

frontal systems, and the ecology of hydrothermal vent communities. The papers are technical in nature and therefore would be difficult for someone without some acquaintance with technical training to read.

### Northern Prairie Wetlands

Edited by Arnold van der Valk. 1989. Iowa State University Press, Ames. xiv + 400 pp., illus.

In the heart of the continent, one of our most wonderful, distinctive, and abused landscapes is slowly disappearing, not because of global warming, though that might become a reality, but because of crass social neglect. Prairie wetlands, almost by definition, are precarious. They exist in a highly continental climate, with hot dry summers, frigid winters, and water-table conditions that oscillate ominously as the seasonal extremes vary. But they form an ecosystem that is at once unique in its beauty, particular in its array of environments, plants, and fauna, and irresistible to the growing pressures from agriculture, hunting, and ill-conceived development.

Prairie naturalists on both sides of the international border know and cherish their wetland environments. The Northern Prairie Wildlife Center in North Dakota, and the Delta Waterfowl and Wetlands Research Station in Manitoba have been significant focal points for research into the ecology of these systems. The entire community of naturalists and scientists who have been influenced, directly and indirectly, by the northern prairie wetlands and these research centres, will welcome this fine book, which brings together in a readable, clear and well-illustrated format, our current understanding of the ecology of these threatened parts of our natural heritage. Appropriately, the book is dedicated to four of the leading experts on the subject — J. Henry Sather, Jennifer Walker-Shay, Peter Ward, and Milton Weller.

The 400 pages of text, illustrations, and index provide the naturalist and professional ecologist with an authoritative, well organized, balanced review of all relevant aspects of the subject. The urgency of the problem is set out in the first chapter, on the political and economic aspects, and the message is explicit — “We do not need to spend much more time plotting the course of a sinking

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ship; we need to stop it from sinking.” Some of us know at first hand, that the effects of continued drainage of prairie wetlands, exacerbated in dry years with or without “greenhouse effect” signatures, enables us to literally drive a vehicle over areas that less than a decade ago were marshes and shallow lakes. This opening chapter sharpens our wits to analyse carefully what follows — three chapters, on hydrology, water chemistry, and runoff from farming fertilizers, and while we learn much about the basic interactions that occur between water table, soil, and wetlands, the clear message is that our state of knowledge is woefully inadequate.

A big, central chapter on flora and vegetation is an excellent conflation of a dispersed, variable literature, and it will take its place as the definitive summation of the subject for several years. Floristic, dynamic, and phytosociological aspects get full play, but detailed consideration of the effects of fire, grazing, drainage, and other factors make this a key section of the book.

The latter half of the book consists of expertly compiled accounts of algae, ducks, waterfowl habitats, mammals, fishes, and energetics of wetland ecosystems, with a concluding chapter on the unusual wetlands of the Nebraska Sandhills. A fifteen page index provides full coverage of topics, tables, and taxonomic names.

Professor A. van der Valk, the general editor, and his co-authors have succeeded admirably in transforming what began as a symposium, held five years ago, into a major text that will find an important place in the libraries of naturalists, students, and professional ecologists of all stripes and institutional affiliations. The price is reasonable. The text is clean. The illustrations are appropriate.

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Ritchie, J C . 1989. "Northern Prairie Wetlands, ed. Arnold van der Valk [Review]." *The Canadian field-naturalist* 103(4), 632–632.  
<https://doi.org/10.5962/p.356275>.

**View This Item Online:** <https://www.biodiversitylibrary.org/item/106991>

**DOI:** <https://doi.org/10.5962/p.356275>

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