

## **Annual Bird Survey Summary July to Dec 2018**

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In July of 2017, Valle de Oro National Wildlife Refuge (NWR) in Albuquerque, New Mexico began surveying all birds on the refuge. The purpose of the survey is to monitor the presence and absence of migrating and resident bird species (e.g., neo-tropical migrants, geese, and sparrows) in accordance with survey site conditions by using quantitative observations (i.e., numbers of individual birds per species). Specifically, the purpose is to determine which bird species are present/absent in the agricultural fields of the refuge to then compare these species with those that would be present/absent after restoration occurs.

Bird surveys are conducted year-round to monitor all migrating and resident bird species at Valle de Oro NWR. Surveys should be conducted in the morning once a week, every other week (biweekly) during this time frame. These surveys are typically done on a consistent day and time with all units counted on the same day.

The refuge was separated into East and West, divided by the Middle Rio Grande Conservancy District Barr Interior Drain running roughly through the center of the property. Then each side was further divided into North and South. Therefore, there are four sampling units at the Refuge: Northeast, Northwest, Southeast, and Southwest. Existing roads are used to survey refuge fields, though routes are subject to change as restoration and trail construction begin.

Consistent training on bird identification was given to staff and volunteers, though the Refuge Biologist was lead and did most surveys. Surveys are not conducted in the rain, in the dark, or if visibility is less than 70% (e.g., cloudy, overcast, or foggy) or if winds exceed a Beaufort Wind Index of 5 or higher (30-50 miles per hour).

*Please note the following:*

There is a large potential for error in this monitoring survey. The below excerpt is mainly taken from the Monitoring Manual for the Integrated Waterbird Management and Monitoring (IWMM) Approach for Nonbreeding Waterbirds, Version 8: February 2015, Introduction, pp. 5.

Detection of [birds] is likely to be imperfect during surveys, thus biasing estimates. Inaccuracy occurs when some individuals are unavailable for detection (e.g., hidden behind vegetation or other birds), when individuals that are available are not perceived by the observers, or when observers under or overestimate extremely large flocks. Many factors can influence detectability, including observer ability and attention, habitat conditions, and weather. Detectability of [birds] may also change during the season due to changing vegetation structure throughout the season; this is especially applicable for agricultural fields and the stage of crop growth. The size of flocks occurring on single survey units will likely vary tremendously across the survey period; in general, observers tend to underestimate flocks of large birds in excess of 2,000 (Boyd 2000), and the degree of bias (of the underestimate) increases as flock size increases. Training may improve the ability of observers to estimate large flocks.

The pilot study for the Valle de Oro NWR Annual Bird Survey was conducted from July 2017 to June 2018 with a report written in October 2018. From here on, reports will be done from January to June and

July to December with reports coming out the month after the end of the report (July and January, respectively). Below is a brief list of the most common birds seen from July 2018 to December 2018. A more complete list of bird numbers per the survey period and other notes are available in the following pages. All individual bird surveys are also uploaded to eBird.org.

The most common birds seen at Valle de Oro NWR were Canada/Cackling Geese, Mallards, Killdeer, Sandhill Cranes, Rock Pigeons, Eurasian Collared-Doves, Horned Larks, Cliff Swallows, Mourning Dove, American Kestrel, Northern Flicker, Say's Phoebe, American Crow, Common Raven, European Starling, Western Meadowlark, Red-wing Blackbird, House Finch, and White-crowned Sparrows. Bird numbers may rise or fall depending upon the day, the time, season, and disturbance on the refuge (e.g., visitors, mowing, haying, etc.). During this survey period, in addition to most of the birds above, the most common ones seen were Western Kingbirds, Lark Sparrows, Northern Harriers, and Black-chinned Hummingbirds.

During this survey period, there were some birds that when their numbers were entered into eBird.org had high counts associated with them. These birds were the Yellow-rumped Warbler, Canada/Cackling Geese, Killdeer, American Pipit, Lincoln Sparrow, and Cliff Swallow. The corresponding months in which these high numbers were recorded are in the notes at the end pages.

Compared to last year during this period of time, there were some species that hadn't shown up on previous surveys appeared during this time period or during the entire test pilot study period, such as Orange-crowned Warblers, Lesser Goldfinches, Yellow-rumped Warblers, Great Blue Herons, Wilson's Warblers, Downy Woodpeckers, and Brewer's Blackbird. Some species that were recorded before but were not for this period were Spotted Sandpipers, Solitary Sandpipers, White-faced Ibis, Wilson's Phalaropes, Turkey Vultures, and Western Wood-Pewee. This may just be due to the timing of the surveys and/or the restoration happening on the refuge. Overall, numbers were consistent.

## **Restoration Begins**

In 2017, water rights were transferred from the northeastern fields to the southeastern fields, to allow for irrigation of the proposed playa wetland and upland restoration to occur in that area; thus, the northeastern fields were left to fallow and only the western and southeastern portions of the refuge were under a cooperative farming agreement until 2018. Beginning in February 2018 and ending in April 2018, in partnership with Bureau of Reclamation, Audubon NM and Coca-Cola, Talking Talons, WildEarth Guardians and Rio Grande Return, and others, the refuge started habitat restoration along its northwestern and southeastern boundaries. Along the northwestern boundary, a number of Rio Grande Cottonwoods (*Populus wislizeni*), willows (*Salix* spp.), and other woody species were planted as a starting basis for the extension of the bosque and riparian habitats of the refuge's proposed habitat restoration plan this continued from February 2019 to April 2019. Furthermore, in the southeastern fields of the refuge, an up to 16 acre playa type wetland was created in the proposed upland section of the refuge.

In the 2018-2019 winter waterbird season, the Cooperator Farmer of the refuge is still actively flood irrigating the western portion of the refuge only. No water resides in the southeastern playa and northeastern fields receive only rain water. Construction of the visitor center in the middle northeastern fields is slated for 2019-2020. It is expected that as habitat restoration continues, diversity of species may increase, and detectability and survey routes will change as habitats become more complex.

VALLE de ORO NWR BIRD SURVEY

SURVEY PERIOD: July to Dec 2018

DUCKS & GEESE:	Average*	High
American Wigeon	6	6
Canada/Cackling Goose	666	2,110
Grtr. White-fronted Goose	1	1
Mallard	6	10
Ross's Goose	98	155
Snow Goose	2	2
Wood Duck	1	1

MARSH BIRDS:	Average*	High
American Coot	0	0
Belted Kingfisher	0	0
Cattle Egret	103	103
Great Blue Heron	1	1
Sandhill Crane	333	1171
Snow Egret	5	8

SHOREBIRDS:	Average*	High
Killdeer	13	41
Ring-billed Gull	1	1
Solitary Sandpiper	0	0
Spotted Sandpiper	0	0
White-faced Ibis	0	0
Wilson's Phalarope	0	0

RAPTORS:	Average*	High
American Kestrel	7	12
Cooper's Hawk	1	2
Merlin	0	0
Northern Harrier	1	2
Prairie Falcon	0	0
Red-tailed Hawk	2	2
Swainson's Hawk	2	3

PASSERINES:	Average*	High
American Pipit	36	109
American Robin	2	2
Barn Swallow	18	41
Bewick's Wren	0	0
Black Phoebe	1	1
Blue Grosbeak	3	4
Cliff Swallow	76	167
Common Yellowthroat	0	0
Eastern Bluebird	2	3
Horned Lark	57	107
House Finch	3	6
Lesser Goldfinch	5	7
Loggerhead Shrike	0	0
Northern Mockingbird	0	0
Orange-crowned Warbler	2	2
Ruby-crowned Kinglet	0	0
Say's Phoebe	11	19
Summer Tanager	0	0
Tree Swallow	0	0
Violet-green Swallow	0	0
Western Bluebird	8	8
Western Kingbird	17	36
Western Meadowlark	42	106
Western Wood-Pewee	0	0
Wilson's Warbler	3	3
Yellow-breasted Chat	1	1
Yellow-rumped Warbler	98	198

SPARROWS:	Average*	High
Chipping Sparrow	33	62
Dark-eyed Junco	12	12
House Sparrow	4	5
Lark Sparrow	32	78
Lincoln Sparrow	1	1
Savannah Sparrow	21	24
Song Sparrow	0	0
Spotted Towhee	0	0
Vesper Sparrow	0	0
White-crowned Sparrow	22	41

OTHER:	Average*	High
Black-chinned Hummingbird	5	7
Downy Woodpecker	1	1
Eurasian Collared-Dove	6	23
Greater Roadrunner	2	2
Hairy Woodpecker	0	0
Mourning Dove	16	38
Northern Flicker	3	10
Rock Pigeon	7	12
Steller's Jay	0	0
Turkey Vulture	0	0
White-winged Dove	0	0

BLACKBIRDS:	Average*	High
American Crow	287	725
Brewer's Blackbird	5	6
Common Raven	14	50
European Starling	40	224
Great-tailed Grackle	0	0
Red-winged Blackbird	50	50
Yellow-headed Blackbird	41	41

**METHODS:**

Surveys are done biweekly 30 minutes to 1 hour after sunrise  
 2017 surveys started in July and ran for 13 weeks (end of Dec)  
 Surveys will continue into 2019-20, biweekly

\* Average was calculated as total of an individual species divided by the number of surveys the bird was observed in

**NOTES:**

For a while, was unable to fully survey the SE fields due to road closure and wetland construction  
 After April 2018, the SE roads were reopened and the levee was able to allow for better surveying of the SE area  
 New cottonwood and willow planting happened in April 2018 along NW boundary  
 eBird high count on Lincoln's Sparrow on March 23, 2018  
 SW/NW fields flooded starting in March by Cooperative Farmer; irrigation ongoing  
 Flooding of playa in SE field started April 25th and ongoing until Sept.; vegetation slowly coming up  
 In May, vegetation got high in sections on the refuge, causing visibility issues  
 eBird high count for Cliff Swallows on 7-Sept-18  
 eBird high count for Yellow-rumped Warblers on 5-Oct-18  
 2 planes from the SW diverted from 2 SACR continuously circling near the top of the NE/BID area  
 eBird high count for Killdeer on 16-Nov-18 and 14-Dec-18  
 eBird high count for Canada/Cackling Geese on 30-Nov-18  
 eBird high count for American Pipits on 14-Dec-18