California Wildlife Habitat Relationships System
California Department of Fish and Wildlife
California Interagency Wildlife Task Group

CASSIN'S AUKLET *Ptychoramphus aleuticus*
Family: ALCIDAE Order: CHARADRIIFORMES Class: AVES
B244

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DISTRIBUTION, ABUNDANCE, AND SEASONALITY

Fairly common year-round in marine pelagic waters off California. Seen less regularly in fall and winter, especially in September and October (Manuwal 1974), when most move 15-80 km (10-50 mi) offshore (Cogswell 1977, Sowls et al. 1980). Abundant on the Farallon Islands, where 80% of California's 132,000 population breeds (Sowls et al. 1980). The other breeding colonies off California are on Prince Island and elsewhere in the Channel Islands, with 17% of the California population, and Castle Rock, off Del Norte Co. and Green Rock, off Humboldt Co., which support the remaining 3% (Sowls et al. 1980). Adults remain on the Farallon Islands yearlong, though in reduced numbers in fall and winter (Manuwal 1974). Adults also remain yearlong on Prince Island, but probably are absent in winter at Castle Rock and Green Rock. Very uncommon off southern California, and usually rare near mainland (Cogswell 1977).

SPECIFIC HABITAT REQUIREMENTS

Feeding: The primary foods are krill crustaceans of the Family Euphausiidae (Manuwal 1972). The species most commonly eaten is Thysanoessa spinifera, T. gregaria also is taken (Manuwal 1972,1974). Amphipods, copepods, squids, crabs, and small fish also are eaten infrequently (Manuwal 1972, Hunt et al. 1979). Parents transport euphausiids to nestling by means of a sublingual gular pouch (Speich and Manuwal 1974). Euphausiid populations undergo large fluctuations, but are most consistently available in May, coinciding with egg laying (Manuwal 1972). Feeds on these crustaceans from the ocean surface in large social flocks (Hunt et al. 1979), and captures prey by underwater pursuit (Sealy 1972).

Cover: During the day, forms large rafts of hundreds of individuals on the surface of, often choppy, pelagic waters (Cogswell 1977).

Reproduction: Breeds in large, dense colonies on undisturbed islands. Digs a nest burrow 0.6 to 2 m (2-6 ft) long, in sandy soil or turf (Harrison 1978). Also nests in rock crevices or cavities, debris piles, and cracks under buildings (Thoresen 1964). On Southeast Farallon Island, all suitable nest sites were occupied, resulting in exclusion of potentially breeding adults (Manuwal 1972).

Water: No known requirement for fresh water.

Pattern: During the breeding season, requires islands that mostly are free from human intrusions, with friable soil for digging burrows, or rock crevices, for nesting (Manuwal 1974). Also needs large shoals of krill in nearby waters.

SPECIES LIFE HISTORY

Activity Patterns: Visits burrow only at night, probably to avoid the predatory western gull

(Manuwal 1974, Cogswell 1977). On moonlit, cloudless nights, less likely to come to the burrow (Manuwal 1972). Occupancy of burrow is irregular in winter months, but becomes regular about February (Manuwal 1974). Feeds during the day, but also may forage at night (Manuwal 1972).

Seasonal Movements/Migration: Little evidence of southward migration, but much of northcoast population moves 16-80 km (10-50 mi) offshore in winter (Sowls et al. 1980).

Home Range: Breeding density varied from 0.002 to 1.09 burrows per m^2 (10.9 ft^2) on Southeast Farallon Island (Manuwal 1972). Parents foraged up to 6 km (4 mi) from the nesting island (Cogswell 1977). Some may travel much greater distances (Garrett and Dunn 1981), as indicated by large numbers in Monterey Bay in peak nesting period at the nearest large colony, Southeast Farallon Island, 161 km (100 mi) away.

Territory: Defense occurs primarily around burrow entrance (Manuwal 1972). Defends burrow by rushing at conspecifics that approach within 0.75-1 m (2-3 ft) of entrance (Manuwal 1972). Territorial behavior observed throughout year on Southeast Farallon Island, though intensity greatest during nesting, and in dense colonies (Manuwal 1972).

Reproduction: On Southeast Farallon Island, lays eggs March through July, hatches eggs April to late August, and fledges young June into early October (Manuwal 1972, Sowls et al. 1980). Courtship extends from December through May, peaking in April and May. Forms a monogamous pair bond that may last 3 yr, and possibly for life (Manuwal 1974). Lays a single egg, and can lay a replacement if first is lost (Manuwal 1972). About 30% of pairs attempted to raise a second offspring within a year on Southeast Farallon Island; most second offspring did not survive (Manuwal 1972). Incubation period 38 days; range 37-42 days. Incubation and care of semiprecocial, downy nestling shared by parents. Young leave nest at about 41 days; range 35-56 days (Manuwal 1972). Fledging involves a series of short flights just before extended flight (Manuwal 1974). May not breed in first 2 yr of life. Approximately half of a large population of nonbreeders was 1 and 2 yr old (Manuwal 1972). Large groups found far from colonies in early summer may be mostly nonbreeders.

Niche: The western gull is the most important predator. A gull may pull nestlings from shallow burrows, or kill adults (Thoresen 1964). Human intrusions also can cause losses. Shallow burrows can be crushed by trampling, and incubating parents may abandon eggs if sufficiently stressed by human presence (Manuwal 1972). Introduced species, such as rats can inflict heavy mortality on eggs and chicks (Sowls et al. 1980). Soil erosion also may destroy nesting habitat (Osborne 1972). Feeds on ocean surface, therefore, quite vulnerable to changes in ocean conditions that affect krill food supply, in the mid-1800s numbers apparently were scarce off the California coast, resulting from a 2-decade intrusion of warm, tropical water (Ainley and Lewis 1974). In 1983, after more than a year of similarly elevated water temperatures, less than half of the nest sites on South Farallon Island were occupied, and production of young was estimated to be less than 1 chick in 10 nests (LeValley and Evens 1983).

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