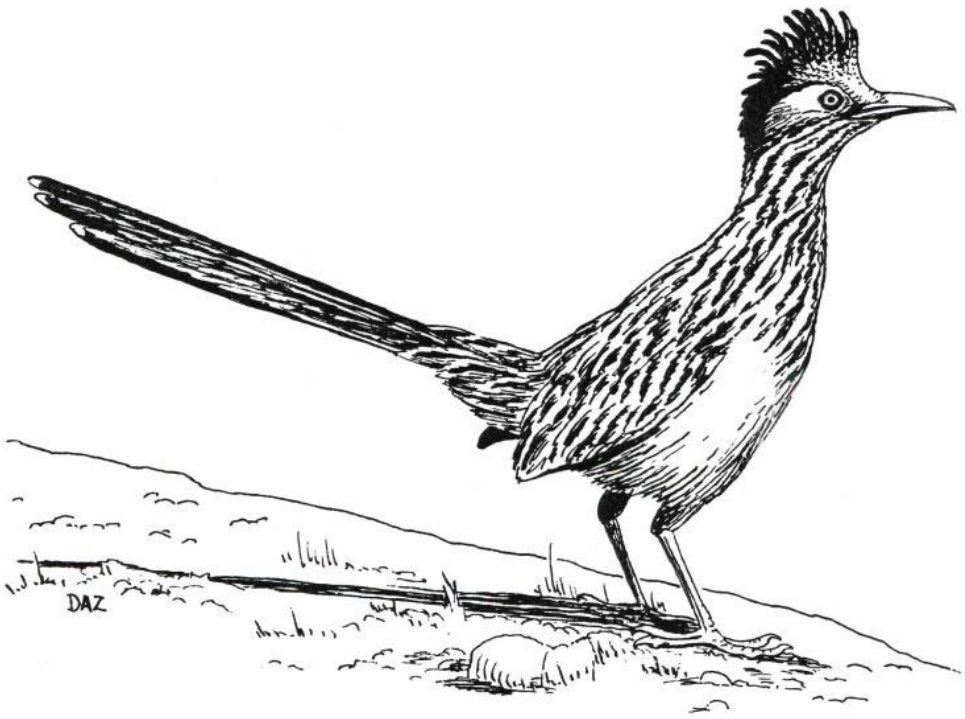
PROGRAM & ABSTRACTS



NEW MEXICO ORNITHOLOGICAL SOCIETY
46TH ANNUAL MEETING
AND
NEW MEXICO DEPARTMENT OF GAME & FISH/NMOS
GRAY VIREO SYMPOSIUM

12 April 2008
Albuquerque, New Mexico

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8:30 - 9:00 a.m. **REGISTRATION**

9:00 a.m. Morning refreshments available

9:00 - 9:30 **NMOS BUSINESS MEETING**
- Welcome
- Minutes
- Treasurer's Report
- Old Business
- New Business
  - Election of Officers
- Committee Reports
  - NMOS Web Site (**www.nmbirds.org)**
  - Rare Bird Alert/Hotline
  - NMOS Field Notes Database
  - ***NMOS Bulletin***
  - ***NMOS Field Notes***
- Next Year's Meeting
- Future Plans
- Meeting Announcements/Housekeeping

9:30 - 9:45 **NMOS Greeting** – Roland Shook (NMOS President)

9:45 - 12:00 **NMDGF/NMOS GRAY VIREO SYMPOSIUM**
– Hira Walker (NMDGF), Session Chair

9:45 - 10:00 **NMDGF Greeting and Introduction to Symposium**
– Lee Pierce (NMDGF)

10:00 - 10:20 **Gray Vireo Status and Distribution on Fort Bliss: 2007**
– Charles Britt* (NMSU) and Carl Lundblad (Amargosa Valley, NV)

10:20 - 10:40	**Habitat Perseverance and Status of Gray Vireos on Kirtland Air Force Base in Albuquerque, NM** – Carol Finley* (Kirtland AFB), and Robert Frei (Clover Leaf Environmental Solutions, Inc.)
10:40 - 11:00	**Gray Vireo Monitoring in Northwestern and Southeastern New Mexico** – Mike Stake* and Gail Garber (Hawks Aloft)
11:00 - 11:20	**Density and Habitat Use of Gray Vireos in the San Juan Basin Natural Gas Field in Northwestern New Mexico** – Lynn Wickersham* and John L. Wickersham (Ecosphere Environmental Services)
11:20 - 11:40	**Modeling Gray Vireo Habitat – General Considerations** – Paul Arbetan* and Teri Neville* (Natural Heritage New Mexico)
11:40 - 12:00	**Symposium Conclusions** – Hira Walker (NMDGF)
12:00 - 1:00 p.m.	**LUNCH** and **REGISTRATION** (cont.) – Restaurant in hotel or packed lunches in meeting rooms
1:00 - 2:00	**GRAY VIREO SYMPOSIUM ROUND TABLE DISCUSSION** – Renae Held and Hira Walker (NMDGF), Facilitators **NOTE:** Concurrent with NMOS General Science Session
1:00 - 3:00	**NMOS GENERAL SCIENCE SESSION** – Martha Desmond (NMSU), Session Chair **NOTE:** Concurrent with Gray Vireo Symposium Round Table
1:00 - 1:20	**An Update of the Fossil Collection at the New Mexico Museum of Natural History and Science: It's Not Just Dinosaurs** – Mary A. Root (NMMNHS)
1:20 - 1:40	**Landbird Surveys During Winter in the Big Burro Mountains, Grant County, New Mexico, 2007-2008** – David Griffin (Griffin Biological Services)
1:40 - 2:00	**Songbird Trends Associated with Management Practices in the Middle Rio Grande** – Trevor Fetz* and Gail Garber (Hawks Aloft)
2:00 - 2:20	**Trends in Breeding Northern Beardless-Tyrannulets in Guadalupe Canyon, New Mexico: Results of an 18-year Study** – Sartor O. Williams III (Museum of Southwestern Biology)
2:20 - 2:40	**William Gambel in Santa Fe and the Nomenclature and Type Locality for the Mountain Chickadee (*Poecile gambeli*)** – Tom Jervis (Santa Fe, NM)

2:40 - 3:00	**Nightjars and Night Surveys in New Mexico** – David Krueper* (USFWS), Christopher Rustay (PLJV), and Bruce Neville (UNM)
3:00 - 3:30	**BREAK**
3:30 - 5:30	**NMOS GENERAL SCIENCE SESSION** (cont.) – Janet Ruth (USGS), Session Chair
3:30 - 3:50	**Resistance to Environmental Hypoxia by Hummingbirds along an Altitudinal Gradient** – Christopher Witt (UNM)
3:50 - 4:10	**An Analysis of Twenty-seven Years of Data from the Southwestern New Mexico Audubon Society's Annual Raptor Count** – Roland Shook (WNMU)
4:10 - 4:30	**Not "Tilting at Windmills": Determining a Baseline Resident Golden Eagle Population of Eastern New Mexico – 2006-2008** – Dale Stahlecker (Eagle Environmental, Inc.)
4:30 - 4:50	**Ferruginous Hawk Diet and Nesting Behavior in Two Grasslands in New Mexico Which Differ in Anthropogenic Alteration** – William Keeley* and Marc Berchard (Boise State University), and Gail Garber (Hawks Aloft)
4:50 - 5:10	**Nesting Cooper's Hawks in Animas Park, Farmington, New Mexico, Spring and Summer 2007** – Tim Reeves (San Juan College)
5:10 - 5:30	**1980-2008 Avian Cholera Outbreaks at Bosque del Apache National Wildlife Refuge** – Colin Lee (USFWS)
POSTER	
	Determination of Yearly Breeding Site Fidelity of Dusky Flycatchers – James Travis and Jasmine Travis (Albuquerque, NM)
5:30 p.m.	**ADJOURN** until Banquet
6:30 p.m.	**NMOS BANQUET BUFFET**
8:00 p.m.	**KEYNOTE PRESENTATION** **Cooperation and Cooperative Breeding: Woodpeckers, Woodhoopoes, and Jays** – J. David Ligon (Professor Emeritus, UNM)

ORAL PRESENTATIONS

GRAY VIREO STATUS AND DISTRIBUTION ON FORT BLISS: 2007

CHARLES BRITT, Wildlife Sciences Department, 2980 South Espina, Knox Hall 132, Las Cruces, NM 88003-8003 and CARL LUNDBLAD, 610 Spring Meadows Road, HCR70, Box 610-Z, Amargosa Valley, NV 89020

The objectives of the 2007 portion of the Gray Vireo (*Vireo vicinior*) project were to search for the presence of Gray Vireos on Fort Bliss and to describe basic habitat information regarding the Gray Vireo territories established on Fort Bliss. To accomplish these objectives Gray Vireo surveys were conducted in areas of the Organ and Sacramento Mountains that were identified as suitable habitat for the species. Researchers conducted pedestrian and vehicular surveys using Gray Vireo song playback. A total of 112 search man-days were executed on Fort Bliss. Surveys resulted in detection of 80 Gray Vireos on 37 territories in the Sacramento Mountains and 24 Gray Vireos on 14 territories in the Organ Mountains, totaling 104 Gray Vireos on 51 territories on Fort Bliss. Thirteen nests were located in the Sacramento Mountains while four nests were found in the Organs Mountains. Twelve of the Sacramento Mountain territories had a total of 19 fledglings and two nestlings present. All of the territories detected in the Sacramento Mountains were located along desert riparian corridors within the Grapevine Canyon, Culp Canyon, and El Paso Canyon watersheds. Most of the territories in the Organ Mountains were located within the Soledad Canyon watershed, with the exception of two located in Fillmore Canyon.

HABITAT PERSEVERANCE AND STATUS OF GRAY VIREO'S ON KIRTLAND AIR FORCE BASE IN ALBUQUERQUE, NEW MEXICO

CAROL A. FINLEY, Natural Resource Management, Kirtland Air Force Base, Kirtland AFB, NM 87117 and ROBERT FREI, Clover Leaf Environmental Solutions, Inc., Albuquerque, NM 87111

In the last five years, Kirtland Air Force Base, located near Albuquerque New Mexico has under taken several projects to document and ensure biodiversity throughout the 52,000 acre installation. Much effort has been spent on documenting the state threatened Gray Vireo (*Vireo vinicior*) on base. In 2003, a base wide survey revealed 53 Gray Vireo territories. In 2005, out of 13 active nests 2-5 produced young (15-38%), in 2006, out of 6 active nests 3-4 produced young (38-50%), and in 2007, out of 10 active nest 5 (50%) produced young. On average 3.6 (38%) of active nests were parasitized by cowbirds. Recently, Kirtland AFB completed a five-year management plan for this species, which has since been integrated into New Mexico's State Plan for the Gray Vireo. Since Gray Vireos are an inhabitant of juniper savanna, the plan focuses on managing this vegetation community between the desert grassland and the pinyon-juniper woodland. Currently, over 200 plant and animal species have been documented in this vegetation type at Kirtland AFB. Preserving and managing the juniper woodland would not only protect the Gray Vireo, but also be beneficial in preserving a wide variety of species.

GRAY VIREO MONITORING IN NORTHWESTERN AND SOUTHEASTERN NEW MEXICO

MIKE M. STAKE and GAIL GARBER, Hawks Aloft, Inc., P.O. Box 10028, Albuquerque, NM 87184

We monitored a small number of Gray Vireo (*Vireo vicinior*) pairs in the Guadalupe Mountains of southeastern New Mexico from 2005-2007, and near Bloomfield, in northwestern New Mexico in 2007. Nest success was low in both regions (8 of 27 nests successful in the Guadalupe Mountains and 3 of 11 in northwestern New Mexico). Gray Vireos in the Guadalupe Mountains frequently nested in junipers and oaks, built nests at an average height of less than six feet, and experienced relatively high nest parasitism (62%). The number of pairs in our search area was similar among years. Gray Vireos at our site in northwestern New Mexico nested almost exclusively in junipers, built nests at an average height of nine feet, and experienced low parasitism (11%). We also recorded 20 Gray Vireos in 2007 during point counts at another northwestern site scheduled for vegetative treatments. Gray Vireos in this region are threatened by habitat loss or alteration caused by development and juniper reduction. We caution researchers not to underestimate threats based on apparent regional abundance. We recommend consideration of local population trends and potential negative effects of habitat fragmentation and pervasive juniper reduction treatments when reviewing current status and formulating management guidelines for this species in New Mexico.

DENSITY AND HABITAT USE OF GRAY VIREOS IN THE SAN JUAN BASIN NATURAL GAS FIELD IN NORTHWESTERN NEW MEXICO

LYNN E. WICKERSHAM and JOHN L. WICKERSHAM, Ecosphere Environmental Services, Durango, CO 81301

We conducted distance sampling for Gray Vireos (*Vireo vicinior*) in 2006-07 on BLM lands in the Farmington Resource Area, within the highly developed San Juan Basin natural gas field. Over the two-year study, we surveyed 48 transects, each 1.75 km, totaling approximately 102 km. We estimated Gray Vireo density from transect data using Program DISTANCE. We compared occupied Gray Vireo habitat with the proportion of available habitat in the study area, by collecting data on habitat characteristics at Gray Vireo detection sites and randomly selected locations. GIS analyses were also conducted to determine the density of natural gas wells and the proximity of wells, roads, and habitat edges to vireo detection sites and random locations. Habitat data were analyzed using binary logistic regression. We observed 28 Gray Vireos in 2006 and 32 in 2007. Our best estimates of density were 0.044 ± 0.013 (SE; n = 23; 2006) and 0.066 ± 0.028 (SE; n = 29; 2007), respectively. These estimates are similar to those from other recent studies in Colorado, Utah, and California; therefore, our data suggests that current Gray Vireo density in northwestern New Mexico is similar to that across the species' range. Analysis of habitat data indicated that Gray Vireo detection sites were slightly higher in elevation and contained shorter trees and less downed woody debris than randomly selected sites. GIS analysis indicated that density of natural gas wells and proximity of wells and roads did not appear to influence Gray Vireo occupancy.

MODELING GRAY VIREO HABITAT - GENERAL CONSIDERATIONS

PAUL ARBETAN and TERI NEVILLE, Natural Heritage New Mexico, University of New Mexico, Albuquerque, NM 87131

Construction of a GIS habitat model for Gray Vireo (*Vireo vinicior*) appears relatively straight forward. In general, they seem to prefer a specific range of nest tree densities that are dominant over competing tree species and found in the vicinity of moderate slopes forming open bowl or drainage topographies. The predictive strength of GIS habitat models is tied to inherent inaccuracies of the GIS data. Automated and interactive modeling techniques rely on GIS layers that are surrogates of biophysical landscape characteristics at specific locations. Thus, a lack of digital data at the appropriate scale can greatly limit the applicability of a habitat model. Our emphasis has been on interactive modeling that allows us to compile landscape data at scales appropriate to a desired predictive scale. Using Gray Vireo location data covering diverse geographic areas of the Caja del Rio Plateau west of Santa Fe, the west slope of the Manzano Mountains, and the San Andres and Organ Mountains, we constructed GIS models of Gray Vireo habitat. We obtained greater predictive results using an interactive approach by combining higher resolution data sets, comprehensive field data, and expert review. We are currently refining this approach by deriving data sets of greater specificity towards developing models with greater predictive power.

AN UPDATE OF THE FOSSIL COLLECTION AT THE NEW MEXICO MUSEUM OF NATURAL HISTORY AND SCIENCE: IT'S NOT JUST DINOSAURS

MARY A. ROOT, New Mexico Museum of Natural History and Science, Albuquerque, NM 87104

The New Mexico Museum of Natural History and Science in Albuquerque opened in 1986. Before that time, New Mexico's fossils were taken to other museums and private collections in other states and countries. Today, the people of New Mexico have shown their interest in preserving New Mexico's natural history by attending, supporting, and in generously contributing to special projects at the museum. Ten thousand dollars was raised in 2000-2001 to purchase a life-sized cast of a giant flightless bird, named *Diatryma*, which lived in what is now New Mexico some fifty million years ago (Eocene Epoch). The paleontologist, Edward Drinker Cope, found fossil foot bones of *Diatryma* in New Mexico in 1874. The New Mexico Ornithological Society took the lead in helping to preserve the avian fossil heritage of our state by making a generous contribution toward the purchase of the cast of *Diatryma*. Today, *Diatryma* is on permanent display, and will be the centerpiece of the new Tertiary Hall. Another avian type-specimen, also from New Mexico and found by Cope, is the complete fossil skeleton of an Old World vulture from the Miocene Epoch (10-20 MYA), named *Paleoborus umbrosus*. Both Old World and New World vultures were present in New Mexico at that time. Last year, an exhibit of all the corvids of New Mexico was on display, mounted by our staff, in cooperation with the Museum of Southwest Biology of UNM. In addition, our collection contains other avian fossils, casts, tracks, and reports from the literature, of birds from the Cretaceous Period through the Pleistocene Epoch. Our most recent acquisition is a collection of numerous shorebird/sandpiper fossil tracks from the Miocene Epoch of an area in the Jemez Mountains, found by Shari Kelley of the NM Bureau of Geology and Mineral Resources.

LANDBIRD SURVEYS DURING WINTER IN THE BIG BURRO MOUNTAINS, GRANT COUNTY, NEW MEXICO, 2007-2008

DAVID J. GRIFFIN, Griffin Biological Services, 2311 Webb Road, Las Cruces, NM 88012

Avian surveys were conducted between 12 December 2007 and 28 March 2008 using distance sampling and the point transect method to determine densities of winter landbirds in the Big Burro Mountains, New Mexico. Thirty-one species were detected during surveys and an additional 10 species were observed incidental to surveys. Species richness ranged from 5 to 16 species per survey (mean = 10.8), and abundance ranged from 8 to 87 birds per survey (mean = 46.6). Generally, both richness and abundance increased throughout the period. Due to small sample sizes for most species, density estimates were not generated. The most abundant species included Dark-eyed Junco, Mountain Chickadee, Bushtit, Golden-crowned Kinglet, White-breasted Nuthatch, Pygmy Nuthatch, and Western Bluebird, which together accounted for 75% of all birds detected. A few spring migrants and summer residents began to return during the last two survey periods. Additionally, I verified that small numbers of Yellow-eyed Juncos remained at high elevations during the winter period.

SONGBIRD TRENDS ASSOCIATED WITH MANAGEMENT PRACTICES IN THE MIDDLE RIO GRANDE BOSQUE, 2004-2008

TREVOR FETZ and GAIL GARBER, Hawks Aloft, Inc., P.O. Box 10028, Albuquerque, NM 87184

Between December 2003 and February 2008, we monitored avian abundance and species richness at 61 transects representing 18 vegetation and community structure (C/S) types. Our study area encompassed the middle Rio Grande bosque between the Bernalillo Bridge and the La Joya State Game Refuge, New Mexico. During summer, terrestrial C/S types supporting dense understory vegetation tended to support higher avian density and richness than C/S types with relatively sparse understory vegetation. The highest avian density and species richness occurred in dense New Mexico olive (*Forestiera neomexicana*). During winter, C/S types incorporating dense vegetation with standing water supported the highest densities and richness of birds. Among terrestrial C/S types, the highest winter avian densities and richness occurred in pure stands of Russian olive (*Elaeagnus angustifolia*) and habitats incorporating extensive amounts of New Mexico olive. These results indicate that the value of Russian olive to wintering birds is greater than previously acknowledged. Currently, the mechanical removal of all non-native vegetation is a common management practice throughout much of the middle Rio Grande bosque. During all seasons, areas subjected to such treatment supported among the lowest avian densities and richness levels, at least over the short term. Hawks Aloft, Inc. will continue monitoring avian abundance and species richness to document avian response to these habitat alterations over the long term.

TRENDS IN BREEDING NORTHERN BEARDLESS-TYRANNULETS IN GUADALUPE CANYON, NEW MEXICO: RESULTS OF AN 18-YEAR STUDY

SARTOR O. WILLIAMS III, Museum of Southwestern Biology, University of New Mexico, Albuquerque, NM 87131

The Northern Beardless-Tyrannulet (*Camptostoma imberbe*) is a regular but scarce summer resident in New Mexico, where found annually only in Guadalupe Canyon, Hidalgo County. It is occasionally reported elsewhere in Hidalgo County, but with no evidence of breeding away from the canyon; it is casual away from Hidalgo County, with single records for Grant and Eddy counties. First found in the Arizona portion of Guadalupe Canyon in 1947, it was documented nesting in the New Mexico portion in 1962. It was reported intermittently in the New Mexico portion through the early 1980s, reflecting in part less than annual coverage; however, it was unsuccessfully searched for in 1979 and 1980. It has been found annually in Guadalupe Canyon since 1984, and all credible New Mexico records away from there date from 1987. Strictly a warm season resident, this tropical flycatcher typically returns to New Mexico's Guadalupe Canyon by late March or early April. Territorial birds are conspicuous by early April and breeding activity (nest initiation) is underway by mid-April. Most active nests (building or tending young) were found from mid-May to late June, but nest-building in mid-July indicated potential fledging into early August. Elevations of occurrence in Guadalupe Canyon are about 4400 ft (1340 m), where the species prefers dense thickets of mesquite, acacia, hackberry, and similar vegetation, this either at the edges or as understory of groves of taller trees (sycamore, cottonwood); most reported New Mexico nests were placed in sycamore. Territories tend to be near the few pools of water found in the otherwise dry canyon. Early June surveys along a 2 mi (3.2 km) transect 1987-2004 found an average of 2.53 territories per year (range 1-5); 3.3 territories per year 1987-1996 but only 1.4 territories per year 1997-2004. Higher numbers during the early period may reflect exclusion of livestock from the canyon beginning in 1987 plus generally wetter conditions during the early 1990s; largest numbers corresponded to the very wet years 1992 and 1993. Numbers dropped in 1997 following prescribed "brush control" fires that negatively impacted several traditional territories and, after partial recovery following that event, declined again to only one territory per year 2001-2004, this during a time of drought. The species is listed by New Mexico as endangered, as the very small and localized breeding population is vulnerable to loss of its required low-elevation riparian habitat from burning, clearing, reduced water table, or (potentially) overgrazing.

WILLIAM GAMBEL IN SANTA FE AND THE NOMENCLATURE AND TYPE LOCALITY FOR THE MOUNTAIN CHICKADEE (*POECILE GAMBELI*)

TOM R. JERVIS, 109 Daybreak, Santa Fe, NM 87507

William Gambel was in Santa Fe for about two months in the summer of 1841. His 1843 description of the Mountain Chickadee (*Poecile gambeli*) is based on that visit and was the basis of Ridgeway's 1886 entry in the first AOU Checklist of the Birds of North America in which he noted that the original designation of *Parus montanus* by Gambel was preoccupied and named the bird *Parus gambeli*. Gambel did not procure a specimen (or it was lost) and in any case was not very specific about the locations of any of his collections. Gambel states that the bird was "first observed about a day's journey from Santa Fe, in New Mexico." Subsequent editions have further obscured the type locality of the bird. The third edition (1910) of the Checklist states that this was "a day's journey west of Santa Fe" without justification and the current edition has "west" in brackets. Analysis of Gambel's time in Santa Fe suggests that he probably first observed the bird east of Santa Fe,

perhaps in Pecos or Glorieta. Subsequent editions of the Checklist have also continued to use the common name Mountain Chickadee despite the conflict with the scientific name. Although variously known as Gambel's Chickadee and Mrs. Bailey's Chickadee, consistency with the scientific name suggests that the common name be formalized as Gambel's Chickadee. This may be particularly important in light of recent research on the phylogeography of the taxon (Molecular Ecology 16:1055-1068; 2007).

NIGHTJARS AND NIGHT SURVEYS IN NEW MEXICO

DAVID J. KRUEPER, US Fish & Wildlife Service, Migratory Bird Office, 500 Gold Ave, P.O. Box 1306, Albuquerque, NM 87103, CHRISTOPHER RUSTAY, Playa Lakes Joint Venture, 1303 Rio Grande Boulevard NW, #5, Albuquerque, NM 87104, and BRUCE NEVILLE, Centennial Science and Engineering Library, MSC05-3020, University of New Mexico, Albuquerque, NM 87131

Beyond distribution and migration information, relatively little is known about population status, trends and abundance of some species of nightjars in New Mexico. Breeding Bird Survey (BBS) data show that three species are recorded with enough frequency to determine trends within New Mexico. Lesser Nighthawk (*Chordeiles acutipennis*) and Common Nighthawk (*Chordeiles minor*) show noticeable declines since 1966, while Common Poorwill (*Phalaenoptilus nuttallii*) shows a noticeable increase during this time. Regional trends show significant declines for Common Nighthawk and Whip-poor-will (*Caprimulgus vociferus*). Reviewing the status of New Mexico caprimulgid populations within the context of the larger regional and national picture may help us understand why these populations are showing such marked declines. Recently there have been lively discussions as to whether the BBS adequately surveys nocturnal species such as nightjars and owls. The Center for Conservation Biology (CCB) at the College of William & Mary developed a survey protocol which seeks to address this concern, and volunteers completed a pilot survey in the southeast United States in 2007. Although this protocol has shown moderately good results, there are concerns about whether it will translate well to New Mexico. We will outline the nightjar survey protocol and discuss possible survey modifications beyond simply running BBS-style routes at night. Because trends of nightbirds in New Mexico are either unknown or based on limited data, running appropriate night surveys is a laudable effort, but this should not be done without first determining the efficacy of that monitoring effort.

RESISTANCE TO ENVIRONMENTAL HYPOXIA BY HUMMINGBIRDS ALONG AN ALTITUDINAL GRADIENT

CHRISTOPHER C. WITT, Department of Biology and Museum of Southwestern Biology, University of New Mexico, Albuquerque, NM 87131

Hummingbirds are diverse and conspicuous in high mountainous regions of the New World, with several species occurring at or above 4000 m elevation where oxygen partial pressure (pO_2) is reduced by 40% relative to sea level. Hovering hummingbirds exhibit the highest rates of mass-specific oxygen consumption among vertebrate animals, but it is unknown whether there are respiratory adaptations that enhance oxygen uptake and delivery under high-altitude environmental hypoxia. As a first step, this study examines variation in hypoxia resistance among 27 species of hummingbirds at six sites ranging from sea level to 4000 m. Hypoxia resistance was quantified as the minimum pO_2 at which a hummingbird can perform sustained hovering. Hummingbirds assimilated to a flight chamber with a perch and feeder, after which the oxygen concentration was reduced by

0.5% every 5 minutes. The birds were forced to hover by brief removal of the perch at each level of oxygen until the point of aerodynamic failure was identified. Hummingbirds demonstrated remarkable hypoxia tolerance. Even species restricted to Amazonian lowlands were able to hover at pO_2 equivalent to the peak of Mt. Everest. Hummingbirds from sea level up to 1400 m failed at similar pO_2 levels, but hummingbirds living above 2800 m exhibited increasing hypoxia resistance with increasing elevation.

AN ANALYSIS OF TWENTY-SEVEN YEARS OF DATA FROM THE SOUTHWESTERN NEW MEXICO AUDUBON SOCIETY'S ANNUAL RAPTOR COUNT

ROLAND SHOOK, Department of Natural Sciences, Western New Mexico University, Silver City, NM 88061

Since 1970, the Southwestern New Mexico Audubon Society has sponsored an annual count of raptors (plus a few additional non-raptorial species) conducted on the first Saturday of December. Twenty-seven years of data collected on Northern Harrier (*Circus cyaneus*), Sharp-shinned Hawk (*Accipiter striatus*), Cooper's Hawk (*Accipiter cooperii*), Harris's Hawk (*Parabuteo unicinctus*), Red-tailed Hawk (*Buteo jamaicensis*), Ferruginous Hawk (*Buteo regalis*), Rough-legged Hawk (*Buteo lagopus*), Golden Eagle (*Aquila chrysaetos*), American Kestrel (*Falco sparverius*), Merlin (*Falco columbarius*), Prairie Falcon (*Falco mexicanus*), Greater Roadrunner (*Geococcyx californicus*), Great Horned Owl (*Bubo virginianus*), and Loggerhead Shrike (*Lanius ludovicianus*) were analyzed using a multiple regression model. Total variance in the number of observations of a species was partitioned among survey effort (miles driven) and years surveyed. Northern Harrier, Sharp-shinned Hawk, Cooper's Hawk, Harris's Hawk, Red-tailed Hawk, Ferruginous Hawk, Golden Eagle, Merlin, and Greater Roadrunner showed no significant relationship ($P \leq 0.05$) between number of birds observed annually and the number of miles surveyed, or between the number of birds observed annually over the years surveyed. American Kestrel showed a significant positive relationship between number of birds observed annually and survey effort. Rough-legged Hawk and Great Horned Owl both showed a significant decline in the number of birds observed over the years surveyed. Prairie Falcon and Loggerhead Shrike showed both a significant positive relationship between the number of birds observed annually and survey effort, and a significant decline in number of birds observed annually over the years surveyed.

NOT "TILTING AT WINDMILLS": DETERMINING A BASELINE RESIDENT GOLDEN EAGLE POPULATION OF EASTERN NEW MEXICO – 2006-2008

DALE W. STAHLECKER, Eagle Environmental, Inc., 30 Fonda Road, Santa Fe, NM 87508

Aerial surveys of New Mexico east of I-25/U. S. 84/Pecos River for Golden Eagle (*Aquila chrysaetos*) nests were conducted mid-March 2006-08 and early June of 2006-07. Four distinct sub-areas were delineated: NE Highlands (4,000 mi^2), Canadian Breaks (8,900 mi^2), Caprock (2,600 mi^2), and the SE Plains (11,450 mi^2). As of the March 2008 survey, 82 territories had been occupied at least once in three breeding seasons; 76 of those were documented by an active nest in at least one of the three years. Of those 82 territories, 26 were in the Caprock, 29 were in the Canadian Breaks, 27 were in the NE Highlands, and none were in the SE Plains. The Caprock had the greatest density of territories (10/1000 mi^2), but active nests/year decreased 50% in 3 years. The NE Highlands density was intermediate (6.75/1000 mi^2), and active nests/year declined only 20% over the same period,

and had the greatest percentage of consistently occupied territories (50%). The Canadian Breaks had the lowest density (3.25/1000 mi^2), but contained the largest amount of area without suitable nest substrates. An entirely aerial survey likely resulted in an undercount of occupying but non-nesting territorial pairs. Young fledged/known territory approximated the 0.50/occupied territory deemed necessary for a stable population. Federal and State agencies now have a reasonable population estimate for the region, and also have known territory locations with which to evaluate future proposed windfarms.

FERRUGINOUS HAWK DIET AND NESTING BEHAVIOR IN TWO GRASSLANDS IN NEW MEXICO WHICH DIFFER IN ANTHROPOGENIC ALTERATION

WILLIAM H. KEELEY, MARC J. BECHARD, Dept of Biology, Boise State University, Boise, ID 83725, and GAIL GARBER, Hawks Aloft, Inc., PO Box 10028, Albuquerque, NM 87184

Human-related development and its concomitant disturbance are a major cause of Ferruginous Hawk (*Buteo regalis*) reproductive failures, especially in times of low prey abundance when the female may be forced to leave the nest to provision her young. During 2004-2005, we studied Ferruginous Hawk (FEHA) diet and nesting behavior using regurgitated pellets, prey remains, and video monitoring in two grasslands in New Mexico which differ in anthropogenic alteration and primary prey composition. Using pellet analysis and controlling for number of young, FEHA provided 50% more biomass to nests in the exurban Estancia Valley (EV) than in the relatively undeveloped Plains of San Agustin (PSA). Importantly, Gunnison's Prairie Dog (*Cynomys gunnisoni*, GPD), represented a greater portion of diet to EV nests (n = 29) than PSA nests (n = 14) ($P \leq 0.007$). Video data revealed EV adults supplied their young with 87% more biomass per delivery than PSA adults but the latter delivered 25% more items per hour. Statewide, female time at nest was positively correlated with biomass delivered by males ($P < 0.05$) and negatively correlated with age of young ($P < 0.0001$). Females at EV video-monitored nests (n = 3) spent 50% more time at the nest than PSA females (n = 3), and PSA females exhibited a more prolonged response to controlled disturbance associated with refreshing videotapes ($P < 0.05$). GPD represent a consistent prey source which may offer minimal predatory search time, thus affecting various facets of parental care and potentially increasing FEHA tolerance of anthropogenic disturbances in the EV. Future conservation efforts should focus on preserving intact GPD colonies.

NESTING COOPER'S HAWKS IN ANIMAS PARK, FARMINGTON, NEW MEXICO, SPRING AND SUMMER 2007

TIM REEVES, Computer Science and Information Technology Dept., San Juan College, 4601 College Blvd., Farmington, NM 87402

A Cooper's Hawk nest was monitored by numerous observers in Animas Park during the spring and summer of 2007. I documented the nesting season of this pair of birds by photographing them throughout the period. On March 13 a pair consisting of an adult male and an immature female was observed and heard calling in the territory where the nest would be built. The first observation of the female incubating was April 26. On June 10 the female was first seen feeding nestlings. The first observation of young birds outside of the nest was on July 6. On July 8 two young birds were seen flying from the nest tree. The last time the female was seen bringing food to the nest was July 12. The first long distance flight of 100 m by two young birds occurred on July 13. On July 16 young birds were seen perching in an old abandoned Sharp-shinned Hawk nest about 12 m from their nest

tree. They were later observed in this nest eating prey that they caught. On August 6 all three young were observed about 200 m from the nest tree and were believed by this time to have abandoned their nest area. I estimate that this family of hawks ate 360 birds in two months.

1980-2008 AVIAN CHOLERA OUTBREAKS AT BOSQUE DEL APACHE NATIONAL WILDLIFE REFUGE

COLIN K. LEE, Bosque del Apache National Wildlife Refuge, PO Box 1246, Socorro, NM 87801

Bosque del Apache National Wildlife Refuge had its worst avian cholera event on record during the winter of 2007-2008, with 3,852 known waterbird deaths and an estimated 7,500 total waterbird deaths. Once cholera was determined on the refuge, Refuge staff took measures to reduce spread of the bacteria by increasing water flow-through in the wetland impoundments and removing carcasses from the wetlands each day. Cholera mortalities generally increased from December through late-January. Daily mortalities were not related to numbers of light geese present on the Refuge, which were fairly stable during that time, but appeared to be brought about by cold weather events (r^2 = 0.0992, P = 0.0053). However, the severity of large outbreak events between 1982 and 2008 appeared to be strongly correlated with both the peak number of light geese wintering in the Middle Rio Grande Valley (MRGV; r^2 = 0.3180, P = 0.0018) and seasonal low temperatures (r^2 = 0.1649, P = 0.0320). Because avian cholera events appear to be exasperated by high populations of wintering light geese and extreme cold weather events, Refuge personnel will continue to work with the New Mexico Department of Game and Fish and other agencies to improve methods of dispersing the winter light goose population among State and Federal refuges and ensure better water circulation in wetlands to reduce the severity of cholera outbreaks once they become established.

POSTER PRESENTATION

DETERMINATION OF YEARLY BREEDING SITE FIDELITY OF DUSKY FLYCATCHERS

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I recorded dawn songs from each territory of a local population of Dusky Flycatchers. The Dusky Flycatcher song is a set of three distinctive syllables sung in species specific order. The syllables of different individuals differ in small, but definitive ways. By multivariable statistical analysis of data from sonograms I am able to track annual appearance of individuals. Sonograms showing the distinctive features and the results will be shown. My reasons for making this change are that I have found that the precision needed for significant findings in the case of the Hammond's Flycatcher was unattainable primarily as a result of background water noise from the streams where the flycatchers were recorded. Also, I have all of the Dusky Flycatcher data assembled in a similar fashion to the Hammond's Flycatcher data.