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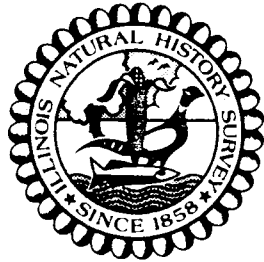
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ILLINOIS NATURAL HISTORY SURVEY



Section of Wildlife Research

Illinois Forest Game Investigations

W-87-R-8

Quarterly Federal Aid Performance Report

by

Charles M. Nixon, Lonnie P. Hansen, James H. Witham, Jon M. Jones
Illinois Natural History Survey

1 July through 30 September 1986

QUARTERLY FEDERAL AID PERFORMANCE REPORT

Illinois Forest Game Investigations

W-87-R-8

Charles M. Nixon, Illinois Natural History Survey, Champaign

Lonnie P. Hansen, Illinois Natural History Survey, Champaign

1 July through 30 September 1986

Study No. VII-D; Title: Harvest Strategies for Illinois Deer Herds

Job VII-D-1; Title: Population dynamics of the Illinois deer herd--
current status, harvest analysis, and formulation
of alternative management strategies.

The quarter was spent preparing the final report for the
W-87-R-5,6,7 projects. This report summarizes the historical
development of the modern day deer herd, provides a history of deer
hunting and harvests in Illinois, provides current estimates of deer
numbers in each county, and projects the effects of future hunting
pressures and alternative harvesting regulations on county, regional,
and statewide deer populations.

This progress report may contain tentative or preliminary
findings. It may be subject to future modifications and revisions.
To prevent the issuing of misleading information, persons wishing to
quote from this report should obtain permission from the project
leader.

Job VII-D-2; Title: Life history and ecology of farmland deer.

A literature search was undertaken to document the history of deer distribution and abundance in east-central Illinois from the time of the first white visitors to Illinois in the 17th century to the present day.

The >12,000 radio fixes and >10,000 observations of marked deer that are coded for computer analysis were proofed for errors before beginning detailed data analysis.

Job VII-D-3; Title: Strategies for developing and managing wintering sites for deer in central and northern Illinois.

Most of the quarter was spent preparing the final report for the W-87-R-5,6,7 projects. This report provides the IDOC with the location and landscape description for 290 sites where deer have traditionally concentrated together in winter in 47 counties in central and northern Illinois. In addition, the characteristics of winter landscapes selected and avoided by deer were determined for intensively studied sites in east-central, west-central, and northern Illinois. We are now testing the discriminating ability of landscape variables selected by discriminant function analysis as important determiners of attraction or avoidance of habitats by deer in winter, using sites of winter concentration and avoidance in Logan, Sangamon, and Menard counties.

Job VII-D-4; Title: Data analysis and preparation of manuscripts
and reports.

One manuscript has been accepted for publication:

Hansen, L., C. Nixon, and F. Loomis. 1986. Factors affecting daily and
annual harvest of white-tailed deer in Illinois. Wildlife Society
Bulletin: In press.

QUARTERLY FEDERAL AID PERFORMANCE REPORT

Urban Deer Study-Illinois Natural History Survey

James H. Witham, Illinois Natural History Survey, Elgin

Jon M. Jones, Illinois Natural History Survey, Elgin

1 July through 30 September 1986

Study No. VII-D; Title: Urban Deer Study

Job 104.1; Title: Biology and ecology of urban deer.

Herd demography of Ned Brown Preserve deer herd was discussed in the FY86 annual report.

We have initiated fall spot-light counts of deer in the Ned Brown Preserve. Fewer deer are being observed this year; we now observe 25-35 deer on a spot-light route where 40-100 deer were counted during past years.

Job 104.2; Title: Deer range evaluation for metropolitan northeastern Illinois.

Summer vegetation analyses on the Ned Brown Preserve were completed during this quarter. This activity was discussed in the FY86 annual report.

A time sequence of aerial photographs taken of the Ned Brown Preserve and adjacent areas (5 km belt on all sides of the preserve) was purchased. Photographs were obtained for 1949, 1963, 1971, 1981, and 1985. These photographs will be the basis of a land-use evaluation of areas adjacent to and including the Ned Brown Preserve. The Ned Brown Preserve lies within a corridor of intense suburban development. The history of increased insularity of deer habitat within the Ned Brown Preserve has strongly influenced current herd status and will continue to influence decisions affecting future herd management.

Job 104.3; Title: Management strategies and implementation of experimental control of urban deer.

Deer removed from the Ned Brown Preserve since 1984 were summarized in the FY86 annual report. Since 1983, a total of 160 deer were removed from Busse Woods North (north half of the Ned Brown Preserve) for translocation studies, nutrition studies research, evaluation of removal techniques, and for herd reduction. The size of the Ned Brown Preserve deer herd is currently being manipulated as part of an experimental control research program. The herd will be maintained at $<8 \text{ deer/km}^2$ ($<20 \text{ deer/mi}^2$)--a density similar to deer herds in far northwestern Cook County (Barrington area).

Job 104.4; Title: Data base management, analysis, and reporting on urban deer research.

We have found that the SAS program, a statistical package that we use with our field office Apple IIE microcomputer, is insufficient for some of the larger data sets that we are analyzing (i.e. postmortem examinations, nutrition study, vegetation measurements). Therefore, we continued to convert files from the SAS format into text files that can be used on a main frame computer at the University of Illinois, Champaign. Presently, we are working with an INHS computer programmer who is reformatting file sections.

Much of our time during this quarter was involved in synthesizing data for, and producing, the FY86 annual report. The report focused on modeling herd dynamics, preliminary assessment of nutritional indices to predict whole body composition, radio telemetry studies, vegetation monitoring, and deer-vehicle accident analyses.

Slide presentations on the Urban Deer Study were given to: INHS Wildlife Section meeting, Triton College, and Friends of the Surveys. We have accepted requests for presentations during October-November from: Northeastern Illinois University, Morton Arboretum Camera Club, and Roosevelt University. Presentations will also be made at the Urban Deer Study Community Liaison Committee (October), and, the National Urban Wildlife Symposium (November).

Preparation of this quarterly report.

PREPARED BY:

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DATE: 30 September 1986

APPROVED BY:

A handwritten signature in black ink, reading "Glen C. Sanderson". The signature is written in a cursive style with a horizontal line underneath it.

Glen C. Sanderson, Head
Section of Wildlife Research
Illinois Natural History Survey