

Engaging Visitors in Bird Ecology at Crater Lake National Park: 2018 Summary Report

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Background

Klamath Bird Observatory (KBO) and Crater Lake National Park (CRLA) initiated a collaborative project to engage park visitors in bird ecology in 2017 (Frey and Stephens 2017). The objectives of this five-year project are to improve educational opportunities, public awareness, and knowledge about bird populations within the Klamath-Siskiyou Bioregion, and specifically at CRLA, through surveys and public outreach.

In particular, this project includes establishment of a bird survey station within CRLA, continued operation of an existing bird survey station adjacent to CRLA, and incorporates a bird conservation interpretive program during bird banding operations for park visitors. The two stations are operated by KBO staff and student volunteer interns and integrate multiple survey methods following an established National Park Service protocol (Stephens et al. 2010). Park Rangers led interpretive programs focused on birds and bird ecology with hikes planned to culminate at the survey stations where the visiting public can see birds up close and learn about banding, scientific methods, and bird conservation.

This report summarizes KBO's survey operations and contributions to outreach efforts in 2018 at the CRLA constant effort banding station located in Munson Valley and the Sevenmile Guard Station (hereafter, Sevenmile) within Fremont-Winema National Forest.

Constant Effort Banding Station Operations

The banding stations at Munson Valley and Sevenmile were scheduled for operation once each 10-day period (defined from period 1 beginning May 1) through August and once each week September through mid-October, inclusive of the breeding and fall migration seasons. Both stations have 12 mist-nets with a twelfth added to Munson Valley's 11 nets in 2017 (Table 1). Operations at the Munson Valley station were conducted a total of 14 times beginning June 8 through October 11. Smoke from area wildfires created local hazardous air quality conditions that caused one scheduled operation to be cancelled and two shortened. Operations at the Sevenmile station were conducted 16 times beginning May 29 through October 8. One operation was shortened by wildfire smoke-caused hazardous air quality conditions and another shortened by rain.

During operations 12 mist nets were opened 15 minutes prior to local sunrise and closed five hours later. Captured birds were aged and sexed when possible using standard methods (Pyle 1997), checked for breeding condition (i.e. cloacal protuberances and brood patches), marked with individually numbered aluminum leg bands, and released. A species checklist tally was completed during each banding operation. This tally documented every bird species encountered during the operation period by breeding status (based on observed behavior) including those observed and captured. The species checklist tally was established by KBO in 2018 in a banding programmatic transition, replacing point

count and area search surveys (and incidental observations used in 2017) with a procedure more practical for field workers concurrently managing a mist netting operation. Total captures and relative abundance [birds detected (species tally or capture)/visit] are presented for each species during breeding and fall seasons (Tables 2 and 3). All data are contributed to the Avian Knowledge Northwest Data Center and have been in part previously reported in Frey and Stephens (2018). At the Munson Valley station 53 species were encountered and/or captured and a total of 414 birds of 27 species were captured (Table 2). At the Sevenmile station 82 bird species were encountered and/or captured and a total of 1,131 birds of 53 species were captured (Table 3).

Several species captured and/or otherwise observed at the Munson Valley and Sevenmile stations in 2018 have elevated conservation status. These include designations by the U.S. Fish and Wildlife Service (USFWS 2008), Oregon Department of Fish and Wildlife (ODFW 2017), Partners in Flight 2016 Continental Plan (Rosenberg et al. 2016), and Oregon-Washington Partners in Flight Habitat Conservation for Landbirds in Coniferous Forests (Altman and Alexander 2012) and Conservation Strategy for Landbirds of the East-Slope of the Cascade Mountains (Altman 2000) (Tables 2 and 3).

Outreach

Both CRLA and KBO conducted verbal, print, and digital advertising for banding operation visits. CRLA staff included visit announcements in other park outreach and interpretive programs, flyers displayed at park visitor centers, newsletters, a local newspaper, and their website. KBO included visit announcements in flyers displayed and interpretive presentations at public outreach festival events, a summer edition newsletter, and in several website blog posts.

For outreach programs at the Munson Valley station, bird walks organized and led by CRLA Park Ranger Nico Ramirez culminated with a visit to the banding operation. These occurred on 11 of the 14 scheduled operations. Visits were not organized for the first operation June 8 to allow station set up and personnel training and for the final two operations in October. Banding station operations were scheduled for Thursdays to facilitate visitor-targeted advertising with a consistent day of week. Upcoming dates were communicated to pertinent CRLA staff several weeks in advance. A total of 126 visitors were brought to banding operations at the Munson Valley station led by the Park Ranger. A KBO Banding Interpretation Kit was loaned to CRLA for use in 2018. An identical KBO Banding Interpretation Kit was used by KBO staff for outreach programs at the Sevenmile station.

Outreach programming at the Sevenmile station was organized and led by KBO staff and interns. These occurred on nine of the 16 scheduled operations. Visits did not occur the first operation May 29 to allow station set up and personnel training, four operations for which no visitors registered, and during a KBO-hosted banding techniques workshop on August 7 and August 9. Visitors to the Sevenmile station totaled 34 persons and included groups from both the Klamath Basin Audubon Society and Rogue Valley Audubon Society chapters.

Acknowledgements

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Table 1. Location (UTM coordinates NAD 83, Zone 10) of Munson Valley, Crater Lake National Park and Sevenmile Guard Station, Fremont-Winema National Forest constant effort mist netting stations' central point and net locations.

Munson Valley

	Easting	Northing
Central point	570384	4749077
Net #1	570351	4749072
Net #2	570351	4749141
Net #3	570335	4749189
Net #4	570406	4749230
Net #5	570424	4749212
Net #6	570428	4749165
Net #7	570404	4749121
Net #8	570401	4749104
Net #9	570403	4749070
Net #10	570379	4749036
Net #11	570380	4748972
Net #12	570268	4748990

Sevenmile Guard Station

	Easting	Northing
Central point	575785	4728482
Net #1	575785	4728482
Net #2	575790	4728502
Net #3	575796	4728529
Net #4	575766	4728535
Net #5	575763	4728545
Net #6	575733	4728648
Net #7	575713	4728715
Net #8	575717	4728759
Net #9	575690	4728585
Net #10	575726	4728569
Net #11	575732	4728500
Net #12	575699	4728757

Table 2. Results from the constant effort monitoring station at Munson Valley, Crater Lake National Park in 2018 showing total mist net captures and relative abundance [birds detected (species tally or capture)/visit] during breeding (June 6 to August 23) and fall migration (September 6 to October 11) seasons with status as Species of Concern (with elevated conservation status) and Habitat Focal Species by agency and conservation plan. No species captured or detected at the Munson Valley station in 2018 are included in the Partners in Flight Continental Plan Prevent Decline WatchList – Western Forest (Rosenberg et al. 2016).

Common Name	Scientific Name	Total Captures (breeding)	Total Captures (migration)	Relative Abundance (breeding)	Relative Abundance (migration)	Species of Concern			Habitat Focal Species	
						United States Fish & Wildlife Service Species of Concern (USFWS 2008)	Oregon Department of Fish & Wildlife Sensitive Species (ODFW 2017)	Partners in Flight Continental Plan Reverse Decline Watch List - Western Forest (Rosenberg et al. 2016)	Oregon-Washington Partners in Flight Coniferous Forests (Altman and Alexander 2012)	Oregon-Washington Partners in Flight East-slope Cascades Mtns (Altman 2000)
American Crow	<i>Corvus brachyrhynchos</i>	-	-	0.875	0.167	-	-	-	-	-
American Robin	<i>Turdus migratorius</i>	7	-	2.375	0.167	-	-	-	-	-
Black-capped Chickadee	<i>Poecile atricapillus</i>	5	-	-	0.167	-	-	-	-	-
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>	-	-	0.125	-	-	-	-	-	-
Brown Creeper	<i>Certhia americana</i>	-	1	0.625	0.667	-	-	-	X	X
Cassin's Finch	<i>Haemorhous cassinii</i>	1	-	0.125	-	X	-	X	-	-
Chestnut-backed Chickadee	<i>Poecile rufescens</i>	-	-	-	1.667	-	-	X	-	-
Chipping Sparrow	<i>Spizella passerina</i>	2	-	0.250	-	-	X	-	-	X
Clark's Nutcracker	<i>Nucifraga columbiana</i>	-	-	0.375	0.333	-	-	-	-	X
Common Raven	<i>Corvus corax</i>	-	-	0.125	0.500	-	-	-	-	-
Dark-eyed Junco	<i>Junco hyemalis</i>	60	28	9.625	8.500	-	-	-	-	-
Evening Grosbeak	<i>Coccothraustes vespertinus</i>	4	-	0.500	-	-	-	-	-	-
Fox Sparrow	<i>Passerella iliaca</i>	-	5	-	0.833	-	-	-	X	-
Golden-crowned Kinglet	<i>Regulus satrapa</i>	21	5	3.250	0.833	-	-	-	-	-
Golden-crowned Sparrow	<i>Zonotrichia atricapilla</i>	-	22	-	3.667	-	-	-	-	-
Gray Jay	<i>Perisoreus canadensis</i>	1	-	1.500	1.333	-	-	-	-	-
Hairy Woodpecker	<i>Leuconotopicus villosus</i>	-	-	0.125	0.167	-	-	-	-	-
Hermit Thrush	<i>Catharus guttatus</i>	-	5	0.125	1.333	-	-	-	X	X
Hermit Warbler	<i>Setophaga occidentalis</i>	4	-	0.500	-	-	-	-	X	-
Lazuli Bunting	<i>Passerina amoena</i>	2	-	0.375	-	-	-	-	X	-
Lincoln's Sparrow	<i>Melospiza lincolnii</i>	28	7	3.500	1.167	-	-	-	X	-
MacGillivray's Warbler	<i>Geothlypis tolmiei</i>	2	1	0.250	0.167	-	-	-	-	-

Table 2 continued. Results from the constant effort monitoring station at Munson Valley, Crater Lake National Park in 2018 showing total mist net captures and relative abundance [birds detected (species tally or capture)/visit] during breeding (June 6 to August 23) and fall migration (September 6 to October 11) seasons with status as Species of Concern (with elevated conservation status) and Habitat Focal Species by agency and conservation plan. No species captured or detected at the Munson Valley station in 2018 are included in the Partners in Flight Continental Plan Prevent Decline WatchList – Western Forest (Rosenberg et al. 2016).

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Merlin	<i>Falco columbarius</i>	-	-	-	0.167	-	-	-	-	-
Mountain Chickadee	<i>Poecile gambeli</i>	4	1	2.125	0.833	-	-	-	-	-
Northern Flicker	<i>Colaptes auratus</i>	-	-	0.375	0.667	X	-	-	X	-
Northern Goshawk	<i>Accipiter gentilis</i>	-	-	0.125	-	X	X	-	-	-
Northern Pygmy-Owl	<i>Glaucidium californicum</i>	-	-	-	0.167	-	-	-	-	-
Orange-crowned Warbler	<i>Oreothlypis celata</i>	19	2	2.375	0.500	-	-	-	X	-
Olive-sided Flycatcher	<i>Contopus cooperi</i>	-	-	0.375	-	X	X	-	X	X
Pine Siskin	<i>Spinus pinus</i>	14	-	3.875	0.167	-	-	-	-	-
Purple Finch	<i>Haemorhous purpureus</i>	-	-	0.125	-	X	-	-	X	-
Red-breasted Nuthatch	<i>Sitta canadensis</i>	1	2	1.875	2.667	-	-	-	-	-
Red-breasted Sapsucker	<i>Sphyrapicus ruber</i>	-	-	-	1.167	-	-	-	-	-
Ruby-crowned Kinglet	<i>Regulus calendula</i>	-	5	-	0.833	-	-	-	-	-
Rufous Hummingbird	<i>Selasphorus rufus</i>	6	-	1.000	-	X	-	X	X	-
Savannah Sparrow	<i>Passerculus sandwichensis</i>	-	1	-	0.167	-	-	-	-	-
Spotted Sandpiper	<i>Actitis macularius</i>	1	-	0.375	-	-	-	-	-	-
Spotted Towhee	<i>Pipilo maculatus</i>	-	-	-	0.167	-	-	-	-	-
Steller's Jay	<i>Cyanocitta stelleri</i>	-	-	1.000	1.000	-	-	-	-	-
Townsend's Solitaire	<i>Myadestes townsendi</i>	-	-	0.125	-	-	-	-	-	-
Turkey Vulture	<i>Cathartes aura</i>	-	-	0.250	-	-	-	-	-	-
Varied Thrush	<i>Ixoreus naevius</i>	-	-	0.250	-	-	-	-	X	-
Western Flycatcher	<i>Empidonax difficilis</i>	-	1	-	0.167	-	-	-	X	-
Western Tanager	<i>Piranga ludoviciana</i>	-	-	0.375	0.167	-	-	-	X	-

Table 2 continued. Results from the constant effort monitoring station at Munson Valley, Crater Lake National Park in 2018 showing total mist net captures and relative abundance [birds detected (species tally or capture)/visit] during breeding (June 6 to August 23) and fall migration (September 6 to October 11) seasons with status as Species of Concern (with elevated conservation status) and Habitat Focal Species by agency and conservation plan. No species captured or detected at the Munson Valley station in 2018 are included in the Partners in Flight Continental Plan Prevent Decline WatchList – Western Forest (Rosenberg et al. 2016).

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Western Wood-Pewee	<i>Contopus sordidulus</i>	-	-	0.375	0.167	-	-	-	-	-
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	-	9	-	1.500	-	-	-	-	-
Wilson's Warbler	<i>Cardellina pusilla</i>	-	1	0.125	0.167	-	-	-	X	-
Yellow-rumped Warbler	<i>Setophaga coronata</i>	64	76	8.000	12.833	-	-	-	-	-

Table 3. Results from the constant effort monitoring station at Sevenmile Guard Station, Fremont-Winema National Forest in 2018 showing total mist net captures and relative abundance (birds/plot, where plot is the entire monitoring station) during breeding (May 29 to August 24) and fall migration (September 3 to October 8) seasons with status as Species of Concern (with elevated conservation status) and Habitat Focal Species by agency and conservation plan. No species captured or detected at the Sevenmile station in 2018 are included in the Partners in Flight Continental Plan Prevent Decline WatchList – Western Forest (Rosenberg et al. 2016).

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American Dipper	<i>Cinclus mexicanus</i>	-	-	0.200	0.167	-	-	-	-	-
American Goldfinch	<i>Spinus tristis</i>	1	-	0.100	-	-	-	-	-	-
American Robin	<i>Turdus migratorius</i>	12	-	2.300	1.167	-	-	-	-	-
Bald Eagle	<i>Haliaeetus leucocephalus</i>	-	-	0.100	-	X	-	-	-	-
Barn Swallow	<i>Hirundo rustica</i>	-	-	0.400	-	-	-	-	-	-
Belted Kingfisher	<i>Megasceryle alcyon</i>	-	-	0.900	0.333	-	-	-	-	-
Black-capped Chickadee	<i>Poecile atricapillus</i>	1	-	0.400	-	-	-	-	-	-
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>	14	-	1.700	0.167	-	-	-	-	-
Black-throated Gray Warbler	<i>Setophaga nigrescens</i>	-	1	-	0.167	-	-	-	X	-
Brown Creeper	<i>Certhia americana</i>	2	4	0.400	1.000	-	-	-	X	X
Brown-headed Cowbird	<i>Molothrus ater</i>	2	-	0.400	-	-	-	-	-	-
Cassin's Finch	<i>Haemorhous cassinii</i>	1	-	0.100	-	X	-	X	-	-
Canada Goose	<i>Branta canadensis</i>	-	-	0.100	-	-	-	-	-	-
Cassin's Vireo	<i>Vireo cassinii</i>	-	-	0.300	-	-	-	-	-	-
Cedar Waxwing	<i>Bombycilla cedrorum</i>	3	-	3.400	-	-	-	-	-	-
Chestnut-backed Chickadee	<i>Poecile rufescens</i>	9	5	0.900	0.833	-	-	X	-	-
Chipping Sparrow	<i>Spizella passerina</i>	1	-	-	-	-	-	-	-	X
Common Merganser	<i>Mergus merganser</i>	-	-	1.200	-	-	-	-	-	-
Common Nighthawk	<i>Chordeiles minor</i>	-	-	0.200	-	-	X	-	-	-
Common Raven	<i>Corvus corax</i>	-	-	1.400	1.000	-	-	-	-	-
Common Yellowthroat	<i>Geothlypis trichas</i>	1	-	0.100	-	-	-	-	-	-
Dark-eyed Junco	<i>Junco hyemalis</i>	71	90	7.100	15.000	-	-	-	-	-
Downy Woodpecker	<i>Picoides pubescens</i>	1	2	0.200	0.500	-	-	-	-	-
Dusky Flycatcher	<i>Empidonax oberholseri</i>	4	1	0.500	0.167	-	-	-	-	-

Table 3 continued. Results from the constant effort monitoring station at Sevenmile Guard Station, Fremont-Winema National Forest in 2018 showing total mist net captures and relative abundance (birds/plot, where plot is the entire monitoring station) during breeding (May 29 to August 24) and fall migration (September 3 to October 8) seasons with status as Species of Concern (with elevated conservation status) and Habitat Focal Species by agency and conservation plan. No species captured or detected at the Sevenmile station in 2018 are included in the Partners in Flight Continental Plan Prevent Decline WatchList – Western Forest (Rosenberg et al. 2016).

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Fox Sparrow	<i>Passerella iliaca</i>	-	25	-	4.167	-	-	-	X	-
Golden-crowned Kinglet	<i>Regulus satrapa</i>	9	30	1.700	5.000	-	-	-	-	-
Golden-crowned Sparrow	<i>Zonotrichia atricapilla</i>	-	27	-	5.333	-	-	-	-	-
Great Blue Heron	<i>Ardea herodias</i>	-	-	0.200	-	-	-	-	-	-
Green-tailed Towhee	<i>Pipilo chlorurus</i>	1	-	0.100	-	X	-	-	-	-
Hairy Woodpecker	<i>Leuconotopicus villosus</i>	-	-	0.100	-	-	-	-	-	-
Hammond's Flycatcher	<i>Empidonax hammondii</i>	3	1	0.300	0.167	-	-	-	X	-
Hermit Thrush	<i>Catharus guttatus</i>	4	11	0.900	1.833	-	-	-	X	X
Hermit Warbler	<i>Setophaga occidentalis</i>	18	1	1.800	0.500	-	-	-	X	-
House Wren	<i>Troglodytes aedon</i>	5	-	1.700	0.500	-	-	-	-	-
Lazuli Bunting	<i>Passerina amoena</i>	24	-	2.400	-	-	-	-	X	-
Lincoln's Sparrow	<i>Melospiza lincolni</i>	14	8	1.400	1.333	-	-	-	X	-
MacGillivray's Warbler	<i>Geothlypis tolmiei</i>	69	7	7.000	1.167	-	-	-	-	-
Mallard	<i>Anas platyrhynchos</i>	-	-	0.500	-	-	-	-	-	-
Mountain Chickadee	<i>Poecile gambeli</i>	6	3	1.000	0.500	-	-	-	-	-
Mourning Dove	<i>Zenaida macroura</i>	-	-	0.200	-	-	-	-	-	-
Nashville Warbler	<i>Oreothlypis ruficapilla</i>	92	2	9.200	0.333	-	-	-	X	X
Northern Flicker	<i>Colaptes auratus</i>	1	-	0.700	1.667	-	-	-	X	-
Northern Pygmy-Owl	<i>Glaucidium gnoma</i>	-	-	0.100	-	-	-	-	-	-
Orange-crowned Warbler	<i>Oreothlypis celata</i>	165	35	16.500	5.833	-	-	-	X	-
Pine Siskin	<i>Spinus pinus</i>	1	-	0.900	-	-	-	-	-	-
Pacific Wren	<i>Troglodytes pacificus</i>	1	1	0.200	0.167	-	-	-	X	-

Table 3 continued. Results from the constant effort monitoring station at Sevenmile Guard Station, Fremont-Winema National Forest in 2018 showing total mist net captures and relative abundance (birds/plot, where plot is the entire monitoring station) during breeding (May 29 to August 24) and fall migration (September 3 to October 8) seasons with status as Species of Concern (with elevated conservation status) and Habitat Focal Species by agency and conservation plan. No species captured or detected at the Sevenmile station in 2018 are included in the Partners in Flight Continental Plan Prevent Decline WatchList – Western Forest (Rosenberg et al. 2016).

Common Name	Scientific Name	Total Captures (breeding)	Total Captures (migration)	Rel. Abund. (breeding)	Rel. Abund. (migration)	Species of Concern			Habitat Focal Species	
						United States Fish & Wildlife Service Species of Concern (USFWS 2008)	Oregon Department of Fish & Wildlife Sensitive Species (ODFW 2017)	Partners in Flight Continental Plan Reverse Decline Watch List - Western Forest (Rosenberg et al. 2016)	Oregon-Washington Partners in Flight Coniferous Forests (Altman and Alexander 2012)	Oregon-Washington Partners in Flight East-slope Cascades Mtns (Altman 2000)
Pacific-slope Flycatcher	<i>Empidonax difficilis</i>	-	-	1.200	-	-	-	-	X	-
Pileated Woodpecker	<i>Dryocopus pileatus</i>	-	-	0.300	0.500	-	X	-	X	-
Pine Siskin	<i>Spinus pinus</i>	1	-	0.900	-	-	-	-	-	-
Purple Finch	<i>Haemorhous purpureus</i>	5	-	0.500	0.333	X	-	-	X	-
Red-breasted Nuthatch	<i>Sitta canadensis</i>	6	-	1.800	1.333	-	-	-	-	-
Red-breasted Sapsucker	<i>Sphyrapicus ruber</i>	6	-	0.700	0.333	-	-	-	-	-
Red-shouldered Hawk	<i>Buteo lineatus</i>	-	-	0.100	-	-	-	-	-	-
Red-tailed Hawk	<i>Buteo jamaicensis</i>	-	-	0.200	0.167	-	-	-	-	-
Ruby-crowned Kinglet	<i>Regulus calendula</i>	-	9	-	1.500	-	-	-	-	-
Ruffed Grouse	<i>Bonasa umbellus</i>	-	-	0.200	1.000	-	-	-	-	-
Rufous Hummingbird	<i>Selasphorus rufus</i>	18	-	2.100	0.167	X	-	X	X	-
Sandhill Crane	<i>Grus canadensis</i>	-	-	0.200	-	-	X	-	-	X
Sharp-shinned Hawk	<i>Accipiter striatus</i>	-	-	-	0.167	-	-	-	-	-
Song Sparrow	<i>Melospiza melodia</i>	23	7	2.400	1.167	-	-	-	-	-
Spotted Towhee	<i>Pipilo maculatus</i>	1	4	0.100	0.833	X	-	-	-	-
Steller's Jay	<i>Cyanocitta stelleri</i>	1	-	1.600	1.833	-	-	-	-	-
Swainson's Thrush	<i>Catharus ustulatus</i>	10	-	1.300	-	-	-	-	-	-
Townsend's Warbler	<i>Setophaga townsendi</i>	-	-	0.200	0.333	-	-	-	X	-
Tree Swallow	<i>Tachycineta bicolor</i>	-	-	0.300	-	-	-	-	-	-
Turkey Vulture	<i>Cathartes aura</i>	-	-	0.100	-	-	-	-	-	-
Unidentified <i>Selasphorus</i> hummingbird spp.	<i>Selasphorus</i> spp.	1	-	0.100	0.167	-	-	-	-	-
Warbling Vireo	<i>Vireo gilvus</i>	10	-	1.100	0.167	-	-	-	-	-

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						United States Fish & Wildlife Service Species of Concern (USFWS 2008)	Oregon Department of Fish & Wildlife Sensitive Species (ODFW 2017)	Partners in Flight Continental Plan Reverse Decline Watch List - Western Forest (Rosenberg et al. 2016)	Oregon-Washington Partners in Flight Coniferous Forests (Altman and Alexander 2012)	Oregon-Washington Partners in Flight East-slope Cascades Mtns (Altman 2000)
Western Flycatcher	<i>Empidonax difficilis</i>	7	-	0.700	-	-	-	-	X	-
Western Tanager	<i>Piranga ludoviciana</i>	11	1	1.300	0.333	-	-	-	X	-
Western Wood-Pewee	<i>Contopus sordidulus</i>	5	-	3.000	0.167	-	-	-	-	-
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	-	23	-	4.000	-	-	-	-	-
White-throated Sparrow	<i>Zonotrichia albicollis</i>	-	1	-	0.167	-	-	-	-	-
Willow Flycatcher	<i>Empidonax traillii</i>	13	2	1.300	0.333	X	X	-	-	-
Wilson's Warbler	<i>Cardellina pusilla</i>	20	9	2.100	1.500	-	-	-	X	-
Yellow Warbler	<i>Setophaga petechia</i>	14	16	1.600	2.667	X	-	-	-	-
Yellow-rumped Warbler	<i>Setophaga coronata</i>	26	89	2.600	14.833	-	-	-	-	-