John Andrews

John Andrews is a graduate student in the Natural Resources and Environmental Sciences Department at the University of Illinois. His project involves testing the conspecific attraction hypothesis, the tendency of a species to want to settle near one another, on Grasshopper Sparrows and studying nocturnal singing behavior of grassland birds in conjunction with the State Acres for Wildlife Enhancement (SAFE) program in central Illinois.

In 2010 and 2011 Andrews tested whether Grasshopper Sparrows use conspecific cues to select habitat by broadcasting the male Grasshopper Sparrow song.

Song was recorded at night and early mornings to determine if nocturnal song was occurring and if so, which species were singing at night.

Data from the experiment show that Grasshopper Sparrows are attracted to nocturnal singing from conspecifics. In both the 2010 and 2011 breeding seasons, significantly more Grasshopper Sparrows were observed in fields with playback stations broadcasting song than control fields with no treatment.

In 2010 especially, Grasshopper Sparrow densities were twice as high in fields with broadcasting used with their songs as opposed to the calls of other species. Grassland bird song was also recorded in both years, though more heavily in 2010 than 2011.

Preliminary analysis of these data suggests that Grasshopper Sparrows do sing at night. However, further analysis will investigate if nocturnal song is done during specific portions of the breeding season and if nocturnal song differs in structure or frequency from dawn chorus or diurnal songs. Incorporating behavioral natural history in conservation planning is essential to the restoration of declining grassland species like the Grasshopper Sparrow.

Antonio Celis-Murillo

Antonio Celis-Murillo is a graduate student in the Natural Resources and Environmental Sciences Department at the University of Illinois. His project goal is aimed at understanding the function of dawn singing behavior. Dawn singing refers to a period of intense singing activity by birds that usually takes place 30 to 60 minutes before sunlight. During the dawn chorus some species employ different vocalizations than what they use during the rest of the day. Some show high levels of vocal activity while others vocalize infrequently. Several hypotheses concerning the function and evolution of dawn singing have been proposed, however, this phenomenon still remains unclear.

In 2011, in an attempt to characterize patterns of singing activity by all passerine birds, Celis-Murillo recorded 720 dawn and morning choruses at 18 locations distributed across Kennekuk County Park in Vermilion County, Vermilion River Observatory in Vermilion County, and Phillips Tract Natural Area in Champaign County.

Recordings were conducted using autonomous recording units and manual acoustic recording systems (such as parabolic microphones and digital recorders).

These data will provide a thorough understanding of dawn singing behavior and the temporal and spatial patterns of bird vocal behavior in Illinois, such as the species that sing at dawn, the song rates at which they sing (in comparison with morning song) and the type of songs they use.

Understanding the function of dawn singing behavior on passerine birds is critical to develop a robust acoustic method for rapidly and effectively surveying birds using dawn singing. This protocol will be intended to serve as a tool for avian biodiversity assessments by amateurs, universities, government, and non-governmental organizations.