Seventy Years of Wildlife Research-- Publications of the Center for Wildlife and Plant Ecology and Predecessors, Illinois Natural History Survey

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I started work with the Section of Wildlife Research, Illinois Natural History Survey in September 1968 assisting William W. Cochran and Charles G. Kjos with their studies of migration of Catharus thrushes. With that beginning, I worked on and off for the next 18 years on various research projects of the INHS. From the beginning, I searched out and read prolifically all of the work of INHS' researchers on all aspects of wildlife research. In the late 1980's, after I had acquired my first computer, I began this bibliography of INHS wildlife research publications. It has been maintained since, and all of those I now have, are entered into a Procite® database along with all of my over 10,000 reprints and other research publications. After several fits and starts on this project, including a rejection from INHS' editor in 1997 to publish the bibliography, I offer this editions, with associated narrative in the hopes that it will preserve some of the history of this organization and its vast contribution to wildlife conservation.
Introduction

Wildlife research has evolved as a parallel to wildlife management in America. Significant changes have taken place in the focus and content of wildlife research activity since the mid-1930's when modern research and management was first began. The purpose of this paper is to document a part of the history of wildlife research as exemplified by the program of the Illinois Natural History Survey (INHS). An extensive, although not exhaustive bibliography of INHS wildlife research publications is provided, and serves to illustrate this history.

Organizational Development

The first significant development in wildlife research occurred with the inception of the Cooperative Wildlife Research Unit program at a meeting in New York City 24 April 1934 (Trefethen 1975:225). the first unit was inaugurated in 1935 at Iowa State University. On 1 July 1934, Dr. T. H. Frison, then Chief of the INHS, established a Section of Game Research and Management within the Survey's organizational structure (Scott 1958)(Table 1). In effect, though J. N. Darling's Cooperative Unit program had been organized on paper, the dedication and foresight of the INHS' Dr. Frison had led to formalization of wildlife research at INHS several months before the first Unit was underway.

With passage of the Pittman-Robertson Federal Aid to Wildlife Restoration Act (PR) on 2 September 1937, a financial and administrative shell was constructed to provide for state conducted wildlife research (Trefethen 1975:228). During this period the INHS
organized a Section of Wildlife Experimental Areas to demonstrate and test land
management practices, and a forest/wildlife relations research program in the Section of
Forestry (Table 1). It was not until 23 May 1939, that the INHS began participating in its first
PR project with the Illinois Department of Conservation. In 1940, PR research at the INHS
was pooled into a section level Cooperative Restoration Unit (Scott 1958). Since the
beginning of the PR program in Illinois, the INHS has played a lead role by conducting most
of the research required by the Illinois Department of Conservation.

In 1945, the Section of Wildlife Experimental Areas was merged with the Section of
Game Research and Management and in part with Cooperative Wildlife Restoration. This
move helped to consolidate wildlife research into 3 operational units. From August 1947 to
June 1948 a separate Section of Migratory Waterfowl functioned within the INHS (Scott
1958).

Additional consolidation occurred when Cooperative Wildlife Restoration (renamed
Cooperative Wildlife Research in 1947) was merged with the Section of Game Research and
Management in 1950 and the wildlife projects of the Section of Forestry were transferred in
1954 upon abolishment of that section. Thus, by 1954 the last of the INHS wildlife projects
was moved into the Section of Game Research and Management under a single administrator
(Scott 1958).

The Section of Game Research and Management was renamed Section of Wildlife
Research effective 1 May 1956. On 1 July 1989 the organizational development of wildlife
research at INHS took one further step with the renaming of the Section of Wildlife Research to the Center for Wildlife Ecology. Again on 1 July 2003 a further change was made by combining some of the functions of other INHS operational sections with the Center for Wildlife Ecology and thus creating the Center for Wildlife and Plant Ecology. This recent change reflects a more modern ecosystem approach to wildlife management and a significant change in the pallet of research at INHS.

**Published Record**

During the 70 years since formal wildlife research began, wildlife scientists at INHS have published over 900 items. These include approximately 110 popular articles, 9 books and monographs, 43 book chapters, and the editing of 4 annual volumes of the Journal of Wildlife Management. Peer-reviewed scientific papers have dominated INHS publications, an excess of 500 (Table 2).

INHS wildlife scientists have averaged 13.8 ± 6.7 (mean ± SD) publications year⁻¹. Except for earlier years (1934-45) the number of publications per year have remained relatively constant with a dramatic peak in the decade of 1961-70 (Figure 1).

Waterfowl and ring-necked pheasants (*Phasianus colchicus*) have been important research topics for INHS wildlife scientists (Table 3). Other Birds (songbirds, raptors), habitats (especially wetlands), and rabbits (primarily eastern cottontail, *Sylvilagus floridanus*) have also been important topics. Game species dominated the first 50 years of wildlife research at INHS.
The INHS has a long standing tradition of research on non-game wildlife which pre-dates the establishment of formal wildlife research in 1934. The bibliography reflects the continued recognition of these resources into the recent decades. Approximately 200 titles have been published, 1935-2004, on non-game species (Table 3). In addition, one paper on plants, and three on insects have been produced by INHS wildlife scientists.

During the 1960's and 1970's INHS scientists conducted extensive studies of environmental contaminants, yielding ~ 20 papers. The topic of lead poisoning in waterfowl and the development of substitute shot materials has resulted in ~35 papers.

The PR program has been a significant source of funding for INHS wildlife studies since 1939. PR research has resulted in ~400 papers, or slightly more than 40% of the publications produced by INHS wildlife researchers.

Recent trends in wildlife ecology have moved research programs at INHS away from the more traditional wildlife projects to ecosystem or landscape level programs. Studies of tropical avian communities were important in the 1990’s. It will be up to a future biographer to document where INHS wildlife research goes in the future.

**Literature Cited**


The Bibliography

The bibliography is arranged in alphabetical order by author and includes all published materials prepared by INHS wildlife researchers between 1934 and 2004. The 2004 list is incomplete because some 2004 titles will not be in print until 2005. I had to end the time series somewhere and 2004 was as good a year as any. The rules behind what I have selected are thus:

1. articles included are published as journal or magazine articles, booklets, leaflets, technical bulletins, or reports that are printed as part of a numbered series.
2. excluded materials are mimeographed, photocopied, wordprocessed, or other performance or final reports issued to granting agencies such as the Federal Aid to Wildlife Restoration program.
3. also excluded are abstracts that were not published in either a journal or in the proceedings of a scientific meeting.
4. I have also excluded the regular mimeographed reports that were prepared for the Monthly Wildlife Research Letter (MWRL). The MWRL was issued to Illinois Department of Conservation and U. S. Fish and Wildlife Service cooperators on a monthly basis for many years, and was a valuable tool for informing the cooperators of the progress of research projects.
5. publications by Survey authors of work performed outside their employment with the Survey.
Of course, I have very likely missed some publications that should be here.

The preferred citation for this publication is:

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
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<tr>
<td>1 July 1934</td>
<td>Section of Game Research and Management established</td>
</tr>
<tr>
<td>March 1938</td>
<td>Separate Section of Wildlife Experimental Areas established</td>
</tr>
<tr>
<td>1 June 1938</td>
<td>Section of Forestry initiates research on forest/wildlife relations</td>
</tr>
<tr>
<td>23 May 1939</td>
<td>First Pittman-Robertson project began</td>
</tr>
<tr>
<td>1940</td>
<td>A section level unit of Cooperative Wildlife Restoration organized</td>
</tr>
<tr>
<td>September 1945</td>
<td>Section of Wildlife Experimental Areas abolished by transferring projects to the Section of Game Research and Management or Cooperative Wildlife Restoration Program</td>
</tr>
<tr>
<td>August 1947</td>
<td>Cooperative Wildlife Restoration Program renamed Cooperative Wildlife Research. Section of Migratory Waterfowl organized.</td>
</tr>
<tr>
<td>June 1948</td>
<td>Section of Migratory Waterfowl discontinued; projects transferred to Section of Game Research and Management or Cooperative Wildlife Research</td>
</tr>
<tr>
<td>March 1950</td>
<td>Cooperative Wildlife Research merged with Section of Game Research and Management</td>
</tr>
<tr>
<td>1 September 1954</td>
<td>Section of Forestry abolished. Wildlife projects transferred to Section of</td>
</tr>
<tr>
<td>Date</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1 May 1956</td>
<td>Section of Game Research and Management renamed Section of Wildlife Research</td>
</tr>
<tr>
<td>1989-2003</td>
<td>Section of Wildlife Research renamed Center for Wildlife Ecology</td>
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<tr>
<td>2003-potent</td>
<td>Center for Wildlife Ecology renamed Center for Wildlife and Plant Ecology</td>
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Table 2. Publication outlets for Illinois Natural History Survey wildlife research publications.

<table>
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<th>Publication</th>
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<tr>
<td>Journal of Wildlife Management</td>
<td>154</td>
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<tr>
<td>Wildlife Society Bulletin</td>
<td>37</td>
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<td>Wildlife Monographs</td>
<td>4</td>
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<tr>
<td>Transactions of the Illinois State Academy of Science</td>
<td>44</td>
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<tr>
<td>Condor</td>
<td>8</td>
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<tr>
<td>Wilson Bulletin</td>
<td>46</td>
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<tr>
<td>Auk</td>
<td>26</td>
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<td>American Midland Naturalist</td>
<td>29</td>
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<tr>
<td>Journal of Mammalogy</td>
<td>26</td>
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<tr>
<td>Bird-banding/Journal of Field Ornithology</td>
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<tr>
<td>Canadian Journal of Zoology</td>
<td>8</td>
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<tr>
<td>Journal of Parasitology</td>
<td>6</td>
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<tr>
<td>Other Journals</td>
<td>99</td>
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<tr>
<td>Illinois Department of Conservation Technical Bulletin</td>
<td>6</td>
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<tr>
<td>Illinois Natural History Survey Bulletin</td>
<td>27</td>
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<td>Illinois Natural History Survey Biological Notes</td>
<td>53</td>
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<tr>
<td>Illinois Natural History Survey Circular</td>
<td>3</td>
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<tr>
<td>Illinois Natural History Survey Special Publications</td>
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<td>Other Technical Reports</td>
<td>56</td>
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<tr>
<td>Other Bulletins</td>
<td>24</td>
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<td>Transactions of the North American Wildlife Conference</td>
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<td>Other Conference and Workshop Proceedings</td>
<td>79</td>
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<td>Illinois Department of Conservation Magazine</td>
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<td>Illinois Wildlife</td>
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<td>Other Magazine Articles</td>
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<tr>
<td>Books and Monographs</td>
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<td>Book Chapters</td>
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Table 3. Illinois Natural History Survey wildlife research publications by topic.

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<tr>
<td>Waterfowl</td>
<td>219</td>
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<tr>
<td>Ring-necked Pheasants</td>
<td>94</td>
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<tr>
<td>Other Birds</td>
<td>175</td>
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<tr>
<td>Habitats</td>
<td>72</td>
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<tr>
<td>Rabbits</td>
<td>54</td>
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<tr>
<td>Bobwhite Quail</td>
<td>24</td>
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<tr>
<td>Squirrels</td>
<td>33</td>
</tr>
<tr>
<td>Raccoon/Opossum</td>
<td>36</td>
</tr>
<tr>
<td>Other Mammals</td>
<td>44</td>
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<tr>
<td>Greater Prairie-chicken</td>
<td>26</td>
</tr>
<tr>
<td>White-tailed Deer</td>
<td>36</td>
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<tr>
<td>Other Furbearing Mammals</td>
<td>21</td>
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<tr>
<td>Mourning Doves</td>
<td>17</td>
</tr>
<tr>
<td>Foxes</td>
<td>10</td>
</tr>
<tr>
<td>Striped Skunk</td>
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<tr>
<td>General Topics</td>
<td>93</td>
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<tr>
<td>Snakes</td>
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Figure 1. Annual frequency of Illinois Natural History Survey wildlife research publications, 1934-2004.
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