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# The Magic Time Window for Buffalo Jumping

By Gene Gade

Communal buffalo hunts were not easy, spur-of-the-moment events. They required detailed planning, lots of people, knowledge of bison ecology and behavior, favorable landscapes, proximity to water, and many other variables.

The region around the Vore Site was ideal for communal hunts. Located at the interface of the Great Plains and the Black Hills, bison had abundant space, grass species, and forest cover when needed. The Red Valley provided a natural migration route through the northern Black Hills between the eastern Plains and the Powder River Basin for both the bison and the hunters.

Water was potentially available in three directions from the VBJ. The most reliable year-round water is the cool, clear, spring-fed Sand Creek a couple of miles to the east. Most use of the VBJ was during a cooler, wetter period, the so-called Little Ice Age. In favorable years water may have been available from Redwater Creek to the north of the sinkhole and Sundance Creek on the south. Stone

suitable for construction of tools and projectile points was also available in the Bear Lodge Mountains to the northwest of the Vore Site.

Archaeological evidence from the Vore Site indicates that nearly all of the “jumps” occurred in the late-fall, early-winter season. There were good reasons for that, based on both the biology of the bison and the needs of the hunters.

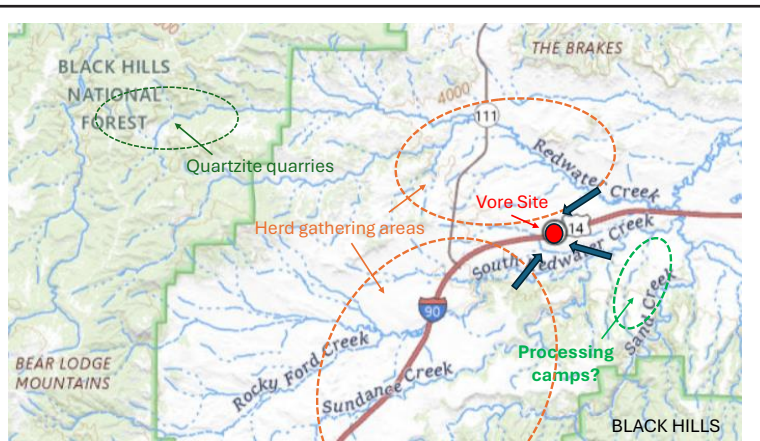
The yearly cycle of the bison was predictable. Because they are more fat and tender, meat from cows and calves were the most desirable as meat. However, the cows are usually thin after a hard winter and having calves in the spring requires them to produce milk. In the spring, grass is at its peak nutrition. Even if the grass is lush, lactation requires a lot of energy which means it takes time for the cow to put on fat and recover their general condition. Cows with their calves are not easy to drive. So, “jumps” sometimes occurred in the spring, but it was not the optimal season.

In summer, bison usually move onto the Plains. Cows and calves are still a challenge to drive. The bulls often fight as the late-summer breeding season approaches and are very dangerous to approach or to try to manipulate. Insects often damage hides in spring and summer. Moreover, meat from bulls is lean and tough. Finally, if the Indians killed large numbers of animals in the high heat of summer, it would be difficult to butcher and process the meat before it spoiled.

By fall, the calves are much bigger and grazing on their own. They are able to keep up with their mothers and the whole herd is easier to drive. The cows are as fat as they can be. Bulls are recovering from the rut and separate from the cows and calves. Hides heal and get thicker in preparation for winter making them ideal for tanning to make clothes, tipi covers, and the many other products derived from the bison. Fall weather is often pleasant, but cool enough to make the tasks of butchering, and turning the tons of meat into jerky and pemican possible.

Winter in the northern plains and hills can be brutal. The weather can be life-threatening for the hunters. It is definitely not a good season to gather everyone and execute a complex communal hunt. The forage plants are at their lowest nutritional quality and bison body condition slowly deteriorates.

The optimal time for a buffalo jump was late-fall or early winter. All the main factors for success aligned in the fall. The condition of the buffalo herd was optimal, and it was just the time the hunters needed to restock their larder.



The Vore Site is located in an area optimal for bison hunting between the Black Hills proper to the southeast and the Bear Lodge Mountains to the northwest, which are a source of a quartzite suitable for tool making. Sand Creek, about 3 miles east of the Vore Site would have been a reliable water source and a likely site for a large camp down-wind of the bison herds. The wide, blue arrows indicate potential drivelines suggested by work done by Mackenzie DePlata Peterson.



The spring calving season could be used for communal hunts, but the bison cows may not be in their best physical condition and their calves may not be able to keep up with their mothers during a stressful drive.



Forage is probably not as nutritious in the fall, but the calves are weaned and half grown and the entire herd has recovered from winter stress, calving, and rebreeding. It's prime time for communal hunts.



Bison bulls, though very large, are not the best source of meat. Their meat is lean, tough and less tasty, and they can be unpredictable and dangerous.