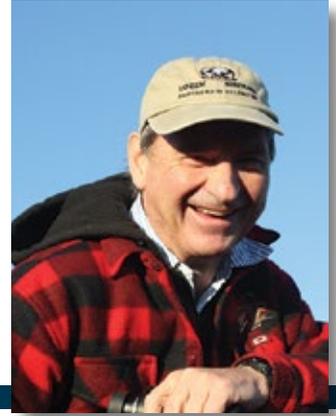


On the Proposed Introduction of Bison to Banff National Park: One Ecologist's Skepticism



By Lu Carbyn, PhD

In 2010 Parks Canada recommended that bison be re-introduced to Banff National Park. Based on an extensive public review, Parks Canada concluded there was strong support for the program and some opposition.

After 48 years in the vocation of wildlife research and conservation, I have concluded that such a program certainly would have a lot of initial glamor appeal. But I believe that, more importantly, it would produce a number of disadvantages over time. Most of my insights have been gained by studying predator-prey systems, including extensive studies on wolf predation on bison in Wood Buffalo National Park. From this perspective, I think it is almost certain that reintroducing bison to the Park could, and likely will, create more problems than it would solve.

I worry that reintroducing bison to the Park will foster a game farm mentality that could destroy some of Banff National Park's remaining wilderness qualities. I want to avoid being able to tell Parks Canada "I told you so" ten years from now. So I hope management will reassess this recommendation and not proceed. No action will increase Parks Canada's abilities to better protect a unique wilderness ecosystem that has all the qualities needed to remain a jewel in the Canadian Parks system. Let me explain what's behind my skepticism.

Rationale – biological

Bison were an important feature in the past but that was when herds were free to seasonally roam from wintering to sum-

mer ranges. There were no constraints placed on their movements by fences. Fencing them in year-round will create an artificial situation and, therefore, renders the species akin to that of an "EXOTIC," not the "RE-CREATION" of the biodiversity as it existed prior to the coming of the Europeans to the continent. Indigenous peoples hunted these pristine bison herds. This is obviously an option no longer possible to "re-create." It is also likely that bison numbers never reached the same densities in the mountain valleys as they did on the plains. Historical records show that explorers reported seeing fewer animals as they traveled from the prairies to the Rocky Mountains. Furthermore, under pristine conditions, bison could stay in the plains if deep snow conditions prevailed in the mountains. They could also simply leave if conditions warranted. These are all very important factors absent in the situation that will exist, if bison are held captive in their proposed enclave.

Therefore, in my view, introducing this herbivore back into the system will be similar to acquiring an "invasive species" as opposed to re-introducing "a native species." What "was" simply is not what "will be" and the herbivore will simply not provide the same "ecosystem services" in the modern ecosystem, as opposed to how that relationship existed in the past. Those who claim this will not matter may simply be using the iconic value of the species, out of context with biological and historical realities, to justify the means to a questionable end.

It is also a numbers game. Bison popula-

tions will double in size about every five years. Initial introduction of 40 animals will, therefore, result in the production of over 80,000 animals or so over a 50-year period. Wolf predation will likely impact numbers to some degree, and the same may be expected from infrequent predation by bears in spring on new born calves. However, studies have shown that bison are a lesser prey item of wolves in multi-prey systems. Human intervention will likely be required to manipulate herds over time, as is the case in Elk Island National Park. It is a basic tenet of management of wilderness areas to reduce human interference to a bare minimum, and wherever possible, to exclude it altogether.

Some have said that introducing bison will manage for future climate change. I question that rationale. Climate change will occur and systems should change in parallel to conform to natural ecological processes. Processes need to evolve without human intervention. That is simply what the philosophy of park management is all about. There are, of course, exceptions, such as when it applies to the management of endangered species or endangered plant communities. The use of controlled burns is an example of a management action designed to mimic natural processes that have been compromised by human activities. Creating game farm conditions, to cater to aesthetic appeals by introducing a charismatic herbivore, hardly qualifies as good ecosystem management -- my opinion.

Human interventions to manage bison



Bison in Wood Buffalo National Park. PHOTO: © L. CARBYN

will take the form of road constructions (upgrading of existing fire trails in some cases), construction of corrals, holding facilities, and the introduction of potential exotic vegetation (through the introduction of hay to feed captive animals.) Management of reintroduced bison herds also means using helicopters to round up animals and, potentially, to haze bison to keep them in designated areas.

The application of fences also restricts movements of other wildlife species, further providing an intrusion into the system. Certainly, fencing is widely used worldwide to manage nature reserves, and there are definitely both costs and benefits to fencing; however, the use of fences should always be viewed as a last resort. It should also only be used to solve problems and it should never be used to create problems. Fences are used to solve management problems related to disease transmission or preventing property damage. Fences are not now required in the

Banff National Park backcountry ecosystems (except for managing highways and railroads). The east side of Banff, with its mountains and foothills, are unimpaired wilderness areas – wild, open landscapes – that freely allow the trans-boundary movements of wildlife. Such movements are to the mutual benefit of both the province and the national park. Wolves can pass through these fences but there are other essential implications that I have not seen addressed in the proposal. .

I have not seen any evidence that the program has taken into consideration the potential deleterious impact of fences to “natural” predator-prey interactions. Wolves can, given the right circumstances, use fences to aid in cornering their prey. This creates another artificial situation that is inconsistent with the “pristine conditions” that this program reportedly is trying to recreate. Wolves are also known to chase bison herds and that, on occasion, can result in long distance displacements of indi-

vidual herds. I have recorded (published in a peer reviewed paper) one such displacement in Wood Buffalo National Park. The chase, and kill, lasted for a short distance, but the herd continued moving for another 80 kilometres before settling in a new location. How will that impact management? The plan calls for containment of animals in predetermined areas, adding further complexity to parks management, which is already complicated because of declining sources of funding.

Conservation – administrative

One of the great environmental ills of the beginning of the twenty-first century has been referred to as Nature Deficit Disorder. Mankind is simply losing touch with nature; people are caught up in the digital world, and are therefore deprived of many sensory perceptions that nature has to offer. This program only adds to that problem. How you might ask?

Bison can be dangerous, particularly during the rut. Therefore, people will be encouraged to enjoy nature from their cars (if ever they move into such areas) instead of hiking in back country trails, where rutting bulls could be encountered during the breeding season. That fear will likely also extend to other times of the year. Certainly safety aspects have been built into the plans, and obviously considerable thought has been put into the overall execution of management implications. That does not mean, however, that parks administrators are encouraging people to get in touch with the back country—it simply adds another fear factor to going out in nature. I think this is a poor way to manage our wilderness areas.

Plans are to increase the educational component of the program to include

wildlife cameras, as well as interpretive aspects such as stories on web sites, mass media, and remote viewing web cams. While these are positive components, they should not come at the expense of healthy, first-hand experiences with the natural world, nor should they come at the same time we are losing some of the pristine wilderness qualities within Banff National Park.

Vivian Pharis, a highly respected conservationist, who has devoted much of her life to wilderness conservation in Alberta, was alarmed when she first heard of the bison re-introduction proposal. She gave a number of very specific examples on how parks have cut funding to essential programs and concluded “the last thing that BNP needs is to take on is a hugely costly bison

program.” Maybe it is simply a generational thing—but I wholeheartedly agree with her.

I see here a proposal to introduce an “invasive species,” held captive in a glorified (albeit scenic) game park (kind of a Jurassic Park), absorbing horrific costs in doing so (monies that should be directed to managing the real needs of ecosystems) in Canada’s premier national park. ▲

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Wolves waiting for an opening, Wood Buffalo National Park. PHOTO: © L. CARBYN