

CALIFORNIA AND NORTHERN SEA LIONS IN SOUTHERN PUGET SOUND, WASHINGTON

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We report on censuses of California sea lions (*Zalophus californianus*) and northern sea lions (*Eumetopias jubatus*) overwintering in southern Puget Sound between April 1983 and May 1986, and the establishment of a new haulout area. Counts in southern Puget Sound, south of the Tacoma Narrows (Fig. 1), were made opportunistically beginning on 9 April 1983 (when reports of sea lions were first received from the public), through May 1986. Aerial counts of sea lions were made during 19 surveys flown to census harbor seals in southern Puget Sound between April 1983 and May 1986. Sea lions were censused on 28 occasions by small skiff or from land, primarily at locations where sea lions were concentrated. Additional data on the presence of sea lions were provided by the public. We examined dead sea lions in Puget Sound that were reported to the Northwest Marine Mammal Stranding Network from February 1984 to December 1985.

California and northern sea lions wintered in southern Puget Sound from 1983 to 1986 (Table 1). Numbers of California sea lions have increased steadily since 1983. The highest count of 134 California sea lions was made in February 1986. Peak numbers of northern sea lions have more annual variation, with highest numbers (102) seen in 1984. Both species were present only seasonally, the first sightings occurring in late fall and early winter (Table 1). Numbers usually increased gradually, peaking in April or May, before decreasing rapidly. In 1986, however, the highest counts of both species were in February. This may in part be the result of actions taken starting in February 1986 to keep sea lions away from the Carr Inlet Navy Acoustics Base where they had been congregating. The last sightings were usually in May, though northern sea lions were seen as late as mid-July in 1984.

The locations and haulout habits of sea lions have changed between 1983 and 1986. In 1983 and

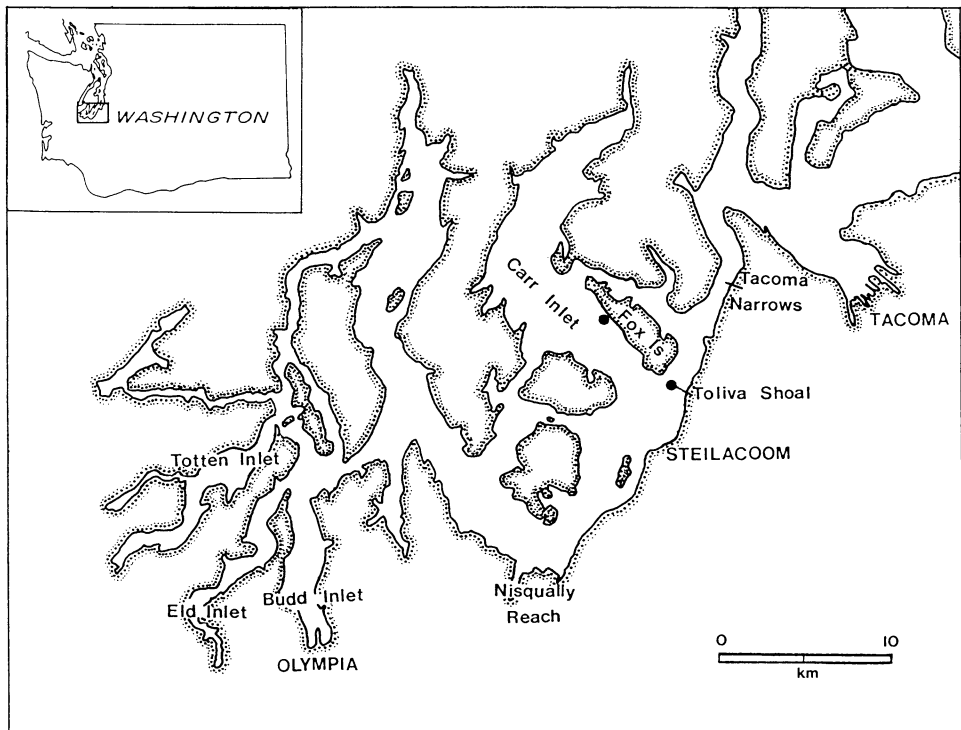


FIGURE 1. Southern Puget Sound, Washington. Dots indicate locations of sea lion haulout areas.

TABLE 1. The arrival and departure dates, highest counts, and dates of highest counts of California and northern sea lions in southern Puget Sound between April 1983 and May 1986.

First seen	Last seen	Highest count	
		#	Date
California sea lions			
—	20 May 83	50	21 Apr 83
26 Feb 84	14 May 84	64	27 Apr 84
14 Nov 84	23 May 85	76	2 May 85
28 Oct 85	1 Apr 86	134	5 Feb 86
Northern sea lions			
—	24 May 83	10	24 May 83
26 Feb 84	10 Jul 84	102	27 Apr 84
29 Oct 84	20 May 85	63	2 May 85
8 Jan 86	31 May 86*	39	28 Feb 86

* Counts made through 31 May 1986.

1984, we saw both species in the water, often rafted in mixed groups of up to 115 animals, primarily off the Nisqually River Delta and near Toliva Shoal north of Steilacoom. We also saw small groups of up to nine California sea lions in the water farther south in Budd, Eld, and Totten Inlets. In February 1985, both species began to haul out off Fox Island at the Carr Inlet Naval Acoustics Range south of the Tacoma Narrows on two 3.7 × 2.7-m platforms, four buoys, and a float. Prior to 1985, the maximum number of sea lions hauled out at one time was six on a bell buoy at Toliva Shoal (approximately 6 km east of the Fox Island haulout area). The maximum number seen hauled out at one time off Fox Island was 117 (84 California and 33 northern sea lions) on 5 February 1986.

One adult male California sea lion remained in southern Puget Sound outside the range of time described in Table 1. It was observed on eight occasions between 8 June and 13 December 1983, on six occasions between 1 October and 3 November 1984, and on 14 occasions between 12 June and 10 September 1985. Named "Oscar" by Olympia residents, it could be recognized by a missing digit on the left front flipper. It appeared to be residing year-round in the southern Puget Sound area. The unusual phenomenon of an adult male California sea lion not returning to a breeding area was also observed in San Diego Bay, California (Ridgway and Robinson 1985).

The California sea lions that migrate into Puget Sound appear to be males only. Of seven dead California sea lions recovered, all were adult males (Steiger and Calambokidis, unpubl. data; Richter, pers. comm.). No females were observed during our land and boat surveys. These findings are consistent with other observations of California sea lions in Washington and adjacent waters (Hancock 1970, Bigg 1973, Everitt et al. 1980, Beach et al. 1985). Two dead northern sea lions recovered in southern Puget Sound were adult males. Beach et al. (1985) reported strandings of both male and female northern sea lions on the Washington outer coast in the early 1980's.

California sea lions were unknown in Puget Sound until recent years. Everitt et al. (1980) reported the initial occurrence of large numbers at Port Gardner, in northern Puget Sound, in the spring of 1979. The numbers of California sea lions at Port Gardner have increased since 1982 (Richter and Dragavon 1985; J. Munn, pers. comm.), with over 900 sea lions observed in 1986 (Gearin et al. 1986). Increasing numbers of California sea lions in recent years have also been seen in Elliott Bay, central Puget Sound (Gearin et al. 1986). Bigg (1985) reported an increase in California sea lions off Vancouver Island, British Columbia from 473 animals in 1972 to 4496 in 1984. The movement of California sea lions into Puget Sound could be an expansion in range of a growing population. Since 1940, the California sea lion population has increased rapidly (Bartholomew 1967, Mate 1977, Le Boeuf and Bonnell 1980). The southern California population of over 27,000 in 1975 (Mate 1977) has increased by 5% per year (DeMaster et al. 1982).

For northern sea lions, the occurrence of large numbers in Puget Sound has not been previously observed. Arnold (1968), however, reported one sighting of 15 to 20 individuals near the Tacoma Narrows in about 1968. Four northern sea lion haulout areas were documented just outside Puget Sound, in the Strait of Juan de Fuca, in the late 1970's (Everitt et al. 1980). Northern sea lions commonly haul out along the Pacific Coast of Washington (Beach et al. 1985) though current numbers at these sites are much lower than reported in the early 1900's (Kenyon and Scheffer 1962, Bigg

1984). The occurrence of large numbers of wintering northern sea lions in southern Puget Sound is concurrent with declining numbers off southeastern Vancouver Island reported by Bigg (1985). Thus, a distributional shift may be occurring between Vancouver Island and Puget Sound. Such a shift in distribution has been reported in Alaska (Braham et al. 1980, Loughlin et al. 1984) and in British Columbia (Bigg 1985). In recent years, northern sea lion populations have declined in both Alaska and California (Antonelis and Fiscus 1980, Braham et al. 1980, Gentry and Withrow 1986), but have remained stable along the Oregon Coast (Pearson and Verts 1970; R. Brown, pers. comm.).

Acknowledgments.—G. Correa, J. Cubbage, M. Knox, K. O'Carroll, and J. Peard assisted in the data collection. G. King, R. Bobo, and other staff at the Carr Inlet Naval Acoustics Range provided logistical support and sighting information. Additional assistance was provided by the Marine Mammal Investigations Unit of the Washington Dept. of Game. Research was funded in part by the Ocean Assessments Division of NOAA, Seattle, Washington. J. C. Cubbage, J. T. Harvey, K. O. Richter, and V. B. Scheffer reviewed the manuscript. We thank these people and organizations.

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AN ADDITIONAL IDAHO MOLE RECORD

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Caswell (1953, *Murrelet* 34:9) reported two specimens of the Coast mole, *Scapanus orarius*, from Cambridge, Washington Co., Idaho. This is the only previous record of Recent moles in Idaho.

On 3 June 1983, we found a road-killed adult female *Scapanus orarius* on the Cuprum-Council road, 35 km NW of Council, Adams Co., Idaho (T18N, R3W, S1, NW¼, 1335 m elev.). The road at this point parallels the Crooked River, and the grassy meadow between the road and the river had several systems of mole burrows. With additional searching, we found scattered mole burrow systems along about 5 km of the Crooked River, as well as numerous northern pocket gopher (*Thomomys talpoides*) burrow systems. The surrounding habitat is Douglas fir (*Pseudotsuga menziesii*) and ponderosa pine (*Pinus ponderosa*) forest. This locality is approximately 40 km N of Cambridge and across the intervening Cuddy Mountains. The specimen (E. Yensen #493) is deposited in The College of Idaho Museum of Natural History (#246).

Caswell (1953) state that both mole specimens were collected at Cambridge and that one specimen was deposited in the U.S. National Museum (now National Museum of Natural History) and the other was deposited at the University of Idaho (catalog #1441). However, the tags indicate that both specimens were actually collected at Brownlee Ranger Station (T16NB, R4W, Sec. 9), which is 22 km NW of Cambridge. Also the University of Idaho specimen has since been renumbered #1461.

Acknowledgments.—We thank D. R. Johnson (University of Idaho) and R. D. Fisher (National Museum of Natural History) for information on Caswell's specimens.

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