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## 2018 Fall Banding Migration Summary, Chadron State Park

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In order to better understand wild birds and their migration, Bird Conservancy of the Rockies conducted bird monitoring for the 11th straight year at our fall migration banding station in Chadron State Park within the Pine Ridge Region of Nebraska. Operated in collaboration with the Nebraska Game and Parks Commission, this station is open to the public and visited by school groups to serve as



**Figure 1.** Western Palm Warbler (top) and Nashville Warbler, first ever captures for Chadron.

an outdoor classroom. Among our goals are to enhance the public's appreciation of birds as well as their understanding of threats to bird survival and the role of science in bird conservation.

Serving as an important migration stopover, the Pine Ridge ecosystem is atypical for western Nebraska, featuring high escarpments with numerous canyons and gullies. Open ponderosa pine forests dominate the landscape with thick understory pockets of hardwoods such as elm and fruit-bearing shrubs including chokeberry and plum. These forested 'islands' stand alone in the vast mixed grass prairies and agricultural lands that dominate the region and provide important resources for resident and migrant forest birds, many traveling from as far away as Central and even South America. To date, 80 different species have been captured in Chadron State Park. This season, a total of 347 birds of 39 different species were banded at the station (Table 1). An additional 49 captures represent birds that were captured multiple times within the season, as well as 9 birds that were banded in a previous season (Table 2) and recaptured this year. This brings the total number of birds banded during the 11-year period to 3936. A few of the more notable captures this season include a Nashville Warbler and a Palm Warbler (Figure 1), which were both first-ever captures for the station. Also of interest were unusually high numbers of Western Wood-Pewees and Eastern Bluebirds, in both cases the season's total nearly equaling the total for all previous seasons combined.

Table 1. List of all birds banded in 2018.

Common Name	Latin Name	Number Banded
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	3
Downy Woodpecker	<i>Dryobates pubescens</i>	3
Northern (Red-shafted) Flicker	<i>Colaptes auratus cafer</i>	1
Western Wood-Pewee	<i>Contopus sordidulus</i>	15
Willow Flycatcher	<i>Empidonax traillii</i>	1
Least Flycatcher	<i>Empidonax minimus</i>	1
Eastern Phoebe	<i>Sayornis phoebe</i>	6
Cassin's Vireo	<i>Vireo cassinii</i>	4
Red-eyed Vireo	<i>Vireo olivaceus</i>	1
Black-capped Chickadee	<i>Poecile atricapillus</i>	17
White-breasted Nuthatch	<i>Sitta carolinensis</i>	2
Pygmy Nuthatch	<i>Sitta pygmaea</i>	2
House Wren	<i>Troglodytes aedon</i>	48

Ruby-crowned Kinglet	<i>Regulus calendula</i>	1
Eastern Bluebird	<i>Sialia sialis</i>	19
Townsend's Solitaire	<i>Myadestes townsendi</i>	1
Swainson's Thrush	<i>Catharus ustulatus</i>	8
Hermit Thrush	<i>Catharus guttatus</i>	3
American Robin	<i>Turdus migratorius</i>	22
Gray Catbird	<i>Dumetella carolinensis</i>	1
Brown Thrasher	<i>Toxostoma rufum</i>	4
Cedar Waxwing	<i>Bombycilla cedrorum</i>	2
American Goldfinch	<i>Spinus tristis</i>	40
Spotted Towhee	<i>Pipilo maculatus</i>	24
Chipping Sparrow	<i>Spizella passerina</i>	10
Clay-colored Sparrow	<i>Spizella pallida</i>	5
Lincoln's Sparrow	<i>Melospiza lincolnii</i>	18
White-throated Sparrow	<i>Zonotrichia albicollis</i>	4
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	3
Dark-eyed (slate-colored) Junco	<i>Junco hyemalis</i>	3
Yellow-breasted Chat	<i>Icteria virens</i>	3
Ovenbird	<i>Seiurus aurocapilla</i>	1
Orange-crowned Warbler	<i>Oreothlypis celata</i>	35
Nashville Warbler	<i>Oreothlypis ruficapilla</i>	1
American Redstart	<i>Setophaga ruticilla</i>	1
(Western) Palm Warbler	<i>Setophaga palmarum palmarum</i>	1
Yellow-rumped (Myrtle) Warbler	<i>Setophaga coronata coronata</i>	2
Yellow-rumped (Audubon's) Warbler	<i>Setophaga coronata auduboni</i>	8
Wilson's Warbler	<i>Cardellina pusilla</i>	20
Western Tanager	<i>Piranga ludoviciana</i>	3

From this effort much has been learned regarding movements of species through this important, but little-studied region. For example, long distance migrants such as Orange-crowned Warblers, Wilson's Warblers and Lincoln's Sparrows are captured in high numbers each season. These species breed in the boreal and montane forests far from Nebraska and evidently depend upon the unique ecosystem of Chadron for safe passage through the region to southern destinations. Shorter distance migrants such as House Wrens and Spotted Towhees also make up a significant percentage of

the total captures and likely include local breeders as well as passage birds. Local residents including Black-capped Chickadees, American Goldfinches and Pygmy Nuthatches are frequently recaptured from year to year. These birds remain in the area year-round and depend heavily upon the ecosystems of Chadron for their continued survival. Interestingly, some species normally considered ‘eastern’ migrants such as Palm Warblers, Chestnut-sided Warblers and Blackpoll Warblers have shown up in nets. This information has helped refine species occurrence maps for Nebraska. (Birds of Nebraska Online - <https://birds.outdoornebraska.gov/>) Additionally, banding data has helped us understand how bird populations respond to local catastrophes such as wildfire, which has twice struck the region in recent years.

Table 2: 2018 banding returns from a previous year.

Species	Capture date (this season)	Capture date (original)	Minimum age
Black-capped Chickadee	6 Sep 2018	19 Sep 2017	Third Year
Black-capped Chickadee	6 Sep 2018	29 Aug 2017	Second Year
Black-capped Chickadee	23 Sep 2018	30 Aug 2015	Fourth Year
Black-capped Chickadee	6 Oct 2018	29 Aug 2017	Second Year
Pygmy Nuthatch	26 Sep 2018	16 Sep 2016	Fourth Year
American Goldfinch	21 Sep 2018	7 Sep 2017	Third Year
American Goldfinch	22 Sep 2018	30 Aug 2016	Fourth Year
Chipping Sparrow	15 Sep 2018	21 Sep 2015	Fifth Year
Yellow-breasted Chat	28 Aug 2018	29 Aug 2017	Third Year

In addition to the scientific knowledge gained from these efforts, public education also plays an important role at Bird Conservancy of the Rockies banding stations. This is important because many migrant bird species are showing population declines. Birds face challenges during migration including widespread habitat alteration, domestic cat predation and accidental collisions with buildings and vehicles. Species once considered common have become increasingly imperiled. Conservation solutions are complex and will undoubtedly require coordinated efforts between professional scientists, educators, governments, landowners and the general public. This season, the banding station was visited by several school groups as well as numerous members of the public. Through live demonstrations of bird banding at Chadron, visitors could see birds up close and in the hand and learn how bird banding

techniques and science fit into the wider conservation picture. Importantly, visitors are instructed about what they can do to help.

The Chadron Banding Station is just one of hundreds in a hemisphere-wide network. Data collected at this station are used to help researchers understand bird migration on a vast scale. By connecting the dots from birds recaptured elsewhere, migration routes can be identified with greater resolution than ever, allowing scientists to identify key areas across their ranges for which to focus their conservation efforts.



**Appendix 1:** Clockwise from top – Eastern Bluebird, White-breasted Nuthatch, Yellow-rumped (Myrtle) Warbler, White-crowned Sparrow, Orange-crowned Warbler.