

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

California State Office 2800 Cottage Way, Room E-2845 Sacramento, California 95825-1889

IN REPLY REFER TO:

January 25 ,1996

1600(CA-028)

COWHEAD/MASSACRE MANAGEMENT FRAMEWORK PLAN AMENDMENT: MASSACRE MOUNTAIN ALLOTMENT CLASS OF LIVESTOCK **Proposed Decision** CA-028-96-02

Proposed Decision:

Amend three decisions in the Cowhead/Massacre Management Framework Plan changing the class of livestock from domestic sheep and cattle to cattle in the Massacre Mountain allotment and indirectly favoring the reintroduction of bighorn sheep in the High Rock area. The amendment is anticipated to be placed into effect on or about March 10, 1996.

Specifically, the following changes would be made.

1) Modify HR003 from:

"Allocate forage among both consumptive and non-consumptive resources, as shown in table A [reproduced below].

Consumptive Uses

Deer **250 AUMs** Antelope **350 AUMs** Bighorn **120 AUMs** Livestock 1,754 AUMs

Sheep

04/01-04/30 12/01-12/15

Cattle

04/15-10/31

Wild Horses

1,200 AUMs

Sub-Total

3,674 AUMs

Non Consumptive Uses

18,022 AUMs

Watershed Cover, Wildlife Habitat, Soil Stabilization

Total

21,969 AUMs

As additional forage becomes available as determined by monitoring, allocations will be made to livestock, wildlife, and non-consumptive uses for the area west of High Rock Canyon. Allocations will only be made to wildlife and non-consumptive uses for the canyon bottoms and east of the canyon."

to read:

"Provide forage for both consumptive and non-consumptive resources, including mule deer, pronghorn antelope, bighorn sheep, wild horses, and cattle. As additional forage becomes available as determined by monitoring, allocations will be made to cattle, wildlife, and non-consumptive uses for the area west of High Rock Canyon. Allocations will only be made to wildlife and non-consumptive uses for the canyon bottoms and east of the canyon."

2) Modify HR004 from:

"Allow for a change in class of livestock from sheep to cattle in the entire Sub Unit ."

to read:

"Domestic sheep grazing will not be authorized in the Massacre Mountain allotment."

3) Modify MN 003 from:

"Allocate forage among both consumptive and non-consumptive resources, as shown in Table B [reproduced below]:

Consumptive Uses

Deer Antelope		1,350 AUMs 770 AUMs
Livestock		24,850 AUMs
Sheep		
-	05/01-06/30	
	11/08-11/30	
Cattle		
	04/15-10/15	
Wild Horses		1,200 AUMs
Sub-Total		28,170 AUMs
Non Consumptive Uses Watershed Cover, Wildlife Habitat,		22,597 AUMs Soil Stabilization

Total 50,767 AUMs

As additional forage becomes available as determined by monitoring, increased allocations will be made to wildlife, wild horses, and livestock based on needs, response to management, policy, etc."

to read:

"Provide forage for both consumptive and non-consumptive resources, including mule deer, pronghorn antelope, wild horses, cattle, and bighorn sheep in those portions of the Massacre Mountain allotment that are adjacent to High Rock Canyon, . As additional forage becomes available as determined by monitoring, increased allocations will be made to wildlife, wild horses, and cattle based on needs, response to management, policy, etc."

Other Alternatives Considered:

Alternative 2: Amend Land Use Plan to Favor Domestic Sheep Grazing

This alternative would amend one decision and eliminate another decision in the Cowhead/Massacre Management Framework Plan to favor maintaining domestic sheep grazing in the Massacre Mountain allotment. The changes would be in lieu of reintroducing bighorn sheep in the High Rock area. Specifically, the following changes would be made,

1) Modify HR003 from:

"Allocate forage among both consumptive and non-consumptive resources, as shown in table A [see above]. As additional forage becomes available as determined by monitoring, allocations will be made to livestock, wildlife, and non-consumptive uses for the area west of High Rock Canyon. Allocations will only be made to wildlife and non-consumptive uses for the canyon bottoms and east of the canyon."

to read:

"Provide forage for both consumptive and non-consumptive resources, including mule deer, pronghorn antelope, wild horses, domestic sheep, and cattle. As additional forage becomes available as determined by monitoring, allocations will be made to livestock, wildlife, and non-consumptive uses for the area west of High Rock Canyon. Allocations will only be made to wildlife and non-consumptive uses for the canyon bottoms and east of the canyon."

2) Eliminate decision HR004.

"Allow for a change in class of livestock from sheep to cattle in the entire Sub Unit ."

Alternative 3: No Action

The No Action alternative would result in no changes in relation to domestic and bighorn sheep use in the Massacre Mountain allotment.

Rationale:

The Cowhead/Massacre Management Framework Plan decisions related to domestic sheep grazing in the Massacre Mountain Allotment and the reintroduction of bighorn sheep into the High Rock area were made in 1981. At that time these decisions represented a compromise made by Bureau managers between the concerns about competition between domestic and bighorn sheep and the desire to minimize economic impacts on the livestock permittees. Since that compromise was reached, information on diseases shared by domestic and bighorn sheep has altered our understanding of the risks involved with simultaneous grazing by the two species. The livestock permit situation has also significantly changed. Amending the Management Framework Plan to allow grazing by cattle only is appropriate for the situation as it has evolved since 1981.

Recent research by scientists working on wildlife diseases, as documented in the Environmental Assessment, has shown that bacteria carried in the respiratory system of healthy domestic sheep can cause fatal pneumonia in bighorn sheep. This research has resulted in the Bureau adopting a policy that bighorn should not be reintroduced into ranges that support existing domestic sheep grazing and that there should be substantial buffers between bighorn populations and domestic sheep grazing. This policy was adopted after extensive consultation with a group that included the domestic sheep industry, wildlife disease specialists, and advocacy groups for bighorn sheep. The 1981 Management Framework Plan decisions are in conflict with this policy.

The Modoc/Washoe Experimental Stewardship Committee, a multi-interest group working to resolve grazing related issues through a consensus process, chartered a working group to resolve this conflict. In 1988 the Stewardship Committee recommended to the Bureau that the grazing permits in the Massacre Mountain allotment should be purchased to resolve the potential disease conflict while not adversely affecting the livestock permittees. That recommendation has recently been accomplished for the domestic sheep grazing permit.

Changing the class of livestock from cattle and domestic sheep to cattle and the reintroduction of bighorn sheep were several recommendations of a Technical Review Team that met during the mid 1980s.

In 1995 the American Land Conservancy completed a purchase of the private lands in the Massacre Mountain allotment used as the base property for the domestic sheep grazing permit. These lands were subsequently traded to the Bureau and the grazing permit was simultaneously relinquished to the Bureau. The domestic sheep grazing permit was not being used at the time of the purchase/exchange, and had only been used occasionally since the permittee sold the sheep and a separate winter range permit in 1987. This purchase/exchange paved the way toward fulfilling the decisions reached in 1981. The domestic sheep grazing could be eliminated from the allotment without adverse economic effects on any existing livestock grazing permittee and bighorn could be reintroduced with greatly reduced risk of bacterial pneumonia.

The acquisition of private lands and the relinquishment of the domestic sheep grazing permit were supported financially by Nevada Bighorns Unlimited.

During the scoping period, the Nevada Division of Wildlife and the Division of State Lands both wrote letters supporting the proposed amendment. Both agencies had participated in the Technical Review process.

During the scoping process about 15 comments were received on the amendment. Those comments were carefully considered and resulted in many changes in the Environmental Assessment. A number of comments supported the proposed action. Several of these comments also suggested that cattle grazing also be adjusted as part of the amendment process. The type of adjustments suggested covered the range from the total elimination of cattle to increasing cattle use by the same amount that the sheep formerly consumed. The issue of appropriate levels of cattle use were not included in this effort for several reasons. First, introducing the cattle use question greatly expands the scope of the amendment. The original issue to be resolved was the potential disease conflict and how best to minimize the risks without adverse economic impact to the livestock community. Second, cattle use levels are already addressed by decisions in the Management Framework Plan relating to areas of use, season of use, utilization levels, and other guidelines.

Comments opposed to the proposed action reflected a variety of perspectives. The domestic sheep grazing industry in Nevada expressed opposition to the proposed amendment because of adverse economic effects on existing domestic sheep grazing and loss of effective weed control that domestic sheep grazing can provide. Since the domestic sheep grazing permit has been relinquished as part of the purchase/exchange that American Land Conservancy completed with the Bureau last year there is no adverse impact on any existing domestic sheep operation. The historic domestic sheep grazer was financially compensated for his interests at an mutually negotiated price. Since there are no domestic sheep grazing activities occurring on adjacent allotments there are no indirect economic impacts to other domestic sheep grazers. There is no known noxious weed problem in the Massacre Mountain allotment with little domestic sheep grazing during the last ten years, therefore the concern about weed control is not relevant in this allotment.

There were concerns expressed from wild horse and Off Highway Vehicle interests that a reintroduction of bighorn sheep in the High Rock area would eventually lead to the loss of wild horses or vehicle access in the area. Bighorn sheep have been reintroduced in a variety of locations in Northwestern Nevada since 1968. We were unable to find any instances where the Bureau has eliminated wild horses or vehicle access due to conflicts with bighorn in the region. It is impossible to predict what may occur in the future. If at some time in the future restrictions on wild horses or Off Highway Vehicles were proposed in the High Rock area because of conflicts with bighorn sheep, all the users of the public land would be able to participate in the process. Since there are no reasonably foreseeable impacts to these interests and their future options to participate in additional planning has not been foregone, I do not feel that wild horses or Off Road Vehicles are being adversely affected.

The impacts of amending the Cowhead/Massacre Management Framework Plan were considered in an Environmental Assessment entitled Cowhead/Massacre Management Framework Plan

Amendment: Massacre Mountain Allotment Class of Livestock (CA-028-96-02). The assessment indicated that the public interest would be served by amending the land use plan to allow cattle to graze the allotment, but not to allow domestic sheep grazing. Indirectly the amendment would facilitate the reintroduction of bighorn sheep into the High Rock area.

Recommendation/Concurrence:

I recommend approval of the proposed amendment. Such approval will be effective 30 days from the publication of the notice of its effective date, subject to any protests filed in accordance with the provisions described below. The amendment is anticipated to be placed into effect on or about March 10, 1996.

Surprise Area Manager

1/31/96

Date

I concur.

Salfactor 1/31/96
California State Director Date

Protests:

Any person who participated in the planning process and has an interest which is or may be adversely affected by this amendment may protest. A protest may raise only those issues which were submitted for the record during the planning process. The protest shall be in writing and shall be filed with the Director of the Bureau of Land Management. The protest shall be filed within 30 days of the publication of the notice of its effective date. The protest shall contain:

The name, mailing address, telephone number and interest of the person filing the protest.

A statement of the issue or issues being protested.

A statement of the part or parts of the plan or amendment being protested.

A copy of all documents addressing the issue or issues that were submitted during the planning process by the protesting party or an indication of the date the issue or issues were discussed for the record.

A concise statement explaining why the State Director's decision is believed to be wrong.

The protest should be sent to:

Director
Bureau of Land Management
Resource Planning Team
Box 10
1620 L Street, N.W.
Washington, D.C. 20236



United States Department of the Interior

BUREAU OF LAND MANAGEMENT SURPRISE RESOURCE AREA P.O. BOX 460 CEDARVILLE, CALIFORNIA 96104-0460 January 22, 1996



IN REPLY REFER TO:

1600(CA-028)

COWHEAD/MASSACRE MANAGEMENT FRAMEWORK PLAN AMENDMENT: MASSACRE MOUNTAIN ALLOTMENT CLASS OF LIVESTOCK Environmental Assessment CA-028-96-02

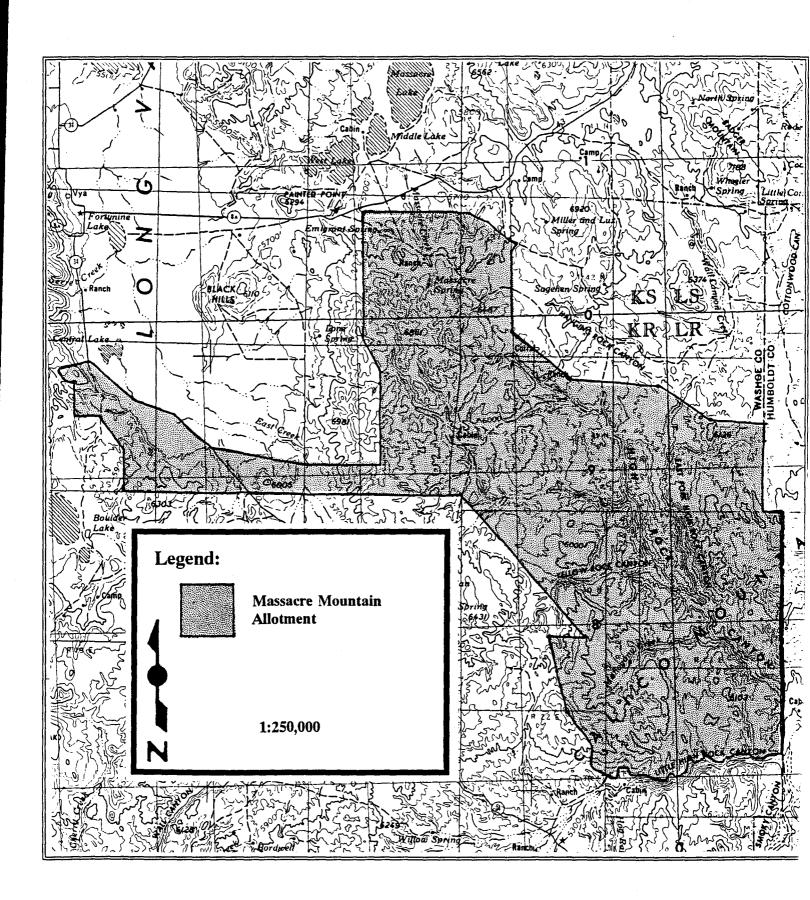
BACKGROUND

The Massacre Mountain grazing allotment is located in Washoe County, Nevada (Map 1). The allotment is managed by the Surprise Resource Area of the Bureau of Land Management. Two land exchanges in the past twenty years have resulted in almost all of the private land within the allotment being transferred to public ownership. Part of the rationale for the two exchanges was to facilitate the reintroduction of California bighorn sheep (Ovis candadensis californiana) into part of the allotment known as the High Rock Canyon area.

California bighorn sheep were common in the steep, rocky terrain of the area until the 1920's when a combination of factors including diseases, habitat change, and shooting eliminated them. Domestic sheep grazing in the Massacre Mountain/High Rock Canyon area probably started early this century. Domestic sheep grazing occurred until 1986 when the sheep operator sold the sheep bands. Early this year the domestic sheep grazing permit was relinquished to the Bureau as part of an purchase/exchange effort involving the permittee, the Bureau, and the American Land Conservancy.

The Cowhead/Massacre Management Framework Plan (USDI, 1981) contains several land use decisions related to domestic and bighorn sheep within the allotment. A Wildlife Habitat Management Plan for the High Rock area was completed in 1984. One of the key actions of both these plans is the reintroduction of bighorn sheep into the High Rock area. High Rock Canyon and adjacent areas were designated as an Area of Critical Environmental Concern in 1984. An Area of Critical Environmental Concern designates areas of public land with special resource and social values. High Rock Canyon was recognized because of a combination of unique scenic, cultural and wildlife values. One of the values unique to the High Rock area is the potential to support a large population of California bighorn sheep. The relinquishment of the domestic sheep grazing permit now opens the way for the reintroduction of native bighorn sheep.

Map 1
Massacre Mountain Allotment



PURPOSE AND NEED

Even though there is no longer a domestic sheep grazing operation in the Massacre Mountain allotment, domestic sheep grazing is still authorized in the Cowhead/Massacre Management Framework Plan. The purpose of the proposed amendment is to determine whether to permanently exclude domestic sheep grazing from the Massacre Mountain allotment through specifying that the only class of livestock to be grazed is cattle. This Management Framework Plan amendment is needed in order to reduce the potential threat of disease to reintroduced bighorn in the High Rock Canyon area.

Currently the Management Framework Plan provides for simultaneous use of the two kinds of sheep. Scientific studies carried out during the last decade as well as the experiences of other land managers, has recently resulted in recommendations that domestic and bighorn sheep should never be allowed to graze in the same area. Furthermore, wide areas of separation between the two species be should maintained to prevent accidental contact and the spread of diseases between the two species. Current Bureau of Land Management Policy calls for a substantial physical separation (up to nine miles) between domestic and bighorn sheep to prevent the spread of diseases (Bureau of Land Management, 1992).

The Nevada Division of Wildlife has proposed to reintroduce California bighorn sheep into the allotment during the winter of 1995-1996 or 1996-1997 (Nevada Division of Wildlife, 1995). The Reno Chapter of the Nevada Bighorns Unlimited provided financial support for the effort to relinquish the domestic sheep grazing permit in the Massacre Mountain Allotment. Because of their concern with the disease threat they have requested that the Bureau amend the Management Framework Plan to prevent domestic sheep from being authorized on the Massacre Mountain allotment in the future.

With the proposed amendment, the 1981 land use decision authorizing domestic sheep grazing in the Massacre Mountain allotment would be altered to reflect the latest scientific information on the conditions necessary for survival of bighorn sheep.

CONSISTENCY WITH LAND USE PLAN/POLICY

Land Use Plan

The Cowhead/Massacre Management Framework Plan, approved in 1981 and amended in 1983, contains land use goals and decisions for the entire planning area. The Management Framework Plan is divided into subunits with common resources and issues. The Massacre Mountain Allotment is split between two subunits, High Rock and Massacre-Nut Mountain.

The applicable land use goals for the High Rock Subunit are:

* Maintain High Rock complex in a primitive state by preservation of the natural characteristics of the area.

* Provide wildlife habitat in suitable condition for bighorn sheep, 100 plus species of non-game wildlife, 650 antelope, and 125 deer.

The applicable decisions for the High Rock Subunit are:

1) Allocate forage among both consumptive and non-consumptive resources, as shown in Table A [reproduced below].

Consumptive Uses

Deer	250 AUMs
Antelope	350 AUMs
Bighorn	120 AUMs
Livestock	1,754 AUMs
Sheep	
04/01-04/30	
12/01-12/15	
Cattle	•
04/15-10/31	
Wild Horses	1,200 AUMs
Sub-Total	3,674 AUMs

Non Consumptive Uses

18,022 AUMs

Watershed Cover, Wildlife Habitat, Soil Stabilization

Total

21,969 AUMs

As additional forage becomes available as determined by monitoring, allocations will be made to livestock, wildlife, and non-consumptive uses for the area west of High Rock Canyon. Allocations will only be made to wildlife and non-consumptive uses for the canyon bottoms and east of the canyon (HR003 as amended, 1983).

- 2) Allow for a change in class of livestock from sheep to cattle in the entire Sub Unit (HR004).
- Allow livestock to graze west of High Rock Canyon and north of Little High Rock Canyon and designate this area for intensive livestock grazing. Allow cattle to graze in the canyon bottoms and east of High Rock Canyon on a prescriptive basis only (Grazing will be scheduled when it provides a benefit to other resource values. This area will not be grazed on an annual or regular basis). (HR005).
- 4) Further cancellation of livestock will not occur to provide buffer zones to prevent disease transmission (HR006).

- Provide habitat in the High Rock Canyon complex and east to the Winnemucca District Boundary for the reintroduction of bighorn sheep (HR007).
- 6) Designate High Rock and Little High Rock Canyon as a special management area (Area of Critical Environmental Concern).

The applicable land use goal for the Massacre-Nut Mountain Subunit is:

* Provide 260,000 acres of habitat in 'good' condition for wildlife by 1998.

The applicable decision for the Massacre-Nut Mountain Subunit is:

1) Allocate forage among both consumptive and non-consumptive resources, as show in Table B [reproduced below]:

Consumptive Uses

Deer	1,350 AUMs
Antelope	770 AUMs
Livestock.	24,850 AUMs

Sheep

05/01-06/30 11/08-11/30

Cattle

04/15-10/15

Wild Horses 1,200 AUMs

Sub-Total 28,170 AUMs

Non Consumptive Uses 22,597 AUMs

Watershed Cover, Wildlife Habitat, Soil Stabilization

Total 50,767 AUMs

As additional forage becomes available as determined by monitoring, increased allocations will be made to wildlife, wild horses, and livestock based on needs, response to management, policy, etc (MN003).

POLICY

The current Bureau policy on bighorn reintroductions state in part that "domestic sheep grazing and trailing should be discouraged in the vicinity of bighorn sheep ranges, bighorn sheep and domestic sheep should be spatially separated separated to discourage the possibility of coming into physical contact with each other, bighorn sheep should only be reintroduced into areas where

domestic sheep grazing is not permitted, and allotment(s) in which bighorns are to be reintroduced should not have been used for domestic sheep grazing for two or more years prior to the bighorn release" (Bureau of Land Management 1992). These guidelines were developed by a working group of veterinarians and an immunologist familiar with bighorn diseases, the American Sheep Industry Council, the Foundation for North American Wild Sheep, the Desert Bighorn Council, and the Bureau.

SCOPING PROCESS

An interdisciplinary team within the Surprise Resource Area identified the resources within the allotment that potentially would be affected, the appropriate issues to be resolved, and the alternatives to be considered in this effort. Comments from members of the public during the scoping period also assisted in the final determination of alternatives and issues to be addressed.

Issues Selected for Analysis

The following environmental and human use issues were identified during the scoping process:

Impacts on Bighorn Sheep

The Cowhead/Massacre Management Framework Plan allocates a large area in the High Rock area for the reintroduction of bighorn sheep. Due to the costs of relocating California bighorn sheep from other ranges, potentially as far away as central British Columbia, bighorn would not be reintroduced unless there is a high probability that the transplant would be a success. Based upon recent research on bighorn disease issues, the simultaneous use of portions of the Massacre Mountain allotment by domestic and bighorn sheep would not provide conditions for a high probability that a viable bighorn herd could be reestablished in the High Rock area.

There are other factors in the High Rock area that could also have potential negative impacts on bighorn sheep including interaction between cattle and bighorn sheep in portions of the allotment and impacts of increasing recreational use in High Rock Canyon on bighorn sheep.

Impacts on Domestic Livestock Grazing

The Cowhead/Massacre Management Framework Plan established that domestic sheep will be grazed in the Massacre Mountain allotment in the spring and fall. As discussed above, joint use of ranges by domestic and bighorn sheep is considered by Bureau policy an untenable situation. Resolution of the apparent conflict between domestic and bighorn sheep could have negative impacts on future domestic sheep grazing.

Cattle and bighorn diets both contain large amounts of grasses, and cattle and bighorn do share several common diseases. If bighorn are reintroduced into the allotment cattle and bighorn would have some overlap in use areas on the east and west edges of the High Rock area. There is some concern that diseases could be transmitted between cattle and

bighorn. Cattle operators fear that bighorn would cause future restrictions in cattle grazing.

Impacts on Wild Horses

Management of wild horses is directed toward maintaining a thriving ecological balance of horses and their environment, including wildlife. Two letters received from the public during the scoping process suggested that bighorn and wild horses might compete for water in areas adjacent to High Rock Canyon.

Impacts on Recreation Use

The High Rock area is experiencing increasing visitor use as a result of interest in the Applegate/Lassen Emigrant Trail as well as the scenic and wildlife values of the area. Several studies have indicated that bighorn sheep can be adversely affected by the presence of visitors. One scoping comment suggested that reintroduction of bighorn sheep into the High Rock area would ultimately result in the closure of the area to the public.

Issues Considered but Dropped from Further Analysis

The following issues were identified in scoping but were not selected for detailed analysis in this document.

Impacts on Vegetation

Grazing by either domestic or bighorn sheep has the potential of affect vegetation within the allotment. The Final Environmental Statement for the *Proposed Domestic Livestock Grazing Program for the Cowhead/Massacre Area* (1980) evaluated the impacts of livestock grazing and bighorn use on the vegetation within the allotment. That environmental statement has been reviewed and the analysis is still valid and adequate.

One of the letters received from the public during the public scoping process proposed that elimination of domestic sheep grazing in the allotment would result in increased noxious weed populations. The allotment has not been grazed by domestic sheep for three years and no noxious weed problems have been identified. Therefore the issue of impacts on vegetation will not be considered further.

Impacts on Wilderness Resources

Most of the bighorn habitat within the Massacre Mountain allotment is currently being managed as Wilderness Study Areas. The potential impacts related to wilderness management of these areas and grazing by domestic or bighorn sheep were considered in the Eagle Lake-Cedarville Study Areas Environmental Impact Statement (1987). Until Congress acts upon the recommendation, the areas are being managed in a manner that would retain their wilderness values. The actions being considered under this amendment would not result in a change to the Bureau's wilderness recommendation and no surface

disturbing activities are anticipated that might reduce wilderness values. Therefore this issue was dropped from further consideration.

Impacts on Threatened or Endangered Species

Wildlife and vegetation inventories and consultation with the United States Fish and Wildlife Service did not identify any threatened or endangered species, or species proposed for listing within the Massacre Mountain allotment. Therefore this issue was not selected for detailed analysis.

Alternatives

Three alternatives were selected for consideration through the scoping process: 1) The **Proposed Action** would amend the Cowhead/Massacre Management Framework Plan eliminating domestic sheep as a class of livestock authorized to graze within the Massacre Mountain allotment, while retaining decisions supporting bighorn sheep reintroductions; 2) An alternative that would continue the authorize domestic sheep grazing within the allotment and eliminate decisions supporting a bighorn reintroduction; and 3) A No Action alternative that would leave the Management Framework Plan as is and make no changes regarding either domestic or bighorn sheep.

On comment requested that cancellation of cattle grazing in the allotment be considered as an alternative. This alternative is in direct conflict with several Management Framework Plan goals and decisions and was therefore not selected for further consideration.

ALTERNATIVES INCLUDING THE PROPOSED ACTION

Alternative 1: Amend Land Use Plan to Favor Bighorn Sheep (Proposed Action)

The proposed action is to amend three decisions in the Cowhead/Massacre Management Framework Plan changing the class of livestock from domestc sheep and cattle to cattle in the Massacre Mountain allotment and indirectly favoring the reintroduction of bighorn sheep in the High Rock area. Specifically, the following changes would be made.

1) Modify HR003 from:

"Allocate forage among both consumptive and non-consumptive resources, as shown in table A [on p. 2-3]. As additional forage becomes available as determined by monitoring, allocations will be made to livestock, wildlife, and non-consumptive uses for the area west of High Rock Canyon. Allocations will only be made to wildlife and non-consumptive uses for the canyon bottoms and east of the canyon."

to read:

"Provide forage for both consumptive and non-consumptive resources, including mule deer, pronghorn antelope, bighorn sheep, wild horses, and cattle. As additional forage becomes available as determined by monitoring, allocations will be made to cattle, wildlife, and non-consumptive uses for the area west of High Rock Canyon. Allocations will only be made to wildlife and non-consumptive uses for the canyon bottoms and east of the canyon."

2) Modify HR004 from:

"Allow for a change in class of livestock from sheep to cattle in the entire Sub Unit ."

to read:

"Domestic sheep grazing will not be authorized in the Massacre Mountain allotment."

3) Modify MN 003 from:

"Allocate forage among both consumptive and non-consumptive resources, as shown in Table B [on pg 4]. As additional forage becomes available as determined by monitoring, increased allocations will be made to wildlife, wild horses, and livestock based on needs, response to management, policy, etc."

to read:

"Provide forage for both consumptive and non-consumptive resources, including mule deer, pronghorn antelope, wild horses, cattle, and bighorn sheep in those portions of the Massacre Mountain allotment that are adjacent to High Rock Canyon, . As additional forage becomes available as determined by monitoring, increased allocations will be made to wildlife, wild horses, and cattle based on needs, response to management, and policy."

During the foreseeable future the following management actions would be likely to result from this alternative.

Wildlife and Habitat Management

Bighorn sheep would be reintroduced into the High Rock area as early as the winter of 1995-1996.

Livestock Grazing Actions

Cattle grazing would continue within the Massacre Mountain allotment as presently authorized and occasionally within the High Rock area. Forage formerly allocated to domestic sheep would be reallocated to cattle if monitoring data shows the forage is available and could be used by cattle while the health of the range is maintained.

Alternative 2: Amend Land Use Plan to Favor Domestic Sheep Grazing

This alternative would amend one decision and eliminate another decision in the Cowhead/Massacre Management Framework Plan to favor maintaining domestic sheep grazing in the Massacre Mountain allotment. The changes would be in lieu of reintroducing bighorn sheep in the High Rock area. Specifically, the following changes would be made,

1) Modify HR003 from:

"Allocate forage among both consumptive and non-consumptive resources, as shown in table A [on p. 2-3]. As additional forage becomes available as determined by monitoring, allocations will be made to livestock, wildlife, and non-consumptive uses for the area west of High Rock Canyon. Allocations will only be made to wildlife and non-consumptive uses for the canyon bottoms and east of the canyon."

to read:

"Provide forage for both consumptive and non-consumptive resources, including mule deer, pronghorn antelope, wild horses, domestic sheep, and cattle. As additional forage becomes available as determined by monitoring, allocations will be made to livestock, wildlife, and non-consumptive uses for the area west of High Rock Canyon. Allocations will only be made to wildlife and non-consumptive uses for the canyon bottoms and east of the canyon."

2) Eliminate decision HR004.

"Allow for a change in class of livestock from sheep to cattle in the entire Sub Unit ."

During the foreseeable future the following management actions would be likely to result from this alternative.

Livestock Grazing Actions

Cattle grazing would continue within the Massacre Mountain allotment as presently authorized and occasionally within the High Rock area. Domestic sheep would be authorized to graze during the spring and fall. However, it is unlikely that domestic sheep grazing would be made on a regular basis.

Alternative 3: No Action

The No Action alternative would result in no amendment in relation to domestic and bighorn sheep use in the Massacre Mountain allotment. During the foreseeable future the following management actions would be likely to result from this alternative.

Livestock Grazing Actions

Cattle grazing would continue within the Massacre Mountain allotment as presently authorized and occasionally within the High Rock area. Domestic sheep would be authorized to graze during the spring and fall. However, it is unlikely that domestic sheep grazing would be made on a regular basis.

AFFECTED ENVIRONMENT

Livestock and Grazing

The Massacre Mountain Allotment contains 147,103 acres. The allotment provides April through September grazing for a potential of about 1,000 cattle and historically provided April through June and late fall trail through use by 2,000 domestic sheep. A 16,240 acre area including High Rock Canyon and the area east to allotment boundary is closed to grazing use on a regular basis as a result of decisions made in the Cowhead/Massacre Management Framework Plan. This area will only be grazed by cattle to manipulate the vegetation for the benefit of wildlife or other resources (prescription grazing). (Map 2)

As recently as last year there were three permitees with grazing privileges in the allotment. The total permitted use at that time was 8,000 Animal Unit Months. An Animal Unit Month is the amount of forage required to support one cow/calf pair or five sheep for one month. The season of use for cattle is April 1 through September 30. Cattle have been turned out in early to mid-April in the western and/or southern parts of the allotment (areas with lowest elevations) and then allowed to naturally drift up onto Massacre Mountain. The allotment has been grazed substantially less than the permits for cattle allow at the choice of the permitees. The stocking for 1994 was about 100 head and estimated 1995 stocking for cattle is about 350 head. The average cattle use for the last five years has been 16 percent of the permitted use. In 1995 two of the cattle permits were consolidated into a single permit and the third permit was relinquished to the Bureau of Land Management.

One permittee also had a grazing permit for two bands of sheep (2000 head) grazing for a total of 1,935 Animal Unit Months. Sheep traditionally entered the south end of the allotment in early April. They were slowly herded north, lambing during the first month, until they exited the northern end of the allotment around the first of July. In the fall the sheep traveled north to south in the allotment between November 15 and December 15 each year. During the last 10 grazing seasons, sheep have been grazed in the allotment in only two years at the choice of the permitees. In 1986 the sheep bands and the grazing permit for the sheep winter range on another Bureau allotment were sold by the permittee. After the sale, sheep were grazed within the allotment in 1988 when the permit was leased to another domestic sheep operator, and in 1992 when economic and forage conditions favored trucking sheep from the San Joaquin Valley to the allotment. In 1992 the sheep grazing permit was transferred from the original locally based permittee to a family member living outside the area, who has not used the permit.

In 1995 the sheep operator sold his private property within and adjacent to the allotment to American Land Conservancy, who subsequently traded the property to the Bureau for lands of equal value is southern Nevada. The permittee simultaneously relinquished all of his grazing privileges to the Bureau. This effort represented the final chapter in a ten year effort by many interests including the Modoc/Washoe Experimental Stewardship Program to eliminate potential conflicts between the domestic and bighorn sheep without causing an adverse financial impact on the domestic sheep operator.

Bighorn Sheep

There are currently no bighorn sheep within the allotment. The allotment historically supported populations of California bighorn sheep. Archaeological excavations of caves near High Rock Canyon indicates that bighorn were a common prey item of the indigenous peoples (Pippin 1977). Several emigrant diaries recorded on the High Rock segment of the Applegate/Lassen Trail mentioned mountain sheep in the mid-19th century. Bighorn were apparently commonly seen by cowboys operating from Soldier Meadows (about ten miles from High Rock Canyon) in the first decade of this century, (Dan Hill, personal communication 1995). Although, it is unknown when the last bighorn lived in the area, a bighorn ram was killed within 25 miles of the area in 1946 (Sands, 1976). The disappearance of bighorn from the region is generally attributed to over hunting, loss of habitat due to overgrazing, and exposure to diseases associated with livestock, particularly with domestic sheep grazing (Wilson et al 1979, Buechner 1960).

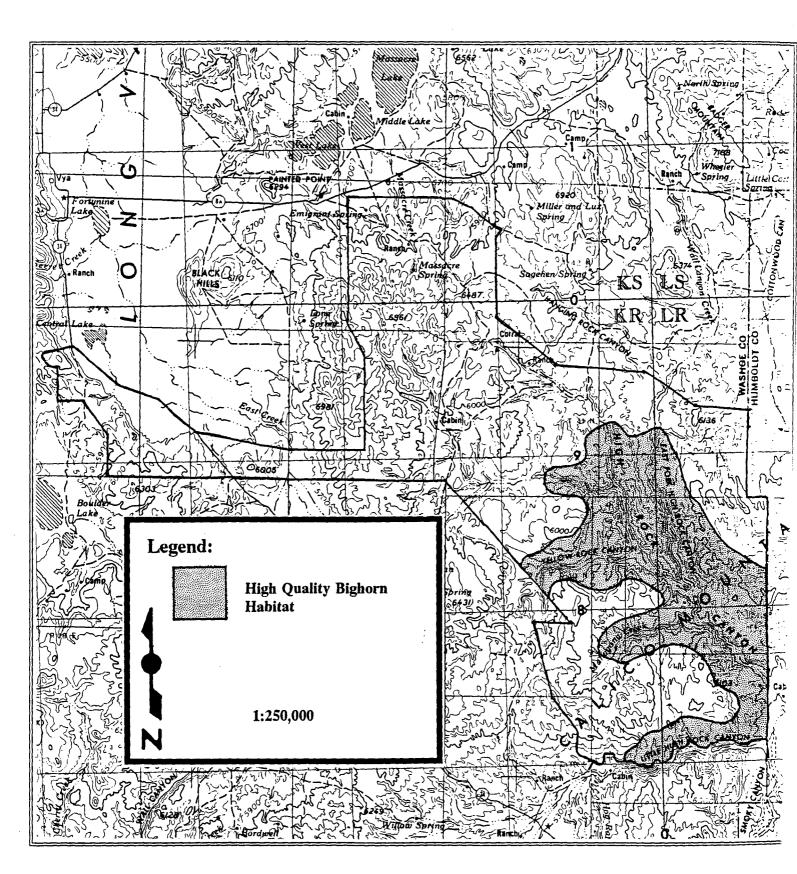
The preferred habitat of the bighorn includes the steep, rough country typified by High Rock and nearby canyons as well as open slopes and benches with good stands of herbaceous vegetation (Hansen 1982, Wilson et al 1979). It is estimated that the High Rock area contains at least 50,000 acres of high quality habitat suitable for California bighorn sheep (Map 3). The suitable habitat includes approximately 27,000 acres of rim/rubble type habitat covering approximately 75 linear miles of canyon, 22,000 acres of low and big sagebrush habitat within one mile of escape cover on the uplands, and 1,000 acres of meadow habitat capable of providing water and green forage during the summer months. Based upon the habitat evaluation method of Golden and Tsukamoto (1980) and using a capacity of three bighorn per square mile it is estimated that the 50,000 acres could support 235 sheep. Additionally, there are large areas of suitable habitat adjacent to the allotment in the Calico Mountains which support a small, recently reintroduced bighorn herd. The combined High Rock/Calico area could ultimately support a population of 500 sheep (Dobel, Nevada Division of Wildlife, personal communication).

California bighorn sheep originally ranged from the southern Sierra Nevada mountains to central British Columbia along the Sierra/Cascade range and in the northern Great Basin mountain ranges (Beuchner 1960). By the middle of this century the California bighorn remained only in a few isolated pockets at the most northern and southern limits of their original range. In a very successful reintroduction effort, bighorn have been restored to many of their former ranges. Regionally, there are at least seven populations of California bighorn sheep within 50 miles of High Rock Canyon. All of these populations have been reintroduced since 1968 from animals originating in central British Columbia. There are currently more California bighorn sheep in northwestern Nevada than at any time since the turn of the century.

Wild Horses

The Massacre Mountain allotment contains several herds of wild horses associated for the most part with the High Rock area. The main distinction between the two major herds is their preferred home ranges. One herd prefers the area east of High Rock Canyon and is found most of the year on the open slopes above Pole Canyon. In winter, or when water is in short supply

Map 3 High Quality Bighorn Sheep Habitat



related to bighorn and domestic sheep. There are well documented cases of widespread all age die-offs of bighorn caused by bacterial pneumonia. In many of these cases there is evidence of direct contact between bighorn and domestic sheep (Foreyt and Jessup 1982; Jessup 1981). Additional research with penned and wild bighorn and various species of ungulates has resulted in the discovery that many ungulates commonly harbor *Pasteurella* bacteria in the respiratory system without any apparent distress (Callan *et al* 1991; Foreyt, Snipes and Kasten 1994; Onderka and Wishart 1988). This research also show that the bacteria are almost always different at a species or type level between different species of ungulates. Trials with penned animals has revealed that captive bighorn are very susceptible to *Pasteurella* infection when run in common with apparently healthy domestic sheep and these infections usually result in mortality in the bighorn (Foreyt, Snipes and Kasten 1994, Onderka and Wishart 1988). Bighorn in similar trials with goats, cattle and horses did not show any signs of illness (Foreyt 1995). Foreyt and Jessup (1982) stated that domestic sheep are more resistant to *Pasteurella* infections than bighorn and that bacteria healthy domestic sheep harbor cause acute pneumonia in bighorn.

Scabies

Scabies is a disease of the skin caused by a parasitic mite. The disease affects sheep and cattle and is widely attributed to causing widespread bighorn dieoffs at the turn of the century following contact with domestic sheep (Jessup 1985). Scabies was not observed in bighorn sheep prior to the introduction of domestic sheep (Goodson 1982).

Nematodes

Nematodes are internal parasites (round worms) that commonly cause blood loss through the digestive tract. The parasite affects lambs more than adults and can cause malnutrition. Nematodes can be transmitted between bighorn and domestic sheep on shared pastures especially mountain meadows (Kistner 1982). One group of nematodes that are endemic to bighorn are lungworms. Lungworms are often associated with outbreaks of pneumonia in bighorn herds at high population levels. The most common lungworm species in bighorn is apparently not found in domestic sheep (Jessup 1985).

Footrot

Footrot is a bacterial disease that causes deterioration of the sole of the foot. It is most commonly spread between animals that share moist areas associated with drinking sites (Kistner 1982). A wide range of species including deer, bighorn and domestic sheep can be affected.

Parainfluenza III Virus

This virus is relatively common in livestock, associated with shipping fever and feedlot pneumonia in cattle and summer pneumonia in domestic sheep. These livestock diseases are most common when livestock are held in confined spaces at high densities. It has been observed in bighorn in several sites associated with poor lamb survival and in survivors of a major dieoff (Jessup 1985).

Bluetongue

Bluetongue is a viral disease found in a wide range of ungulates including cattle, domestic and bighorn sheep, deer, and antelope. A gnat is required to carry the virus between hosts. Areas of low elevation and shared water sites are risk sites for bluetongue because these areas favor reproduction of the gnat. The virus causes a variety of symptoms including inflammation of the muzzle, lips, tongue and throat (Scott 1970).

Soremouth

Soremouth is another viral disease of the pox type that causes lesions on the mouth and faces of lambs and the teats of ewes. It can be transmitted by direct contact or with contact with the scabs. The virus can remain active in the soil for up to ten years. Soremouth in bighorn is usually associated with overcrowding or other stresses are a factor (Jessup 1982).

ENVIRONMENTAL CONSEQUENCES

Alternative 1: Amend Land Use Plan to Favor Bighorn Sheep (Proposed Action)

Impacts on Bighorn Sheep

Implementation of the Proposed Action would result in the reintroduction of California bighorn sheep in the High Rock area as early as the winter of 1995-1996. Based upon the available habitat, it is projected that a population in excess of 230 bighorn would ultimately occupy the area. Amending the Management Framework Plan to prevent future domestic sheep grazing in the allotment would eliminate potential between reintroduced bighorn and domestic sheep. This would substantially reduce the potential for disease epidemics to affect bighorn sheep in the future through accidental contact with domestic sheep. Singer (1995), in a study of bighorn reintroductions on National Park Service lands, found that the single largest factor determining in the success or failure of bighorn reintroductions was the distance to domestic sheep herds. The problem is not one of incompatibility between domestic and bighorn sheep, it is the potential conflict between the micro-organisms and parasites that the two species share (Jessup 1982).

The 16,240 acre area in the High Rock area was closed to livestock grazing for a number of reasons, including providing a competition free area for bighorn. This area contains some of the best bighorn habitat in northwestern Nevada. Some quality bighorn habitat does occur in the part of the allotment west of High Rock Canyon that has been allocated for cattle grazing (Map 5). This part of the allotment is used by cattle between April and July. Spring diets for cattle and bighorn have little overlap. Hansen (1982) found that spring bighorn diets on the Sheldon Refuge were 70 to 80 percent forbs, with the remainder balanced between grasses and shrubs. Spring cattle diets in Surprise Resource area have been found to consist of greater than 75 percent grasses (Hanley 1980). After July, the grass has dried, and cattle are moved to higher elevations in the allotment. In an area in Idaho with topography similar to High Rock Canyon, cattle grazed the flatter areas, while the rocky canyons were the primary bighorn habitat. Competition was considered low even though bighorn also utilized the flats in the spring. As the bighorn population increased, bighorn were observed frequently on the flat areas one-quarter of a mile from the canyon and have been observed one and one half mile from the canyon (Drewek

1970). In the High Rock area, cattle/bighorn competition for forages is not considered to be significant.

One area where cattle and bighorn would be more likely to come into contact is at shared water sources. In the High Rock area, there are several springs that are within close proximity of bighorn escape cover (steep, rocky areas) that are used by cattle in the spring. The reintroductions of bighorn sheep that have occurred since 1968 in northwestern Nevada have occurred on ranges in which cattle regularly graze and there are shared water sources. There are no known cases of disease or parasites problems in bighorn sheep associated with cattle grazing on shared ranges in the region. Therefore it would appear that bighorn are at low risk of contracting diseases or parasites from cattle.

The High Rock Canyon road, which is the only road within the best bighorn habitat, is used by about 2,000 visitors per year primarily between Memorial Day and the end of chukar hunting season in December. It is estimated that over 90 percent of the visitor use is day use, with the vast majority of visitors never farther than a few hundred feet from the road. The most sensitive time of the year for bighorn in the spring because lambing occurs between April 15th and the first week of May (Van Dyke 1978). Bighorn ewes move to the most rugged, and rocky areas to have their lambs and remain in those areas for almost a month before the lambs are old enough to run from predators. Many of the best lambing habitat in the area are in canyons other than High Rock Canyon and none have access roads. Therefore it is expected that the bighorn will have no trouble avoiding disturbance associated with humans in High Rock Canyon during the most critical time of year.

Wild Horses have a yearlong diet that consists primarily of grasses. Bighorn diets shift seasonally from forb dominated during the spring and early summer to grass dominated during the remainder of the year (Hansen 1982). The amount of forage that bighorn would initially consume is negligible when compared to the estimated 22,000 Animal Unit Months of yearly production in the High Rock area. Even at a population of 200 sheep, the bighorn grass consumption would utilize about two percent of the total estimated production. The Cowhead/Massacre Management Framework Plan allocates 1,200 of the 22,000 Animal Unit Months to wild horses (Bureau of Land Management 1983). Additionally, bighorn and wild horses tend to use different areas of the landscape. Horses prefer open areas where they can see long distances, while bighorn sheep prefer to be in or very close to steep rocky terrain that provides their escape cover (Coates and Schemnitz 1994). This is related to the way that bighorn and horses naturally escape predators, bighorn climb while horses run to escape potential predators. Based upon habitat preferences and the amount forage expected to be used by both animals, there is no direct conflict between bighorn and wild horses.

The amendment would greatly reduce the possibility that bighorn sheep would come into contact with organisms that would cause live threatening diseases. The degree of competition between cattle or horses and bighorn is considered low. The use areas and expected use levels of recreational users is not expected to adversely affect bighorns significantly. Therefore the impact

of not authorizing future domestic sheep use on the reintroduction and establishment of a viable population would be beneficial to bighorn sheep.

Impacts on Domestic Livestock Grazing

Implementation of the Proposed Action would change the allowed class of livestock on the Massacre Mountain allotment from cattle and domestic sheep to just cattle. The proposed action would not adjust any existing cattle grazing activities. Since no domestic sheep grazing has occurred since 1992, there would be no affect on existing domestic sheep grazing.

The proposed action would have no direct impact on cattle grazing. While there could be some indirect effects in the future, the Cowhead/Massacre Management Framework Plan (1982 as amended 1986) contains a decision that additional restrictions [beside the closure of 16,240 acres to regular grazing] would not occur to livestock as a result of reintroducing bighorn sheep in the High Rock area. Adjustments to cattle grazing would occur based upon vegetation conditions and other resource values as determined by an evaluation of how well the Management Framework Plan objectives are being met. Therefore there would be no impact on cattle grazing as a result of the proposed amendment or the expected reintroduction of bighorn sheep. Because there would be no change in cattle grazing as a result of this amendment there would be no affects on any cattle ranching operations and no affects in the local economy.

Several comments received during scoping suggested that this would be an adverse affect on the regional domestic sheep grazing industry. While the proposed action would preclude the future licensing of domestic sheep grazing, it is difficult to show any adverse impacts on the regional sheep industry. Domestic sheep grazing in the region follow two models. The most common model consists of relatively small flocks of sheep (up to several hundred head) that remain year around on private pastures. The flocks are unherded. The other model is the traditional desert sheep operation with several bands of 1000 sheep, each band with a full time herder. The bands are on public lands almost the entire year, with the bands trailed up to several hundred miles from winter ranges to summer ranges and returning. The original Massacre Mountain domestic sheep operation formed a part of a desert sheep operation with the allotment providing spring and fall forage and the critical lambing grounds in an area between the summer and winter ranges. In 1988 the original operator sold his sheep and the permit for grazing on the winter range allotment. The sale essentially eliminated the traditional desert sheep operation.

The small farm flock model of sheep grazing is not considered a viable option on the allotment because of the costs associated with transport to and from private lands where the sheep would winter, the necessity for a full time herder, and problems with predator losses. The domestic sheep grazing permit in the Massacre Mountain allotment was used once in the past five years, and the operation was based out of the San Joaquin Valley, not locally. This one time operation is different from the two models discussed above, with bands of sheep trucked 400 miles to take advantage of forage not available in the San Joaquin Valley. The economic viability of this one time operation is not known, but since it was never repeated and the permittee chose to sell his private lands and relinquish his permit, was probably not profitable.

Unless a new model of operation of domestic sheep grazing in the allotment is developed, it now appears that a viable domestic sheep operation can occur only in conjunction with a desert sheep operation. The likelihood that such an operation could be assembled with the Massacre Mountain allotment used as it was traditionally is considered remote due to several factors. All the suitable winter and summer range allotments on either public or Forest Service lands are currently being used by permitted cattle or domestic sheep operations. Secondly, the traditional trail route for the desert sheep operation using the Massacre Mountain allotment is unavailable for use by domestic sheep because bighorn sheep have been reintroduced into areas adjacent to the trail in the Calico Mountains south of the allotment (Bud Cribley, BLM Winnemucca, personal communication). It has also been suggested by other sheep operators in the area that the lambing area in the allotment is less desirable than others in the region. The lambing area in the Massacre Mountain allotment is at a higher elevation than lambing areas in other sheep allotments in the region. Therefore it is unlikely that domestic sheep could be grazed in the allotment on a regular basis.

Several comments were received during the scoping period that the sheep forage could be converted to use by cattle in the allotment as a potentially beneficial impact to the local economy. The proposed action has no effect on that proposal. Future cattle stocking rate determinations will be made based upon the available forage, season of use, and considerations for other resources.

Impacts on Wild Horses

It was suggested by several members of the public during the scoping period, that a bighorn reintroduction might indirectly affect wild horses if summer water availability became an issue in the future. At the present time, wild horse populations are managed by the Bureau through irregularly scheduled gathering. The most recent gather of horses in the High Rock area was carried out to bring horse numbers down to a level where small, riparian meadows associated with springs would not be damaged by yearlong horse grazing (Bureau of Land Management 1993). This requires that horses are gathered before forage or water availability becomes a limiting factor. It is anticipated that this standard for determining wild horse numbers will continue into the future.

Based upon the suitability index for California bighorn sheep that Armentrout and Ghardetto (1990) developed, the meadows that horses are known to graze heavily in the summer are not in areas considered as high quality bighorn habitat. The most dependable source of summer water in the High Rock area is in the canyons adjacent to the best quality bighorn habitat. Therefore the access to summer water by bighorn would not adversely affect wild horses.

Impacts on Recreation

The High Rock Canyon road is presently closed between February 15 and April 1 of each year to minimize human disturbance on nesting eagles, falcons, and hawks. It has been suggested that the addition of bighorn sheep to the High Rock area would at some future date cause the Bureau to place additional restrictions on visitors to the area that eventually would lead to a closure of the High Rock Canyon road to the public. Regionally, there have been no public closures, either

seasonally or yearlong, to areas in which bighorn sheep have be reintroduced since the first reintroduction occurred in 1968 in the region.

Based upon the present pattern of visitor uses of the High Rock area, it is difficult to foresee a situation in which bighorn would be adversely effected by recreational-users to such a degree that major, new restrictions would be placed upon visitors. Therefore there would be no known impact on recreation.

Cumulative Impacts

Implementation of the proposed action would result in an additional bighorn population being established in northwestern Nevada. This would be the eighth regional population reestablished since 1968. The High Rock population has the potential to become one of the largest in the region.

There would be no impacts on the remaining cattle grazing operation in the allotment. Since domestic sheep grazing has not occurred for several years and is not considered as an economically viable operation in the future, there would be no impact on domestic sheep grazing.

Implementation of the proposed action would result in either minimal or no impacts on all other resources.

Mitigation Measures

There are no mitigation measures identified for the proposed action.

Unavoidable Adverse Impacts

The low probability that future domestic sheep grazing would be lost is the only unavoidable adverse impact associated with implementation of the proposed action.

Irreversible and Irretrievable Commitments of Resources

There would be no irreversible or irretrievable commitments of resources as a result of implementation of the proposed action. If the reintroduction failed, or future research determines management techniques that would eliminate disease and parasite risks, there is no reason why domestic sheep could not be allowed to once again graze within the allotment.

Alternative 2: Amend Land Use Plan to Favor Domestic Sheep Grazing

Impacts on Bighorn Sheep

Implementation of this alternative would preclude the reintroduction of bighorn sheep into the Massacre Mountain allotment. The High Rock area would not be available for the potential development of a population of 230 or more bighorn. This would be an adverse impact on the opportunities to expand California bighorn populations in northwestern Nevada.

Impacts on Domestic Livestock Grazing

Domestic sheep would be licensed under this alternative if a qualified application was received. Assuming that a profitable domestic sheep operation is still feasible in the allotment, domestic sheep grazing would continue to be part of the grazing that occurs. Based upon recent history, the lack of a complete desert sheep grazing operation, as discussed under the proposed action, it appears unlikely that sheep grazing would occur in the allotment.

Cattle grazing would also continue to be licensed in the allotment. Grazing capacities in the Massacre Mountain allotment are based upon the range survey conducted in the allotment in 1981 and the subsequent grazing decision implemented in 1991. Cattle use would be expected to fluctuate yearly based upon economic and forage conditions at levels below the maximum available use levels. Therefore there would be impacts on domestic livestock grazing.

Impacts on Wild Horses

There would be no impact on wild horses as a result of this alternative.

Impacts on Recreation Use

There would be no impact on recreation use as a result of this alternative.

Alternative 3: No Action

Impacts on Bighorn Sheep

The Cowhead/Massacre Management Framework Plan would continue to allocate forage and use areas to domestic and bighorn sheep, and retaining the situation that was established in 1983. Since that time, the Nevada Division of Wildlife has not chosen to ask the State Wildlife Commission to approve a reintroduction into the High Rock area because of the continued potential for contact with domestic sheep (Heap, personal communication 1995).

Based upon the potential risks involved to bighorn sheep from potential contact with domestic sheep and the Bureau policy that bighorn should not be reintroduced into potential contact situations it is unlikely that bighorn sheep would be reintroduced into the High Rock area. The opportunity to increase the number of bighorn populations and the total number of bighorn sheep in northwestern Nevada would be foregone. Therefore this would be an adverse impact to bighorn sheep.

Impacts on Domestic Livestock Grazing

Impacts would be the same as discussed for Alternative 2.

Impacts on Wild Horses

There would be no impacts on wild horses as a result of this alternative.

Impacts on Recreation Use

There would be no impacts on recreation use as a result of this alternative.

CONSULTATION

A notice of intent to amend the Cowhead/Massacre Management Framework Plan was published in the Federal Register on August 11, 1995. Information on the proposed amendment were sent in a mailing to over 90 individuals, groups, and agencies selected from the Bureau's Black Rock/High Rock and other mailing lists. Both the Federal Register Notice and the mailing requested comments on the issues associated with domestic and bighorn sheep grazing within the allotment.

Comments were received from 14 individuals, groups, and agencies. About half the commentors favored the reintroduction of bighorn sheep into the High Rock area. The remaining comments expressed concerns about the potential impacts of a future reintroduction on domestic sheep grazing, wild horses, or recreation use. Those concerns resulted in several additional issues to be addressed in this Environmental Assessment. This document is being sent to all the commentors prior to issuance of a decision and to the Nevada State Clearinghouse for the required state governors review for land use plan amendments.

LIST OF PREPARERS

Roger Farschon

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17 years experience in Surprise Resource Area as Wildlife Biologist, Range Conservationist, and Planning and Environmental Coordinator.

REFERENCES

Armentrout, Donald J., and Jeffrey Ghardetto, 1990. Habitat Suitability Rating System for California Bighorn Sheep. Bureau of Land Management, Reno, Nevada.

Buechner, Helmut K., 1960. The Bighorn Sheep in the United States, Its Past, Present, and Future. Wildlife Monographs 4:-1-174.

Callan, Robert J., Thomas D. Bunch, Gar W. Workman, and Richard E. Mock, 1991. Development of Pneumonia in Desert Bighorn Sheep after Exposure to a Flock of Exotic Wild and Domestic Sheep. J. Amer. Veterinary Med. Assoc. 198(6):1052.

Coates, Kevin P., and Sanford D. Schemnitz, 1994. Habitat Use and Behavior of Male Mountain Sheep in Foraging Associations with Wild Horses. Great Basin Naturalist 54(1):86.

Dobel, Mike, 1995. personal communication with Roger Farschon. Dobel is the Nevada Division of Wildlife biologist for Northern Washoe County.

Drewek, John Jr., 1970. Population Characteristics and Behavior of Introduced Bighorn Sheep in Owyhee county, Idaho. MS Thesis, Univ. of Idaho, Moscow. 46 pp.

Foreyt, William J., and David A. Jessup, 1982. Fatal Pneumonia of Bighorn Sheep following Association with Domestic Sheep. Journal of Wildlife Diseases 18(2): 163.

Foreyt, William J., Kurt P. Snipes, and Rick W. Kasten, 1994. Fatal Pneumonia following Inoculation of Healthy Bighorn Sheep with *Pasteurella haemonlytica* from Healthy Domestic Sheep. J. Wildlife Diseases 30(2):137.

Foreyt, William J., 1994. unpublished transcript of panel discussion entitled "Livestock/Bighorn Disease Transmission" at 1994 Desert Bighorn Council Meeting.

Golden, Howard, and George Tsukamoto, 1980. Potential Bighorn Sheep Habitat in Northern Nevada. unpublished report by Nevada Department of Wildlife prepared under contract for Bureau of Land Management, Nevada State Office, Reno, Nevada.

Goodson, Mike J., 1982. Effects of Domestic Sheep Grazing on Bighorn Sheep: A Review. unpublished manuscript Helena National Forest, Helena, Montana.

Hanley, T.A. 1980. Nutritional Constraints of Food and Habitat Selection by Sympatric Ungulates. PhD Thesis, Univ. Washington, Seattle. 176 pp.

Hansen, Michael C, 1982. Status and Habitat Preference of California Bighorn Sheep on Sheldon National Wildlife Refuge, Nevada. MS Thesis, Oregon Stat University.

Heap, Rich, 1995. personal communication with Roger Farschon. Heap is Nevada Division of Wildlife Regional Manager.

Hill, Dan, 1995. Personal communication with Roger Farschon. Hill's grandfather worked as a cowboy in the High Rock area during the first decade of this century.

Jessup, David A., 1981. Pneumonia in Bighorn Sheep: Effects on Populations. Transactions of Cal-Neva Wildlife 1981.

Kistner, T. P. 1982. Letter to Josh Warburton, Burns District Manager, Bureau of Land Management, portions reprinted in the Newsletter of the American Association of Wildlife Veterinarians.

Nevada Department of Wildlife, 1995. Big Game Reestablishment and Transplant Plan 1995-1997. unpublished document approved by Nevada State Board of Wildlife Commissioners. Onderka, D.K., and W.D. Wishart, 1988. Experimental Contact Transmission of *Pasteurella haemolytica* from clinically normal domestic sheep causing pneumonia in rocky mountain bighorn sheep. J. Wildlife Diseases 24(4):663.

Pippin, Lonnie C., 1977. Bighorn Sheep and Great Basin Prehistory, Anthropological Papers Number 17, Nevada State Museum, Carson City, Nevada.

Sands, Alan R., 1976. Evaluation of Potential California Bighorn Sheep Habitat, Jackson Mountains, Nevada. MS Thesis. Humboldt State University, Arcata, California. 104 pp.

Scott, George E. 1970. The Sheepman's Production Handbook. Sheep Industry Development Program. 226 pp.

Singer, Francis, 1994. unpublished transcript of panel discussion entitled "Problems and Concerns Associated with Bighorn Translocations." 1994 meeting of Desert Bighorn Council.

USDI Bureau of Land Management, 1980, Proposed Domestic Livestock Grazing Program for the Cowhead/Massacre Area Final Environmental Impact Statement. Susanville District, Susanville, California.

USDI Bureau of Land Management, 1981 including amendments from 1983, Cowhead/Massacre Management Framework Plan, unpublished file document, Surprise Resource Area, Susanville District, Cedarville, California.

USDI Bureau of Land Management, 1987, Eagle Lake-Cedarville Study Areas, Wilderness Recommendations Final Environmental Impact Statement, Susanville District, Susanville, California.

USDI Bureau of Land Management, 1992. Guidelines for Domestic Sheep Management in Bighorn Sheep Habitats, Instruction Memorandum No. 92-264.

USDI Bureau of Land Management,1993. Wild Horse Gathering and Removal: Bitner, High Rock, Nut Mountain, and Wall Canyon Herd Management Areas. unpublished Environmental Assessment CA-028-93-03. Surprise Resource Area, Cedarville, California.

Van Dyke, Walter A., 1978. Population Characteristics and Habitat Utilization of Bighorn Sheep, Steens Mountain, Oregon. MS Thesis, Oregon State University, Corvalis. 87 pp.

Wilson, Lanny O., Allan Polenz, Jim Blaisdell, Alan Sands, and Walt VanDyke, 1979. California Bighorn Sheep, *Ovis canadensis californiana*, Habitat Management. unpublished document.

COWHEAD/MASSACRE MANAGEMENT FRAMEWORK PLAN AMENDMENT: MASSACRE MOUNTAIN ALLOTMENT CLASS OF LIVESTOCK

Finding of No Significant Impact CA-028-96-02 January 22, 1996

Based upon the Environmental Assessment CA-028-96-02 I have determined that implementation of an amendment to the Cowhead/Massacre Management Framework Plan that would prevent the future licensing of domestic sheep grazing in the Massacre Mountain allotment would not result in any significant impacts on the quality of the human environment. Therefore an Environmental Impact Statement is not required.

February 22,1996

Ms. Julie Butler Clearinghouse Advocate Nevada State Clearinghouse Blasdel Bldg., Rm. 200 Carson City, Nevada

Subject: SAI# 96300124 - Cowhead/Massacre MFP

Dear Ms. Butler:

The Commission for the Preservation of Wild Horses appreciates this opportunity to review the Massacre Mountain Allotment Environmental Assessment and Proposed Decision.

The Commission supports the reintroduction of bighorn sheep into High Rock Canyon.

Alternatives of the environmental assessment did consider no livestock use on the allotment. Previous range surveys determined the allotment only suited for domestic sheep use. We would appreciate some consideration towards this alternative to prevent any competition with wild horses on this allotment.

We continue to support the re-introduction of indigenous species to historical ranges and any management action affecting wild horses to establish a thriving natural ecological balance.

Sincerely,

CATHERINE BARCOMB Executive Director