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the

Colorado Field Ornithologist

CONTENTS

COVER PHOTO: Adult male Greater Prairie Chicken in courtship posture on booming grounds, Yuma County, Colorado, April 1967. Photo courtesy of Dale Horne, Denver, Colorado.

LETTER TO THE EDITOR

May 20, 1974

Mr. David W. Lupton, Head
Serials Section
Colorado State University Libraries
Fort Collins, Colorado 80521

Dear Dave,

The CFO Official Records Committee regrets to announce the resignation of one of its charter members, Dr. Thompson G. Marsh, effective May 18, 1974. Dr. Marsh served the Committee faithfully and well since its inception in May of 1972 and his services and expertise will be sorely missed. The Chairman wishes to thank him for a job well done.

At its annual meeting in conjunction with the CFO Annual Convention in Pueblo, the CFO Board of Directors voted to accept Mr. Harold R. Holt of Denver as Dr. Marsh's replacement on the Official Records Committee. Mr. Holt's appointment is effective May 19, 1974.

Yours truly,

Jack Reddall

CHAIRMAN
CFO Official Records
Committee

LETTER TO THE EDITOR

March 31, 1974

David W. Lupton, Editor
Colorado Field Ornithologist

Enclosed is a revised list of those species designated as rare or unusual which the Colorado Field Ornithologists-Official Records Committee is interested in obtaining documentation. It would be greatly appreciated by the Colorado Field Ornithologists and its Official Records Committee if this list could be printed as a supplement to your periodic publication along with a reproduction of the Report Form or otherwise be made available to the active field people in your area.

The CFO Official Records Committee appreciates your interest in this matter.

Sincerely yours,

Jack Reddall
CHAIRMAN
CFO Official Records Committee

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The Colorado Field Ornithologists-Official Records Committee is interested in receiving documented reports on the following rare or unusual species. Observations of any of these birds from within Colorado should be reported to: Mr. Jack Reddall, Chairman, 4450 South Alton Street, Englewood, Colorado 80110 using the Colorado Field Ornithologists Sight Record Report form (or facsimile).

Yellow-billed Loon
Arctic Loon
Red-throated Loon
Red-necked Grebe
Brown Pelican
Olivaceous Cormorant
Anhinga
Little Blue Heron
Reddish Egret
Louisiana Heron
Least Bittern
Wood Ibis
Glossy Ibis
Roseate Spoonbill
Trumpeter Swan
Brant
Black Brant
Mexican Duck
Mottled Duck
European Widgeon
Harlequin Duck
Common Eider
Common Scoter
Swallow-tailed Kite
Red-shouldered Hawk
Gyrfalcon
Ruffed Grouse
Whooping Crane
Yellow Rail
Purple Gallinule
Common Gallinule
Piping Plover
American Woodcock
Eskimo Curlew
Short-billed Dowitcher
Buff-breasted Sandpiper
Hudsonian Godwit
Red Phalarope
Pomarine Jaeger
Parasitic Jaeger
Long-tailed Jaeger
Iceland Gull
Laughing Gull
Ivory Gull
Black-legged Kittiwake
Common Tern
Least Tern
Ancient Murrelet
White-winged Dove
Barred Owl
Spotted Owl
Boreal Owl
Whip-poor-will
Lesser Nighthawk
Anna's Hummingbird
Rivoli's Hummingbird
Blue-throated Hummingbird
Great Crested Flycatcher
Olivaceous Flycatcher
Black Phoebe
Eastern Wood Pewee
Vermilion Flycatcher
Purple Martin
Carolina Wren
Short-billed Dowitcher
Long-billed Thrasher
Bendire's Thrasher
Gray-cheeked Thrush
Sprague's Pipit
Phainopepla
Yellow-throated Vireo
Philadelphia Vireo
Prothonotary Warbler
Swainson's Warbler
Golden-winged Warbler
Lucy's Warbler
Cape May Warbler
Cerulean Warbler
Blackburnian Warbler
Yellow-throated Warbler
Bay-breasted Warbler
Pine Warbler
Kentucky Warbler
Connecticut Warbler
Hooded Warbler
Canada Warbler
Painted Redstart
Eastern Meadowlark
Boat-tailed Grackle
Hepatic Tanager
Painted Bunting
Purple Finch
Baird's Sparrow
Le Conte's Sparrow
Sharp-tailed Sparrow
Golden-crowned Sparrow
Smith's Longspur

COLORADO FIELD ORNITHOLOGISTS SIGHT RECORD REPORT CFO-ORC FILE #_____

☐ RARE OR UNUSUAL RECORD ☐ NEW STATE RECORD

Species:_____ _____
(Vernacular Name) (Scientific Name-use binomial)

Date(s):_____ Time Bird Seen:_____ to _____

Locality:_____

Nearest Town:_____ County:_____

Other observers who identified this bird:

NAME	ADDRESS	TELEPHONE

Optical Equipment:_____

Light Conditions:_____

Distance from Bird (how measured):_____

Number of Birds Seen:_____ Sex:_____ Plumage:_____

Overall Appearance and Size:_____

Detailed Description (describe only what was actually observed in the field):

Bill (shape and color):_____

Legs (shape and color):_____

Crown and Forehead:_____ Eye (color):_____

Nape:_____ Face:_____ Throat:_____

Breast and Sides:_____

Belly and Flanks:_____

Undertail Coverts:_____

Back:_____

Wings:_____

Underwings:_____

Rump:_____ Uppertail Coverts:_____

Upper Side of Tail:_____

Under Side of Tail:_____

Shape of Tail:_____

Voice:_____

Behavior:_____

Habitat:_____

Prior Experience with this Species:_____

How Were Similarly Appearing Species Eliminated?_____

This Report was Written From: Notes made during___ after___ observation; Memory___

Signed:_____ Street Address:_____

Date Prepared:_____ Town and State_____ ZIP_____

Return to: JACK REDDALL - 4450 South Alton Street, Englewood, Colorado 80110

(USE REVERSE SIDE OF SHEET OR ADDITIONAL PAGES IF NECESSARY)

WINTER DIURNAL RAPTOR POPULATIONS OF THREE HABITAT TYPES IN NORTHEASTERN COLORADO

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Department of Fishery and Wildlife Biology
Colorado State University
Fort Collins, Colorado 80521

Ted E. Behlke
Department of Fishery and Wildlife Biology
Colorado State University
Fort Collins, Colorado 80521[1]

Abstract: Three winter raptor populations on grassland, dryland farming, and irrigated farming areas in northeastern Colorado were compared. The eight species encountered were: Red-tailed Hawk (Buteo jamaicensus), Rough-legged Hawk (Buteo lagopus), Ferruginous Hawk (Buteo regalis), Golden Eagle (Aquila chrysaetos), Marsh Hawk (Circus cyaneus), Prairie Falcon (Falco mexicanus), Merlin (Falco columbarius), and American Kestrel (Falco sparverius). The grassland supported the greatest amount of raptor biomass. The Ferruginous Hawk and the Golden Eagle preferred the grassland site. The Red-tailed Hawk and the American Kestrel preferred the irrigated farmland. The Golden Eagle comprised 75% of the total raptor biomass on the grassland area and 53% of the biomass on the dryland farmland. The Rough-legged Hawk comprised 55% of the biomass on the irrigated farmland. The area census is not considered as an adequate format for further population comparison studies.

Early investigations into censusing raptors over large areas were conducted by counting birds seen during cross country auto trips (Nice 1941, Leopold 1942). Allan and Sime (1943) counted raptors during travels throughout the Texas panhandle. Craighead and Craighead (1956) conducted a periodic census on 18 square miles in southern Michigan. Ryder (1969) used linear and area counts to estimate seasonal raptor population fluctations in northeastern Colorado.

A continuation of Ryder's area counts led to our involvement in raptor censusing. We conducted this comparative study of wintering raptor populations in three different habitat types during 1972-73.

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[1] Present address: Benkelmann, Nebraska 69021

The objectives of the study were: (1) to compare the sample populations of raptors on grassland, dryland farming, and irrigated farming areas, (2) to determine habitat preferences for individual species, and (3) to ascertain the effect of human activities and habitations on raptor population densities.

STUDY AREAS

Three 145-km.^{2} (56-mi.^{2}) areas were located in northeastern Colorado (Fig. 1). The shortgrass prairie study area (Pawnee site) was located 72 km (45 mi.) northeast of Fort Collins. Blue grama (Bouteloua gracilis) and buffalo grass (Buchloe dactyloides) were the dominant vegetation, supplemented in many areas by needle leaf sedges (Carex eleocharis) (Jameson 1969). The terrain was gently rolling hills. Trees were found only in stream bottoms or at old farmplaces. Human population was sparse; nine occupied houses were on the study area.

The irrigated farmland study area (Ault site) was located 24 km (15 mi.) southeast of Fort Collins. Corn was the major crop, with soybeans, sugarbeets, milo, and other grains also grown in the area. The terrain was flat to gently rolling with many trees along streams, ponds, farmsteads, and fencerows. Approximately 500 occupied dwellings were on the study area.

The dryland study area (Briggsdale site) was located 72 km (15 mi.) east of Fort Collins. Winter wheat was the major crop. Fields were intermixed with pastures. Blue grama and buffalo grass were dominant in these pastures. The terrain was flat to gently rolling with trees only at farmplaces. Twenty-four occupied farmplaces and approximately 100 people in Briggsdale, Colorado comprised the human population of this area.

METHODS

Counts were made every 2 weeks from 17 December 1972 through 10 March 1973. Each area was scanned with the naked eye by an observer and an assistant. Both traversed the route in a vehicle traveling from 10 to 30 mph. Localities hard to observe from the moving vehicle were examined with binoculars. Raptors sighted up to 1 mile from the route were counted. Birds sighted were identified with 7X50 binoculars or a 15-60X spotting scope. The raptor's location, direction of flight and behavior, and time of sighting were recorded on a study area map

and an observation card. We attempted to minimize disturbance of the bird's normal behavior by identifying it from as far away as possible. Thus we could drive quickly past those birds perched next to the road. The count was cancelled whenwinds exceeded 15 mph or visibility was less than 1 mile. Censuses were made between 0700 and 1300 hours.

Routes on Pawnee and Ault census areas were similar. Travel routes crossed the study areas 5 times at approximately 2 mile intervals (Fig. 2 and 3).

The Briggsdale route (Fig. 4) did not conform to this pattern. At five locations it was necessary to retrace the route. Birds were not counted during this time. Two sections within the study area could not be observed from the route and a section in the southwest corner contained abnormal dense stands of Yucca glauca. These three sections were not included in the census.

Biomass for each species was calculated from weights given by Ryder (1969).

RESULTS

Twenty counts were made: 7 each on Pawnee and Ault, and 6 on Briggsdale. Total numbers of birds seen on each area were similar. However, total biomass for Pawnee (260.9 kg.) was nearly twice that of Briggsdale (133.7 kg. - adjusted to 7 counts) and five times that of Ault (54.6 kg.).

Eight species of diurnal raptors were counted on the three areas (Table 1). The Red-tailed Hawk and American Kestrel were observed only at Ault. Seventy-two percent of the Ferruginous Hawks and 75 percent of the Golden Eagles were observed on the Pawnee site.

The Golden Eagle and Rough-legged Hawk were the most commonly observed species, comprising at least 70 percent of the total raptor biomass on each area (Table 2). The Golden Eagle comprised 75% of the total biomass on Pawnee and 53% of the total biomass on the Ault census area.

No observations of raptor behavior affected by humans were recorded.

DISCUSSION

The grassland area supported the greatest amount of raptor biomass. We feel this is because the shortgrass prairie disclimax is a favorable habitat for rabbit and rodent populations. Although we were unable to census prey populations, it is obvious that the prey density would affect habitat preferences of the raptors.

Observations indicated habitat preferences by four species. The Red-tailed Hawk was observed only on the irrigated farmland, the area with the most trees. The American Kestrel was found only at Ault because the greater number of trees provided protection from inclement weather. The Ferruginous Hawk and Golden Eagle preferred the Pawnee site partially because of their intolerance of human activity.

For our purposes we defined as dominant the raptor having the greatest percentage of the total raptor biomass of a study area. This species had the greatest impact on the prey population, thus dominating the community more than the other raptors. The Golden Eagle was the dominant raptor on the grassland and dryland farming areas. The Rough-legged Hawk was the dominant raptor on the irrigated farmland and of secondary importance on the grassland and dryland farmland areas.

The project was too ambitious for two observers with only weekends available for counts. We particularly wanted two observers on each census. When we could secure two vehicles, we each censused an area. Colorado State University students assisted us. This added bias to the study because of their varying abilities to spot and identify raptors.

The project was hindered by marginal to intolerable weather. Snow cancelled the 28 December Briggsdale census. The 10 February, 22 February, and 9 March Pawnee counts, 18 December and 10 March Ault counts, and 26 January and 25 February Briggsdale counts were plagued by winds near or exceeding the 15 mph minimum. Counts were not postponed because other dates were not available to make the counts. Some birds were driven to the ground to avoid the wind and were missed by the observers. For example, after the 10 February count on Pawnee, we found three hawks in the center of the count area. None had been recorded within 3 miles of this locality during the count.

The Pawnee count on 27 December was arranged to coincide with the Audubon Christmas Bird Count. However, an unauthorized group

was also on the area, causing excessive movement of the birds. This may have caused us to miss or recount birds.

Birds at a distance of 1 mile were hard to see. We felt we were counting all Buteos and eagles within sight. However, we are sure we were missing some of the smaller falcons. The American Kestrel was easily overlooked among the many trees of the Ault census area.

The Briggsdale census area did not conform to the normal pattern because of gateless fencelines that transversed the preferred route location. This forced us to retrace the route in five places to attain a 145-km^2 area.

The grassland and irrigated farmland study areas were part of large ecotypes. The dryland farm study area was an island of wheat farms surrounded by grassland and cannot be considered completely typical dryland farming habitat.

We recommend further study of the objectives of this project. We feel the area census is not a good method for comparing populations. Birds are missed when the observer must sight them at a distance of 1 mile. We suggest a linear transect on established roads with observers scanning the area within a quarter mile of the road. Such a transect should be arranged to cross the three habitat types. Thus the transect could be censused in one day to keep weather conditions similar.

ACKNOWLEDGEMENTS

This study was funded by the Colorado Division of Wildlife, Federal Aid Project W-124-R. We thank D. Bogart of the Division of Wildlife for vehicle scheduling and Dr. D. Hein for assistance in planning and guidance throughout the study. Special thanks also are given to the nine Colorado State University students, Curt Jansen, Alan Harmata, Bob Schumacher, Lou Brevard, Rodd Richardson, Mike Loftsgard, Doug Yoder, Denis Davis, and Doug Rowe, who assisted us on the counts.

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Table 1. Total numbers of each species of raptor counted on the three study areas, Winter, 1972-73.

	Pawnee	Briggsdale	Ault	TOTAL
Red-tailed Hawk	0	0	5	5
Rough-legged Hawk	33	45	30	108
Ferruginous Hawk	13	1	4	18
Golden Eagle	48	14	2	64
Marsh Hawk	4	4	6	14
Prairie Falcon	6	7	7	20
Merlin	1	2	3	6
American Kestrel	0	0	23	23
Unidentified hawk	1	5	9	15
TOTAL	106	78	89	273

Table 2. Percent total biomass of the Rough-legged Hawk and Golden Eagle on the three 56 mi.^{2} study areas, Winter, 1972-73.

	Rough-legged Hawk		
	Number seen	Biomass (kg.)	Percent Total Biomass
Pawnee	33	33.0	13
Briggsdale	45	45.0	39
Ault	30	30.0	55

	Golden Eagle		
	Number seen	Biomass (kg.)	Percent Total Biomass
Pawnee	48	206.4	75
Briggsdale	14	60.2	53
Ault	2	18.6	16

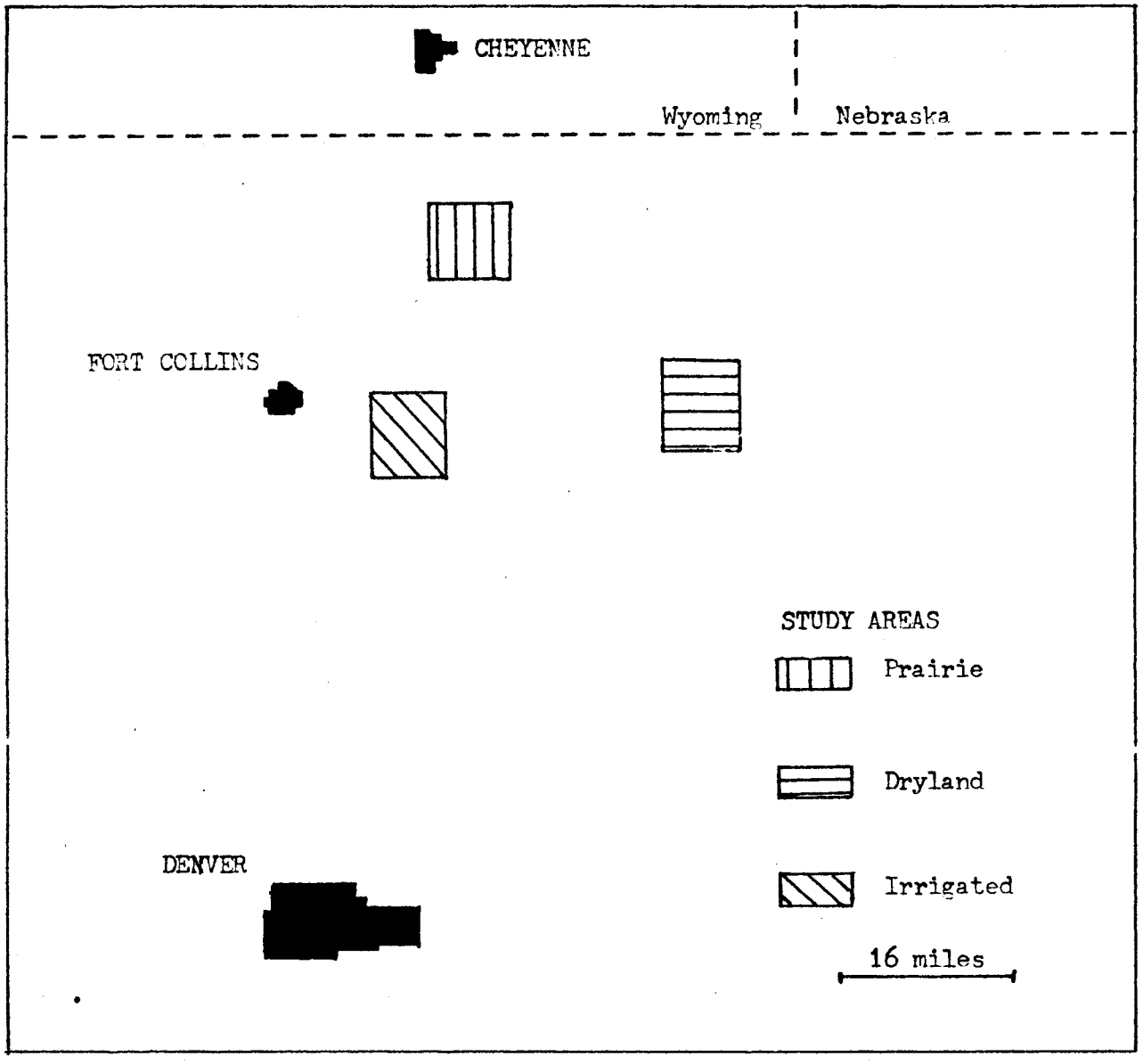

Figure 1. Location of study areas.

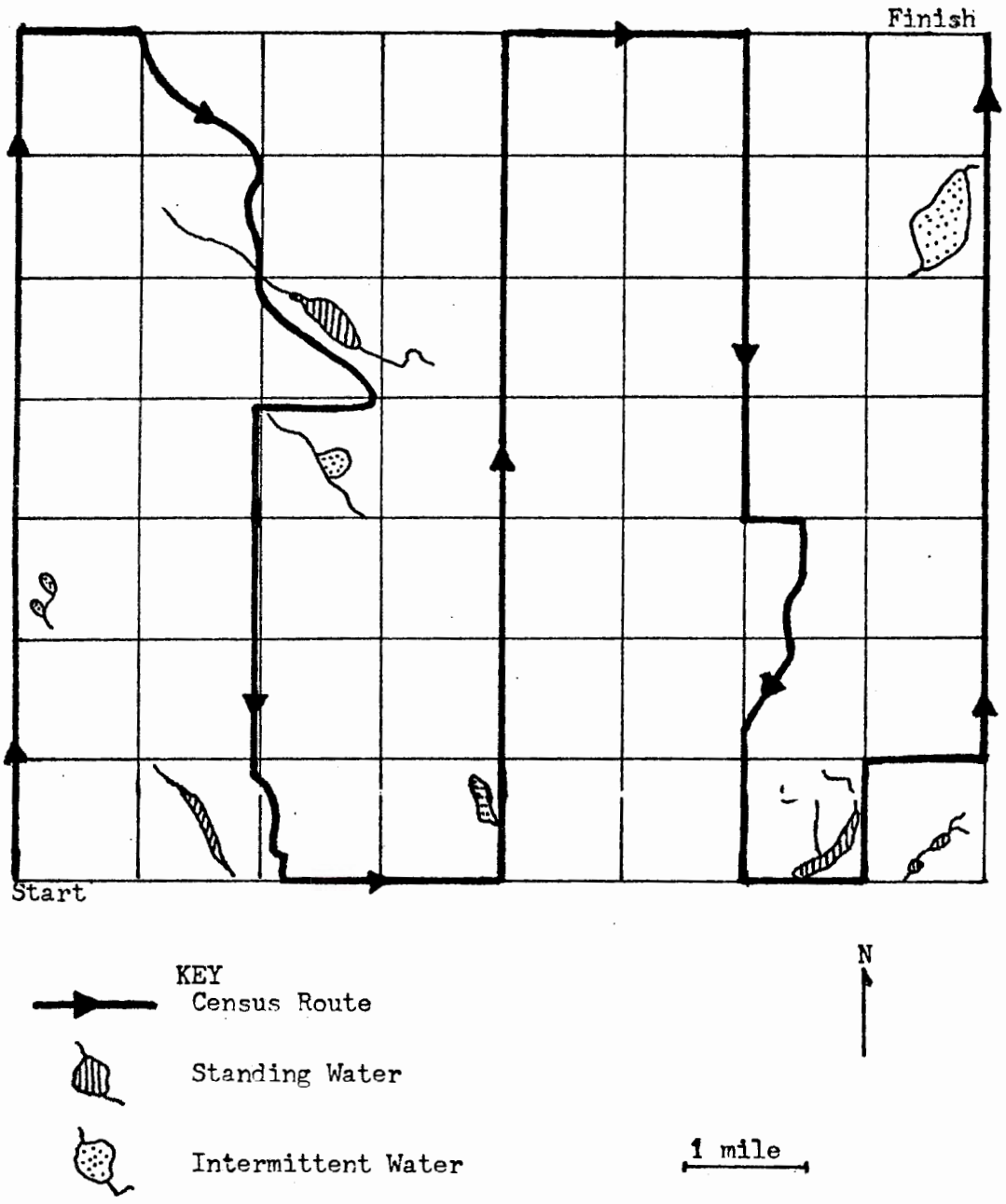

Figure 2. The Pawnee (grassland) study area.

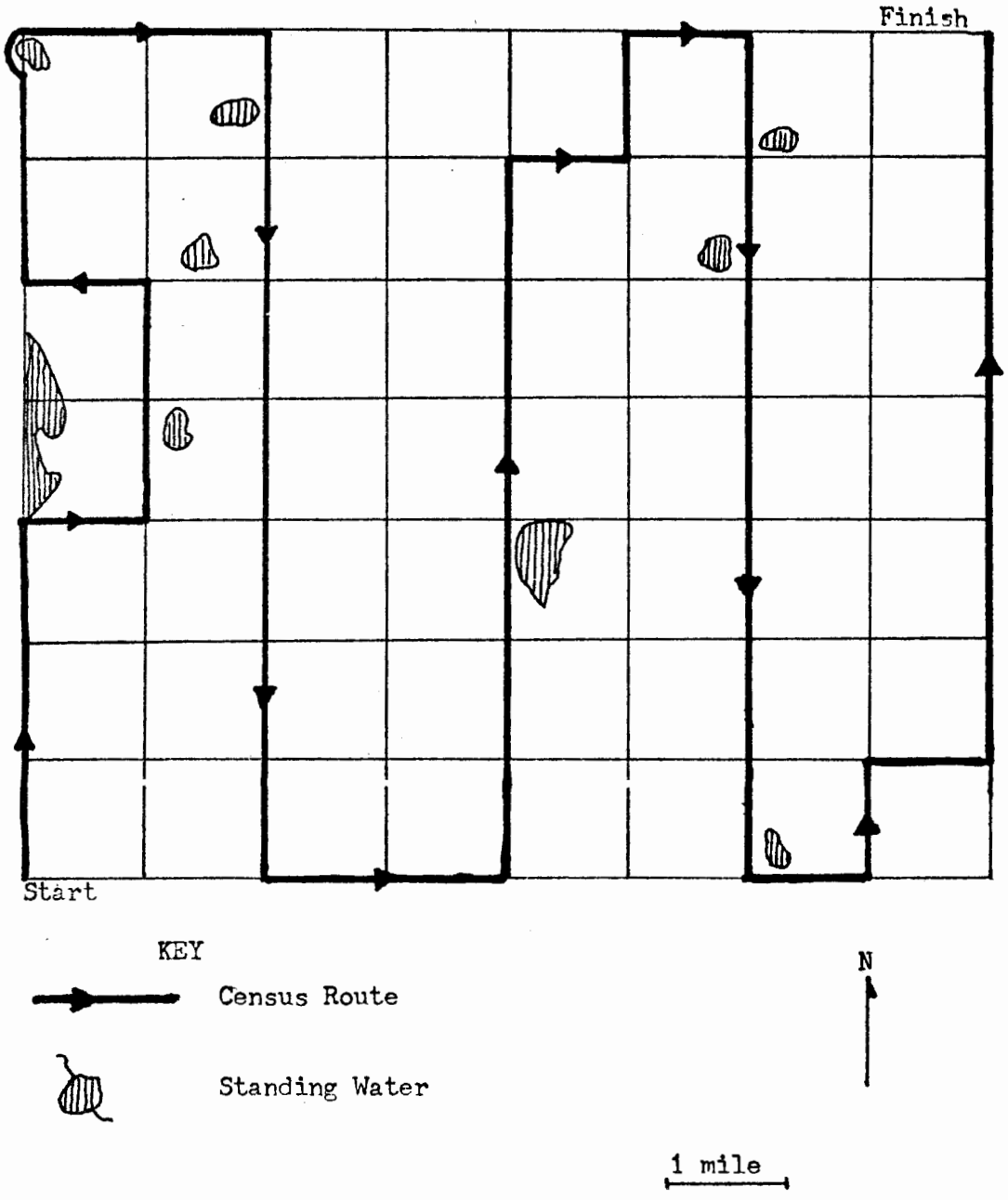

Figure 3. The Ault (irrigated-farming) study area.

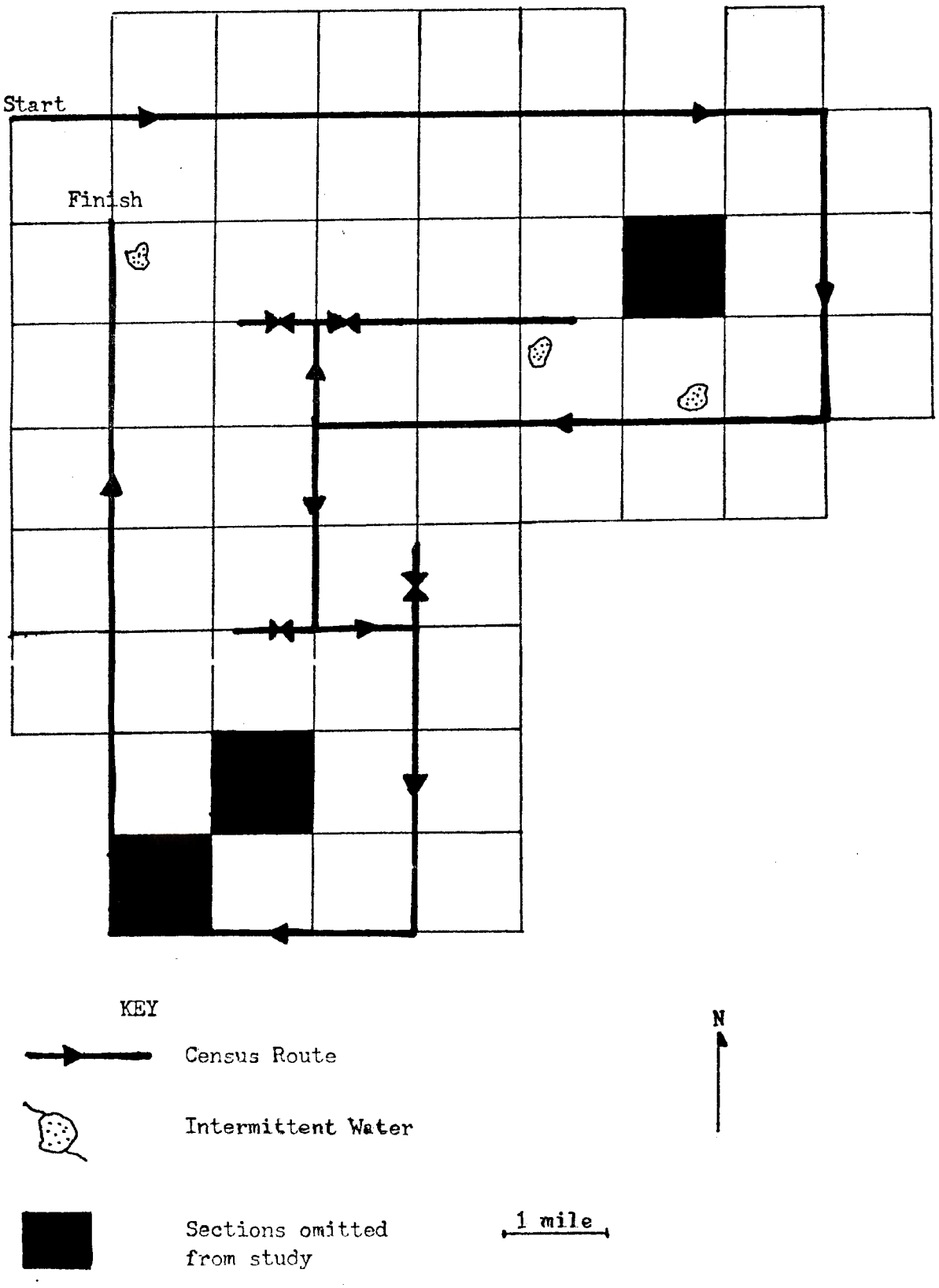

Figure 4. The Briggsdale (dryland-farming) study area.

SPRING STATUS OF THE GREATER PRAIRIE CHICKEN AND OTHER OBSERVATIONS IN THE NORTHERN SANDHILLS OF YUMA COUNTY, COLORADO

Robert J. Tully
8305 Charlotte Way
Denver, Colorado 80221

Results of Greater Prairie Chicken (Tympanuchus cupido) counts on booming grounds conducted during mid-April of 1973 compared to previous studies indicate the spring breeding population was similar to that of 1972 but significantly lower than in either 1962 or 1952.

	1952	1962	1963	1967	1971	1972	1973
Ave. No. Birds/ Ground	26.5	6.1	6.4	4.8	4.0	5.9	6.7
Range of Birds/ Ground	8-73	2-28	1-50	1-10	1-7	1-18	2-23
No. of Grounds Counted	20	21	26	9	13	39	28
Total Population Estimate	2,000	700-800			200-300	600	600

The loss of tall grass is probably the most important factor in the long term population decline. Habitat research in the 1960's indicated the birds became scarce as the percentage of tall grass and shrubs decreased and the percentage of bare ground increased. The birds remain most abundant where about two thirds or more of the area is in native grass. Changes in land use since the peak of population abundance are reflected in the following 50 year summary for Yuma county.

	1930	1940	1950	1960	1970
No. Irrigated Acres	3,620	1,550	1,550	11,130	110,560
Ave. Acres/Farm	560	816	927	1,286	2,500
No. Irrigation Wells	0	3	7	40	882
No. of Cattle	24,600	15,500	30,000	58,700	137,000

Research and occasional studies over approximately 660 square miles of sandhills-sandsage grasslands interspersed with cropland, indicate that

without intensive habitat management the Greater Prairie Chicken may become extirpated from its only Colorado stronghold during this centory. The Greater Prairie Chicken does occur elsewhere in the county and in smaller numbers in several other counties.

Primary needs for population enhancement are: (1) improved management of about 18 square miles of state school lands, (2) modification of federal farm program practices, (3) habitat improvement of federal, state and private lands, (4) acquisition of key lands which can be managed primarily for wildlife production, (5) development of vigorous subclimax grass-forb communities on retired croplands and native prairies interspersed with grain fields and shrub communities, and (6) continuint population and habitat inventory and analysis.

Breeding ground and habitat research related to the Greater Prairie Chicken was accomplished in 1952, 1962 and 1963 by the Colorado Division of Wildlife, Harold Swope and Keith Evans, through Federal Aid in Wildlife Restoration Projects and is reported in various progress reports, technical papers and a Master of Science thesis from Colorado State University. Occasional studies were conducted from the early 1950's through 1971 by various Division of Wildlife and Colorado State University personnel, however, no special reports were prepared. Historical information on the abundance of prairie chickens and changing habitat conditions was reviewed by the author in 1971 when photographs were taken at various locations in northern Yuma County. Results were reported through slide presentation at the 9th Prairie Grouse Technical Council, 1971 and at other meetings.

With the assistance of several conservation organizations and many individuals, distribution and density counts were completed during April 15 and 16, 1972 and April 14 and 15, 1973. Following an informal introduction and instruction meeting at the Yuma County Courthouse in Wray the evening before each years' census activity, participants took to the field before daylight to seek pleasure in observing various wildlife within native grassland and farmland habitats. The census was carried out during the early morning and late afternoon activity periods by slowly driving assigned mapped routes which showed previously recorded prairie grouse booming grounds. Participants stopped about every quarter mile and at all marked locations to observe and listen. Most grouse were located by the booming sound which sometimes carries over one mile. Prairie chickens on both historic and newly located grounds were recorded as well as were all wildlife species observed within an area of nearly 700 square miles, generally north of Wray.

At approximately the peak of courtship activity during 1972, 233 Greater Prairie Chickens were observed on 39 booming grounds by 54 persons. Sign or sound indicated birds were also present at 19 additional sites. During 1973, 36 observers located 186 birds on 28 booming grounds and heard prairie chickens at 14 additional sites. Birds were also seen flying at several locations in both years. Through careful observation at various locations it was estimated that not over 17 percent of all birds were females. All duplicate observations were eliminated by mapping the location and number of birds seen at various times.

During the two years of investigations 71 bird species and 9 mammal species were recorded. Observers in 1972 documented 7 mammal species totaling 148 individuals and 57 bird species, totaling 4,679 individuals. Observers in 1973 recorded 8 mammals, totaling 94 individuals and 51 bird species, totaling 2,515 individuals.

Contributors: Persons who assisted represented the Colorado Division of Wildlife, Aiken Audubon Society, Boulder Audubon Society, Colorado Field Ornithologists, Colorado State University, Denver Audubon Society, Denver Field Ornithologists and Foothills Audubon Club. My sincere appreciation is extended to all who participated in the field or otherwise assisted in making the counts possible and my apologies to those who are not named.

April 15 and 16, 1972: Mr. and Mrs. E. Ausfahl, Del Benson, Steve Brock, Joe Brailey, Christine Bonny, Merle Barbour, Henry and Vi Bossman, Martha Bildstein, Sophia Bogart, Dave Clippinger, Jerry Craig, Allegra Collister, Camille Cummings, John and Joyce Cooper, Lori Chappell, Ron Desilet, Don Dominick, Glen Eyre, Wm. Ewing, Tony and Al Esposito, Bill and Patty Echelmeyer, Dale Hein, Bob and Yvonne Gibbons, Thomas and Mrs. Henry, Gayle Ireland, Al Koewing, Ron Lestina, Thompson and Susan Marsh, Fran Marcoux, Sue Merrick, Marge McWilliams, Susan Reese, Jim Roscoe, Warren Rupke, Ron Ryder, Frank Scarpella, Warren and Mrs. Snyder, Dale Stahlecker, Joe and Steve Tully, Helen Thurlow, Harry and Elinor Wills, Jack and Grace Welsh and Jerry Wolfe.

Weather -- On Saturday the minimum temperature was 34° and maximum temperature was 56°. The wind was 0-10mph and the skies were clear to 10 percent partly cloudy. It was an excellent observation day. Sunday was completely overcast and windy, 10-30mph, with a trace of precipitation between 7:30 and 9:30am. Minimum temperature of 36° and maximum of 76° and counting conditions were poor.

April 14 and 15, 1973: Ed and Irene Arenson, Christine Bonney, Lou Brevard, Bonnie Butzman, Bob Brunson, Marilyn Cook, Jerry Craig, Dennis Davis, Jim Dennis, Gay Eckes, Heather Flanagan, Bill Gillespi, Bill Goslin, Dale Hein, Francis Hames, Stephan Henry, Dave Hattan, Rick Krasa, Al and Jane Koewing, Mike Linshaw, Dan McKeon and Dave McCargo, Al Morgan, Bruce McCloskey, Bill Reneau, Dale Stahlecker, Warren and Mrs. Snyder, Frank Scarpella, Charlie Summers, John Torres, Joe and Steve Tully, Jack Wasserbach and John Weins.

Weather -- On Saturday it was clear with less than 20 percent cloud cover and wind very slight, never exceeding 15mph. Minimum temperature of 51° and a maximum temperature of 80°. Observation conditions were excellent throughout the day. On Sunday it was completely overcast, very windy and raining heavy in most locations. Counts were not attempted by most observers.

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NOTICE

On Saturday, July 27, 1974, the Colorado Field Ornithologists will sponsor a Field Trip to the Pawnee National Grassland (entering from Nunn, Colorado) proceeding eastward to Grover near the Pawnee Buttes and returning to Denver by way of Muir Springs Park at Fort Morgan. This will be an all day trip leaving the Voyager Inn Motel parking lot promptly at 6:00 A.M. The Voyager Inn Motel is located in northeast Denver at the intersection of Interstate 70 and Chambers Road. Bring lunch and water. The leader will be Jack Reddall of the Denver Field Ornithologists. Depending upon the weather, there is a possibility of seeing between 80 and 100 species with such specialties as Chestnut-collared Longspur, McCown's Longspur, Mountain Plover, Orchard Oriole, Yellow-billed Cuckoo and the first returning shore birds from their northern nesting territories.

Birds and Mammals Observed in the Vicinity of Wray, Colorado, April, 1972 and 1973

Species	Number Recorded 1972[1]	1973[2]
Pied-billed Grebe	7	-
Black-crowned Night Heron	6	-
Canada Goose	1	-
Snow Goose	-	250
Mallard	16	24
Gadwall	6	-
Pintail	-	37
Green-winged Teal	14	7
Blue-winged Teal	20	2
Cinnamon Teal	-	2
American Widgeon	5	6
Shoveler	14	69
Lesser Scaup	5	100+
Red-tailed Hawk	2	5
Swainson's Hawk	22	6
Rough-legged Hawk	3	4
Ferruginous Hawk	1	-
Golden Eagle	2	1
Marsh Hawk	3	25
Sparrow Hawk	48	99
Greater Prairie Chicken	233	186
Bowhite	69	20
Gambel's Quail	2	-
Ring-necked Pheasant	348	44
American Coot	14	-
Killdeer	19	11
Common Snipe	-	1
Long-billed Curlew	11	12
Upland Plover	4	1
Baird's Sandpiper	1	-
Western Sandpiper	10	-
Marbled Godwit	1	-
Wilson's Phalarope	3	-
Franklin's Gull	-	1
Rock Dove	12	12
Mourning Dove	-	42
Barn Owl	-	2
Great Horned Owl	6	19
Burrowing Owl	7	16

Birds and Mammals Observed in the Vicinity of Wray, Colorado, April, 1972 and 1973 (Cont'd)

Species	Number Recorded 1972[1]	1973[2]
Short-eared Owl	-	1
Belted Kingfisher	6	-
Yellow-shafted Flicker	-	3
Red-shafted Flicker	9	13
Hairy Woodpecker	-	1
Downy Woodpecker	1	-
Say's Phoebe	-	11
Horned Lark	893	375+
Barn Swallow	3	-
Cliff Swallow	8	-
Black-billed Magpie	114	35
White-necked Raven	2	9
Common Crow	69	22
Robin	11	22
Townsend's Solitaire	-	2
Northern Shrike	18	-
Loggerhead Shrike	86	11
Starling	44	100+
Audubon's Warbler	1	-
House Sparrow	60	50+
Western Meadowlark	2,001	675+
Yellow-headed Blackbird	4	8
Red-winged Blackbird	182	75
Brewer's Blackbird	217	8
Common Grackle	87	10
Brown-headed Cowbird	22	9
Vesper Sparrow	68	28
Gray-headed Junco	-	1
Chipping Sparrow	-	11
Brewer's Sparrow	1	-
White-crowned Sparrow	3	-
Chestnut-collared Longspur	24	-
Unidentified small rodents	8	45
Kangaroo Rat	2	-
Unidentified vole	-	1
White-tailed Jackrabbit	-	1
Black-tailed Jackrabbit	11	5
Cottontail Rabbit	75	5

Birds and Mammals Observed in the Vicinity of Wray, Colorado, April, 1972 and 1973 (Cont'd)

Species	Number Recorded 1972[1]	1973[2]
Striped Skunk	3	-
Badger	1	-
Coyote	13	11
Pronghorn Antelope	35	31
Mule Deer	-	12

[1] Total includes 1 unknown junco, 2 unknown sandpipers and 2 unknown "broad-winged" hawks.

[2] Total includes 2 unknown ducks and 2 unknown falcons (probably Prairie Falcons). Those who participated in both 1972 and 1973 agreed that Horned Larks were less abundant and Western Meadowlarks more abundant than in 1972.

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