

Annina Rupe



Annina Rupe is a graduate student in the Environmental GIS Post-Baccalaureate Certificate Program and a M.S. candidate in the Department of Biological Sciences at Western Illinois University. Rupe's project investigates the breeding habitat conditions of the Eurasian Tree Sparrow.

The Eurasian Tree Sparrow's United States' population has not been extensively researched, thus the preferred habitat conditions must be identified so other ecological questions about this species can be answered.

During the summer of 2011, forty-two randomly sampled points were visited twice to collect presence/absence data regarding the Eurasian Tree Sparrow and the House Sparrow. Date and time of collection, maximum and average wind speed, and temperature were also recorded.

Geographic information software (ArcGIS) was used to determine the distances from each point to the nearest grassland, cropland, building, water, urban area, and forest.

Additional Eurasian Tree Sparrows were found from a search on rural roads throughout McDonough County and point and climatic data were taken from these positions.

All random point data were imported into a habitat modeling software (Hypeniche) to determine which habitat and environmental factors, such as landscape types,

elevation, and wind, affect the presence of the Eurasian Tree Sparrow and the House Sparrow.

Preliminary data analyses indicate that elevation and average wind speed, and distance to urban areas, forest, water, and grassland affected the House Sparrow presence. Distance to cropland, forest, grass, and buildings were the most important factors for Eurasian Tree Sparrow presence.

Eurasian Tree Sparrows (based on the non-random point data) were typically found at an elevation of 204 meters, were closer to grassland, buildings, and cropland, and farther away from water and urban areas.

The forest variability was 0.60, which means that Eurasian Tree Sparrows occurred where the forest edge was more diverse, such as shrubs jutting out instead of being linear with no variation. Continuing analysis on the random data will focus on determining more specific habitat conditions, based on model output.



Kelly VanBeek

Kelly VanBeek is a graduate student in the Resources and Environmental Sciences Department at the University of Illinois. Her project investigates the nesting ecology of birds in soybean fields, with a comparison of no-till and tilled soybean fields being the main objective. This research builds on current grassland bird research, which began in the summer of 2011.

Sixty-two nests were found in no-till fields, while four were found in tilled fields. The top three species of birds nesting in fields were American Robin, Mourning Dove, and Red-winged Blackbird.

Time-lapse cameras revealed that coyotes and thirteen-lined ground squirrels were the most common predators.

No-till fields are more attractive as nesting habitat for birds. Beek suspects that the combination of structure and food resources is what makes these fields attractive. Few nests were destroyed by farming practices, while predators caused the most nest failures. Higher abundances of most bird species were found in no-till than tilled fields as well.

Further research goals include elucidating what attracts birds to no-till fields and examining how birds are impacting potential soybean pests. Ultimately these data will help managers make recommendations that can benefit both crop production and wildlife.

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