

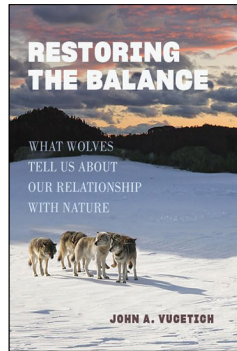
## Restoring the Balance: What Wolves Tell Us about Our Relationship with Nature

By John A. Vucetich. 2024. Johns Hopkins University Press. 416 pages, 38.95 CAD, Paper. Also available as an E-book. Hardcover edition published in 2021.

*Restoring the Balance* is a detailed account of the wolves (*Canis lupus*) of Isle Royale National Park in Michigan. The author states early on that this is not a wolf book because of its “prominence of introspection” (p. xvii). Nor is it a science book because there is too much triumph and heartbreak. And neither is it a philosophical tome. Yet all three facets weave throughout this book, making it unique and incredibly comprehensive. Due to this interesting combination of disciplines, it was an exhausting, slow read for me. There are over 400 pages of text (including 25 pages of Notes and 17 pages of References) and, because of the relatively small font, many words per page. In addition, I had to look up quite a few words to see what they meant (e.g., Coda, the title of the last chapter in the book), which slowed my pace. Altogether, it took me nearly two months to read it from cover to cover, while I was engaged with other professional and personal duties during that timeframe. I, by far, enjoyed the field aspects the most and breezed through those sections where wolves and Moose are the focus (i.e., most of Chapters 6 and 7). It was most interesting reading the descriptions of the wolves as they travelled through their territories and encountered their main prey, Moose, as well as rival wolves. Conversely, when introspection and philosophy appeared, my reading pace slowed considerably, as I tried to deeply understand what the author was discussing, such as in Chapter 4, Balance of Nature, and regarding island biogeography (pp. 261–268). Studying the mathematical formulas and graphs that the author presents was more like reading a college textbook than a wolf book, but that is part of the charm and breadth that Vucetich covers in this volume, making the book a unique contribution to the study of wolves.

Readers who enjoy books about nature, wolves, carnivores, wildlife, and national parks—especially remote wilderness ones like Isle Royale—will appreciate this book. Vucetich writes with authority and perspective that is unparalleled in the 60+ years that research on wolves and Moose has taken place on Isle Royale.

Wolves colonized Isle Royale via an ice bridge from the mainland between 1948 and 1949 (pp.



67–68). Research on wolves on the island began in 1958 (p. 69). The first three years of work found a stable population of 20 wolves and 600 Moose (pp. 88, 90), leading to the belief that the population was balanced, a.k.a. Vucetich’s reference to the “balance of nature”, whereby animal populations are stable and don’t fluctuate much. Over time, researchers found that the population fluctuated greatly, peaking at 50 wolves in 1980 (pp. 146–147). Yet after widespread starvation from lack of Moose, the population dropped to just 14 wolves two years later in 1982 (p. 149). Vucetich writes extensively about the balance of nature and the problematic simplicity of making that claim without researchers conducting long-term research on a given ecosystem.

Research on the island has found anything but a balance over the years. For instance, during the 1990s there were low wolf numbers and a large Moose population, and the wolves acted more like scavengers than predators (p. 160). Following an eruption in the Moose population and then a severe winter, more than 1500 of the large herbivores died in the first five months of 1996, an event which was thought to be the highest all-time density of Moose carcasses found anywhere (pp. 161–162). Wolves, as well as foxes, ravens, and eagles, couldn’t take full advantage of the offering due to the huge surplus. Therefore, maggots and carrion beetle populations erupted (p. 162).

I enjoyed the stories of individual wolves and packs the most. There is the amazing story of survival about two different females attacked by packs; both wolves escaped by entering frigid Lake Superior (pp. 166–167, 224–226). It was fascinating reading about the wolf Old Gray Guy and how he led the Middle Pack for six years, eventually taking over the entire island (starting at p. 168). Vucetich gives intricate details of how Old Gray Guy’s family patrolled their territory and killed Moose and other wolves (Chapters 6 and 7). Old Gray Guy (radio-collared and given the scientific number M93) was an immigrant, arriving via ice bridge sometime in 1997 or 1998. He was so successful that he fathered 34 offspring, yet this caused the population to become inbred because all the wolves on the island eventually shared his genes (pp. 187–189). So, while this “cryptic immigration” (i.e., the researchers didn’t know that an immigrant wolf had reached Isle Royale until performing genetic analysis) infused new genes into the population, long-term studies showed that within a decade Old Gray Guy’s DNA was so dominant on the island that the

population became too related and faltered (pp. 191–193).

My favourite chapter (Chapter 7, *The Unraveling*) provides awesome details from Vucetich's field notes on individual wolves and how the population crashed. He starts by mentioning that all individual animals have a story to tell, just like people do (p. 211). That quote sets up the rest of the chapter very well. In it, he discusses the alpha female of the Middle Pack, which lived to be 12 years old and was one of the oldest wolves to have ever lived on Isle Royale (pp. 205, 215). There are fascinating accounts of how the researchers followed her pack for two weeks without the pack making a kill or eating; the wolves encountered Moose but couldn't successfully kill one, despite great efforts to do so (pp. 203–206). However, the old female was resilient and had 27 to 28 offspring in her lifetime. Interestingly, she had two different mates during that time, her son and her father, Old Gray Guy, which reveals just how inbred the population was (p. 219). Chapter 7 also includes the riveting trials and tribulations of Romeo of the Chippewa Harbor Pack (p. 218). He killed the alpha male of the Middle Pack, and then later drowned in a copper-mining well along with two other siblings (pp. 221, 223). These deaths caused the population to decline to just nine wolves across the entire island in 2012 (p. 224). By March 2011, the wolves were already functionally extinct. The Moose population doubled without effective predation, growing at a rate of 22% per year (p. 233). With the declining frequency of ice bridges each season, there was little hope that an immigrant wolf would arrive from the mainland (p. 192).

Toward the end of the book, Vucetich discusses the politics of the National Park Service (NPS) and their resentment of him (p. 234). He advocated for genetic rescue of the wolf population beginning in 2009 when he predicted (accurately) that the population would crash without new genetic infusion (pp. 236–237). He describes the history of national parks as places of overabundant herbivores due to lack of predators, which were killed from many areas before they became protective places (p. 296). To prevent that from happening on Isle Royale, Vucetich recommended bringing one or two new wolves to the island and documenting their reproduction to ensure that their genes were represented in the population (p. 324). But, despite his decades of research on Isle

Royale, Vucetich was excluded from the population restoration process when ultimately 20 wolves were released on the island in 2018 and 2019 (p. 325). He found out about the releases and obtained most of his information from the NPS's press releases and media accounts of the reintroduction (p. 325). Despite the successful establishment of the new population, there was a high level of inbreeding that occurred just a few years into the program because a related family had done most of the breeding in the nascent years of the restoration process (pp. 328–329). Thus, genetic rescue (by translocating a single individual who successfully reproduces) might still be needed in the near future as a proactive approach to maintaining genetic diversity within the population (p. 332).

Toward the end of the book, Vucetich does an admirable job of advocating for wolves and stressing our obligation to right past wrongs and support recovery programs where feasible (pp. 313–314). He discusses the Golden Rule of fair treatment to all beings—which includes predators like wolves (p. 306)—and goes into the philosophy behind this. It is a dense read, but it is important as he lays the foundation for why predators like wolves should be recovered. He also points out that there is still a sustained hatred against wolves by a minority of the public, and this hatred is enabled by state and federal government policies (p. 308). Vucetich maintains that a dignified life consists of food, space, and freedom from persecution (pp. 308, 357). He concludes the book in the same way he started it, by asking the question, why wolves? His answer: “because they remind us to think” (pp. 32, 323).

This is an important book, adding to the sizable body of work already published on the species. Vucetich writes with great perspective and summarizes 60+ years of research studying Moose–wolf relations on Isle Royale. While I stated at the outset of this review that it took me a long time to read it, don't take that as a negative assessment and avoid purchasing this book. On the contrary, it combines important facets of wolf biology, theoretical modelling (i.e., science), and philosophy, which makes it a good reference. Vucetich acknowledges the moral obligations humans have to protect all forms of life, including predators like wolves.

JONATHAN (JON) WAY  
Eastern Coyote/Coywolf Research  
Osterville, MA, USA