

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

DARK-EYED JUNCO

Junco hyemalis

Family: EMBERIZIDAE
B512

Order: PASSERIFORMES

Class: AVES

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DISTRIBUTION, ABUNDANCE, AND SEASONALITY

A common to abundant, breeding and wintering species in California. Breeds in mountains and foothills throughout the state, including higher desert ranges (McCaskie et al. 1979, Garrett and Dunn 1981). Found mostly in forests and woodlands from montane hardwood-conifer forests up through alpine dwarf-shrub habitat of Sierra Nevada. Coastal breeders found in valley foothill hardwood, valley foothill hardwood-conifer, and riparian habitats, as well as in closed-cone pine-cypress, montane hardwood, Douglas-fir, and redwood habitats. In Great Basin and desert ranges, breeders occur in pinyon-juniper. Found in winter in lowland and foothill habitats that provide shrub or tree cover for retreat, and open areas for foraging; frequents residential areas. Winters from sea level up to snow line in mountains. Abundant in fall on Farallon Islands, rare in winter, and common in spring (DeSante and Ainley 1980). On Channel Islands, a common winter resident, but absent in summer (Garrett and Dunn 1981).

SPECIFIC HABITAT REQUIREMENTS

Feeding: Eats insects, spiders, other small arthropods, seeds, and fruits. Mostly feeds on ground, but also gleans in shrubs and small trees, and occasionally sallies after flying insects.

Cover: Trees, shrubs, and ground herbage provide cover.

Reproduction: Nest is an open cup; usually placed on ground near shrub or small tree, often near water. Rarely nests in a tree or shrub, in a woodpecker hole, or in a building (Bent 1968).

Water: Requires water for drinking (Smyth and Coulombe 1971, Davis 1973). Bathes regularly.

Pattern: Uses forests, woodlands, edges for breeding; frequents openings, edges, stream corridors when foraging. Also breeds above timberline near moist alpine meadows. In winter, requires trees and shrubs for cover in addition to open ground for feeding.

SPECIES LIFE HISTORY

Activity Patterns: Yearlong, diurnal activity.

Seasonal Movements/Migration: Three races breed in California, and other races winter here. The most widespread breeder is *J. h. thurberi* (the "Oregon" race), which nests throughout Sierra Nevada, Cascade Range, and North Coast. High mountain breeders descend both altitudinally and latitudinally to lowlands and foothills (Grinnell and Miller 1944). *J. h. pinosus* (another "Oregon" form) is resident in central coastal mountains. *J. h. caniceps* (the "gray-headed" race) breeds locally in White and Grapevine Mts., and on Clark Mountain

in southeastern California (McCaskie et al. 1979). In winter, *J. h. cismontanus* and *J. h. hyemalis* (the "slate-colored" races) join winter flocks in small numbers; they are more common east of the Sierra Nevada (McCaskie et al. 1979). *J. h. mearnsi* (the "pink-sided" race) and other more northern-breeding "Oregon" forms augment winter flocks. Individuals breeding outside of California mostly are gone by May.

Home Range: Winter foraging range of "slate-colored" junco in Kansas was 5.8 ha (14 ac) for females, and 10.5 ha (26 ac) for males (Fitch 1958). Individuals probably travelled much farther to roosting cover. In Oregon, Gashwiler (1977) reported 14-20 pairs per 40 ha (100 ac) in lodgepole pine, 3-17 pairs per 40 ha (100 ac) in juniper, and 3 pairs per 40 ha (100 ac) in ponderosa pine stands. In northwestern California, Hagar (1960) found 42-54 pairs per 40 ha (100 ac) in recently logged Douglas-fir.

Territory: Eaton (in Bent 1968) estimated territory of "slate-colored" juncos at 0.8 to 1.2 ha (2-3 ac) in New York. Williams (1942) reported interspecific territorial behavior within 8.8 to 11 m (29-36 ft) of a nest in a building.

Reproduction: Breeds from April into August with peak activity in May and June. A monogamous, solitary breeder. Female lays 3-5 eggs (rarely 6) and incubates them 10-13 days. May raise 2 or 3 broods per season. Altricial young cared for by both parents. Young leave nest at 10-13 days and learn to fly several days later (Harrison 1978).

Niche: Nest predators include deer mice, chipmunks, and weasels (Smith and Andersen 1982). Nests and/or adults also probably preyed upon by accipiters, jays, Clark's nutcracker, and other predatory mammals. Forages frequently in flocks with chickadees, bushtits, nuthatches, kinglets, sparrows (Ehrlich et al. 1988). Usually an uncommon cowbird host (Ehrlich et al. 1988). Only 5% of 170 nests or family groups contained cowbirds in the Sierra Nevada (Rothstein et al. 1980, Verner and Ritter 1983, Airola 1986). However, White (1973) reported 36% of nests parasitized at Sagehen Creek in Sierra Co.

Comments: Dark-eyed junco now includes Oregon, gray-headed, slate-colored, and other races formerly considered species (Grinnell and Miller 1944, American Ornithologists' Union 1983). Remsen (1978) listed "gray-headed" junco as a California Species of Special Concern because of its rare and local breeding status along the Nevada border.

REFERENCES

- Airola, D. A. 1986. Brown-headed cowbird parasitism and habitat disturbance in the Sierra Nevada. *J. Wildl. Manag.* 50:571-575.
- American Ornithologists' Union. 1983. Check-list of North American birds, 6th ed. Allen Press. Lawrence, KA. 877pp.
- Bent, A. C. (O. L. Austin, Jr., ed.). 1968. Life histories of North American cardinals, grosbeaks, buntings, towhees, finches, sparrows, and allies. 3 Parts. U.S. Natl. Mus. Bull. 237. 1889pp.
- Davis, J. 1973. Habitat preferences and competition of wintering juncos and golden-crowned sparrows. *Ecology* 54:174-180.
- 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.
- Ehrlich, P. R., D. S. Dobkin, and D. Wheye. 1988. *The birder's handbook*. Simon and Schuster, New York. 785pp.
- Fitch, H. S. 1958. Home ranges, territories, and seasonal movements of vertebrates of the Natural History Reservation. *Univ. Kans., Lawrence. Publ. Mus. Nat. Hist.* 11:63-326.
- Gashwiler, J. S. 1977. Bird populations in four vegetational types in central Oregon. U.S. Dep. Inter. Fish and Wildl. Serv., Portland OR. Special Tech. Rep. No. 205. 20pp.
- 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.

- Hagar, D. C. 1960. The interrelationships of logging, birds and timber regeneration in the Douglas-fir region of northwestern California. *Ecology* 41:116-125.
- Harrison, C. 1978. A field guide to the nests, eggs and nestlings of North American birds. W. Collins Sons and Co., Cleveland, OH. 416pp.
- 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.
- Rensen, 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.
- Rothstein, S. I., J. Verner, and E. Stevens. 1980. Range expansion and diurnal changes in dispersion of the brown-headed cowbird in the Sierra Nevada. *Auk* 97:253-267.
- Smith, K. G., and D. C. Andersen. 1982. Food, predation, and reproductive ecology of the dark-eyed junco in northern Utah. *Auk* 99:650-661.
- Smyth, M., and H. M. Coulombe. 1971. Notes on the use of desert springs by birds in California. *Condor* 73:240-243.
- Verner J., and L. V. Ritter. 1983. Current status of the brown-headed cowbird in the Sierra National Forest. *Auk* 100:355-368.
- White, J. M. 1973. Breeding biology and feeding patterns of the Oregon junco in two Sierra Nevada habitats. Ph.D. Diss., Univ. Calif., Berkeley. 130pp.
- Williams, L. 1942. Interrelationships in a nesting group of four species of birds. *Wilson Bull.* 54:238-249. wned sparrows. *Condor* 33:238-242.

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