The Northern Range (a.k.a., Northern Yellowstone Range) is a beloved icon to Americans and millions of others around the globe. Its stewardship is watched, evaluated, and emulated by people worldwide. Advancements in the management and restoration of the Northern Range ecosystem would provide a helpful example for natural resource management elsewhere.

The land management goal for the Northern Range, or at least the 60% that is located inside Yellowstone National Park (YNP), is to sustain the primeval abundances of native plants and animals so that natural ecological processes can function sustainably, within their range of natural variation. National Park Service (NPS) policy also mandates that if ecosystem function has changed over time, NPS must identify the reason(s) why. NPS will not intervene where observed differences between current and primeval conditions resulted from natural evolution. However, federal statutes prohibit human-caused resource degradation in our nation’s national parks, and NPS is directed to use active management to restore ecosystem function where differences between primeval and present conditions are human-caused.

The most widely accepted way to assess ecological integrity, or naturalness, is to compare the abundance of native plant and animal species currently in an area with their primeval abundances. Using this metric, the authors in this Special Issue assessed the naturalness and ecological integrity of present-day wildlife populations and vegetation on the Northern Range. Another widely accepted way to judge ecological integrity or naturalness is to assess the degree to which key ecosystem processes have been modified. This metric also was used in this Special Issue to assess the naturalness of Northern Range grasslands and sagebrush steppe.

The articles in this Special Issue provide an objective assessment of the current ecological health and trend of the Northern Range. The evidence is compelling and, unfortunately, the picture is not pretty, especially inside YNP. Current abundances of native plants and animals differ dramatically from the primeval landscape. Compared with today, the primeval Northern Range ecosystem had more sagebrush, fewer conifers, fewer bison, fewer elk, more aspen, more willows, more cottonwoods, more beaver, more songbirds, more bluebunch wheatgrass, and more Idaho fescue. Although grasslands, sagebrush steppe, aspen, willows, and cottonwoods continue to thrive on most of the Northern Range outside YNP, their ecological health has declined precipitously inside YNP. The changes in flora, fauna, and ecosystem processes have not been caused by changes in climate. Rather, unnaturally large populations of bison and elk have excessively grazed and browsed the Northern Range to the point that the health of the land and its natural ecological processes (e.g., water cycle, energy flow, and nutrient cycle) are significantly degraded, and the situation continues to worsen. The current bison population is about 10 times larger than the natural primeval population and the current elk population is about 30% larger than the natural primeval population.

Predation by wolves, grizzlies, and mountain lions has been insufficient to stop or reverse the negative impacts of grazing by too many bison and too many elk. And a significant future increase in predation by wolves, grizzlies, or mountain lions inside YNP is unlikely because their populations are unlikely to increase. Predator recovery appears complete. Their habitat inside YNP appears to be fully occupied.

Articles in this Special Issue also document that the continuing degradation of the Northern Range is caused by humans. Modern-day management decisions have virtually eliminated frequent, often human-ignited, low-intensity fires