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Rock Outcrop Guild

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Rock Outcrop Guild

Common Raven *Corvus corax principalis*

Dark-eyed Junco *Junco hyemalis*

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DESCRIPTION

Taxonomy and Basic Description

The common raven is the largest North American passerine (Order: Passeriformes) at 689 to 1,625 g (24 to 57 ounces) (Boarman and Heinrich 1999). The dark-eyed junco is a much smaller North American passerine at 18 to 22g (0.63 to 0.77 ounces) (Nolan et al. 2002).



The common raven is glossy-black, with long, pointed wings and a wedge-shaped tail. The dark-eyed junco has a white belly, gray or blackish ‘hood’ and back, dark eyes and distinctive white outer tail feathers. Four subspecies of common raven occur in North America, with *C. c. principalis* resident from Alaska to Greenland, south to British Columbia and Saskatchewan and through the Appalachian Mountains (Boarman and Heinrich 1999).

The dark-eyed junco was formerly split into five distinct species. However, all of these are now lumped into one species (Nolan et al. 2002). The dark-eyed junco now informally consists of five distinctive “groups” encompassing 15 recognized subspecies. The southern Appalachian subspecies (*J. h. carolinensis*) of the slate-colored junco group is a resident in South Carolina, and another slate-colored junco subspecies, *J. h. hyemalis*, winters in the state (Nolan et al. 2002).

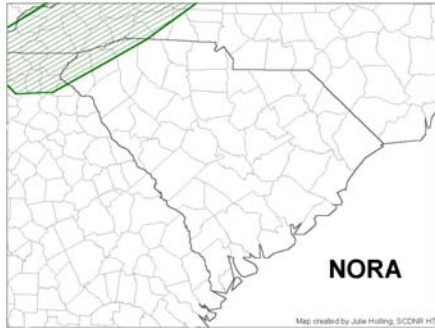


Status

Both the common raven and the dark-eyed junco are protected under the Migratory Bird Treaty Act but receive no special federal status. According to Partners in Flight, the common raven and the dark-eyed junco are low priority species within the southern Blue Ridge physiographic area (Hunter et al. 1999). However, they may be of local conservation concern in some states. They are not listed on the 2003 South Carolina Rare, Threatened & Endangered Species Inventory, but are of special interest to ornithologists in this state. The common raven is listed as threatened in Tennessee, as endangered in Kentucky and as extinct in New Jersey and Alabama (Boarman and Heinrich 1999).

Based on these designations, South Carolina's populations could be viewed as responsibility groups; hence the common raven is included on the priority list for the SC Comprehensive Wildlife Conservation Plan.

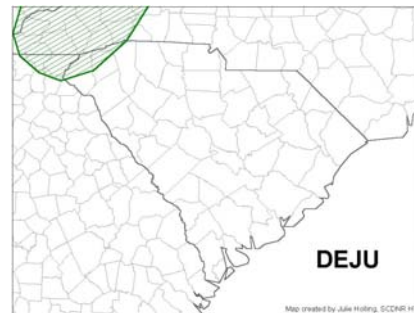
POPULATION DISTRIBUTION AND SIZE



Global population size estimates are 260 to 630 million for the dark-eyed junco (Rich et al. 2004; Nolan et al. 2002) and 16 million for the common raven. Approximately 4 million ravens occur in the U.S. and Canada (Rich et al. 2004).

The common raven is resident from Alaska south to southern Mexico, from western Canada to Maine, and south along the Appalachians to northern Georgia (Boarman and Heinrich 1999). The dark-eyed junco breeds from Alaska south to northwest New Mexico, from western Canada to Maine, and south along the Appalachians to northern Georgia (Nolan et al. 2002).

The common raven is a resident in South Carolina (Boarman and Heinrich 1999) and breeds in Greenville County and possibly Pickens County (Cely 2003). The dark-eyed junco breeds in Oconee, Pickens and Greenville Counties and is likely a resident in extreme northwest South Carolina (Nolan et al. 2002). Populations of common raven and of (breeding) dark-eyed junco are apparently rare in the state. Southern Appalachian dark-eyed junco populations (*J. h. carolinensis*) are partial, altitudinal short-distance migrants. As such, some males remain near high-elevation breeding territories during the winter, whereas females and some males move to lower elevations during this period (Nolan et al. 2002).



HABITAT AND NATURAL COMMUNITY REQUIREMENTS

The common raven occurs in a broad range of habitats, but prefers contoured landscapes with thermals for long-distance foraging and cliffs. This bird also requires trees or structures (buildings) for nesting (Boarman and Heinrich 1999). In the Southern Appalachians, the common raven often nests in the same areas as peregrine falcons. Most common raven nests in Tennessee and North Carolina are located on rock ledges and cliffs.

The dark-eyed junco often breeds in coniferous and deciduous forests, open woodlands and bogs. In the southern Appalachians, the dark-eyed junco is associated with eastern hemlock trees (Shriner 2001). Dark-eyed junco nest site characteristics are highly variable; however, nests are often on or near the ground in a small cavity on a sloping bank or rock-face. A nest can also be found among roots, under projecting rock or at

bases of or elevated in trees. When nests do occur in trees, they are rarely located over 15 m (49 feet) in height (Nolan et al. 2002).

The common raven is a generalist omnivore that eats carrion, as well as eggs, freshly killed small animals, grains, insects, fruits and garbage (Boarman and Heinrich 1999). The common raven cannot open carcasses and relies on, and often follows, carnivores and scavengers (Boarman and Heinrich 1999).

The dark-eyed junco feeds mainly on seeds and arthropods taken from ground and leaf litter during the breeding season. During the winter, the junco will feed from the ground and low plants (Nolan et al. 2002).

CHALLENGES

The common raven was likely formerly extirpated in South Carolina due to human persecution (Boarman and Heinrich 1999). The species may have been driven out of South Carolina, where it was shot for allegedly killing infant lambs (Boarman and Heinrich 1999). Logging may have also contributed to the species' decline in Virginia and Pennsylvania at the beginning of the twentieth century (Boarman and Heinrich 1999). Conversely, degradation of native habitat (development) likely contributed to common raven population increases in some areas due to increased food (human garbage), water (irrigation) and shelter (structures) (Boarman and Heinrich 1999).

The dark-eyed junco is currently an abundant species. However, predicted eastern hemlock declines due to the hemlock woolly adelgid are likely to have negative consequences on breeding populations of this species.

CONSERVATION ACCOMPLISHMENTS

In the early 1900s, common raven populations had decreased throughout eastern North America. However, by the 1950s, the populations had increased and the species had re-colonized sections of its previous range (Boarman and Heinrich 1999).

CONSERVATION RECOMMENDATIONS

- Survey and monitor high elevation sites to determine the distribution, densities and nest survival rates of breeding common raven and dark-eyed junco populations in South Carolina.
- Evaluate ways to supplement natural re-colonization for the common raven to attain historic population densities.
- Monitor common raven and dark-eyed junco breeding sites and protect them from destruction or excessive human disturbance.
- Determine the amount and distribution of eastern hemlock in the state and the extent to which breeding dark-eyed junco populations use this habitat.

MEASURES OF SUCCESS

As the above-mentioned action items are accomplished and yield valuable information, adaptive management procedures will be evaluated and implemented for these two bird species.

LITERATURE CITED

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