

Annual Bird Survey Summary from July 2017 to June 2018 Pilot Study
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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.

Below is a brief list of the most common birds seen from July 2017 to June 2018. A more complete list of bird numbers per month and other notes are available in the following pages. All bird surveys are also uploaded to eBird.org.

The most common birds seen at Valle de Oro NWR are Canada/Cackling Geese, Mallards, Killdeer, Sandhill Crane, Rock Pigeon, Eurasian Collared-Dove, Horned Lark, Greater Roadrunner, 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.).

In the summer months, it is fairly common for the Mourning Dove numbers to increase as well as Barn and Cliff Swallows as they nest on the refuge or nearby. When the agricultural fields, maintained by the Cooperative Farmer, are flooded (typically March through October), then the number of Mallards increase as do Cattle Egrets, Snowy Egrets, White-faced Ibis, Killdeer, Long-billed Curlews, and other similar shorebirds and secretive marshbirds. Sparrow numbers may also increase, especially Lark, Lincoln, and Savannah Sparrows. Other species that increase during the summer months are Western Kingbirds, Swainson's Hawks, House Finches, and Yellow-headed Blackbirds.

Beginning and during winter, October and on, large flocks and cranes and geese are present on the refuge that were not during the summer months. An estimation of 1,800 sandhill cranes and 2,000 dark geese (e.g., Canada/Cackling geese) loaf on the refuge before continuing on to other parts of Albuquerque, Socorro, or San Antonio, New Mexico during winter migration. Light geese (e.g., Snow and Ross's Geese) are also present but in lesser numbers, such as about 500. Flocks of blackbirds also increase as these smaller groups of European Starlings, Red-wing Blackbirds, and Yellow-headed Blackbirds flock together to feed in fields and neighboring lands. Murders of American Crows also increase as they flock together and roost in the nearby bosque and rest or fly over the refuge.

Restoration Begins

Beginning in February 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. 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.

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 2017

DUCKS & GEESE:	Average*	High	PASSERINES:	Average*	High	OTHER:	Average*	High
American Wigeon	1	1	American Pipit	138	267	Black-chinned Hummingbird	5	9
Canada/Cackling Goose	806	2,194	American Robin	1	1	Downy Woodpecker	1	1
Grtr. White-fronted Goose	1	1	Barn Swallow	193	745	Eurasian Collared-Dove	6	17
Mallard	65	321	Bewick's Wren	1	1	Greater Roadrunner	1	1
Ross's Goose	3	4	Black Phoebe	2	2	Hairy Woodpecker	1	1
Snow Goose	0	0	Blue Grosbeak	2	3	Mourning Dove	34	100
Wood Duck	2	2	Cliff Swallow	15	26	Northern Flicker	6	20
			Common Yellowthroat	1	1	Rock Pigeon	8	16
MARSH BIRDS:	Average*	High	House Finch	13	23	Steller's Jay	20	20
Belted Kingfisher	1	1	Lesser Goldfinch	2	3			
Cattle Egret	47	90	Loggerhead Shrike	1	1	BLACKBIRDS:	Average*	High
Great Blue Heron	2	2	Ruby-crowned Kinglet	1	1	American Crow	225	396
Sandhill Crane	258	630	Say's Phoebe	9	22	Common Raven	11	44
Snow Egret	20	68	Western Bluebird	3	4	European Starling	167	546
			Western Kingbird	20	58	Great-tailed Grackle	6	6
SHOREBIRDS:	Average*	High	Western Meadowlark	35	129	Red-winged Blackbird	63	200
Killdeer	7	15	Yellow-rumped Warbler	5	7	Yellow-headed Blackbird	19	56
Solitary Sandpiper	1	1						
White-faced Ibis	53	100	SPARROWS:	Average*	High	METHODS:	Surveys are done biweekly 30 minutes to 1 hour after sunrise	
			Horned Lark	54	180	2017 surveys started in July and ran for 13 weeks (end of Dec)		
RAPTORS:	Average*	High	House Sparrow	3	3	Surveys will continue into 2018, biweekly		
American Kestrel	7	12	Lark Sparrow	44	88	Draft protocol still needs USFWS regional approval		
Cooper's Hawk	1	1	Lincoln Sparrow	11	14	* Average was calculated as total of an individual species divided by the number		
Merlin	1	1	Savannah Sparrow	4	8	of surveys that species was observed in		
Northern Harrier	1	2	Song Sparrow	1	1			
Prairie Falcon	1	1	Spotted Towhee	1	1	NOTES:	Some fields (W/SE) were flood irrigated by Cooperator in July & Sept	
Red-tailed Hawk	2	3	White-crowned Sparrow	22	62	Some fields (W/SE) were being mowed and baled in July, Sept, & Oct		
Swainson's Hawk	2	5				NE fields H2O rights to Strategic Reserve; left fallow due to EA in draft		
						eBird high count of Common Raven on September 8, 2017		

VALLE de ORO NWR BIRD SURVEY

SURVEY PERIOD: Jan to Jun 2018

DUCKS & GEESE:	Average*	High	PASSERINES:	Average*	High	OTHER:	Average*	High
American Wigeon	2	2	American Pipit	15	22	Black-chinned Hummingbird	3	6
Canada/Cackling Goose	597	2,575	American Robin	2	2	Downy Woodpecker	0	0
Grtr. White-fronted Goose	1	1	Barn Swallow	28	44	Eurasian Collared-Dove	3	5
Mallard	50	326	Bewick's Wren	0	0	Greater Roadrunner	2	4
Ross's Goose	4	4	Black Phoebe	1	1	Hairy Woodpecker	1	1
Snow Goose	134	300	Blue Grosbeak	5	6	Mourning Dove	25	59
Wood Duck	2	2	Cliff Swallow	81	204	Northern Flicker	2	3
			Common Yellowthroat	2	2	Rock Pigeon	4	8
			Eastern Bluebird	7	7	Steller's Jay	0	0
MARSH BIRDS:	Average*	High	Horned Lark	126	259	Turkey Vulture	2	2
American Coot	1	1	House Finch	13	30	White-winged Dove	3	4
Belted Kingfisher	0	0	Lesser Goldfinch	0	0			
Cattle Egret	2	2	Loggerhead Shrike	0	0	BLACKBIRDS:	Average*	High
Great Blue Heron	0	0	Northern Mockingbird	2	2	American Crow	121	245
Sandhill Crane	70	143	Ruby-crowned Kinglet	0	0	Common Raven	0	0
Snow Egret	2	5	Say's Phoebe	6	15	European Starling	114	665
			Summer Tanager	1	1	Great-tailed Grackle	0	0
SHOREBIRDS:	Average*	High	Tree Swallow	3	3	Red-winged Blackbird	30	50
Killdeer	3	7	Violet-green Swallow	3	4	Yellow-headed Blackbird	1	1
Ring-billed Gull	10	10	Western Bluebird	14	14			
Solitary Sandpiper	0	0	Western Kingbird	13	22	METHODS:		
Spotted Sandpiper	1	1	Western Meadowlark	42	79	Surveys are done biweekly 30 minutes to 1 hour after sunrise		
White-faced Ibis	6	6	Western Wood-Pewee	1	1	2017 surveys started in July and ran for 13 weeks (end of Dec)		
Wilson's Phalarope	8	8	Yellow-breasted Chat	1	1	Surveys will continue into 2019, biweekly		
			Yellow-rumped Warbler	0	0	* Average was calculated as total of an individual species divided by the number		
RAPTORS:	Average*	High				of surveys that species was observed in		
American Kestrel	4	10	SPARROWS:	Average*	High			
Cooper's Hawk	1	1	Chipping Sparrow	6	10	NOTES:		
Merlin	0	0	Dark-eyed Junco	6	19	For a while, was unable to fully survey the SE fields due to road closure and wetland construction		
Northern Harrier	1	2	House Sparrow	5	8	After April 2018, the SE roads were reopened and the levee was able to allow for better surveying of the SE area		
Prairie Falcon	0	0	Lark Sparrow	3	3	New cottonwood and willow planting happened in April 2018 along NW boundary		
Red-tailed Hawk	2	3	Lincoln Sparrow	14	40	eBird high count on Lincoln's Sparrow on March 23, 2018		
Swainson's Hawk	1	1	Savannah Sparrow	9	17	SW/NW fields flooded starting in March by Cooperative Farmer; irrigation ongoing		
			Song Sparrow	3	3	Flooding of playa in SE field started April 25th and ongoing until Sept.; vegetation slowly coming up		
			Spotted Towhee	1	1	In May, vegetation got high in sections on the refuge, causing visibility issues		
			Vesper Sparrow	2	2			
			White-crowned Sparrow	17	37			