

# CAPITOL ROOM

## WEDNESDAY MORNING

ROOM: Capitol

TIME: Wednesday 8:00 AM

TITLE: Nest success of upland nesting ducks in a predator reduced environment in northeastern South Dakota

AUTHOR(S):

Nicholas Docken -- South Dakota State University, Department of Biology and Microbiology  
PO Box 2207B, , South Dakota, SD 57006. Phone: (608)516-1999 Email:

nrdocken@jacks.sdstate.edu

ABSTRACT: Nest success is the greatest limiting factor to waterfowl production in the Prairie Pothole Region (PPR) which supports greater than 50 % of North America's breeding duck population. Depredation by predators accounts for 80% or more of nest losses each year (Klett 1988). Township size block predator management (BPM) has been effective at increasing duck nest success in North Dakota and Canada, but no BPM work has been done in South Dakota. The objectives of this study were to evaluate the effectiveness of increasing duck nest success with the aid of trapping as a management tool. Trappers hired by the Delta Waterfowl Association removed mammalian predators in northeast South Dakota on two 36-square mile blocks in 2007 and three blocks in 2008 and 2009 from March 15-July 15. Trapped blocks along with a similar control block were searched for nests using nest dragging techniques from early May to early July. Nests were monitored weekly to determine their fate. We found 2,706 duck nests (1,086 mallards, 1,007 blue-wing teal, 323 gadwall, 191 northern shoveler, 88 northern pintail, 5 redheads, 2 lesser scaup, 1 canvasback, and 1 American widgeon) during the study. Mayfield nest success results were year and site specific with trapped sites ranging from 16.7% to 57.8% and control sites ranging from 10.2% to 61.9%. However, pooled Mayfield nest success was higher in trapped sites (36.5%, 95%CI - 33.4 - 39.8) than in control sites (26.5%, 95%CI - 23.8 - 29.5).

KEYWORDS: ducks, predators, nesting

ROOM: Capitol

TIME: Wednesday 8:20 AM

TITLE: Predicting landowner support for predator reduction in the prairie pothole region

AUTHOR(S):

Craig Miller -- University of Georgia, Warnell School of Forestry and Natural Resources, University of Georgia, Athens, GA 30602. Phone: (706)583-8930 Email: craigm@warnell.uga.edu

ABSTRACT: We conducted a self-administered return mail survey of agriculture producers in 3 states of the Prairie Pothole Region of the U.S. to determine support for a program aimed at reducing predators to promote waterfowl production. A total of 2,000 agriculture producers were randomly selected in each states, and selected survey participants were mailed an eight-page survey questionnaire. We received 1226 (22%) completed questionnaires. Participants were asked to describe their membership in conservation easement programs, types of agriculture production on their lands, and reasons for enrolling in the easement programs. Survey participants were also provided with a series of 12 Likert-type statements based on a 7-point scale to determine attitudes toward wildlife and land management. Responses to these items were subjected to a Principal Component Factor Analysis to denote factors associated with values orientations. Forty-one percent of respondents were enrolled in easement programs, with the majority (86%) of enrolled in the Conservation Reserve Program. When asked about their attitudes toward trapping in general, a majority (74%) of landowners reported positive attitudes toward trapping. Additionally, 28% supported a spring trapping program to reduce predators and 49% would conditionally support the spring trapping program. A logit model was developed to predict support for the predator program. Significant factors included providing trapper access, wildlife appreciation values orientation, and enrollment in conservation easement programs. Discussion will focus on education and information efforts needed to provide successful adoption of the program.

KEYWORDS: landowner, survey

ROOM: Capitol

TIME: Wednesday 8:40 AM

TITLE: Nesting success of tree-nesting waterbirds in colonies on selected wetlands of northeast South Dakota

AUTHOR(S):

Nathaniel Baker -- South Dakota State University, Department of Biology and Microbiology, Brookings, SD 57007. Phone: (308) 750-1468 Email: nathaniel.baker@sdstate.edu

ABSTRACT: The northern Great Plains of North America provides the primary breeding habitat for numerous species of waterbirds. Reproductive status and population parameters of colonial tree-nesting waterbirds are largely unknown within the prairie pothole region. We monitored nesting success of: Black-crowned Night Heron (*Nycticorax nycticorax*), Cattle Egret (*Bubulcus ibis*), Double-crested Cormorant (*Phalacrocorax auritus*), Great Blue Heron, (*Ardea herodias*), Great Egret (*A. alba*), and Snowy Egret (*Egretta thula*) during the 2008 and 2009 breeding seasons on selected wetlands in northeast South Dakota. Our objectives were to determine nesting and fledging success, and to identify important habitat variables required for colonial tree-nesting waterbirds. We hypothesized that nesting success will increase with colony size, percent water edge, and wetland density (within a 6400 m radius), and be inversely related to human disturbances. Colonies (n = 28) were visited once every six to eight days throughout the 2008 breeding season and 25 colonies visited in 2009, 14 of which were monitored in 2008. Individual nests (n = 1175 and n = 1348) were observed with a 20-60x82 spotting scope from a distance of 150 m to mitigate observer disturbance in 2008 and 2009 respectively. Nest success was analyzed by using the apparent nest success estimator. Percent nest success was highest for Cattle Egret (88.9), followed by Snowy Egret (88.0), Double-crested Cormorant (62.0), Black-crowned Night Heron (50.0), Great Egret (46.6), and Great Blue Heron (41.5). Determining reproductive success and habitat parameters of colonial tree-nesting waterbirds are essential to understanding trends in population breeding biology.

KEYWORDS: waterbird, nesting, colonial

ROOM: Capitol

TIME: Wednesday 9:00 AM

TITLE: Predators of shrubland bird nests in east-central Illinois

AUTHOR(S):

Thomas Benson -- Illinois Natural History Survey, 1816 S Oak St, , Champaign, IL 61820.

Phone: 515-314-5468 Email: [tjbenson@illinois.edu](mailto:tjbenson@illinois.edu)

ABSTRACT: Severe declines of North American shrubland birds may result from low nest success driven by nest predation. The first step toward understanding the ecology of nest predation is to identify the predators responsible for nest failures, when these failures occur, and what habitat or landscape features are associated with predation. In 2009 we installed time-lapse video systems at shrubland bird nests at Kennekuk Cove County Park in eastern Illinois. We collected video data from 53 nests of nine different species: Field Sparrow (*Spizella pusilla* 11), Yellow-breasted Chat (*Icteria virens* 10), Indigo Bunting (*Passerina cyanea* 7), Brown Thrasher (*Toxostoma rufum* 6), Northern Cardinal (*Cardinalis cardinalis* 5), Cedar Waxwing (*Bombycilla cedrorum* 5), Eastern Towhee (*Pipilo erythrophthalmus* 4), American Goldfinch (*Carduelis tristis* 3), and Yellow-billed Cuckoo (*Coccyzus americanus* 2). We observed 27 predation events and 19 were by three species of snakes: foxsnakes (*Elaphe vulpina*), ratsnakes (*Elaphe obsoleta*), and racers (*Coluber constrictor*). Mammals were responsible for six predation events: three by raccoons (*Procyon lotor*), two by squirrels (*Sciurus sp.*), and one by a mouse (*Peromyscus sp.*). The remaining two predation events were by a female Brown-headed Cowbird (*Molothrus ater*) and a juvenile Common Grackle (*Quiscalus quiscula*). Most predation was diurnal with only raccoons depredating nests at night. Snake predation was most common in the early afternoon. Our results suggest that learning more about the ecology of foxsnakes, ratsnakes, and racers will be important for understanding patterns of nest predation and designing effective management strategies for these shrubland birds.

KEYWORDS: predation, productivity, birds

ROOM: Capitol

TIME: Wednesday 9:20 AM

TITLE: Wild turkey nesting ecology in a diverse midwestern landscape

AUTHOR(S):

Kenneth Delahunt -- Cooperative Wildlife Research Laboratory SIUC, Life Sciences II Mail Code 6504, Carbondale, IL 62901. Phone: (618) 972-8456 Email: delahunt@siu.edu

ABSTRACT: Eastern wild turkeys (*Meleagris gallopavo silvestris*) have been studied throughout their range. However, most wild turkey research has occurred in extensive forested habitats not typical of most Midwestern landscapes. We report results from years 1 and 2 of a 3-year study of turkey nesting ecology in a diverse southern Illinois landscape of agriculture, grasslands, and forest cover. Thirty-two hens at the 8,400-acre IDNR Burning Star 5 Fish and Wildlife Area were fitted with backpack transmitters during winter 2008 and 2009. During the 2008 and 2009 nesting season, we measured habitat variables, determined nest initiation dates and nest success, quantified clutch and brood sizes, and calculated incubation length and causes of nest and hen mortality. Twenty-eight of 29 (96.5%) surviving hens made a first nest attempt, while 19 of 21 (90.5%) surviving hens attempted a second nest. Nest success was 6.6% in 2008 and 28% in 2009, producing 9.7 poults per hen. Clutch sizes varied from 11.8 during the first nesting attempt to 9.1 during the second nesting attempt. Predation was the primary cause of nest mortality (67.6%) and hen mortality (100%). Coyotes (*Canis latrans*) were responsible for 35% of nest mortalities, and bobcats (*Lynx rufus*) caused 43% of hen mortalities. Poult survival at 4 weeks post-hatch was 33.3% (33 of 96). Our initial mortality and nest success results are similar to previous studies. In addition to demographic characteristics, our research will ultimately identify habitat variables important for promoting wild turkey nest survival and success in agriculture-dominated landscapes.

KEYWORDS: turkey, nest, Illinois

ROOM: Capitol

TIME: Wednesday 9:40 AM

TITLE: Nesting success does not equal reproductive success: a case study with songbirds

AUTHOR(S):

Henry Streby -- MN Cooperative Fish and Wildlife Research Unit, 200 Hodson Hall, 1980 Folwell Ave, St Paul, MN 55108. Phone: Email: henrystreby@yahoo.com

ABSTRACT: Estimates of nesting success have long been used as a proxy for reproductive success in songbird populations. They have been used to monitor populations across many temporal and spatial scales, index habitat quality, and model source-sink population dynamics. Despite a growing body of evidence that the post-fledging period is a time of high mortality for many songbird species, this period is usually unstudied and often included in population models as an ambiguous constant. During 2007 and 2008 we studied reproductive success of a population of Ovenbirds in the Chippewa National Forest in north-central Minnesota. We monitored 234 active Ovenbird nests and tracked 110 fledglings from successful nests using radio telemetry. Although nesting success was twice as high in 2008 as in 2007, the opposite was true for post-fledging survival, resulting in nearly identical estimates of full season reproductive success. Our results provide a clear example in which nesting success is not a reliable indicator of reproductive success. Potential consequences for previous research conclusions and recommendations for future work will be discussed.

KEYWORDS: songbirds, nesting, ecology

ROOM: Capitol

TIME: Wednesday 10:20 AM

TITLE: Seed and feeder preferences of wild birds in the United States and Canada

AUTHOR(S):

David Horn -- Millikin University, Department of Biology, 1184 West Main Street, Decatur, IL 62522. Phone: (217)424-6392 Email: dhorn@millikin.edu

ABSTRACT: Each year, over 55 million Americans over the age of 16 feed wild birds or other wildlife around their homes, and spend more than 3.8 billion dollars on bird seed, feeders, and other accessories. More people feed birds and other wildlife than hunt and fish combined. Despite its popularity, many bird feeding traditions lack a scientific basis, and the practice of feeding wild birds is one of the most understudied wildlife management issues in the United States. Project Wildbird is a U.S. and Canada-wide study of bird seed and feeder preferences. Between 2005-2008, 202 individuals from 42 states and 3 provinces in Canada made over 20,000, 45-minute observations of bird feeders, recording 106 species and 1,282,424 bird visits. The ten most common species visiting feeders were American Goldfinch, Black-capped Chickadee, Brown-headed Cowbird, Common Grackle, House Finch, House Sparrow, Mourning Dove, Northern Cardinal, Pine Siskin, and Purple Finch. Of the ten seed types most commonly used in bird seed mixes, five were most attractive to birds: black-oil sunflower, fine and medium sunflower chips (hulled sunflower), Nyjer (thistle), and white proso millet. Other seeds such as red milo were less attractive to birds. In general, chickadees, nuthatches, and larger finches preferred black-oil sunflower, smaller finches preferred Nyjer and sunflower chips, and sparrows and other ground-feeding species preferred white proso millet. Studies such as Project Wildbird can be used to develop scientifically-based best practices for wild bird feeding, a hobby engaged in by a significant number of Americans.

KEYWORDS: birdfeeding, birdseed, birdfeeder

ROOM: Capitol

TIME: Wednesday 10:40 AM

TITLE: The relationship between homeowners and urban birds as defined by the practice of bird feeding

AUTHOR(S):

Jason Fischer -- Universit of Illinois Urbana Champaign, W411 Turner Hall, 1102 S Goodwin Ave, Urbana, IL 61801. Phone: 602-499-8701 Email: fischer9@illinois.edu

ABSTRACT: Resources that influence avian communities in residential neighborhoods are determined largely by developers, municipal ordinances, and the actions of individual homeowners. However, these relationships have only recently been explored, with particularly little attention given to the actions of homeowners. Here, we investigate the connection between the residents and birds of suburban Chicago via the resource of provisioned bird food. A questionnaire was distributed during the summer of 2009 in 40 neighborhoods throughout the metropolitan area in order to describe current feeding practices such as amount, type, and frequency of feeding, to explore why individuals chose to feed or not feed birds, and to identify typical characteristics of feeders and non-feeders. The results of this survey may inform on the extent and nature of the resources available to urban birds, the management of non-native/pest species, and the improvement of products in the bird feeding industry.

KEYWORDS: supplemental, feeding, birds

ROOM: Capitol

TIME: Wednesday 11:00 AM

TITLE: Sandhill crane growth and survival rates in a rapidly urbanizing landscape

AUTHOR(S):

Jeffrey Fox -- University of Illinois, 1801 Country Drive, Apartment 101, Grayslake, IL 60030. Phone: (847)508-2996 Email: jfox6@illinois.edu

ABSTRACT: Breeding Sandhill Cranes were extirpated in Illinois by 1890. Habitat loss, degradation and market hunting were implicated as the proximate causes of their population decline. After nearly one hundred years they were confirmed nesting in northeastern Illinois in 1987. Crane populations have since increased nearly 30% yearly. The continued net loss of wetland and grassland habitats in areas of population recovery suggests that the cranes have been able to adapt to the rural to urban landscape shift. Anecdotal observations and reports of few colts (<1 year old birds) being successfully fledged suggested that the growing population may be a result of immigration from the rapidly expanding Wisconsin population. This study was designed to determine colt survival, recruitment and habitat use in a rapidly urbanizing landscape. From 2008 to 2009 a total of 47 colts were captured shortly after hatch and radio transmitters affixed. Survival estimates were based on their survival. Multiple recaptures prior to reaching flight stage allowed us to calculate growth rates. We evaluated wetland size and habitat types adjacent to natal wetlands in order to compare and contrast available foraging habitat. Our data suggest that northeastern Illinois may be a population sink for Sandhill Cranes, but that the species has adapted to nest and forage in highly urban settings. Colts permanently banded just prior to reaching flight stage will provide further evaluation of dispersal and natal return rates. Blood and tissue samples will enable us to further assess the source of our rapidly expanding population. Our findings will provide useful reference for better understanding how a species once nearly eliminated may so quickly recover.

KEYWORDS: sandhill, crane, wetlands

ROOM: Capitol

TIME: Wednesday 11:20 AM

TITLE: Mourning dove ecology in urban areas during the breeding season

AUTHOR(S):

Tiffany York Osborne -- Southern Illinois University Carbondale, 251 Life Science II,  
Mailcode 6504, Carbondale, IL 62901. Phone: (618) 453-5495 Email: [tosborne@siu.edu](mailto:tosborne@siu.edu)

ABSTRACT: The number of mourning doves (*Zenaidura macroura*, MODO) harvested is declining. Urban areas may provide refugia for MODO. Baseline information on abundance and life history of urban doves is necessary to improve management. Adding complexity to the urban biology of MODO is the increasing presence of the Eurasian collared-dove (*Streptopelia decaocto*, ECDO), which has the potential to compete with native MODO. We studied dove biology in 4 cities in southern Illinois. Surveys were conducted and mean MODO densities (doves/km<sup>2</sup>) were higher in 2007 (113.46 SE 10.61) than 2008 (79.42 SE 9.75) over all study sites (F<sub>1,12</sub> 6.27, P 0.028). ECDO densities decreased (F<sub>1,12</sub> 13.96, P 0.003) from 8.3/km<sup>2</sup> during 2007 to 4.24/km<sup>2</sup> during 2008, with the decrease varying among sites (site x year interaction (F<sub>3,12</sub> 4.07, P 0.033). Densities varied among sites (F<sub>3,12</sub> 10.36, P 0.001). We found 121 MODO nests in 35 species of tree and on one man-made object, and 26 ECDO nests in 13 species of tree and on 3 man-made objects. Nest heights of ECDO nests were higher (F 4.01, P 0.047) than those of MODOs. Breeding home ranges of MODO during 2007-2008 averaged 2.97 SE 1.61 ha for all doves, and were smaller for females (0.78 SE 0.45 ha) than for males (4.28 SE 2.46 ha). This study will contribute to the life histories and ecological relationships concerning MODO and ECDO in urban environments.

KEYWORDS: doves, urban

ROOM: Capitol

TIME: Wednesday 11:40 AM

TITLE: Preliminary evaluation on the use of homing pigeons as biomonitors in China

AUTHOR(S):

Richard Halbrook -- Cooperative Wildlife Research Laboratory, Southern Illinois University, Room 251 LSII MS 6504, Carbondale, IL 62901. Phone: (618) 453-6946 Email: rhalbroo@siu.edu

ABSTRACT: Atmospheric concentrations of polycyclic aromatic hydrocarbons (PAHs) and mercury, resulting from incomplete combustion of fossil fuels and biomass, pyrosynthesis of organic matter, and spillage or seepage of crude or refined oil, are a major monitoring focus in China as well as many other industrialized nations. This study evaluates the usefulness of homing pigeons as a biomonitor of atmospheric pollution in Beijing and Chengdu, China. Homing pigeons (> 5 years old) were collected from both cities, necropsied, and liver and lung tissue evaluated for histological lesions and analyzed for PAHs and total mercury (THg). The mean concentrations of total PAHs and THg in liver, and THg in lung tissues were greater in pigeons from Beijing compared to pigeons from Chengdu. Similarly, gross lesions in lung tissue, and the severity of anthracosis/pneumoconiosis in lung and hepatitis in liver tissue were greater in pigeons from Beijing compared to pigeons from Chengdu. The profile patterns of individual PAHs were similar between pigeon lung tissue and local ambient air in summer for both cities. Government agencies in China and in other countries implementing air quality standards for urban areas, may consider homing pigeons as a valuable indicator species for ecological risk assessments and for assessing the success of implemented air quality standards. In this view, the current study provides a framework for using homing pigeons as a biomonitor in urban areas.

KEYWORDS: pigeons, biomonitoring, china