



**NEW MEXICO**  
**ORNITHOLOGICAL SOCIETY**  
**55<sup>th</sup> ANNUAL MEETING**  
22 April 2017  
Las Vegas, New Mexico

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ORNITHOLOGICAL  
SOCIETY  
55<sup>th</sup> ANNUAL MEETING**

**22 APRIL 2017**  
New Mexico Highlands University  
Las Vegas, New Mexico

**AGENDA**

**APRIL 22, 2017**

- 6:45-8:00 **MORNING BIRD WALK**  
MEETING LOCATION: NMHU STUDENT UNION BUILDING 322  
800 NATIONAL AVE, LAS VEGAS, NM
- 9:00-10:00 **REGISTRATION**  
LOCATION: NMHU STUDENT UNION BUILDING 322  
800 NATIONAL AVE, LAS VEGAS, NM
- 10:00-11:00 **NMOS BUSINESS MEETING**
- 11:00-11:15 **NMOS GREETING**  
KATHY GRANILLO (PRESIDENT)  
ANNOUNCEMENTS
- 11:15-12:00 **NMOS GENERAL SCIENCE SESSION  
MORNING**  
CHUCK HAYES (NMDGF) SESSION CHAIR
- 11:15-11:35 **CHIHUAHUAN DESERT NETWORK LANDBIRD MONITORING**  
M.H. WILSON, R. BENNETTS, AND R. GITZEN

- 11:35-11:55 **THE NEW MEXICO AVIAN CONSERVATION PARTNERS UPDATED ASSESSMENT OF BIRD SPECIES OF CONSERVATION CONCERN**  
M. DARR
- 12:00-1:30 **LUNCH**
- 1:30-5:00 **NMOS GENERAL SCIENCE SESSION AFTERNOON**  
CHUCK HAYES (NMDGF) SESSION CHAIR
- 1:30-2:00 **DISTRIBUTION AND HABITAT USE OF THE MEXICAN WHIP-POOR-WILL IN SOUTHWEST NEW MEXICO**  
M.B. RUEHMANN
- 2:00-2:20 **IS CLIMATE CHANGE INFLUENCING NEST PHENOLOGY OF THE BURROWING OWL?**  
C. PORRO, M. DESMOND, J. SAVIDGE, F. GEBRESELASSIE, R. GRIEBEL, K. CRUZ-MCDONNELL, AND R. ECKSTEIN
- 2:20-2:50 **EXPOSURE TO HYPOBARIC HYPOXIA RESULTS IN DIFFERENT PHYSIOLOGICAL RESPONSES FROM ELEVATIONAL REPLACEMENT HUMMINGBIRD SPECIES**  
A.M. GAFFNEY, J. J. MCCORMICK, C.M. MERMIER, AND C.C. WITT
- 2:50-3:20 **BREAK**
- 3:20-3:50 **BREEDING HABITAT REQUIREMENTS OF BENDIRE'S THRASHER (*Toxostoma bendirei*) THROUGHOUT ITS NEW MEXICO RANGE**  
C. BEAR SUTTON, M. DESMOND, D. VANLEEuwEN, AND M. DARR
- 3:50-4:20 **THE RELATIONSHIP BETWEEN NEST TEMPERATURE AND FLEDGE AGE IN WESTERN BLUEBIRDS**  
E.M. PHILIPS AND C.D. HATHCOCK
- 4:20-4:50 **HISTORY OF FERRUGINOUS HAWK AND GOLDEN EAGLE NEST MONITORING IN THE SAN JUAN BASIN OF NEW MEXICO**  
J. M. RAMAKKA AND J. KENDALL
- 5:00 **ADJOURN**

6:30

**NMOS BANQUET AND KEYNOTE PRESENTATION: WOODLAND ARCHITECTS AND THEIR OBLIGATES: DYNAMIC RESPONSES OF PIÑON-JUNIPER BIRDS TO CLIMATE, DISTURBANCE, AND VEGETATION SHIFTS**

WILL JAREMKO-WRIGHT  
INSTRUCTOR OF GEOLOGY & FORESTRY, DEPARTMENT OF  
NATURAL RESOURCES MANAGEMENT, NEW MEXICO HIGHLANDS  
UNIVERSITY

LOCATION: NMHU STUDENT UNION BUILDING 321, 800 UNIVERSITY  
AVE, LAS VEGAS, NM

**FIELD TRIP, SUNDAY APRIL 23rd**

6:45 **RIO MORA NATIONAL WILDLIFE REFUGE & PROTECTED AREA**  
MEETING LOCATION: STUDENT UNION BUILDING

**ACKNOWLEDGMENT**

The New Mexico Ornithological Society thanks Dale A. Zimmerman for the creation and donation of the Pinyon Jay art being used for the NMOS 55<sup>th</sup> Annual Meeting.

## **ABSTRACTS**

### **ORAL PRESENTATIONS**

(IN ORDER OF PRESENTATION; PRESENTERS UNDERLINED)

#### **CHIHUAHUAN DESERT NETWORK LANDBIRD MONITORING**

M. H. Wilson, National Park Service, Chihuahuan Desert I&M Network, Las Cruces, NM, 88003 R. Bennetts, National Park Service, Southern Plains I&M Network, Model, CO 81059, R. Gitzen, School of Forestry and Wildlife Sciences, Auburn University, Auburn AL, 36849

The Chihuahuan Desert Inventory and Monitoring Network has been monitoring landbirds at six park units in New Mexico and Texas since 2010. The objectives of monitoring are to assess long-term trends in density and multi-scale occupancy for selected species, and in species richness. The sampling design included 1 km<sup>2</sup> grids with 16 evenly spaced point counts located in uplands. Linear transects were surveyed in riparian areas. This presentation will focus on Carlsbad Caverns National Park (NP) and White Sands National Monument in New Mexico and the network's largest park, Big Bend NP in Texas. When we looked at density estimates we found very few species had sufficient detections to enable good estimates. Even though estimating density provides the most detailed information for a given species, we found it was only feasible for the most common species in the largest park. The hope was that occupancy estimates would provide a much broader suite of species. However, fewer than expected species had sufficient detections to enable reliable estimates. In contrast, we found that species richness estimates were relatively good even at small parks. The precision of species richness estimates was better than expected and the coefficients of variation (CVs) for the estimates were typically <10%. Although not as specific as the other estimators, species richness estimates can be used with ancillary data to look at some specific management issues. In conclusion, species specific estimates for density or occupancy were not as good as hoped. Several options exist for moving forward.

#### **THE NEW MEXICO AVIAN CONSERVATION PARTNERS UPDATED ASSESSMENT OF BIRD SPECIES OF CONSERVATION CONCERN**

M. Darr, New Mexico Department of Game and Fish, One Wildlife Way, Santa Fe, NM, 87507

New Mexico Avian Conservation Partners (NMACP) was established in 1995 as the state chapter of the national Partners in Flight (PIF) initiative. Past accomplishments of NMACP include compilation of a New Mexico bird conservation plan. One of the most important parts of this plan is an assessment of bird species in New Mexico using the PIF assessment process. This process takes into account the following factors for each bird species: range size, population size, population trend, threats, and percent of the population in New Mexico. A list of bird species of conservation concern in New Mexico resulted from this assessment process. The last time this process was undertaken was approximately nine years ago. Recently, NMACP steering committee members, including representatives from a broad range of agencies and organizations, reevaluated all bird species in New Mexico. The results of this reassessment, including an updated list of bird species of conservation concern, will be presented.

## **DISTRIBUTION AND HABITAT USE OF THE MEXICAN WHIP-POOR-WILL IN SOUTHWEST NEW MEXICO**

M.B. Ruehmann, 609 N. Cooper St, Silver City, NM 88061

Surveys for the Mexican Whip-poor-will (*Antrostomus arizonae*) were conducted in May and June 2015 across the Gila region of New Mexico. Believed to be experiencing a population decline, this nocturnal species is not easily covered by existing long-term survey efforts; therefore, little baseline information exists. This targeted study was implemented to better understand status, distribution, and habitat preferences of Mexican Whip-poor-wills in the forested mountains of southwest New Mexico. Of the 155 point count locations surveyed in 2015, a total of 38 individual Mexican Whip-poor-wills were detected at 31 locations. Mexican Whip-poor-wills were widespread throughout the Gila region and predictably found according to habitat, with 87% found in mesic canyons and 79% near surface water.

## **IS CLIMATE CHANGE INFLUENCING NEST PHENOLOGY OF THE BURROWING OWL?**

C. Porro, M. Desmond, and F. Gebreselassie, Department of Fish, Wildlife and Conservation Ecology, New Mexico State University, Las Cruces, NM 88007, J. Savidge, Department of Fish, Wildlife and Conservation Biology, Colorado State University, Fort Collins, CO, 80523, R. Griebel, USDA Forest Service, Bridger-Teton National Forest, Jackson, WY, and K. Cruz-McDonnell, Envirological Services, Albuquerque, NM, 87123

The Burrowing Owl (*Athene cunicularia*) is a species of national concern in the United States, with the most pronounced declines in the Great Plains. Within this region we have observed a delay or increased variation in nest initiation dates, possibly occurring 21-30 days later than “historic” records. We propose that climate change, specifically the occurrence of prolonged drought, is a contributing factor to these apparent delays. Using a long-term data set that spans a latitudinal gradient from southern New Mexico to South Dakota, we are determining the influence of climatic events and weather patterns during the burrowing owl’s wintering and migratory period on nest initiation dates. Additionally, we are investigating the prevalence of synchronization among clusters of nests within prairie dog colonies, as well as seasonal clutch size decline.

## **EXPOSURE TO HYPOBARIC HYPOXIA RESULTS IN DIFFERENT PHYSIOLOGICAL RESPONSES FROM ELEVATIONAL REPLACEMENT HUMMINGBIRD SPECIES**

A.M. Gaffney, National Fish and Wildlife Forensics Laboratory, Ashland, OR 97520, J.J. McCormick, and C.M. Mermier, Department of Exercise Science, University of New Mexico, Albuquerque, NM 87131, and C.C. Witt, Department of Biology, University of New Mexico, Albuquerque, NM 87131

The role of hypoxia tolerance in limiting species elevational distributions is poorly understood. Species distributions are predicted to shift upslope with warming, causing exposure to hypobaric hypoxia. Hummingbirds exhibit exceptional O<sub>2</sub> consumption rates which make them particularly susceptible to changes in PO<sub>2</sub>. If species differ in their tolerance to hypoxia, species interactions could change with elevation. The lowland Black-chinned Hummingbird and montane Broad-tailed Hummingbird overlap and compete for resources at mid-elevations in the southwestern United States. We have previously shown, using a hypobaric chamber, that these two species differ in their behavioral response to low pressure. Competitive dominance shifts from the lowland to montane species under reduced pressure conditions. We captured adult males of both species from the zone of overlap to test the effects of reduced pressure on the physiological response. Specifically, we asked whether the hematological response to low pressure differs between high and low elevation species. To quantify the hematological response to hypobaric hypoxia, we acclimatized birds at either the pressure equivalent of 1600m or 4600m and then collected blood samples. We measured total hemoglobin concentrations, haematocrit and mean cell volume of red blood cells. Black-chinned Hummingbirds showed a decrease in the mean cell volume in response to low pressure that Broad-tailed Hummingbirds do not. The hematological response to hypobaric hypoxia in low elevation species, but not in high elevation species, mimics the behavioral response we observed. This suggests that differential adaptation to atmospheric pressure contributes to the maintenance of stable elevational replacement distributions in hummingbirds.

### **BREEDING HABITAT REQUIREMENTS OF BENDIRE'S THRASHER (*Toxostoma bendirei*) THROUGHOUT ITS NEW MEXICO RANGE**

C.T. Bear Sutton and M.J. Desmond, Department of Fish, Wildlife and Conservation Ecology, Las Cruces, NM 88003, and M. Darr, New Mexico Department of Game and Fish, Santa Fe, NM 87507

Bendire's Thrasher is an understudied and cryptic arid land obligate. Data from breeding bird surveys indicates that this species is experiencing among the greatest declines of any species in North America. It is estimated that 28.7% of the global population of Bendire's Thrasher occurs in New Mexico, where breeding bird surveys indicate a 4.4% annual decline in populations over the last 10 years. A more recent analysis estimates the population will decline by 30% in the next 15 years and 50% within 20 years. Apparent population declines have led to an interest in increasing conservation efforts and basic ecological knowledge for this species. This research aims to answer some basic questions about Bendire's Thrasher in New Mexico and Arizona while setting ground work for future conservation efforts. Our objective was to improve the current understanding of Bendire's Thrasher breeding habitat requirements. Over the two-year study we found 69 Bendire's Thrasher territories. We found the use of recorded call playback to be the best method for detecting thrashers. We completed vegetation surveys on all Bendire's Thrasher territories to compare with 70 randomly placed vegetation surveys. In addition to on the ground surveys, we completed a landscape level analysis using aerial photography and ArcGIS to develop landscape variables for our models. Analysis of this data suggests Bendire's

Thrashers select breeding habitat with more tall shrubs and bare ground than random locations. We will present our most supported models of Bendire's Thrasher habitat requirements developed from these two-years of data collection.

## **THE RELATIONSHIP BETWEEN NEST TEMPERATURE AND FLEDGE AGE IN WESTERN BLUEBIRDS**

E. Philips and C.D. Hathcock, 35 Rover Blvd, Suite D, White Rock, NM 87547

Extensive research has been done on temperature during the incubation periods of birds, but little has been done during nestling development, and none with the Western Bluebird (*Sialia mexicana*). In this study, dataloggers were used to monitor nest temperatures during the nestling development phase of Western Bluebirds to determine if a relationship could be determined between fledge age and temperature by collecting nest temperatures. The study was conducted in an existing nest box network at Los Alamos National Laboratory and surrounding area in north-central New Mexico. Based on the age of the nestlings at fledge, the nest boxes were split into three groups: early (fledged at or before 17 days old), average (fledged at or between 18 and 20 days old), and late (fledged at or after 21 days old). Dataloggers were placed underneath the nest and an ambient control was placed on the outside bottom of the box. Temperatures from 24 nest boxes were used in the analysis. An average 4 degree Celsius difference (Temperatures taken every 25 minutes from 0300 to 0600 hours) was found between the nests in the early (n=11) and late (n=14) fledgers throughout their nestling phase ( $t=18.73$ ,  $p<0.001$ ). Early and average (n=11) groups did not have this difference in temperature during the nestling phase ( $t=-1.33$ ,  $p=0.117$ ) Ambient temperatures were similar among all groups. These results suggest that higher temperature nests during the nestling stage tend to fledge earlier. Data is still being collected and will be added to this study in the coming seasons.

## **HISTORY OF FERRUGINOUS HAWK AND GOLDEN EAGLE NEST MONITORING IN THE SAN JUAN BASIN OF NEW MEXICO**

J.M. Ramakka, No. 69 Rd. 2785, Aztec, NM 87410 and J. Kendall, Bureau of Land Management, 6251 College Blvd A, Farmington, NM 87402

In 1981, the Bureau of Land management began inventory and mapping of "high interest" raptor nests in a study area of approximately 3 million acres in NW New Mexico. In the following 3 decades a total of 65 individual Ferruginous Hawk and 92 Golden Eagle nests were located and mapped by use of both aerial and ground surveys. Based on nest proximity and history of use it is presumed that these nests represent as many as 33 Ferruginous Hawk and 54 Golden Eagle nest territories. In the period 1982-2012, some territories were monitored for as many as 19 years while other, more inaccessible nests, were only observed rarely after initial inventory efforts. Only 6 Ferruginous Hawk territories and 10 Golden Eagle territories were monitored for more than 10 years. Little or no data appears to have been gathered in the period from 1990 to 1995. Even with this, and other gaps in the data set, the records contained in this monitoring effort provide some insight into potential effects of changing land uses and the issues associated with the logistics of maintaining and using monitoring information in land use planning and the day to day management of public resources.