

U.S.D.A. FOREST SERVICE
ENVIRONMENTAL ANALYSIS REPORT

Big Summit Ranger District
Feral Horse Number

Summary Sheet

- I. The proposed action is to manage wild horses within a range of 55-65 animals.
- II. The analysis shows some trampling, compaction, pollution, and over grazing is occurring in several key areas.
- III. Alternatives Considered - 1. No Action - which was precluded by the Wild and Free-Roaming Horse and Burro Act of 1971.

2. Increase numbers in excess of 65.
- IV. Federal, state and local agencies from which comments have been requested or received.

Oregon Wildlife Commission - Prineville Unit.
- V. An environmental statement is not deemed necessary at this time.
- VI. Recommendation: That the proposal be accepted to manage within the range of 55-65 animals. It appears that this is a safe range and that all uses and activities can exist in continuity at this number with the initiation of management activities to protect resources and control numbers.

U.S.D.A. FOREST SERVICE
ENVIRONMENTAL ANALYSIS REPORT
BIG SUMMIT RANGER DISTRICT
FERAL HORSE MANAGEMENT

Prepared by:

Joe Giron
Joe Giron
Range Conservationist

Date

4/7/75

Reviewed by:

Jack Royle
Jack Royle
Range Staffman

Date

4-7-75

George Boyesen
George Boyesen
Environmental Coordinator

Date

4-9-75

The applicability of the National Environmental Policy Act of 1969 to this proposal has been considered. The requirements of the Act have been compiled with, and it is determined that an Environmental Statement is not required.

Approved by:

John P. Kline
John P. Kline
District Ranger

Date

4/8/75

A. Description

1. Legal Description

The feral horse range is located in:

T. 13S., R.20E., Sections 20, 21, 27, 28, 29, 30, 31, 32, 33, 34, and 35.

T.13S., R.19E., Sections 34, 35, and 36.

T.14S., R.19E., Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, and 24.

T.14S., R.20E., Sections 2, 3, 4, 5, 6, 7, 8, 9, 10, 14, 15, 16, 17, and 18.

The feral horse range contains approximately 27,300 acres. 27,060 Forest Service acres, 160 private, and 80 acres Bureau of Land Management.

2. Physical Description

Round Mountain (East Side of Range)

The east side of Round Mountain is made up of lava scabs on the north and east which are vegetated mostly by juniper, Ponderosa Pine, and Mountain Mahogany blending into a level rolling timbered topography as you head south toward Johnson Creek. The topography then becomes steeper as you head west toward Round Mountain from Johnson Creek. Round Mountain is vegetated with Ponderosa Pine, Douglas-fir etc. until one encounters the upper, steep, rocky, talus slopes at about 5800' elevation. The lack of soil at this elevation explains why there are no trees in these upper reaches. The drainages run from west to east in a series as you head from north to south, the deepest one being south fork of Cram Creek.

The steeper areas are timbered more heavily in the lower, more moist elevations than in the upper, drier slopes. The north facing slopes are heavily timbered with Douglas-fir and Ponderosa Pine contrasting with the shallower more level drainages, or southern exposures.

Most of the drainages on the east side of Round Mountain are intermittent, Cram Creek being the only permanent, live, stream and even this stream becomes dry at its lower reaches, close to the Big Summit Prairie, during the latter part of the summer (August and September).

The more westerly area south of Round Mountain is a dry harsh rocky site occupied by Ponderosa Pine and juniper. The upper area has 20% slopes cumulating with a narrow ridge that drops off sharply towards the west (Canyon Creek). See attached map.

Round Mountain (West Side of Range)

The west and northwest sides of Canyon Creek where other bands of horses run is more broken and rough than the east side. Beginning on the northwest, in the Scissors and Judy Creek areas the terrain is steep, rough, and broken. The canyons are deep and narrow with only steep rocky trails leading from the tops of the ridges to the brushy bottoms.

As you round the points in a southwesterly direction the topography becomes less broken and although not easily accessible, it is not as rough as the northern portion of the horse range. Once you reach O'Neil Butte heading south the topography is more level and accessible. At the lower west end of the ridges is Canyon Creek, a perennial stream, that is used for watering throughout the year. Up high and to the east we have the steep Rocky Mountain Mahogany terrain that also characterizes the high east facing slopes of the east Round Mountain area.

Some of the areas where water is available to the feral horses on these north and west facing slopes are Scissors and Judy Creeks, Canyon Creek and a number of undeveloped springs in the O'Neil Butte and Kyle Creek areas.

Duncan Butte

This area runs from the ridge top across the road from the Ochoco Ranger Station south toward the ridge south of Duncan Creek. The east boundary is Lookout Mountain. The west boundary is Ochoco Creek.

This area has one main ridge running southeast from the Ochoco Ranger Station to Lookout Mountain. Smaller ridges and canyons branch off to the southwest and northeast. Most of the terrain in this area is quite accessible, and relatively smooth. The main tree species in this area are Douglas-fir, white fir along the draws, and Ponderosa Pine. Grass species are Bluebunch Wheatgrass, Fescue, Timothy, Orchardgrass and Brome. Duncan and Blevins Creeks, two perennial live streams, along with a number of springs make up the water sources for the feral horses. There are a number of roads running through this area. The lower elevations and south slopes of this area comprise the winter range for this band. Since these areas provide better forage and shelter than do the higher, colder, more windswept, snow covered elevations.

3. Origin of Proposal

The proposed action is management of feral horses in relation to the Wild and Free-Roaming Horse and Burro Act of 1971.

The act states briefly that the Secretary of Interior and the Secretary of Agriculture have the authority and responsibility for protection, management, and control of wild free-roaming horses and burros on public lands administered through the Bureau of Land Management and the Forest Service.

4. Purpose of Proposal

The intent of this proposal is to examine the present uses of the range and determine if an ecological balance exists between competing uses. In other words, is the range sustaining resource damage at the current use level? The objective will be to estimate a range of feral horse management intensity that we feel is compatible with other resource uses and meets the intent of multiple use - Sustained Yield Act of 1960 and the Wild Free-Roaming Horse and Burro Act of 1971.

The management objective in this territory is to establish a range of feral horse numbers that is in continuity with other uses and yet does not cause resource damage.

5. Characteristics of the Resources Affected by the Proposal

a. Water - There is a substantially large amount of water on this horse range due to the number of springs and streams. Even during the hot summer months there is much water available due to numerous seeps on shaded north facing slopes. One reason we are unable to get a completely accurate horse count is the abundance of water sources that allow the horses to remain scattered throughout the year.

1. The Springs that exist within the designated feral horse range are as follows:

Spring Names and Their Amount of Use for Water

Davis Spring - heavy use
 Scissors Spring - medium use
 Cram Reservoir - medium use
 Mary's Troughs - heavy use
 Judy Spring - medium use
 O'Neil Spring - medium use
 O'Neil Butte Spring - heavy use
 Wild Horse Spring - heavy use
 Kyle Spring - light use
 Hedgepath Spring - medium use
 Crooked Tree Spring - heavy use
 Douthit Spring - medium use
 Monument Spring - medium use
 North Point Spring - medium use

2. The creeks that exist within the designated wild horse range are as follows:

Creek Names and Their Amount of Use for Water

- Scissors Creek - medium use
- Ochoco Creek - heavy use
- Canyon Creek - heavy use
- Cram Creek - heavy use
- Winter Creek - heavy use
- South Fork Howard Creek - medium use
- Kyle Creek - light use
- South Fork Cram Creek - heavy use
- Hedgepath Creek - medium use
- O'Neil Creek - medium use
- Fisher Creek - heavy use
- Judy Creek - medium use
- Douthit Creek - heavy use
- Blevins Creek - heavy use
- Duncan Creek - heavy use
- Cline Creek - heavy use
- Peaslee Creek - heavy use
- Madison Creek - heavy use

B. Soils

The territory is composed of two separate soil groups corresponding with the Clarno and Picture Gorge geologic formation. Both types can be described in relation to position and aspect.

Soil of the Clarno Formation

1. South aspect and some gentle north aspect, gentle rolling to concave lower toeslopes soils are 20" to 60" deep with dark sandy loam to clay loam surfaces overlying clay subsoils.
2. Soils on the straight to slightly convex ridge slopes under commercial timber are usually less than 30" deep to bedrock, sandy loam to loam surface soils overlying gravelly loam to clay loam subsoils.
3. North aspects slopes are similiar to south aspect slopes except they usually have covering of volcanic ash ranging from 6" to 30" thick.
4. Meadow land soils, interspersed among the timber, range from 1' to 6' in depth over bedrock. Some have seasonally high water tables, are poorly to moderately well drained, and consist of silt/loams to clay/loams and clay.
5. Alluvial bottoms are usually deep gravelly soils with variable textures and range from poorly to moderately well drained.

Soil of the Picture Gorge Formation

1. Scabland soils are normally 4" to 12" deep, ungravelly to very gravelly, sandy/loam to silt/loam and occur on slopes from 0 to 25 percent.
2. Gentle sloping, south aspect, commercial timber land soils range from 18" to 30" in depth, sandy/loam to loam surfaces overlying subsoils of silt/loam to clay/loam 0 to 15" slopes.
3. Gentle slopes (0 to 30%), north aspect, mixed conifer areas have soils which are 30" to 60" deep. They have ash surfaces of 12" to 40" over silt/loam to clay/loam subsoils.
4. North aspects, steep slopes (over 35%), mixed conifer to associated species have variable soils from those with a high ash content to very cobbly soils.
5. Alluvial bottoms are the same as those in the Clarno formation.
6. Soils of steep south slopes with commercial timber range from 15" to 40" deep and are cobbly, gravelly, sandy/loams to loams over gravelly, silt/loam and clay/loam subsoils.
7. Meadow land soils are similar to those in the Clarno formation.

All soils on steep slopes (over 35 or 40%), usually colluvial in origin, are highly variable. North aspect slopes have various thicknesses of ash surfaces while south aspect slopes have sandy/loam to clay/loam surfaces. Both can have a high gravel/cobble content.

C. Climate

The horse territory lies in a temperate climate zone. Winters are usually moderate with temperature rarely dropping below a minus 10 F. during winter, and rarely going above 100 F. during the summer months.

Warm and cold weather occur in an alternate manner during the spring of the year with temperatures dropping below freezing frequently. We usually do get some warm spring rains however.

Summer temperatures average about 90 F., the weather being very dry with full spring runoff streams dwindling to a trickle - livestock and wildlife obtaining most of their water from springs, which are somewhat lower during this period, and grasses drying out to almost beyond use for livestock.

During autumn, temperatures lower and plant transpiration rates decrease, causing streams to rise substantially. However, mild weather lasts well into November, when the rainy season begins. Fall temperatures do drop to 0 F., occasionally.

Most moisture comes during the fall and winter months in the forms of rain and snow. We get an average of 8 inches of standing snow at the ranger station throughout the winter, from 48 to 60 inches on Mt. Pisgah and Round Mountain, and up to 80 inches at the precipitation gauge on Lookout Mountain. The areas in which the horses winter - from 4,000 to 5,000' elevation usually have 8 to 12 inches of snow during the winter months. The depth of the snow becoming greater as the elevation increases.

6. Other Descriptive Material Important to Understanding of Proposal

a. Ecological Components

1. Soil

The most important sites to be considered are the critical soil areas which include the scabs, south aspect ridge slopes of the Clarno formation, meadow lands, alluvial bottom lands and cutbanks. The soil on the scab lands range from 4" to 15" deep and shallow gravelly clay/loams to sandy/silt loams. They are usually saturated early spring and late fall.

Vegetation cover is sparse on these sites, production potential is poor and the soils are highly erosive except when there is a high gravel content on the surface. Compaction, puddling and soil displacement are problems when the site is wet but are also minimized by a high gravel content. Marginal scabs are important to watershed in that they reduce high runoff rates. Poor condition scabs are very susceptible to runoff problems. Vegetation on these sites is important in reducing the erosion potential and maintaining some soil structure. Rocky areas are considered fairly stable sites but the erodibility potential increases on a deeper, less gravelly site. The most critical area to watch is the fringe between the scab and the timber. These sites have deeper soil and less gravel than the scabs themselves providing a high erosion potential upon disturbance. Disturbance of these areas would cause an increase of the scab land at the expense of the timbered land.

The south aspect, ridge slopes of the Clarno formation range from 10 to 70%. Soil depths range from 10 to 80" with textures of sandy/loams to loams with clay subsoils. The vegetation of these sites are non-commercial pine types, juniper types and Mountain Mahogany/low sage types. Soils are droughty due to the southerly aspect, shallow depths and excessive drainage. They are susceptible to trampling because of droughtyness. Erosion rates increase on these areas as the slope gets steeper but displacement is not a major problem.

Another critical soil area is meadow lands that are in poor condition. These soils are usually over 20" in depth with a silt/loam to clay texture. They range from poorly drained to well drained depending on position and slope. These sites are wet and given to compaction in the spring and fall. When wet, trampling and puddling cause vertical displacement. The sparse vegetation on these sites is important in protecting them from further erosion. Trampling should be avoided as it is destructive to the soil structure that may have accumulated over the past years, and minimizes recovery.

The alluvial bottom lands consist of slopes from 2-15%, and textures of sandy/loams. They are variable sites which range from non to very gravelly and from poorly drained to excessively drained, which are the problem areas. Any erosion on these sites is putting sediment into the streambeds.

Poorly drained sites compact early in the season, or rut causing vertical displacement depending on position and gravel content. Low, poorly drained sites are susceptible to flooding if they have been beaten out. It is important to consider their position along the stream as to their degree of affect on water quality.

Cutbank erosion is a major contributor to sedimentation of streams. It is important to stabilize these areas with a good vegetation cover as soon as possible. Rehabilitation is difficult in general, but south aspect and exposed sub-soil sites are especially hard to improve. Enhancement of stream bank vegetation provides an effective tool for erosion stabilization and improvement of water quality. Trampling is very detrimental in these areas as they are very susceptible to displacement along the edges causing quantities of soil to be removed into the stream itself.

North aspects slopes with ashy soils are susceptible to displacement especially when they are over 30-40% and when the vegetation has been removed. Clay surface, timbered (pine types) soils scattered throughout the allotment are susceptible to compaction late in the season. Stock trails are channels for erosion especially when there is overland flow prevalent in spring when lower terraces are flooded. Trails, up and down, dry draws, will cause flow channels during spring runoff.

2. Vegetation

The elevation of this horse territory goes from 3600' to 6750'. The horses feed on most of the grasses and woody plants in the area. However, their main feeds are the grasses. They prefer Bluebunch Wheatgrass, (a native) Timothy, Orchardgrass, and Brome (all introduced species) during the summer months. During winter Elk Sedge comprises their main diet, and they supplement their needs with the grass species mentioned above.

We have found very little evidence that they use brush as a forage to any great extent. However, we have learned that they use Gray Rabbitbrush (Crna) somewhat. Their use of mahogany, sage, snowberry and small brush plants is small. They seem to use brush as a forage more at lower elevations, than in the higher areas of the range.

The following list includes most of the plants found on this horse range.

They are listed as found occurring from the lowest to the highest elevations. There is evidence of horse use on most all of these plants except for the tree species. Those designations as to decreaser, increaser, or invader is based only on the sites on which they occur.

| | | | |
|-----|-------------------------|----------|-------------------------------|
| 1. | Sandberge Bluegrass | Pose | Decreaser |
| 2. | Pussy Toes | ANT spp. | Increaser |
| 3. | Balsam root | Basa | Increaser |
| 4. | Buscuit root | LOM spp. | Increaser |
| 5. | Bluebunch Wheatgrass | Agsp | Decreaser |
| 6. | Idaho Fescue | Feid | Decreaser |
| 7. | Common Yarrow | Acmi | Increaser |
| 8. | Wyeth Buckwheat | | Increaser |
| 9. | Bighead Clover | TRI spp. | Decreaser (first to increase) |
| 10. | Bitter Brush | Putr | Decreaser |
| 11. | Juniper | Juoc | |
| 12. | Dwarf Squirrel Tail | Sihy | |
| 13. | Prairie Junegrass | Kocr | |
| 14. | Big Sage | Artr | |
| 15. | Pine grass | Caru | |
| 16. | Mountain Mahogany | Cemo | |
| 17. | Snowberry | SYM spp. | Climax |
| 18. | Strawberry | FRA spp. | |
| 19. | Ponderosa Pine | Pipo | |
| 20. | Needlegrass | Stco | |
| 21. | Douglas-fir | Psme | |
| 22. | Heartleaf Arnica | Arco | Increaser |
| 23. | Vetch | Viam | Decreaser |
| 24. | Rock Spirea | SER spp. | Climax |
| 25. | Twin Flower | | |
| 26. | Hawk Weed | HIE spp. | |
| 27. | Showy Aster | Asco | |
| 28. | Pokeweed Fleece Flower | | |
| 29. | Timothy | Phpr | |
| 30. | Smooth Brome | Bren | |
| 31. | Orchardgrass | Dagl | |
| 32. | Intermediate Wheatgrass | Agin | |
| 33. | White fir | Abgr | |

B. Social and Economic Uses in Area

1. Outdoor Recreation - This area is used principally by hikers, backpackers, deer, and elk hunters, and to a lesser extent by snowmobilers and cross country skiers. The greatest

use by far is by deer and elk hunters, who often come to camp and stay thru hunting season.

Use by rockhounds has not been measureable. There is a nature hiking trail that runs from Walton Lake to the upper reaches of Round Mountain. It runs thru T.13S., R.20E., Sections 21, 32, and 33. We foresee this trail as being used by horses somewhat for movement from one feeding area to another.

There is a proposed nature hiking trail that will be an extension to the one mentioned above and will be built to intersect with Road 142 at the summit between Canyon and Johnson Creeks. It will run thru T.14S., R.20E., Sections 5, 8, 9, 16 and 17.

There is a hunter camp and fishing area located in the southeast corner of Section 35 and southwest corner of Section 36 on Howard Creek. The horses do come down to this area, however, that is on an irregular basis since they will usually not go to an area where they are likely to be harassed.

2. Timber - Timber resources within the territory consist of 90% Ponderosa Pine and 10% associated species consisting of Douglas-fir, white fir and Western Larch. The entire area is in several stages of silvicultural treatment. Approximately 30% of the area has had large overstory removed with reproduction now existing. The remaining areas will receive some type of silvicultural treatment within the next 20 years.

3. Range (Sheep Allotments and Existing Feral Horses)

a. There are approximately sixty (60) horses in the Ochoco feral horse herd. The numbers are made up of ten separate small bands. Each band is headed by a stallion which herds a number of mares, two year olds, and colts. We have approximately ten stallions, thirty mares, and twenty colts two years of age and under.

Most colts that are about three years old are run out of the bands by the older stallion, and are, therefore, found roaming alone or in groups. These stallions seem to roam over the horse range indiscriminately with no apparent respect for territorial boundaries.

At present there are ten bands on the Big Summit District, each numbering from three to ten animals. A total acreage of 27,300 acres is being grazed by the horses.

The location of these bands are:

Band Numbers

1,2,3, - Runs around Mary's Troughs, west of the top of Round Mountain and down along Cram Creek to the west fence of the Big Summit Prairie (Summer), and Davis Spring (Winter). Con-

taining an estimated 7,240 acres Forest Service, 80 private, *40 Bureau of Land Management - 10 horses.

- 4 - This band runs in the Fisher Creek area (containing an estimated 2,002 acres) - 9 horses.
- 5 - This band runs in the O'Neil Spring area (containing an estimated 1,982 acres) - 6 horses.
- 6 - This band runs in the Hedgepath area.
2,862 acres - 9 horses.
- 7 - This band runs from Winter Butte to Mary's Troughs east to the west boundary fence of the Big Summit Prairie. South along this fence to the area of the Blue Mine and west to Winter Butte (Summer), Brush Creek (Winter). 4,602 acres Forest Service, 140 private, *40 Bureau of Land Management - 8 horses.
- 8 - This band runs in the Peaslee-Madison Creek area.
1,290 acres - 3 horses.
- 9 - This band runs in the Duncan Butte area.
6,970 acres - 9 horses.
- 10 - Two lone studs, seem to cover all territories indiscriminately.
- 11 - Cup Spring band, has branched off since 1971.
5 horses.

* Horses make no use of BLM acreage although the two isolated tracts are in the Cram Creek area.

b. Range Management - 20,000 acres of the feral horse range is located on the Canyon Creek Sheep Allotment, while 7,300 acres are found on the Reservoir Sheep Allotment.

Hay Creek Ranch and Cattle Company of Madras runs 1,100 head of sheep on each of the two allotments for three and one-half months (June 15 - September 30).

The following shows the breakdown of forage used on the area that comprises the horse range.

| | |
|---|-----------------------|
| Horse Range | 27,300 acres |
| Average air-dry forage per acre | 300 lbs. |
| <u>Total Air-Dry Forage</u> | <u>8,190,000 lbs.</u> |
| Estimated forage requirements for deer (approx. 232) | 278,400 lbs. ADF |

| | |
|---|---|
| Estimated Forage requirements for elk (approx. 20) | 109,500 lbs. ADF |
| Estimated forage requirements for sheep (1100) (Canyon Creek Allot.) | 1,060,400 lbs. ADF * |
| Estimated Foreage requirements for sheep (1100) (Reservoir Allotment) | 463,475 lbs. ADF ** |
| Estimated forage for horses (approx. 60) | 792,000 lbs. ADF |
| Estimated forage for aesthetics | 927,000 lbs. ADF |
| Estimated unusable and unused forage (with-in sale areas inaccessable etc.) | 4,095,000 lbs. ADF |
| Available forage currently unused | <u>464,225 lbs. ADF</u> 8,190,000 lbs. ADF |

C. Wildlife - The following have been observed on this horse range:

1. Small Varmints

| | |
|----------------------------|-------------------------------|
| a. Short tailed weasel | <u>Mustella erminea</u> |
| b. Vagrant Shrew | <u>Sorex vagrans</u> |
| c. Mountain Vole | <u>Microtus montanus</u> |
| d. Deer Mouse | <u>Peromyscus maniculatus</u> |
| e. Northern Pocket Gopher | <u>Thomomys talpoides</u> |
| f. Yellow Pine Chipmunk | <u>Eutamias amoenus</u> |
| g. Golden Mantled Squirrel | <u>Citellus lateralis</u> |
| h. Chicaree | <u>Tamiasciurus douglasi</u> |
| i. Belding Ground Squirrel | <u>Citellus boldingi</u> |

* 20,000 acres which supply 73% of sheep forage.

** 7,300 acres which supply 27% of sheep forage.

2. Game Animals - The following have been sighted on this horse range:

| | |
|-------------------------|----------------------------|
| a. Cottontail Rabbit | <u>Sylvilagus nuttalli</u> |
| b. Coyote | <u>Canis latrans</u> |
| c. Badger | <u>Taxidea taxus</u> |
| d. Bobcat | <u>Lynx rufus</u> |
| e. Cougar | <u>Felix concolor</u> |
| f. Mule Deer* | <u>Odocoileus hemionus</u> |
| g. Rocky Mountain Elk** | <u>Cervus canadensis</u> |
| h. Black Bear | <u>Ursus americanus</u> |
| i. Raccoon | <u>Procyon lotor</u> |
| j. Porcupine | <u>Erethizon dorsatum</u> |
| k. Gray Wolf | <u>Canis lupus</u> |

* Approximately 232 deer on horse range.

** Estimated elk population on horse range equals 20 elk.

One wolf has been sighted three times, approximately 2 to 4 miles from the horse range. Upon conferring about the animal with Roy McDonald, Biologist, U.S. Sports Fisheries and Wildlife Service, we were assured that this is entirely possible since there has been numerous wolf sightings in Oregon in the last five years.

C. Protection and Management Activities in the Area

1. Fire Control - This activity is only carried on when there are fires in the area. We protect the District from fires for the good of all resources of the National Forest, and in doing so protect the horse range.

Two shaded fuel breaks are being planned within the feral horse territory. One short continuous one will be located in T.14S., R.20E., Sections 28, 32, and 33 and south into T.14S., R.20E., Sections 5, 8, 9, 16, and 17 along the main ridges. These fuel breaks will not affect the horses adversely, or vice versa, however, it is quite probable that the animals will use them in their movement to quite an extent.

2. Timber Management and Transportation System - The feral horses territory has had timber harvest activities occurring for several years. The transportation system within the area is approximately 90% complete.

At present there are two going sales in the horse range, and another planned in the near future.

The Winter Creek Timber Sale is located in T.13S., R.20E., Sections 2, 3, 4, 5, 9, 10, 11, 14, 15, and 16. This sale is very near completion with most of the disturbed ground having been reseeded with very little impact from horses.

The O'Neil Butte Timber Sale is made up of three units and is located as follows: T.13S., R.20E., Section 31; T.14S., R.20E., Section 6; T.14S., R.19E., Section 1, Units 1 & 2 of this sale have been logged. Unit two has been planted to Ponderosa Pine seedlings. Unit three has yet to be logged.

The future Davis Spring Timber Sale is located in T.13S., R.19E., Sections 20, 29, and 30, and will be sold within the next five years.

3. Erosion Seeding - This activity is performed after timber sales are logged, and is quite beneficial to horses. The mixture of seed being used consists of Timothy, Orchardgrass, Smooth Brome, Crested Wheatgrass and Meadow Foxtail all of which are highly palatable to horses. The Crested Wheatgrass greens up earlier in the spring than the other grasses. These grasses grow quite tall (15" and higher) and therefore are used quite heavily by the horses during winter since they usually grow higher than the depth of the snow. At times, Bitterbrush seed has been added to the grass seed mixture but does not seem to germinate very well due to the high elevation of the horse range. Human or mechanical activity during the seeding process does not appear to bother or disturb the horses.

4. Mining - There are several mining claims in and on the fringes of the feral horse range. They are listed as follows:

- a. Last Chance, Charles Houston, owner. Gold, silver slight trace of mercury.
- b. Mayflower Group, Elizabeth Houston, owner. High grade gold.
- c. Champion Lode, Johnson Brothers, owners. Cinnabar
- d. Ridge Clain, Westbrook Realty, owner. Cinnabar
- e. Amity Mine, Jennings & Felix, owners. Cinnabar
- f. Blue Ridge Mine, Roy C. Stantion, owner. Cinnabar

- g. M.A.S. #1-4, Myrle and Louise A. Faubion, owners. Cinnabar

See attached map and descriptive information for mining claims listed above.

5. Water Uses - The runoff water from this horse range goes into Ochoco, Canyon, and Howard Creeks. Ochoco and Canyon Creeks run into the Crooked River which subsequently runs into Prineville Reservoir. The water in the reservoirs is used to a great extent for recreation. Later it is used downstream for irrigation purposes in raising crops.

6. General Descriptive Material

After being in contact with the feral horses for the past four years, I find they are very adaptable to their changing environment. When harassed they merely go into the dense thickets or steep canyons until the intruders leave, and then return to their regular feeding areas. They do not "scare away" to remain gone for long periods from their feeding areas, but usually return within a week; and rarely do they leave their home range, particularly in winter.

They are rarely frightened by the presence of cars, humans, sounds of engines running, etc. When their preferred areas are logged over, as happened on the O'Neil Butte Timber Sale, they do not leave in search of other more densely wooded home ranges, but instead, go right on feeding in the same areas and living in the same home ranges.

While these animals have become somewhat wild and at times difficult to locate, they are by no means the sensitive animals some might think. For example, when one approaches their home range or feeding areas it is not necessary to be "absolutely" quiet as it would be with most other wild animals. Upon walking or riding into their areas in a normal manner, one will find them grazing contentedly, rolling in dust beds, etc.

Many times one pictures the stallion as being "always on the lookout." On the contrary, the stallions are usually found dozing under a shade tree, and the intruder is usually spotted by the mares. Sometimes the stallions will act in a distinctive

manner by pawing the air, snorting, etc., When one approaches, but usually the whole band simple trots off with the lead mare in front and the stallion in the rear - between the band and the intruder.

The fighting display seems characteristic of only certain individual stallions. This seemingly is attributed to their temperamental makeup, the more excitable animals putting on more of a performance, while the more placid ones are content with merely trotting or running off.

Once the stallions discover they are actually being followed they all act nervous and excited, stamping, snorting and occasionally nickering as they try to move the band. When the band is on the move, the stallion does not always move with them, but periodically moves away from the rest in semi-circles at approximately 500 feet as though making an attempt to draw attention to himself, and away from the band.

With the exception of one stallion that was destroyed after jumping into a cattleguard, none of the stallions have been known to become aggressive and "charge" anyone. It seems their main concern is to move their bands away to cover.

B. Environmental Impacts

1. Soil - There are certain key areas within the territory where concentrated use from rolling, feeding, drinking and trailing have caused soil compaction. (Individual locations are shown on the attached map.) Undesirable species such as tarweed and False Hellebore are starting to invade in the heavier use areas. The compaction occurring from horse use is greater than would be expected from domestic livestock or other wildlife. This is true for several reasons. Domestic grazing is controlled by herders and limited to specific areas, a certain time of year, and with utilization and distribution requirements in mind. The horses run year round. They acquire lush feeds in early spring while the soils are still moist thus producing compaction. The very nature of the horse's physical make-up, consisting of a weight of 800 to 1,000 pounds and their hoof development cause soil compaction that lighter weight deer or sheep do not cause. Horses tend to inhabit critical soil areas (steep with shallow 2-3" soil mantle on scab rock flats and south facing juniper hillsides) during the crisp spring and winter days to soak up a little sunshine. Compaction and accelerated water run-off results. The horses within their range become very routine in their wanderings thus covering the same feeding areas, trails and watering areas with periodic frequency.

2. Water - The horses' use of water is extensive throughout the area. Since they come to water and make use of it a certain amount of pollution is occurring. This pollution is no greater than would be expected from other domestic or wild animals through deposition of excrement, etc. Many springs in the

territory has been fenced and developed for domestic use thus decreasing the incidence of source pollution.

3. Vegetation - The horses utilize vegetation all over the horse range, but are drawn mostly to preferred areas. Most of the grazing is done in these areas, and therefore the vegetation is undergoing a moderate change due to the stress placed upon the more palatable plants, by the horses. The sites are being invaded by tarweed and False Hellebore, (originally due to sheep grazing). Continued horse use has not allowed the sites to recover.

The type of grazing done by horses is quite similar to that done by sheep in that both animal species have a narrow head with a relatively more pointed mouth. This allows these animals to crop the plants off at the ground level.

The main difference between sheep and horses is that sheep have fine mouth parts and can graze only the softer, smaller plants, while the horses are adapted to feeding on both small, fine, and large, coarse feeds. (Horses having larger heads and tougher mouths and teeth are able to eat more ruffage than the sheep. This ability to eat ruffage makes more green sprouts available to sheep with their narrow, pointed but less tough mouths.)

The meadow types preferred by horses are also the one preferred by sheep, and although their grazing habits may not completely overlap there is some overlap in the species they both prefer and grazing of these species by both classes of livestock increases the impact on the plants.

Horses pull plants up by the roots during the spring of the year in erosion seeded areas where plants are becoming established, areas where soil has deteriorated away from plants due to overgrazing, and areas that contain species with very shallow roots. This is due simply to a horse's natural grazing habits.

C. Adverse Environmental Effects

As mentioned in impacts, trampling, compaction, pollution and overgrazing is occurring in several key areas necessary for horse survival. The quantity of damage is not yet alarming. On a scale of 1 to 10 with 1 being no resource damage and 10 being excessive*, I would place 90% of the damage at the 5-6 level with the remaining 10% at the 7-8 level. In other words, the damage is apparent but not excessive. Additional numbers would quickly move the damage quantity to the top end of the scale on key areas. The 7-8 level would be where we would like to eliminate damage before it becomes excessive.

- * Excessive being the point where site quality is deteriorated, soil is compacted, vegetation changes to less palatable species, pollution of water occurs, runoff is accelerated, loss of surface is occurring etc.

D. Alternatives to the Proposed Action

The proposed action being to manage at a level that is compatible with other resource uses. A range of 55-65 animals as currently exists, appears to achieve an ecological balance. After looking at the information contained herein, this seems a practical range of management. The forage figures indicate that enough feed is available after allocation for wildlife, sheep, horses and aesthetics to support an additional number of horses. This is somewhat deceptive when you consider that feed is not the limiting factor in this territory.

The natural social structure of the bands makes increases highly impractical. The stallions that exist today have their own territories staked and the opportunity for a stallion to establish a new territory is highly improbable. The situation would probably occur where stallions would split off from the existing herds and establish new ranges outside the existing feral horse territory. Herd increases could be limited to mares only, but this would require a highly sophisticated management system that is very impractical for a feral horse herd.

Another limiting factor is the existing amount of resource damage. Soil compaction and trampling is evident around areas of concentrated use. These areas being springs, south slopes, small meadows and especially rolling areas that have been disturbed to mineral soil through logging.

The natural social structure that these horses have developed at this time is providing satisfactory utilization of available forage, and dispersed use so resource damage is not excessive.

Alternative #1 - The alternative of no action. This alternative is precluded by the Wild and Free-Roaming Horse and Burro Act.

Alternative #2 - To raise total numbers beyond the proposed range. This alternative was considered but rejected because it would disrupt the apparent ecological balance that exists at this time between numbers of animals and the ability of the resources to support them without sustaining excessive damage.

E. Relationship Between Short-Term Uses of Man's Environment and the Maintenance of Long-Term Productivity.

At controlled numbers as proposed herein the long-term productivity of the range should not be jeopardized. Key use areas are our greatest concern. If some type of protection and rehabilitation of these areas can be reflected in the management plans and then, of course, money to carry them out, use can be regulated and sites restored to their original potentials. Just the natural year long use of all wildlife especially in early spring tends to reduce long-term productivity. The problem occurs when excessive damage is allowed to occur and then left to accumulate. By using current management techniques these impacts can be minimized. The herd that is present can

be managed in continuity with other uses and without resource damage if this agency has the flexibility and resources to do the job. If these are not forthcoming then any amount of horses will cause excessive damage on isolated areas and long-term productivity will be reduced.

F. Irreversible and Irretrievable Commitment of Resources

There will be no irreversible or irretrievable commitment of resources unless excessive damage on key areas is allowed to accumulate. It is practically impossible to determine a dollar value for loss of these resources. The management of feral horses on this range may preclude increased sheep numbers in the future.

G. Consultation With Others

Derald Walker - of the Oregon Wildlife Commission believes that only minimal conflicts currently exist between the districts feral horses and big game. His primary concern is that the horses be managed to the extent that the population is stabilized at the current level without any expansion of the occupied horse range. As more data is gathered on the public demand for recreational use of feral horses, adjustments will perhaps be needed in numbers and allowable ranges. It is felt that the major problems to be overcome in managing these horses lies in control of numbers and subsequent disposal of surplus animals.

Jack Royle - Range Staffman, Ochoco National Forest, feels the horses can be managed to maintain the same population that was present at the time the Wild Horse Legislation went into effect. This is essentially the numbers that are present now, as the population has not increased appreciably since December 1971. Sheep could be grazed on the upper, more brushy portions of the horse range if the herders would drive them there. They are usually reluctant to do so for fear of losing them. If the situation should arise where areas used by both feral horses and sheep were being over utilized, that particular number of horses (number present when "71" legislation was passed) would have priority over the area. There would be no basis for reducing numbers unless we know for sure that there are additional horses. It is important that the actual number of horses on the district be determined as accurately as possible.

M. Bagley and L. Walker - The B.L.M. considers the management of the horses to be a Forest Service responsibility as they make no use of the two small isolated tracts of land in the general area.

H. Management Recommendations, Requirements and Constraints

1. Protection of tree plantations when necessary.
2. Protection of spring sources.

3. Protection of erosion seedings on sale areas when necessary.
4. Rehabilitation of small areas on re-occurring basis;
examples: meadow around Wild Horse Spring, area along
Cram Creek.
5. Recommend that management plan be developed to maintain
herd in acceptable range of 55-65 animals and that if
money is not forthcoming to manage at proposed level
that numbers be reduced accordingly.
6. Provide for public information programs concerning feral
horses (history, population, approximate foaling time,
type of management systems now using, etc.).