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**Segment 2 Quarterly Report
FY 1999**

Project W-131-R: Population Ecology of Eastern Wild Turkeys in Illinois

Progress Report to
Illinois Department of Natural Resources

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STUDY 101: HABITAT COMPARISON OF PRODUCTIVE AND UNPRODUCTIVE TURKEY MANAGEMENT AREAS

Job 101.1; Title: Selection of study areas

Complete

Job 101.2; Title: Database assembly and identification of meaningful habitat descriptors and

Job 101.3; Title: Comparison of landscape level habitat features and construction of a habitat suitability model for turkeys in Illinois

Our spatial data base for habitat analysis was assembled from records of turkey sighting reported by successful shotgun deer hunters in 96 Illinois counties 1993-1997. Our goal was to create a state-wide spatial database of turkey and non-turkey areas in Illinois. The spatial resolution of data reported by deer hunters is at the 1 mi² section level. This effort required hundreds of hours of data transcription from the county road maps used at deer check stations. Year, county, township, range, section, and number of turkeys seen were entered into a computer spreadsheet so that a digital map of turkey sightings could be created for further analysis using the INHS's GIS facilities.

We now have a database of sections where turkeys were seen statewide that is corrected for county-level differences in hunter effort (Figure 1). Further analysis awaits consultation with IDNR managers over counties that are under-represented due to lack of reporting in 1993-1997 (ie Brown).

Selection of habitat variables awaits final construction of the statewide spatial data base. We are using an empirical approach. A broad number of potential variables describing habitat features and human influence will be measures for a matched sample of turkey and non-turkey sections. The variables will then be sorted using a principle components analysis and the variables that best describe the variation in the combined sample of turkey and non-turkey sections will be interpreted relative to turkey habitat studies in other states. The data will also be used to produce a model of turkey habitat in Illinois that can be applied by IDNR habitat managers.

Job 101.4; Title: Analysis and reporting.

The final report on Study 101 will be submitted during FY 1999 at no additional cost.

Study 102; MORTALITY OF FEMALE TURKEYS AT PRODUCTIVE AND NON-PRODUCTIVE TURKEY MANAGEMENT AREAS

Job 102.1

Complete

Job 102.2; Title: Capture and radio-marking of wild turkeys

In early September we began scouting for brood flocks in Clark county to identify areas of successful reproduction and potential trapping areas.

We have also constructed 2 additional box-type rocket net launcher and purchased 3 additional nets. This, in addition to the purchase of an ATV (with cooperater NWTF) will enable use to enter the winter trapping season with the ability to maintain more trap sites and to be more flexible with choosing trap sites.

Job 102.3; Title: Monitoring radio-equipped turkeys and identification of mortality sources.

Since July 1, we have taken 295 locations on up to 11 Turkey hens. Three hens died during this quarter and we are currently monitoring 10 individuals. The latest mortality was 30 July. Two of the 3 mortalities were identified as predation while the cause of the other remains unknown.

Job 102.4; Title: Estimation of nesting rates at intensive study sites.

and

Job 102.5; Title: Estimation of hen success at intensive study sites.

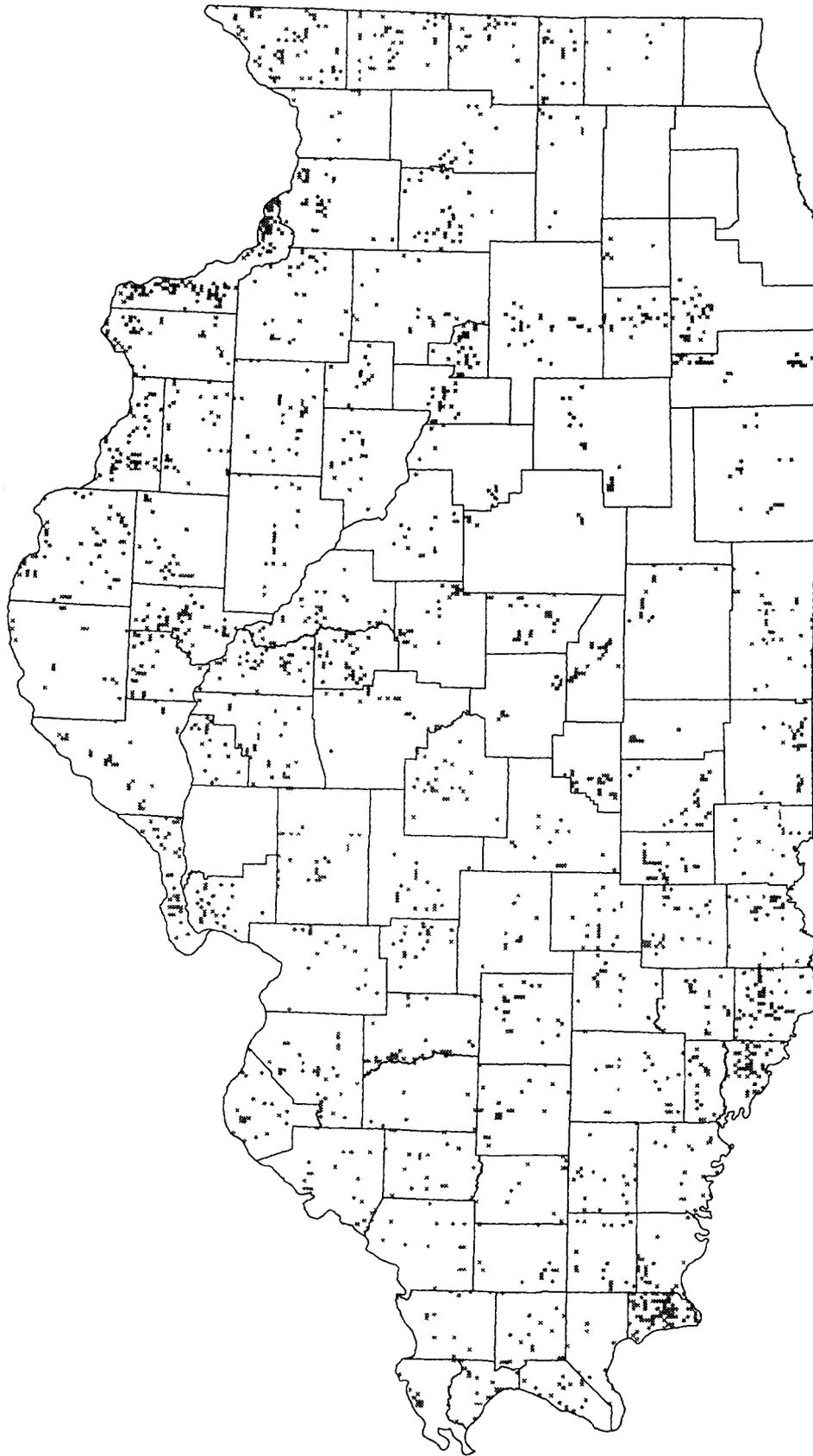
and

Job 102.6; Title: Estimation of poult survival.

We were able to verify 1 successful nest late in the hatching season. This hens hatched 6 poults. All 6 were still alive at the 2 week flush count. At 4 weeks, only 4 poults were counted

Job 102.7; Title: Analysis and reporting of data.

This document is being submitted as the first quarterly progress report for FY 1999.



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