



Clear Zone Habitat Conservation on a South Carolina Airstrip

Project #07-367

Background:

There are clear regulations surrounding vegetation management at military airfields for the purpose of reducing Bird/Wildlife Aircraft Strike Hazards (BASH). In order to comply with the regulations, non-native grass species have been used in clear zones; these generally allow for a monoculture of the desired species and are generally poor habitat for native animal species. In addition, the potential for non-native grasses to spread can result in habitat degradation in areas outside of the clear zone. Native grasses planted in the clear zone may reduce maintenance costs because several native forbs maintain heights within the optimal range. Those that do grow taller than 15 inches do so at a slower rate than some of the non-native grasses; even if mowing is required, it is likely to be required fewer times during the growing season. A concern surrounding native grasses is that they will attract wildlife species that could increase BASH at military installations. It could be possible to maintain a clear zone in native plants that attract small bird and mammal species while not increasing predator activity. However, this hypothesis needs to be tested.

Objective:

To determine the success of two different methods of restoring native grassland communities in the clear zone by documenting the occurrence (diversity and abundance) of birds using the abandoned airfield sections of McEntire Air National Guard (ANG) Station, Richland County, South Carolina in the breeding and wintering seasons.

Summary of Approach:

This project proposes to use the inactive north/south runway at McEntire ANG Station as an experimental area to determine the success of two different methods of restoring native grassland communities in the clear zone. Other areas situated on McEntire can act as control areas. Biological surveys were conducted for native plants and birds.

Benefit:

The results of this research will provide scientific information and management-oriented data that will help the Department of Defense and private personnel understand how airfield management has the potential to affect both BASH and the conservation of imperiled species.

Accomplishments:

Vascular plants were studied at McEntire ANG Station, located in eastern Richland County, South Carolina for one growing season, from November 2007- November 2008. 314 species are vouchered and/or predicted. Of these, 218 are vouchered by a formal collection, housed at the A. C. Moore Herbarium at the University of South Carolina. Of these, 176 are native, and 42 are introduced.

Bird surveys were conducted over 2 breeding seasons (2007-2008) and 2 winter seasons (2007- 2008). During the breeding season (May-July) counts we recorded six species that are of highest conservation priority for South Carolina. These species included the following birds: Henslow's Sparrow, Grasshopper Sparrow, Northern Bobwhite, Loggerhead Shrike, American Kestrel and Eastern Meadowlark. During the two years of survey, our observations point to several trends (that will be analyzed for statistical significance) which bear watching:

1. Breeding bird abundance and diversity was greater than winter (seasonal considerations for BASH as more birds may be present in the spring and summer months)
2. Flocking species (e.g. Red-winged Blackbirds) may present greater BASH than soarers (e.g. raptors such as Red-tailed Hawks) based upon abundance
3. The proximity of other habitats (such as ponds and forested areas) as attractant for potential hazards must be considered
4. The areas undergoing restorative work are showing great potential to harbor grassland species of highest priority (6 of 7 species defined as such [see above narrative] in the South Carolina Comprehensive Wildlife Conservation Strategy were found at McEntire ANG Station)

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