

trait is associated with poor establishment rates. Our goal was to find the most successful means of germinating these species using a hydroseeding application so they can be utilized as part of an airfield vegetation management design. Our data will show the evaluation of plant vigor conducted under controlled greenhouse conditions. Some of the species tested include Pennsylvania sedge (*Carex pennsylvanica*), little bluestem (*Schizachyrium scoparium*), crinkled hair grass (*Deschampsia flexuosa*), and purple love grass (*Eragrostis spectabilis*). By evaluating each species for their suitability for hydroseeding, germination, and early vigor we are able to make recommendations for hydroseeding native species at airfields managed for reducing wildlife hazards.

## **Parameters Affecting Bird Use of Stormwater Impoundments in the Southeastern United States: Implications for Hazardous Wildlife Management at Airports**

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Stormwater impoundments within Federal Aviation Administration (FAA) citing criteria (10,000 ft from the air operations area) increase the risk of bird-aircraft collisions (strikes) by providing bird habitat. The number of wildlife strikes (97.5% involving birds) reported in the U.S. annually is increasing and, consequently, annual losses to the U.S. civil aviation industry from strikes now exceed \$625 million. Wildlife managers must find ways to reduce this risk, while still managing stormwater for environmental quality compliance and safe aircraft ground movements. Existing guidelines for wildlife-hazard management at airports do not quantify the role of pond and landscape characteristics in attracting birds to stormwater impoundments. In a collaborative effort with the FAA and the U.S. Department of Agriculture's Wildlife Services program, we are quantifying bird use of 40 stormwater detention ponds near Auburn, AL, over a two-year period. We will use the observer data and analyses via geographic information systems to develop bird-habitat models and, subsequently, improved BMPs to reduce bird use of stormwater impoundments in and around airports. We will present our development of this project and its objectives, as well as the project's preliminary data and analyses to date.

## **Southeastern Coyote Home Range Size Across an Urban to Rural Gradient**

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In recent years, both human and coyote populations have expanded in the southeastern United States bringing the question of what makes suitable coyote habitat in urban areas to the forefront. Home range size is based on population density, minimum resource requirements of the individual, and availability of resources; typically, the smaller the home range size, the better

suiting an area is for a coyote. We are investigating variation in seasonal home ranges throughout an urban to rural gradient in Lee County, Alabama, in order to determine coyote adaptation to areas with different levels of urbanization. Although coyotes in rural areas have been known to change home ranges seasonally due to variability in food, it has been hypothesized that urban coyotes may have a constant home range size throughout all seasons. We expect urban home range sizes to remain small and similar in size all year because of the stable resources these areas provide, while rural home ranges will be larger and vary throughout the seasons. We radio-collared and are tracking 15 coyotes, living in urban, suburban, and rural areas of the county, at random times through 24-hour periods from May 2008–May 2009. Preliminary data shows that urban home ranges are smaller than suburban and rural home ranges. This suggests that urban areas may provide more suitable habitat for coyotes than rural areas and that coyotes are adapting to these areas.

## **Changes in Sunflower Crop Distribution and Agronomic Practices in North Dakota May Affect Levels of Blackbird Damage**

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The National Sunflower Association considers high levels of blackbird damage in key sunflower growing areas of North Dakota as a major reason for growers replacing sunflower with less susceptible crops. We used an extensive dataset of blackbird damage in North Dakota from 1972 to 2008 to evaluate spatial and temporal changes in damage to ripening sunflower. Long-term damage assessments are invaluable tools for wildlife damage managers because of shifting cropping patterns and resultant new blackbird-crop interactions. For example, as corn acreages in North Dakota have recently increased, so have complaints from growers about blackbird damage to corn. This lends some credence to the notion that cornfields might provide an alternate food for foraging blackbirds, especially during early maturation. Additionally, agricultural practices continue to change. Glyphosate recently became available as a pre-harvest aid for sunflower to control weeds and speed dry-down by 10 to 14 days. This practice reduces late-season damage by migrating blackbirds. In 2009 a new sunflower desiccant, designed to quickly dry the crop, is expected to receive a full crop registration. In 2008, we began conducting damage surveys in 120 randomly selected plots scattered throughout the primary sunflower growing area of North Dakota. Our aim is to capture the dynamics of blackbird damage to sunflower as agronomic practices change. We will compare these data with past damage data to answer questions on the effects of crop patterns and agronomic practices on bird damage to sunflower.