Avian Community Response to a Golf Course Landscape Unit Gradient

Clemson University
David H. Gordon

Start Date: 1998
Number of Years: 3
Total Funding: $60,188

Objectives:

1. *Determine the composition and species richness of avian communities occupying a gradient of golf course landscape units located along the South Atlantic Coast during the breeding season.*
2. *Determine the composition and species richness of avian communities for habitat types found on golf course landscape units located along the South Atlantic Coast during breeding season.*
3. *Examine the influence of landscape context and characteristics of golf course landscape units on the composition and species richness of avian communities.*
4. *Produce a set of outreach products including a technical publication with management and design recommendations, a brochure, and color poster targeted at golf course stakeholder groups.*

The study is conducted on a selected number of golf courses along the Grand Strand near Myrtle Beach, South Carolina. Cooperators in the project include U.S. Fish and Wildlife Service, South Carolina Turfgrass Foundation, and Winyah Bay Focus Area Task Force. This report provides an overview of the progress on the project for Calendar Year 1999.
Accomplishments. Selection of study sites continued through a combination of field reconnaissance and analysis of color infrared aerial photo and satellite imagery. Meetings were held with golf course superintendents to: 1) discuss and plan the design of the study, 2) insure collection of information relevant to golf course management for practical application of study results, and 3) plan field sampling techniques to avoid conflicts with normal golf course activity and play.
Additional computer hardware, software, and Global Positioning System (GPS) equipment were obtained by Clemson University and project cooperators (U.S. Fish and Wildlife Service) to support the project. Both Geographic Information System (GIS) and Image analysis hardware and software were obtained and used to aid study site selection and habitat classification.
Office facilities were established at the Clemson University Belle W. Baruch Institute of Coastal Ecology and Forest Sciences (ICEFS) near Georgetown, SC to serve as a base of operations during the field season. The ICEFS is a fully equipped field laboratory where the U.S. Fish and Wildlife Service South Carolina Coastal Ecosystems Program has a field office.
Mr. Stephen G. Jones was recruited as a graduate student at Clemson University to assist with the project. Stephen is pursuing a Master of Science Degree in the Aquaculture, Fisheries, and Wildlife Department under the direction of Dr. Gordon where he will

incorporate the results of the study into his M.S. Thesis. Stephen has a Bachelor of Science Degree from Wofford College and recently completed a three year term of employment as a Wildlife Technician at the U.S. Fish and Wildlife Service Cape Romain National Wildlife Refuge near Charleston, SC. Because the U.S. Fish and Wildlife Service is a cooperator in this project, Stephen will also have the opportunity to participate in the Service's Cooperative Education Program, a planned and progressive career related student employment program designed to provide for the integration of academic studies and "real world" work experiences.

Dr. Gordon and Stephen Jones participated in the USGA Site visit to Clemson University in early October 1999. A slide presentation of project highlights was made to the USGA group.

Plans for Next Reporting Period. Refinements will be made to the field sampling design including final study site selection in early 2000. Detailed site maps will be produced from color infrared aerial photos and GPS data to aid field data collection. Site maps will include designated sample points and GPS coordinates within delineated habitat classifications. The 1999 field season will begin in April 2000 and continue through August 2000. A summary preliminary data analyses and results will be available by October 1, 2000.