National Bison Range ~ Bison Conservation and Management ~ 2011

The National Bison Range (NBR) maintains a herd of 325-350 bison, excluding each year's calves. Our goal is to conserve bison genetic diversity, maintain herd health and provide public opportunity to view bison in a natural prairie setting. Bison are rotated through a series of grazing units throughout the year in an effort to maintain the quality of the native prairie system. Comprehensive herd health and genetic monitoring programs are an integral part of our herd management. All bison are rounded up each October and are herded through the Range's corral and chute system. The Bison are not supplemented with feed but between 50 and 95 bison are removed each year based on productivity as well as forage quality and availability. The surplus bison are first offered to other FWS herds for genetic conservation purposes and can be donated to Native American Tribes, research programs, or sold to private individuals. Sale animals are generally 7 years old or less and no calves are sold.

Though herd health is an important aspect of herd management, NBR bison are managed as wild bison and are not regularly vaccinated for any diseases, including brucellosis. The last time a livestock vaccine was used at the NBR was in 2010, when a killed virus for Bovine Viral Diarrhea Disease (BVDV) was administered. Brucellosis and tuberculosis testing can be performed on surplus bison shipped to states requiring testing.

Annual disease testing has been conducted at NBR since 2000. Johne's (pronounced YO-nees) Disease is a bacterial intestinal disease that causes diarrhea and severe weight loss in bison and cattle. Johne's disease occurs in most dairy herds in the United States, and has been reported on every continent. NBR has had a small number of seropositive animals, ranging from 0-3 suspect or positive animals per year of 60-140 animals sampled annually through the mid 2000's. Through aggressive management, we have lowered the prevalence of sero-reactors. NBR also tests for several bovine viral diseases common in the cattle industry, including Bovine Viral Diarrhea (Types 1 and 2), Parainfluenza-3 and Bovine Respiratory Syncytial Virus. Some agents of diseases such as Malignant Catarrhal Fever (MCF), and Bovine Viral Diarrhea (BVD), have been detected at very low levels or preliminary data suggests they may be present. In 2010, an antigen test for BVD was initiated and of 225 animals tested, there were no positive results. We continue to actively monitor and manage disease here at the NBR.

NBR bison have a high level of genetic diversity, with one of the highest levels of allelic richness, heterozygosity, and private alleles of the federal herds tested. NBR bison also have a very low level of cattle allele introgression. NBR has had only 12 animals brought into the herd since its initial herd and the NBR bison herd is closed to bison from outside sources at this time in order to preserve the high genetic quality and low levels of cattle gene introgression. Though small, the actual amount of cattle genetic material in the NBR herd is unknown. Genetic drift and management action may be decreasing the level of cattle allele introgression in the NBR herd.

Using the latest in microchip hardware and software technology, combined with disease risk reduction and habitat maintenance efforts, the NBR is able to effectively manage the bison herd to maintain the highest quality genetics with low disease risk.