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1996 NEW MEXICO NORTH AMERICAN MIGRATION COUNT

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The year 1996 marked the fifth consecutive year for New Mexico participation in the North American Migration Count (NAMC). Each year, the count takes place on the second Saturday in May. The primary goal of the NAMC is to provide "a picture in time" of migration on one day across the continent of North America. The count is patterned after a number of other volunteer surveys; the NAMC is conducted on a single day and is confined to the borders of the county or parish. The NAMC has incorporated elements from a variety of other surveys to provide a new effort and additional information on the status of North American birds. These data are especially important when analyzing count totals and the distribution of neotropical migrants. Each year the count provides a growing database that will provide information about the dynamics of North American bird populations.

The 1996 count occurred on 11 May. Coverage in 1996 included 13 New Mexico counties, two more than the previous year. Table 1 summarizes the results of the counts over the past five years. De Baca and Lincoln counties were not covered in 1996. Counties covered in 1996 but not in 1995 included Dona Ana, Mora, San Miguel, and Taos. For Mora, San Miguel, and Taos counties, this was the first time we had data from those areas. An important factor is the lack of observers in many areas and undercoverage in others.

The 13 counts produced a number of new records in several categories, due to coverage of new areas as well as increased interest in these counts in areas already surveyed. The species count in 1996 rose slightly over 1995, from 256 to 268, the highest composite total in the life of these counts. This means that approximately 55% of the bird species ever recorded in New Mexico were found on count day. The number of individuals was also higher, from 40,584 in 1995 to 43,246 in 1996, an increase of 6.6%. Party-hours decreased slightly from 500 in 1995 to 467 in 1996, a decrease of 6.6%. Party-miles also decreased, down from 2768 in 1995 to 2468 in 1996, a decrease of 10.8%. The number of observers declined also from 151 in 1995 to 139 in 1996, a drop of 7.9%. In spite of these minimal declines, the number of species and individuals seen were both at all-time highs. Adverse weather was not generally noted, which also would serve to produce higher results

Grant County again produced the most species with 185, followed by Eddy with 163, and Bernalillo with 154. Eddy produced the biggest increase in species, up from 139 species in 1995. More observers and no high winds for the first time in three years aided in this effort. The highest number of individuals was found in Eddy with 7930, followed closely by Grant with 7304 and Chaves with 6811. As has been the pattern for each year of this count, Grant County also produced the high counts for the most species at 98.5, with Eddy at 38.3, and Chaves at 26.8. In high counts of species for each of the counties, most counties have an incomplete (fractional) number. In cases where two counties had the same high number, each county received a tabulation of 0.5, a county that was in a three-way tie would receive 0.3, and so on.

Only three species were reported on all 13 counts: Turkey Vulture, Yellow-rumped Warbler, and Brown-headed Cowbird. Nothing extremely unusual was found on any of the counts and what was seen provided a good representation of what might be expected on a spring weekend in New Mexico. There were some highlights and they are mentioned in the county accounts that follow.

Overall coverage across the state continues to improve, although there are several areas in which a count would be especially valuable. Inadequate coverage still exists for most of the eastern tier of counties. The "bootheel" of New Mexico and better coverage in the lower Rio Grande Valley would be especially useful. Currently the only coverage in Dona Ana County is from some of the counters from El Paso County (Texas) who spend part of the afternoon in the southern part of the county. To have a much better picture of what is happening in New Mexico, coverage in these areas is vital.

The 1997 count was conducted on 10 May and the results of that count will appear in a future NMOS Bulletin. The 1998 count will take place on Saturday 9 May. Those interested in taking part in an on-going count, or in initiating a new count in a county not already covered, should contact me at the above address. Anyone who desires a complete species list of the 1996 results can receive one by sending me a stamped, self-addressed envelope

BERNALILLO COUNTY: The Bernalillo County survey was compiled by Bill Howe and produced 154 species and 4406 individuals. High counts were made of 22.3 species. This count has a variety of habitats plus good numbers of counters, which helped produce a good list. Several interesting finds were made on count day: 41 American White Pelicans, two species of mergansers (Hooded and Red-breasted), a Ferruginous Hawk, a Merlin, 3 Red-necked Phalaropes, a male Rufous Hummingbird, and a Gray Vireo. Six species -- Wood Duck, Hooded Merganser, Red-breasted Merganser, Merlin, Forster's Tern, and Rufous Hummingbird -- were found only on the Bernalillo County count.

CHAVES COUNTY: Chaves County as usual did very well with shorebird numbers and had high counts for 26.9 species, 8 of them being shorebirds. The Chaves County count, compiled by Sherry Bixler, recorded 116 species and 6811 individuals. Unusual birds included 2 Common Loons, 1 Osprey, 3 Eurasian Collared Doves (a species not yet accepted as occurring naturally in New Mexico), and a Chimney Swift. Species unique to this count were Common Loon, Mississippi Kite, Stilt Sandpiper, and Chimney Swift. Four Least Terns, a species with a very small state population, were found on count day.

DONA ANA COUNTY: Dona Ana County, submitted by John Sproul, has the potential for producing one of the richest counts but, again, the seemingly poor count was conducted by a small group of El Paso birders who spent only a few hours in the southern part of the county. Even with limited time, 69 species and 571 individuals were found. Dona Ana had no species unique to the county on count day and had high counts for 2.8 species. One Ovenbird was located on this count, a species infrequently found in the state.

EDDY COUNTY: A total of 163 species and 7930 individuals were found on count day, a 17% increase in species. Eddy County ended up with 38.3 high counts for species. Eight species found on this count were not found elsewhere in the state on count day: Great Egret, Little Blue Heron, Sandhill Crane, Cave Swallow, Gray Catbird, Black-throated Blue Warbler, Painted Bunting, and Orchard Oriole. Good numbers of herons and shorebirds were recorded and wind conditions that had plagued this count the previous two years did not return. Several species were particularly unusual: 2 Least Terns, 1 Black-throated Blue Warbler, 1 Ovenbird, and a very late flock of 13 Sandhill Cranes.

GRANT COUNTY: Grant County, as in each of the previous years, produced the highest count with the highest number of species unique to that county. One hundred eighty-five species and 7304 individuals were recorded on the count compiled by Ralph Fisher. Nineteen species were found only in Grant County. These were: Neotropic Cormorant, Northern Goshawk, Common Black-Hawk, Western Screech-Owl, Spotted Owl, Magnificent Hummingbird, Gila Woodpecker, Greater Pewee, Brown-crested Flycatcher, Purple Martin, Mexican Jay, Bridled Titmouse, Red-faced Warbler, Painted Redstart, Olive Warbler, Abert's Towhee, Bronzed Cowbird, Hooded Oriole, and Baltimore Oriole. A total of 98.5 high individual counts was recorded on this count. It is reassuring to see that a number of species that have very limited range in New Mexico, such as Gila Woodpecker and Abert's Towhee, have been consistently found on this count through the years.

LEA COUNTY: Pat McCasland provided data from Lea County in which 41 species with 543 individuals were recorded. Twenty-three Scissor-tailed Flycatchers provided an all-time high of this species for the spring counts. No species unique to Lea County were recorded but highs for 1.8 species were found. This large county is undercovered more than most counties and has much more to offer.

LOS ALAMOS COUNTY: Pat Snider compiled the Los Alamos County count that produced 98 species and 2276 individuals. Species found only on this count included Zone-tailed Hawk, Williamson's Sapsucker, Three-toed Woodpecker, and Gray Jay. Highs for 19.3 species were found on this count. This high elevation count had an excellent representation of species expected in that area.

McKINLEY COUNTY: Dave Cleary again provided a well-run count from McKinley County that produced 116 species with 4432 individuals. State-wide highs for 7 species of waterfowl were found, more than any other county. Only the Flammulated Owl was found in McKinley and no other county. Highs for 17.3 species were found on count day.

MORA COUNTY: Mora County has not been covered in the past and Scott Vail provided the first count from this area. While the totals were small, the results provided information on a new area and some interesting results. Twenty-nine species and 90 individuals were recorded, and this was the only county to miss House Sparrow. Mora County shared the high count for Osprey with single birds being seen here and in two other counties. No species were seen that were unique to this county.

SAN JUAN COUNTY: John Rees again compiled the San Juan County results that produced 104 species and 1490 individuals. Coverage in this area is vital as it is one of the corners of the state and always produces interesting results. Pectoral Sandpiper, Common Snipe, California Gull, and Long-eared Owl were found in San Juan County and nowhere else on count day in the state. Highs for 8.5 species were noted on this count.

SAN MIGUEL COUNTY: This was the first time for results from San Miguel County, a valuable addition that will help to fill some gaps. Bill West and John McKnight found 112 species and 3568 individuals. Two species were found in the county that were not recorded elsewhere on count day -- Clark's Grebe and Canvasback. Highs for 15.3 species were recorded in San Miguel County.

SANTA FE COUNTY: One hundred and seven species with 3185 individuals were found on the Santa Fe count, compiled by Christopher Rustay. No species unique to Santa Fe County were recorded, but highs for 12.5 species were noted. Nine Northern Waterthrushes found on count day may be a single-day high for this species in the state. Seen on the count but left off the results were 2 Northern Bobwhites, which likely were released birds and not colonizers.

TAOS COUNTY: Another new county count was Taos County, compiled by Karen Epperson, that found 61 species and 640 individuals. Only one unique species (Sage Sparrow) was noted and highs were recorded for 4 species. Most unusual were 6 White-winged Doves, a species that continues to spread north through the Pecos and Rio Grande valleys.

Table 1. Comparison of 1992-1996 New Mexico NAMC County Totals.

	1992	1993	1994	1995	1996
Total Counties Covered	3	5	10	11	13
Total Species	222	218	260	256	268
Total Individuals	13,969	15,538	33,374	40,584	43,246
Party-Hours	182	118	445	500	467
Party-Miles	894	676	2,251	2,768	2,468
Total People	33	59	101	151	139

1998 ANNUAL MEETING REPORT

The 36th Annual Meeting of the New Mexico Ornithological Society was held 28 February 1998 at the New Mexico Museum of Natural History and Science in Albuquerque.

At the business meeting the officers for 1998-2000 were elected. (See the inside front cover for the listing.) The society agreed that the 1999 meeting will be held in Farmington, with Tim Reeves hosting the event. The meeting for the year 2000 will be held in Albuquerque, at the New Mexico Museum of Natural History and Science, and will honor the founders and the past presidents of the society. Then in 2001 the society will meet in Silver City, at the invitation of Roland Shook.

Fifteen papers were presented at the Papers Sessions, chaired by Dr. J. David Ligon, Timothy Parker, and Dr. Rebecca Kimball. One poster presentation was on display. The abstracts of the papers appear in this issue of the NMOS Bulletin.

The banquet at the Sheraton Hotel was followed by a presentation by Dr. Dale Zimmerman titled: "The Birds of Kenya and Northern Tanzania"

Two field trips took place on Sunday 1 March; one to the Santa Rosa area, led by Christopher Rustay, and one to Bosque del Apache National Wildlife Refuge, led by Pat Snider.

MELANISTIC SANDHILL CRANE IN VALENCIA COUNTY, NEW MEXICO

CHRISTOPHER RUSTAY
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In The Birds of North America series on the Sandhill Crane (Grus canadensis) (Tacha, et al., 1992) the definitive (basic) plumage is noted as "generally a pale mouse gray to ashy slate gray." Also "Plumage becomes colored adventitiously from water, vegetation, and mud; additionally, Sandhill Cranes intentionally rub their plumage with soil, all of which causes variations in the plumage color ranging from drab-clay to cinnamon-rufous. Stained feathers occur anywhere below the mid-neck but are particularly apparent among the primary and secondary wing coverts and upper breast feathers." There is no mention of either melanism or albinism, though the instructions for writing each account assert that it should be mentioned, if known (Sheri Williamson, pers. comm.).

There is no mention of aberrant plumages by either Walkinshaw (1949, 1973) or Johnsgard (1983). Gross, in articles on albinism (1965a) and melanism (1965b), does not mention Sandhill Crane in either list of birds that have been known to exhibit these aberrant plumages. Terres (1980) mentions albinism, but neither Bent (1963) nor Terres (1980) mention melanism.

For the past few years there have been one to two Sandhill Cranes at Bosque del Apache National Wildlife Refuge (Socorro Co.) that have been thought to be 1eucistic Sandhill Cranes. The plumage of these cranes had some or mostly white feathers on the body. There have also been reports of leucistic Sandhill Cranes from Texas.

On February 8, 1998, Steve Drilling and I were driving back roads in Los Lunas, Valencia County. At about 3:15pm we spotted a dark crane mixed in with the several hundred Sandhill Cranes feeding in pastures in the area. The bird was the same size and shape as the surrounding Sandhill Cranes and did not make any discernibly different calls. The body was a darkish brown-coal. The tail plumes were almost completely black. On the lower sides of the neck, starting anteriorly was a curious, dark buff-tan, elongated "S" shape. The color separated the dark brown color of the body from the dark gray of the chin and neck. The dark gray was at least two shades darker than the color of the surrounding cranes. The red crown patch on this bird seemed just a bit larger than on the others and with a hint of more orange. There was very little lighter color on the cheek area. There were no other different discernible features on this bird including bill or leg color.

The strange pattern of the "S" on the neck was the same on both sides of the bird. The aberrant color was not intermittent, as on stained birds, and was much darker with little of the usual clay to rufous color, and covered almost the entire bird. We therefore concluded that this was a melanistic individual. This was the first melanistic crane I had ever seen. It wasn't until later, prompted by a message from Sheri Williamson of the Southeastern Arizona Bird Observatory (SABO) to the on-line Arizona/New Mexico listserve birding discussion group, that I thought about what an unusual occurrence this was. As melanism in Sandhill Cranes is not described in the A.O.U.'s ongoing "The Birds of North America" series, nor elsewhere, this is of interest.

On February 7th, 1998 an "all-brown" Sandhill Crane was reported in the Sulphur Springs Valley of Arizona by Sheri Williamson and Tom Wood (also of SABO). Ms. Williamson reported that in looking for that bird

again, they found "a second adult bird with an entirely gray-brown body and normal-looking head and upper neck" [pers. comm.]. Both birds were apparently Lesser Sandhill Cranes. In asking for information from other on-line birders in the New Mexico/Arizona region, I heard from Terry Brownell of Corrales, Sandoval County, who saw a Sandhill that was "substantially darker [being] uniformly very dark gray or brown ... and about 10% shorter than the others ... [with] wings ... about 10-20% shorter," flying with other Sandhills over his house several years ago [pers. comm.].

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THE 36TH ANNUAL MEETING OF THE NEW MEXICO ORNITHOLOGICAL SOCIETY

Saturday, 28 February, 1998

New Mexico Museum of Natural History and Science Albuquerque, New Mexico

ABSTRACTS

The Cretaceous-Tertiary Fossil Birds of New Mexico.

MARY ALICE ROOT

Not many Cretaceous-Tertiary bird fossils have been found in New Mexico, but the scientific literature shows us that fossil bird records for these periods are turning up more frequently, not only in the Southwest, but all over the world. By reviewing this literature, we can extrapolate and posit what may have been going on in New Mexico as to the evolution, and to the abundance and distribution of early birds.

Bird Populations along the Rio Grande in Albuquerque and Semi-rural Bernalillo County, New Mexico, 1996-97.

DALE W. STAHLECKER and NANCY S. COX

Rio Grande Valley State Park (RGVSP) extends for 20 miles through the heart of the City of Albuquerque and semi-rural Bernalillo County. Birds were counted along 12 2500-ft transects at approximately 2-week intervals between 4 December 1996 and 21 February 1997 (Winter) and 1 May and 20 June 1997 (Breeding

Season). Densities (birds/40 ha) for each species were summed for each transect by using lateral distance estimates (Emlen transects). We also canoed 25 km of the Rio Grande and counted riverine and raptorial birds. We recorded 126 bird species during the study compared with 133 for an equivalent 1988-90 study. Estimated 1996-97 winter densities ranged from 253 to 1043 birds/40 ha. Average winter bird density reported for 1988-90 for 12 transects (10 repeat transects) was 771, 35% higher than the 525 birds/100 acres calculated for the 11 Bosque transects of 1996-97. Estimated 1997 spring densities ranged from 308 to 1016 birds /100 acres. Average spring-summer bird density in 1988-90 was 1057 birds/100 acres, which is 2-3.5 times the 295 (without migrants) or 591 birds/100 acres calculated for 1996-97. Thirty four species of raptors and water birds were recorded on the 10 counts from the canoe; 16 species were recorded in both seasons while 9 species were unique to each season. Numbers of Canada Geese, Wood Ducks, Sandhill Cranes and Bald Eagles wintering in the RGVSP have increased markedly during the last decade. Bird density estimates can vary greatly year-to-year and the differences between 1988-90 and 1996-97 do not prove a major declines in breeding or wintering bird populations. The drought of 1995-96 probably decreased seed and fruit production in the RGVSP and could have caused short-term declines in bird populations.

Documented Avian Rarities in San Juan County, New Mexico. Part IV: Loons-Finches 1997.

TIM REEVES

Sightings during 1997 of accidental, rare, and uncommon birds in San Juan County, NM, are documented by color slides (parts I and II presented at 1995 NMOS annual meeting and part III at 1996 NMOS annual meeting). Choice of species treated is based on Rare and Unusual Birds of New Mexico (Huntington & Huntington, 1983) and those species shown in light face type in Field Checklist of New Mexico Birds (S.O. Williams III, NMOS, 1997). Additional species were chosen due to lack of previous documentation in the county. Locations and dates on which the documenting photographs were taken are listed. Site names follow The New Mexico Bird Finding Guide (Zimmerman et al., 1997) and as follows: Farmington Lake, near E limit of Farmington, N of US 550 (Beeline Reservoir of maps)-Lake Luther on CR 3520 in Flora Vista; NAPI Sewage Pond, located E of NM 371, 0.25 miles S of 3003. 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 "wi/" (CLUB = Four Comers Bird Club field trip participants, LL = Les Lesperance, DML= Dwayne & Marge Longenbaugh, AN = Alan Nelson, HR = Harris Richard, JJR = John & Jan Rees, LR = Linda Reeves, AS = Alan Schmierer, ES= Eric Schmierer, BW = Barney Wegener, JW = Jim Welles). Slides are shown of the following species (copies of selected slides are on file with NMOS): GREBES: Horned Grebe, *Podiceps auritus* (Farmington Lake, 2 Nov 1997). PELICANS: American White Pelican, *Pelecanus erythrorhynchos*, winter record (Morgan Lake, 24 Dec 1997). DUCKS, GEESE, SWANS: Snow Goose "Blue Phase," *Chen caerulescens*, first documented county record and second reported sighting (B-Square Ranch, 18 Dec 1997, w/LR; 26 Dec 1997). Greater Scaup, *Aythya marila* (Lake Luther, 28 Dec 1997). KITES, EAGLES, HAWKS: Osprey, *Pandion haliaetus*, first November record for county (Morgan Lake, 22 Nov 1997, CLUB, AN). SANDPIPERS, PHALAROPES: Wandering Tattler, *Heteroscelus incanus*, first New Mexico record (27 Sep & 4 Oct 1997, JJR, HR). Semipalmated Sandpiper, *Calidris pusilla* (Morgan Lake, 22 & 26 Apr 1997. Whimbrel, *Numenius phaeopus*, (Morgan Lake, 2 May 1997). TERNS: Common Tern, *Sterna hirundo* (Morgan Lake, 26 Sep 1997). Least Tern, *Sterna antillarum*, second documented county record, third report (B-Square Ranch, 11 May 1997). PIGEONS, DOVES: Inca Dove, *Columbina inca*, second documented county record, ca. fifth report (JW home on Animas River ca. 2 mi S of Colorado border, 11 Nov 1997, JW, w/JW). VIREOS: White-eyed Vireo, *Vireo griseus*, first documented county record, second report (San Juan River near Bloomfield, 21 Jun 1997, w/BW). WOOD- WARBLERS: Bluewinged Warbler, *Vermivora pinus*, first county record (Morgan Lake, 10 May 1997, DML, w/DML). CARDINALS, GROSBEAKS: Hybrid Indigo Bunting x Lazuli Bunting, *Passerina cyanea x Passerina amoena*, first and second documented San Juan County records (San Juan River near Waterflow, 3 Ju11997; B-Square Ranch, 20 Ju11997, w/AS, ES). FINCHES: Gray-crowned Rosy-Finch, *Leucosticte tephrocotis* (Angel Peak area, 6 Jan 1997, LL). Black Rosy-Finch, *Leucosticte atrata* (Angel Peak area, 6 Jan 1997). Brown-capped Rosy-Finch, *Leucosticte australis* (Angel Peak area, 6 Jan 1997).

Raptor Surveys in Central New Mexico

JAMES R. PLACE and GERALD K. HOBART

At Hawks Aloft, we have developed and applied volunteer-based raptor survey techniques along several routes in central New Mexico from 1995 to the present. As a volunteer-based organization, we wanted to find techniques that volunteers could apply to produce meaningful raptor survey results without extensive technical training. We focused on techniques for road surveys of summer and winter raptor populations. The resulting protocols and data record formats will be described. Basing our approach on BBS methods, we have developed techniques that are easily learned and potentially adaptable to other applications. Preliminary results will be presented for three summer seasons and four winter seasons. Seven survey routes of approximately 20 miles each have been established. Five of these lie between Isleta Pueblo and Bosque del Apache NWR in the Rio Grande valley. Two routes are in the Estancia valley. Strengths and shortcomings of these techniques for surveying various raptor species will be discussed. We believe these methods provide an opportunity for properly trained volunteers to obtain useful information on raptor numbers.

Swainson's Hawk and Chihuahuan Raven Nest Placement on Abandoned Telephone Line Poles in the Chihuahuan Desert, White Sands Missile Range, New Mexico.

DON L. BRUBAKER and BRUCE C. THOMPSON

White Sands Missile Range (WSMR) in south central New Mexico represents a relatively undisturbed portion of Chihuahuan Desert where little is known regarding raptor ecology. WSMR has numerous abandoned telephone line poles distributed over several vegetation cover types. These poles are used primarily by Swainson's hawks (*Buteo swainsoni*) and Chihuahuan ravens (*Corvus cryptoleucus*) as nesting platforms. Three-hundred thirty-eight abandoned telephone line poles within the WSMR boundary were examined. Pole configuration, location, number and placement of nests among cross-arms, nest height, nest exposure, and species were recorded for all poles examined. Additionally, the dominant vegetation cover type (VCT) within a 100 meter radius of each pole was recorded. A geographic information system and the New Mexico GAP vegetation map were used to determine VCT's within a 3 kilometer radius of each pole. Twenty-six Swainson's hawk and 61 Chihuahuan raven nests were analyzed for this investigation. Preliminary results indicate Swainson's hawk nest placement differed among pole configurations. Additionally, Chihuahuan raven nests were most often exposed to the east and southeast. Chihuahuan deciduous desert scrub, dominated by honey mesquite (*Prosopis glandulosa),* was the most common VCT within 100 meters of each species nest pole. Monitoring and management implications for Swainson' s hawks on White Sands Missile Range will be addressed.

Some Aspects of the Ecology of Yellow Nutsedge, Gray's Woodsorrel and Pocket Gophers in Relation to Montezuma Quail in the Northern Sacramento Mountains, New Mexico.

D. HOLDERMANN and R. HOLDERMANN

The geographic distribution and habitat characteristics of yellow nutsedge (*Cyperus esculentus*) and Gray's woodsorrel (*Oxalis grayi*), two important food plants of Montezuma quail (*Cyrtonyx montezumae*), and pocket gophers (*Thomomys* sp.) were studied at the U.S. Bureau of Land Management's Ft. Stanton Special Management Area (FSSMA), Lincoln Co., New Mexico from June 1996 to March 1997. Additionally, the above-ground phenology and below-ground biomass of yellow nutsedge and Gray's woodsorrel were examined. Our study was conducted during a period of normal precipitation following two years of below-normal precipitation (Nat. Oceanic and Atmospheric Admin. 1997). We determined that yellow nutsedge, Gray's woodsorrel, and pocket gophers were primarily associated with relatively mesic, deep, loamy soils in canyon grassland and deciduous riparian woodland vegetation; however, our distributional surveys detected no statistical interaction between organisms ($P = 0.1891$). In the southern portion of the FSSMA, yellow nutsedge and pocket gophers were widely distributed in suitable habitats, but Gray's woodsorrel was restricted to several canyons and portions of adjacent mesas. Contrary to the findings of our distributional

survey, the coincidence of yellow nutsedge and pocket gopher mounds at phenology/ biomass plots suggests that pocket gophers may play an important role in the colonization and maintenance of yellow nutsedge in canyon grasslands. We observed that the emergence, herbage development, and flowering of yellow nutsedge and Gray's woodsorrel occurred during the first 40 days of the wet monsoon season (July through early August 1996). We estimated that mean below-ground biomass of yellow nutsedge tubers and Gray's woodsorrel bulbs ranged from 5.916-12.663 g/m^2 and 10.991- 54.636 g/m^2, respectively. Dry weight analysis suggests that woodsorrel bulbs may be an important source of water for Montezuma quail. Over a 4-year period, all detections (n = 14) of Montezuma quail occurred at three locations in association with yellow nutsedge and/or Gray's woodsorrel in canyon grassland vegetation (Holdermann 1993b, 1993c, and D. Holdermann unpubl. data). From these observations, we conclude that canyon grasslands with abundant supplies of these foods are essential to Montezuma quail at the FSSMA. We provide recommendations for the management and conservation of yellow nutsedge and Gray's woodsorre1 bearing canyon grasslands for Montezuma quail. (Our research was supported by the New Mexico Department of Game and Fish, Professional Services Contract No. 97-516-21.)

A Study of the Shrub Nesting Birds of the Tallgrass Prairie, with Implications for Species Coexistence and Adaptations to Cowbird Parasitism.

TIMOTHY H. PARKER

Recent studies have suggested that bird species are able to coexist in communities where they can minimize nest predation by segregating nest sites between species. There is evidence supporting this hypothesis in forested ecosystems. My study established the presence of this nest site segregation among shrub-nesting species on the tall grass prairie. I failed, however, to find evidence that systematic searching of nest sites by predators is maintaining this nest site segregation. Sample sizes may not have been adequate to detect such patterns, so more study is needed before strong conclusions can be drawn. Predation is not the only threat to nests in this community, however; more nests were lost to brood parasitism than to predators. I found evidence supporting the hypothesis that Bell's Vireos (Vireo bellii) on the Great Plains have evolved adaptive responses to this serious threat to their success.

Do Plumage Ornaments Attract Mates? Lessons from the Breeding Success of Gambel' s Quail at Bosque Del Apache NWR.

JULIE C. HAGELIN

For the past two years, I have studied the pairing and reproductive behavior of Gambel's Quail (*Callipepla gambelii*) at Bosque del Apache National Wildlife Refuge. Each winter, individuals were uniquely color banded and measured. In addition to ornamental traits (i.e., plume length, size of dark belly patch of males), I also assessed basic body morphology (i.e., weight, tarsus length). From March through the end of August, I followed the pairing and reproductive success of marked individuals. Using multivariate statistics, I determined which traits described patterns of breeding success. For both males and females, body size variables, rather an plumage ornaments, were the best predictors of early pairing and larger brood sizes. Body size also corresponds to bird age and presumably indicates parental quality and experience.

Mate Choice Based on Static vs. Dynamic Secondary Sexual Traits in the Dark-eyed Junco.

JENNIFER A HILL, DAVID A. ENSTROM, ELLEN D. KETIERSON,
VAL NOLAN JR. and CHARLES ZIEGENFUS

Some secondary sexual traits (SSTs) such as structural characteristics are semi-permanent or static, while others, such as courtship display, are more labile or dynamic. In this paper we report results from two experiments designed to test the relative attractiveness to female dark-eyed juncos (*Junco hyemalis*) of a relatively static plumage trait, the amount of white in the tails, and a relatively dynamic behavioral trait, courtship intensity. The experiments derived from a study showing that female juncos prefer males that court more vigorously. We asked whether females also base their preferences on plumage traits and how

they respond when presented with a choice between two attractive traits, one that is static (plumage) and one that is dynamic (courtship) in nature. In the first experiment we presented males to females in paired mate choice trials and found that males with increased white in their tails were more attractive to females than controls with unenhanced tail-white. Females spent more time with males with enhanced tail-white and directed more sexual displays toward them. In the second experiment we tested whether females preferred males with enhanced tail-white (a static SST) or males with enhanced hormone-mediated courtship behavior (a dynamic SST). In this experiment females did not demonstrate a consensus preference for either the static or the dynamic trait. Instead, some females preferred the male whose courtship performance was enhanced with testosterone, while others preferred the male with enhanced tail-white. We conclude that both traits are important in junco mate choice, but that some females apparently weigh static traits more heavily than dynamic traits, while other females employ opposite weightings. Future work will focus on variation in female preferences for both kinds of SSTs.

Nesting Ecology of Black-headed Grosbeaks Across an Elevational Gradient.

SCOTI NORRIS

A preliminary study was undertaken to assess variation in nest site selection, productivity, and type and degree of nest predation across habitats in a wide-ranging neotropical migrant songbird, the Black-headed Grosbeak (*Pheucticus melanocephalus*). A total of 48 nests were located and monitored at three sites across an elevational gradient in central New Mexico. Nest success in foothill (pinon-juniper) and mountain (mixed conifer) sites was 1.5 to 2 times higher than in the riparian Rio Grande Bosque. Grosbeak nests at all sites experienced relatively low (<10%) predation rates during incubation but high (30-65%) losses of chicks prior to fledging. In the bosque, nests in Rio Grande Cottonwood were more successful than nests in Russian Olive, though sample sizes for within-site comparisons were low. Grosbeaks at the higher elevations appeared to prefer, and to experience less predation, nesting in junipers. Clutch sizes were significantly larger in the bosque than at higher elevations, and grosbeaks breeding in the mountains were more selective with respect to nest placement and orientation. An experiment was also conducted using clay eggs placed in vacated nests to gather clues as to predator identity. Further studies of variation in breeding success and breeding ecology of this species will be conducted in 1998.

The Cactus Ferruginous Pygmy-owl: Status, Habitat Preferences, and Management Needs.

JEAN-LUC E. CARTRON

The ferruginous pygmy-owl (*Glaucidium brasilianum*), also known as the ferruginous owl, is generally considered as abundant throughout its geographic range, which is centered on the Neotropics. Historically, the subspecies *cactorum*, or cactus ferruginous pygmy-owl, which occurs at the northern end of the species' range in Mexico, southeastern Texas and Arizona, was commonly encountered by early ornithologists at low elevations along rivers. Following the extensive loss of riparian habitat in both Arizona and Texas due to woodcutting, water diversion and pumping, and urban development, the local populations in both these states have declined drastically. In Arizona, the cactus ferruginous pygmy-owl is now listed as endangered on the Federal Register. The few remaining owls known to occur seem to be confined along washes or near houses in the dry desert. Although the ferruginous pygmy-owl can be found in a wide variety of habitats, comparisons of population densities across habitats throughout the species' range clearly point to preferences with respect to vegetation structure. In turn, these preferences indicate that a viable population in Arizona cannot exist without the riparian habitat that once supported the owl. As wildlife managers develop a recovery plan for the Arizona population, they must resolve two issues. One is how to restore riparian habitat despite urban sprawl and increasing water demands, the other whether the population can be naturally replenished through migratory movements from Mexico.

Individual and Population Level Variation in the Vocalizations of the Mexican Spotted Owl.

WENDY A. KUNTZ and PETER B. STACEY

Mexican Spotted Owls have an extraordinary number of different vocalizations, especially for a non-passerine. As part of a larger study of behavior and ecology of this subspecies, we have been studying the vocalizations of owls in four different mountain ranges in western New Mexico. We present here an analysis of the four-note location call, which is the call that is probably most familiar to people and that is often used by the owls for territorial advertisement. Recordings of the four-note calls were digitized, and time and frequency measurements were obtained from the resulting spectrographs. Individual calls could not be reliably recognized by ear. Discriminant Function Analysis (DFA) revealed, however, statistically significant differences in the calls of individual owls, suggesting that the owls themselves may be able to recognize conspecifics by their calls. Population-level analysis also revealed significant differences between the calls of owls in each of the three mountain ranges examined. Because juveniles rarely breed in the same range in which they were born, this suggests that the vocalizations are not genetically based and that the owls may learn parts of their calls after they disperse. Unfortunately, there is enough overlap in the calls of different owls to make their use for individual identification in field studies highly problematic.

An Investigation of the Causes for the Expansion of Bewick's Wren *(Thyromanes bewickii)* into the Middle Rio Grande Bosque in Central New Mexico.

ROBERT V. TAYLOR

The Bewick's Wren is a relatively common breeding bird in New Mexico, though in most of its range in the U.S. it has been decreasing in abundance. In central New Mexico this species has, within the past 15 years, become an abundant breeder in the Middle Rio Grande bosque, though surveys conducted in the 1970s and early 1980s failed to detect it. What is the cause of this recent, abrupt change in its local distribution? I will present plans for a study to be conducted during 1998 which seeks to evaluate several possibilities. One hypothesis that I will test is whether succession of the riparian vegetation due to flood control has changed conditions there to make it suitable for the species. Another hypothesis proposed is that recent increases in nearby populations of the wrens are creating surplus individuals that are spilling over into bosque habitats. I will discuss various aspects of this proposed project and welcome input from meeting members.

Southwestern Willow Flycatchers Prefer Maples: Nest Site Characteristics in the Gila Valley, New Mexico.

S.H. STOLES ON and D.M. FINCH

Effective conservation and management of endangered species depend, in part, on a thorough knowledge of their habitat preferences. The endangered southwestern willow flycatcher, a small neotropical migrant bird, is currently in jeopardy because of the extensive loss and degradation of its required riparian habitat throughout the southwest. The preferred habitat of the species is generally thought to be early successional riparian thickets dominated by willows. We present preliminary data from 1997 on nest sites for the largest known breeding population of the southwestern willow flycatcher, located on private land along the Gila River, New Mexico. This site is dominated by older stands of mixed deciduous trees dominated by box elder, although willows are also common. Of 92 nests found, the majority (84%) of flycatcher nests were in box elder, with only 5% in willows. The high use of box elder in this population appears to be unique. Box elders (a maple species) were used out of proportion to their abundance, and willows were underutilized. Nest heights averaged 7 meters (range 1.6-16.4), significantly higher than in any other known population. Nest placement in box elder was responsible for the high average nest height: nests in other substrates were not significantly higher than nests reported elsewhere. The Gila population exhibits some of the highest rates of nest success and lowest rates of cowbird parasitism in the southwest. This may be due, in part, to the unusual nest sites there. We suggest that dense old growth riparian habitat may be the preferred habitat of southwestern willow flycatchers. Such habitat is rare, and merits particular protection.

Nesting Willow Flycatchers in San Juan County, New Mexico.

TIM REEVES

On 13 July 1997 a Willow Flycatcher nest was discovered along the San Juan River on the Navajo Indian Reservation in San Juan County, New Mexico. This is apparently the first known Willow Flycatcher nest in the county. The discovery was part of a survey for the endangered Southwestern Willow Flycatcher (*Empidonax traillii extimus*) conducted on public lands along the entire San Juan River in the county from Navajo Dam to the Colorado border near Four Comers by Ecosphere Environmental Services Inc. under contract to the U.S. Department of the Interior, Central Utah Project Completion Office. Additional surveys were conducted in the county by the Bureau of Land Management and we assisted them on some BLM sites. The survey teams followed established Southwestern Willow Flycatcher survey protocol (M.K. Sogge et al. 1997. A Southwestern Willow Flycatcher Natural History Summary and Survey Protocol. Technical Report NPS/NAUCPRS/NRTR-97/l2. National Park Service. U.S. Department of the Interior). Migrants encountered and associated habitats are discussed. A chronology of nesting and a description of the breeding territory habitat are provided.

Using Tape Playback of the Staccato Song to Document Boreal Owl Reproduction.

DALE W. STAHLECKER

Tape playback of the staccato song of the boreal owl (*Aegolius funereus richardsoni*) proved useful in attracting fledglings of both North American *Aegolius* species. No boreal owl nests were found in eight hours of daytime searches. Six boreal owls, including 3-4 fledglings at two locations, one northern saw-whet owl (*A. acadicus*) fledgling, and an unidentified *Aegolius* responded to tape playback in 16 hrs of systematic surveys during the post-fledgling period (19 August 1992; 28 July-3 August 1993) in habitat known to be occupied by boreal owls. This method is considerably less costly than other means of documenting breeding by this species and may prove useful for other owls as well.

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New Mexico Ornithological Society
Financial Statement
as of December 31, 1997

Balance as of 1/1/97:

Checking acct.	12,467.39
Certificates of Deposit	15,000.00
Petty Cash	(5.15)
Total	$27,462.24

Receipts to 12/31/97:

Dues	1,775.00
NMBFG	3,560.00
NM Field Checklist	132.80
Other publications	7.50
Postage	140.70
Miscellaneous	999.40
Interest	842.57
Total	$7,457.97

Expenditures as of 12/31/97:

Printing	10,305.55
Postage	542.70
Rent	336.00
Miscellaneous	2,404.00
Total*	$13,588.25

Balance as of 12/31/97:

Checking Account	6,318.89
Certificates of Deposit	15,000.00
Petty Cash Balance	13.07
Total	$21,331.96

Petty cash income and dispersments ($53.00 and $(34.78)) are included in the income and expense categories above.

Date: 21 January, 1998 Submitted by: Jerry R. Oldenettel, Treasurer