

How much did Plains Indian hunting effect buffalo or other wildlife populations?

By Gene Gade—President, Vore Buffalo Jump Foundation

When Lewis and Clark left their 1805 winter camp near the Mandan and Hidatsa villages in what is now North Dakota, the Indians told them that they would find few bison or other large wildlife for at least three days travel to the west. The reason? That was the extent of the hunting territories of the two tribes. The Indian leaders assured the explorers that, once outside the radius of Mandan/Hidatsa tribal territories the Corps of Discovery would find abundant game to hunt.

The Indian predictions proved accurate. The explorers did not find much wildlife until they entered what is now eastern Montana, when again their journals recorded “immense herds.”

Romantic vs. Non-Romantic Views

The popular literature about American Indians seems to cluster around one of two extreme views of the relationship between Indians and their environments. At one end of the spectrum is an assertion that Indians were the perfect conservationist...that they had no real impact on the world around them and never wasted resources...that they lived in perfect balance and harmony among limitless wildlife and all the rest of creation.

At the other extreme is the notion that Indians had no conservation ethic at all...that they hunted various prey species as aggressively as possible with the technology available and that they may even have contributed to the extinction of some of the so-called Pleistocene Megafauna...the large mammals such as mammoths and *Bison occidentalis*, that survived the Ice Ages and became extinct later. Quite probably, the “truth” is somewhere between these extremes.

Nuggets From Historical Journals

For the past couple of decades, scholars have been doing detailed analysis of the journals of early explorers. With careful reading, they have gleaned useful information about the populations and distribution of wildlife and of native peoples near the start of their contact with Europeans and Caucasian Americans. Often these journals speak in such general terms that it’s impossible to extract quantitative data from them. However, the Lewis and Clark (L&C) journals are among the

most useful because Thomas Jefferson specifically instructed L&C to gather detailed information about the plants, animals and Indians they encountered. Thus, there is fairly detailed day-by-day documentation of when, where and what kind of wild animals they encountered, how many they killed for meat as well as more general statements about the quantity of animals they observed in various areas. Likewise, L&C made notes of when and where they saw Indians, which tribes they represented, etc.

Moreover, the L&C journey took place within a few years of when Indians stopped use of the Vore site. So, the L&C Journals can provide a useful glimpse of conditions on the northern Plains during a major cultural transition period. Indians shifted from hunting on foot, using buffalo jumps and having only dogs as beasts of burden to hunting year round on horses with less reliance on communal hunts such as buffalo jumps.

Charles Kay, a faculty member at Utah State University, used the L&C journals to understand how Indians effected wildlife populations and distribu-



Charles M. Russell depicts Meriwether Lewis and two of his men in expeditions' first encounter with Shoshone Indians in western Montana in 1805

tion (Kay 2007). Using a technique called “Continuous-Time Analysis, Kay was able to make some very interesting correlations.

Core Areas and Buffer Zones

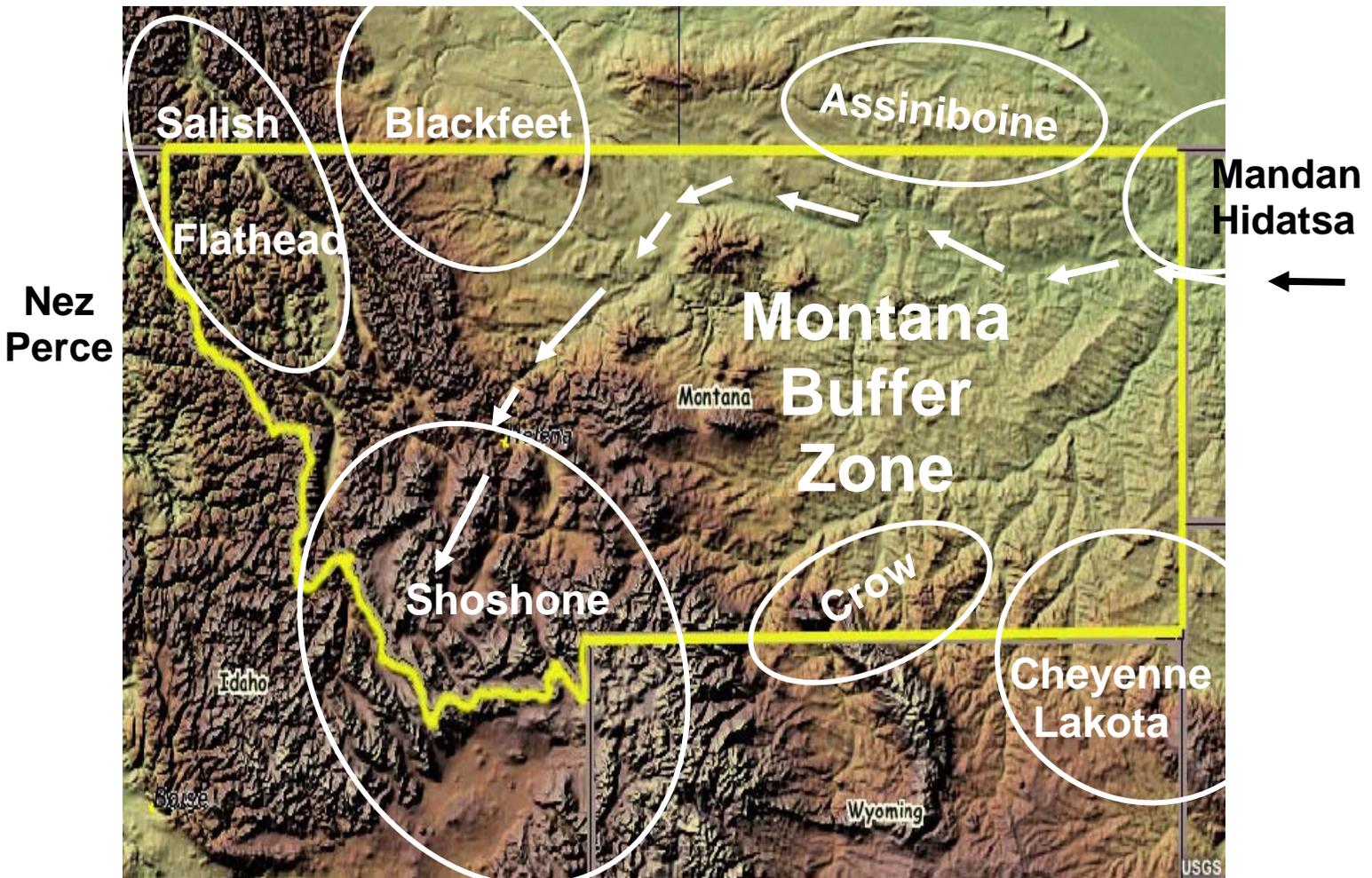
Kay documents a strong inverse relationship between Indians and wildlife. That is, there was little wildlife in the “core areas” of the various tribes, while big game animals were abundant in the “buffer zones” between tribes at war. Kay found no exceptions to the relationship. If Indians were resident in an area, wildlife populations were significantly reduced. That relationship held true, not just for buffalo, but for all of the large animals...elk, antelope, bighorn sheep, mule and white-tail deer, moose...even large predators such as wolves, black and grizzly bears.

The population differences were not “habitat dependent.” There was often excellent habitat in areas where wildlife populations were low. Indians

were simply very effective hunters...what Kay termed, “keystone predators.”

As Lewis and Clark moved up the Missouri River, they found large herds of animals in the buffer zones between the Yankton Sioux and their enemies, the Omahas and Ottos...between the Yankton and Teton Sioux...between the Teton Sioux and the Arikaras...between the Arikara and the Mandan-Hidatsa...and so on.

The largest buffer zone was in Montana. In 1805, Lewis and Clark did not record seeing a single native person between the Mandans (in present northcentral, ND) and the Shoshone (in southwest Montana)...from April 4 through August 12...132 days and about 900 miles! L&C had only two Indian encounters on their return through the eastern two-thirds of Montana the following year either. Lewis had a hostile interaction with Blackfeet, killing one individual who was attempting to steal guns, but



Map of Montana and adjacent states and provinces showing approximate tribal territories as they existed in 1805 (and about the end of Vore site use). Arrows show the Lewis and Clark route between the Mandans and the Shoshones in which they encountered no other Indians. Kay asserts that most of central Montana was a “buffer zone” at that time which accounts for the high wildlife populations and lack of contact with native people in that region.

this conflict occurred only when he travelled up the Marias River into their territory. Clark's horses were stolen by Crow Indians on the Yellowstone, but he had no other encounters with Indians on his return through eastern Montana. The implication is that the regional tribes did not routinely hunt or camp along the Missouri and Yellowstone rivers.

Dr. Kay's hypothesis is that the reason for the paucity of Indian encounters and the "immense herds" cited in the L&C journals in central and eastern Montana is that the area was not part of any tribe's "core area." Tribes probably hunted there, but only in short forays and in large groups capable of defending themselves. Long-term stays were too dangerous because they would bring conflict with surrounding tribes.

Wildlife Distribution in 1805

Kay's analysis also tries to explain the relative abundance of different wildlife species in different areas as reported by L&C. White-tail deer were apparently the hardest large ungulate for Indians to kill because they hide effectively in woody thickets. Thus white-tails were the most widely distributed and were often the only animals that Lewis and Clark's hunters were able to kill when they were in any tribe's core area.

Mule deer, elk and antelope were also extensively and successfully hunted by Indians and were seldom found at all in core territories and were less abundant toward the edges of buffer zones. Bighorn sheep and bison were only found in large numbers near the center of buffer zones.

Moose were apparently so easy to kill that, in 1805, L&C reported only one moose, in the buffer zone between the Blackfeet and the Salish-Flathead. Moose were not found at all in many areas of the western U.S. that they now inhabit.

Even grizzly bears and wolves were common only in buffer zones where other game was abundant (and Indians were not). Black bears were uncommon, even in forested areas.

As Lewis and Clark passed over the Continental Divide and into the even more heavily populated Columbia Basin, there were even fewer large animals to hunt. In fact, L&C were reduced to eating their horses and to purchasing dogs for food. They bought and ate 210 dogs.

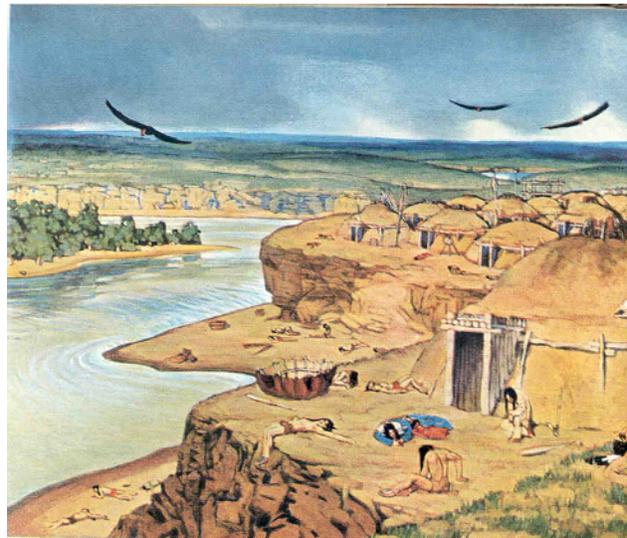
Lewis and Clark found almost no large animals

to hunt in the Columbia Basin and they located their 1806 winter camp, Fort Clatsop, some distance from any Indian village, partly to avoid competing for food.

L&C recorded that coastal Indians hunted elk intensively. They documented that Indians procured elk in pit traps and that elk often survived wounds from native hunters...*"Many of the Elk we have killed since we have been here, have been wounded with these arrows, the short piece with the barb remaining in the animal and grown up in the flesh."*

Epidemics, Indians and wildlife

Several of the tribes L&C met along the Missouri had been decimated by small pox and other diseases before the explorers arrived. A particularly devastating epidemic occurred in 1780. It reduced the Mandans from 12 villages to 4 and the Arikaras from 32 villages to just 2. Epidemics of European diseases are known to have taken a huge toll on



Small pox epidemics were especially devastating to the tribes that farmed and hunted along the Missouri River and lived in earthlodge villages.—the Omahas, Ottes, Arikara, Mandan and Hidatsa.—as depicted here. Such epidemics may have increased the amount of wildlife observed by Lewis and Clark. Depletion of the river tribes probably also made it easier for tribes like the Cheyenne, Arapaho and Sioux to move on to the Plains west of the Missouri.

Indian groups all over North America possibly starting as early as 1550 A.D. If Indians reduced wildlife as Kay suggests, there would have been more Indians and less wildlife along the Missouri 20+ years before L&C, and there may have been less wildlife on the whole continent during pre-Columbian times.

(Continued from page 7)

Indians' Influence on Prey Behavior

L&C and others reported how Indian hunting effected wildlife behavior. For example, *"The country about the mouth of this river (Little Missouri) had been recently hunted by the Minetares (Hidatsa), and the little game which they had not killed and frightened away, was so extremely (sic) shy that...(our) hunters could not get in shoot (range) of them...."* *"...The Borders of the river (Missouri) has so much hunted by those Indians... (that) the game is scarce (sic) and veery (sic) wild."* In the centers of buffer zones where prey animals were abundant and Indians hunted infrequently, game was much more approachable. Indian hunters even effected Grizzly bear behavior, *"(The bears) appear more shy here (near the Shoshone) than on the Missouri below the mountains."* Journals of other explorers, such as Steven H. Long in eastern Colorado in 1819, recorded similar observations on wild animal response to Indian hunters.

Conclusions

To answer the question posed in the title of this article, hunting by Indians had a profound impact on the populations, distribution and behavior of wildlife. Kay's analysis suggests that western wildlife populations were limited more by predation (especially Indian hunters) than by food or habitat. Wildlife populations were high only in buffer zones, especially between warring tribes.

Archaeology at the Vore site strongly suggests that the sinkhole was used by multiple tribes. Other evidence confirms that tribes were migrating through the Black Hills, that several were competing for control of the area and that some tribes were probably forced west or south by this competition. There were also periods of non-use at the VBJ. Could it be that shifts in tribal territories and/or buffer zones effected Vore site use? That's another reason to continue archaeological research!

Source

Kay, Charles E. 2007. *Were Native People Keystone Predators? A Continuous-Time Analysis of Wildlife Observations Made by Lewis and Clark in 1804-1806.* *The Canadian Field Naturalist*: 121 (1): 1-16.

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