

# Analyses of Woodcock Singing Ground Surveys in the Northeast

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- **The Challenge:** Research goals of this project seek to determine if survey routes for American woodcock are sampling representative habitats and whether routes are distributed proportionally to early successional habitats and biophysical regions across Maine, Vermont, and New Hampshire. If routes are not representatively distributed (i.e., biased), we will evaluate the effects of this bias on estimates of breeding woodcock population trends in the region; document long-term spatial and temporal changes in the breeding populations of woodcock across the northeastern United States; and determine if changes in breeding population distributions are related to historic and current distributions of early successional habitats in Maine, Vermont, and New Hampshire.



- **The Science:** The U.S. Fish and Wildlife Service (USFWS), in cooperation with state, Canadian and provincial wildlife management agencies, annually conduct the Singing-Ground Survey (SGS) to measure changes in woodcock breeding populations. The SGS provides an index to the size of the spring population. Routes were randomly located in 1968, mostly along secondary roads. Long-term data from the SGS suggested declining trends in both the Eastern and Central populations, from 1968-2001. Managers are assuming that declines of the SGS reflect declines in the woodcock population, and that these declines are caused by habitat loss. For the SGS to reflect changes in courting male woodcock, habitats must be sampled in proportion to their occurrences across the landscape. Although the SGS assumes that the current configuration of routes samples habitats in proportion to their availability, the validity of this basic assumption has never been tested.



- **The Future:** This research project is a collaboration between USGS and the University of Vermont. Routes from ME, NH, VT, MA and NY have been digitized and incorporated into a GIS. Habitat summaries are being analyzed and trends on groupings of routes by habitat and land use types have been summarized. Random routes for ME, NH, VT, MA, and NY were generated and habitat along these routes will be used for statistical comparison with the established routes. This research will help to develop tools such as predictive models, decision support, and expert systems for science-based management of woodcock and their habitats.