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OFFICERS FOR 2000-2002

<u>President</u>: Craig Benkman, Dept. Biology, MSC 3AF, NMSU, Las Cruces, NM 88003; 646-2541 <u>Vice-President</u>: Bill Howe, P.O. Box 461, Albuquerque, New Mexico 87103; 890-4581 <u>Secretary</u>: Nancy Cox, 4426 San Isidro NW, Albuquerque, New Mexico 87107; 345-2385 <u>Treasurer</u>: Jerry Oldenettel, 3904 Anderson SE, Albuquerque, New Mexico 87108; 255-9282 <u>Director</u>: Bruce Neville, 2105 Lakeview Road SW, Albuquerque, New Mexico 87105; 873-0060 <u>Director</u>: Tim Reeves, 5101 Pinon Hills Blvd., Farmington, NM 87402 <u>Director</u>: Roland Shook, 3306 Royal Drive, Silver City, NM 88061; 388-3441

Editors: NMOS Field Notes:

Patricia Snider, 4401 Morris NE #112 Albuquerque, NM 87111; 323-9040 William H. Howe (see above) Sartor O. Williams III, 65 Verano Loop, Santa Fe, NM 87505; 466-2697

Editors: NMOS Bulletin:

Mary Alice Root, 1108 Columbia Dr. NE Albuquerque, NM 87106; 266-0561 Bruce Neville (see above)

1999 NEW MEXICO NORTH AMERICAN MIGRATION COUNT

STEVE WEST, Box 2489, Carlsbad, NM 88220

The year 1999 marked the eighth consecutive year for New Mexico participation in the North American Migration Count (NAMC). The primary goal of the NAMC is to provide "a picture in time" of migration on the same day across the North American continent. NAMC is patterned with some modifications after a number of other volunteer surveys. The boundaries for the counts are county or parish borders and the count occurs on the second Saturday in May, the same day across the nation. This data gathering event is a valuable addition in our attempts to learn more about distribution and population dynamics of birds. These data are especially valuable when analyzing totals of individuals continent-wide as they pertain to neotropical migrants and events occurring in their populations. This growing database will continue to increase in value as years pass and participation expands.

The 1999 count occurred on 8 May with greater coverage in New Mexico than ever before. Twenty-four of the 33 counties in New Mexico (72%) was 8 over the previous high of 16 in 1998 and represents the largest county increase in the state since the surveys began. Obviously, while large portions of each county were not covered on count day, the 24 counties with NMAC counts account for 73.9% of the state's area. While participation in all counties would be ideal, and all counties can use better coverage, the 1999 results were far above expectations. Part of this is due to the efforts of Bruce Neville who helped to publicize this effort and recruit new compilers.

While Table 1 summarizes the 1999 results, a comparison with previous years will more adequately show just how much the New Mexico NAMC participation changed in a single year. Not counting the new counties added in 1999, 12 of the remaining 16 counties had all time high counts of species. Twelve counties, again not counting the new counties, had all time high counts of individuals. Similar increases were noted in analyzing party-hours, party-miles, and observers in the overwhelming majority of county counts. The total number of species reached 308 and for the first time topped 300. The total number of individuals was also 45% higher than in 1998, which was, in turn, 42% higher than in 1997. In other categories, the number of species increased in 1999 over 1998 by 9.2% (30 species), in party-hours by 75.3%, in party-miles by 40.4%, and in observers by 15.8%.

Table 2 shows how New Mexico NAMC participation has grown over the years with new highs set in all categories in 1999. No counties covered in 1998 were missed in 1999 and two counties that had been covered in the past (Lea and Los Alamos) again provided numbers. Six new counties were added: Harding, Hidalgo, Luna, Otero, Rio Arriba and Roosevelt.

As always, an important factor in the interpretation of the data gathered in this survey is the lack of observers, resulting in under-coverage in many areas. This was not as critical in 1999 as in previous years, due to the increased coverage. Coverage, however, can always be better, and there are still important areas of the state that are not covered at all. The best example is Dona Ana County, which has had partial coverage in only 2 of 8 years and none since 1996. Dona Ana County was the only county on the southern border without coverage in 1999. Coverage in 1999 increased largely along the margins of the state including the eastern plains, northern counties, in the far southwest. Hidalgo County added several species to the all-time total of species, and, without Hidalgo County, the species total for 1999 would not have topped 300.

While participation is a major factor in the results, it is still much less than that exhibited on Christmas counts in the state. Table 3 compares the 1999 NAMC results with the most recent Christmas count results (LeBaron 1999). Although the two surveys, which are done at different times of the year using different methods, are not directly comparable, some interesting facts can be noted. Christmas counts showed far more individuals and observers, while the NAMC in New Mexico, as expected, found many more species. If there were the same commitment in terms of individual participation on the NAMC, the results would provide a much more accurate picture of migration in New Mexico on a given spring day.

Grant County again produced the highest number of species (202), was the first count to top 200, and also had a record number of individuals (12,229). After Grant County, several counties were bunched together in number of species recorded, with Eddy at 178, Socorro at 170, and San Miguel at 168. Following Grant County in total number of individuals were San Miguel, Chaves, and Eddy.

High count for individual species was again held by Grant County, which has done so every year. Grant County had high counts for 100.2 species, followed distantly by San Miguel with 33.5, Eddy with 29.5, and Chaves with 29. The number of high counts for Grant County is normal for that count but many other counts registered lower number of high counts compared to previous years, no doubt due in part by the increased number of counties reporting. [Many counties shared the high count with another county, resulting in a fractional number; in cases where two counties had the same high numbers, each county received a score of 0.5, a county in a three-way tie would receive 0.3 and so on.]

Only Mourning Dove was seen on all county counts. European Starling, Yellow-rumped Warbler, and House Sparrow were each missed on a single count. Several unusual species were found in the state on count day and many are reported below in the county summaries. Some of these include Pacific Loon, Eurasian Wigeon, Laughing Gull, Common Ground Dove, Rufous Hummingbird (on two counts), Buffbreasted Flycatcher, Tennessee and Hooded Warblers, and Harris's Sparrow (on two counts).

The 2000 count will be conducted on 13 May and the results of that count will appear in a future *NMOS Bulletin.* Those interested in taking part in an on-going count, or initiating a new one in a county not yet covered, should contact the author at the above address.

Table 4 presents the complete species list by county for the 1999 count. Highlights are summarized here by county.

BERNALILLO COUNTY. Bernalillo County continues to improve but has not gotten over 100 species in several years. Seventy species, up from 55 in 1998, were found on count day. No unique species was found and the high count for one species (Canada Goose) was noted on this count.

CHAVES COUNTY. Chaves County continues to score high in species and individuals. One hundred twenty-seven species, as compared with 130 in 1998, were recorded. As in 1998, 6 species were unique to this county: Little Blue and Tricolored Herons, Eurasian Wigeon, Chukar, Least Tern, and Chimney Swift. Chukar were included in the results although it is highly probable that they were recently released birds and not an established, self-supporting population. Nineteen species of shorebirds were recorded in New Mexico on count day; thirteen were found in Chaves County.

DE BACA COUNTY. This county again had only single-person coverage, but the number of species and individuals increased greatly over 1998; 60 species in 1999 versus 45 in 1998, and 1,557 individuals in 1999 versus 926 in 1998. Two species on count day were unique to the DeBaca County count: Red-headed Woodpecker and Red-eyed Vireo. An additional high for count day was 5 Eurasian Collared-Dove; this introduced species was found on two other southeastern counts (Eddy, Chaves). Also reported were two partially albino American Robins from Fort Sumner.

EDDY COUNTY. Like many other counties, Eddy County had an all-time high in species at 178 species. Ten species were unique (Pacific Loon, American Bittern, Broad-winged Hawk, Common Moorhen, Laughing Gull, Yellow-billed Cuckoo, Cave Swallow, American Redstart, Varied Bunting, Orchard Oriole), with Eddy and Hidalgo sharing the high count of unique species. Highs were established for 29.5 species. Shorebirds continue to be found at a single, remaining site in the Salt Lakes area where once many thousands could be found. Continued better coverage in the Guadalupe Mountains helped to boost the species count.

GRANT COUNTY. Grant County continued with the high count in species and individuals for the state. Every year since 1992, Grant County has had the high number of species and this year was also the first count to surpass the 200 species level with 202. In 1998, Grant County had 17 unique species but in 1999

this dropped to only 8, largely because of the addition of Hidalgo County. The eight species unique to Grant County were Common Black-Hawk, Common Ground-Dove, Costa's Hummingbird, Brown-crested Flycatcher, Olive Warbler, Northern Parula, Painted Redstart, and Abert's Towhee. Grant County also led the state with the highest number of high counts for species at 100.2. Very unusual were a Costa's Hummingbird photographed at 6,000 feet elevation by Dale Zimmerman and a late Homed Grebe. Grant County also had the second highest number of participants at 34, being barely edged out by Santa Fe with 37.

HARDING COUNTY. Harding County was another new county in 1999 where a one- person effort produced 32 species and 850 individuals. Found within those numbers was a good representation of eastern plans birds from what may be ornithologically the poorest known county in the state. One unique species (3 very late American Tree Sparrows) was found plus the high count for another sparrow, Cassin's Sparrow.

HIDALGO COUNTY. The addition of Hidalgo County in 1999 filled in a very important gap in understanding spring migration in New Mexico. Several species were added to the all-time total number of species and Hidalgo County provided enough of a boost in 1999 to push the state total over 300 species for the first time. Even with very little surface water, Hidalgo County found 141 species including 10 unique to this county on count day: Montezuma Quail; Whip-poor-will; Broad-billed, Lucifer and Anna's Hummingbirds; Northern Beardless-Tyrannulet; Buff-breasted and Dusky-capped Flycatchers; Mexican Chickadee; and Yellow-eyed Junco. Count-day highs were reported for 17.7 species. The most unusual find was a single Buff-breasted Flycatcher, a species found only rarely in New Mexico.

LEA COUNTY. After being uncounted in 1998, a single party surveyed Lea County and found 42 species and 769 individuals. No species was unique to Lea County and there were high counts for 1.5 species. A high count of 34 Scissor-tailed Flycatchers was recorded in the county. This species has apparently declined in other parts of its range in southeastern New Mexico.

LINCOLN COUNTY. Fourteen observers found 75 species on count day and had a higher count of species and individuals than in 1998. No unique species was found in Lincoln County but highs were noted for 4 species, including Magnificent Hummingbird, with three on count day. This count has been the only reliable count in finding this very local species. Unusual species included a male Rose-breasted Grosbeak and a Harris's Sparrow.

LOS ALAMOS COUNTY. After not being counted last year, a two person effort in Los Alamos County found 54 species with no unique species or high counts. An alarming 202 Brown-headed Cowbirds were found, including 196 that were associated with a horse stable. Weather on the count was reported as good, although high winds were noted through much of the middle of the day. Numbers of several passerines (Hermit Thrush, Western Tanager, Green-tailed Towhee, and Black-headed Grosbeak) were reported to be lower than expected.

LUNA COUNTY. A new count was the one-person effort from Luna County, which produced an impressive 99 species and over 3,000 individuals. No unique species were found, but count day highs were noted for 3.2 species. Late birds noted included Snow Geese and American Pipits. Very unusual were three Greater Pewees.

McKINLEY COUNTY. Two counters produced an impressive 136 species on count day in McKinley. No unique species was found, but highs for 11.5 species were noted on count day. A late Common Loon still in winter plumage was noted.

MORA COUNTY. Mora County continues to increase in numbers of species and individuals reported. Ninety species were found on count day-the highest number for this count-with highs for 1.5 species. No unique species was found in Mora County. An Eastern Kingbird, not frequently found in this area, was found on count day. Two Rose-breasted Grosbeaks were found two days after count, but missed on count day. **OTERO COUNTY**. A two-person effort in Otero County produced the first results from that county. Fiftyfive species were found on count day, which was good considering other events that prevented more counters from participating. No unique species or high count was noted in the county. Increased numbers of participants will probably produce regular counts in excess of 100 species in one of the richer, less-explored parts of New Mexico.

RIO ARRIBA COUNTY. Another addition in 1999 was Rio Arriba County, which had a good first-time showing of 87 species found by a single observer. No unique species was found, but high counts for 6 species were registered. Impressive numbers of Osprey (7) and Golden Eagle (5) were noted.

ROOSEVELT COUNTY. A single-person count produced the first results from Roosevelt County and the first Lesser Prairie-Chickens ever found on a NAMC in New Mexico. In 1999, NAMC counts occurred in 8 counties once within the range of Lesser Prairie-Chickens, but this rapidly declining species was found only on this count. Other than the prairie-chicken, one other unique species was found on count day: Grasshopper Sparrow. Highs were noted for 7.2 species.

SANDOVAL COUNTY. A two-person team found an impressive 133 species on count day (up from 114 in 1998 and 101 in 1997). Two unique species were also found; Black Tern, which seems to be more difficult to find in the state in recent years, and Three-toed Woodpecker, a difficult and usually very local species. Highs were noted for 5.5 species.

SAN JUAN COUNTY. The most northwestern county in the state had fewer observers but found the same number of species (133) as in 1998 and had high counts for 6.1 species. No unique species was found in San Juan County. This county continues to have a small population of White-winged Dove and was the only county in the northern tier of counties to report this species.

SAN MIGUEL COUNTY. San Miguel, with only seven observers, found 28 more species in 1999 than in 1998. The 168 species was fourth highest in the state. As in previous year's, the count was characterized by high numbers of grebes and waterfowl and good numbers of shorebirds. Six unique species were found in San Miguel County: Solitary and Semipalmated Sandpipers, California Gull, Northern Pygmy-Owl, Eastern Phoebe, and American Dipper. Late Common Loons (2) and Homed Grebe (1) were also reported. San Miguel also had the second highest number of high counts for species on count day with 33.5

SANTA FE COUNTY. Santa Fe County found one species fewer in 1999 than in 1998, but still ended up with 125 species. The county had the highest number of observers for 1999 and, as would be expected, the highest number of party-hours and party-miles. Two unique species (Gray Jay, Tennessee Warbler) were found on count day and Santa Fe County had count highs for 19.3 species. A male Rufous Hummingbird was very unusual.

SOCORRO COUNTY. A total of 170 species, the third highest count in the state in 1999, was found by only four observers in Socorro County. Five unique species were found in Socorro County: Carolina Wren, Eastern Bluebird, Gray Catbird, Hooded Warbler, and Bobolink. High counts were recorded for 16.3 species. Nearly perfect weather aided this count, which also produced Eastern Kingbird and good numbers of warblers. One hundred fifty-two species were found by a single observer (Doug Emkalns), perhaps the highest single-party count on a New Mexico NAMC.

TAOS COUNTY. Taos County had 114 species, 24 more than in 1998, and a higher count of individuals. Two unique species (late Merlin and Fox Sparrow) were found, and high counts were registered for 7.3 species. As in previous years, an impressive high of 50 Marsh Wrens was recorded. Not included in the above total, but always good to see, was a Black Bear cub.

TORRANCE COUNTY. Torrance County participated for the second year, and four observers found 45 species. No unique or high-count species were noted, but several things of interest were seen, including Northern Goshawk and all three nuthatches.

UNION COUNTY. Union County, in its second year, almost doubled the number of species found in 1999 over 1998, from 29 to 57. One unique species (Brown Thrasher) was found, and highs were noted for 2.5 species. Impressive numbers of Wild Turkey (123) were found.

LITERATURE CITED

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	Τ		# of	# of				
	# of	# of	high	unique	# of	party-	party-	
County	species	individuals	counts	species	observers	hours	miles	compiler
Bernalillo	70	706	1	•	3	10	74	Jeff Myers
Chaves	127	9,779	29	6	17	56	273	Sherry Bixler
DeBaca	60	1,557	3	2	1	10	53	Roger K. Hoppe
Eddy	178	9,071	29.5	10	24	130	854	Steve West
Grant	202	12,229	100.2	8	34	120	367	Bob Wilcox
Harding	32	850	2	1	1	5	83	Robert G. Cates
Hidalgo	141	2,425	17.7	10	6	35	112	Alan and Narca Moore-Craig
Lea	42	769	1.5		2	9	113	Pat McCasland
Lincoln	75	1,288	4		14	21	135	John Morton
Los Alamos	54	502	0		2	10	20	Stephen Fettig
Luna	99	3,004	3.2		1	15	76	Larry Malone
McKinley	136	4,425	11.5		2	29	265	Dave Cleary
Mora	90	1,373	1.5		3	11	11	Scott Vail
Otero	55	769	0		2	3	13	John Mangimeli
Rio Arriba	87	1,903	6		1	14	98	Dale Shahlecker
Roosevelt	65	1,206	7.2	2	2 1	13	54	Lawry Sager
Sandoval	133	1,581	5.5	2	2 2	21	396	Terry Brownell
San Juan	133	3,738	6.1		13	30	191	John Rees
San Miguel	168	11,324	33.5	6	5 7	25	619	Bill West
Santa Fe	125	5,053	19.3	2	37	156	1,127	Linda Mowbray
Socorro	170	2,920	16.3	6	6 4	28	162	Douglas Emkalns
Taos	114	2,628	7.3	2	9	60	134	Karen Epperson
Torrance	45	182	C		4	8	11	Donna Thatcher
Union	57	758	2.5	1	7	19	40	Lavina Fry
	308	80,040	307.8	57	197	838	5,281	

Table 1. County Summary of 1999 North American Migration Count in New Mexico

Table 2. Historical Comparison of New Mexico NAMC Results

Year	1992	1993	1994	1995	1996	1997	1998	1999
Counties Surveyed	3	5	10	11	13	14	16	24
Total Species	222	218	260	256	268	268	278	308
Total Individuals	13,969	15,538	33,374	40,584	43,246	38,504	54,996	80,040
Party-Hours	182	118	445	500	467	484	478	838
Party-Miles	894	676	2,251	2,768	2,468	3,097	3,761	5,281
Total Observers	33	59	101	151	139	137	170	197

Table 3.	Comparison	of New Mexic	o 1998-99	Christmas	Count and	1999 NA	MC Results
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	# of	total # of	total # of	total	total	total
	counts	species	individuals	party-hours	party-miles	observers
Christmas Counts	26	229	549,385	1249.1	5,005.30	438
NAMC Counts	24	308	80,040	838	5,281	197

Note: "Total Observers" for Christmas Count is not corrected for duplicates.

		Bern	Chav	DeBa	Eddy	Gran	Hard	Hida	Lea	Linc	LosA	Luna	McKi	Mora
1	Pacific Loon				2							-		
2	Common Loon				2								1	
3	Pied-billed Grebe		3	4	4	3		1	2				9	1
4	Horned Grebe					1							-	
5	Eared Grebe		6	8		5							66	1
6	Western Grebe				1	1							67	
7	Clark's Grebe	1						-			-			
8	American White Pelican	-									-			
9	Double-crested Cormorant	1		4	1	12							-	
10	Neotropic Cormorant		1			3					-			
11	American Bittern				1									
12	Great Blue Heron		5	1	12	25		2	1			1	3	2
13	Great Egret	1	2	2	3	2							2	
14	Snowy Egret	-	36		17	3						3	2	
15	Little Blue Heron		1										-	
16	Tricolored Heron		1											
17	Cattle Egret				1							-	1	2
18	Green Heron		16	1	9	1								-
19	Black-cr Night-Heron		5		1						-		6	
20	White-faced Ibis	4	16	30	16	152			1			27	51	
21	Turkey Vulture	2	62	19	441	105	6	42		38	1	5	3	6
22	Snow Goose		3	-	1	1	-					2	-	-
23	Ross' Goose	-			1				-					
24	Canada Goose	65	9										41	31
25	Wood Duck	4												
26	Gadwall		102			2						9	55	10
27	Eurasian Wigeon		1						-			-		
28	American Wigeon		18	2	6				-			3	14	2
29	Mailard						-					-		
	Mailard form	34	139		30	81	1			10		5	80	12
1.1	Mexican form			1000	2		in the second	34		-		47		
30	Blue-winged Teal		25			2			6				2	4
31	Cinnamon Teal	12	38	1		13		9				2	45	15
32	Northern Shoveler		95	-	11	16				-			40	26
33	Northern Pintail		12		1	2							11	
34	Green-winged Teal	1	15		2		1				100	1	169	
35	Canvasback												1	
36	Redhead	1.00			2		-		-				171	2
37	Ring-necked Duck		5			8		1			1.1.1		64	
38	Lesser Scaup							-		-		1	5	10
39	Buffiehead		2								-		7	
40	Common Merganser					16	0						2	
41	Ruddy Duck		80		10	4			1			6	121	11
	duck species		13											
42	Osprey		1	3	3								3	
43	Mississippi Kite		11						3					
44	Northern Harrier		1		1	2			-	1			1	
45	Sharp-shinned Hawk					7			1					
46	Cooper's Hawk		1			4		4		1				
47	Northern Goshawk			_		4				-	1	-	1	
	Accipiter species						1				1			
48	Common Black-Hawk					15					-			_
49	Harris' Hawk		-		5							2		
50	Broad-winged Hawk				1									
51	Swainson's Hawk		7	2	9	10	7	7	10		1	4		
52	Zone-tailed Hawk				2	5					1			

Table 4. 1999 North American Migration Count, New Mexico Results, 8 May 1999

	Bern	Chav	DeBa	Eddy	Gran	Hard	Hida	Lea	Linc	LosA	Luna	McKi	Mora
53 Red-tailed Hawk						1		1			10.21020-		
Red-tailed Hawk		3		15	37	1	9	1	9	1	3	3	5
"Krider's"				1		1		_					
54 Ferruginous Hawk				2	1							1	
Buteo species		1										1.1.1	
55 Golden Eagle					1A				1.1				
56 American Kestrel	5	28	2	3	58	1	9	1	12		4	7	9
57 Merlin	-	1						1					1
58 Prairie Falcon	-	1		1			-	-					-
59 Peregrine Falcon		1			5			[3	
(Chukar		4)						-		-		-	
60 Ring-necked Pheasant	2	8		12				-			-	-	-
61 Lesser Prairie Chicken													
62 Wild Turkey	-			20	5		5	1				1	
63 Montezuma Quall	-					1	3	-				-	
64 Northern Bohwhite	-	2		2		-		3				-	
65 Scaled Qual		22		62	69		10			-	16	-	
SE Combolia Quail		02	1	02	404		169	-	-	-	50	-	-
67 Missisia Dell		-	-		494	-	100	-			00	· · ·	
67 Virginia Hall					0	-			-		-	4	-
68 Sora	-		-	1	2		-	-				5	
rail species	-			-		-	-	-	-	ļ		-	
69 Common Moorhen	-	-		1			-	-	-			-	-
70 American Coot	3	212	49	122	41		8	13	· · · · ·	-	12	795	19
71 Snowy Plover		111	-	30				-		-			
72 Semipalmated Plover		1											
73 Killdeer		67	2	228	37	1	11	5	1		10	10	1
74 Black-necked Stilt	6	50		26					1				
75 American Avocet		70		31	1							11	3
76 Greater Yellowlegs		4					1		1000				
77 Lesser Yellowlegs		1											
78 Solitary Sandpiper									1			-	
79 Willet		3			1							1	1
80 Spotted Sandpiper	3	29	1	14	76		2		2	2	11	49	3
81 Long-billed Curlew	1.2				1	1	-	-	-	-		1	
82 Marbled Godwit				1	3	· ·		-		-			
83 Seminalmated Sandniner	-												
84 Western Sandniper	-	110		7	6		-			-	-		
951 oget Sandoiner		20		2			-					-	-
96 Daird's Candoiner		20		1						-	-		-
"noone"	+		-			-			-	-			
97 Long billed Douitebor	1	016	-	100		-	-	-				00	7
PR Common Spice	4	215	-	100	0	-			-		-	00	- 1
oo Common Shipe		040	-					-		-	0.00	1	0.00
89 Wilson's Phalarope		012	-	41	50	-		-			350	1/5	200
90 Laughing Guli	-	-		1							-		
91 Franklin's Gull		3		<u> </u>		-	-		-			29	
92 Bonaparte's Gull	-	1	1				-				_	2	6
93 Ring-billed Gull	83	26	-	16	14					_	1	51	64
94 California Gull		L				-							
95 Forster's Tern		14		3	1	1.1.1							
96 Least Tern		1											
97 Black Tern													
98 Rock Dove		362		201	34	1			11		1	7	1
99 Band-tailed Pigeon					70				-			-	
100 Eurasian Collared-Dove		3	5	1									
101 White-winged Dove		140	6	106	57	1	53				66		
102 Mourning Dove	26	1.096	62	1.285	582	52	206	35	46	13	342	54	4

Table 4. 1999 North American Migration Count, New Mexico Results, 8 May 1999

		Oter	HIOA	Roos	Sand	SanJ	SanM	Ste	Soco	Taos	Torr	Unio	Totai
1	Pacific Loon	-			-						_		2
2	Common Loon	-			-		2				-		5
3	Pied-billed Grebe	1	2			3	15	1	8			-	56
4	Horned Grebe					-	1						2
5	Eared Grebe	12	60		2	15	306	-	2		_		475
6	Western Grebe		42		39	233	82		2	1		_	468
7	Clark's Grebe				21		100		2				123
8	American White Pelican		2		1	-	2		17				21
9	Double-crested Cormorant		5		40		25		2	1.000			90
10	Neotropic Cormorant								46				50
11	American Bittern				1.1.1								1
12	Great Blue Heron	1	3		2	5	4		5			1	73
13	Great Egret		100.000		1	-			8			-	19
14	Snowy Earet	2			4	1	4		89	1			162
15	Little Blue Heron	-		-	1								1
16	Tricolored Heron								-	-	-		1
17	Cattle Egret					3			6		-	-	13
18	Green Heron	2			1				2	-	-	-	26
10	Black or Night Haron	2	-		· · ·	2	3		4		-	-	30
20	White-faced this	16	6		10	10	25		26	6	-	-	404
20	Turkey Vulture	10	26		10	25	20	20	30	24		0	404
20	Sport Coose		20		10	20		30	10	51	3	4	932
22	Show Goose			-	-		6			-	-		13
23	Huss Gouse		00		0.	0.			1	-	-	-	2
24	Canada Goose		20	-	21	25	52		10	4	-	-	290
20	Wood Duck		200		5							-	9
26	Gadwall	2	200		-	2	204	2	23	4	-	-	615
27	Eurasian Wigeon	_			-						-	-	1
28	American Wigeon				3		20	-	12			1.1	80
29	Mallard												0
	Mallard form	14	200	2	76	40	100	49	16	20	-		909
-	Mexican form										1.1.1	-	83
30	Blue-winged Teal	4		4	2		13		16	2			80
31	Cinnamon Teal	2	40		2	11	26	1	12	8			237
32	Northern Shoveler	13	40	8.1.3	2	15	393		47	2			700
33	Northern Pintail		16	1			2		8	1			52
34	Green-winged Teal	4	20	15			14		36	14			291
35	Canvasback						2		1				4
36	Redhead		15		10	10	117		18				345
37	Ring-necked Duck		4		2		1						85
38	Lesser Scaup		30				34		2				82
39	Bufflehead		15		1		49	-	1				74
40	Common Merganser		22			5				5	-	-	50
41	Buddy Duck	160	70		18	6	1 099	1	86	5	-	-	1 677
	duck species	100			10		1,000				-	-	12
12	Oenroy	-	7				-				-		17
42	Mississioni Kito	-		-					-		-		1/
40	Northorn Harrier	-	4	-	-	2			-		-	-	14
44	Chorp chipped Hourk				0	3	6	1		- 4	-	-	23
40	Sharp-shinned hawk	-	0		6			2	1			-	14
40	Coopers Hawk	-	- 2		4	3	1	1	2	1		-	22
47	Northern Goshawk		-		2	-	-				1		9
	Accipiterspecies	-		-					_		_	-	0
48	Common Black-Hawk				-								15
49	Harris' Hawk												7
50	Broad-winged Hawk				-								1
51	Swainson's Hawk			9	1		6	3	4	1		2	82
52	Zone-tailed Hawk												8

Table 4. 1999 North American Migration Count, New Mexico Results, 8 May 1999

		Oter	RioA	Roos	Sand	SanJ	SanM	Sfe	Soco	Taos	Torr	Unio	Total
53	Red-tailed Hawk	-							-		-		(
_	Red-tailed Hawk	-	5	1	2	14	15	18	1	7	2	1	151
	"Krider's"			-					-	-			
54	Ferruginous Hawk	-				1		-		-			5
_	Buteo species	-		-						1	-		2
55	Golden Eagle	-	5			3A	-	3(2A,1I)		1	-		13
56	American Kestrel	-	15	10	7	12	14	34	6	8 8	1	2	246
57	Merlin							-		2	-		2
58	Prairie Falcon					-	2			-	-		4
59	Peregrine Falcon	-					-	1	-	-	L		10
	Chukar	-	1	-	-	-					-	-	
60	Ring-necked Pheasant				3	5			4	-			34
61	Lesser Prairie Chicken	-	-	10	-						-		10
62	Wild Turkey	-		-	-	-			5			123	159
63	Montezuma Quail						-		-		_		- 3
64	Northern Bobwhite	-	-	22		-			-			2	31
65	Scaled Quail	-	-	11	-	4	2	18		3	-	4	240
66	Gambel's Quail	9	-	-	3	15			18	\$	-		763
67	Virginia Rail		1	-	-	9	5		1		-		21
68	Sora	-		-	-	2	2		14	-	-	-	26
	rail species	-	-							1	-	-	
69	Common Moornen	00	0.00	-	00		0.040	0.0			-		1
70	American Coot	20	200		88	114	2,848	23	117	3	-	5	4,692
71	Showy Plover	1	-	-	-	-		_	2	-	-	-	144
72	Semipalmated Plover						1	-					2
73	Kildeer	10		4	9	22	18	24	10	4		2	476
74	Black-necked Stilt	41	0.0	-	-				8	-	-		131
75	American Avocet	55	29	-	-	4	19		1	-	-		231
/0	Greater Yellowlegs	-			-	-	1		2		-		
11	Lesser Yellowlegs	+							6				8
70	Solitary Sanopiper	-	10				40		-	-	-		
/9	Willet	2	15			2	10	10			-	-	3/
00	Spotled Sanopiper	0		-	4	3	10	10	3	4	-	-	244
01	Long-billed Curlew	+	-		-	-	2	4		-		4	13
02	Comingle Gouwit	+	-		-	-	-		-		-		
0.0	Semipainated Sandpiper	-				-	2	-			-	-	100
04	Loast Sandpiper	+	-		-		2	- 0	10	-	+		130
86	Raird's Sandpiper	-		-			0		10	-	+	-	40
- 00	"nonne"	22	1							-	-	-	
87	Long-billed Dowitcher	0	2				115		124	20			700
89	Common Snine	0	1	-			2	-	104	01	1		705
80	Wilson's Phalarono	216	60	13	18	68	1 705	-	322	23	-		4 073
00	Laughing Gull	210	00	1.5	10	00	1.705		002		-		4,070
91	Franklin's Gull	4		-			28				-	-	6.4
92	Bonanarte's Gull	1				-							10
03	Bing-billed Gull	3	35	-	45	12	06		23	2		1	470
94	California Gull	-	00	-	40	1.	8		20	1-	-		4/0
95	Forster's Tern	-	6		-	-	-		1		-		24
96	Least Tern	-	-	-					- '	-		-	24
97	Black Tern		-	1	1	-			-	-			-
97	Rock Dove		-	0	22	106	11	40	10				010
90	Rand-tailed Pineon	+		-	00	100	1 11	42	40	30	1		70
100	Eurasian Collared-Dove	-							-		-	-	12
101	White winged Dove	6				4		1	2.4		-	-	476
102	Mourning Dove	14		250	60	328	106	190	50	50	10	40	4 910
							00				n :U	U	1.77.0216

		Bern	Chav	DeBa	Eddy	Gran	Hard	Hida	Lea	Linc	LosA	Luna	McKi	Mora
103	Inca Dove		16		10	1		1	2			1		
104	Common Ground-Dove					1								-
105	Yellow-billed Cuckoo				1									-
106	Greater Roadrunner	4	8		20	9		3	2	6		3		
107	Barn Owl		1		1									
108	Flammulated Owl								-			-		
109	Western Screech-Owl	-				1		2				1		
110	Great Horned Owl		1		6	6	1	3	-	-			3	
111	Northern Pygmy-Owl			-									-	
112	Burrowing Owl		21		11				3	2		2	1	-
113	Spotted Owl			100.0		6		1						
	owl species				1									-
114	Lesser Nighthawk				6	3		2			-	3		
115	Common Nighthawk	-	3		66							4		
116	Common Poorwill					3		3					1	
117	Whip-poor-will	-				-		1			-			-
118	Chimney Swift		7											
119	White-throated Swift	-			16	-	-		-		1	41		-
120	Broad-billed Hummingbird		-					2						
121	Magnificent Humminghird					1		1	-	3	-			-
122	Lucifer Humminobird	-						5	-			-	1	-
123	Black-ch Humminohird	24	28		40	253	-	25		8	1	2	4	
124	Anna's Hummingbird	6.1			40	600		11		0		-		
125	Costa's Hummingbird	-			-	1		11	-				-	
126	Broad-tailed Humminghird				3	107		10	-	25	0			
127	Bufous Humminghird					16/		10		- 33	0	1		
16/	humminghird enocioe	-												
128	Relted Kingfisher	1	4		1	2		1		1			5	
120	Lowis' Woodnecker	- 1				1			-			-	0	
120	Red headed Woodpacker	-		- 1									6	
131	Acom Woodnacker	-			2	45		5	-	6	7	-	6	
132	Gila Woodpecker	-			3	15		12	-	0	1	-	5	-
122	Bad-nanad Sanguckar	-			-	15		10						-
124	Williameon's Saneucker	-									0		4	
104	Lodder book Woodpocker				10	10			-	-	6	0	-	
135	Downy Woodpocker		- 1		10	10		4		-		2		
127	Hain Woodpacker		-			10		0					- 0	
107	Three head Weadpeaker	-				14		2		3	5		2	
130	Northorn(r.c) Elickor	1		0		54	0			07			07	
140	N Roardinee-Turannulat		1		3	34		0	-	21	14	-	21	
140	Olive sided Elyestehor		2		0	6		,	-				-	-
140	Graatar Bawaa	-	- 4	-		0	-			1				-
142	Mestern Wood Dowoo	1			7	04	-	10	-	-		3		
143	Willow Elvestehor	4	1	- 1	1	01	-	12	-	5	-	22	0	_
144	Willow FlyGacher		-		1	1	-			-		-	2	-
140	Dualas Flycatcher	-				4	-	5	-		1		-	_
140	Dusky Flycatcher			_	1	10		5		1	3	1	2	
14/	Gray Plycatcher			-	2	14		7	-		2	1	12	
148	Corollieran Hycatcher	-			1	9		1	-			1		- 4
140	Empioonax species	-		_		21	-	6	-	-		10		
149	pun-preasted Hycatcher	-			-		-	1	_		-			
150	Black Phoebe	3			4	36	3	9	0	2			7	
101	Eastern Phoebe		-											-
152	Say's Phoebe	1	4	2	10	65	2	3		14		2	4	1
153	vermition Flycatcher	-			21	53		16						
154	Dusky-capped Flycatcher	100						5					-	
155	Asn-Inroated Flycatcher	3	3		31	58		18	12		1.5		- 4	

Table 4. 1999 North American Migration Count, New Mexico Results, 8 May 1999

		Bern	Chav	DeBa	Eddy	Gran	Hard	Hida	Lea	Linc	LosA	Luna	McKi	Mora
156	Brown-crested Flycatcher		-		-	1		-		-				
157	Cassin's Kingbird	1		32	21	149	3	26		1	7	1	8	
158	Western Kingbird	7	801	37	454	186	48	10	102	15		151	3	3
159	Eastern Kingbird									-				1
160	Scissor-tailed Flycatcher				23	1			34					
161	Loggerhead Shrike		5		3	21	-	7	17	2		7		1
162	Bell's Vireo			1.1	14	9		6			1	2	S	
163	Gray Vireo			1						2				
164	Cassin's Vireo					7		1						
165	Plumbeous Vireo				21	42		2			7		4	
166	Hutton's Vireo					7	1	3						
167	Warbling Vireo			1	2	45		2				1		
168	Red-eyed Vireo			1										
169	Gray Jay							1						
170	Steller's Jay				3	30		2		16	2		11	8
171	Blue Jay	1	59	4	3						-			
172	Western Scrub-Jav	2			13	86	7	11	-	11	2		6	3
173	Mexican Jay	-				52		43	-					
174	Pinyon Jay	-		-		8		10		29	-		103	
175	Clark's Nutcracker										3		3	
176	Black-billed Magnie	-		1.000			-			-				14
177	American Crow	10				21	11		-	1			-	9
178	Chibuahuan Bayen	- 10	28	-	66	125		37	38		-	42		2
179	Common Bayen	1		8	00	145	-	6	00	24	10	40	107	2
	ravon energies			- 0		145		0	-	54	10		121	4
180	Hornod Lark	-		1	3	44	10		2				95	. 4
181	Purple Martin	-			3		10	3	0				30	_
100	Trop Swallow	-		-	00		-						40	
102	Violet groop Swellow				20	014		00	-	10	0		46	
100	N Deugh wiseed Swallow	0	10		40	314	-	20	-	00	3	5	18/	4
104	Pool Swallow	0	12		6	100		4	_				116	50
100	Barn Swallow	04	010		004	04	04		10	_	-	0.4	0.0	
180	Barn Swallow	34	210	5/	204	91	31	32	12			21	20	8
187	Cliff Swallow	40	200	855	1337	309	450	11	_	37		3	56	150
100	Cave Swallow				389				-			-	-	
189	Black-capped Chickadee				-				_					1
190	Mountain Chickadee			_	2	20	_		_	4	19	-	16	1
191	Mexican Chickadee							3	_		2			
192	Bridled Titmouse	-				22		4		_		_		
193	Juniper Titmouse				2	23		4		4			2	
194	Verdin		-		2	24		3				1	-	
195	Bushtit	4			10	94		2		15	2			
196	Red-breasted Nuthatch					2								1
197	White-breasted Nuthatch	2			7	31		2		5	7		8	2
198	Pygmy Nuthatch					7				4	7	(i i i	38	2
199	Brown Creeper					5		2		1	1			
200	Cactus Wren				11	.17		5	6			23		
201	Rock Wren			1	6	14	19	1				1	15	2
202	Canyon Wren		_		19	8		2		-	1		5	
203	Carolina Wren													
204	Bewick's Wren	5	1		10	111		23		2			3	-
205	House Wren	1	1		9	45		2	10		1	4	4	2
206	Marsh Wren				1	7							3	
207	American Dipper		1.0											
208	Golden-crowned Kinglet													
209	Ruby-crowned Kinglet					20		13			3	4		
210	Blue-gray Gnatcatcher	3				7						1	1	

Table 4. 1999 North American Migration Count, New Mexico Results, 8 May 1999

100 lass Dave	Oter	HIOA	HOOS	Sand	Sanj	Sanm	Ste	Soco	laos	lorr	Unio	Total
103 Inca Dove	-	-			-					-	-	30
104 Common Ground-Dove	-	-	-	-				-	-	-	-	
105 Yellow-billed Cuckoo	-	-	-						-	-	-	1
106 Greater Roadrunner	-		8	3		1	2	3		-	-	72
107 Barn Owl		1000	5		2				-			9
108 Flammulated Owl	_	4	-			1	-			-		5
109 Western Screech-Owl	-			1				3	-			7
110 Great Horned Owl			2	1	4	2	4		3		1	32
111 Northern Pygmy-Owl						1						1
112 Burrowing Owl			27	1			1				1	68
113 Spotted Owl		·										7
owl species								1	L			1
114 Lesser Nighthawk	6							28				48
115 Common Nighthawk			6								1	80
116 Common Poorwill						10.1						7
117 Whip-poor-will									1			1
118 Chimney Swift		-				1						7
119 White-throated Swift		20	1	20	11	12		10	20			151
120 Broad-billed Hummingbird		-						1				2
121 Magnificent Hummingbird												5
122 Lucifer Hummingbird		1			-							5
123 Black-ch Hummingbird				52	31	5	15	38	5		3	534
124 Anna's Hummingbird	1									-	-	11
125 Costa's Hummingbird	-											1
126 Broad-tailed Humminobird	1	1		4	9	11	51	8	29	5		309
127 Bufous Humminghird							1			-	-	2
hummingbird species	-	-				-		-		1		1
128 Belted Kingfisher	1	-		3	6	2	6	1	6	-	-	44
129 Lewis' Woodpecker		3		-	-	5	8	1	1	-		24
130 Bed-beaded Woodpecker	-	-	-				-			-	-	1
131 Acorn Woodnecker			-	2	-			5		-		79
132 Gila Woodpecker	1			-			-		-		-	28
133 Bed-naned Sansucker	-	-				1			3			11
134 Williamson's Sansucker		-		3	-	4	3				-	13
135 Ladder-back Woodbecker	-			2	-	10	1	6	-	1	-	67
136 Downy Woodpecker		-		4	1	5	6	2		· ·	-	23
137 Hairy Woodpecker			-	3	2		4	2	-	-	-	36
138 Three-toed Woodpecker	-			1	-			-	-	-		1
139 Northern(r-s) Elicker	-	12	-	26	7	31	30	4	26	1		287
140 N Beardless-Tyrannulet										-	1	1
141 Olive-sided Elycatcher	-			1		-		-		1		15
142 Greater Pewee		1										1
143 Western Wood-Pewee	1	-	-	3	4	2	1	2		-	-	143
144 Willow Elycatcher	- '		-	1	- 4				-	-		143
145 Hammond's Elucatober				4	2			-	-			17
146 Ducky Electober			-		7			6		-	-	47
147 Gray Elucatebor		2		- 5	0	0		0		-		4/
148 Conditionan Elucatabor	-	- 3	-		4	6		4	-	-	-	49
Emoidonay enocioe		1		5	0	-		3	-		-	22
140 Buff brassted Elucatebor	-	-		-	- 4		-	-	3	- '	-	43
150 Plack Phoops	-	-	-	0			-		-	-		1
151 Eastern Phoebs	-	-		2		5	2	8	8	-	-	89
151 Eastern Phoebe	-	0	0		-	1		-		-	-	0.1
152 Varmillion Ehunsteh		3	2	1	6	21	51	5	9		8	219
155 Vermillion Prycatcher	-	-	-			2		-	-	-	-	92
155 Ach threated Elvestation	-				-	-		1 10		-		5
100 Ash-Inroated Frycatcher		- 4		1 1	4	23	18	n 10	1	1 1	6	i 190

Table 4. 1999 North American Migration Count, New Mexico Results, 8 May 1999

		Oter	RioA	Roos	Sand	SanJ	SanM	Sfe	Soco	Taos	Torr	Unio	Total
156	Brown-crested Flycatcher	0.0.		11000	Gang	loune	Ount	010	0000	Taus	TOIL	Unio	10101
157	Cassin's Kingbird		3		2	16	40	26	2	5	4	-	347
158	Western Kingbird	6	-	57	4	15	90	30	34			30	2 082
159	Eastern Kingbird	-			-	1		00	1		-	00	2,000
160	Scissor-tailed Flycatcher			10	6								68
161	Loggerhead Shrike	2	-	11		4	9	7	3	4		5	109
162	Bell's Vireo	-	-							-			21
163	Grav Vireo					2			1	-		-	01
164	Cassin's Vireo			-					0	-		-	10
165	Plumboous Vireo	-	1		0	5				0	- 4		10
166	Hutton's Viroo				0				0	0	1		110
167	Marining Viroo			-	0			2	10		-		10
168	Red-overt Vireo			-					12				/0
160	Gray lay	-			-	-		- 0					1
170	Stellor's low		0			-	0.	00	0			_	3
171	Blue low	-	4	-	0		21	20	2	10	1		140
170	Western Conch Jau				0			100			-	1	67
172	Western Scrub-Jay	-	4		9	41	5	166	4	16	2		388
173	Mexican Jay	-						-		100	-		95
174	Pinyon Jay				4	26	23	31		135		1	360
1/5	Clark's Nutcracker		10		7			38		20	-	_	71
1/0	Black-billed Magple		42	-	00	103	61	83		149		2	454
177	American Crow		4		28	8	13	50	6	32	2		189
178	Chinuanuan Haven	3	0.5	23					18		-		383
179	Common Haven		35		15	47	106	144	3	72	2	8	765
	raven species												9
180	Horned Lark					155	23	19	-	3	_	8	309
181	Purple Martin												3
182	Tree Swallow	-	20				6		6	1			109
183	Violet-green Swallow	0.1			62	91	70	53	38	188			1,167
184	N. Hough-winged Swallow	21	30	1	23	30	10	46	24	71		-	608
185	Bank Swallow	-			4	4			4		-		13
186	Barn Swallow	5	15	12	46	73	68	119	44	48	14	7	1,177
187	Cliff Swallow		80	4	6	153	133	250	68	12		20	4,174
188	Cave Swallow												389
189	Black-capped Chickadee	- 1			3	4	9	6		5	·		28
190	Mountain Chickadee		2		32	8	16	52	6	28	9		215
191	Mexican Chickadee												3
192	Bridled Titmouse		1						_				26
193	Juniper Titmouse	-			2	7	1	5	2	11			63
194	Verdin							-	4				34
195	Bushtit				6	39	3	47	14	11			247
196	Red-breasted Nuthatch				9	1	6	18	2	1	2		42
197	White-breasted Nuthatch		2		11	8	12	18	6	3	2		126
198	Pygmy Nuthatch		_		6	4	7	19	1.1.1	3	1		98
199	Brown Creeper					1		3					12
200	Cactus Wren			1			2						64
201	Rock Wren			1	1	13	26	3	5	1		2	111
202	Canyon Wren				2	5	7		3	1			53
203	Carolina Wren					12.1		-	1				1
204	Bewick's Wren				4	21	8	21	4				213
205	House Wren		-	1	2	2	5	5	4	1		4	93
206	Marsh Wren		1							50			62
207	American Dipper						1						1
208	Golden-crowned Kinglet					1	5						6
209	Ruby-crowned Kinglet		-	1	22	7	8	6	2				86
210	Blue-gray Gnatcatcher		1		3	11		6	4				35

		Bern	Chav	DeBa	Eddy	Gran	Hard	Hida	Lea	Linc	LosA	Luna	McKi	Mora
211	Eastern Bluebird	-							-					
212	Western Bluebird	2		-	1	72		6		34	15		9	8
213	Mountain Bluebird		2		2					10			18	
214	Townsend's Solitaire				20	7		1						1
215	Swainson's Thrush					1		1				1		
216	Hermit Thrush		5	1	8	13		34			1	1		1
217	American Robin	6	109	14	16	125		3		35	17	34	46	1
218	Gray Catbird													
219	Northern Mockingbird	2	395	20	263	42	6	15	32	12		17	10	-
220	Sage Thrasher					2								-
221	Brown Thrasher				-				-					-
222	Curve-billed Thrasher	2	5		1	45		9	8			7		
223	Crissal Thrasher					8		2	-			1		
224	European Starling	3	508	21	234	58	12	2	15	21	2	7	16	10
225	American Pipit					17			10		-	3	0	- 10
226	Cedar Waxwing		4	13	37	47	-	57	-	20				-
227	Phainopeola	1		10	23	13	-	10		-0-		-		-
28	Olive Warbler	-			20	0	-	16	-	-	-	-	-	-
220	Tennessee Warhler			-					-		-			-
230	Orange-crowned Warbler	-	1		2	51		14	-	-	-			-
231	Virninia's Warbler	0			0	50	-	14	-					-
232	Lucy's Warblar	6		-	4	66	-		-		1	1	- 1	
32	Northern Parula	-				00		5	-		-	-		
24	Volice Worklar	4	2	10		1				-	-			
225	Vollow rumped Wechler	1	3	12	4	61	-	- 11	-			-	2	
.00	Mumpeo warbier	0												-
-	Audubonia	1 10			3	0.00			-	-	10	1	30	1
-	Auddoon's	19	7	6	28	303	_	70	-	34	13	36	12	20
0.0	unumerentiated	-	10	_									30	
30	Black-thr Gray Warbler					45		10						-
37	Townsend's Warbler					19	-	54				3		
38	Hermit Warbler		-		-	1		26						
:39	Grace's Warbler				2	30		1			4		7	
40	American Redstart	-			1	-			_					
41	Northern Waterthrush	-			4	3								
42	MacGillivray's Warbler	1	1		6	34		12				1	2	
:43	Common Yellowthroat	4	1	1	8	29		10		1		2	3	
44	Hooded Warbler													
45	Wilson's Warlber	1	13	8	18	427	1.00	149		12		54	3	
46	Red-faced Warbler					14		1						
47	Painted Redstart					6								
48	Yellow-breasted Chat		1		27	39							3	-
49	Hepatic Tanager				10	13								
50	Summer Tanager	2			34	51		10						
51	Western Tanager	2	5		28	34		15		4	2	7	1	
52	Green-tailed Towhee	2	4		4	138		11		3	3	9	2	7
53	Spotted Towhee	4			1	128		19		15	17		16	5
54	Canyon Towhee	2		5	8	71	3	23		5	1	16	1	
55	Abert's Towhee				-	16	-			-		10		
56	Cassin's Sparrow		2		2		12				-			
57	Rulous-crowned Sparrow		-		12	5		4				1		0
58	American Tree Sparrow				1.		3				-	- 1		
59	Chipping Sparrow		44	2	45	859	12	83		62	15	225	142	
60	Clay-colored Sparrow	-		-		000	12	00	-	00	15	663	140	. 0
61	Brewer's Sparrow				12	248		2	9	4	-	16	14	
62	Black-chinned Snarrow			-	16	044	-		9			10	41	1
2- 278	States States of States On				-	5	_	-1	-			4		1.1.1.1

Table 4. 1999 North American Migration Count, New Mexico Results, 8 May 1999

		Bern	Chav	DeBa	Eddy	Gran	Hard	Hida	Lea	Linc	LosA	Luna	McKi	Mora
26	Lark Sparrow		11	8	65	195	44	155	5	9	-	33	35	
26	5 Black-throated Sparrow				10	43		4	19	-		12	00	-
26	Sage Sparrow			1						5		1	1	
26	Lark Bunting			2	35	6		30	136	_	-	37		
268	Savannah Sparrow		1		1	3					-	1	12	1.1
269	Grasshopper Sparrow	-										-	16	
270	Fox Sparrow									-		-		
271	Song Sparrow	1	2		1	14				2		-	5	
272	Lincoln's Sparrow					18		5		-	-			
273	Harris' Sparrow	-			-				-	1		-	-	-
274	White-crowned Sparrow	3	67	8	57	450	-	21	10	0	3	144	29	
	sparrow species			-	36			-	- 10		- 0	144	30	
275	Dark-eved Junco	-		-								-		-
	pink-sided	1			1	-	-			-		-	-	
	grav-headed	-			2	96		21	-	20		0		
-	undifferentiated	-	-	-	-		-	61	-	29	- 0	4		
276	Yellow-eved Junco	-			-				-		2	- 4	14	
277	Northern Cardinal	-			17	50	-		-					
275	Purchulovia				- 17	52		0						
270	Rose-breasted Greebeak	-		-	0	4	-	2	4		_	3		_
280	Rigck-headed Groebook	10	7	0	- 1	3		-		1			-	
281	Blue Grosback	10	- /	0	9	1/4	-	63		42	1	11	3	- 2
282	azuli Rusting		0		19	5	3		3	1	-	1		
202	Lazon Bunting	1		1	2	11		19	-					_
200	Variad Bustieg	-			2	_			-	-	_			
204	Painted Bunting		-		2				-	-				
200	Paholiak Baboliak	-	1		20		_		-					
200	Bod winged Blackbird	117	E 40	10	107	-			-		_		1	
207	Eastern Maadaulark	117	548	48	197	76	-	19	- 4	36		16	190	100
200	Eastern Meadowlark	0	104	-	0	/5	-	7	-			3	1	10
209	western meadowlark	6	104	8	3	40	67		5	9		2	66	39
200	Mellow banded Blockbird	10	53		2	-		-						_
290	Tenow-neaded Blackbird	12	18	7	7	20		5	-	-			156	200
291	Brewer's Blackbird	30	2	14	61	186		46	_	23		180	59	15
292	Common Grackie	5	10	41	42		20				3			
293	Great-tailed Grackie	2	707	53	443	133	_	35	44			87	10	1
294	Bronzed Cowbird		3		1	3	_							
295	Brown-headed Cowbird	16	11	3	130	462	_	24	10	11	202	5	27	100
296	Orchard Oriole	-			15				_					
297	Hooded Oriole				1	33		9						
298	Bullock's Oriole	1	8	19	26	127	_	16	15			11	3	2
299	Scott's Oriole				11	15		18	_	-			1	
300	Cassin's Finch									4				
301	House Finch	7	386	19	239	635	7	66	4	105	19	268	32	
302	Hed Crossbill					4				2	3			8
303	Pine Siskin	1	8	17	11	393		43		178	6	12	12	4
304	Lesser Goldfinch													
	black-backed				4									
	green-backed				5	27	1	11			-	4		
	undifferentiated		16		9							1	5	
305	American Goldfinch	10	28		20	24	1	1	2	-	-		4	2
306	Evening Grosbeak					-			-	9	20	-	-	1
307	House Sparrow	4	1.072	23	748	221	14	35	135	13	11	290	66	10
-		_		-			-	-	-	-				
_	Provine	70	107	60	178	202	20	141	10	70				_

Table 4. 1999 North American Migration Count, New Mexico Results, 8 May 1999

		Oter	RioA	Roos	Sand	SanJ	SanM	Sfe	Soco	Taos	Torr	Unio	Total
211	Eastern Bluebird								2				2
212	Western Bluebird		2		8	17	9	36	12	15	1		247
213	Mountain Bluebird	_	3		1	50	9	22		7	4	2	134
214	Townsend's Solitaire	_	1		1	16		21		4	1		74
215	Swainson's Thrush			1	1		1						5
216	Hermit Thrush			1	5	1	2	1	2	1		1	78
217	American Robin		24		33	78	100	154	64	58	13	3	947
218	Gray Catbird								1				1
219	Northern Mockingbird	3		11	1	2	75	16	18	2		8	950
220	Sage Thrasher					2		1		5	-	-	10
221	Brown Thrasher	1					-					2	2
222	Curve-billed Thrasher			10				4	1		-	-	92
223	Crissal Thrasher					-			1		-		12
224	European Starling	-	30	2	37	142	41	228	38	182	2		1.611
225	American Pipit				2		135		8	101	-		174
226	Cedar Waxwing						75	22	1	27	-	-	303
227	Phainopepta	-			-		10	-	2	'	-	-	500
228	Olive Warbler		-	1					-		-	-	00
229	Tennessee Warbler	-	-					1			-		
230	Orange-crowned Warbler	-		-	1		1	11	4	3	1		01
231	Virginia's Warbler		4		4	3	5	26	16	22			91
232	Lucy's Warbler							20	2	20			79
233	Northern Parula	-							6	-		-	13
234	Yellow Warbler	2	3	A	2	7	19	14	0	6			104
235	Yellow rumped Warbler	-	5	-	6	- /	10	14	0	0	- 1		184
200	Murtle	-		2	-	-		7				-	0
	Audubon's	10	2	12	45		70	150	40	00		4	51
-	undifferentiated	10		13	40	41	10	109	40	03	/	2	1,014
226	Plack the Grou Workler	-			-		-	220	-	14			274
230	Townsoond's Warbler	-					2		4	16	_		78
220	Hormit Weshler	-				1			4				81
200	Creacie Working	-					-						27
239	Grace's warbler	-			2	1	2	1	10	2			62
240	American Redstart	-									_		1
241	MacGilluraula Marblar				1		0		2		_	-	10
242	Common Volley thread	1	0	D	3	-	2	0	8		_	2	83
245	Hooded Wethler	2	2			2		3	14		1	-	82
244	Hooded warbler								1				1
243	Wilson's Wanber	1	1	Б	14	4	16	32	44	1	1		805
240	Red-faced Warbler	-							2		_		17
247	Painted Redstart		-			_					_		6
248	Tellow-breasted Chat				3	-	1	1	1			1	77
249	Repatic Tanager	1			1		3		2		-		30
250	Summer Tanager	-		_		-	2		9		_		108
251	Western Tanager	1			9	3	5	49	4	4	6		179
252	Green-tailed Towhee	1	2	1		2	4	4	6	3		2	208
253	Spotted Townee		18		18	42	13	77	16	13	1	1	404
254	Canyon Towhee	-	_	-	6	-	10	52	4				207
255	Aberts Townee												16
256	Cassin's Sparrow	-	_	7			5						28
257	Rufous-crowned Sparrow						6					1	31
258	American Tree Sparrow												3
259	Chipping Sparrow		14	8	15	162	66	246	116	38	6	4	2,174
260	Clay-colored Sparrow			2			2			1			9
261	Brewer's Sparrow			56		10	15	3	12	3			426
262	Black-chinned Sparrow				2		1					-	14
263	Vesper Sparrow	1	19	8		11	28	56	21	7	-		005

Table 4. 1999 North American Migration Count, New Mexico Results, 8 May 1999

.

-		Oter	RioA	Boos	Sand	SanJ	SanM	Ste	Soco	Tane	Torr	Ilnio	Total
26	Lark Sparrow	1	1	10	5	25	50	96	16	2	TUI	27	704
26	5 Black-throated Sparrow	1		1		4		3	1	-	-		06
266	Sage Sparrow	1				3				1	-		10
26	7 Lark Bunting			380			1	-		- '	-	208	835
268	Savannah Sparrow		-		3	2	· · · ·	. 2	1	2	-	200	31
269	Grasshopper Sparrow	-		1	-			-	-	-		-	1
270	Fox Sparrow				-				-	2	-	-	
27	Song Sparrow	-	2	-	2	5	8	11	-	27	-	1	
272	Lincoln's Sparrow	-	-	1	-	2	2		-	61	-	- 1	20
273	B Harris' Soarrow	-	-						1	-	-		30
274	White-crowned Snarrow	7		26	5	0.4	15	50	40	10		04	1 000
-	sparrow species	-					10		46	16	-	24	1,009
275	Dark-eved Junco	-								15	-	-	51
-	pink-sided	-	-		-						-	-	
	gray-headed	1	1			20			a	20	-	-	200
	undifferentiated	-			11	5	20	45	0	20	-	-	200
276	Yelllow-eved Junco	-	-				20	40			-	-	102
277	Northern Cardinal		-									-	11
279	Pyrrhuloxia	-								-	-		/4
270	Rose-breasted Groebeak	-								-	-		21
280	Black-headed Grosbeak	3	-	1	22	0	12	00	20	-			7
281	Blue Grosbeak	- 3		9	23	1	13	- 22	38	5	1		450
282	Lazuli Buoting	-		9	4	0			1	-	-		44
283	Indiao Punting		-				2		1		1	6	48
284	Varied Bunting	1		- 1		1	1	1	- 2		-	1	9
285	Painted Buoting				-	-			-	-	-	-	2
286	Roboliak	-									-	-	21
287	Bedwinged Blackbird	10	25	10	60	207	400	100	100	101	10		1
288	Fastern Meadowlark	12	20	10	62	207	403	133	182	131	18	1	2,603
280	Western Meadowlark	-	0	32	0	40	101	447	4				139
203	mondowlock sponies		0	0	9	42	121	117	18	22	3	28	722
200	Vellow-headed Blackhird	1	140	2	15	45	100	-		004	-		55
201	Browne Blackbird		140	3	15	40	408	10	3	201			1,245
202	Common Grackle	-	40	1	2	00	00	48	26	57	_	-	961
203	Great tailed Grackle	0	0	6	24	20	133	20	4	27	-	8	339
204	Bran tod Combind	9	2	0	24	13	13	30	52	8	-		1,672
205	Brown headed Cowbird	-	2	24		50		-					7
200	Orchard Oriolo		3	24	31	28	55	65	37	12	_	8	1,295
207	Hooded Oriole	-	-			-					-		15
208	Rullock's Oriolo	2					10				-		43
200	Scott's Oriolo	6		14	2	29	48	4	20		1	10	356
300	Casein's Einch			-	3	0		3	2	-		_	53
301	Mouso Einch	2			- 00	3	05	9		4	-		20
302	Red Crossbill	3	- 1	-	22	143	25	179	38	27	1	14	2,240
302	Pino Sickin	-	1		- 44	10	14	22	-	107	18	-	71
304	Lassar Coldlinch	- 1	5	-	44	16	156	2/9	14	187	17	66	1,469
004	black-backed		-	-	- /	-			_	_	-	_	0
-	aroon backed	-	-	-	4	-					_	_	8
-	green-backeu	-	-			6	-	-	12	_	_		66
205	American Caldfinah				10	00	2	6	-			_	38
306	Evening Grosbeak	-	-		10	22	137	218	8	13	_	9	509
207	Evening Grosbeak	10	15	10		110	35	81		21	_		167
507	nouse Spanow	12	15	10	50	142	33	125	14	54	-	22	3,119
-					_				-			-	
_	Species	55	87	65	133	133	168	125	170	114	45		

	Bern	Chav	DeBa	Eddy	Gran	Hard	Hida	Lea	Linc	LosA	Luna	McKi	Mora
Individuals	706	9,779	1,557	9,071	12,229	850	2,425	769	1,289	502	3,004	4,425	1,373
Party-Hours	10	56	10	130	120	5	35	9	21	10	15	29	11
by foot	2	4	5	56		3	29	1	10	9	11	12	
by car	8	52	5	74		2	6	8	11	1	4	17	
by bike	0	0	0	0	0	0	0	0	0	0	0	0	0
Party-Miles	74	273	53	854	367	83	112	113	135	20	76	265	11
by foot	4	4	3	36	30	3	18	1	5	7	6	17	
by car	70	269	50	818	337	80	94	112	130	13	70	248	
by bike	0	0	0	0	0	0	0	0	0	0	0	0	0
Observers	3	17	1	24	34	1	6	2	14	2	1	2	3

Table 4. 1999 North American Migration Count, New Mexico Results, 8 May 1999

	Oter	RioA	Roos	Sand	SanJ	SanM	Sfe	Soco	Taos	Torr	Unio	Total
Individuals	769	1.903	1.206	1.581	3,738	11,324	5,053	2,920	2,628	182	758	80,040
Party-Hours	3	14	13	21	30		156	28	?	8	19	753
by foot	2		10	7	8	-	65	16	39	6	5	300
by car	1		1	14	22		91	12	?	2	14	345
by bike	0	0	2	0	0	0	0	0	5	0	0	7
Party-Miles	13	98	54	396	191		1,127	162	134	11	40	4,662
by foot	1		7	5	13		77	9	12	1	4	263
by car	12		40	391	178	619	1,050	153	115	10	36	4,895
by bike	0	0	7	0	0	0	0	0	7	0	0	14
Observers	2	1	1	2	13	7	37	4	9	4	7	197

Compilers for 2000 New Mexico North American Migration Count

County	Compiler	Address	City	Zip	Email
Bernalillo	Jeff Myers	2208 Rozinante Ct NW	Albuquerque, NM	87104	peacmyer@rt66.com
Chaves	Sherry Bixler	205 Tierra Berrenda	Roswell, NM	88201	bbixler@rt66.com
DeBaca	Roger K. Hoppe	1526 Eagle Ridge Drive NE	Albuquerque, NM	87122-1150	rkhoppe@msn.com
Eddy	Steve West	Box 2489	Carlsbad, NM	88220	wthrswift@carlsbadnm.com
Grant	Bob Wilcox	507 E 34th St	Silver City, NM	88061	bobwilcox@lascruces.com
Harding	Robert G. Cates	P. O. Box 1885	Los Lunas, NM	87031	bobcates23@aol.com
Hidalgo	Alan and Narca Moore-Craig	P. O. Box 16361	Portal, AZ	85632-1361	narca@vtc.net
Lea	Pat McCasland	P. O. Box 718	Eunice, NM	88231	coileus@hotmail.com
Lincoln	VACANT				
Los Alamos	Stephen Fettig	947 Quartz Street	Los Alamos, NM	87544	osprey@roadrunner.com
Luna	Larry Malone	1420 Salona Road SW	Deming, NM	88030	zephyranthes@swnm.com
McKinley	Dave Cleary	P. O. Box 1045	Zuni, NM	87327	per la construcción de l
Mora	Scott Vail	P. O. Box 714	Carlsbad, NM	88220	
Otero	John Mangimeli	P. O. Box 1086	Holloman AFB, NM	88330	
Rio Arriba	Dale Shahlecker	30 Fonda Road	Santa Fe, NM	87505-8815	dwseagle@rt66.com
Roosevelt	Lawry Sager	P. O. Box 203	Cerrillos, NM	87010	
Sandoval	Terry Brownell	P. O. Box 2111	Corrales, NM	87048	alphaterry@bigfoot.com
San Juan	John Rees	1400 Saiz Road	Bloomfield, NM	87413	·····
San Miguel	Bill West	2599 Camino Chuelo	Santa Fe, NM	87505	wingswes@aol.com
Santa Fe	Linda Mowbray	1122 S La Plata Circle	Santa Fe, NM	87501	
Socorro	Douglas Emkalns	2105 Lakeview Road, SW	Albuquerque, NM	87105-6104	btbwarbler@webtv.net
Taos	Karen Epperson	P. O. Box 2698	Ranchos de Taos, NM	87557	
Torrance	Donna Thatcher	1128 Girard NE	Albuquerque, NM	87106	
Union	Lavina Fry	Rt 1 Box 132	Clayton, NM	88415	a second second (second second s

38th ANNUAL MEETING OF THE NEW MEXICO ORNITHOLOGICAL SOCIETY Saturday, March 25, 2000 New Mexico Museum of Natural History and Science Albuquerque, New Mexico

ABSTRACTS

(In order of presentation)

SOME CHANGES IN THE CORRALES AVIFAUNA: THE 1960'S AND 1990'S COMPARED.

James S. Findley, Museum of Southwestern Biology, University of New Mexico, Albuquerque, NM 87131.

Comparison of results from censuses conducted in the Corrales bosque in the 1960's and in the 1990's reveals that woodland birds and waterfowl have increased in frequency of occurrence and abundance, while open-country birds have decreased. The change in terrestrial species is attributed to urbanization of Corrales and maturation of the Corrales bosque. Increases in waterfowl are correlated with increased flow in the Corrales reach of the Rio Grande, probably a consequence of unusually high precipitation during the last 20-25 years.

INHERITANCE OF PATERNAL QUALITY SEPARATED FROM DIFFERENTIAL MATERNAL INVESTMENT IN THE RED JUNGLEFOWL (*Gallus gallus*).

Timothy H. Parker, Department of Biology, University of New Mexico, Albuquerque, NM 87131

According to the good genes model of sexual selection, females prefer to mate with more ornamented males because those males have better genes to pass on to offspring. A key prediction of the good genes model is that paternal condition is inherited. Tests of this prediction are easily confounded by the possibility of adaptive differential maternal investment. Empirical and theoretical evidence indicates that females may increase investment in a reproductive bout when mated to an attractive male. I am studying the relative contributions of paternal genes and differential maternal investment to offspring quality in the Red Junglefowl. In this species, a number of studies have demonstrated that females prefer large-combed males as mates. I artificially inseminate laying females with sperm from either a large or small-combed male ('genetic father'). During this fertile period, these same females are housed with a sterile (vasectomized) male ('social father') with either a large or small comb. Preliminary results indicate that offspring condition is influenced by both the genetic father and differential maternal investment in response to the social father's attractiveness.

HISTORY AND CURRENT STATUS OF BALD EAGLES NESTING IN NEW MEXICO.

Sartor O. Williams III, New Mexico Department of Game and Fish, P.O. Box 25112, Santa Fe, NM 87504.

Historic evidence to document Bald Eagles (*Haliaeetus leucocephalus*) nesting in New Mexico is lacking, although unverified reports suggest one or two pairs may have nested in southwestern New Mexico prior to 1928. Those apparently second-hand reports lacked specifics and may have referred to other species. Subsequent reports, such as a single adult seen in late July 1960 in San Juan County, likewise lacked any evidence to substantiate nesting. In fact, through the mid- 1970s, no actual nest had been described for New Mexico. The first certain nest was discovered in Catron County in 1979, but the nestlings failed to fledge and the territory was subsequently abandoned. Meanwhile, by the early 1980s, the numbers of Bald Eagles wintering in New Mexico had begun to increase substantially, the increase reflecting the overall recovery of the continental population following reduction of environmental contamination. In the mid-1980s, a pair established a territory in Colfax County in an area where Bald Eagles concentrated in winter, and in 1987 an active nest was discovered nearby which produced two fledglings that year. In 1988, an active nest was

discovered in Sierra County, also in an area of wintering eagle concentration; the nest fledged one young that year. Through 1999, those two nests together fledged a minimum of 31 young, with that in Colfax County being one of the more productive nests in North America. Additional nesting activity was recorded elsewhere after the mid- 1980s, always in areas of wintering concentrations, including in San Juan, Rio Arriba, Quay, and Sierra counties, but in each instance eagles built nests only to abandon the effort prior to egg laying; such "practice" nests are not uncommon among inexperienced adults. In 1998, two additional nests were discovered in Colfax County, and each fledged young in both 1998 and 1999 (five young total). Elevational range of the four recently active nests was 1440-2580 m (4800-8600 ft); habitats included cottonwood riparian in Chihuahuan desert, cottonwood groves in shortgrass prairie, and ponderosa pine forests. Nest substrates were live cottonwoods and live ponderosa pines. Preliminary analysis of prey remains from the three Colfax County nests indicated mammals, especially prairie dogs (*Cynomys* spp.), are important, and these nests are all situated near prairie dog colonies. Establishment (or discovery) of additional nesting territories is anticipated, especially in the northwestern, northeastern, and southwestern quadrants of the state.

I LOVE LUCY'S: BREEDING BIOLOGY OF LUCY'S WARBLER IN SOUTHWESTERN NEW MEXICO.

Scott H. Stoleson, USDA Forest Service Rocky Mountain Research Station, 2205 Columbia SE, Albuquerque, NM 87106, and
R. S. Shook, Western New Mexico University, Silver City, NM 88061.

Lucy's Warbler (Vermivora luciae) may be the least known of North American wood warblers. What little is known of the species comes primarily from lowland mesquite bosques of Arizona, where it breeds in very high densities. However, it also occurs in other riparian habitats with little or no mesquite. In New Mexico, Lucy's inhabit only these latter habitat types in the southwestern quadrant of the state. We studied the breeding biology of Lucy's Warbler on the Gila River in New Mexico using a combination of line transects, spot-mapping, and nest monitoring. Lucy's were among the first migrant birds to arrive in the spring and leave in the fall, showing up in large numbers by the end of March. Compared to the more widespread and familiar Yellow Warbler, Lucy's arrived and departed earlier, and patterns of vocalizations varied considerably over time. A bimodal pattern of singing suggests they raised two broods on the Gila. They bred abundantly, comprising up to 10% of the territories within our study plots and breeding in densities ranging from 66 to 131 pairs/40 ha. We located 24 nests, 13 in cavities and 11 behind bark. They were occasionally parasitized by Brown-headed Cowbirds, but nesting success was generally very high (83%). Lucy's Warblers placed nests in three tree species: Goodding's willow, cottonwood, and box elder. The first two trees were used out of proportion to their abundance within the study patches, and box elder underutilized. Healthy populations of Lucy's Warblers may be encouraged through management activities that protect riparian habitats and promote a variety of age classes, and snags, of willow and cottonwood.

THE EFFECTS OF CATTLE GRAZING ON NESTING SUCCESS OF NUTTALL'S WHITE-CROWNED SPARROW (ZONOTRICHIA LEUCOPHRYS NUTTALLI).

Amanda Favis, Department of Biology, New Mexico State University, Las Cruces, NM 88003

The effects of cattle grazing on the breeding success of birds in California coastal scrub have not been thoroughly investigated in the past. We studied the impact of cattle grazing on the nesting success of the Nuttall's White-crowned Sparrow (*Zonotrichia leucophrys nuttalli*) on study plots at the Point Reyes Bird Observatory over the 1994-1997 breeding seasons. Studies were performed on two plots, one grazed and one undisturbed. There was a significant difference in nest success between these areas, with 35% nest success on the undisturbed plot and 13% success on the grazed plot. There was no significant yearly variation in success on the two plots. Comparing the stages of nesting -- laying, incubation, and nestling -- we found that nest success between plots was significantly different only during the incubation period. We found differences between plots in both nest cover and substrate diversity. Nests on the grazed plot 33.3% of color-banded birds returned to breed over the 4 year period. On the undisturbed plot, 47.5% of birds

returned each year. In summary, nests on the grazed plot had decreased nest success, poorer nest cover and a smaller yearly return rate of breeding birds than did nests on the undisturbed plot. The pattern at a metapopulation level suggests that due to the high mortality rate and low productivity found there, the grazed plot is acting as a sink.

THE EFFECTS OF BLACK-TAILED PRAIRIE DOG COLONIES ON THE DISTRIBUTION OF WINTERING FERRUGINOUS HAWKS IN SOUTHERN NEW MEXICO.

Jason Bak, Ken Boykin, Department of Fishery and Wildlife Sciences and the New Mexico Cooperative Fish and Wildlife Research Unit, New Mexico State University, P.O. Box 30003, MSC 4901, Las Cruces, NM 88003-8003, and Bruce Thompson, U.S. Geological Survey-Biological Resources Division, New Mexico Cooperative Fish and Wildlife Research Unit, New Mexico State University, P.O. Box 30003, MSC 4901, Las Cruces, NM 88003-8003

The Ferruginous Hawk (Buteo regalis) is one of North America's largest, but most restricted buteos. The Ferruginous Hawk winters primarily in grassland habitats from Nevada, Colorado, and Kansas south to northern Mexico. The hawk is highly dependent on a few main prey species: hares and rabbits (Lepus spp. and Sylvilagus spp.), ground squirrels (Spermophilus spp.), and prairie dogs (Cynomys spp.). Several studies have documented that black-tailed prairie dogs (Cynomys ludovicianus) are a common factor in wintering habitat selection by the hawks. Ferruginous Hawks are facing widespread habitat degradation and continued prairie dog eradication throughout their range. Colonies of black-tailed prairie dogs historically numbered as high as 5 billion individuals encompassing an estimated 40 to 283 million hectares, but the longstanding eradication programs and conversion of native grasslands to agriculture has reduced their historic range by 90-98%. To investigate habitat use for the Ferruginous Hawk in southern New Mexico, I sampled three potential habitat types: areas with known prairie dog occurrence, areas without prairie dogs that had historical records of occurrence, and general range land. At each site I delineated three 300 meter transects and sampled species composition, percent cover, and minimum/maximum vegetation height. I visited a randomly selected set of sites to observe any Ferruginous Hawks present and record behavioral observations, habitat use, and prey species taken. I will discuss design and analysis considerations for detecting any preferential use of habitat and any behavior associated with habitat type.

RECENT PHOTOGRAPHS OF BIRDS ON MIDWAY ATOLL.

John DeLong, 2314 Hollywood Ave. NW, Albuquerque, NM 87104

Informal slide presentation of the avian fauna on Midway Atoll.

ANALYSIS OF GRAY VIREO (VIREO VICINIOR COVES) SONGS IN NORTHWESTERN, NEW MEXICO.

James R. Travis, 9420 Avenida De La Luna NE, Albuquerque, NM 87111 and Tim Reeves, Department Of Computer Information Systems, San Juan College, Farmington, NM 87402.

A three-year study conducted for the Bureau of Land Management by Reeves from 1997 to 1999 has increased by 440% (from 10 to 54) the number of known locations for Gray Vireos in San Juan and western Rio Arriba Counties, New Mexico. The original purpose of these studies was to attempt to determine if the species, listed as threatened in the state of New Mexico, is more common in the BLM Farmington district than previously known. Tape recordings were made of many of these vireos for documentation of their identity. The tapes were analyzed by Travis who made sonograms and detailed tracings of approximately 100 syllables from over 20 different Gray Vireos. The results of this analysis are presented. No duplication of syllables by different Gray Vireos has been found to date suggesting that individual birds can be identified by vocalizations. Comparison of sonograms of Gray Vireo and Plumbeous Vireo (*V. plumbeus*), also recorded in San Juan County, is made. The songs of the Vireonidae are characterized by rate, syllable

type, and syntax (pattern in the use of syllables). The songs of these two species can be distinguished by these three characters.

DOCUMENTED AVIAN RARITIES IN SAN JUAN COUNTY, NEW MEXICO. PART V: LOONS - FINCHES 1999.

Tim Reeves, Department of Computer Information Systems, San Juan College, Farmington, NM 87402

In 1999, fourteen species of accidental, rare, or uncommon birds were documented by color slides in San Juan County, New Mexico. These species include Red-necked Grebe (*Podiceps grisegena*), Mallard x American Wigeon hybrid (*Anas platyrhynchos x A. americana*), Oldsquaw (*Clangula hyemalis*), White-winged Scoter (*Melanitta fusca*), Barrow's Goldeneye (*Bucephala islandica*), Thayer's Gull (*Larus thayeri*), Northern Pygmy-Owl (*Glaucidium gnoma*), Black Swift (*Cypseloides niger*), Black-chinned Hummingbird (*Archilochus alexandri*; partial albino birds), Williamson's Sapsucker (*Sphyrapicus thyroideus*), Black Phoebe (*Sayornis saya*), Varied Thrush (*Ixoreus naevius*), Golden-crowned Sparrow (*Zonotrichia atricapilla*), and Painted Bunting (*Passerina ciris*).

THE NEW MEXICO BREEDING BIRD ATLAS PROJECT.

James R. Place, 4949 San Pedro NE, Apt. 37, Albuquerque, NM 87109

The New Mexico Breeding Bird Atlas Project, Inc., (NMBBA), has been formed to produce, in an eight to ten year time span, a state breeding bird atlas, which most other states have completed or are completing. Initial planning is addressing issues such as block sampling, habitats, safe dates, criteria for breeding, and abundance estimates. Data entry/checking, map generation, final atlas production, and archiving are items of the overall project planning and budget. Recruitment is under way for regional coordinators and volunteers to test field methods and data reporting during the breeding season this year.

USING FITNESS SETS TO UNDERSTAND ADAPTIVE VARIATION IN BIRDS.

Craig W. Benkman and Elizabeth Bardwell, Department of Biology, New Mexico State University, Las Cruces, NM 88003

Even though fitness sets have been an important heuristic in evolutionary biology during the past 35 years, few biologists have attempted to apply quantitative data to this theory. I will briefly review fitness sets and then present several empirical examples from birds. I will argue that fitness sets provide an excellent framework for trying to understand the mechanisms underlying patterns of adaptation whether in the form of geographic races, polymorphisms or multiple species. Furthermore, fitness sets can provide insight into the mode of speciation.

SEXUAL SELECTION IN GOLDEN PHEASANTS.

Jennifer Hill, Department of Biology, University of New Mexico, Albuquerque, NM 87131

The purpose of this project is to address the central themes of sexual selection. Few studies have attempted to incorporate a variety of aspects of sexual selection: intersexual selection, intrasexual selection, and the potential benefits to "choosy" females. The golden pheasant is an ideal organism for such a study. Golden pheasants are extremely dimorphic with males possessing a variety of ornamental traits that may be important in sexual selection. Through the completion of female mate choice trials and male-male competition trials, I determined which male characteristics are important to females choosing a mate and to males assessing a potential opponent. I also raised chicks of known parentage to determine if growth rates of chicks are directly affected by the mate choice of a female. If there is a relationship between the identity of the male sire and chick growth, I can then determine if there is a positive correlation between chick growth and any male morphological or behavioral characteristics. Preliminary data suggest that females are choosing mates based on a plumage trait, the length of specialized "cape" feathers. Preliminary results

suggest that spur length is the best predictor of the outcome of male-male interactions. Preliminary data from chick growth experiments suggest that the identity of the father does affect chick growth, however, no conclusions can be drawn concerning the correlation between chick growth and male characteristics due to small sample sizes.

POSTER PRESENTATIONS:

MIGRATION OF NEOTROPICAL AND SHORT-DISTANCE LANDBIRDS ALONG THE MIDDLE RIO GRANDE RIPARIAN CORRIDORS.

Michael D. Means and Deborah M. Finch, Rocky Mountain Research Station, 2205 Columbia Dr. SE, Albuquerque, NM 87106.

New poster presentation on our five year study of migratory land birds in the Middle Rio Grande Valley from 1994 to 1998. Our principal study sites were at the Rio Grande State Park in the Albuquerque area and the north end of the Bosque del Apache NWR. The major topics dealt with in the poster are: Numbers of birds encountered, species diversity, timing of migration, relative abundance of birds, habitat use, and the wintering bird community.

DOCUMENTED AVIAN RARITIES IN SAN JUAN COUNTY, NEW MEXICO. PART V: LOONS - FINCHES 1999

TIM REEVES, Dept. of Computer Information Systems, San Juan College, Farmington, NM 87402

Sightings during 1999 of accidental, rare, and uncommon birds in San Juan County, NM, are documented by color slides (part IV presented at 1998 NMOS annual meeting). Choice of species treated is based on criteria published in the abstract of that talk published in NMOS Bulletin 26(2):29. Additional species were chosen due to lack of previous documentation in the county as indicated on the Revised Checklist of Birds of San Juan County, New Mexico (T. Reeves & A. P. Nelson, 1999). Locations and dates on which the documenting photographs were taken are listed. Sightings reported to me by other birders have initials listed after the date and birders accompanying me when slides were taken are listed after the date with "w/" (CLUB = Four Corners Bird Club field trip participants, SA = Susan Allerton, RCA = Richard & Connie Amburn, DE = Doug Emkalns, BH = Bill Howe, NSH = Norman & Sue Howey, MI = Margaret Ismay, LL = Les Lesperance, CN = Craig Neal, AN = Alan Nelson, BN = Bruce Neville, JO = Jerry Oldenettel, JR = John Rees, BR = Barbara Reeves, LR = Linda Reeves, VR = Vicki Reinhart, BW = Barney Wegener, JW = Jim Welles). Slides are shown of the following species (copies of selected slides are on file with NMOS): **Red-necked Grebe**, *Podiceps grisegena*, 1st and 2nd county records (Farmington Lake, 4, 11 Jan 1999; II, 12, 15, 18 w/MI, 21 Dec 1999). Mallard x unknown species hybrid, Anas platyrhynchos x ?, (suggested parentage by author and BW Mallard x American Wigeon), 1st and 2nd documented county records (San Juan River, Navajo Dam, 7 Mar 1997; 27 Feb 1999, DE & BN (suggested parentage Mallard x Northern Pintail), w/BW). Oldsquaw, *Clangula hyemalis*, 1st documented county record and second reported sighting (Farmington Lake, 5, 10 Jan 1999, SA, JR, LL). White-winged Scoter, Melanittafusca (Farmington Lake, 16, 19 Jan & 6 Feb 1999). Barrow's Goldeneye, Bucephala islandica, 1st documented record at Farmington Lake (Farmington Lake, 12 Dec 1999). Thayer's Gull, Larus thayeri, 1st and 2nd county records (Farmington Lake, 4, 5 Jan 1999, JR; 21 & 24 Feb, 1,2, 7,8 Mar 1999, BH). Northern Pygmy-Owl, Glaucidium gnoma, 1st documented county record (Mesa Mountains, 4 SEP 1999). Black Swift, Cypseloides niger, 1st documented county record, 3rd report for county (Navajo Dam, 1 Jun 1999). Blackchinned Hummingbird, Archilochus alexandri, partial albino birds, 1st and 2nd documented county records (Farmington, 18 MAY 1999, BR, w/BR; Animas River, 20 May 1999, JW, w/JW, LR, BW). Williamson's Sapsucker, Sphyrapicus thyroideus, 1st documented county record (Farmington, 27 & 29 Sep 1999). Black Phoebe, Sayornis nigricans, 1st documented county record (Animas River, 20 May 1999, w/BW; 10 Jul1999). Varied Thrush, *Ixoreus naevius*, 1st and 2nd documented county records, 3rd and 4th county reports (Fruitland, 20 Nov 1999, CLUB, AN, NSH, w/CN; Aztec Riverside Park, 27 Dec 1999, JR, JO). Painted Bunting, Passerina ciris, 1st documented county record, 2nd county report (4 mi. N of Aztec, 30 Apr 1999, RCA, w/RCA). Golden-crowned Sparrow, Zonotrichia atricapilla, 1st documented county record, (La

Plata River, 18 Mar 1999, w/VR).

[Editor's note: This "extended abstract" was greatly condensed for publication in the meeting program of the 2000 NMOS Annual Meeting in Albuquerque. The author wished the full version to appear so that dates, locations, and credits could be given for the record.]

38TH ANNUAL MEETING OF THE NEW MEXICO ORNITHOLOGICAL SOCIETY REPORT

The 38th Annual Meeting of the New Mexico Ornithological Society was held Saturday 25 March 2000 at the New Mexico Museum of Natural History and Science in Albuquerque, with about 75 people attending. Keith Geluso, Department of Biology UNM, chaired the paper session. Papers were presented from 10:00 a.m. to noon, and from 1:30 - 4:00 p.m. The abstracts appear in this issue of the *Bulletin*.

The election of officers was held at the business meeting, The officers for 2000-2002 are:

President: Craig Benkman Vice-President: Bill Howe Secretary: Nancy Cox Treasurer: Jerry Oldenettel

Directors: Tim Reeves, Bruce Neville, Roland Shook

The banquet was held at the Old Town Sheraton Hotel, and the founders of the society were honored. Dr. Catherine Ortega was the invited speaker; she spoke on "Brown-headed Cowbirds: Scourge of songbirds or innocent scapegoat?"

Two field trips took place on Sunday: One to the Rio Grande Nature Center, led by Rob Yaksich, and one to Bernardo, led by Christopher Rustay.