

B&C PROFESSORS' CORNER



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Return of American Bison or Their Second Near-Extinction?

Wildlife management is messy. How species are classified, who manages them, and the desires of the public are all complicated issues that dictate what, how, where, and when species are managed. And that list does not even consider litigation that often terminates

management based on science. Consider just a few animals. Mourning doves are considered songbirds in many Eastern states but are classified as game birds in the West. Mountain lions are endangered in Florida, thus protected; hunted in many Western states, but not in others. Wild horses and burros are not wild and are not managed as other wildlife, but are classified as wild by federal law, thus, given special consideration. The changing status of wolves in the U.S. is another example (due to litigation)—classified as abundant...then endangered...then as a game species...back to being endangered...then a game species...

Then there is the American bison. Historically bison occupied more than 7 million square kilometers (about 1.7 billion acres), and existed in four Canadian provinces, 42 U.S. states and five Mexican states. Historic numbers are always difficult to estimate, but it is not unreasonable that there were around 30 million bison in North America prior to the unregulated and market hunting that nearly caused their extinction in the late 1800s. That story has been told many times, and that a group of dedicated hunter-conservationists, led by Theodore Roosevelt, rallied to their aid has been called a conservation success. But where are we today? Was it really a conservation success?

There are currently approximately 500,000 bison in North America, compared to 100 million head of cattle. Of that 500,000 bison, most are in privately owned herds raised for meat production. Furthermore, there are only 60 or so conservation herds (i.e., not managed for meat production) numbering slightly over 20,000 animals. Most bison are in small enclosures compared to the vast areas they once ranged. Here is where it can get even more messy. In some states like Montana,

even the classification of bison is confusing. They are classified as both livestock and wildlife—an enigma for most wildlifers because we do not normally manage, nor do we have the authority to manage, livestock. The classification of bison as wildlife, however, can be corrected with legislation.

Other problems exist for the bison—which are more serious than their classification—and need to be addressed. For years they have been domesticated, leading to founder effects, limited genetic diversity, deleterious genes, alterations in morphology, behavior, populations structure and natural selection. A host of other environmental issues has led to a loss of wildness, altered sex and age structure, and human beliefs that current bison populations are the real deal. In reality, only a handful of the bison populations are on ranges that exceed 494,000 square acres (2,000 square kilometers) and most of those are far from natural. Bison are on the red list in Mexico but are considered livestock when they range into New Mexico. In the rest of North America, they have been the focus of federal hybridization programs, are used for commercial production (beefalo), and very few are considered for translocations into their historic range. But how much range is necessary for a wild, free-ranging population of bison? We will never see the herds like we did in the past; the habitat is just not there, and there are too many humans. Some researchers report that at least 2,000 square kilometers of land is necessary to maintain a free-ranging population of bison; others say much more is needed (more than 13,000 square kilometers, or about 3.2 million acres). Recent research by Michael Kohl, a Boone and Crockett Fellow at the University of Montana, suggests that landscapes of these sizes would certainly be required. Other than the Greater Yellowstone Ecosystem, there are few herds that have potential to occupy such landscapes—especially when competing with the livestock industry. There is, however, hope that we can reestablish at least a semblance of wild bison populations. For example, Grasslands National Park, Canada, the Henry Mountains, Utah, and the Charles M. Russell National Wildlife Refuge and surrounding lands in Montana all have the potential to support large herds of bison.

Currently less than 1 percent of the bison's historical range is occupied and there

is no place where this icon of the West can express the full range of ecological and social values of the past. Some major leaders of bison recovery presented a restoration plan called the Vermejo Statement, which summarizes bison restoration as "...explicitly (1) large scale, (2) long term, (3) inclusive, (4) fulfilling of different values, and (5) ambitious." The statement goes on to elucidate that "Over the next century, the ecological recovery of the North American bison will occur when multiple large herds move freely across extensive landscapes within all major habitats of their historic range, interacting in ecologically significant ways with the fullest possible set of other native species, and inspiring, sustaining and connecting human cultures" (*Conservation Biology* 22:252-266). Thus, it is ideal that the state of Montana is considering the restoration of free-ranging bison to the assemblage of wildlife in the state.

That makes perfect sense. Restoring big game to their native habitat is one of the hallmarks of successful wildlife in North America and we certainly have the skills to restore bison. Restoration of wildlife to native habitats is more than just a conservation success story; it is a moral obligation society has to enhance biodiversity. We have the knowhow, the tools and techniques, and the genetically pure bison to translocate into portions of their former range. The expansive Charles M. Russell Wildlife Refuge and surrounding state and federal lands provides the ideal habitat. The area is already recognized as quality habitat for big game and other species. Restoration of a huntable population of bison would certainly enhance the area and benefit other species. Of course there will be social, political, and biological ramifications to deal with, including opposition from the livestock industry. This is nothing new. Wildlife biologists have had to, and continue to, address all of these issues for all other big game—why not for bison? Sure, it will be messy—but it will be worth it to have free-ranging American bison back on the range. That sure beats existing with small herds that are scattered about and hunkered down behind wire, treated as livestock. Society needs to move toward the restoration of bison, not toward their second extinction. ■

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