

## Habitat Associations of Breeding and Migrating Passerines In Lower Klamath and Tule Lake National Wildlife Refuge Marshlands

Heightened concern for long-term availability of high-quality water for Klamath Basin wetlands and impacts of water shortages on the basin's wildlife populations have highlighted the paucity of information currently available on the abundance, distribution, and habitat requirements of the region's passerines. In 2003 the Klamath Bird Observatory collected data on relative abundance, seasonal use patterns, and habitat requirements of passerines in riparian and wetland habitats at Tule Lake and Lower Klamath Wildlife Refuges. We established 239 survey stations at the refuges in permanent and seasonal wetlands and willow habitats. During the breeding season 474 point count surveys were conducted and during migration 94 areas search surveys were conducted.

We detected 125 bird species over the course of the study, twenty of which are identified as species of conservation concern by the Partners In Flight Landbird Conservation Program. Thirty species (seven species of conservation concern) were seen only during the breeding season, and twenty-seven species (seven species of conservation concern) were seen only during migration. The 69 species detected during both seasons also included six species of conservation concern. Western Meadowlarks were more abundant in permanent wetlands, Savannah Sparrows in seasonal wetlands, and Marsh Wrens and Yellow-headed Blackbirds (a species of conservation concern) in both permanent and seasonal wetlands. Common Yellowthroats (a species of conservation concern), Rock Wrens, Bullock's Orioles, Mourning Doves and House Finches were more abundant in willow habitats during the breeding season. During migration season Yellow-rumped Warblers and Yellow Warblers (a conservation focal species) were more abundant at willow stations. Our preliminary results demonstrate that seasonal and permanent wetlands, and willows within these wetlands, provide important habitats for passerines, including Partners In Flight species of conservation concern, during the breeding and migration seasons.

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