties, numbers derived from studies by Abby Powell and her colleagues between 1994 to 1997 are enclosed with parentheses and marked with an asterisk.

Numerical information on wintering snowy plovers along the California coast was collected primarily by volunteers of Point Reyes Bird Observatory. To represent the number of wintering birds at California locations we used their maximum annual counts between 1 November and 28 February for the winters 1985/86 through 1996/97. For locations with data from at least 6 of the 12 winters, the range from the second lowest to the second highest yearly count is presented in the table. For locations with 5 or fewer years of data (designated sparse), the lowest and the highest yearly counts are given and supplemented, in parentheses, with the range of maximum counts for winters 1979/80 to 1984-85 as summarized in Page *et al.* (1986). The range of winter numbers for the Jetty Road to Aptos (CA-63) and Monterey to Moss Landing (CA-65) sites in Monterey Bay were estimated from maximum annual November to February winter counts from 1985/86 to 1996/97 at the following locations: Sunset State Beach (1-116), Pajaro River Mouth (71-85), Moss Landing State Beach (42-153), Salinas River State Beach near Potrero Road (1-98), north spit of the Salinas River (7-100), Salinas River National Wildlife Refuge (7-80) and Del Monte (54-87). For most Orange and San Diego County locations, information collected by Abby Powell and her colleagues during the winters of 1994/95 to 1997/98 are enclosed in parentheses and designated by an asterisk. The range of winter numbers for Naval Air Station North Island was based on an estimate of wintering snowy plovers from surveys conducted from 1994 to 1997 by the U.S. Navy. The range of winter numbers for San Miguel Island was based on incidental observations by National Park Service and National Marine Fisheries Service personnel during the winters of 1993/94 to 1997/98. The range of winter numbers for Santa Rosa Island was based on maximum annual winter counts conducted November 20 through December 5 from 1993 to 1997. The range of winter numbers for Santa Cruz Island was based on an estimate of wintering snowy plovers from surveys conducted during 1994 to 1996 by The Nature Conservancy. The estimate of wintering snowy plovers at the

Eel River North Spit and Beach (CA-10) reflects the highest-count data (January 1995) from Mark Fisher, California Department of Fish and Game (M. Fisher *in litt.* 1995).

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Robin Leong for data from Salt Pond 7A levee and Little Island.  
Laura Collins for data from Alameda Naval Air Station.  
Mark Fisher for data from Eel River, North Spit and Beach.  
Ron LeValley for data from Eel River Mouth to Van Duzan River.  
U.S. Navy (Elizabeth Copper) for data from Naval Air Station North Island.

**MANAGEMENT GOALS**

Table B-1 also provides guidance on management goals for breeding locations. Management Goal Breeding Numbers represent population targets of

breeding adults that, in the view of the snowy plover recovery team's technical subteam, can be achieved under a very intensive management scheme. Collectively, these numbers are about 15 percent higher than the recovery criteria subpopulation sizes, but lower than potential carrying capacity. These numbers are not federally mandated and are meant to be flexible, considering variations in habitat conditions, and management opportunities from year to year and from location to location. Although they are management targets, not absolute numbers, landowners/managers should consistently aim to reach these goals annually.

Management Goal Breeding Numbers for individual sites within the San Francisco Bay recovery unit (Sites CA-25 through CA-47) cannot be determined at this time because management goals for the snowy plover must be considered in concert with habitat restoration needs for other listed species. The overall management goal for San Francisco Bay locations is 500 breeding snowy plovers and 809 hectares (2,000 acres) of managed salt ponds (see Task 1.7). Locations which show a "0" under Management Goal Breeding Numbers currently support primarily wintering and/or migrating snowy plovers. Task 2 of the Stepdown Narrative provides guidance on monitoring and managing wintering and migration habitats.

## **References**

### **A. Literature Cited**

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- Washington Department of Fish and Wildlife. 1995. Washington State recovery plan for the snowy plover. Olympia, WA. 87 pp.

## **B. Personal Communications**

Collins, L., Field Biologist/Consultant, Berkeley, CA.

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Klinger, R., The Nature Conservancy, Santa Barbara, CA.

Leong, R., Napa-Solano Audubon Society, Fairfield, CA.

LeValley, R., Mad River Biologists, Arcata, CA.

## **C. In Litt. References**

M. Fisher, California Department of Fish and Game, Smith River, CA. 1995.  
Letter to U.S. Fish and Wildlife Service, Sacramento, CA. 1 p + maps.

**Table B-1. Numbers of Snowy Plovers Breeding and Wintering at U.S. Pacific Coast Locations and Management Goals at These Locations**

LOCATION	BREEDING NUMBERS (Adult Birds)	MANAGEMENT GOAL BREEDING NUMBERS (Adult Birds)	WINTERING NUMBERS	HECTARES (ACRES) <sup>1</sup>	KILOMETERS (MILES) OF COASTLINE
<b>WASHINGTON, Grays Harbor County</b>					
Copalis Spit (WA-1)	0 (for at least 30 yrs.)	10	0	169 (417)	2.6 (1.6)
Damon Point/Oyhut Wildlife Area (WA-2)	5-13	20	0	394 (974)	8.2 (5.1)
Westport, Units 1-2 (WA-3)	0 (for at least 15 yrs.)	8	0	36 (89)	3.2 (2.0)
<b>WASHINGTON, Pacific County</b>					
Midway Beach (WA-4)	0-6	10	0-8	100 (246)	2.6 (1.6)
Leadbetter Point/Gunpowder Sands (WA-5)	11-23	30	0-28	516 (1,275)	3.7 (2.3)
<b>OREGON, Clatsop County</b>					
Columbia River to Necanicum River (OR-1)	0	4	0	605(1,495)	21.6 (13.4)
<b>OREGON, Tillamook County</b>					
Nehalem Spit (OR-2)	0	4	0	189(468)	6.9 (4.3)
Bayocean Spit (OR-3)	0-10	16	0-5	235 (581)	8.4 (5.2)
Netarts Spit (OR-4)	0	4	0	103 (254)	5.2 (3.2)
Sand Lake Spits (OR-5)	0	4	0	150 (371)	10.6 (6.6)
Nestucca Spit (OR-6)	0	4	0	141 (348)	5.8 (3.6)
<b>OREGON, Lincoln County</b>					
South Beach, Newport (OR-7)	0	4	0	17 (43)	3.1 (1.9)
<b>OREGON, Lane County</b>					
Heceta Head to Siuslaw River (OR-8)	0-5	12	0-14	176 (435)	9.7 (6.0)

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LOCATION	BREEDING NUMBERS (Adult Birds)	MANAGEMENT GOAL BREEDING NUMBERS (Adult Birds)	WINTERING NUMBERS	HECTARES (ACRES) <sup>1</sup>	KILOMETERS (MILES) OF COASTLINE
Siuslaw River to Siltcoos River (OR-9)	0-5	2	1-23	247 (610)	16.6 (10.3)
<b>OREGON, Lane/Douglas Counties</b>					
Siltcoos River to Threemile Creek (OR-10)	0-9	20	0-10	253 (625)	15.2 (9.4)
<b>OREGON, Douglas County</b>					
Threemile Creek to Umpqua River (OR-11)	0-2	4	0-1	1146 (2,833)	17.1 (10.6)
<b>OREGON, Douglas/Coos Counties</b>					
Umpqua River to Horsfall Beach (OR-12)	3-10	20	0-22	308 (761)	26.3 (16.3)
<b>OREGON, Coos County</b>					
Horsfall Beach to Coos Bay, Units 1-3 (OR-13)	2-36	54	0-19	461 (1,138)	16.8 (10.4)
Whiskey Creek to Coquille River (OR-14)	0-2	0 (see Task 2)	0-2	140 (347)	10.3 (6.4)
<b>OREGON, Coos/Curry Counties</b>					
Bandon State Park to Floras Lake (OR-15)	7-46	54	0-26	645 (1,595)	20.6 (12.8)
<b>OREGON, Curry County</b>					
Euchre Creek (OR-16)	0	4	0	47 (115)	3.7 (2.3)
Pistol River (OR-17)	0	4	0	64 (158)	4.7 (2.9)
Sixes River Mouth (OR-18)	0	4	0	38 (95)	1.5 (0.9)
Elk River Mouth (OR-19)	0	4	0	70 (172)	3.7 (2.3)
<b>CALIFORNIA, Del Norte County</b>					
Smith River Mouth (CA-1)	0-6	8	Unknown	291 (718)	9.4 (5.8)
Lake Earl (CA-2)	0-8	10	sparse 0 (0-3)	402 (993)	10.0 (6.2)
<b>CALIFORNIA, Humboldt County</b>					
Gold Bluffs Beach (CA-3)	0	0 (see Task 2)	sparse 0 (0-9)	333 (822)	14.2 (8.8)

LOCATION	BREEDING NUMBERS (Adult Birds)	MANAGEMENT GOAL BREEDING NUMBERS (Adult Birds)	WINTERING NUMBERS	HECTARES (ACRES) <sup>1</sup>	KILOMETERS (MILES) OF COASTLINE
Stone Lagoon (CA-4)	0	0 (see Task 2)	sparse 1-7 (7-14)	43 (106)	2.6 (1.6)
Big Lagoon (CA-5)	0-13	16	sparse 0	124 (307)	6.1 (3.8)
Clam Beach/Little River (CA-6)	2-7	6	11-32	134 (331)	4.2 (2.6)
Mad River Mouth and Beach (CA-7)	0-17	12	0-7	453 (1,120)	14.4 (8.9)
Humboldt Bay, North Spit (CA-8)	1-11	8	sparse 0-10 (0-3)	390 (964)	12.9 (8.0)
Humboldt Bay, South Spit (CA-9)	0-7	30	7-22	186 (460)	7.9 (4.9)
Eel River, North Spit and Beach (CA-10)	0-11	20	0-78	159 (392)	10.8 (6.7)
Eel River Mouth to Van Duzen River (CA-11)	(26)	40	0	---	20.5 (12.7) (river)
Eel River, South Spit and Beach (CA-12)	0-9	20	3-79	235 (581)	9.4 (5.8)
McNutt Gulch (CA-13)	0	10	sparse 10	149 (369)	10.0 (6.2)
<b>CALIFORNIA, Mendocino County</b>					
MacKerricher Beach, Units 1-2 (CA-14)	0-15	20	23-37	278 (687)	8.2 (5.1)
Manchester Beach (CA-15)	0	0 (see Task 2)	1-4	197 (486)	8.4 (5.2)
<b>CALIFORNIA, Sonoma County</b>					
Salmon Creek (CA-16)	0-19 (18)	10	1-43	49 (120)	3.9 (2.4)
Bodega Harbor (CA-17)	0	0 (see Task 2)	16-48	107 (265)	2.1 (1.3)
Doran Spit (CA-18)	0	0 (see Task 2)	23-59	26 (64)	2.7 (1.7)
<b>CALIFORNIA, Marin County</b>					
Dillon Beach (CA-19)	0	0 (see Task 2)	31-72	17 (43)	2.3 (1.4)
Point Reyes Beach (CA-20)	6-29 (50)	50	46-71	366 (905)	18.1 (11.2)
Drakes Spit (CA-21)	0-7 (4)	4	53-87	13 (33)	1.1 (0.7)

LOCATION	BREEDING NUMBERS (Adult Birds)	MANAGEMENT GOAL BREEDING NUMBERS (Adult Birds)	WINTERING NUMBERS	HECTARES (ACRES) <sup>1</sup>	KILOMETERS (MILES) OF COASTLINE
Limantour Spit (CA-22)	0-8 (9)	10	35-70	119 (293)	8.5 (5.3)
Bolinas Spit/Stinson Beach (CA-23)	0-6 (6)	0 (see Task 2)	6-22	30 (73)	3.1 (1.9)
<b>CALIFORNIA, San Francisco County</b>					
Ocean Beach (CA-24)	0	0 (see Task 2)	30-50	50 (124)	5.2 (3.2)
<b>California, Napa County</b>					
Salt Pond 7A Levee (CA-25)	0-4	Unknown (see Task 1.7)	Unknown	0.8 (2)	0.0 (0.0)
Little Island (CA-26)	2-12	Unknown (see Task 1.7)	Unknown	15 (37)	0.0 (0.0)
<b>CALIFORNIA, Alameda County</b>					
Alameda Naval Air Station (CA-27)	0-2 (irreg.)	Unknown (see Task 1.7)	Unknown	1.8 (4.5)	0.0 (0.0)
Alameda South Shore (CA-28)	Unknown	Unknown (see Task 1.7)	Formerly 50+	19 (46)	3.4 (2.1)
Bay Farm Island (CA-29)	0-2 (irreg.)	Unknown (see Task 1.7)	Unknown	4.9 (12)	0.0 (0.0)
Oakland Airport, Units 1-2 (CA-30)	12-16	Unknown (see Task 1.7)	Unknown	22 (55)	0.0 (0.0)
Oliver Salt Ponds, North of Hwy. 92 (CA-31)	34-41	Unknown (see Task 1.7)	sparse 50-100	55 (136)	0.0 (0.0)
Oliver Salt Ponds, South of Hwy. 92 (CA-32)	2	Unknown (see Task 1.7)	Unknown	15 (36)	0.0 (0.0)
Baumberg Salt Ponds (CA-33)	34-157	Unknown (see Task 1.7)	sparse 60-320	164 (405)	0.0 (0.0)
Turk Island Salt Ponds (CA-34)	2-31	Unknown (see Task 1.7)	Unknown	38 (95)	0.0 (0.0)
Coyote Hills Salt Ponds (CA-35)	17-70	Unknown (see Task 1.7)	Unknown	29 (71)	0.0 (0.0)
Dumbarton Salt Ponds (CA-36)	9-37	Unknown (see Task 1.7)	Unknown	31 (76)	0.0 (0.0)
Plummer Creek Salt Pond (A-37)	0-40	Unknown (see Task 1.7)	Unknown	123 (303)	0.0 (0.0)
Mowry Salt Ponds (CA-38)	4-10	Unknown (see Task 1.7)	Unknown	8.5 (21)	0.0 (0.0)
Warm Springs Salt Pond (CA-39)	1-7	Unknown (see Task 1.7)	Unknown	109 (269)	0.0 (0.0)

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LOCATION	BREEDING NUMBERS (Adult Birds)	MANAGEMENT GOAL BREEDING NUMBERS (Adult Birds)	WINTERING NUMBERS	HECTARES (ACRES) <sup>1</sup>	KILOMETERS (MILES) OF COASTLINE
<b>CALIFORNIA, Santa Clara County</b>					
Knapp Salt Pond (CA-40)	0-10	Unknown (see Task 1.7)	Unknown	30 (74)	0.0 (0.0)
Alviso Salt Ponds (CA-41)	5-17	Unknown (see Task 1.7)	Unknown	78 (192)	0.0 (0.0)
Moffett Field (CA-42)	0-2	Unknown (see Task 1.7)	Unknown	22 (55)	0.0 (0.0)
Crittenden Marsh (CA-43)	0-6	Unknown (see Task 1.7)	Unknown	33 (81)	0.0 (0.0)
<b>CALIFORNIA, San Mateo County</b>					
Ravenswood Salt Pond Levee (CA-44)	1-6	Unknown (see Task 1.7)	Unknown	0.4 (1)	0.0 (0.0)
Redwood City Salt Pond (CA-45)	4-9	Unknown (see Task 1.7)	Unknown	1.6 (4)	0.0 (0.0)
Redwood Creek (CA-46)	0-3	Unknown (see Task 1.7)	Unknown	6.1 (15)	0.0 (0.0)
Middle Bair Island (CA-47)	3	Unknown (see Task 1.7)	Unknown	85 (209)	0.0 (0.0)
Pacifica Beach (CA-48)	0	0 (see Task 2)	7-19	11 (27)	1.1 (0.7)
Pillar Point (CA-49)	0	0 (see Task 2)	3-35	2.4 (6)	0.3 (0.2)
Half Moon Bay Beaches (CA-50)	0-7	10	24-45	23 (56)	2.3 (1.4)
Tunitas Beach (CA-51)	Unknown	4	Unknown	6.1 (15)	0.8 (0.5)
San Gregorio Beach (CA-52)	0	0 (see Task 2)	0-5	5.7 (14)	0.5 (0.3)
Pomponio Beach (CA-53)	0	0 (see Task 2)	sparse 1-2 (2-40)	6.1 (15)	0.6 (0.4)
Pescadero Beach (CA-54)	0-4	6	8-35	23 (58)	1.1 (0.7)
Gazos Creek (CA-55)	0-2 (irreg.)	4	5-33	20 (51)	1.8 (1.1)
Año Nuevo, Units 1-3 (CA-56)	0-9 (irreg.)	10	0-8	20 (49)	2.1 (1.3)
<b>CALIFORNIA, Santa Cruz County</b>					
Waddell Creek (CA-57)	0-11	10	32-50	7.3 (18)	1.1 (0.7)
Scott Creek Beach (CA-58)	0-8	8	16-114	18 (45)	1.1 (0.7)

LOCATION	BREEDING NUMBERS (Adult Birds)	MANAGEMENT GOAL BREEDING NUMBERS (Adult Birds)	WINTERING NUMBERS	HECTARES (ACRES) <sup>1</sup>	KILOMETERS (MILES) OF COASTLINE
Laguna Creek Beach (CA-59)	0-5	8	11-47	4.5 (11)	0.5 (0.3)
Baldwin Creek Beach (CA-60)	0	0 (see Task 2)	sparse 0-8	6.5 (16)	0.3 (0.2)
Wilder Ranch Beach (CA-61)	8-16	16	33-52	8.9 (22)	0.5 (0.3)
Seabright Beach (CA-62)	0	0 (see Task 2)	20-53	10 (25)	0.8 (0.5)
<b>CALIFORNIA, Santa Cruz/Monterey Counties</b>					
Jetty Road to Aptos (CA-63) Sunset and Manresa State Beaches Pajaro River mouth (Beach Rd. to Zmudowski State Beach Parking Area 26) Moss Landing State Beach (Zmudowski State Beach parking lot to mouth of Elkhorn Slough)	8-38 (13-37)	Total: 54 18 26 10	estimate 150- 250	217 (536)	13.7 (8.5)
<b>CALIFORNIA, Monterey County</b>					
Elkhorn Slough Mudflat/Salt Pond (CA-64) (a/k/a Moss Landing Wildlife Area)	6-47 (70)	80	25-95	115 (283)	0.0 (0.0)
Monterey to Moss Landing (CA-65) Salinas River State Beach Molera/Potrero (Salinas State Beach from the mouth of Elkhorn Slough to northern boundary of Monterey Dunes Colony) Monterey Dunes (beach in front of Monterey Dunes property) North Salinas (beach from south boundary of Monterey Dunes property to north boundary of Salinas River National Wildlife Refuge; mouth of Salinas River) Salinas River National Wildlife Refuge Martin property beach Lone Star beach and interior areas Reservation Road (Reservation Road to Stilwell Hall on Fort Ord) Sand City/Del Monte (southern boundary of Fort Ord to City of Monterey)	61-104 (90-125)	Total: 162 10 12 20 40 12 32 16 20	estimate 120- 190	515 (1,272)	24.2 (15.0)

LOCATION	BREEDING NUMBERS (Adult Birds)	MANAGEMENT GOAL BREEDING NUMBERS (Adult Birds)	WINTERING NUMBERS	HECTARES (ACRES) <sup>1</sup>	KILOMETERS (MILES) OF COASTLINE
Asilomar Beach, Units 1-2 (CA-66)	0	0 (see Task 2)	0-37	17 (43)	1.5 (0.9)
Carmel River Mouth (CA-67)	0	0 (see Task 2)	9-31	28 (69)	1.1 (0.7)
Point Sur (CA-68)	3-4 (20)	20	4-65	42 (103)	1.5 (0.9)
<b>CALIFORNIA, San Luis Obispo County</b>					
San Carpofo Creek (CA-69)	0-9	10	18-36	22 (54)	1.0 (0.6)
Arroyo Hondo Creek (CA-70)	0	0 (see Task 2)	sparse 0-42	8.9 (22)	1.0 (0.6)
Pt. Sierra Nevada (CA-71)	0	0 (see Task 2)	0-10	8.5 (21)	0.5 (0.3)
Arroyo de la Cruz (CA-72)	0	0 (see Task 2)	0-15	8.9 (22)	0.5 (0.3)
Sidney's Lagoon (CA-73)	0	0 (see Task 2)	sparse ( 0-20)	3.2 (8)	0.3 (0.2)
Piedras Blancas, Units 1-2 (CA-74)	0	0 (see Task 2)	2-8	11 (28)	1.1 (0.7)
Arroyo Laguna Creek (CA-75)	0-6	6	28-91	2.0 (5)	0.3 (0.2)
Pico Creek (CA-76)	0	0 (see Task 2)	sparse (0-8)	9.3 (23)	0.8 (0.5)
San Simeon Beach (CA-77)	0	0 (see Task 2)	17-52	15 (38)	1.5 (0.9)
Villa Creek (CA-78)	Unknown	0 (see Task 2)	sparse (0-16)	8.5 (21)	0.5 (0.3)
Toro Creek (CA-79)	0-16	16	23-98	9.3 (23)	0.8 (0.5)
Atascadero Beach (CA-80)	0-38	40	67-152	109 (269)	3.5 (2.2)
Morro Bay Beach (CA-81)	34-94	110	53-148	331 (818)	11.1 (6.9)
Avila Beach (CA-82) <sup>2</sup>	0	0 (see Task 2)	sparse 12 (0-6)	11 (28)	1.1 (0.7)
<b>CALIFORNIA, San Luis Obispo/Santa Barbara Counties</b>					
Pismo Beach/Nipomo Dunes (CA-83)	123-246	350	sparse 173-314	857 (2,117)	19.2 (11.9)

LOCATION	BREEDING NUMBERS (Adult Birds)	MANAGEMENT GOAL BREEDING NUMBERS (Adult Birds)	WINTERING NUMBERS	HECTARES (ACRES) <sup>1</sup>	KILOMETERS (MILES) OF COASTLINE
<b>CALIFORNIA, Santa Barbara County</b>					
Vandenberg Air Force Base (CA-84) (a/k/a Minuteman Beach)	90-145 (131-160)	250	177-265	421 (1,041)	12.7 (7.9)
Santa Ynez River Mouth/Ocean Beach (CA-85) (a/k/a Vandenberg Air Force Base)	10-97 (75-118)	150	79-233	185 (457)	7.4 (4.6)
Jalama Beach (CA-86)	0-1	0 (see Task 2)	11-87	21 (53)	1.9 (1.2)
Hollister Ranch (CA-87)	8	10	Unknown	149 (369)	12.3 (7.6)
Devereaux Beach (CA-88)	0-2 (irreg.)	4	81-147	25 (62)	3.1 (1.9)
Goleta Beach (CA-89)	0	0 (see Task 2)	sparse 0-6 (6-72)	37 (91)	3.7 (2.3)
Point Castillo/Santa Barbara Harbor (CA-90)	0	0 (see Task 2)	19-52	29 (72)	4.8 (3.0)
Carpinteria Beach (CA-91)	0	0 (see Task 2)	0-24	4.5 (11)	0.8 (0.5)
San Miguel Island, Units 1-8 (CA-92)	(5-68)	30	(15-200)	226 (559)	15.8 (9.8)
Santa Rosa Island, Units 1-11 (CA-93)	(71-121)	130	250-320	650 (1,606)	21.3 (13.2)
Santa Cruz Island, Units 1-2 (CA-94)	24-36	20	24-36	45 (110)	3.5 (2.2)
<b>CALIFORNIA, Ventura County</b>					
San Buenaventura Beach (CA-95)	0	0 (see Task 2)	26-47	37 (92)	3.9 (2.4)
Mandalay Bay/Santa Clara River Mouth (CA-96)	9-70	60	28-33	198 (490)	7.9 (4.9)
Hollywood Beach (CA-97)	0-5 (irreg.)	4	sparse 6-23	30 (75)	1.9 (1.2)
Ormond Beach (CA-98)	20-34	50	sparse 0-123 (38-44)	104 (257)	4.7 (2.9)
Mugu Lagoon Beach (CA-99)	40-82	110	sparse 12-62 (100-127)	215 (532)	10.5 (6.5)
San Nicolas Island, Units 1-15 (CA-100)	(78-116)	150	185	166 (411)	12.9 (8.0)

LOCATION	BREEDING NUMBERS (Adult Birds)	MANAGEMENT GOAL BREEDING NUMBERS (Adult Birds)	WINTERING NUMBERS	HECTARES (ACRES) <sup>1</sup>	KILOMETERS (MILES) OF COASTLINE
<b>CALIFORNIA, Los Angeles County</b>					
Zuma Beach (CA-101)	0	0 (see Task 2)	41-82	56 (138)	4.5 (2.8)
Corral Beach (CA-102)	0	0 (see Task 2)	sparse 1-7 (8)	10 (25)	1.1 (0.7)
Malibu Lagoon/Beach (CA-103)	0	0 (see Task 2)	27-60	19 (48)	0.8 (0.5)
Santa Monica Beach (CA-104)	0	0 (see Task 2)	sparse 0-18 (0-4)	190 (469)	9.4 (5.8)
Dockweiler to Hermosa Beach (CA-105)	0	0 (see Task 2)	9-34	224 (554)	13.2 (8.2)
San Clemente Island, Units 1-5 (CA-106)	0-2* (irreg.)	0 (see Task 2)	(20-50)*	25 (63)	2.9 (1.8)
<b>CALIFORNIA, Orange County</b>					
Huntington Beach (CA-107)	0-2 (irreg.)	0 (see Task 2)	5-33 (20-50)*	208 (515)	13.9 (8.6)
Bolsa Chica Wetlands (CA-108)	8-21 (10-30)*	50	1-44 (40-60)*	522 (1,289)	0.0 (0.0)
Newport Beach (CA-109)	0	0 (see Task 2)	sparse 0-6 (0-4)	138 (342)	8.4 (5.2)
Crystal Cove (CA-110)	(0)*	0 (see Task 2)	11-21 (10-30)*	31 (76)	5.0 (3.1)
Salt Creek Beach (CA-111)	0	0 (see Task 2)	23-29	19 (48)	2.6 (1.6)
Doheny Beach/Dana Point (CA-112)	(0)*	0 (see Task 2)	0-23 (10-30)*	36 (90)	4.0 (2.5)
<b>CALIFORNIA, Orange/San Diego Counties</b>					
San Onofre Beach (CA-113)	(0-2)* (irreg.)	15	2-16 (10-30)*	52 (128)	4.4 (2.7)
<b>CALIFORNIA, San Diego County</b>					
Aliso/French Creek Mouth (CA-114)	(3-6)*	40	(10-30)*	31 (77)	2.3 (1.4)
Santa Margarita River Estuary (CA-115)	33-74 (35-75)*	160	25-64 (30-60)*	151 (373)	4.7 (2.9)

LOCATION	BREEDING NUMBERS (Adult Birds)	MANAGEMENT GOAL BREEDING NUMBERS (Adult Birds)	WINTERING NUMBERS	HECTARES (ACRES) <sup>1</sup>	KILOMETERS (MILES) OF COASTLINE
San Luis Rey River Mouth (CA-116)	0	0 (see Task 2)	sparse 0-15 (0-14)	14 (34)	1.0 (0.6)
Agua Hedionda Lagoon/Beach (CA-117)	0-54 (0)*	10	0-20 (0-20)*	174 (431)	2.3 (1.4)
South Carlsbad Beach (CA-118)	(0)*	0 (see Task 2)	0-30*	53 (130)	4.7 (2.9)
Batiquitos Lagoon (CA-119)	6-13 (6-30)*	70	(10-30)*	276 (681)	0.0 (0.0)
San Elijo Lagoon/Beach (CA-120)	0-23 (0)*	10	3-28 (0-10)*	219 (542)	1.9 (1.2)
San Dieguito Lagoon/Beach (CA-121)	0-6 (0)*	10	6-52 (0-10)*	137 (338)	2.1 (1.3)
Los Penasquitos Lagoon/Beach (CA-122)	0-1 (0)*	10	0-34 (10-30)*	54 (133)	1.6 (1.0)
Mission Bay, Bonita Cove (CA-123)	(0-2)* (irreg.)	0 (see Task 2)	50-80 (0-80)*	34 (84)	3.2 (2.0)
Mission Bay, Fiesta Island (CA-124)	(0)*	10	(0-20)*	16 (39)	1.5 (0.9)
South Mission Beach (CA-125)	(0)*	0 (see Task 2)	(0-70)*	28 (68)	1.8 (1.1)
Ocean Beach/San Diego FCC (CA-126)	(0)*	0 (see Task 2)	2-57 (10-70)*	44 (108)	2.1 (1.3)
NAS North Island (CA-127)	(2-4)*	20	(2-60)	124 (306)	5.8 (3.6)
NAB Coronado/Silver Strand State Beach/Naval Radio Receiving Facility (CA-128)	(17-45)*	65	(10-100)*	195 (481)	10.0 (6.2)
NAB Delta Beach Bay (CA-129)	(2-8)*	10	(0-30)*	34 (85)	1.8 (1.1)
South San Diego Bay Marine Biological Study Area (CA-130)	(0)*	0 (see Task 2)	(0-80)*	11 (27)	0.0 (0.0)
Western Salt Company (CA-131)	9-31 (1-5)*	10	(0-10)*	743 (1,836)	4.0 (2.5)
Sweetwater National Wildlife Refuge (CA-132)	(7-11)*	20	(0-150)*	99 (244)	2.4 (1.5)
Tijuana River Beach (CA-133)	4-37 (4-20)*	40	0-91 (10-40)*	52 (129)	3.7 (2.3)

<sup>1</sup> Acreages calculated for San Francisco Bay salt ponds and salt pond levees (Locations CA-25, CA-26, and CA-31 through CA-47) were based on acreage of salt pond (using planimeter) and average levee crown width of 3.7 meters (12 feet).

<sup>2</sup> Although Avila Beach is proposed for excavation of underlying oil contamination and beach restoration, it is anticipated that restoration will replace and enhance existing habitat values for snowy plovers.