## California Wildlife Habitat Relationships System

# California Department of Fish and Wildlife California Interagency Wildlife Task Group

BRANDT'S CORMORANT Phalacrocorax penicillatus

Family: PHALACROCORACIDAE Order: PELECANIFORMES Class: AVES

B046

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#### DISTRIBUTION, ABUNDANCE, AND SEASONALITY

Brandt's cormorant is a common yearlong resident in marine subtidal and pelagic zones of California, especially near rocky shores. Nests on rocky headlands or islets along coast and islands south to Morro Bay and Channel Islands. Common in outer parts of large estuaries, but only occasional in inner parts or on small estuaries. Common winter visitant in some habitats along mainland south of San Luis Obispo Co., but uncommon to fairly common April to October. The only recent southern nesting locations are at La Jolla (now abandoned) and at Pt. Loma, San Diego Co. (a few pairs in 1980) (Garrett and Dunn 1981). Rare in winter north of Mendocino Co. (McCaskie et al. 1979). Sometimes follows salmon runs well upstream on northwestern California rivers, such as Klamath and Smith, August to October (Cogswell 1977, McCaskie et al. 1979).

#### SPECIFIC HABITAT REQUIREMENTS

Feeding: Eats mostly small saltwater fishes, largely of no commercial value; also some crabs and shrimps. Dives for food, in shallow or deep water, reportedly as deep as 73 m (240 ft) (Palmer 1962). Flocks feeding sometimes form long arcs, driving a school of fish ahead of them (Cogswell 1977).

Cover: Roosts communally on rocky headlands and islets, and sometimes on sand beaches (Palmer 1962); perch-sites usually barren of vegetation. In daytime, rests on similar sites. Spends little time on water, except while fishing, because feathers are penetrated easily by water (Bartholomew 1943).

Reproduction: Nests on flat, or moderately sloping, ground of offshore islets, or on inaccessible ledges of mainland cliffs (Grinnell and Miller 1944).

Water: No additional data found.

Pattern: Requires a dependable food supply within commuting distance of a suitable roost or nest-site, but will commute a relatively great distance, and rarely feeds near roost (Palmer 1962).

### SPECIES LIFE HISTORY

Activity Patterns: Yearlong, diurnal activity.

Seasonal Movements/Migration: At least part of the population apparently shifts southward in winter, as evinced by a sharp reduction in numbers north of Mendocino Co. Most of 22,000 South Farallon Island breeders leave the Island from October to February (DeSante and Ainley 1980). Large numbers have been seen migrating northward past Goleta

Point, Santa Barbara Co., in February and March (Garrett and Dunn 1981). The population increase south of Morro Bay in winter may be migrants from the north, from Baja California, or the Channel Islands. Thus, many members of population may be local or distant migrators. Many Southeast Farallon Island juveniles disperse northward as far as Vancouver Island, B.C. (DeSante and Ainley 1980).

Home Range: In San Francisco Bay, rarely feeds near winter roost; commuted as much as 16 km (10 mi) daily from roost to feeding area (Bartholomew 1943).

Territory: May include only the nest, or perhaps also some space to stand next to it; used for courtship, copulaton, and nesting (Palmer 1962). On Farrallon Is., mean distance to nearest neighbor was 0.97m (sd=0.60, range=0.52-8.30, n=333). Mean distance between nests was 1.09m (sd=0.35, n=7) (Western Foundation of Vertebrate Zoology, as cited in Wallace and Wallace 1998).

Reproduction: Breeds mostly March to August, lays eggs April to July. In San Diego Co., breeds January to July, lays eggs as early as February. Southeast Farallon Island egg-laying extends from April through June. A monogamous, colonial nester. Clutch size usually 4, ranging 3-6; single-brooded. Incubation is by both parents, period unknown. Altricial young; details of parental care and ages at first flight and independence are unknown. Some breed first at 2 yr, but most not until older (Palmer 1962).

Niche: Predators on eggs and young include crows, ravens, and western gulls; if humans frighten parents off nest, predation is heavy. Adults often killed in fishing nets.

#### REFERENCES

- Bartholomew, G. A., Jr. 1943. The daily movements of comorants on San Francisco Bay. Condor 45:3-18.
- Bent, A. C. 1922. Life histories of North American petrels and pelicans and their allies. U.S. Natl. Mus. Bull. 121. 343pp.
- Cogswell, H. L. 1977. Water birds of California. Univ. California Press, Berkeley. 399pp. Desante, D. F., and D. G. Ainley. 1980. The avifauna of the south Farallon Islands,
- California. Studies in Avian Biol. No. 4. Cooper Ornithol. Soc., Lawrence, KA. 104pp.
- Garrett, K., and J. Dunn. 1981. Birds of southern California. Los Angeles Audubon Soc. 408pp.
- Grinnell, J., and A. H. Miller. 1944. The distribution of the birds of California. Pac. Coast Avifauna No. 27. 608pp.
- McCaskie, G., P. De Benedictis, R. Erickson, and J. Morlan. 1979. Birds of northern California, an annotated field list. 2nd ed. Golden Gate Audubon Soc., Berkeley. 84pp.
- Palmer, R. S., ed. 1962. Handbook of North American birds. Vol. 1. Yale University Press, New Haven, CT. 567pp.bon Soc., Berkeley. 84pp.
- Palmer, R. S., ed. 1962. Handbook of North American birds. Vol. 1. Yale University Press, New Haven, CT. 567pp. W. Collins Sons and Co., Cleveland OH. 416pp.
- Knopf, F. L. 1979. Spatial and temporal aspects of colonial nesting of white pelicans. Condor 81:353-363.
- Lingle, G. R., and N. F. Sloan. 1980. Food habits of white pelicans during 1976 and 1977 at Chase Lake National Wildlife Refuge, North Dakota. Wilson Bull. 92:123-125.
- Low, J. B., L. Kay, and D. I. Rasmussen. 1950. Recent observations on the white pelican on Gunnison Island, Great Salt Lake, Utah. Auk 67:345-356.
- Marshall, D. B., and L. W. Giles. 1953. Recent observations of birds of Anaho Island, Pyramid Lake, Nevada. Condor 55:105-116.
- McCaskie, G., P. De Benedictis, R. Erickson, and J. Morlan. 1979. Birds of northern California, an annotated field list. 2nd ed. Golden Gate Audubon Soc., Berkeley. 84pp.
- Palmer, R. S., ed. 1962. Handbook of North American birds. Vol. 1. Yale University Press, New Haven CT. 567pp.
- Remsen, J. V., Jr. 1978. Bird species of special concern in California. Calif. Dept. of Fish and Game, Sacramento. Wildl. Manage. Admin. Rep. No. 78-1. 54pp.

- Schaller, G. B. 1964. Breeding behavior of the white pelican at Yellowstone Lake, Wyoming. Condor 66:3-23.
- Sloan, N. F. 1982. Status of breeding colonies of white pelicans in the United States through 1979. Am. Birds 36:250-257.
- Tait, I. C., F. L. Knopf, and J. L. Kennedy. 1978. White pelicans nesting at Honey Lake, California. West. Birds 9:38-40.
- Wallace, E. A. H. and G. E. Wallace. 1998. Brandt's Cormorant (Phalacrocorax penicillatus). In The Birds of North America, No. 362 (A. Poole and F. Gill, eds.). The Birds of North American, Inc., Philadelphia, PA.

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