



*Charadrius nivosus*

**NEW MEXICO  
ORNITHOLOGICAL SOCIETY  
53<sup>rd</sup> ANNUAL MEETING**

**11 April 2015  
Roswell, New Mexico**



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ORNITHOLOGICAL SOCIETY  
53<sup>rd</sup> ANNUAL MEETING**

11 APRIL 2015  
Holiday Inn  
Roswell, New Mexico

**AGENDA**

APRIL 11, 2015

- 7:30-8:30     **REGISTRATION**
- 8:30-9:30     **NMOS BUSINESS MEETING**
- 9:30 – 10:00   **BREAK**
- 10:00-10:05   **NMOS GREETING**  
                  CHUCK HAYES (PRESIDENT)  
                  ANNOUNCEMENTS
- 10:05-10:20   **ABA L. GRISCOM AWARD PRESENTATION TO DALE ZIMMERMAN**  
                  LINDA ROCKWELL (AMERICAN BIRDING ASSOCIATION)
- 10:20-12:00   **NMOS GENERAL SCIENCE SESSION**  
                  **MORNING**  
                  KATHY GRANILLO (USFWS) SESSION CHAIR
- 10:20-10:40   **THE POTENTIAL ROLES OF PRIMARY MOLT AND PARASITE**  
                  **LOADS IN DECLINING SNOWY PLOVERS IN THE SOUTHERN**  
                  **GREAT PLAINS**  
                  L.E. DUFFIE, W.C. CONWAY, C.E. COMER, D.A. HAUKOS, D.P. COLLINS,  
                  S.T. SAALFELD AND H.M. ASHBAUGH
- 10:40-11:00   **ENVIRONMENTAL CONDITIONS OF SALINE LAKES OF THE**  
                  **SOUTHERN GREAT PLAINS ASSOCIATED WITH BREEDING SNOWY**  
                  **PLOVERS**  
                  H.M. ASHBAUGH AND W.C. CONWAY

- 11:00-11:20 **IMPACTS OF SOLAR ENERGY DEVELOPMENT ON BREEDING BIRDS OF THE NUTT GRASSLANDS, NEW MEXICO**  
D. MELIOPOULOS, M.J. DESMOND, AND D. DANIEL
- 11:20-11:40 **BREEDING SONGBIRD ABUNDANCE: A COMPARISON OF NORTHEAST AND NORTHWEST UNITED STATES FORESTS AT DIFFERENT FRAGMENTATION AMOUNTS AT A LANDSCAPE SCALE**  
F. ANAYA AND Z. JONES
- 11:40- 12:00 **THERMAL PHYSIOLOGY OF SONORAN DESERT NIGHTJARS**  
W.A. TALBOT AND B.O. WOLF
- 12:00 -1:30 **LUNCH**
- 1:30-5:00 **NMOS GENERAL SCIENCE SESSION AFTERNOON**  
KATHY GRANILLO (USFWS) SESSION CHAIR
- 1:30-1:50 **SHOREBIRDS OF SAN JUAN COUNTY, NEW MEXICO**  
T. REEVES
- 1:50-2:10 **HIGHLY PATHOGENIC AVIAN INFLUENZA IN NORTH AMERICA**  
K. MADDEN
- 2:10-2:30 **NEW MEXICO DEPARTMENT OF GAME AND FISH NONGAME BIRD PROGRAM UPDATE**  
P.J. DARR
- 2:30-2:50 **HAZARDS TO BIRDS FROM OPEN METAL PIPES**  
C.D. HATHCOCK AND J.M. FAIR
- 2:50-3:20 **BREAK**  
INFORMAL POSTER SESSION
- 3:20-3:40 **MODELING THE DEMOGRAPHICS AND MOVEMENTS OF BAND-TAILED PIGEONS IN NEW MEXICO**  
C. COXEN, S.A. CARLETON, AND D. COLLINS
- 3:40-4:00 **EFFECTS OF HABITAT RESTORATION AND CLIMATE CHANGE ON SCALED QUAIL IN SOUTH CENTRAL NEW MEXICO**  
K. ZUMMO AND S.A. CARLETON

- 4:00-4:20     **DEVELOPMENT OF A RANGE-WIDE CONSERVATION PLAN FOR LESSER PRAIRIE-CHICKENS**  
S. KYLE, J. PITTMAN, D. KLUTE, G. BEAUPREZ, D. SCHOELING, A. JANUS, AND W. VAN PELT
- 4:20 – 4:40     **INVESTIGATING LESSER PRAIRIE-CHICKEN SEASONAL HABITAT USE, REPRODUCTION, AND SURVIVAL TO UNDERSTAND PATTERNS OF DECLINING LEK ATTENDANCE**  
C. STRONG, S.A. CARLETON, W.G. GOULD, C. NICHOLS, R. HOWARD AND G. BEAUPREZ
- 4:40 – 5:00     **USE OF CONSERVATION RESERVE PROGRAM HABITAT BY LESSER PRAIRIE-CHICKENS IN EASTERN NEW MEXICO**  
A.R. MEYERS, W.G. GOULD, AND S.A. CARLETON

**POSTERS** (An informal poster session will be held during the afternoon break @ 2:50-3:20)

**GROUND NESTING BIRDS OF THE NORTHEASTERN NEW MEXICO SHORTGRASS PRAIRIE**  
W.D. HACKER, AND T.R. COLLINS

5:05    ADJOURN

6:30    **NMOS BANQUET AND KEYNOTE PRESENTATION: SNOWY PLOVERS AND ASSOCIATED NESTING HABITATS IN THE SOUTHERN HIGH PLAINS: TRENDS AND CONSERVATION CONCERNS**  
DR. WARREN CONWAY, PROFESSOR, TEXAS TECH UNIVERSITY  
LOCATION: CHAVES CONFERENCE ROOM, HOLIDAY INN

APRIL 12, 2015

**FIELD TRIP**

8:30 - 11:30   **BITTER LAKE NATIONAL WILDLIFE REFUGE.**  
DEPART FROM THE JOE SKEEN VISITOR CENTER. THOSE WANTING TO CARPOOL WILL MEET AT THE HOLIDAY INN EXPRESS PARKING LOT AT 8:10 AM. WILL TOUR THE BACK AREAS OF BITTER LAKE NWR FOR SHOREBIRDS.

**ACKNOWLEDGMENT**

THE NEW MEXICO ORNITHOLOGICAL SOCIETY THANKS JEN BRUMFIELD FOR THE CREATION AND DONATION OF THE SNOWY PLOVER ART BEING USED FOR THE NMOS 53RD ANNUAL MEETING.

## ABSTRACTS

### ORAL PRESENTATIONS

(IN ORDER OF PRESENTATION; PRESENTERS UNDERLINED)

#### **THE POTENTIAL ROLES OF PRIMARY MOLT AND PARASITE LOADS IN DECLINING SNOWY PLOVERS IN THE SOUTHERN GREAT PLAINS**

L. E. Duffie, Arthur Temple College of Forestry and Agriculture – Division of Environmental Science, Stephen F. Austin State University, Nacogdoches, TX 75962; W. C. Conway, Department of Natural Resource Management, Texas Tech University, Lubbock, TX 79409; C. E. Comer, Arthur Temple College of Forestry and Agriculture, Stephen F. Austin State University, Nacogdoches, TX 75962; D. A. Haukos, U.S. Geological Survey, Kansas Cooperative Wildlife Research Unit, Kansas State University, Manhattan, KS 66506; D. P. Collins, Migratory Bird Office – Region II, U.S. Fish and Wildlife Service, Albuquerque, NM 87103; S. T. Saalfeld, Migratory Bird Office – Region VII, U.S. Fish and Wildlife Service, Anchorage, AK 99503; H. M. Ashbaugh, Department of Natural Resource Management, Texas Tech University, Lubbock, TX 79409

Interior western Snowy Plovers (*Charadrius nivosus nivosus*) are declining in the Southern High Plains of Texas, but appear to be stable in other portions of their interior breeding range, including eastern New Mexico and northern Oklahoma. While regional nesting habitat degradation is considered to be the principal factor negatively impacting population trends, recent observations (in 2013 and 2014) of primary feather molt and ectoparasites in both genders during the breeding season may indicate existence of other stressors that may suppress reproductive output and population health. The Texas subpopulation has been routinely monitored from 1998-2014. One private Texas saline lake, previously considered prime breeding habitat, has exhibited a 78% decline in adult plover numbers during surveys from 1999-2000 to 2008-2010, with a similar  $\geq 80\%$  decline in nest numbers since 1999. Snowy Plover primary molt and parasite loads were regularly documented in 2013 and 2014 in Texas, New Mexico, and Oklahoma. In total, 135 adult snowy plovers were captured while incubating from April to August 2014, of which 35 (26%; 27 female: 8 male) were actively molting inner primaries (P1-P5) and associated primary coverts. Ectoparasites were observed or collected from 50 (37%; 39 female: 11 male) adults. Of the 35 molting plovers, 6 females (17%) simultaneously hosted ectoparasites. The physiological outcome resulting from concurrent incubation, molt, and ectoparasite stressors in these saline lake environments remains unknown, as does the potential impact on adult or brood survival during the latter part of the breeding season.

#### **ENVIRONMENTAL CONDITIONS OF SALINE LAKES OF THE SOUTHERN GREAT PLAINS ASSOCIATED WITH BREEDING SNOWY PLOVERS**

H. M. Ashbaugh and W. C. Conway, Department of Natural Resources Management, Texas Tech University, Lubbock, TX 79409; D. P. Collins, Migratory Bird Office – Region II, U.S. Fish and Wildlife Service, Albuquerque, NM 87103; D. A. Haukos, U.S. Geological Survey, Kansas Cooperative Fish and Wildlife Research Unit, Kansas State University, Manhattan, KS 66506; D. Klein, The Institute of Environmental and Human Health, Texas Tech University, Lubbock, TX 79416

Interior Snowy Plover (*Charadrius nivosus*) exposure to potential environmental contaminants may be partially linked to declining populations that use saline lakes of the Southern Great Plains during the breeding season. We collected sediment and water samples during the 2013 breeding season and quantified V, As, Cd, Pb, and Se from snowy plover breeding habitats within Texas, Oklahoma, and New Mexico. Inductively coupled plasma optical emission spectrometry (ICP-OES) was used to quantify concentrations from sediment and water samples collected in close proximity to flowing and non-flowing artesian springs. Mean sediment concentrations varied only 1% among sediment subdepth strata (0-5, 5-10, and 10-20 cm) for both spring transect types. Most (> 80%) sediment samples had detectable (> 0.02 ppm) concentrations of V, As, Cd, and Pb, while Se was detected in only 20% of combined sediment samples. Metal concentrations were detectable (> 0.01 ppm) in water samples less frequently, and varied by spring flow conditions; although, no metal concentration exceeded 0.4 ppm. Overall, sampled sediment and water concentrations did not exist at levels of concern for avifauna, and were either below published background levels or similar to concentrations reported in previous playa wetland studies. Thus, none of these contaminants exist at sublethal or toxic levels in sediment and water in these environments. However, concurrent and ongoing analyses of metal concentrations in snowy plover blood and feathers will provide a basis for a more clear understanding of environmental risks (and potential trophic uptake and accumulation) these heavy metals possess for breeding Snowy Plovers.

#### **IMPACTS OF SOLAR ENERGY DEVELOPMENT ON BREEDING BIRDS OF THE NUTT GRASSLANDS, NM**

D. Meliopoulos and M. J. Desmond, Department of Fish, Wildlife, and Conservation Ecology, New Mexico State University, Las Cruces, NM 88003, and D. Daniel, Department of Applied Statistics, New Mexico State University, Las Cruces, NM 88003

The Nutt grasslands of southcentral New Mexico are one of the important remaining tracts of desert grasslands. This research examines the effects of a recent solar development in this valuable and threatened ecosystem on grassland bird populations. Our objectives are to quantify avian abundance, community composition, and abundance of individual species at varying distances from the solar facility. The study design entails 150, 50 m radius plots within the solar facility and at 4 distance rings from the facility. Each distance ring has 30 randomly selected plots. We will use regression analysis and an information theoretic approach to examine avian abundance in relation to environmental noise levels, soil temperatures, insect abundance, vegetation cover and various edges. Daily nest survival of Mourning Dove (*Zenaida macroura*) nests and depredation rates will also be evaluated. We will present preliminary data analyses from our first season of data collection. This research will enable recommendations for future planning and siting of solar energy developments.

#### **BREEDING SONGBIRD ABUNDANCE: A COMPARISON OF NORTHEAST AND NORTHWEST UNITED STATES FORESTS AT DIFFERENT FRAGMENTATION AMOUNTS AT A LANDSCAPE SCALE**

F. Anaya, and Z. Jones, Department of Biology, Eastern New Mexico University, Portales, NM 88130

Historically, contiguous hardwood forests covered much of the eastern U.S. landscape; whereas, western U.S. forests tend to be naturally fragmented by greater topographic variation and frequent natural disturbances. Thus effects of forest fragmentation on avian populations may not be as negative in the western U.S. as they are in the eastern U.S. Layers from the National Land Cover Database, along with GIS analysis, were used to identify three categories of forest fragmentation (Slight Fragmentation, Moderate Fragmentation, and High Fragmentation) on 24, 625 km<sup>2</sup> plots in the northeast and northwest U.S. Pre-existing data from Breeding Bird Survey routes (1992-2006) were used to examine how the varying degrees of forest fragmentation influences bird diversity, richness, abundance and response of 17 target species. Slight, moderate, and high fragmentation sites had an average bird richness of 62.82, 72.90, and 57.72 in northeast sites, and 47.58, 60.60, and 58.15 in northwest sites. Fragmentation categories had an average bird abundance of 626.97, 820.07, and 1369.40 in northeast sites, and 337.02, 593.37, and 618.92 in northwest sites. Also, five types of species responses to fragmentation category were observed in northeast sites; no preference (N=2), prefers slight (N=1), prefers high (N=3), avoids slight (N=4), and avoids high (N=7). Whereas, two types of species responses to fragmentation category were observed in northwest sites; no preference (N=16) and avoids slight (N=1). Overall, fragmentation appears to have more consequential effects on bird communities in northeast forests than northwest forests.

### **THERMAL PHYSIOLOGY OF SONORAN DESERT NIGHTJARS**

W. A. Talbot and B. O. Wolf, Department of Biology, University of New Mexico, Albuquerque, NM 87103

A mean annual temperature increase of 4.4°C is expected during this century in southwestern deserts of North America. For birds, this has the potential for individual mortality, decreased population sizes, and local extinctions. In the Sonoran desert, where current summer surface temperatures ( $T_s$ ) can reach 70°C and air temperatures ( $T_a$ ) can reach 50°C, it is imperative for birds to defend body temperatures ( $T_b$ ) below lethal levels. Cooling occurs primarily by evaporative water loss. Lesser Nighthawks (*Chordeiles acutipennis*) and Common Poorwills (*Phalaenoptilus nuttallii*) are exposed to these ambient temperature extremes, particularly in their nesting behavior. An understanding of the thermoregulatory capacity of these two caprimulgids may offer some prediction of their ability to adapt to changes in climate. Field studies were performed to assess rates of heat dissipation and maximum thermal tolerances using standard flow-through respirometry. As birds were exposed to increasing  $T_a$ , metabolic rates and rates of evaporative water loss were obtained by measuring CO<sub>2</sub> and H<sub>2</sub>O output. For both species, metabolic rate and evaporative water loss increase linearly above the thermoneutral zone. Compared to passerines similarly studied, these caprimulgids are able to tolerate significantly higher ambient temperatures and are able to dissipate heat with greater efficiency. This appears to be due, at least in part to the mechanism of gular flutter, which allows evaporative heat loss with little increase in energy expenditure.

### **SHOREBIRDS OF SAN JUAN COUNTY, NEW MEXICO**

T. Reeves, 5101 Pinon Hills Blvd., Farmington, NM 87402

Several documented species of shorebirds infrequently reported or known to breed in San Juan Co., New Mexico, will be discussed. Documenting photographs by the author will be shown. In



the following list \* indicates breeding. The featured species are Black-necked Stilt, *Himantopus mexicanus*\*; American Avocet, *Recurvirostra americana*\*; Black-bellied Plover, *Pluvialis squatarola*; Snowy Plover, *Charadrius nivosus*; Killdeer, *Charadrius vociferus*\*; Mountain Plover, *Charadrius montanus*\*; Spotted Sandpiper, *Actitis macularius*\*; Solitary Sandpiper, *Tringa solitaria*; Wandering Tattler, *Tringa incana*; Whimbrel, *Numenius phaeopus*; Long-billed Curlew, *Numenius americanus*\*?; Ruddy Turnstone, *Arenaria interpres*; Stilt Sandpiper, *Calidris himantopus*; Sanderling, *Calidris alba*; Dunlin, *Calidris alpina*; White-rumped Sandpiper, *Calidris fuscicollis*; Pectoral Sandpiper, *Calidris melanotos*; Semipalmated Sandpiper, *Calidris pusilla*; Short-billed Dowitcher, *Limnodromus griseus*; Wilson's Phalarope, *Phalaropus tricolor*\*; and Red-necked Phalarope, *Phalaropus lobatus*. San Juan County distribution maps for each species will be shown and are based upon published reports in eBird, NMOS Field Notes Searchable Database, printed NMOS Field Notes, published contracted field surveys, Four Corners Bird Club members' and other birders' records, and the author's personal records and photographs. A chronology of records for each species will be presented by date with locations and reporters.

### **HIGHLY PATHOGENIC AVIAN INFLUENZA IN NORTH AMERICA**

K. Madden, Bird Program, Wildlife Management Division, New Mexico Department of Game and Fish, Santa Fe, NM 87507

In the winter of 2014-2015, highly pathogenic avian influenza (HPAI) was detected in poultry and wild birds in Canada and in the U.S. states of WA, OR, CA, and UT. HPAI continues to be documented in additional U.S. states. While none of the strains of avian influenza confirmed in birds to date has been shown to cause clinical disease in humans, careful planning is under way. Kristin will discuss potential risks, share recommendations, and provide an overview of current action plans for the Central and Pacific Flyways.

### **NEW MEXICO DEPARTMENT OF GAME AND FISH NONGAME BIRD PROGRAM UPDATE**

P. J. Darr, Wildlife Management Division, New Mexico Department of Game and Fish, Santa Fe, NM 87507

The Department's Nongame Avian Biologist, Peggy Darr, will discuss high priority projects throughout New Mexico, including a statewide Bendire's Thrasher (*Toxostoma bendirei*) survey and a collaborative project with New Mexico State University investigating the habitat needs of Bendire's Thrasher. Peggy will also discuss upcoming bird surveys on Department wildlife management areas and how birders can assist.

### **HAZARDS TO BIRDS FROM OPEN METAL PIPES**

C. D. Hathcock and J. M. Fair, Environmental Stewardship, Los Alamos National Laboratory Los Alamos, NM 87545

There are reports of open polyvinyl chloride (PVC) pipes causing bird deaths in the western United States (Brattstrom 1995). Here, we document cases of open bollards and open pipes on gates causing bird deaths in northern New Mexico. At Los Alamos National Laboratory (LANL), a 10,240-ha site, over 100 uncapped 10.16 cm diameter protective bollard posts were examined,

and 27% of the open bollards contained dead birds. A total of 88 open pipes used as gate posts, with diameters of 8.89 cm or 10.16 cm, were examined, and 11% contained dead birds. We conducted a preliminary assessment of open pipes on gates along a highway on federal land north of LANL, and 14% of the open pipes contained dead birds. This gate configuration, with open pipes anchoring the gate on either side, is very common in the western United States. In all cases, Western Bluebirds (*Sialia mexicana*) composed the majority of the identifiable birds we discovered. Based on these preliminary findings, the number of bird deaths from this source is potentially very large and should be a concern in bird conservation and management.

## **MODELING THE DEMOGRAPHICS AND MOVEMENTS OF BAND-TAILED PIGEONS IN NEW MEXICO**

C. L. Coxen, New Mexico State University, Department of Fish Wildlife and Conservation Ecology, Las Cruces, New Mexico 88003, S. A. Carleton, U.S. Geological Survey New Mexico Cooperative Fish and Wildlife Research Unit, New Mexico State University, Department of Fish Wildlife and Conservation Ecology, Las Cruces, New Mexico 88033, D. P. Collins, Migratory Game Bird Coordinator USFWS-Region 2 Migratory Bird Office, Albuquerque, NM 87103

Survivability and recruitment estimates are critical for effective game species management. This project seeks to address the decades long gap in current demographic and habitat use data to advance the management of New Mexico and greater Four Corners region Band-tailed Pigeons (*Patagioenas fasciata*). Our goal is to establish a standardized population monitoring protocol through the novel use of PIT tag based mark-resight survivability and recruitment models. In 2013, we secured three geographically distinct feed sites located on private land adjacent to the Gila, Lincoln, and Santa Fe National Forests. 126 birds were banded and tagged at one site in 2013. We expanded trapping to all three sites in 2014, adding another 300 unique birds to our total marked population across the three sites. Survivability models have been created for one subpopulation and additional modeling will be completed after the 2015 field season. Pigeon movement and habitat use data will be collected through archival geolocators and satellite PTTs. These data will be used in conjunction with nesting and foraging habitat suitability models for each National Forest to compare model predictions, movement pattern data, and geospatial forest management data to evaluate bird habitat use in response to management practices. We will also compare PTT bird habitat use data with our suitability models to determine their ability to inform Breeding Bird Survey route placement to maximize sampling efficacy.

## **EFFECTS OF HABITAT RESTORATION AND CLIMATE CHANGE ON SCALED QUAIL IN SOUTH CENTRAL NEW MEXICO**

K. M. Zummo, Department of Fish Wildlife and Conservation Ecology, New Mexico State University, Las Cruces, New Mexico 88003, S. A. Carleton, U.S. Geological Survey New Mexico Cooperative Fish and Wildlife Research Unit, Department of Fish Wildlife and Conservation Ecology, New Mexico State University, Las Cruces, New Mexico 88003

Scaled Quail (*Callipepla squamata*) have been experiencing population declines in the southwest for the past few decades. The factors thought be to contributing to this decline include the encroachment of shrublands on desert grassland habitat and shifts in the summer monsoon season. In New Mexico, the Bureau of Land Management has implemented chemical treatments to control creosote in an effort to reclaim these habitats. Our objectives in this study were to

examine seasonal habitat use of scaled quail in relation to these treatments, as well as to understand how temperature and humidity affect reproductive success. We captured and placed VHF collars on 55 quail in the West Potrillo Mountains of south central New Mexico. Quail were tracked weekly to obtain habitat use points and to locate nesting hens. Nests had an iButton® placed inside the nest bowl and another 3 inches outside of the nest to collect temperature and humidity data. Preliminary data indicates that hens buffer nest temperatures, but have a limited ability to buffer humidity. Overall, temperature and humidity did not have an effect on nest success. Brood success was poor during the early breeding season but improved as monsoonal rains increased. Adult selected, nest, and brood points will be analyzed by comparing habitat patch use versus availability in GIS. Further analysis will look at vegetative microhabitat selection of nest and brood points.

### **DEVELOPMENT OF A RANGE-WIDE CONSERVATION PLAN FOR LESSER PRAIRIE-CHICKENS**

S. Kyle, Western Association of Fish and Wildlife Agencies, Lubbock, TX, 79409, J. Pitman, Western Association of Fish and Wildlife Agencies, Emporia, KS, 66801, D. Klute, Colorado Parks and Wildlife, Denver, CO 80201, G. Beauprez, New Mexico Department of Game and Fish, Portales, NM 88130, D. Schoeling, and A. Janus, Oklahoma Department of Wildlife Conservation Oklahoma City, OK 73101, and W. Van Pelt, Western Association of Fish and Wildlife Agencies, Phoenix, AZ 85001

The Range-Wide Conservation Plan (RWP) for Lesser Prairie-Chickens (*Tympanuchus pallidicinctus*; LEPC): 1) Identifies range-wide and sub-population goals for LEPC; 2) Identifies desired habitat amounts/conditions to achieve population goals; 3) Develops maps of focal areas/connectivity zones where conservation actions will be emphasized to produce the habitat conditions required to expand and sustain LEPC; 4) Enhances programs/cooperative efforts to encourage and expand voluntary landowner incentives and practices to produce the desired habitat conditions; 5) Promotes agreements to avoid impacts to LEPC from various development activities, and where avoidance is not possible, to minimize and mitigate impacts; 6) Establishes a mitigation framework to be used by any entity and administered by the WAFWA that will establish development agreements and when unavoidable impacts occur, will compensate for these impacts through off-site mitigation actions; 7) Identifies and implements monitoring/research needs; 8) Develops an adaptive management plan that will incorporate monitoring and new information into future adjustments to the plan; 9) Addresses input and suggestions from agencies, organizations, landowners, industries, other stakeholders, and the general public on the conservation plan for LEPC. In this talk I will discuss the development and implementation of the RWP and how it relates to LEPC conservation in New Mexico and across the species range.

### **INVESTIGATING LESSER PRAIRIE-CHICKEN SEASONAL HABITAT USE, REPRODUCTION, AND SURVIVAL TO UNDERSTAND PATTERNS OF DECLINING LEK ATTENDANCE**

C. Strong, Department of Fish, Wildlife and Conservation Ecology, New Mexico State University, Las Cruces, NM 88003, S. A. Carleton, New Mexico Cooperative Fish and Wildlife Research Unit, Department of Fish, Wildlife and Conservation Ecology, New Mexico State University, Las Cruces, NM 88003, W. Gould, Department of Applied Statistics, New Mexico

State University, Las Cruces, NM 88003, Clay Nichols, USFWS, Arlington TX, 76011, Randy Howard, Bureau of Land Management, Roswell, NM 88201, and Grant Beauprez, New Mexico Department of Game and Fish, Portales, NM 88130

The Lesser Prairie-chicken (*Tympanuchus pallidicinctus*; LPC) is a charismatic prairie-grouse native to Western North America and is widely recognized to have experienced a significant decline of population and range over the past century. In Southeastern New Mexico on the Sand Ranch Area of Critical Environmental Concern (ACEC) and Mescalero Sands ACEC LPCs have exhibited an alarming trend of lek abandonment indicative of population decline. Intensity of abandonment varies between ACECs with an observed southward to northward trend of abandonment. We investigated breeding ecology, survival, and habitat use during the 2013 and 2014 breeding seasons in order to illuminate the cause of this decline in relation to vegetative structure, habitat patches, and demographic patterns. Estimated demographic rates suggest that survival rates are high in the observed population. They also suggest, however, that recruitment rates may be low. This low recruitment rate is a potential response to drought conditions; a response which has been observed by literature in previous years. In addition, movement of birds throughout the study area and continuing patterns of lek attendance decline suggest that mesquite encroachment may present a constraining influence on the study area's observed population. We will discuss these results in addition to future relevant research.

#### **USE OF CONSERVATION RESERVE PROGRAM HABITAT BY LESSER PRAIRIE-CHICKENS IN EASTERN NEW MEXICO**

A. R. Meyers, W. Gould, Department of Applied Statistics, New Mexico State University, Las Cruces, NM 88003, and S. A Carleton, New Mexico Cooperative Fish and Wildlife Research Unit, Department of Fish Wildlife and Conservation Ecology, New Mexico State University, Las Cruces, NM 88003

The Lesser Prairie-chicken (*Tympanuchus pallidicinctus*) is a threatened species under the Endangered Species Act. Research in Kansas has shown that Conservation Reserve Program (CRP) grasslands are used by lesser prairie-chickens for breeding, nesting, and brood rearing. Lesser Prairie-chicken use of CRP grasslands in New Mexico has not been well documented and there is disagreement as to its importance in their life history. Our objective was to determine if and why Lesser Prairie-chickens use CRP habitat in eastern New Mexico. We captured 30 Lesser Prairie-chickens in the spring of 2014 and monitored their movements throughout the breeding and winter seasons in relation to CRP and other habitat types. Lesser Prairie-chickens utilized CRP habitats in lower proportion than their availability and used native shinnery oak (*Quercus havardii*) dominated habitats in much higher proportion to their availability during the breeding season. During the winter season grassland habitats were used in closer proportion to availability. Although CRP is used by Lesser Prairie-chickens, further habitat improvement efforts for this species in eastern New Mexico should consider switching focus from CRP and concentrate on conservation of native shinnery oak rangelands.

**POSTER PRESENTATION**  
**(PRESENTERS UNDERLINED)**

**GROUND NESTING BIRDS OF THE NORTHEASTERN NEW MEXICO  
SHORTGRASS PRAIRIE**

W. D. Hacker and T. R. Collins, Natural Resources Management Department - Forestry  
Discipline, New Mexico Highlands University, Las Vegas, New Mexico 87701

There is continued concern ground nesting bird populations on the western Great Plains shortgrass prairie are vulnerable to wildfire and its effects. Baseline studies were conducted during nesting season on Las Vegas National Wildlife Refuge (LVNWR) to determine what ground nesting bird species were present, bird density, species diversity and what effect seasonal grazing has on ground nesting birds. Inventories were conducted using a variable strip transect count as described by Emlen. Data from this study support that ground nesting bird populations are stable. Statistical evidence confirms that densities and diversity are not significantly changing as well. Also, seasonal grazing appears to have little effect on ground nesting birds. These data will prove useful for future researchers as a baseline for wildland fire studies on the Northeast Highlands grasslands yet to come. More work is needed in this arena especially in light of potentially changing climatic conditions at LVNWR and throughout the Southwest.