

Proceedings
Of the
28th Meeting of the
Prairie Grouse Technical Council



Portales, New Mexico

5 - 8 October, 2009

Program Committee

Conference Chair:

**Grant Beauprez, New Mexico Department of Game and Fish
(grant.beauprez@state.nm.us)**

Committee Members

**Dr. Zach Jones, Eastern New Mexico University
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Tish McDaniel, The Nature Conservancy (pmcdaniel@tnc.org)

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Meeting Agenda: (all activities will be held at Eastern New Mexico University unless otherwise noted)

Monday, October 5

3:00 - 5:30 PM	Registration at University Ballroom
7:00 - 8:30 PM	Welcome Social and Mixer -Mixer at Dr. Zach Jones' home, 1320 N. Boston Ave., Portales. This house is the former home of Washington Lindsey, 3 rd Governor of New Mexico (1917-1919).

Tuesday, October 6

7:00 – 11:00 AM	Conference Registration
8:00 – 8:20 AM	Welcome and Opening Remarks
8:20 – 10:00 AM	Invited and Contributed Papers
10:00 – 10:10 AM	Break
10:10 - 12:00 PM	Contributed Papers
12:00 – 1:00 PM	Lunch (Provided)
1:00 – 2:20 PM	Contributed Papers
2:20 - 2:40 PM	Break
2:40 – 4:00 PM	Contributed Papers
4:00 – 6:00 PM	Social Mixer, Casa Del Sol across from ENMU http://www.casadelsolportales.com/
6:00 – 9:00 PM	Dinner and Auction

Wednesday, October 7

8:00 - 10:00 AM	Business Meeting
10:00 – 10:20 AM	Break
10:20 -12:00 PM	Contributed Papers
12:00 – 1:00 PM	Lunch (Provided)
1:00 - 5:30 PM	Field Trip to Milnesand Area
6:30 – 9:00 PM	Banquet and Award Presentations -Entertainment by Joe Whitehead and Betty Williamson

Thursday, October 8

8:00 – 10:00 AM	Contributed Papers
9:20 – 9:40 AM	Break
9:40 – 11:40 AM	Contributed Papers
11:40 PM	Meeting Adjourned

Program

Tuesday, October 6

Welcome and Invited Presentations

(Grant Beauprez moderator)

**Please turn off cell phones during all paper sessions*

- 8:00-8:05 **Opening remarks.** Grant Beauprez
- 8:05-8:20 **Welcome**
Dr. Steven Gamble, President, ENMU
Tod Stevenson, Director, NMDGF
- 8:20-8:50 **Restore New Mexico.** Doug Burger, BLM.
- 8:50-9:20 **Candidate Conservation Agreement for the Lesser Prairie-chicken and Sand Dune Lizard in New Mexico.** Tim Breen, USFWS.
- 9:20-9:40 **Update on the *Grassland Conservation Plan for Prairie Grouse in North America.*** Bill Vodehnal, Nebraska Game and Parks Commission.
- 9:40-10:00 **Implementation of the *Grassland Conservation Plan for Prairie Grouse in North America.*** Richard Baydack, University of Manitoba.
- 10:00-10:10 Break

Wind Energy Issues

(Heather Whitlaw-moderator)

- 10:10-10:30 **Greater Sage-Grouse Telemetry Study to Assess Response to Wind Energy Development in Carbon County, Wyoming.** Greg Johnson.
- 10:30-10:50 **Location of Greater Prairie-chicken Nests in Relation to Wind Power Development in Kansas.** Lance McNew, Kansas State University.
- 10:50-11:10 **Greater Prairie-chickens: Grasslands and Vertical Structures.** John Toepfer.
- 11:10-11:30 **Working to Reduce Negative Impacts of Development on the Lesser Prairie-Chicken (*Tympanuchus pallidicinctus*) through a Spatially-Based Planning Tool, Promoting Voluntary Mitigation and Targeted Conservation Work: A Multi-Entity Collaboration in Oklahoma.** Luke Bell, USFWS.
- 11:30-12:00 **Wind Energy Discussion**
- 12:00-1:00 Lunch

Prairie Grouse Ecology and Populations

(Brent Jamison-Moderator)

- 1:00-1:20 **Breeding Season Ecology of Lesser Prairie-chickens in the Northeast Texas Panhandle.** Doug Holt, Texas Tech University.
- 1:20-1:40 **The Over-winter Ecology of Lesser Prairie-chickens in the Northeast Texas Panhandle.** Curtis Kukal, Texas Tech University.
- 1:40-2:00 **Reproductive Ecology and Survival of Lesser Prairie-chickens in the Southern High Plains of Texas.** Blake Grisham, Texas Tech University.
- 2:00-2:20 **Lesser Prairie-chicken in Texas: Survival, Reproduction, and Population Viability.** Nova Silvy, Texas A&M University.
- 2:20-2:40 Break

Conservation Genetics and Populations

(Dan Svedarsky-moderator)

- 2:40-3:00 **Conservation Genetics of the Lesser Prairie-Chicken in Texas.** Kelly Corman, Caesar Kleberg Wildlife Research Institute.
- 3:00-3:20 **The Use of Conservation Genetics to Inform Land Management and Conservation Efforts for Prairie-Chickens in Grassland Communities of Kansas.** Andrew Gregory, Kansas State University.
- 3:20-3:40 **Population Connectivity as a Critical Factor in Prairie Chicken Sustainability.** J. Ruch, University of Manitoba.
- 3:40-4:00 **Population Trend of the Greater Prairie Chicken in the Tallgrass Prairie National Preserve.** Rebekah Foote, Texas A&M University.
- 4:00-4:20 **Estimating Sharp-tailed Grouse Lek Occurrence and Density Over Broad Spatial Extents.** Doug Manzer, Alberta Conservation Association.
- 4:00-6:00 Social Mixer, Casa Del Sol, across from ENMU.
- 6:00-9:00 Dinner and Auction.

Wednesday, October 7

- 8:00-10:00 **PGTC Business Meeting**
- 10:00-10:20 Break

Prairie Grouse Status and Management

(Tim Breen-moderator)

- 10:20-10:40 **“Smile, You’re on Cupido Camera – Real World Science Education in the Minnesota Prairie.”** Dan Svedarsky, University of Minnesota, Crookston.

- 10:40-11:00 **Greater Prairie Chicken Recovery Efforts in Missouri.** Max Alleger, Missouri Department of Conservation.
- 11:00-11:20 **Status of Missouri Greater Prairie Chicken Populations and Update on Translocations.** Brent Jamison, Missouri Department of Conservation.
- 11:20-11:40 **Monitoring of a Tebuthiuron Treatment to Reduce Shinnery Oak and Enhance Lesser prairie-chicken Habitat in Southeastern Roosevelt County, New Mexico, Year Nine.** Charles Dixon.
- 11:40-12:00 **Status of New Mexico Lesser Prairie Chicken Populations.** Grant Beauprez, New Mexico Department of Game and Fish.
- 12:00-1:00 Lunch
- 1:00-5:30 **Field Trip to Milnesand, Lesser Prairie-chicken Capital of New Mexico.**
- 6:30-9:00 **Banquet and Award Presentations.** -Entertainment by Joe Whitehead and Betty Williamson

Thursday, October 8

Attwater's Prairie Chicken Recovery Efforts (Rebekah Foote-moderator)

- 8:00-8:20 **Evaluation of the Reintroduction of Attwater's Prairie-chickens in Goliad County, Texas.** Aaron Pratt, Society of Tympanuchus Cupido Pinnatus.
- 8:20-8:40 **Attwater's Prairie-chicken Recovery 2009-Where Are We?** Michael Morrow, Attwater Prairie Chicken National Wildlife Refuge.
- 8:40-9:00 **Attwater's Prairie-Chicken Breeding, USA and Houbara Bustard Breeding, Morocco, 2009.** Steve Sherrod, Sutton Avian Research Center.
- 9:00-9:20 **The Attwater's Prairie Chicken-The Beginning or the End?** John Toepfer, Society Tympanuchus Cupido Pinnatus.
- 9:20-9:40 Break

Field Techniques and Landscape Ecology (Max Alleger-moderator)

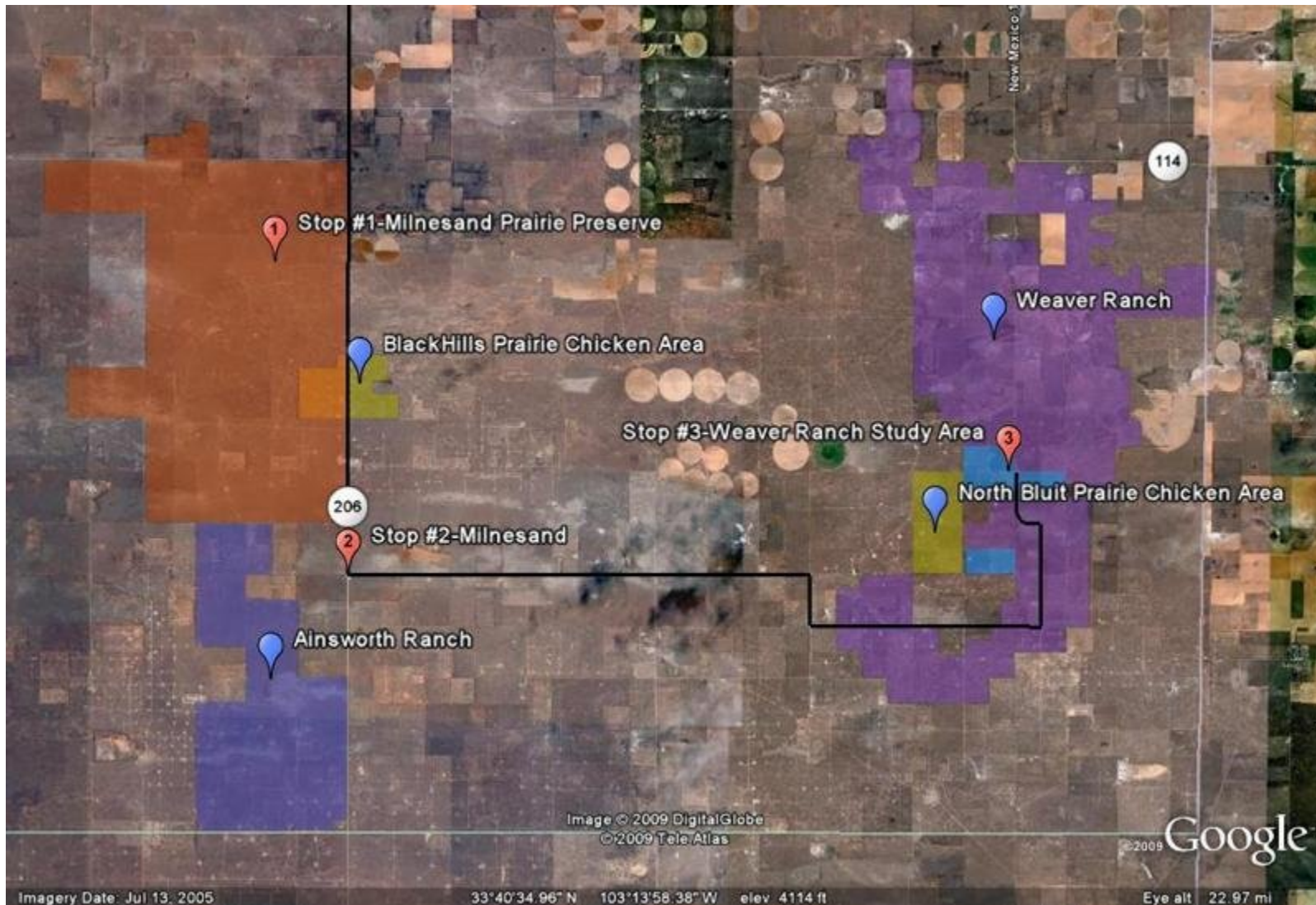
- 9:40-10:00 **The Use of Drop and Rocket Nets to Capture Lesser Prairie Chickens on Spring Leks.** Charles Dixon, Wildlife Plus Consulting.
- 10:00-10:20 **Aerial Surveys for Lesser Prairie-chicken Leks: Detectability and Disturbance Response.** Matthew Butler, Texas Tech University.
- 10:20-10:40 **A crash course in fence marking in New Mexico for the lesser prairie-chicken.** Nancy Riley, USFWS.

- 10:40-11:00 **Post-Hatch Habitat Use and Selection of Greater Prairie-chicken Hens in a Restored Landscape.** Nathaniel Emery, University of North Dakota.
- 11:00-11:20 **Influence of Conservation Reserve Program (CRP) lands and landscape attributes on the distribution and abundance of Prairie Grouse in South Dakota.** Kent Jensen, South Dakota State University
- 11:20- Meeting Adjourned

MILNESAND FIELD TOUR SCHEDULE

Wednesday, October 7, 2009

- 1:00 PM Buses leave from ENMU Student Union parking lot.
No private vehicles, please.
- 1:45 – 2:30 PM **Stop 1** The Nature Conservancy's *Milnesand Prairie Preserve*. Tish McDaniel, Southern Shortgrass Prairie Coordinator for TNC in New Mexico will introduce the Preserve and lead discussion of this 18,000 acre property which remains a working cattle ranch.
- 2:30 – 2:40 PM Travel to Milnesand, NM
- 2:40 – 3:00 PM **Stop 2** A brief pit stop in Milnesand at the "*Chicken House*", a property managed by Grasslans Charitable Foundation as a field station for technicians and other researchers to headquarter while working in the area.
- 3:00 – 3:25 PM Travel to Weaver Ranch
- 3:25 – 4:25 PM **Stop 3** *Weaver Ranch*. Jim Weaver, Willard Heck and Charles Dixon will lead discussion of prairie chickens, the land management, restoration and monitoring efforts on the ranch, grassland biodiversity, and ranching economics.
- 4:25 – 5:25 PM Return travel to ENMU



ABSTRACTS

Tuesday, October 6, 8:20-8:50AM

RESTORE NEW MEXICO

DOUG BURGER. Bureau of Land Management, Roswell, New Mexico.

Restore New Mexico is an aggressive partnership of various federal, state, and private agencies to restore grasslands and riparian areas to a healthy and productive condition. Restore New Mexico restores lands, regardless of ownership, across the state and also reclaims lands impacted by historic oil and gas development by repairing habitat and treating invasive plants. The focus is primarily on invasive and exotic brush species including mesquite, juniper, creosote and salt cedar. The benefits include reduced soil erosion; improved water quantity and quality; healthy habitat for wildlife; and decreased impacts from catastrophic wildfires. Since 2005, over 1 million acres of federal, state and private lands have been restored and reclaimed.

Tuesday, October 6, 8:50-9:20AM

CANDIDATE CONSERVATION AGREEMENT (CCA) FOR THE LESSER PRAIRIE-CHICKEN AND SAND DUNE LIZARD IN NEW MEXICO

TIM BREEN, U.S. Fish and Wildlife Service, Carlsbad, New Mexico.

The “*Candidate Conservation Agreement (CCA) for the Lesser Prairie-chicken and Sand Dune Lizard in New Mexico*” represents a collaborative effort between the U.S. Fish and Wildlife Service (FWS), Bureau of Land Management (BLM), Center of Excellence for Hazardous Materials Management (CEHMM), and participating cooperators to address the conservation needs of the lesser prairie-chicken and sand dune lizard in New Mexico. Through the CCA, we are working with the oil and gas industry, livestock producers, and other interested stakeholders who voluntarily commit to implement or fund specific conservation actions to reduce and/or eliminate threats to these species. In return, participating cooperators receive a high degree of certainty that their activities will not be further restricted should the species become listed. A future decision to list either species would take into consideration actions planned and/or implemented pursuant to this CCA. Since this CCA is designed to address the activities of lessees and permittees on Federal lands, a companion Candidate Conservation Agreement with Assurances (CCAA) is also being used to address the needs of both species on non-Federal lands within New Mexico. To date, approximately 130,000 acres of non-Federal lands in Lea and Roosevelt counties have been signed up under the CCAA.

Tuesday, October 6, 9:20-9:40AM

UPDATE ON THE *GRASSLAND CONSERVATION PLAN FOR PRAIRIE GROUSE* IN NORTH AMERICA

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A draft of *A Grassland Conservation Plan for Prairie Grouse*, coordinated by the North American Grouse Partnership (NAGP), was first presented at the 27th Prairie Grouse Technical Council meeting in South Dakota. The goals of the Plan were to enhance, conserve, and restore grassland ecosystems to benefit prairie grouse and other grassland species. The Plan presents an ecosystem diversity approach to grassland conservation that utilizes the Natural Resource Conservation Service's ecological site descriptions of 46 Major Land and Resource Areas (MLRA) in the US and 10 Soil Correlation Areas (SCA) in Canada to describe historical ecosystem diversity and to assess current versus historical grassland conditions. Based on distribution and current population status of prairie grouse, acreage representation goals of 10%, 15%, and 20% were applied to each MLRA and SCA with 20% representation targeted to sustain existing high spring breeding populations and 10% representation targeted at areas of low breeding populations and to connect isolated populations. Teams of prairie grouse biologists identified priority areas for grassland conservation of each species, and described the primary threats to the species within each Bird Conservation Region (BCR) that support prairie grouse. The plan identified a goal of conserving or restoring 65 million acres of grassland throughout the 10 BCRs to achieve conservation objectives for prairie grouse. Strategies for implementation of the plan were also identified.

Tuesday, October 6, 9:40-10:00AM

IMPLEMENTATION OF THE *GRASSLAND CONSERVATION PLAN FOR PRAIRIE GROUSE* IN NORTH AMERICA

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The Association of Fish and Wildlife Agencies (AFWA) formally endorsed the *Grassland Conservation Plan for Prairie Grouse* at the 73rd North American Wildlife and Natural Resources Conference in Phoenix in March 2008. This endorsement was critical to ensuring that state and provincial agencies were well positioned to move forward with Plan implementation efforts. In order to further implementation, a new partnership, Prairie Grouse Partners, was formed in spring 2009. Organizations currently associated with the new partnership include the North American Grouse Partnership, Pheasants Forever, Quail Forever, the Theodore Roosevelt Conservation Partnership, the Mule Deer Foundation, the Ecosystem Management Research Institute, and the American Bird Conservancy. The Prairie Grouse Partners target three focus areas: 1) grant funding for grassland habitat projects, 2) legislative engagement in grassland conservation programs, and 3) media advocacy for grasslands, prairie grouse, and associated wildlife. Grant funding for the Grassland Conservation Plan has recently been secured in Nebraska and South Dakota. The Nebraska Environmental Trust Fund received a grant of \$68,000 for implementation of the Plan through initiation of on-the-ground conservation practices to restore grassland ecosystem function to historical conditions. The Ecosystem Management Research Institute received a \$650,000 Conservation Innovation Grant from the Natural Resource Conservation Service (NRCS) for a project entitled Coordinated Restoration of Native Grasslands Using Innovative Practices. The project will be conducted over the next three years in South Dakota and Nebraska, and will implement a grassland restoration program that addresses restoration objectives identified in State Wildlife Action Plans as well as the *Grassland Conservation Plan for Prairie Grouse*. These two grants are examples of the types of innovative programming options that will be used to ensure that implementation of the *Grassland Conservation Plan for Prairie Grouse* continues to move forward into the future.

Tuesday, October 6, 10:10-10:30AM

GREATER SAGE-GROUSE TELEMTRY STUDY TO ASSESS RESPONSE TO WIND ENERGY DEVELOPMENT IN CARBON COUNTY, WYOMING

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MATT HOLLORAN, Wyoming Wildlife Consultants, LLC, P.O. Box 893, Pinedale, WY 82941; matth@wyowildlife.com

While the potential exists for wind turbines to displace greater sage-grouse from occupied habitat and influence population growth, well-designed studies examining the potential impacts of wind turbines on greater sage-grouse are lacking. The objectives of our study are to compare greater sage-grouse habitat selection and demographics on proposed wind energy development and reference areas pre versus post-construction of the wind energy facility to determine if wind-energy facilities influence grouse distributions or population growth. This study is being conducted in Carbon County, Wyoming, in an area with two proposed and one existing wind-energy facilities. Due to high densities of breeding greater sage-grouse, most of the study area is within an area mapped by the State of Wyoming as a greater sage-grouse “Core Population Area”. The first year of study is designed to collect data on greater sage-grouse populations necessary to determine pre-treatment seasonally selected habitats (e.g., nesting areas, brood-rearing areas, lek visitation, summer habitat, and winter habitat) and population-level vital rates (e.g., productivity and survival). The presence of an existing wind energy facility in the project area has allowed us to obtain some information on greater sage-grouse response to wind turbines the first study year. Seventy-five female greater sage-grouse were captured by spotlighting and use of hoop nets in early April 2009 and fitted with VHF necklace-mounted radio transmitters. Radio-marked grouse have been intensively monitored since to determine seasonal habitat selection and demographic parameters. To investigate population trends through time, we determined the distribution and numbers of males using active leks throughout the study area, which was defined as each wind resource area (WRA) and a 4-mile buffer. Results of the research to date, including initial response to wind turbines, will be provided.

Tuesday, October 6, 10:30-10:50AM

LOCATION OF GREATER PRAIRIE-CHICKEN NESTS IN RELATION TO WIND POWER DEVELOPMENT IN KANSAS

LANCE B. MCNEW¹, Andrew J. Gregory, Samantha M. Wisely, and Brett K. Sandercock. Division of Biology, Kansas State University, 116 Ackert Hall, Manhattan, KS 66506. ¹Email: lbmcnew@ksu.edu

The Greater Prairie-Chicken is an obligate grassland bird and indicator species for unfragmented grasslands in the tallgrass prairie ecosystem. Because much of the species' core breeding range overlaps with large areas considered optimal for wind power development, there are conservation concerns. Previous studies have documented the negative effects of other types of anthropogenic features on prairie grouse space use and demography. However, data are lacking regarding the effects of wind power facilities on prairie grouse populations. As part of a larger study of the impacts of wind power development on greater prairie-chicken ecology, we assessed whether a recently constructed 201-MW wind power facility negatively impacted the placement of nests by greater prairie-chickens in Cloud County, Kansas. The Meridian Way wind park was completed in December 2008 and is composed of 67 3-MW wind turbines, 2 substations, 26 km of high capacity transmission lines, and 37 km of newly constructed access roads. From April – July 2009, 70 nests of 68 radio-marked prairie chickens were located within 25 km of the wind park. A minimum convex polygon was drawn around the nests and 70 random points were selected inside this polygon. We developed a set of logistic models to determine if prairie-chicken nest locations could be predicted from vegetative characteristics at nest sites or distances to the closest wind-power feature and used Akaike's Information Criterion to rank and select model(s). We also conducted Monte Carlo simulations ($n = 1,000$ iterations) to create and compare the distributions of distances from wind park features to nests and random points. The shortest random distance to each type of anthropogenic feature was selected from each of the 1,000 data sets and these distances were used to create distributions of distances from each type of feature to the nearest random point. We calculated a P -value as the proportion of random points that were at least as far away from the feature as the observed nest and concluded that nesting hens avoid anthropogenic features if $P > 0.80$.

Tuesday, October 6, 10:50-11:10AM

GREATER PRAIRIE CHICKENS: GRASSLANDS AND VERTICAL STRUCTURES

J. E. TOEPFER, Research Consultant, Society Tympanuchus Cupido Pinnatus, Ltd., 3755 Jackson, Plover, WI 54467 USA. jtoepfer@coredcs.com

W. L. VODEHNAL, Nebraska Game and Parks Commission, Bassett, NE 68714 USA

This presentation will examine the concept that greater prairie chickens (*Tympanuchus cupido pinnatus*) are avoiding “vertical structures”. Information from a three wind generator complex in northwestern Minnesota 1997-2009 will be examined. The prairie chicken population within a mile of this complex has until recently been increasing and is now experiencing declines as is the surrounding population. These declines are associated with the loss of CRP grasslands. Results at the three tower complex indicate based on a small sample of 40 nests located within a mile that prairie chicken hens are not avoiding the small, isolated three tower wind generator complex as nests are significantly closer to the towers than random points. Nest distribution and locations will be examined within the vicinity of the three generator complex and other manmade structures and trees. In a healthy population the distribution and location of booming grounds and especially nests is determined by the presence of adequate habitat in the form of residual grassland cover, not the presence of vertical structures such as trees, woodlots, power lines, and wind towers. Information will also be discussed relative to prairie grouse display ground distribution and trends associated with a much larger 36 generator complex near Ainsworth in the Nebraska Sandhills 2006-2009. The degradation and especially loss of grassland habitat associated with the development is the factor that most influences prairie chicken numbers and distribution. The question has to be raised as to what criteria should be used to determine what constitutes a negative impact. It is proposed that annual population trends based on booming ground counts are the best criteria in determining if manmade structures are negatively impacting prairie chicken populations.

Tuesday, October 6, 11:10-11:30AM

WORKING TO REDUCE NEGATIVE IMPACTS OF DEVELOPMENT ON THE LESSER PRAIRIE-CHICKEN (*TYMPANUCHUS PALLIDICINCTUS*) THROUGH A SPATIALLY-BASED PLANNING TOOL, PROMOTING VOLUNTARY MITIGATION AND TARGETED CONSERVATION WORK: A MULTI-ENTITY COLLABORATION IN OKLAHOMA.

LUKE A. BELL, U.S. Fish and Wildlife Service, 9014 East 21st Street Tulsa, Oklahoma 74129-1428

This presentation is intended to inform the audience about an ongoing effort in Oklahoma between the Oklahoma Department of Wildlife Conservation, the Oklahoma Ecological Services Field Office of the U.S. Fish and Wildlife Service, the Oklahoma Chapter of The Nature Conservancy, the Playa Lakes Joint Venture and the George Miksch Sutton Avian Research Center to proactively address potential conflicts between development and wildlife conservation. The first part of this talk will offer an overview of the need for such an effort and describe the main tool we have developed to help in our endeavor – a spatial modeling process designed to evaluate landuse/landcover in Oklahoma relative to its value to the lesser prairie-chicken (LEPC). While the impetus for the group’s work is the potential for significant and rapid expansion of wind energy facilities and associated infrastructure in proximity to the LEPC in Oklahoma, the model can be used to evaluate any type of potentially detrimental development (e.g. transmission lines, road construction or oil/gas development). The second part of the presentation will describe the three current applications of the model: 1) identification of areas important to the conservation of the LEPC and those more suited for development of wind energy facilities and associated infrastructure (i.e., where wind could go and have reduced or no impact on the LEPC), 2) ranking of sites for targeted conservation work (e.g., ranking applications for cost-share assistance in the USFWS Partners for Fish and Wildlife program) and, 3) estimation of voluntary mitigation costs for proposed development projects. The ultimate goal of the group’s effort and this talk is to export the process to the surrounding states, resulting in a comprehensive and seamless analysis covering the entire historical extent of the LEPC.

Tuesday, October 6, 1:00-1:20PM

BREEDING SEASON ECOLOGY OF LESSER PRAIRIE-CHICKENS IN THE NORTHEAST TEXAS PANHANDLE

R. DOUGLAS HOLT, Department of Natural Resources Management, Texas Tech University, Lubbock, TX, 79409, USA

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MATTHEW J. BUTLER, Department of Natural Resources Management, Texas Tech University, Lubbock, TX, 79409, USA

HEATHER A. WHITLAW, Texas Parks and Wildlife Department, Lubbock, TX, 79409, USA

DAVID A. HAUKOS, U.S. Fish and Wildlife Service, Lubbock, TX, 79409, USA

Lesser prairie-chicken populations have declined precipitously across their range since European settlement of the mixed and short grass prairies of North America. Low recruitment is seen as a major contributing factor to population declines of this bird. This study represents 2 years of data collected during the breeding seasons of 2008 and 2009.

We captured lesser prairie-chickens during the spring of 2008 and 2009.

Breeding age bird survival did not differ between genders. Breeding age bird survival differed between age classes (adult and juvenile) and years. Survival estimates for breeding age birds in 2008 were 0.43 (SE=0.165) for adults and 0.67 (SE=0.123) for juveniles and in 2009 were 0.65 (SE=0.107) for adults and 0.94 (SE=0.062) for juveniles.

Mortality factors for breeding age birds were classified as avian predators, mammalian predators and unknown cause of mortality. Cause-specific mortality rate estimates due to avian predators were 0.26 (SE=0.100) in 2008 and 0.06 (SE=0.055) in 2009, due to mammalian predators were 0.25 (SE=0.10) in 2008 and 0.09 (SE=0.052) in 2009 and due to an unknown factor was 0.04 (SE=0.037) in 2009.

We located 7 nests in 2008 and 9 nests in 2009 from radio-marked hens. Two additional nests were located in 2009 by rope dragging. Nest survival did not differ between years and was best described by a quadratic within year time trend with higher vegetation surrounding nests associated with greater nest survival. We monitored brood survival for 7 broods (3 in 2008, 4 in 2009). Chick survival in 2008 was 0.13 (SE=0.057). Chick survival in 2009 was zero.

Preliminary data analysis suggests that brood survival may be limiting population growth on our study site. Furthermore, early brood survival is extremely low. Data relating landscape composition and structure to brood survival will be examined to develop beneficial habitat management recommendations.

Tuesday, October 6, 1:20-1:40PM

**THE OVER-WINTER ECOLOGY OF LESSER PRAIRIE-CHICKENS IN THE
NORTHEAST TEXAS PANHANDLE**

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Relatively little research has been conducted on lesser prairie-chickens (*Tympanuchus pallidicinctus* [LPC]) during the over-winter months. A better understanding of LPC ecology during this time period will aid future management activities. During the first year of a 2-year study in the Rolling Plains of the northeast Texas Panhandle, we used radio-telemetry techniques to examine LPC movements, home range size and dynamics, and survival during the over-winter period (i.e., 1 September–28 February) of 2008–2009. We captured LPC on leks using walk-in traps and rocket-nets during the spring and fall of 2008. We estimated male home range size with 95% fixed arithmetic mean minimum convex polygon and 95% fixed kernel techniques. Male LPC home range sizes were significantly larger during the first 3 months of the study when compared to the latter 3 months for both estimation methods (95% fixed mean MCP, $P = 0.020$; 95% fixed kernel, $P = 0.017$). Estimated minimum daily movements by male LPC showed a similar trend, with significantly higher ($P = 0.002$) movements during the first 3 months of the study. Our data suggested that LPC movements and home ranges are dynamic during the over-winter period, even though we did not observe birds making long movements to use agricultural fields. Over-winter survival was estimated to be 0.678 (SE = 0.11), and mortality was attributed to avian ($n = 3$), mammalian ($n = 2$), and unidentifiable ($n = 1$) predators. We tracked LPC primarily (>98% of tracking locations) in native prairie habitats, though an adult male spent approximately 1 month in the fall in a weeping lovegrass (*Eragrostis curvula*) field.

Tuesday, October 6, 1:40-2:00PM

REPRODUCTIVE ECOLOGY AND SURVIVAL OF LESSER PRAIRIE-CHICKENS IN THE SOUTHERN HIGH PLAINS OF TEXAS

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Survival of Lesser Prairie-Chicken (LEPC) broods from hatch to the next breeding season has been identified as the main demographic parameter affecting population size. In previous studies, brood survival was a function of a quadratic time trend and maximum daily temperature; however, brood survival ultimately depends on survival of the brood rearing hen. Therefore, our objectives were to assess nesting ecology and hen and brood survival of LEPCs in the shinnery oak / sand sagebrush community in the Southern High Plains. We determined fates for 22 nests (9 hatch, 3 abandoned, 3 hen deaths, and 7 nest depredations). Based on flush count data for both years, zero broods from the nine successful nests survived. Brood survival probabilities were a function of a quadratic time trend, daily temperature, and relative humidity. The probability of a brood surviving from 1 June- 1 August was 0.01 (SE = 0.03). We recorded 15 mortalities of LEPC hens. The model that incorporated season was most supported; however there was model support for age, mass, and age and mass interaction. The probability of a hen surviving from 15 March-31 August in our study was 0.75 (SE = 0.07). Survival was lowest during the early incubation period (0.95; SE = 0.02). Our preliminary measure of LEPC nest success was consistent with other studies on LEPCs throughout their range. The ultimate cause for low chick survival in our study is unknown, but a combination of unfavorable weather early in the brooding season and predation are likely mortality factors. Based on our preliminary results, management should focus on improving nest success and brood survival 0-14 days post-hatch.

Tuesday, October 6, 2:00-2:20PM

LESSER PRAIRIE-CHICKEN IN TEXAS: SURVIVAL, REPRODUCTION, AND POPULATION VIABILITY

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ABSTRACT Lesser prairie-chickens (*Tympanuchus pallidicinctus*; LPC) have declined throughout their range because of overgrazing and loss or fragmentation of habitat from conversion of native prairie to agricultural cropland. LPCs were radio-marked ($n = 225$) as part of 2 separate field studies in the Texas panhandle (2001–2003, 2003–2007). These data were used to evaluate whether differences in demographic parameters existed between populations occurring in 2 areas dominated by different vegetation types (sand sagebrush [*Artemisia filifolia*] versus shinnery oak [*Quercus havardii*]) in the Texas Panhandle from 2001–2007. We used a model-selection approach to test hypotheses explaining differences in survival and reproductive success of LPCs. Overall, survival, reproduction, and population viability were lower in the shinnery oak compared to the sand sagebrush vegetation type during this study. LPC survival differed between breeding and non-breeding periods and between study populations. We estimated annual survival of LPC at 31% in the shinnery oak and 52% in the sand sagebrush vegetation type. Nest success was (41%, 95% $CI = 25\%$ to 56%) in the shinnery oak population compared to the sand sagebrush population (75%, 95% $CI = 54\%$ to 94%). Results suggest that differences in survival and reproduction of LPCs within sand sagebrush and shinnery oak vegetation types throughout the distribution of LPC should be evaluated, especially during the breeding season. Improvements to vegetation conducive for successful nesting are important to the viability of LPCs. Conservation and recovery strategies for LPC populations should address variables that increase survival (e.g., habitat management practices such as improved quality and quantity of habitats).

Tuesday, October 6, 2:40-3:00PM

CONSERVATION GENETICS OF THE LESSER PRAIRIE-CHICKEN IN TEXAS

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Over the last century, lesser prairie-chicken (*Tympanuchus pallidicinctus*; LEPC) have declined in abundance and geographic distribution across their entire 5-state range. Landscape changes have resulted in fragmentation, degradation, and loss of habitat. Consequently, LEPCs presently occupy less than 10% of their former range. Once common in the Texas panhandle, the LEPC has been identified as a species of conservation priority by the Texas Parks and Wildlife Department and the U.S. Fish and Wildlife Service. We are using genetic techniques to identify unique populations, assess connectivity and movement among populations (gene flow), assess genetic diversity, and estimate the effective number of breeding individuals within Texas.

We collected tissue samples during 2007-2009 from LEPCs trapped on communal display and breeding grounds, as well as, hunter harvests and road-killed individuals. Currently, we have genotyped 293 individuals at 5 microsatellite DNA loci. Preliminary analyses indicate high genetic diversity despite recent population declines. We detected low, but statistically significant, genetic structure among subpopulations ($F_{ST} = 0.038$; S.E. = 0.011). Estimates of F_{IS} ranged from 0.088—0.172, indicating an excess of homozygotes, and were similar to the values observed in previous studies of LEPC in New Mexico and Oklahoma. A Bayesian clustering analysis suggested 3 genetic clusters within the area sampled. Consistent with the current distribution of birds, we found a distinct break between the northeast and southwest regions of the panhandle. A finer-scale Bayesian clustering analysis incorporating spatial locations of samples revealed a well-connected population in the southwest panhandle, with evidence for increased fragmentation in the northeast. We are currently analyzing an additional 164 individuals and have 1 more year of data collection, during which we will concentrate sampling efforts on peripheral leks. Ongoing efforts will involve sequencing mtDNA and incorporating more microsatellite loci into our analyses.

Tuesday, October 6, 3:00-3:20PM

**THE USE OF CONSERVATION GENETICS TO INFORM LAND
MANAGEMENT AND CONSERVATION EFFORTS FOR PRAIRIE-CHICKENS
IN GRASSLAND COMMUNITIES OF KANSAS**

GREGORY, ANDREW J., L.B. MCNEW, B.K. SANDERCOCK, AND S.M. WISELY

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For the past twenty years there has been debate among conservation biologists over the utility of conservation genetics to actually inform conservation efforts. Many land managers and population ecologists argue that conservation genetics is concerned only with quantifying achieved or lost genetic diversity as a result of previously enacted management policies; and that these *post hoc* analyses while informative, do little to actually help the immediate conservation of populations. Conversely, population geneticists have argued that many observable demographic changes have genetic underpinnings that need to be explored and understood for meaningful conservation to occur; and that without this understanding we are doomed to repeat past mistakes.

We screened >1000 Greater Prairie-chicken (*Tympanuchus cupido pinnatus*) samples from six geographic regions of eastern Kansas, at 11 microsatellite markers. We then used GAP landcover data and Program Circuitscape to evaluate the influence that human land use has on Greater Prairie-chicken genetic isolation. Genetic diversity among the different demes was high ($AR = 11$, $H_O = 0.73$) which is expected of a species sampled at the core of its remaining range. There was some evidence for weak inbreeding within demes ($F_{IS} = 0.01$) and for weak population structure between demes ($F_{ST} = 0.02$), however isolation by distance was not observed ($R^2 = 0.22$, $P = 0.14$). Using isolation by resistance modeling we explored multiple models of how human land use may be structuring demes on the landscape. We used an information theoretic approach to model selection and applied least cost path analysis to our most parsimonious landcover model. The areas identified in the path analysis represent areas where proactive management to enhance grassland and nesting cover would likely increase connectivity and possibly enhance demographic parameters of nest success and survival at local scales but will also likely provide broader management benefits.

Tuesday, October 6, 3:20-3:40PM

POPULATION CONNECTIVITY AS A CRITICAL FACTOR IN PRAIRIE CHICKEN SUSTAINABILITY

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This presentation will discuss greater prairie chicken population connectivity as a critical factor that will ultimately decide the fate of this prairie flagship species. With populations in decline for the past 80 years the greater prairie chicken (*Tympanuchus cupido pinnatus*, hereafter GPC) - is redlisted by the International Union for the Conservation of Nature as vulnerable. Many present GPC populations remain isolated by non-contiguous landscapes due to habitat loss and degradation. Consequential population bottlenecks and reduced genetic diversity have contributed to the decline, extirpation, and extinction of GPC and its conspecifics – Lesser prairie chicken; Attwater's prairie chicken; and Heath Hen. Thus, connective habitat corridors for genetic dispersal are of utmost importance to the long-term viability this species, which means that the preservation of grassland habitat is the primary challenge in GPC conservation. Historical GPC habitat originated around the corners of 3 States – Iowa, Illinois and Missouri – in what was the center of true tall grass prairie habitat. The heart of the population has since moved about 800km west and today centers between Kansas and Nebraska with a large population in South Dakota. Other much smaller populations are located in Oklahoma, Missouri, Iowa, Illinois, Wisconsin, Minnesota, North Dakota and Colorado, most surviving in mosaic habitats of mid-tall grass prairie and cropland. As it did historically, GPC continues to follow grassland remnants, most of which survive in areas unsuitable for cropland such as gravel moraines (Minnesota) and sandhills (Nebraska). Isolated grasslands in various States across America indicate that populations are not sustainable in heavily fragmented habitats. It is estimated that several thousand contiguous acres of grassland be managed over thousands of square miles – as was emphasized by the Hamerstroms, connectivity is paramount.

Tuesday, October 6, 3:40-4:00PM

**POPULATION TREND OF THE GREATER PRAIRIE CHICKEN IN THE
TALLGRASS PRAIRIE NATIONAL PRESERVE**

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In 2006, The Nature Conservancy and the National Park Service initiated a new management philosophy on the pastures at the Tallgrass Prairie National Preserve (TAPR) designed to mimic the natural 3-4 year burn cycle of the grasslands. This change in practice was intended to improve the overall health of the prairie ecosystem and while not specifically directed at the Greater prairie chicken (*Tympanuchus cupido pinnatus*, GPC), the success of this bird would provide insight into the success of the proposed burning program. In an effort to determine if changes in prairie management could lead to an increase in numbers, a 4-year study of lek counts was undertaken in the Flint Hills of Kansas at a location where patch burning was implemented at the start of the study period. The purpose of this study was to perform an observational study and describe through estimation of various attributes (e.g., vegetation measurements [height and cover], burn/grazing history, and weather conditions) trends in GPC numbers over time. Both the number of birds and the number of leks were recorded from 2006–2009. GPC numbers increased throughout the study indicating the implementation of patch burning on TAPR would lead to recovery of the grasslands and GPC populations.

Tuesday, October 6, 4:00-4:20PM

ESTIMATING SHARP-TAILED GROUSE LEK OCCURRENCE AND DENSITY OVER BROAD SPATIAL EXTENTS

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Agricultural expansion in native prairie may damage vegetation normally used for nesting, brood-rearing, and winter habitat for Sharp-tailed Grouse (*Tympanuchus phasianellus*). Understanding the interaction between Sharp-tailed Grouse and their human-modified prairie habitat is vital for predicting potential population declines and working toward preventing losses similar to what has occurred with sage grouse, *Centrocercus urophasianus*. We designed a rigorous method to survey for Sharp-tailed Grouse leks over broad spatial extents in east central Alberta. We used historic lek location data to build two complementary models that first predict lek occurrence and then estimate the density of leks among stratified areas of the region. We used a resource selection function (RSF) to predict lek occurrence, and a distance sampling approach to estimate lek density. The RSF was based on the availability of habitat features (i.e., grassland, crop, shrubs, trees) and enabled us to stratify our area into high, medium and low classes by the likelihood of a lek being present. We surveyed 630 random sites, roughly 18% of the 26,000 km² region, and located 146 new leks. Our predictions of where leks would occur were validated roughly in proportion to where these new leks were found among the three classes. Our distance function was derived using a modified point-count allowing us to estimate the density of leks in each stratum for this vast region ranging from 0.017 leks/km² to 0.048 leks/km² in the low and high classes respectively. Our approach provides an efficient means for predicting lek occurrence based on habitat features and using this information to estimate lek density across vast spatial extents.

Wednesday, October 7, 10:20-10:40AM

“SMILE, YOU’RE ON CUPIDO CAMERA – REAL WORLD SCIENCE EDUCATION IN THE MINNESOTA PRAIRIE.”

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The goal of this project is to provide unique educational opportunities for the public to learn about prairie chickens and the prairie ecosystem. Using a self-contained, remote camera at the Hamden Slough National Wildlife Refuge in western Minnesota, we recorded several weeks of prairie chicken booming in April and May of 2009. School children and their parents in the past have been involved in live viewing from a blind. The remote camera will allow booming and nesting activity to come to the classroom and creates opportunities for area high school students to participate in applied research activities both on-site and remotely. The infra-red camera was subsequently set up at an active prairie chicken nest to record incubation and eventual predation activity. Links to the video footage have been established on the Refuge web site and that of the Minnesota Prairie Chicken Society. A DVD on the prairie chicken story in Minnesota has been produced and duplicated by the Minnesota Prairie Chicken Society for distribution to educational groups. Plans for the future include going live with the web cam in real time, expanding connections with various schools, incorporating the video into science curricula, connecting with other Citizen Science initiatives, and recording other wildlife events like waterfowl nesting and shorebird migration. Sponsors: U. S. Fish and Wildlife Service, Minnesota Prairie Chicken Society, International Water Institute, and the University of Minnesota Extension- American Indian Youth 4H Program.

Wednesday, October 7, 10:40-11:00AM

GREATER PRAIRIE-CHICKEN RECOVERY EFFORTS IN MISSOURI

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The Missouri Department of Conservation (MDC) initiated a comprehensive Greater Prairie-Chicken Recovery program in 2006. Twenty-one agencies and conservation organizations operate as the Missouri Grasslands Coalition to gather program funds, impact public policy and implement recovery efforts within seven target geographies.

Accomplishments to date include acquiring 1,800 acres, seeding 2,800 acres to native prairie mixes, removing trees from 7,600 acres and idling 600 acres of privately owned grassland. Annual nesting and brood-rearing habitat management includes treatment of approximately 16,500 acres with a combination of invasive plant control, prescribed fire and patch/burn grazing.

Outreach efforts include developing media products for public distribution and implementing a marketing campaign that reached more than 900 landowners within target geographies. Biologists worked with agricultural economists to model the economic impacts of various farm management scenarios that benefit grassland birds, resulting in incentive programs intended to rebate lost income.

Missouri also completed the second year of a five-year translocation project in cooperation with the Kansas Parks and Wildlife Department. Although Missouri's native prairie-chicken population continued its long-term decline to an all-time low of 96 birds, a positive response to intensified management by grassland songbirds and Northern bobwhite populations have helped maintain recovery program momentum and funding.

Wednesday, October 7, 11:00-11:20AM

STATUS OF MISSOURI GREATER PRAIRIE-CHICKEN POPULATIONS AND UPDATE ON TRANSLOCATIONS

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Missouri's greater prairie-chicken population is estimated to have declined to less than 100 individuals. Intensive management and restoration of habitat under the species' recovery plan prompted initiation of a multi-year effort to reestablish a subpopulation in a recently improved 3,000-acre block of habitat. Translocations of birds from Kansas began in 2008 and continued through 2009. We conducted translocations using a 2-stage process. Males and females were captured on booming grounds during spring. Males were radio-marked and transported to Missouri on their day of capture. Females were radio-marked and released at the capture site. We returned in late summer to recapture these adult hens and their offspring. These juveniles were marked using only leg bands.

We released 45 males in 2008 and 49 males in 2009. We released 48 adult hens and 54 juveniles during early August 2008 and 2009 (24 adult hens and 27 juveniles each year). Males released in 2008 dispersed up to 50 miles from the release site; we documented a maximum dispersal distance of 36 miles in 2009. Dispersal rates and distances were lower for females. Of the 24 hens released in 2008, only 2 dispersed from the release site. These individuals joined birds in a remnant flock of native birds 11 miles from the release site the spring following their release.

Ten of 45 males released in late March survived one year following their release. Estimated annual survival of males was 22% (95% CI = 12–39%). Four of 24 hens (17%) released in 2008 survived one year. Observations of males and females released in 2009 suggest that survival is higher and dispersal lower than in 2008. We documented successful nesting at the release site and the survival of one brood to at least 60 d after hatching. This may indicate early signs of successful reestablishment of a population. Translocations are scheduled to continue through at least spring 2010 and may continue through 2012.

Wednesday, October 7, 11:20-11:40AM

MONITORING OF A TEBUTHIURON TREATMENT TO REDUCE SHINNERY OAK AND ENHANCE LESSER PRAIRIE CHICKEN HABITAT IN SOUTHEASTERN ROOSEVELT COUNTY, NEW MEXICO, YEAR NINE

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During September, 2000, pre-treatment vegetative surveys were conducted in Southeastern New Mexico on both the Weaver Ranch (treatment area) and the adjacent North Bluit Prairie Chicken Area (control area) owned by the New Mexico Department of Game and Fish to determine if differences existed in the vegetative composition of the two land parcels. No significant differences were observed. During October, 2000, tebuthiuron was applied to approximately 1600 ha of the Weaver Ranch at the rate of .65 kg/ha (0.6 of the labeled rate) to suppress shinnery oak (*Quercus harvardii*) and restore grasses to their former dominance. No tebuthiuron was applied to the dune areas that were historically dominated by dense shinnery oak mottes. Following the treatment there was a reduction in shrub occurrence, specifically shinnery oak, and a corresponding increase in grass occurrence. The increase in grass occurrence was a result of the expansion of grasses present before the treatment, not planted grasses or seed that sprouted post treatment. Forb occurrence has consistently been greater on treated than non-treated areas after year one. A small increase has occurred in Shinnery Oak on treated areas following the initial decrease. The resultant landscape is a mosaic of grasslands and shinnery oak, similar to that described by early settlers. Following treatment, the treated area produced more forage, grass seed and forbs than did the control area and forage quality was similar on both areas. Soil moisture has been higher on treated than non-treated areas each time soil moisture was measured. Lesser Prairie Chickens have been observed on all treatment areas during all periods of the year.

Wednesday, October 7, 11:40-12:00PM

STATUS OF LESSER PRAIRIE CHICKEN POPULATIONS IN NEW MEXICO

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In 2009, Lesser Prairie-Chickens (LPC) were surveyed audibly and visually along public roads and on State Game Commission-owned Prairie Chicken Areas (PCAs). This was the twelfth year of roadside route survey efforts. Ninety-one leks were detected on 13 of 29 (45%) roadside routes surveyed. Trend analysis of the total number of leks detected have shown a statistically significant increase from 1998– 2009 along these routes. Twenty-nine Prairie Chicken Areas (PCAs) were also surveyed. Over the last 12 years, both the number of leks detected and number of LPC observed have steadily increased in these areas. One hundred twenty-five leks were detected on or near PCAs, and 609 LPC were observed on 76 of those leks. Average lek size was 7.57 birds/lek with an estimated minimum spring breeding population of approximately 4,968 birds. This is a 47% decrease from 2008, which may be attributed to the dry spring and summer of 2008 and a large hailstorm in May of 2008.

Thursday, October 8, 8:00-8:20AM

EVALUATION OF THE REINTRODUCTION OF ATTWATER'S PRAIRIE-CHICKENS IN GOLIAD COUNTY, TEXAS

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The population of endangered Attwater's prairie-chickens (APC) (*Tympanuchus cupido attwateri*) is maintained by the reintroduction of birds raised in captive-breeding facilities with releases initiated in 1996 at the Attwater Prairie Chicken National Wildlife Refuge (APCNWR) and The Nature Conservancy's Texas City Prairie Preserve (TCPP). The success of these reintroductions, and ultimately the species recovery, will be determined by survival and reproduction of the released pen-reared birds. The limiting factor in APC recovery at the APCNWR and TCPP is poor brood survival. In the fall of 2007, the first private-lands release was initiated on a ranch in Goliad County, Texas when 55 birds were released. An additional 133 APC were released in 2008. We will compare post-release survival and brood survival between the Goliad County release site, APCNWR, TCPP, and a reference cohort of wild young-of-the-year greater prairie-chickens (*T.c. pinnatus*) from an increasing population in Minnesota.

Thursday, October 8, 8:20-8:40AM

ATTWATER'S PRAIRIE-CHICKEN RECOVERY 2009 – WHERE ARE WE?

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TERRY A. ROSSIGNOL, Attwater Prairie Chicken National Wildlife Refuge, P.O. Box 519, Eagle Lake, TX 77434

With fewer than 100 free-ranging Attwater's prairie-chickens (APC) (*Tympanuchus cupido attwateri*) in spring 2009 populations, this subspecies continues to teeter on the brink of extinction. While numbers in free-ranging populations remain disappointingly low, progress has been made in addressing factors limiting recovery. Cost share assistance has been provided to restore approximately 27,000 hectares of prairie habitat. A captive breeding program, initiated in 1992, contained approximately 49 breeding hens in spring 2009. This breeding program produced 318 >6 week-old chicks in 2009. Approximately 250 captive APC were scheduled for release in summer 2009 to supplement existing populations at the Texas City Prairie Preserve (TCPP) (Galveston County, Texas), the Attwater Prairie Chicken National Wildlife Refuge (APCNWR) (Colorado County, Texas), and on two private ranches in Goliad County, Texas. From 1995-2008, 1,471 captive-reared birds were released at these sites (Goliad County only since 2007). Kaplan-Meier annual survival estimates averaged 22% (range 8-43%) for 1996-2008 releases, substantially higher than survival of other pen-reared galliforms reported in the literature. Studies have indicated that movements, monthly ranges, and habitat use of released pen-reared APC were similar to wild birds. With the use of predator deterrent fences, 2000-2009 nest success averaged 66% compared to 32% reported in the literature for historic wild populations. Poor brood survival of released pen-reared birds – near zero in the absence of intensive intervention remains problematic to APC recovery. Current areas of research include impacts of red imported fire ants (*Solenopsis invicta*) on insect abundance during the brooding period, impacts of the captive-environment on chick digestive tract morphology and immune function, and an evaluation of post-release survival and reproduction on private lands.

Thursday, October 8, 8:40-9:00AM

ATTWATER'S PRAIRIE-CHICKEN BREEDING, USA, AND HOUBARA BUSTARD BREEDING, MOROCCO. 2009.

SHERROD, SK, ME MORROW, AND JE TOEPFER. Sutton Avian Research Center, University of Oklahoma; USFWS, Attwater's Prairie-Chicken National Wildlife Refuge; Society for Tympanuchus cupido pinnatus.

The Attwater's Prairie-Chicken (APCH) is the most endangered avian species in North America. Efforts to breed and manage this bird in captivity as well as to release captive-bred APC's and establish self-sustaining populations of this grouse in the coastal plains of its native Texas have been in progress for the last 20 plus years. Although such efforts have met with significant difficulties, considerable progress has been made during the last 6 years by an assorted team that includes leaders in captive breeding such as Fossil Rim Wildlife Center and Houston Zoo. Survival of young that make up broods produced in the wild is a significant problem currently under study. Producing enough young in captivity to "flood" the appropriate wild habitat with released poults as well as keeping plenty of potential breeders of the appropriate genetic variability in captivity is a parallel challenge. In order to supplement the current APCH captive breeding efforts, it has been proposed by USFWS and the APCH Recovery Team that a dedicated breeding facility for this species be established on private ranch land.

Prior to undertaking such a project, from Nov. 6-16, 2008, we reviewed one of the most advanced, captive bird breeding facilities in the world, through an invitation to visit the Emirates Center for Wildlife Propagation located in Missouri, Morocco, where over 16,000 Houbara Bustards (*Chlamydotis undulata*) were produced in 2009. This bird is in some ways the ecological counterpart to our Sage Grouse with a worldwide population estimated at 50,000-60,000. It is a large (approximately 3kg males), long-legged, -necked, and -winged, omnivorous bird of the North African, Middle Eastern, and Western Asian scrub deserts classified in its own family, Otidae. It occupies expanded leks and displays impressively with flared feathers when courting. Considered endangered from habitat degradation and overhunting, these birds are the subject of very extensive captive breeding and reintroduction efforts by the government of Abu Dhabi and other interested parties. They are a primary prey species for falconers in the Arab world, and it is this same group of hunters who have spearheaded the recovery efforts.

Raising and training houbara that are imprinted on people has become the most successful method of breeding production from this bird that lays a normal clutch of 2-3 eggs but that can be extended to successive egg production of as many as 20 per female. Artificial insemination is used to fertilize the eggs. There are massive cricket and meal worm production facilities that measure their nutritious, monthly production in tons. Management and release techniques result in excess of 70% of released birds surviving and reproducing in the wild. Several re-introduced, banded, captive-bred bustards, the capture of which we witnessed by trained falcons, had been living in the wild for three years.

Thursday, October 8, 9:00-9:20AM

THE ATTWATER'S PRAIRIE CHICKEN – THE BEGINNING OR THE END?

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Perception is reality - that is until someone examines the facts. This presentation will compare the Attwater's Prairie Chicken (*Tympanuchus cupido attwateri*) release of pen-reared birds with past efforts, other projects using pen or hand-reared birds and compared to data from wild prairie chickens. Standardized comparisons based on the number of eggs incubated indicates that the current APC recovery effort using a gentle release protocol is establishing a post release breeding population of immature APC at a level higher or comparable to that seen in wild prairie chickens and that reported for many other released pen-reared birds. This includes quail, pheasants, partridge, turkeys, ruffed grouse, whooping cranes and peregrine falcons. Of the birds listed only the release of hand reared peregrine falcons has consistently reestablished self-sustaining populations in the wild. The perception of many biologists is that the APC Recovery effort using pen-reared bird is a dead end. However the reality is that it is just the beginning and that the limiting factor is not getting enough released pen-reared birds to survive to breed but the failure of released pen-reared birds to fledge young on their own.

Thursday, October 8, 9:40-10:00AM

THE USE OF DROP AND ROCKET NETS TO CAPTURE LESSER PRAIRIE CHICKENS ON SPRING LEKS

CHARLES E. DIXON, Wildlife Plus Consulting, P.O. Box 416, Alto, NM 88312. 575-808-1221, wildlifeplus@wildblue.net

During the Spring of 2007, in an effort to increase the number of Lesser Prairie Chickens captured on the Spring leks, I looked at alternatives to the walk-in traps. We used rocket nets with success. In addition, I purchased nets, 12 volt electromagnets and other items to fabricate drop nets. The electromagnets are used to suspend the net above the ground. Power is disconnected to drop the net. The drop net has proved effective without the noise and fire danger associated with the rocket net. Additionally, the drop net can be re-set more rapidly than the rocket net to increase the opportunity for multiple captures on a given day. In 2008, our best year when both drop and rocket nets were utilized, 97 total Lesser Prairie Chickens (57 males, 40 females) were captured compared to 18 total (7 males, 11 females) in 2006, the last year only walk-in traps were used. Of the 97 captures one male was captured in a walk in trap, 26 by the rocket net (13 males, 13 females) and 71 by drop net (44 males, 27 females).

Thursday, October 8, 10:00-10:20AM

**AERIAL SURVEYS FOR LESSER PRAIRIE-CHICKEN LEKS:
DETECTABILITY AND DISTURBANCE RESPONSE**

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MARK C. WALLACE, Department of Natural Resources Management, Texas Tech University, Lubbock TX 79409 USA. mark.wallace@ttu.edu

Lesser prairie-chicken (*Tympanuchus pallidicinctus* [LPC]) populations have traditionally been monitored by ground-based lek surveys. Ground-based methods are labor intensive, limited by access, often restricted to roads, and may be a poor index of abundance. We believe aerial surveys alleviate the drawbacks of traditional monitoring. Our objectives were to evaluate aerial survey techniques, estimate lek detectability, assess LPC response to aircraft disturbance, and create predictive models to explain lek detectability and disturbance response.

We conducted aerial surveys during spring 2007–2008 in Texas and New Mexico using 3 aircraft platforms: a Cessna 172 (C172) airplane and Robinson-22 (R-22) and Robinson-44 (R-44) helicopters. Ground observers and remote cameras were stationed on leks during aerial surveys to assess lek activity and potential disturbance to LPCs, thus enabling us to model lek detectability and disturbance response. We created *a priori* models and used logistic regression to evaluate models of lek detectability and disturbance response. We used Akaike's Information Criterion corrected for small sample size to rank the models.

We conducted a total of 58 flights. We determined 305 active leks were available for detection. We found that detectability was greatest in the R-44, followed by the R-22, and C172. Model weights suggested that aircraft platform, distance to the lek, and lek type were important predictors of detectability. We collected 49 ground observations of the response of LPCs on leks to aerial surveys. We did not observe LPCs flushing in response to the C172, yet did observe flush responses to the helicopters. We found that distance to the lek had the greatest impact on flush response to helicopters. We believe aerial surveys can provide an efficient and effective technique for monitoring and detecting LPC leks. We also feel aerial surveys can be conducted without harm to the LPC lek dynamic.

Thursday, October 8, 10:20-10:40AM

A CRASH COURSE IN FENCE MARKING IN NEW MEXICO FOR THE LESSER PRAIRIE-CHICKEN

NANCY D. RILEY, U.S. Fish and Wildlife Service, Santa Fe, NM.

The lesser prairie-chicken (*Tympanuchus pallidicinctus*) is one of eleven species of grouse found in North America. Since the nineteenth century, this species and its habitats have declined about 90 percent, mainly from conversion of native prairie to agricultural use, incompatible grazing management practices, habitat fragmentation from oil and gas development, and prolonged droughts. Because of the dramatic decline in lesser prairie-chicken numbers over the last fifty years, the U.S. Fish and Wildlife Service (Service) was petitioned to list the bird as a federally threatened species under the authority of the Endangered Species Act. The Service found that the species warranted protection, but was precluded from listing by higher priority species. The lesser prairie-chicken now is defined as a Candidate Species for Federal listing.

Biologists have determined that reduced nesting and brood-rearing success are the primary reasons for lesser prairie-chicken population declines. Increasing the number of chicks hatched and successfully fledged and reducing hen mortality are considered key to bolstering the New Mexico population.

Researchers studying mortality factors for the birds in New Mexico, Oklahoma, and Texas found that collisions (mainly with fences) account for 35 percent of the hen mortalities in New Mexico. Approximately 50 percent of all hen mortalities occur during May and June, primarily when hens are searching for suitable nest sites, laying and incubating eggs and rearing broods. Loss of hens at this time of year may impact overall population numbers more than would be the case at other times of the year.

Researchers have been working to develop a low-cost method to increase the visibility of fences to lesser prairie-chickens as one way to reduce hen mortality and improve nesting and brood-rearing success. An initial study of this technique found no dead birds due to fence collisions along marked fences and an estimated collision-reduction benefit that extended outward from marked fences approximately 0.5 mile in either direction.

In New Mexico, the Service, through the Partners for Fish and Wildlife Program, instituted a fence marking initiative to fund the placement of fence markers on private and State trust lands in an effort to reduce adult hen mortality and improve nesting and brood-rearing success. Priority for marking will be given to: fences within 3 mile of active breeding sites (leks), fences that enclose areas of occupied and suitable habitat less than 320 acres in size.

As of September 2009, agreements have been signed with 4 private landowners to mark approximately 50 miles of barbed-wire fences. Markers have been placed on about 10 miles, mostly near Milnesand, New Mexico.

Continued threats to the lesser prairie-chicken and population declines in the other states of its five-state range resulted in an elevated the listing priority of the bird from an "8" to a "2" in the Service's 2008 Candidate Notice of Review. With a listing priority of "2," the Service could propose to list the lesser prairie-chicken in the near future. It is hoped that marking barbed-wire fences in New Mexico will reduce one source of bird mortality and when combined with habitat improvement projects will lead to an increase in natural recruitment.

Thursday, October 8, 10:40-11:00AM

POST-HATCH HABITAT USE AND SELECTION OF GREATER PRAIRIE-CHICKEN HENS IN A RESTORED LANDSCAPE

NATHANIEL G. EMERY, Department of Biology, University of North Dakota, Grand Forks, ND

BRETT J. GOODWIN, Department of Biology, University of North Dakota, Grand Forks, ND

W. DANIEL SVEDARSKY, Northwest Research and Outreach Center, University of Minnesota, Crookston, MN

Greater prairie-chickens, *Tympanuchus cupido pinnatus*, are in decline across the majority of their already receding range. As an area-sensitive prairie-obligate, they serve as an indicator of quality grasslands. Their decline is evidence of anthropogenic habitat fragmentation and shifting land use practices. The Agassiz Beach Ridge region of northwestern Minnesota harbors one of the only sustained to increasing populations of prairie-chickens in the country. The success in this region is due to the conversion of marginal agricultural lands to grasslands and through the efforts of conservation entities to secure tracts of land creating a north-south corridor for these birds to disperse, maintaining a genetically stochastic population.

By combining remotely-sensed imagery with estimated locations gathered by triangulation we are able to evaluate habitat use and selection of brood-rearing hens. Because brood-rearing habitat is considered to be the most limiting factor to the recovery of these birds, it is most critical to determine the landscapes where these hens are being successful. Most acres of the prairie-chicken's original range are in private ownership and with land prices at all-time highs, prioritizing land purchases and maximization of those acres are essential. Those public holdings that still have prairie-chickens can also maximize limited financial resources and manpower to direct management to duplicate landscapes that are successful in producing birds in Minnesota. Preliminary results from the Glacial Ridge Project in Polk County will be demonstrated and discussed.

Thursday, October 8, 11:00-11:20AM

INFLUENCE OF CONSERVATION RESERVE PROGRAM (CRP) LANDS AND LANDSCAPE ATTRIBUTES ON THE DISTRIBUTION AND ABUNDANCE OF PRAIRIE GROUSE IN SOUTH DAKOTA

TRAVIS J. RUNIA¹ AND KENT C. JENSEN, Department of Wildlife and Fisheries Sciences, South Dakota State University, Brookings, SD 57007

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Changes in distribution and abundance of prairie grouse (*Tympanuchus* spp.) have been linked to landscape-level habitat changes throughout their range. Since European settlement, millions of acres of native prairie have been lost to cropland conversion within the original range of prairie grouse in North America. Conversely, the Conservation Reserve Program (CRP) of the Federal Food Security Act of 1985 converted millions of cropland acres back to perennial grassland. These large-scale land use changes have undoubtedly impacted prairie grouse abundance and distribution. We investigated sharp-tailed grouse (*Tympanuchus phasianellus*) and greater prairie-chicken (*Tympanuchus cupido*) distribution and abundance in relation to landscape-level land use at multiple scales in northeastern South Dakota, U.S.A. We searched for leks in three, 10,000 ha study areas with dissimilar landscape compositions including varying influence of the CRP and agriculture intensity. We generalized and digitized the entire landscape in the study areas into nine general land use categories using a vector-based geographic information system (GIS). We analyzed the land use surrounding lek sites at multiple scales (400, 800, 1200, 1600, 2000, 2400, and 3000m) because birds may utilize the landscape differently dependant on scale. We identified land use factors (e.g., cropland, CRP land, etc.) that influence male lek attendance and lek location at each scale. Spatial GIS habitat suitability models were also developed to project how anticipated land use changes could affect prairie grouse habitat. More land in grass (CRP and/or pasture) was found surrounding lek locations versus non-use points at several scales at all study areas. Opposite trends were found for cropland. The amount of pasture, CRP lands, and a combination of pasture and CRP lands were strong predictors of lek presence at several scales at all study areas.

**Minutes of the Prairie Grouse Technical Council Business Meeting
October 7, 2009**

Grant Beauprez called the meeting to order at 0815.

A short discussion of the 2007 minutes followed. Bill Vodehnal made a motion to accept the 2007 minutes. Steve Clubine seconded. The motion was passed by voice vote.

Willard Heck gave a brief treasurer's report. Several invoices are still winding their way through agency purchasing departments, and final expenses and income figures won't be available until sometime after the meeting. It appears that there will be a small surplus of monies to add to the \$12044.22 forwarded from South Dakota. It was noted that the Sutton Avian Research Center is still carrying \$1068 from the Oklahoma meeting that they would like to transfer as appropriate. It was decided in 2007 that up to \$2000 would be transferred ahead to the next meeting committee and the remainder would go into an endowment account for such things as student travel scholarships to attend PGTC conferences. As per the 2007 minutes, Willard will inquire whether the North American Grouse Partnership would house that account. Final financial figures will be inserted into these minutes when they are available. Following this discussion, Brent Jamison made a motion to approve the Treasury Report. Kent Jensen seconded. The motion passed by voice vote.

(Update: The North American Grouse Partnership has agreed to be the custodian of the excess monies. The 2009 Conference Balance Sheet is inserted below).

2009 PGTC Conference Cash Flow	
Balance Forward	12,044.22
Income	
Auction Proceeds	1,245.00
Cash Bar Tickets	393.00
Misc.	67.00
Registration	13,356.00
T-Shirt Sales	335.00
Expenses	
Briefcases, T-Shirts, & Embroidery	-4,280.19
Buses	-2,346.20
Food and Facilities	-5,898.73
Misc.	-544.48
Paypal Credit Card Fees	-109.64
Presenter Fees	-400.00
Printing	-440.50
Balance	13,420.48

Discussion followed, led by Don Wolfe, on a PGTC Wind Power Statement. Don mentioned that there are two documents available for consideration; a one page statement and a substantially longer, multi-page document. Both are posted on the Sutton Avian Research Center website for review. Discussion followed re: 1. best placement of wind

towers, 2. a 5 mile, no-development buffer around leks, 3. mitigation, and 4. the role of PGTC in making site recommendations. Much of the discussion centered around whether to make a simple, non-conditional statement (eg. Wind towers should be placed on "black dirt" sites) or a longer conditional statement (eg Wind towers should be placed on "black dirt" sites, but if that is not possible then.....). Kent Jensen brought up the idea that power produced by wind farms and shipped for use out of the area of production should be taxed in such a way as to be sure the area producing the power gets a return for using their natural resources. No final decision on the position statements was made; the statements will continue to be edited in committee and posted to the listserv for further review.

Kent Jensen informed the group that he, along with Don Wolfe and Christian Hagen, were continuing to work on a PGTC website with the help of media staff at South Dakota State University. It will be decided later, once the site is developed, where it will be hosted. Don Wolfe made a motion to have the PGTC treasury pay any necessary costs of the website development. Slight amendments were offered by Willard Heck and the motion was seconded by Randy Rodgers. It passed by voice vote.

The 2011 meeting was discussed briefly. It was reiterated that Kansas was selected as the 2011 host state at the 2007 meeting. Some discussion followed about where within Kansas the meeting should be held. In the end it was decided to let the Kansas host committee choose the location as their meeting plans developed. It was pointed out that the choice of the 2011 meeting state in 2007 was an unusual circumstance and it was informally agreed that choice of the host state for the 2013 meeting would be made at the 2011 meeting.

The Timing and Position Statement was brought up for discussion. Lacking the presence of any committee members for that statement Grant Beauprez said he would follow up with Mike Schroeder to determine the status of the statement.

Bill Vodehnal brought up the idea of having PGTC pursue 501©3 status so as to be in a better position to pursue grants. Willard Heck pointed out that there are many layers of bureaucracy involved in running a 501©3 and that it would probably require at least a dedicated part-time employee to handle all the paper work. Others brought up pros and cons of creating still another grouse organization to add to the mix versus supporting currently active organizations to get the work done. No motion was offered or vote taken.

Luke Bell brought up the potential need for workshops to give detailed guidance on using the Grassland Conservation Plan for Prairie Grouse. Lief Ahlm made some comments on using the Plan.

Kent Jensen thanked the New Mexico host committee for putting on the meeting in Portales.

A motion to adjourn was made by Nova Silvy and seconded by Charles Dixon. The motion was approved and the meeting adjourned at 1000.

The Hamerstrom Award

The Hamerstrom Award was established in honor of Fred and Fran Hamerstrom, pioneers of prairie grouse research and management. It will be awarded at the meeting of the Prairie Grouse Technical Council. The award will consist of a plaque with the engraved name of the recipient.

Award Criteria:

1. To recognize individual(s) and organization(s) who have made significant contributions in prairie grouse research, management or other support programs which have enhanced the welfare of one or more species of prairie grouse in a particular state or region.
2. The contribution should be evidenced by a sustained effort over at least 10 years.
3. The contribution may be related to research, management activity, promotion of an integrated program, or some combination thereof. The relative importance given to these three categories of contributions is the prerogative of the Awards Committee but it should be based on how it has helped the overall welfare and survival of prairie grouse.

Selection Procedure:

1. The selection of award recipients will be made by the three-member Executive Board and two additional members appointed by the Chairman.
2. Nominations will be accepted at large as well as from members of the Awards Committee.
3. Nominations will be submitted to the designated Awards Committee Chairman at least one month before (deadline for the 27th meeting is September 7, 2007) the biennial meeting of the Prairie Grouse Technical Council.
4. Nominations should include the following information:
 - A. Name, address, and phone number of nominee.
 - B. Biographic sketch of individual or brief history of an organization.
 - C. Overview of contributions indicating the nature of the contributions, duration, how it has contributed to the welfare of one or more species of prairie grouse, and the geographic area influenced by the contributions.
5. A maximum of two individual awards and two organization awards may be presented at a biennial meeting. No awards will be given if the Awards Committee feels that no deserving individuals or organization are available at the time.

The first recipient was Fran Hamerstrom, in 1991, and it has been since awarded at the biennial meetings of the Prairie Grouse Technical Council.

When the awards program was in the concept stage, Fran wanted to ensure that the Hamerstrom name not be associated with any interpretation of the word “conservation” that would include any relationship to the anti-hunting mentality.

To make that clear, the awards presentation is to include the following recommendation from Fran’s *Wild Foods Cookbook* on yet another way to enjoy prairie grouse.

Prairie Grouse Recipe

Adapted from:

Hamerstrom, Frances. 1989. *Wild Foods Cookbook*. Iowa State University Press, Ames, Iowa.

Prairie grouse are outstanding table birds. Unlike most gallinaceous birds such as pheasant and Ruffed Grouse, they retain their juices well and do not tend to dry out while cooking.

Very young birds, still in juvenal plumage, have light breast meat and delicate texture, but the flavor is still undeveloped. By October, almost all the birds are in prime condition, with breast meat dark, almost like the legs, and very delicious.

Chickens and sharptails should be served rare or at most welldone.

Roast:

Pluck dry, dress and clean. Do not stuff. Roast in a hot oven (450 degrees) 25 minutes for medium-rare sharptails or chickens.

Fried Prairie Grouse:

Pluck, dress, and clean. Cut in pieces for frying. The breasts of these birds are so plump that it is often simpler to cut them away from the bone: then cut or divide each side of the breast into two pieces. If this is not done, the legs and back will be overdone while the breast still requires more cooking. Flour each piece lightly before placing it in the hot fat. Salt just before serving.

If you want to take the wild taste out of your grouse, pay no attention to anything I’ve written.

2009 Recipients of the Hamerstrom Award

**Presented at the
28th Prairie Grouse Technical Council Meeting
Portales, New Mexico
7 October 2009**

Randy Rodgers-Individual Award 2009

Randy Rodgers has been a research biologist with Kansas Wildlife and Parks for 30 years. He has made outstanding contributions to the knowledge of prairie grouse in Kansas, most notably sharp-tailed grouse and lesser prairie chickens. Randy also has been one of the most active members of the Prairie Grouse Technical Council. A PGTC meeting would not be complete without Randy Rodgers.

His research has been particularly significant because of the practical, common sense approach he has taken to studying populations of upland game birds. He has always understood the symbiotic relationship that pheasants and many other wildlife species have with agricultural systems and operations in a predominately private land state. His early research focused on studies that determined the significance of wheat stubble height and the effects of various tillage methods on pheasant populations. These studies were conducted in conjunction with the KSU Experiment Station and produced a wealth of information that could be used by landowners to modify their operations to encourage pheasant production and survival.

Following his pheasant research, Randy tackled the job of reintroducing sharp-tailed grouse to northwestern Kansas. Randy developed methods to release multiple birds at a time to increase their chance of survival. In addition, he designed used sharp-tailed grouse decoys to draw and hold released grouse to his man-created dancing ground.

Later, Randy's studies focused on the effects of various Conservation Reserve Program (CRP) practices on game birds, particularly pheasants and lesser chickens. He studied the effects of grassed terraces and when the results proved positive, promoted these practices to the agricultural community. This included lobbying hard for inclusion of these practices as part of Continuous CRP (CCRP). More recently, he studied the effects of dormant season grazing on CCRP buffers with the intent of changing USDA policy to make the practices more acceptable to farmers. He is most famous for his work and effectiveness of interseeding CRP with alfalfa for improving brood habitat for lesser prairie chickens with the intent of showing USDA that forbs are valuable additions to CRP grass stands. He expanded lesser prairie chicken surveys by the Department to document the extension of the range of lesser chickens presumably due to the increase in CRP. Currently, he is studying the effectiveness of controlled burning of CRP on pheasants in western Kansas where regular burning is not accepted by many farmers. In addition, Randy is working directly with landowners and on his own property to modify cropping practices to make them more efficient (e.g., size of farmed areas

matched to the width of the farmer's equipment), reduce soil erosion, beneficial to wildlife, grass that's easier to burn, and easier to hunt.

In all of his research endeavors, Randy always led the way in educating the agricultural, wildlife and hunting public about the results. Recognizing the importance of peer review, Randy has published many of his findings in professional wildlife journals to add to the body of literature on game birds. He has created several videos about improving upland game bird habitat and has written numerous articles for the *Kansas Wildlife & Parks* magazine on these subjects. More importantly he has written extensively for farm magazines and periodicals with a target audience of the people actually controlling what happens on the landscape. He has been tireless in his efforts to influence the agricultural community, including state USDA officials and the policy makers in Washington and Topeka, espousing the importance of conservation programs, particularly those in the farm bills, and how they can improve the lot for wildlife in Kansas.

Randy also has made time to teach the wildlife portion of Hunter Education several times a year for the past 20-plus years. Other youth education efforts include two Outdoor Wildlife Learning Sites (OWLS) in Hays with ponds and native grasses, allowing teachers to better incorporate ecology into their curriculum. Randy has often been in the forefront of other issues that affect wildlife and humans. He has devoted countless hours, both professional and personal, to issues such as water conservation in Hays, wind energy development (its potential effects on prairie grouse) in Kansas, development of alternative vegetative sources for ethanol production, and in the use of native grasses for carbon reserves.

A quote from a long time cohort sums up Randy's distinguished career:

“He has incredible work ethic and is very dedicated to the wildlife resource and has been focused and (has) concentrated his research on practical application practices that directly impact the target species in ways that will be accepted by the agricultural community. He is most deserving of all recognition.”

Submitted by Nova Silvy

Bill Vodehnal – Individual Recipient 2009

I am delighted to provide a nomination for William L. (Bill) Vodehnal as a most deserving recipient for the 2009 Hamerstrom Award. Bill represents everything that Fred and Fran Hamerstrom would have liked to see in a prairie grouse biologist, and has served our profession with outstanding dedication and commitment for more than 25 years. He is a main cog in the wheel of prairie grouse management, research, and extension in his home state of Nebraska, but his influence has reached well beyond its borders to all prairie grouse regions across North America.

In reviewing the criteria for the Hamerstrom Award, Bill Vodehnal has clearly exceeded the requirements in all three categories. Details of his achievements follow, but in summary, examples of his accomplishments as related to the Award criteria are:

1. Bill has contributed significantly to the well-being of sharp-tailed grouse and greater prairie-chickens in the state of Nebraska through his work on habitat management with landowners, and to all North American prairie grouse species through his coordination of the *Grassland Conservation Plan for Prairie Grouse*.
2. Bill's work on prairie grouse in Nebraska began in 1982, and his work on the *Grassland Plan* took place from 2005-2008, thereby showing a sustained effort well beyond 10 years. He has also been an active member of the Prairie Grouse Technical Council since the early 1990's, and coordinated the 26th Meeting of the PGTC in Valentine, NE in 2005.
3. Bill's contributions have been in the areas of management, research, and extension, and in effect, his work transcends those boundaries through integration of all three elements into strategies that sustain habitats and populations for prairie grouse and many other species.

Bill Vodehnal was born and raised in Nebraska, and continues to call that state his home. He graduated in 1978 with a BS in Natural Resources, Major in Wildlife Management, Minor in Life Sciences from the University of Nebraska, Lincoln. He went on to complete an MS in 1982 at South Dakota State University, with a Major in Fisheries Science, and a Minor in Biology and Statistics. Bill Vodehnal began working with the Nebraska Game and Parks Commission in February of 1982 as a Wildlife Biologist II in Bassett, north-central Nebraska, where he served as the Game Supervisor. In 1994 Bill's job was reclassified, due to reorganization, as District Manager, Habitat Partners Section, Wildlife Division, and he continued to be stationed in Bassett. Since 1982 and in this location and position, Bill has been able to focus much of his professional attention to the well-being of habitat for prairie grouse species. He is responsible for administering wildlife habitat enhancement and improvement programs on private lands in 13 counties and acts as liaison between NGPC and other federal, state, and private organizations. Bill also coordinates delivery of the *WILD Nebraska* program to private landowners, ensuring that their activities on grasslands, wetlands, and woodlands enhances plant species diversity and vegetative structure for wildlife. He provides technical and financial assistance to the Sandhills Task force, a landowner-driven partnership, that works toward

sustaining private, profitable ranching in the Nebraska Sandhills while striving for optimal wildlife habitat, often for prairie grouse. He participates as a core team member of the Middle Niobrara/Sandhills Fire Learning Center, a collaborative partnership facilitated by The Nature Conservancy, that incorporates fire as an effective management tool for wildlife habitat maintenance on private lands throughout the Sandhills and Niobrara River landscapes. Bill has worked effectively to control eastern red cedar and little bluestem dominance in grasslands, and represents NGPC on the State Fire Council to guide statewide efforts with prescribed fire. He has also instigated and developed countless numbers of innovative habitat plans and granting requests so that wildlife habitats in his district are present at a high quality and quantity, and especially so for prairie grouse species.

But perhaps Bill Vodehnal's most significant accomplishment in the world of prairie grouse management was his coordination of the *Grassland Conservation Plan for Prairie Grouse* that he undertook from 2005-2008 on behalf of the Nebraska Game and Parks Commission and the North American Grouse Partnership. Bill's efforts at coordination of the *Plan* were herculean, as he worked extremely hard to entice, influence, cajole, maybe even bribe, his prairie grouse colleagues to provide the critical information that was needed to make the *Plan* the outstanding document that we have today. At close to 250 pages (and remember that is a paper size of 8.5 X 17 inches) and about 74 MB of electronic content, Bill, along with Jon Haufler of the Ecosystem Management Research Institute, produced an incredible and forward-thinking set of strategies that should guide prairie grouse management for years to come. The *Grassland Conservation Plan* uses an ecosystem diversity approach to grassland conservation, primarily based on NRCS ecological site descriptions within Major Land Use Areas and the equivalent Soil Correlation Areas in Canada. The *Plan* identifies throughout the 10 North American Bird Conservation Areas within the Great Plains that approximately 65 million acres of habitat should be maintained or restored to accommodate conservation efforts for prairie grouse. Many of you will remember Bill's presentations on the *Plan* at past PGTC Meetings, as well as at North American Wildlife and Natural Resources Conferences, and meetings of the Association of Fish and Wildlife Agencies, North American Grouse Partnership, Mid-West and Western Wildlife Agencies, and The Wildlife Society. In all of these situations, Bill was the consummate salesperson for the *Plan*, provided understandable explanations of highly technical and sophisticated information, and fielded difficult and controversial questions with ease. And what makes this even more amazing is that Bill did it all with his easily recognizable trademark....He ALWAYS has a smile on his face. Those of us who have worked hard over the years for prairie grouse have much to thank Bill Vodehnal for as we move forward in our careers. Bill was able to provide us with a *Plan* that has become a template not only for how to manage prairie grouse, but also for how to build an effective management strategy for any wildlife species.

Bill Vodehnal has made other important contributions in his career that should be recognized in consideration of the Hamerstrom Award. He has been a long-standing member of The Wildlife Society, is a Certified Wildlife Biologist, and now serves as a Board Member of the Central Mountains and Plains Section. He was recently elected to the Board of the North American Grouse Partnership. But not only is Bill a manager, he is also, in the true 'Hamerstrom tradition,' a user of wildlife. He is an avid hunter of waterfowl, prairie grouse, wild turkeys, and deer, especially in his home state of

Nebraska. He was recognized by the Manitoba Department of Conservation as a 'Specialist Master Angler' when he caught 5 Channel Catfish in one day in 2008 along the Red River near Selkirk, Manitoba, all exceeding the master angler size of 36 inches! And as an aside, his pool playing skills are second to none.....

In summary, I highly recommend Bill Vodehnal as the 2009 Hamerstrom Award recipient. He richly deserves this honour, and I believe he will continue to carry forward his exemplary efforts for years to come.

Respectfully submitted,

Rick Baydack



2009 Recipients of the Hamerstrom Award: Randy Rodgers and Bill Vodehnal

Recipients of the Hamerstrom Award

1991 Fran Hamerstrom

1993 Ron Westemeier

1995 Dan Svedarsky and Jerry Kobriger

1998 Bob Robel

1999 Bill Berg

2001 Len McDaniel

2003 John Toepfer

2005 Nova Silvy and The Society of Tympanuchus Cupido Pinnatus, Ltd.

2007 Rick Baydack and Kerry Reese

2009 Randy Rodgers and Bill Vodehnal

Past PGTC Conferences

1 st	Grand Island, Nebraska	September 1957
2 nd	Emporia, Kansas	March 1959
3 rd	Stevens Point, Wisconsin	September 1960
4 th	Pierre, South Dakota	September 1961
5 th	Nevada, Missouri	September 1963
6 th	Warroad, Minnesota	September 1965
7 th	Effingham, Illinois	September 1967
8 th	Woodward, Oklahoma	September 1969
9 th	Dickinson, North Dakota	September 1971
10 th	Lamar, Colorado	September 1973
11 th	Victoria, Texas	September 1975
12 th	Pierre, South Dakota	September 1977
13 th	Wisconsin Rapids, Wisconsin	September 1979
14 th	Halsey, Nebraska	September 1981
15 th	Emporia, Kansas	September 1983
16 th	Sedalia, Missouri	September 1985
17 th	Crookston, Minnesota	September 1987
18 th	Escanaba, Michigan	September 1989
19 th	Billings, Montana	September 1991
20 th	Ft. Collins, Colorado	July 1993
21 st	Medora, North Dakota	August 1995
22 nd	College Station, Texas	February 1998
23 rd	Gimli, Manitoba	September 1999
24 th	Woodward, Oklahoma	September 2001
25 th	Siren, Wisconsin	September 2003
26 th	Valentine, Nebraska	September 2005
27 th	Chamberlain, South Dakota	October 2007
28 th	Portales, New Mexico	October 2009



2009 Prairie Grouse Technical Council Meeting Attendees

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