

EXTREME CONSERVATION: LIFE AT THE EDGES OF THE WORLD. By JOEL BERGER. Chicago: The University of Chicago Press. ISBN 978-0-226366-265. 376 p., maps, b&w and colour illus., index, bib. Hardbound. US\$29.75.

“My narrative,” writes Joel Berger in *Extreme Conservation*, “is based on thirty-three expeditions, including nineteen in the Arctic, seven in Mongolia, and seven in the Himalayas and Tibetan Plateau” (p. xx). From these expeditions, he offers glimpses into the “cryptic and complex lives” (p. xx) of muskoxen, wild yaks, blue sheep, the strange “proboscis-dangling” (p. 187) saiga that Mongolians call the *bukhun*, the Tibetan chiru, and others. Importantly, his observations also take in various humans that share the high altitude and high latitude habitats of his other animals. And perhaps even more importantly, he offers not only glimpses but sweeping views into the world of field biology and insights regarding that increasingly endangered species, the researcher who spends more time with boots in the mud than with eyes on a computer screen.

In these pages, Berger attends meetings, writes grant proposals, and wears animal skins to sneak up on his subjects. He trains with heavy backpacks prior to field excursions that involve copious quantities of rain and snow. He is charged by muskoxen, detained by Russian officials, and annoyed by the sometimes parochial nature of other scientists.

Read closely—for the author does not dwell upon his own sacrifices—and understand that the life of the field biologist is a life away from home, from family, from mattresses, from security. Read even more closely—for just as he does not dwell on sacrifices, he does not dwell on personal satisfaction—to understand that this career path, this calling, offers that all too rare commodity in today’s world: the opportunity to pursue adventure while performing useful work.

Much of what is described here in narrative form can be found elsewhere, in the necessarily dry language of scientific journals. Although Berger laments the difficulties of publishing academic papers based on a small number of very hard-won data points, he also lists, in an appendix, dozens of papers that have come from his efforts and that can be found in the likes of *Conservation Biology* and *Science*. In other words, his work has the indelible stamp of respectability, and yet here he is to some degree out on a limb, with the audacity to talk as though readers should care not only about results and interpretations but about what it takes to acquire data. His words describe the ways of the world that he has experienced, ranging from the value of long-term relationships with one-time graduate students to the challenges of maintaining funding streams to explaining the value of his investigations to Indigenous people.

And, further, he recognizes the limitations of his field. “Doing science,” he writes, “is not conservation” (p. xxi). Which means that he and his like-minded colleagues have to go beyond the ordinary realms of their trade, “donning a human face, inspiring people to care, engaging people who

listen, and ultimately persuading decision makers to act” (p. xxi).

By virtue of his topic, much of what appears in these pages is tragic. There are muskoxen without heads. There is the loss, in May 2015, of something like 210 000 saigas, about half the known population, killed “in a synchronous collapse” that left their corpses “strewn for miles and miles across the steppes of Kazakhstan” (p. 207). There are feral dogs preying upon chirus. And there is the master tragedy of our times, climate change, impacting Berger’s species with stealthy ferocity.

Conservationists are sometimes accused of hypocrisy, of pointing fingers at others while ignoring their own contributions to the challenges faced by wildlife. But Berger’s fingers point, at least at times, squarely back at Berger himself. He realizes that chasing and darting animals from helicopters separates cows and calves—that “capture myopathy” (p. 204)—can be fatal. “We didn’t purposefully separate animals,” he reports with candor, “but our darting operation produced an unintended test in which we detached some females from groups” (p. 47). What he sees troubles him. “Scientists can be coldhearted or compassionate. Ethics and welfare matter. The idea of gaining information at any cost is not the part of research I wanted” (p. 51). And so he changes his research approach to accommodate less invasive methods.

Berger’s final section offers what he calls “a conservation umbrella” (p. xx), a working hypothesis intended to tie together his learnings. Berger is, after all, a scientist, and this book is most likely to appear in the science and nature sections of bookstores and libraries. But this is also a book about what it is to be human in a world seemingly bent on the destruction of nature, and with that in mind it is not the author’s conservation umbrella that leaves me with my deepest impressions, but rather his penultimate sentence. “When there is no room in our hearts for gentleness and when sympathy disappears from our vocabulary, so does conservation” (p. 333). These words, from a scientist, are nothing short of profound.

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Elizabeth Riddell-Dixon has done it again. She has written a “must read” book for anybody interested in understanding the United Nations Convention on the Law of the Sea