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## Bibliography to Upper Mississippi River Aquatic and Wetland Plant Literature

James H. Peck

*University of Arkansas - Little Rock*

Miles M. Smart

*University of Wisconsin - La Crosse*

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## Bibliography to Upper Mississippi River Aquatic and Wetland Plant Literature

JAMES H. PECK<sup>1</sup> AND MILES M. SMART<sup>2</sup>

A comprehensive bibliography of 308 references by 270 authors was prepared to provide access to the literature on aquatic and wetland plants of the Upper Mississippi River. The references treated the taxonomy, floristics, ecology, wildlife biology, limnological role, and management programs on macrophytes present in the navigation channel, backwater, and floodplain of the Upper Mississippi River, which stretches from Minneapolis, MN, southward some 1,380 km to Cairo, IL. Articles, serials, books, agency reports, agency contracted studies, theses, and dissertations were included.

INDEX DESCRIPTORS: Aquatic vegetation, aquatic plants, Upper Mississippi River, wetland plants.

The extensive literature on aquatic and wetland plants of the Upper Mississippi River occurs in many diverse journals, serials, books, agency reports, contracted agency reports, theses, and dissertations. This bibliography provides a reference resource to that literature. For purposes of this paper, the Upper Mississippi River was defined as the navigation channel, backwater, and floodplain of the Mississippi River from Minneapolis, Minnesota, downstream some 1,380 km to Cairo, Illinois. This stretch of the Mississippi River includes portions of the states of Illinois, Iowa, Minnesota, Missouri and Wisconsin. Ownership includes private, municipal, county, state, and various federal agencies. Management of the resources has been varied and has depended on the concerns of the owner, but usually included aspects of wildlife management, navigation, or environmental quality concerns for river users. All three of these management concerns involve assessments of the aquatic and wetland plants. This bibliography, then, provides users and owners with a starting point in conducting assessments and in developing management plans.

The bibliography was compiled from 1977-1983. The search resulted in the location of 308 references prepared by 270 authors. The search considered standard botanical resources for each state, including theses, dissertations, state science journals, and regional or national botanical journals. State and federal agencies, along with private groups, which have supported research on the Mississippi River, were contacted to compile their references. Computer searches of the data bases of Selected Water Resources Abstracts, Madison, WI, and University of Florida Center for Aquatic Weeds, Gainesville,

FL, were conducted to check our manual efforts. It was relatively easy to decide whether a particular report was appropriate for inclusion. Reports which only discussed microscopic bacteria or algae were not included. All references which treated plant groups that are traditionally known as "macrophytes" were included. Plant groups were flowering plants, conifers, ferns, fern allies, bryophytes, and macroscopic algae. Some titles were annotated or expanded to clarify the agency which prepared a report and the agency for whom the report was prepared. Each citation we listed was inspected by one or both authors. Copies of each report were available to the public at institutional libraries, such as Iowa State University Library, agency publication offices, and in the files of our colleagues. Private or uncirculated documents were not included.

### ACKNOWLEDGEMENTS

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<sup>1</sup>Department of Biology, University of Arkansas at Little Rock, Little Rock, AR 72204

<sup>2</sup>River Studies Center, University of Wisconsin-La Crosse, La Crosse, WI 54601

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### Book Review

IOWA BIRDS — by James J. Dinsmore, Thomas H. Kent, Darwin Koenig, Peter C. Petersen, and Dean M. Roosa. Iowa State University Press, Ames. 356 pp. \$27.95.

Despite considerable ornithological research and increasing birding activity in Iowa, a revision of a major book on Iowa birds has been long overdue. This Iowa State Press publication by five experienced and competent ornithologists/birders/ecologists finally brings together what is known in a precise and thorough manner that will be useful to anyone interested in midcontinent birds.

Objectives of the work are stated in the Preface and infer a desire to put together in one volume what is known of the Iowa avifauna, its geographic and temporal distribution, its relationship to adjacent faunas, as well as the status and habitat of each species. As with any effort of this sort, these goals are accomplished at varying levels.

The emphasis of the work on birding is set in line one of the first Chapter entitled "The state list" which states that "The current number of species accepted as having occurred in Iowa is 362 . . ." The focus of this chapter is historical in recounting lists, times, groups and individuals who have contributed major lists of birds. But by page 2 of the main text, a major block of space is devoted to predicting what future additions to the list might be expected on the basis of ranges and records nearby, and the chapter culminates with a parenthetical statement that two of the previously mentioned species have indeed been seen since the chapter had been typed.

Chapter two on the "Definition of species status" is an enigma. It covers both the categories of occurrence and breeding records, as well as a detailed analysis of the ways in which reliability of records has been established by the Iowa Ornithologists' Union (IOU) and utilized in the book. Again, it addresses part but not all of the sources of data used as the basis for the text. Species are placed in classes which indicate whether a listing is supported by a specimen, photograph, or observations, and whether or not it has the vote of the IOU's Records Committee. One is left with the impression that the job has been taken seriously, and that questionable records have been eliminated.

The third chapter interrupts the trend of thought with a discussion of "The relationship of birds to Iowa Geography." I don't feel that the inferred goal was accomplished, and the stress on descriptive geology seems to come at the sacrifice of the more meaningful vegetational ecology of Iowa. There is some information on climate but its implications for Iowa birds are not elaborated. Regions, towns, reservoirs and surface features are shown on maps, but there are no maps of the forests, wetlands and lakes, or the original vegetation of Iowa, which are available. There is some effort within the discussion of natural regions to fill in on vegetation patterns and bird use, but the descriptive aspect of geology dominates the chapter. Although 75% of the state is farmed, relicts of the original vegetation form an important part of the avian habitat, and general patterns of forest and wetlands still remain and strongly influence bird migration and nesting. Statements on habitat loss and human activities are scattered here and there, but there is no integrated effort to relate the history of human development to habitat availability or avifaunal composition.

Returning to bird lists and records again in Chapter 4 on "Breeding and endangered species", we find the opening statement that "There is evidence of nesting for 188 species in Iowa . . ." There are some historical records (chronology) of discovery, but no mention of the tools, or the data from the Breeding Bird Counts, which have been taken since 1967.

Chapter 5 brings another switch in subject matter to the "History of Iowa Ornithology", which is quite interesting and useful but emphasizes people and organizations rather than events. But surveys also are included, so the basis for some of the following species accounts comes here, quite divorced from the other sources of data. There is only indirect reference to conservation issues, loss of habitat, exotic introductions, impacts of human development, etc. I would have found part of this chapter better associated with other sources of data for the book placed immediately before the species accounts; the remainder could have been in an appendix on people and places. But each person will react differently to this ordering of ideas dependent upon interest or need.

The species accounts are subdivided by taxonomic order, family or subfamily with a general introductory statement about the group that may include data on the number of species and their general distribution worldwide. Some indication of habitat and nest sites is given in most of these. The accounts occupy 280 pages of the 356-page book, and the order is taxonomic, regardless of the status of the species (i.e. regular or accidental) which is given. This order is convenient ornithologically, but perhaps more confusing for the beginner. The "regular" species (276) are listed in an appendix. Both scientific and common names are accurate and current. As is common to many state bird books, accidentals often are given more space than regulars, and usually have a map even when few records exist. Maps for common species often are missing, even though density data are available for at least some of the game species. It's nice to have numerous black and white photos of birds as "fillers", many by Fred Kent who has photographed most Iowa birds with their natural backgrounds. Unfortunately, many are reproduced poorly by the printing process. The literature citations for each account are not included in the literature cited section at the end of the book; the latter includes only those from the five general chapters, but both listings seem very complete and up-to-date.

The printing was done from camera-ready copy, and utilizes an excessive variety of type sizes and styles. Nevertheless, an italics type must have been missing as scientific names are given in boldface type instead. The overall format and "polish" leaves something to be desired. The price is \$27.95 for the hard-backed, well-bound book.

Although I missed a flow of ideas in the general chapters, what I missed even more was an analysis of the avifauna — an avifauna at the crossroads of the continent with a fascinating mix of species and groups, and a dynamism brought about by climate, geography and man. This book will serve well the audience for which it was designed, but it leaves room for additional analyses and interpretations of the Iowa bird fauna. — Milton W. Weller, Dept. of Wildlife & Fisheries Sciences, Texas A & M University, College Station, TX 77843.