

Nellis

3-11-02

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NELLIS

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Dear Cathy,

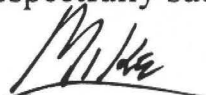
This letter is in regards to the documents you mailed to me received on March 8, 2002.

The information describes classic chronic Selenium toxicosis. The fact that only foals were affected reinforces what we already know regarding the forage conditions on the Nellis range. Adult horses are apparently traveling long distances to find feed. The young cannot keep up and are forced to eat many species of plants including the seleniferous. This could be species of Astragali sp. and Atriplex.sp. This fact is also supported by the finding of sand in the large colon which we see even in domestic foals that are unable nurse or eat for an extended period of time. I have found that blood levels of Selenium are of little value with regards to the clinical picture. In fact Selenium is cumulative in the liver and other internal organs. The post mortem findings are well documented in the literature with regards to Selenium toxicosis and are consistent with the Nellis foals. The coffin bone protruding from the sole could be due to the foals trying to keep up with the herd or secondary to the necrosis of the coronary bands and sloughing of the hooves. Once this occurs bacteria may enter and create a suppurative process of which E.Coli is notorious. This bacteria is ubiquitous in nature and common fecal bacteria.

The forage situation may need to be addressed again as horses will not eat poisonous plants in sufficient quantities if other forage is available.

Please contact me if I can be of further assistance.

Respectfully submitted,



Michael D. Kirk D.V.M.



N2UADA TEST SITE  
OCTOBER 2001

10/01

Monitoring to identify the distribution of bat species of concern on the NTS continued this year. Seventy bats representing four species of concern were captured in mist-nets at water sources in the Great Basin Desert eco-region. No bat species of concern were captured in the other two eco-regions of the NTS (Mojave Desert, Transition Zone).

Mines and tunnels are important or even critical habitats for some bat species. These man-made excavations can be used as day and night roosts, maternity colonies, and hibernacula. To determine which NTS mines and tunnels are being used by which bat species, the Anabat II device (Titley Electronics, Ballina, Australia) was used in 1999 and 2000. This device records and analyzes ultrasonic bat vocalizations and it was set up outside selected mines/tunnels just prior to sunset. In 1999, the old Climax mine adit, the Mine Mountain adit and shafts, A Tunnel, B Tunnel, and N Tunnel complex were sampled. Recorded calls from these sites were analyzed in 2000. Four species of concern were found to be using the NTS tunnels. The 1999 recorded calls were identified as those of the small-footed myotis (A Tunnel), the long-eared myotis (A Tunnel), the fringed myotis (B Tunnel), and the long-legged myotis (B and N tunnels). The sites sampled in 2000 included the Wahmonie mine shaft, T Tunnel, E Tunnel, IJK Tunnel complex, A Tunnel, and B Tunnel. This year, bat calls were recorded at all of the mine/tunnel sites sampled except E Tunnel. Analysis of the recorded calls to identify species for 2000 is not yet completed.

### WILD HORSES

Wild horses (*Equus caballus*) occur on the NTS, and ongoing monitoring of this species was conducted in 2000. Wild horses are protected on public lands under the Wild Free-Roaming Horse and Burro Act of 1971. This act calls for the management and protection of wild horses and burros in a manner that is designed to achieve and maintain a thriving natural ecological balance. Although the NTS is on land withdrawn from public use, the NNSA/NV is committed to this same management goal on the NTS. In 1997, the NNSA/NV signed a Five-Party Cooperative Agreement with Nellis Air Force Range (NAFR), USFWS, U.S. Bureau of Land Management, and the state of Nevada Clearinghouse. The goal of the agreement is to enhance management of the natural resources within ecosystems on the NAFR, the NTS, and the Desert National Wildlife Range. This agreement facilitates an ecosystem-based approach in the management of free-roaming animals with large home ranges, such as wild horses. BN conducts an annual horse census on the NTS. The NTS horse population has not increased in size over time as on the NAFR, and it appears to be isolated from the NAFR population. In the past five years, a decline in horse numbers on the NTS has been observed.

In 2000, BN biologists performed four tasks related to horse monitoring:

- Annual horse abundance was estimated to monitor population stability.
- Horse signs were recorded along selected roads to better define the geographic range of horses on the NTS.
- Selected natural and man-made water sources were visited in the summer to determine their influence on horse distribution and movements and to determine the impact horses are having on NTS wetlands.
- A monitoring plan for wild horses on the NTS was completed.

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Since 1995, the feral horse population has declined 31 percent, from 54 to 37 horses (these counts exclude foals) (Table 6.5 ). Of the 23 horses which have been classified as missing since 1995, 12 were adult males, 9 were adult females, and 2 were yearlings of unknown sex. No foals observed in 1995 through 1998 survived to yearlings. The cause of the population decline appears to be (1) low recruitment due to very poor foal survival and (2) moderate adult mortality.

Horse sign data collected during the road surveys and surveys at natural and man-made water sources indicate that the 2000 NTS horse range includes Kawich Canyon, Gold Meadows, Yucca Flat, southwest foothills of the Eleana Range, and southeast Pahute Mesa (Figure 6.2).

At present, the NTS horse herd appears to consist of two groups, one larger group (about 24 horses) that spends summers west of the Eleana Range and one smaller group (12-13 horses) that spends summers east of the Eleana Range on Yucca Flat. These groups of horses probably intermix during the winter but the exact mixing areas are unknown. More information on winter range of horses needs to be developed in the future. Overall, the annual horse range appears to have changed very little from the previous year. However, the small group of 12-13 horses on Yucca Flat appear to be using a smaller forage area than in previous years. This is possibly due to the reduced number of water resources on northern Yucca Flat which probably limits the extent of their grazing range to the north.

The NTS horse population is dependent on several natural and man-made water sources in Areas 18, 12, and 30 (Figure 6.2) during different seasons. Wildhorse and Little Wildhorse seeps are important winter-spring water sources. Two natural water sources (Captain Jack Spring and Gold Meadows Spring) and one man-made pond (Camp 17 Pond) were used by horses in the summer, as in past years. Overall, Captain Jack Spring, Gold Meadows Spring, and Camp 17 Pond were the most important water sources for horses based on the presence and quantity of horse sign and trampled and grazed vegetation.

There are presently six man-made water sources within or on the edge of the annual horse range and none of them were used by horses in 2000. Only two of these sources are permanent (contain water year round). These are the E Tunnel Containment Ponds and the Area 12 Sewage Ponds. No horse sign have ever been found at these permanent man-made water sources.

The horse monitoring program was evaluated this year for its ability to determine if the NTS Resource Management Plan goals for horse protection are being met (DOE 1998a). As a result, a monitoring plan was developed and submitted to the NNSA/NV for review in September. The plan identifies desired minimum and maximum sizes of the NTS horse population and identifies possible adaptive management actions which may be taken if these sizes are reached. If the horse population continues to decline, the plan calls for studies to be developed and implemented to determine the cause(s). Because horses are not native to the NTS, there are currently no proposed management actions to increase the herd size.

## **RAPTORS**

Several raptors occur and breed on the NTS which are not protected under the ESA and are not species of concern. They are, however, protected by the federal government under the Migratory Bird Treaty Act and by the state of Nevada. Raptors include all vultures, hawks, kites, eagles, ospreys, falcons, and owls. Because these birds occupy high trophic levels of the food chain, they are regarded as sensitive indicators of ecosystem stability and health. There are eight raptors (Table 6.6 ) which are known to breed on the NTS (Greger and Romney, 1994); however, only a few records exist, of breeding raptors on the NTS or of their reproductive