

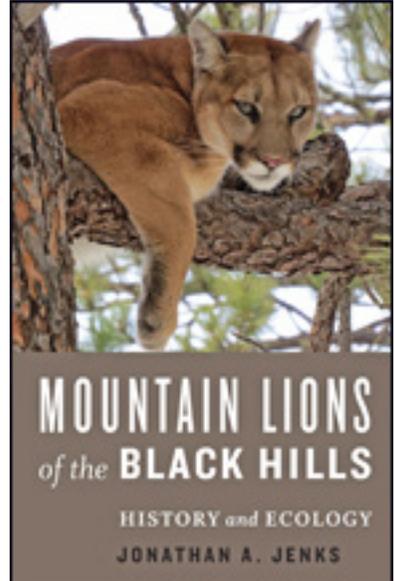
Book Review:

Mountain lions of the Black Hills: history and ecology

JONATHAN A. JENKS. 2018. JOHNS HOPKINS UNIVERSITY PRESS, BALTIMORE, MARYLAND, USA. 144 PAGES (HARD COVER). \$75.00.

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In 1999 Jon Jenks had the good fortune to begin a long-term investigation of mountain lions (*Puma concolor*) occupying a small, isolated range of mountains in western South Dakota. The Black Hills are surrounded largely by vast expanses of flat prairie (or agricultural lands that formerly were prairie), and little information regarding mountain lions in that region was available. Jon became involved very early in studying what has turned out to be the natural reestablishment of a keystone predator in the Black Hills and has pursued investigations of the population ecology of those cryptic felids for 15 years. He and his students have published on the predator-prey relationships, population dynamics, population ecology, behavior, and genetics of this population in numerous professional journals. In *Mountain Lions of the Black Hills*, Jenks provides a first-person account of their long-term effort to better understand the ecology of one of North America's most intriguing carnivores, and summarizes the results of that research succinctly and in a way that is readily understood by the reader.



This book traces the recent history of mountain lions in the Black Hills in a logical order. In the first two chapters, Jenks discusses some of the early history of the region and an overview of the general ecology of the Black Hills and surrounding area. Chapter 3 centers largely on introducing the reader to mountain lions in general, as well as the methods used during this long-term and classic investigation. The following chapters discuss the results of the vast amount of research conducted in the area, including demography (Chapter 4), disease (Chapter 5), nutritional ecology (Chapter 6), and population genetics (Chapter 7). In each of these chapters the author delves deeply into the subject matter and provides, with ample credit to the students working with him, detailed summaries and interpretations of the results that are the basis for this book.

Chapter 8 addresses some of the perceptions held by the citizens of South Dakota during investigations recounted in the book, and some of the changes in public opinion that occurred over time. Jon further notes that the conservative population estimates generated during the research led some to conclude that he and his students developed a protectionist

attitude regarding mountain lions. Others seized upon those conservative estimates, ultimately leading animal rights groups, both inside and outside of South Dakota, to challenge harvest recommendations proposed by the South Dakota Department of Game, Fish and Parks. As Jenks explained, however, his mentors had emphasized conservative approaches to harvest objectives, thereby ensuring that overharvest was unlikely. The court ultimately dismissed those challenges, and the first mountain lion hunting season occurred in 2005 and has since then been an annual event and with little opposition. The unbiased and objective approach to investigating mountain lions in the Black Hills was instrumental in the decision to open a hunting season.

In an epilogue, Dr. Jenks expresses appreciation for having had the opportunity to explore what essentially was the recolonization of the Black Hills by an apex predator. From what must have been very few individuals in the 1990s, that small population increased in numbers and expanded its distribution throughout the Black Hills. As much, if not more, is now known about that population than most other populations of that secretive felid, and in large part because of the efforts of Jenks and his colleagues. Not only were they fortunate to have been involved with this investigation since the population was very small, they have been able to investigate the ecology of the population as it expanded and as animals dispersed. As he notes in the penultimate sentence, "I have confidence that with continued management the species will thrive and provide future generations the thrill of seeing this charismatic critter in its natural environment."

In the book, Jon uses two terms that were new to me in context, but for which I have an appreciation. Rather than use the term corridor for areas that immigrant or emigrant lions use when moving between areas of atypical mountain lion habitat, he uses the term 'conduit', the implication being that movement occurs, but without limitation on or knowledge of, the actual routes travelled. From a conservation perspective, the maintenance of conduits is preferable to maintenance of corridors when addressing interpopulation movements, and I suggest it is a useful term with application both to dispersing carnivores and migratory ungulates. In lieu of using the term carrying capacity to describe the ability of an area to support mountain lions, Jon uses the term 'saturated' to describe the maximum number or maximum density of mountain lions likely to occur in any given area over time. I suspect we will see that term increasingly in the literature as additional investigators become familiar with it.

I read this book in just a couple of days; it is well written, easily understood even by non-scientists, and takes the reader into the field with the investigators. I noted only two (only two!) minor typographical errors, both of which could be missed easily by even the most experienced copy editor or proof-reader. All in all, this book is a good read, and provides a first-person account of one of the longest running and most detailed investigations of mountain lions yet conducted. Jon has provided readers with a thorough description of the recolonization of an area by a top carnivore, the trials and tribulations associated with research and the management of that species and, perhaps more importantly, with an optimistic view of its future.—*Vernon C. Bleich, Department of Natural Resources and Environmental Science, University of Nevada Reno and Eastern Sierra Center for Applied Population Ecology, Bismarck, North Dakota.*