

## BOOK REVIEW

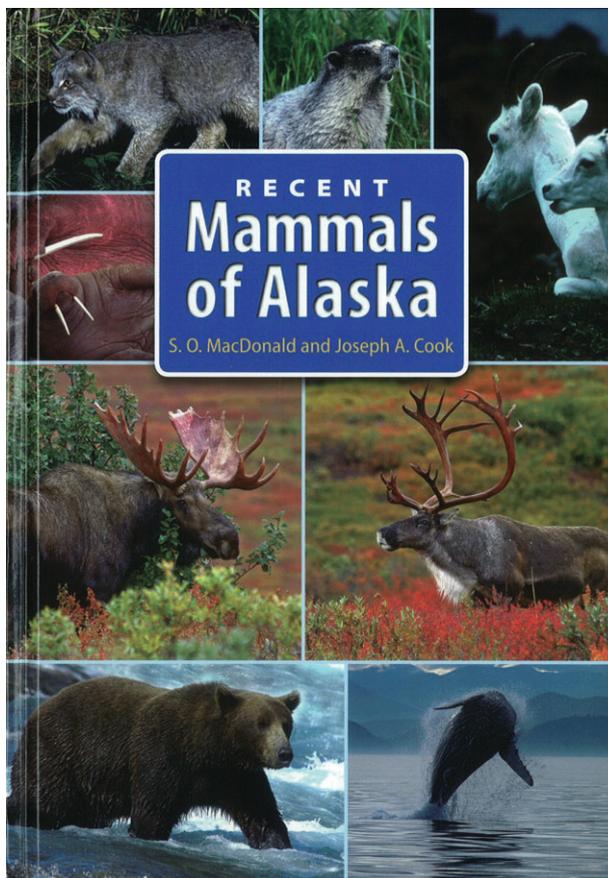
Review of *Recent mammals of Alaska*, by S.O. MacDonald and J.A. Cook (2010). Fairbanks: University of Alaska Press. 399 pp. ISBN 1602230722.

Billed as a summary monograph, this book is more precisely a catalogue of all mammals that have been documented in Alaska during the past 10 000 years, fronted by an introduction to mammalian collections in Alaska, and a short overview of Alaskan biogeography, and summarized in a set of appendices. In between these two segments are 116 1–2-page species accounts, each of which includes a brief summary of the taxonomy, distribution, abundance and status. In creating this text, the authors have summarized a great deal of detailed information gleaned from a thorough combing of both peer-reviewed and grey literature. However, the aim of the book is centred less around describing the basic biology and ecology of Alaskan mammals, than on introducing the readers to the archived specimens that exist in museum collections. This focus reflects the training and expertise of the two authors, both of whom have spent their careers affiliated with natural history collections: S.O. MacDonald worked as a curator at the at the University of Alaska Museum (UAM) from 1979 to 1984, and is now curator in the Mammals Division of the Museum of Southwestern Biology (MSB) at the University of New Mexico, whereas J.A. Cook was the Curator of Mammals at UAM from 1990 to 2001, and now fills that role at MSB. Cook, MacDonald and their students have conducted extensive field collections in Alaska, and throughout their careers have advocated strongly that natural history collections are valuable research tools. This book serves as a summary of their work, and as a plea for continued efforts in these areas.

The focus on collections and their worth begins in the introduction, with a review of the history of mammal collections in the state, a review of the various uses to which collections can be put and a few brief summaries of studies that were either hindered by an incomplete understanding of the diversity of species within an area or enabled by the existence of robust collections. These mini-reviews serve as examples of the value of natural history collections, but because the emphasis is on the use of collections, and not the results of the studies, they do not provide the reader with much insight into the biology

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or ecology of Alaskan mammals. The emphasis is also apparent in the individual species accounts, where the range maps for each species indicate Alaskan collection locations much more clearly than species distribution. Although collections are certainly valuable, and the authors have gone to significant effort to provide information on the museums housing all known Alaskan specimens—and have thereby saved others this time and effort—I can't help but wonder if much of this task couldn't be accomplished through the judicious use of online databases, which, by their nature, are better able to incorporate new entries. Indeed UAM and MSB both participate in an ongoing effort to make mammal collection data from multiple museums available and searchable online (<http://arctos.database.museum/home.cfm>).

The section advocating collections is followed by a brief overview of the six main regions within Alaska (Southeast, Southcentral, Central, Southwest, Western, and



Northern Alaska). Each region's vegetative community is briefly summarized (approximately one page per region), and a listing of key mammalian taxa present in the region is included. This section is a fairly dry recounting of facts, and is one of the few sections of the text that is not adequately referenced, despite being derivative of any number of books on Alaskan ecology. The few low-resolution black and white photographs included in this section add little value. In addition, as these regions reflect the Alaska Department of Fish and Game's game management units (<http://wildlife.alaska.gov/gis>), rather than established ecoregions (Nowacki et al. 2001), the regional species distributions presented do not provide insight into biotic factors that influence habitat selection. This is also reflected in the often terse description of the habitats of individual species (for example, beaver [*Castor canadensis*] habitat is described as "lakes, ponds, marshes, rivers and streams" [p. 79]). Data on Alaska's current (or historic) climate are not included, nor is any indication of thermal tolerances provided within the individual species accounts. Thus, the interplay between climate, habitats and species distribution remains unexplored. This is notable mainly because the authors earlier argued (pp. 3, 20) that expanded collections are needed to better understand the impact of global climate change on species distributions, and yet this book does little to provide even the minimal level of detail with which to begin to make such links.

Throughout the text, the authors focus on what is present rather than why it is present. Indeed, the existence of a single documented occurrence or specimen record from Alaska appears to be the sole requirement for inclusion in this text. This odd selection criterion produces a text that treats rare vagrants (harp seal [*Pagophilus groenlandicus*]), migrants (grey whale [*Eschrichtius robustus*]), endemics (many of the bats), introduced species (wapati [*Cervus canadensis*]) and common residents (black bear [*Ursus americanus*]) equally, but that only includes extinct Holocene mammals for which specimens exist within Alaskan institutions (Steller's sea cow [*Hydrodamalis gigas*], woolly mammoth [*Mammuthus primigenius*]). The 116 species included in this comprehensive catalogue are grouped taxonomically, with alphabetical organization only present at the level of genus and species, and not among families or orders. As a result, it is difficult to page through the text to locate particular species, even with knowledge of ordinal and familiar affiliation.

The individual species entries that make up the vast majority of this book each include sections on systematics (nomenclature for species and subspecies; source for the original description, type locality and museum housing the type specimen), distribution (globally and regionally),

habitat (vegetative community in which species is located), status (abundance) and fossils (geological deposits in which fossils have been located). These sections have a clear Alaskan focus, although data from other regions are occasionally included. Although scrupulously accurate, the information under each subheading has been kept so minimal that it almost fails to convey any worthwhile data (e.g., the status of meadow jumping mice [*Zapus hudsonius*] is "localized and sometimes abundant" [p. 82].) Whereas this brevity is frequently mitigated by the copious use of relevant citations, any reader intending to use this text to learn much about the mammals of Alaska will be immediately frustrated by the need to return to the library to find the source literature. Conversely, information provided under the systematics and fossils categories often assumes extensive geographic and geological background, rendering these sections challenging for the lay reader. Nor will the text be of much use to readers aiming to determine species range or distribution, as the range maps included with each account emphasize collection locations. Statewide distributional data, if mapped at all, is often of poor quality. Aside from a few pleasant line drawings by Alaskan artist W.D. Berry, most of the species remain un-illustrated.

The text ends with an extensive and up-to-date literature section, in which often difficult to find agency and non-profit organization reports stand side by side with peer-reviewed literature. The authors are to be commended on the depth and breadth of their review. The index is similarly thorough, and makes the entire text much more accessible to the scientist and public readers. However, it is the appendices that are the true glory of this text. In a series of 12 detailed tables, the authors concisely summarize and cross-collate all the data contained within the preceding species accounts. Among others, there are appendices tabulating the regional distribution and habitat preferences of the various taxa, the museums in which specimens are housed, the temporal occurrence of the species, and the history and fate of the introductions of non-native species. These tables do almost as thorough a job at conveying the information as the main text, and are likely to be much more useful to the readers of this book, as they remove the need to page through multiple accounts to discover the key facts. Where necessary, the appendices are equally well referenced as the rest of the book.

The fact that I found the most compelling information of the book contained in the appendices highlights my puzzlement over the audience at which this text is aimed. Hobbyists and lay people who may find this book in museum bookstores are unlikely to be greatly interested in the locations of scientific collections or the details of taxonomic nomenclature, and would probably prefer

more information on each species to be included here, rather than only referenced. For these readers, this dry text fails to be a useful field guide to the mammals of Alaska because of its dearth of basic biological or ecological information and the remarkable absence of photographs in the species accounts. However, aside from the appendices, the text also fails as a reference guide for scientists working on Alaska's mammalian fauna, as the derivative nature of the information provided within each species' summary is unlikely to provide any new information to active scientists. As one example, all pinniped and cetacean distributional data reported here are obtained from the National Oceanic and Atmospheric Administration's stock assessment report (Angliss & Outlaw 2007), which summarizes multiple primary studies, is available online and is updated regularly. Active researchers are far more likely to refer to the most recent stock assessment report, Rice (1998), and UAM's online database, rather than this book. Unfortunately, despite its breadth, the

shallow depth of the information contained within these pages almost guarantees that this reference will be of use only to a small subset of biogeographers and taxonomers that are not currently familiar with Alaska or its mammals; neither working scientists nor the general public are likely to find this text compelling.

## References

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