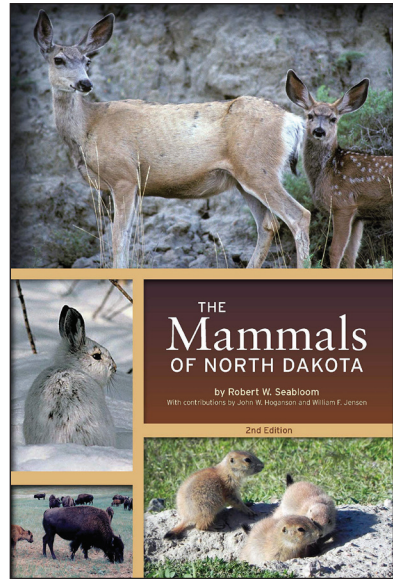


The Mammals of North Dakota, Second Edition, by Robert W. Seabloom, with contributions from John W. Hoganson and William F. Jensen. 2020. North Dakota State University Press, Fargo, ND. 470 pages. \$42.00 (paperback). ISBN: 978-1-946163-15-8.

North Dakota's mammal community has always been dynamic, influenced by both ongoing processes and the echoes of ancient events. *The Mammals of North Dakota (second edition)* is an excellent guide to this community, documenting the 88 mammal species currently found in the state. Continuing in the tradition of its predecessor (Seabloom 2011), this new edition was prompted by several recent changes to the state's mammal fauna. The newest edition documents the presence of three more species (*Myotis thysanodes* Miller [Fringed Myotis], *Sorex palustris* Richardson [Northern Water Shrew], and *Gulo gulo* Linnaeus [Wolverine]) in the state and shifts in ranges for 24 others, thus providing an important update of the occurrence and distribution of mammals in the North Dakota. This book is much more than a field guide, however, as it also chronicles how geology, geography, climate, and other ecological factors have worked to shape the state's mammal community from prehistory to the present. The result is a text that paints a complete picture of mammals in North Dakota, and *The Mammals of North Dakota* will serve as an indispensable resource for researchers, educators, students, naturalists, and others interested in mammals.

The Mammals of North Dakota is logically organized, and the opening segments do a good job of setting up the rest of the book. A succinct introduction provides the impetus for the text, describes the sources used for the book, and presents an overview of the format of the species accounts that come later. The "Description of the Class Mammalia" then provides a helpful primer on mammals, discussing their shared traits and providing insight into how these traits have contributed to the success and diversity of mammals. Next, "Early Mammalogy in North Dakota" recognizes contributions of Native Americans, early explorers, and naturalists to our understanding of the natural history of North Dakota's mammals.

The chapters by John Hoganson and William Jensen that follow are excellent and combine with the species accounts to tell the full story of the state's diverse mammal community. Hoganson presents a fascinating chronicle of the prehistoric mammals of North Dakota, detailing the tremendous changes in landscape, climate, and mammalian fauna that have occurred over the past 65 million years. The diagram of North Dakota's rock strata and accompanying timeline is quite helpful for understanding the state's rich fossil record, and the full-color illustrations of ancient mammals really bring these creatures to life. Jensen then contributes an overview of the present landscape of North Dakota, outlining the sometimes subtle but significant variation in topography, climate, and land use patterns occurring across the state's landscape. His informative descriptions are augmented by maps and color photos that depict the state's land forms and major habitat types. He follows this with a short chapter on the biogeography of North Dakota, where he discusses various life zones, mammal provinces, and faunal elements of the state and explains how North Dakota's geographic location has influenced the state's mammal community.



Species accounts of current North Dakota mammals comprise the book's main text. This chapter begins with a species checklist, followed by individual species accounts grouped by Order and Family. There are entries for all 88 resident and transient species known to occur in the state. Each account begins with the common name for the species, followed by the scientific name and then any known names used by North Dakota's Native American tribes. Scientific names follow Wilson and Reeder (2005), with more recent revisions also included (although the specific epithet for the *Pekania pennanti* Erxleben [Fisher] is misspelled as *pennant* in both the species account and checklist). The narrative for each account is divided into Description, Distribution, Habitat, Ecology and Behavior, Reproduction, and Status and Conservation sections. Entries provide a thorough sketch of each species without being overly long and include both general and North Dakota-specific information. Several accounts have been updated to include research findings published since the release of the first edition, and entries also include selected references for those wishing to conduct further study. For most species, there are high-quality, full-color photographs that depict important identifying characteristics (photos are missing for *Perognathus flavescens* Merriam [Plains Pocket Mouse], *Zapus hudsonius* Zimmermann [Meadow Jumping Mouse], and four of the Soricidae [Shrews]). Each account also includes a county-level map of the species' current range, with dark-shaded counties representing confirmed range, and light-shaded counties representing probable range, or for big game, secondary range. Importantly, maps reflect recent shifts in distribution for several species. This portion of the book concludes with a brief review of species with potential to occur in North Dakota, but for which there is no recent record (e.g., *Rangifer tarandus* Linnaeus [Caribou]).

Next, a short chapter, "Investigating Mammals," offers guidance to those wishing to collect mammal specimens. In this chapter, Seabloom briefly discusses techniques, proper specimen storage, and the human health and legal considerations related to mammal collection.

The final chapter of the book contains dichotomous keys to whole mammals and skulls. At the beginning of this chapter, Seabloom provides photographs of a *Canis latrans* Say [Coyote] skull from various perspectives, each labeled to introduce major skull structures. These labeled photographs, and the glossary of biological terms at the end of the book, should provide a helpful orientation for students and other beginning mammalogists. However, a more thorough knowledge of skull and tooth anatomy as well as dental formulae will be needed to effectively use the skull key.

In summary, with *The Mammals of North Dakota (second edition)*, Robert Seabloom has given us an excellent update to the only comprehensive text on the North Dakota's mammals. Necessitated by a rapidly changing mammal community, the book provides a current account of this community as well as the historical context needed to appreciate the factors that have influenced it. I know I will be incorporating this book into my mammalogy course, and I highly recommend *The Mammals of North Dakota* to anyone studying mammals in North Dakota.

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Literature Cited

- Seabloom, R.W. 2011. *The Mammals of North Dakota*. First edition. North Dakota Institute for Regional Studies, Fargo, ND, USA.
- Wilson, D.E., and D.M. Reeder (Eds.). 2005. *Mammal Species of the World: A Taxonomic and Geographic Reference*. Third edition. Johns Hopkins University Press, Baltimore, MD, USA.