



Chipping Sparrow (*Spizella passerina*)

Conservation Status—The chipping sparrow is not listed under the ISSSSP, but is classified by ODFW as a Conservation Strategy Species (ODFW 2006), but the species has no federal special status. Analysis of BBS data indicate a declining trend in detections of the species in Oregon during 1966-2000 (Scheuring 2003). Reported causes for the decline in chipping sparrow populations are loss of open oak woodlands in the Willamette Valley and alteration of historic fire regimes (Scheuring 2003, ODFW 2006).

Distribution— The chipping sparrow occurs in scattered, localized populations throughout the Willamette Valley during the spring and summer, but is more common in shrub-steppe communities of eastern Oregon (Scheuring 2003). Most of the Oregon population probably winters in Arizona, Texas, along the Gulf of Mexico in the U. S., or in northern Mexico (Middleton 1998); however, a few individuals usually remain in the Willamette Valley (Scheuring 2003).

Ecology—Chipping sparrows are most common in open woodlands, savannas, and openings within conifer forests; closed-canopy forests are avoided (Granholt 1988, Scheuring 2003). The species prefers areas with relatively sparse understories, but will forage in nearby shrubs (Granholt 1988). Hagar and Stern (2001) did not detect chipping sparrows in 5 oak woodland study sites that were known to be occupied by the species 27 years earlier (Anderson 1970, Anderson 1972). The authors hypothesized that increased tree density within the stands lessened habitat suitability. DeMars (2008) found that isolated Oregon white oaks on agricultural lands were used with similar frequency by chipping sparrows as individual oaks on savanna restoration sites. Chipping sparrows have been observed using filbert orchards in the Willamette Valley during winter (Scheuring 2003).

Chipping sparrows usually begin arriving in Oregon in late March (Scheuring 2003). Eggs and nestlings have been observed from late-May through mid-July (Scheuring 2003). Nests are constructed in a tree or tall shrub, usually 1-3 m above the ground, (Middleton 1998; Swanson et al. 2004). There is a preference for nesting in conifer saplings when they are available (Reynolds and Knapton 1984, Swanson et al. 2004). Clutch size ranges from 2-7 eggs (typically 4; Middleton 1998).

For most of the year, the diet of the chipping sparrow is composed of seeds from grasses and annual forbs (Allaire and Fisher 1975, Scheuring 2003). Insects (primarily Lepidoptera, Coleoptera, and Orthoptera) are an important component of the species' diet during the breeding season (Allaire and Fisher 1975).

In Montana, chipping sparrow density averaged 13.9 ± 0.75 territories/10 ha (24.7 ac) in open ponderosa pine/Douglas-fir forest with native forb/bunchgrass ground cover (Ortega et al. 2006). Across their geographic range, the territory size of chipping sparrows varies between 0.3 ha (0.5 ac) to 1.6 ha (2.5 ac; Middleton 1998). The return rate of banded chipping sparrows to breeding territories previously established in native ponderosa pine/Douglas-fir plant communities was 56.6%; returns to stands invaded by spotted knapweed averaged 33.8% (Ortega et al. 2006). The authors surmised that reduced breeding success of pairs in knapweed infested territories caused fewer offspring to be produced, leading to fewer returns during following years.

Habitat Management/Restoration—Chipping sparrows would benefit from land management practices that maintain open woodlands and savanna habitats. Gaines et al. (2007) reported significantly greater density of chipping sparrows on restoration sites (treatment: 20% basal area retention, prescribed understory burning) in ponderosa pine/Douglas-fir/bunchgrass habitat than control stands with greater tree density in the same habitat type. Although the species occurs on croplands and managed pastures (DeMars 2008), food availability and breeding success are likely to be greater in habitats that support a higher diversity of native plants and insects (Ortega et al. 2006). Given the breeding site fidelity exhibited by chipping sparrows, restored habitats located in close-proximity to occupied breeding territories have a greater probability of being discovered and used by the species.

Non-Habitat Limiting Factors—Studies from the western U. S. indicate that predation is the primary cause of nest failure (85% of failed nests, Swanson et al. 2004, Ortega and Ortega 2001). Known nest predators include snakes, common crow (*Corvus brachyrhynchos*), blue jay (*Cyanocitta cristata*), and domestic cat (*Felis catus*; Middleton 1998).

Across most of the U.S., the chipping sparrow is one of the most common species parasitized by brown-headed cowbirds (*Molothrus ater*). In southwest Colorado, 22% of nests were parasitized by brown-headed cowbirds, leading to an increased rate of nest abandonment and reduced clutch size (Ortega and Ortega 2001). In ponderosa pine forests of Colorado, 11.9% of chipping sparrow nests were parasitized (Swanson et al. 2004), although survival or productivity effects were not reported. McLaren et al. (2006) reported a 26% incidence of parasitism in Ontario, Canada. The incidence of parasitism is unknown in Oregon, but brown-headed cowbirds are abundant in agricultural landscapes of the Willamette Valley (Patterson 2003).

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