Hopkins

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(N-053)

Briefing Paper

Expanding Population o
on the Nellis Air Force Ran

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B. To assess the problems associat
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II. Background

The Nevada Wild Horse Range (map) was established in 1961 by a cooperative agreement between the Commander, Nellis Air Force Range and the State Director of the Nevada Bureau of Land Management. In 1976 a cooperative agreement (US Air Force, Bureau of Land Management, and US Department of Energy) for construction of a boundary fence along the north and east boundaries of the Nevada Wild Horse Range and the Nellis Air Force Range was developed. Fencing of the boundary restricted free movement of the wild horses. No livestock use has been made of the area since May of 1979. The five-party cooperative agreement signed in 1976 established protection, development, and management of the natural resources as a goal. The agreement required the cooperators to inventory the natural resources (i.e., fish and wildlife, vegetation, watershed, soil, wildhorse and burro populations, etc.) and to develop a management program. Inventories on wild horses and wildlife plus some vegetative studies have been accomplished (Table 1).

III. Issues and Problems

A. Wild Horses/Burros

The wild horse/burro population has increased dramatically from an estimate of 200 horses on Nevada Wild Horse Range in 1961 to an estimated 6,000 animals on the northern part of TFWTCR, NWHR and Tonopah Test Range. (See Table 1.)

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Briefing Paper

Expanding Population of Wild Horses/Burros
on the Nellis Air Force Range/Nevada Wild Horse Range

I. Purpose

A. To clarify the issues and problems associated with the expanding population of wild horses/burros on the Nellis Air Force Range (USAF Tactical Fighter Weapons Training Center Range) and Tonopah Test Range.

B. To assess the problems associated with the five-party cooperative agreement between U.S. Air Force, Bureau of Land Management, USDI-Fish and Wildlife Service, U.S. Department of Energy and Nevada Department of Wildlife, which was signed in 1976, and to develop a plan of action which would alleviate the cumulative effect of years of management inattention.

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B. Natural Resource Impact

1. Utilization of forage at 3 miles from permanent water sources has reached 80% of current year's growth. Utilization of forage 15 miles from water is significant, being 40% in some areas. (See Table 2.)

2. Competition with big game and wildlife species for water and forage is evident, although results from studies are incomplete. Pronghorn antelope are found on Nevada Wild Horse Range in the foothills of the Kawich Range and in Kawich Valley. Desert bighorn sheep inhabit Stonewall Mountain, located on the west side of Tactical Fighter Weapons Training Center Range. Many species of non-game animals, birds and reptiles inhabit Tactical Fighter Weapons Training Center Range. (See Table 3.)

C. Animal Health/Aircraft and Vehicle Safety

The potential exists for a massive animal die-off from starvation or lack of water, during a dry year in the very near future. A significant die off could present hazards to low-flying aircraft. The increase in ground vehicle traffic, plus increase in animal numbers, has contributed to a number of vehicle/horse confrontations.

D. Public Attention

Although few "civilians" not employed by U.S. Air Force or Department of Energy contractors are allowed on the range, the area has attracted attention in the past from the news media, wild horse enthusiasts/organizations and humane societies.

E. Management Access

1. Security has been increased throughout the Range Complex, which includes Nevada Wild Horse Range, causing delays to BLM and U.S. Air Force personnel who must collect data from established studies.

2. Restricted access to Nevada Wild Horse Range has seriously hindered any application of management, including horse removal. Volunteer groups have had difficulty in getting onto Nevada Wild Horse Range to effect repairs to permanent water sources.

F. Manpower and Funds

A lack of manpower and funds on the part of both BLM and U.S. Air Force has resulted in only limited management action on either Nevada Wild Horse Range or Tactical Fighter Weapons Training Center Range/Tonopah Test Range.

IV. Discussion of Issues

A. Wild Horses/Burros

In addition to the increase in numbers of horses on Nevada Wild Horse Range and Tactical Fighter Weapons Training Center Range, both horses and burros have expanded into areas which were not used prior to December 1971. The horses formerly grazed approximately 500,000 acres in the Nevada Wild Horse Range and clearly surrounding area, west and north of Stonewall Mountain and near Goldfield. The burros grazed in the western portion of Stonewall Flat and also near Goldfield. In the latter two areas, the horse/burro grazing areas overlapped to a small extent.

From data gathered during the last inventory (August, 1982) horses and burros now graze approximately 1.5 million acres, three times the area grazed in 1961 when Nevada Wild Horse Range was designated.

The Bombing Range Boundary fence was constructed in 1979, effectively blocking free movement of the horses from Kawich Valley north to Reveille Valley, from Gold Flat/Cactus Flat north and west to Ralston Valley and from Mud Lake to Stone Cabin Valley. Significantly, this problem is also the locus of issues B, C, and D. Solution of this problem mitigates all the others.

B. Natural Resource Impacts

1. Heavy to extreme use of forage around permanent water sources has been extending outward for several years. Many areas around permanent water sources are totally denuded of vegetation for up to one-half mile. All the grazing animals are moving farther from water to forage, especially during the cooler part of the year.

   Horses have been observed grazing at least 15 miles from a year-round water source. Two factors could force this occurrence:

   1) forage is unavailable closer to permanent water sources or

   2) seasonal water is present to support grazing in the distant areas.

   Desirable vegetation species, such as Indian ricegrass, are being replaced by undesirable or poisonous plants, such as snakeweed and/or halogeton and Russian thistle, in sites within one-half mile of permanent water sources.

   Few vegetation manipulation treatments to improve range conditions by removing undesirable invader plants can be accomplished on Nevada Wild Horse Range, for three reasons:

   1) any treatment could not be rested, unless fenced, the cost of which would be prohibitive, due to the large number of horses,

2) only a small percentage of the Nevada Wild Horse Range area is conducive to treatment, and

3) the time-frame needed for treatment may not be allowed, because of U.S. Air Force training requirements.

2. Competition with wildlife for forage and water is evident in many areas where water is the limiting factor. Horses tend to usurp the waters, and the more sensitive wildlife species are excluded.

Horses are moving into the higher, steeper, rockier areas in the Kawich Range and Stonewall Mountain. Trails along most of the ridges on the east side of Stonewall Mountain lead to the very top of the mountain. Horses have been seen on the top of Stonewall, where desert bighorn sheep graze. Diet overlap between horses and desert bighorns has not been studied, although both species are primarily grass-eaters.

C. Animal Health/Aircraft and Vehicle Safety

The potential exists for a massive animal die-off from starvation or lack of water during a dry year, especially in the Gold Flat/Cactus Flat area west of the Kawich Range and Stonewall Mountain area. The die-off could occur in the spring, after a cold, dry winter. It is possible that the 1982-83 winter has provided enough precipitation to assure sufficient water and forage growth to sustain the existing population plus recruitment this year. The climatological history of the regions however, leaves no other conclusion, than that a drought year is coming. A die-off of several hundred (or thousand) animals could attract hundreds of carrion-eating birds, such as vultures, eagles and ravens. Congregation of these birds, particularly in an area where low-level aircraft operations are intensive, could lead to midair collisions, causing the loss of life and aircraft.

In addition, horses have become inured to ground vehicle traffic, to the point that animals cross roads and trails in front of on coming cars and trucks. One collision and several "near-misses" have been reported.

D. Public Attention

Although Nevada Wild Horse Range was not intended to be an area where the public could view wild horses, interest has been high, especially from wild horse organizations. The deaths of approximately 40 horses during the winter of 1981 was brought to the attention of the Humane Society of Southern Nevada and local news media. The cause of the animal's deaths has not been determined, but was not due to military action.

Periodic destruction of a large number of horses and burial of the carcasses would attract adverse publicity, as in the above case.

The Nevada Wild Horse Range was mentioned on national television in a program about wild horses in the western U.S.

E. Management Access

1. The east security gate has been moved from the east boundary of Tonopah Test Range to the east boundary of Nevada Wild Horse Range/Tactical Fighter Weapons Training Center Range. Access to Nevada Wild Horse Range has been made more difficult, due to "check-in" requirements. Access to two study sites has been blocked, because of construction of new facilities by U.S. Air Force. These two sites, consisting of trend plots and utilization transects, are inaccessible to BLM and unauthorized U.S. Air Force personnel, even when accompanied by a security guard.

2. Access to Ranges 71, 74, 75 and 76 can be allowed only on weekends or during cleanup periods. Ranges EC east and west are open during the week, but only with clearance obtained 24 hours in advance of entry. This has hindered management, including horse removals. Members of volunteer groups, such as Nevada Wild Horse Association, have been delayed as long as three hours, even when prior clearance has been obtained.

   Access to one of the most advantageously located water trap sites has been effectively blocked from use, due to recent nearby construction of a U.S. Air Force facility. Trapping throughout much of the range could only be done during weekends.

   Inventory of horses can only be done on weekends, even when U.S. Air Force furnishes the helicopters.

3. Once issue A is effectively addressed, this issue then becomes of paramount importance to assure maintenance level removals of wild horses to prevent a resurgence of issue A.

F. A lack of manpower and funds has resulted in very limited management on either Nevada Wild Horse Range or Tactical Fighter Wespons Training Center Range/Tonopah Test Range. U.S. Air Force and Department of Energy have contributed funds only toward the construction and maintenance of the Bombing Range Boundary Fence. U.S. Air Force has contributed manpower and helicopters for inventory and investigation of dead horses. Since BLM is responsible for the horses and vegetation, U.S. Air Force and Department of Energy have contributed no funds or manpower toward management, project development or horse removal. BLM funds have largely been directed towards wild horse management on public lands, a priority issue for that agency.

V. Potential Solutions

A. Wild Horses/Burros

The short term solution to the major problem of the expanding horse/burro populations and deteriorating forage conditions is immediate removal of 4,000 or more horses. If a lower number of horses are removed, the potential exists for stimulation of population growth, as has happened in other wild or feral animal populations. If 2,000 or fewer animals are removed, population growth could be stimulated for 2 to 3 years, resulting in as many or more horses being born over that period. To prevent population stimulation, selective removal of 2,000 breeding mares could be effected. This would entail much more work than random removal, and the long term effects of such an action on overall herd demographics are unknown.

In order to remove 4,000 horses, unlimited access for up to 100 days is needed for a contractor to remove this number of horses. The principal limiting factor is availability of stock trucks to move captured animals to off-range holding sites.

The alternative solution to removing horses is periodic destruction and burial of a few horses at a time, over a one-year period, until the desired number of horses is reached. Burial or covering the horses is needed so that carrion-feeding birds and land predators are not attracted to the carcasses.

B. Natural Resource Impact

1. Heavy use of native forage can be alleviated in three ways:

   a.) remove two-thirds or more of the horse population and close selected permanent water sources, for at least one growing season, or

   b.) remove two-thirds of the horses, seed a selected, non-use area with a quick-growing, short-lived, highly-palatable forage species, on which the horses could concentrate. As the seeded species dies out, the horses would then move back onto native forage.

   c.) A third alternative entails removing all but 800 horses and fencing these animals into the Nevada Wild Horse Range. This alternative would prevent interference of the horses with many U.S. Air Force operations and almost all Department of Energy contractor operations outside Nevada Wild Horse Range. This alternative would be very expensive.

   The suggested massive reduction in horse numbers should alleviate much of the heavy trailing use from water to forage. Horses will still move out but the impact from trailing and congregating around water should be much less than is now occurring.

2. Competition with wildlife species for water, forage and space is now occurring but will be alleviated by removal of 4,000 or more horses. The permanent water sources should be ample for the reduced numbers of horses and all the wildlife species. The remaining horses should not have to move into the higher, mountainous areas for forage.

   Diet overlap between horses/desert bighorn sheep and horses/antelope will probably continue, but at a much reduced rate, when the horse numbers are lowered.

C. Animal Health/Aircraft Safety

A massive die-off of wild horses and, possibly, big game species can be averted by removal of approximately 4,000 wild horses from Tactical Fighter Weapons Training Center Range/Tonopah Test Range over the next year. This will reduce the horse population to the estimated carrying capacity of the 500,000 acres used by the horses when Nevada Wild Horse Range was designated. At the lower population levels, animals should die at normal rates and the potential for attracting new, large numbers of carrion-eating birds would be negated. No aircraft/bird collisions attributable to new bird populations have been reported to date.

If only 2,000 breeding age mares are removed, over 3,500 horses will remain, and the potential for a die-off will still exist. However, the potential for rapid population increase from population stimulation will have been negated for a time.

If the recommended 4,000 horses are removed from Tactical Fighter Weapons Training Center Range/Tonopah Test Range, fewer ground vehicle-horse confrontations should occur.

D. Public Attention

Removal of the recommended number of horses should result in both favorable and unfavorable publicity. The favorable publicity should result from BLM's Adopt-A-Horse Program and the fact that cooperators on Tactical Fighter Weapons Training Center Range/Nevada Wild Horse Range/Tonopah Test Range removed the animals to prevent a die-off and maintain a healthy horse herd.

Adverse publicity may result from some organizations or individuals who feel that periodic die-offs of horses is a "natural" occurrence and that man "should not interfere with nature".

Destruction of a large number of horses would also create adverse publicity for both BLM and U.S. Air Force, especially considering BLM's moratorium against destruction of healthy horses.

E. Management Access

1. The opportunity to schedule a major removal of wild horses during this field season is past. It would seem prudent to do so during the 1984 field season after the peak foaling period February through May. It is probable that anywhere from 60 to 90 days would be necessary to accomplish such a removal. If that schedule is to be, developed and implemented agency commitments of personnel and funding must be obtained prior to the start of FY 84. Most important, a window (or windows) in the U.S. Air Force training and research schedules must be identified and committed.

2. To insure needed access for routine management after major removal, selected BLM personnel should be issued photo ID cards, so that ready entry onto Nevada Wild Horse Range is not delayed. Direct clearance to collect data from the Rose Spring Corral study plots must be obtained from U.S. Air Force, so that two year's data will not be lost.

3. Aircraft operations, relative to national security, must dictate access to Ranges 71, 74, 75 and 76. However, a break in training operations must be obtained, when horses are to be removed, during the spring/summer months. Spring through mid-summer is the ideal time for water-trapping. but also the peak U.S. Air Force training period.

   The use of Rose Spring Corral for water trapping could be allowed if cordons are placed between the new U.S. Air Force facility and the corral. If permission to use Rose Spring Corral is denied by U.S. Air Force, the water may have to be closed off and a trap built around another water. Building another trap will be costly since much of the material from Rose Spring Corral cannot be reused.

F. Each organization using the range should program funds and manpower each year toward the management of the Range. The funds will be used to monitor vegetation and horse/burro numbers, develop/maintain projects and remove excess horses. If U.S. Air Force and Department of Energy cannot program manpower, these agencies could establish a reimbursable account on which the agency responsible for natural resource management, principally BLM, could draw to finance projects and/or horse removals.

   U.S. Air Force could furnish helicopters for roundups, if demand for horses increases. The helicopters could be used in conjunction with contract crews or volunteer groups. All removal operations would be supervised by BLM.

VI. Conclusions

1. The horse population is nearing critical mass on the range (Nevada Wild Horse Range, Tactical Fighter Weapons Training Center Range and Tonopah Test Range). A massive die-off is imminent, unless 4,000-4,500 horses are removed from the area, leaving a population of 1,500-2,000 animals as the long term management level. Forage and "permanent" water production do not appear sufficient to support the present numbers of horses and reasonable numbers of wildlife during a dry year.

   Serious consequences could occur for all agencies, including less of human life, if the die-off is allowed to occur. Attendant adverse publicity poses security problems for sensitive programs directly related to national security. Although national security is not likely to be jeopardized in any event, the principal agencies responsible for programs on the range will be held publicly accountable for deaths of a large number of horses and loss of human life and aircraft/equipment (should they occur). Whatever the specific results, a die-off will seriously impede ongoing programs of all agencies.

2. Once the horse population has been reduced, periodic removals by watertrapping could keep the population at the desired level.

3. After reduction of populations to desired numbers of horses, BLM personnel should be authorized ready access to the range to accomplish the routine natural resource management to the present situation. Ready access is also needed by BLM personnel to conduct vegetation monitoring studies, develop horse population demographics, study movement patterns and develop/maintain range improvements, such as water and trap sites.

VII. Additional Concerns

A potential problem exists for BLM if 4,000 horses are removed within one year. This could almost double the average annual number of horses removed from public and private lands in Nevada over the past ten years. Approximately 2,500 horses per year have been rounded up in Nevada over the past eight years. The largest number of horses removed has been 4,500, while only 780 animals were removed in 1982.

BLM's Palomino Valley Adoption Center can hold up to 1,200 horses if the animals are being adopted out quickly. However, if horses are being held for a long period of time, only 700 animals can be accomodated. During the past year, demand for horses has been very low, and some of the horses have been at the Palomino Valley Center for over a year, since the order preventing destruction of healthy, but unadoptable, horses was issued in early 1982.

TABLE 1

INVENTORY OF NATURAL RESOURCES

Wild Horse Inventory

Year	Location	Type Inventory	Estimate/Actual Count *
1963	Nevada Wild Horse Range	-	200
1973	Kawich Range	Ground	163
1976	Nevada Wild Horse Range, Cactus Flat and Goldflat	Ground	1,064
1977	Overall	Aerial	1,300*
1980	Stonewall Mountain	Aerial	530*
	Goldfield	Aerial	175*
	Cactus Flat & Kawich Valley	Aerial	2,695*
1981	Overall	Aerial	4,500*
1982	Overall	Aerial	5,400*

TABLE 2

Vegetative Utilization

Location (Distance From Water)	Key Species	Date	Percent	Date	Percent
Rose Spring (1/4 mile)	Oryzopsis hymenoides	10/31/80	80	10-81	90
	Stipa species		85		85
	Atriplex canescens		75		80
Rose Spring Corral (1 mile)	Hilaria jamesii	10/31/80	60	10-81	75
Rose Spring Corral (2 miles)	Hilaria jamesii	10/31/80	33	10-81	60
	Eurotia lanata		60		80
Rose Spring Corral (3.5 miles)	Oryzopsis hymenoides	04/05/81	61	10-81	70
	Hilaria jamesii		86		85
Silverbow (1/4 mile)	Atriplex canescens	10/31/80	79	10-81	85
	Oryzopsis hymenoides		75		90
Silverbow (1 mile)	Atriplex canescens	10/31/80	60	10-81	72
Silverbow (3.5 miles)	Atriplex canescens	10/31/80	33	10-81	45
	Oryzopsis hymenoides		40		60
Silverbow (1.5 miles)	Oryzopsis hymenoides	04/05/81	67	10-81	80
	Hilaria jamesii		70		75
Silverbow Powerline	Hilaria jamesii	04/04/81	64	10-81	65
	Sphaeralcea ambigua		39		45
Kawich Valley Reservoir	Oryzopsis hymenoides	04/04/81	73	Not read in Oct' 81 due to U.S.A.F. exercises.	
	Hilaria jamesii		43		
	Sphaeralcea ambigua		35		

TABLE 3

Wildlife Population Estimates

Species	Location	1981 Number	1982 Number
Desert Bighorn Sheep	Stonewall Mountain	50-75	60-80
Pronghorn	Kawich Mtns./Kawich Valley	200	200
Mule Deer	Stonewall Mountain	50	50
	Kawich Range	50	55
	Belted Range	35	40
Chukar Partridge	Stonewall Mountain	400-500	400-500
	Belted Range	150	150-175
	Kawich Range	600	600-700
Mountain Lion	Stonewall Mountain	3	3
	Belted Range	2	3
	Kawich Range	5	6