



Migratory Bird Tracking

Project Status

Project Year: 2016-Present

Status: Ongoing

Category: Migratory Bird

Location: Coastal Louisiana

Project Partners: Louisiana Department of Wildlife and Fisheries and its Foundation

Background and Problem Addressed:

For decades, active VHF (very high frequency) radio-telemetry has been one of the most commonly used technological resources in the effort to collect home-range and general movement data for both breeding and wintering avian species. Consisting of a transmitter, an antenna, and a receiver, the active radio-telemetry system operates similarly to that of a typical radio system. The target mounted transmitter emits a signal collected by the antenna and receiver and is converted to an audible tone. Antenna direction and tone strength are then interpreted by the operator to track and determine target location.

The key benefit of this technology is that it allows biologists to conduct research on target individuals without the requirement of recurring and often random visual observation. This low impact form of monitoring has led to tremendous advances in our knowledge of bird habitat use, breeding success, and mortality.



While proving to be a valuable resource, the primary limitations of this technology have been owed to a limited number of available frequencies along with a requirement of intensive tracking effort on the ground. This constraint has historically resulted in an adherence to relatively small geographical scales for individual studies. However, recent innovations in VHF radio-telemetry technology in the form passive (automated) VHF monitoring stations greatly reduce logistical constraints and increase both spatial influence and data volume. When used in conjunction with coded transmitters (nanotags), passive monitoring stations have the ability to continuously track hundreds of target individuals simultaneously, maximizing potential for new research in wildlife bionomics.



Project Description:

The goal of this project is to create a continuous zone of influence along the Louisiana coastline allowing researchers access to the data collection on the movements and habitat usage of individual birds fitted with nonotags. Through a partnership with BTNEP and the Louisiana Wildlife and Fisheries and its Foundation, a network of passive monitoring stations is being constructed along the Louisiana coastline. The primary objective of this collaboration is to provide infrastructure for and facilitation of comprehensive research and monitoring of resident and migratory wildlife species, including movements during breeding and nonbreeding seasons.

Beginning in the spring of 2017, BTNEP plans to initiate a project using the passive monitoring network to compile data for use in the conservation of Least Tern and Wilson's Plover bird, species exhibiting declining trends in population. Least Tern and Wilson's Plover will be fitted with nanotags during the early spring in an effort to determine movements and habitat usage throughout the breeding season.

As networks of passive monitoring stations continue to develop both domestically and globally, the potential for new developments in the study of migration and stopover ecology will also continue to grow. Through collaboration and the exchange of information, it will be possible to identify crucial sanctuaries and habitat characteristics for migrating birds. The expansion of this network benefits researchers across North and South America and addresses, in part, data gaps that would otherwise prevent effective conservation and management, bringing scientists closer to the goal of complete life cycle conservation.

CCMP Action Items Addressed:

Protection of Habitat for Migratory and Resident Birds (Ecological Management #15)

