

5-5/88

COORDINATED RESOURCE PLAN
MONTGOMERY PASS WILD HORSE MANAGEMENT TERRITORY

MAY, 1988

U.S.D.A. FOREST SERVICE - Inyo National Forest - Mono Lake Ranger District
- Toiyabe National Forest - Bridgeport Ranger District

BUREAU OF LAND MANAGEMENT - Bakersfield District - California
- Carson City District - Nevada

MONTGOMERY PASS WILD HORSE MANAGEMENT TERRITORY
COORDINATED RESOURCE PLAN - 1988

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I. INTRODUCTION AND BACKGROUND INFORMATION

A. Purpose Statement

This plan addresses the principal issues and the interaction between foraging animals and resource use within the Montgomery Pass Wild Horse Territory (MPWHT). It is the intent of this coordinated resource plan to analyze the capacity of the territory to serve each resource use and determine a proper balance between domestic livestock grazing and wild horse numbers. wildlife?

B. Introduction

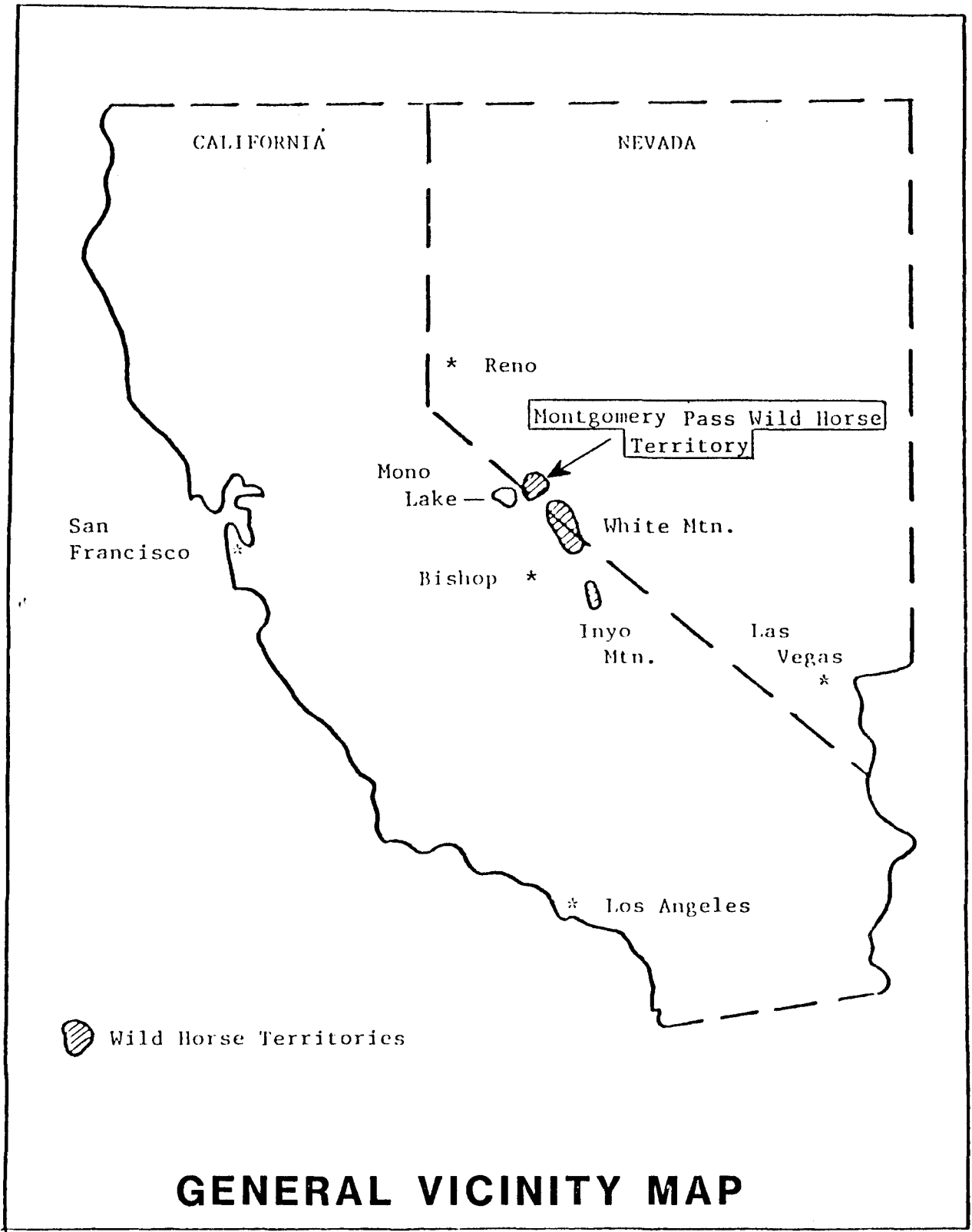
The Wild Horses and Burros Protection Act of 1971, and other supplementary Acts, protected wild free-roaming horses and burros from capture, harrassment, or death, and provided direction for their management as part of the natural system where they occur on National System lands. The U.S. Forest Service and the Bureau of Land Management have set an objective to manage the free-roaming horse populations in a thriving ecological balance within territories established in 1971.

The Inyo National Forest, as lead agency, invited participation of all interested entities in developing a comprehensive resource management plan for the wild horse territory. Coordinated resource planning (CRP) is a process by which resource owners, managers, and users work as a team to develop and implement actions for the management of all major resources and ownerships within the MPWHT. The plan integrates the major resources and their uses into a unified program of management that minimizes conflict and is consistent with land capabilities. Approximately thirty active members have met regularly to identify the competing uses and interests of all concerned. Represented agencies and individuals include federal and state resource managers from California and Nevada, landowners and range permittees, wildhorse and wildlife interest groups, recreation and outfitter guide representatives, and researchers and universities.

C. Background

The Montgomery Pass Wild Horse Territory (MPWHT) comprises an area of 207,921 acres in California and Nevada. It is located east of Mono Lake in the southern portion of the Excelsior Mountains, approximately thirty seven miles north of Bishop, California. It crosses the north end of the White Mountain Range at Montgomery Pass and is bounded by State Highway 6 to the southeast. It is situated north of State Highway 120 and is bounded by the Deep Wells Road to the west. The northern boundary in Nevada extends from Granite Springs southeasterly to State Highway 10. See vicinity maps for territory location.

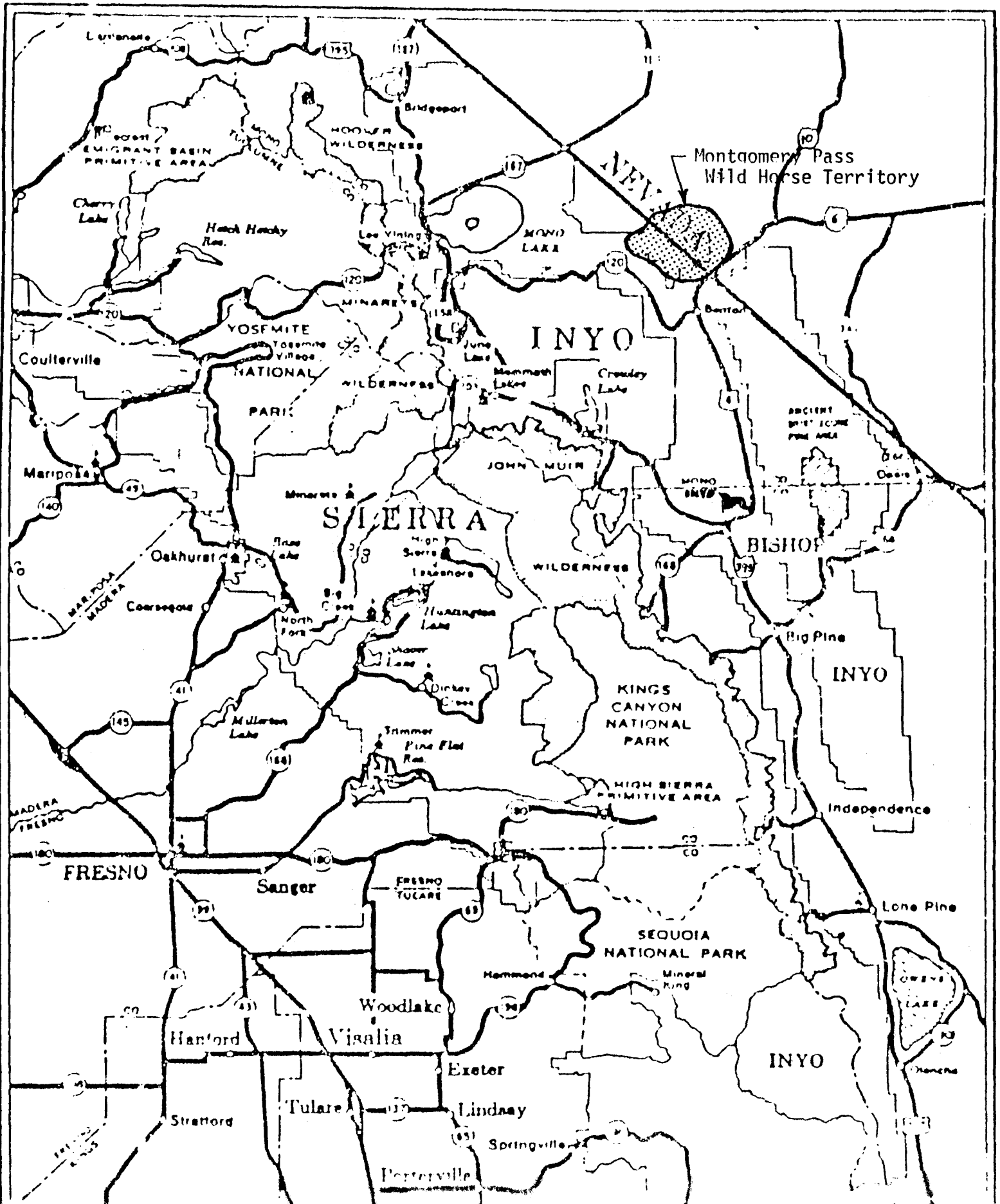
The territory is that area inhabited by horses on December 15, 1971. National Forest System lands are administered by the Mono Lake Ranger District, Inyo National Forest, and the Bridgeport Ranger District, Toiyabe National Forest. The Public Domain lands are administered by the Bureau of Land Management District Offices in Carson City, Nevada,



GENERAL VICINITY MAP

**MONTGOMERY PASS
WILD HORSE TERRITORY**

MONTGOMERY PASS WILD HORSE TERRITORY VICINITY MAP



and Bakersfield, California (Bishop Resource Area). There are several parcels of private ownership within the established territory.

A general history of horse use and herd management has been researched in a previous Environmental Assessment for the Montgomery Pass Wild Horse Territory, dated July 5, 1979 (1). Past estimates of the wild horse population within the territory have varied between 75 and 300+ horses. A recent 1987 census identified 184 different horses (4).

Wildlife species and domestic cattle under permit share the range with the wild horses. There may be some movement of wild burros into the wild horse territory during portions of the year. Most of the water important to all of these animals is located on private lands.

D. Resource and Management Information

The Draft Forest Land Management Plan for the Inyo National Forest provides specific direction for the Montgomery Pass wild horse herd. Wild horse numbers, as determined in the Montgomery Pass Wild Horse Management Plan, will be maintained to the extent compatible with prescriptions for Mule Deer Emphasis and Limited Vehicle Access in Management Area #6 - Pizona. The Toiyabe National Forest land management direction specifies a desired future goal of rangelands in satisfactory condition or better. Wild free-roaming horses and burros are to be managed to population levels compatible with resource capabilities and requirements. The Montgomery Pass horse herds will be managed in accordance with territory plans and coordinated with Inyo National Forest and Bureau of Land Management direction.

The Bureau of Land Management policy states a management goal for the area to provide minimum restrictions for commodity production and to enhance wildlife habitat and livestock forage. The wild free-roaming horses are to be managed to the extent impacts are not significant to the adjacent Marietta Wild Burro Herd and the Adobe Valley Pronghorn Herd.

The Pizona area of the Inyo National Forest, previously included within the Excelsior Roadless Area, was released from wilderness and further planning by the California Wilderness Act of 1984. The Nevada Wilderness Designation Bill of 1987 is not expected to recommend wilderness within the MPWHT.

The enabling legislation permits habitat improvement within the wild horse territory to improve conditions for herd numbers existing in 1971. However, it restricts management activities to the minimum feasible level to maintain the free-roaming character of the wild horses.

B.S. N/A
by court case.

E. Wild Horse Use and Population Data

Since 1971, several censuses have been taken to determine the number of wild horses utilizing the territory (1). Helicopter flights and ground counts using a variety of survey methods at different times of the year estimated a wide range of horse numbers. A recent census by Dr. John

Turner's research team identified 184 different horses, based on approximately 1200 hours of observation from April 15 - July 5, 1987. This data represents a very reliable sample and is estimated to account for more than 85% of the wild horse population in the territory (4). Recent aerial surveys in 1987 by the BLM and USFS counted considerably lower estimates of 104 and 98 horses.

Available data generally indicates no increase or a slight decline in the wild horse population in recent years. Lower than normal foal survival is suspected as one primary factor for the declining trend, possibly due to mountain lion predation.

The 1987 data for the wild horse population indicates a herd composition as follows: Adults - 71.7 %, Two Year Olds - 4.3 %, Yearlings - 5.4 %, and Foals - 18.5 %. The sampling data from 1985 and 1986 compares reasonably well with these percentages.

F. Water Availability

Most of the water sources in the MPWHT are located on private land, except for River Springs (Ca. Dept. of Fish and Game) and Pizona Springs (USFS). Reliable water sources during the summer are Truman and Pizona Springs. McBride and Sagehen Springs provide water during the spring and early summer, but often dry up around mid-summer. Huntoon Springs is presently obstructed and does not provide a reliable flow. There are several surface water sources, including McNamara Lake and various playas, but they are also generally dry by early summer. In the winter range area, Adobe Lake and River Springs have year-round water. Currently there are no agreements with private landowners guaranteeing water for wild horses or other wildlife.

The movement and distribution of wild horses and wildlife is directly related to water availability within the territory. Large areas are generally unused because of the lack of water, although forage is available. Utilization pressure is high on the key summer range under the present water availability conditions.

G. Habitat and Trend Data

The vegetation within the MPWHT is characterized by pinyon-juniper and dry desert shrubs at the higher elevations. Low sagebrush and bitterbrush are prominent throughout the territory, with big sagebrush and rabbitbrush occurring on well-developed soils. The desert shrub community of hopsage, saltbrush and ephreda are found on lower fringe areas. Perennial grasses in the central part of the key summer range are preferred browse plants. Small meadows and riparian areas have favored forage species of saltgrass, bluegrass and Carex.

There are three long-term trend studies on the Toiyabe National Forest within the MPWHT (5). One study is in an active winter grazing cattle allotment in Huntoon Valley and generally receives little wild horse use. The other two studies are not located in grazing allotments and receive moderate to heavy wild horse use. Although this is not a complete analysis, the data suggests that the overall vegetative trend

is down in desirable forage plants. The soils trend is generally stable.

A range analysis study was conducted in the MPWHT in the fall of 1986 by the U.S. Forest Service to assess the grazing capacity as summer range for wild horses (3). Of the 39,453 acres surveyed, approximately 1,588 acres were considered barren or unproductive, and therefore unsuitable. The remaining 37,865 acres of suitable habitat produce a range of 13 to 410 pounds of forage per acre. The tentative grazing capacity involves a mathematical calculation based upon the pounds of usable forage growing on the suitable, primary range. There are several variables which can affect the accuracy of this method, including the delineation of the primary range, the pounds of forage produced on the primary range, proper use criteria, and the pounds of forage consumed per animal month by the various classes and species of animals using the area. Several examples of varied interpretations are discussed in the Range Analysis Summary Report, on file at the Mono Lake Ranger District. Interpretation of the data resulted in a low of 68 horses and a high of 173 horses for six months of the year. Further analysis is needed to determine the appropriate carrying capacity for the MPWHT.

The vegetation and soil in the key use areas were examined for type, condition and trend, forage availability and grazing capacity (3). Many variables and interpretations can affect the accuracy of this method, including range delineation, pounds of forage produced on the primary range and pounds consumed per animal month. The results of this study were based on six months of use per year and indicated a tentative grazing capacity of 80 horses, or 476 horse months, without increasing the summer range area or changing one of the other variables in the study. For example, if only areas which produce more than 50 pounds of dry weight forage per acre were included, the data would indicate a tentative capacity of 96 horses for six months. Mathematical calculations for different grazing assumptions, based on the pounds of usable forage on the suitable, primary range, are displayed in the Range Analysis Summary and are on file at the Mono Lake District Office. These estimates will require follow-up studies to verify the carrying capacity.

Table VI of the Wild Horse Subcommittee Report and Recommendation specifies an alternative method for analyzing conditions in key use areas based on utilization by horses for a three month period (4). Utilization is expressed as the amount of current year's plant growth consumed by herbivores. Revised consumption rates for foals and yearlings were used to calculate a carrying capacity of 280 to 350 horses in this report. Again, carrying capacity data will need further analysis to establish reliable wild horse population and distribution information.

H. Other Biotic Components

1. Livestock

Livestock grazing on federal lands within the territory is administered by permit within existing range allotments. Livestock forage use by season and type of use within the MPWHT is as follows:

Allotment	Animal Months		Season
	Obligated Livestock Use	Present Livestock Use	
Adobe Hills *	0	0	12/1 - 3/31
Adobe Lake	58	58	6/1 - 10/31
Adobe Valley **	540	540	6/15 - 11/15
Basalt	72	72	10/1 - 3/31
Benton Valley **	120	120	10/1 - 2/28
Granite Mtn.	28	28	7/1 - 10/15
Huntoon	200	200	12/16 - 4/15
Huntoon Valley	142	142	11/1 - 4/15
Marietta	180	180	12/1 - 4/15
McBride Flat ***	488	0	6/1 - 9/30
Pizona ***	168	0	6/1 - 9/30
Jack Spring Range	<u>0</u>	<u>0</u>	Closed
Total	1996	1340	

* Private land capacity not reported. Unfenced allotment.

** Private land capacity not reported. Basically no horse use due to fencing.

*** No recent livestock grazing due to increased use by wild horses.

basis for statement

2. Wildlife

A diverse range of wildlife species and associated habitats are found within the territory. The MPWHT Wildlife Committee identified five species of primary importance: mule deer, pronghorn antelope, sage grouse, wild burros and mountain lions (7).

Distribution of the Casa Diablo Mule Deer Herd is primarily within the Pizona Range between Truman Springs and Highway 6 and in the Antelope Mountain area during the winter use period. According to the Wildlife Subcommittee Report, an estimated 500 to 700 deer utilize the winter range between October and early April.

A small herd of pronghorn antelope use a portion of the Pizona Range from Sagehen Spring to McBride Flat. An area by Rock House Spring is used for fawning habitat. The season of pronghorn use in the Pizona Range is from late April to early June. Adobe Valley is also utilized in the summer.

Sage grouse are rarely seen in the territory and the size of the population is unknown. The playas, springs and adjacent meadows around McBride Flat and Sagehen Springs are known habitats. Habitat requirements include a combination of sagebrush densities and the presence of certain forbs and grasses, and the availability of meadows and water sources.

Feral burros within the Pizona Range are presently not significant in number. There is some overlap in winter range use in the Teal's Marsh area, with little interaction between the burros and wild horses. Jack Spring and adjacent ravines receive occasional use by burros.

A number of mountain lions have been observed within the territory and a unique system of predator/prey relationships may be occurring. Mule deer is probably the major prey in late fall and winter, with wild horses being taken during the spring and summer. Scientific investigation of this predation is currently in progress.

I. Problem-Issue Summary

The following is a summary of present and potential issues associated with the wild horse population and habitat within the Montgomery Pass territory:

- (1) The existing range resource is capable of supporting only a certain number of wild horses and the present capacity of the range has not been determined. Range conditions need further analysis prior to establishing a carrying capacity and monitoring will be needed to determine trends.
- (2) Recreational, educational and research activities need to be compatible with the protection and management of the wild horses. Off-road motorized vehicle use has potential disruptive effects within the territory, especially during foaling season. Excessive damage to wet meadows from vehicles is also a problem, primarily during the spring.
- (3) Allocations of available range forage have been made to livestock. Competition between livestock and wild horses for the same forage is occurring on much of the territory. Livestock grazing on the Pizona Allotment has been deferred because of forage competition with wild horses. Adjustments may be necessary in the wild horse population or in livestock use to determine an acceptable level of competition.
- (4) Available water is a limiting factor in most of the territory and it is primarily located on private land. Water needs to be acquired and secured water for wild horse and wildlife use.
- (5) The mountain lion's role in the ecology of the territory may be a significant factor in regulating the wild horse population.
- (6) Cultural and historical resources or aboriginal uses of the area may be affected by management activities.
- (7) Other wildlife species may be affected by management of the wild horses. Exclusive use of water sources and habitat improvements may be needed to mitigate wild horse impacts.

- (8) In the event that the wild horse population exceeds the range capacity, satisfactory control methods must be established.
- (9) Variables within the wild horse population are important in management of the herd. Natural population management and manipulation methods should be considered to maintain or create favored characteristics of the herd, such as distribution, age and sex.

II. Management Objectives

A. Habitat Objectives

1. Maintain sound rangeland ecological conditions and improve where appropriate.
2. Provide water for wild horses where possible to yield a better distribution of animals utilizing the habitat.
3. Ensure water availability at existing sources for wild horses, particularly water sources on private land.
4. Consider appropriate habitat improvement from the present ecological base for horses and wildlife within the MPWHT.
5. Manage for a balance between education/recreation/research use and the free-roaming behavior of wild horses.

B. Wild Horse Objectives

1. Maintain the free-roaming behavior and movement of wild horses.
2. Maintain a healthy horse herd consistent with the carrying capacity determined for the range.
3. Maintain demographic characteristics of the wild horse population and determine natality, mortality and rate of increase. Characteristics to determine include sex ratio, age structure, young/adult ratio and actual use patterns.
4. Strive to rely on natural predator-prey relationships as the primary method of horse population control.
5. If population control is determined to be necessary, allow current analysis of information and research data to predict age, sex and distribution characteristics that should be favored.

III. Action Plan to Achieve Objectives

A. Action Planning Objective
to Maintain Sound Rangeland Conditions:

	<u>Lead</u> <u>Responsibility</u>	<u>When</u>
1. Develop and implement technical monitoring plans for:		
a) Wild horse monitoring	Wild Horse Comm..	3/1/88
b) Range monitoring	Range Subcomm ...	3/1/88
c) Monitoring report to MPWHT Steering Committee	Subcommittee Chairpersons	Yearly
d) In the event significant changes occur to the habitat, reconvene Steering Committee to recommend action.	Steering Committee Chairperson ...	As Required
2. Complete the present range analysis on the balance of the MPWHT.	Range Subcomm	1991
3. Establish sufficient trend, condition and transect studies.	Range Subcomm	1991
4. Determine utilization on an annual monitoring basis.	Range Subcomm ...	Yearly

B. Action Planning Objective to
Provide Water For Wild Horses and to
Ensure Water Availability:

1. Enter into negotiation for land acquisition, by agreement, purchase or exchange, with private landowners to secure water for wild horse and wildlife use.	Dist. Ranger	Ongoing Mono Lake, USFS
2. Inventory and develop available water in the MPWHT, including existing and new sources. (This was identified by the Steering Committee as the first priority to accomplish. The preferred areas for development are located in Adobe Hills in T2N, R30E, and are referenced on the Wild Horse Subcomm. Map.)..	Resource Officer ...	1990 Mono Lake, USFS
3. Recondition two water tanks near Huntoon Valley.	Range Officer	1990 Bridgeport, USFS

	<u>Lead Responsibility</u>	<u>When</u>
C. Action Planning Objective to Consider Habitat Improvement:		
1. Develop a habitat improvement plan for the MPWHT with appropriate input from technical specialists.	Resource Officer Mono Lake, USFS	10/88
2. Seek funding for improvement projects.	District Ranger Mono Lake, USFS	Ongoing
3. Incorporate Casa Diablo and Mono Lake deer herd studies into the MPWHT plan. New wildlife study data will also be used as it becomes available, including the BLM pronghorn antelope study and the cooperative study for sage grouse.	Forest Biologist Inyo N.F., USFS	As Approved
4. Range improvement projects shall be cost effective and contribute to animal distribution.	Resource Officer Mono Lake, USFS	As Approved
D. Action Planning Objective To Provide Education/Recreation/Research Use Compatible With Wild Horse Use:		
1. The signing policy of roads for vehicle use within the territory will be consistent by all agencies.	District Ranger Mono Lake, USFS (Interagency Motor Vehicle Use Plan Update)	1989
2. A "Code of Ethics" will be developed for commercial recreation users. ...	Craig London, with Steering Comm. review	4/88
3. Consider seasonal closure or rerouting of the Pizona Road from April 15 to June 15 to protect wet meadows and minimize disturbances during foaling.	District Ranger Mono Lake, USFS (Interagency Motor Vehicle Use Plan Update)	1989
4. Establish direction that would prohibit commercial guiding by motorized vehicle within the territory, as it is considered to be incompatible		

	<u>Lead Responsibility</u>	<u>When</u>
with wild horse management.	Inyo/Toiyabe Forest Supervisors and Bakersfield/Carson BLM District Managers. Mono Lake District Ranger to lead.	1989
5. Do not allow outfitters to exceed current 1000 service-use days within the period of April 15 to June 15.	Inyo/Toiyabe Forest Supervisors and Bakersfield/Carson BLM District Managers. Mono Lake District Ranger to lead.	1989
E. Action Planning Objective To Maintain Free-Roaming Characteristics Of Wild Horses:		
1. Explore with permittee an alternate grazing area for the McBride Allotment. If possible, modify the McBride Allotment boundary or adjust the AUM'S only in that portion used by wild horses as summer range.	BLM, Carson City	1988
2. Monitor the competition between livestock and wild horses, and the range condition on the McBride Allotment. Take appropriate action to correct problems.	BLM, Carson City	1988-1989
3. Pursue officially closing the Pizona Allotment.	Forest Supervisor, Inyo N.F.	1988-1989
F. Action Planning Objective To Maintain A Healthy Herd Consistent With The Carrying Capacity:		
1. Monitor livestock and horse use on winter and summer ranges. No action is to be taken to lower livestock AUM'S on the winter range during the monitoring period.	Resource Officer, Mono Lake, USFS	Ongoing
2. During ensuing five year period of study, manage horse population at current level of 184 horses.	Inyo/Toiyabe Forest Supervisors and Bakersfield/Carson BLM Dist. Managers	1988-1993
Balance each year? Now		
Monitor?		

	<u>Lead Responsibility</u>	<u>When</u>
3. If wild horse numbers fluctuate above or below 25% of current level of 184 horses, the Steering Committee will be reconvened to consider adding or removing horses. ..	Steering Committee Chairperson	As Required
G. Action Planning Objective To Maintain Characteristics Of The Wild Horse Population:		
1. Desirable herd demographics of the wild horse population will be determined through a monitoring plan.	Wild Horse Subcommittee	1988- 1989
H. Action Planning Objective To Rely On Natural Predator-Prey Relationship:		
1. Determine relationship of mountain lion as a predator on wild horses. ...	Dr. Turner	1992
2. Monitor mountain lion predation and study occurrence of prey switching. ..	Dr. Turner	1992
3. Do not approve outfitter guide requests for mountain lion hunting until biological study has been completed.	BLM/USFS Responsible Agency Officials	Ongoing
4. Work with the Nevada Fish and Game Commission to eliminate lion hunting in the MPWHT until study is completed.	Dr. Turner	1988
I. Action Planning Objective To Allow Research To Predict Characteristics In Population Control:		
1. Develop a monitoring plan to determine if and when horse population control is necessary.	Wild Horse Comm.	1988
2. If control measures are determined to be necessary, consider all available techniques, but favor natural control measures when possible.	Steering Committee	As Required

IV. Monitoring and Further Study

The data necessary to effectively manage the wild horse population and habitat is currently incomplete. The following studies will be initiated to evaluate the effectiveness of meeting the planning objectives.

A. Range Analysis and Utilization

Range condition and trend studies by the U.S. Forest Service will be completed to analyze vegetation and utilization data within the territory. Monitoring studies will be done on winter and summer ranges to determine livestock and horse use.

The Range Monitoring Plan, attached as Appendix "A", specifies the needs, methods, locations and timing of the monitoring study.

B. Mountain Lion Predation and Predator-Prey Research

A research team from the Medical College of Ohio, Utah State University and Eastern Montana College has been pursuing the unique system of predator-prey relationships within the MPWHT since 1985. The monitoring of mountain lion numbers and activities, in cooperation with Dr. John Turner and his researchers, is anticipated to continue for several more years. This research involving several universities may provide new information on predator-prey theories and their impact on wild horse mortality rates.

C. Wild Horse Monitoring

A monitoring committee will study population variables of the wild horses to determine specific herd characteristics, mortality and pregnancy rates, and social structure of the herd. A monitoring plan will determine when horse population control would be necessary and recommend preferred control measures, if needed.

A wild horse monitoring plan, attached as Appendix "B", identifies the specific data to be collected during the study.

D. Evaluation and Revision

Habitat analysis and ongoing studies will contain essential data to determine the management level of the wild horse population and other species within the territory. This information can be used to establish carrying capacities, correct distribution problems or make adjustments in the number of herbivores utilizing the MPWHT. Data collected from the various studies will be used to update this plan in five years, or as determined appropriate.

The Steering Committee for the Montgomery Pass Wild Horse Coordinated Resource Plan will meet or correspond as needed for progress reviews and monitoring plan updates. In the event significant changes or problems occur during data collection the Steering Committee will meet to determine actions to be taken.

Revision of this plan may be necessary when adequate data indicates that changes to the carrying capacity, monitoring plans, or habitat conditions are needed because resource objectives are not being met. The Steering Committee for the resource plan will be consulted if this revision is warranted.

V. Coordination

All planned activities, management activities and actions must complement other biological components within the planning area. Duplication of efforts in conducting and evaluating multi-purpose studies should be avoided whenever possible. The objectives of allotment management plans, habitat improvement plans and other management proposals will be written to coordinate with the objectives outlined in this plan.

New wild horse information and current data on wildlife studies should be incorporated as it becomes available.

All actions specified in this plan are contingent upon available funding and manpower. Funding for range improvement projects will be solicited from various federal programs and contributed monies from outside organizations. The possibility also exists that some funding may be provided by the Nevada Governor's Wild Horse Committee appointed to administer the Heil Fund bequest. This funding could be used for animal and habitat studies.

VI. Literature Cited

Change name

- (1) Environmental Assessment of Alternative Management Plans, Montgomery Pass Wildhorse Management Territory, U.S. Forest Service and Bureau of Land Management, July, 1979.
- (2) Environmental Assessment of Management Alternatives, Montgomery Pass Wild Horse Territory, U.S. Forest Service, Mono Lake R.D., Feb. 1985.
- (3) Committee Report, Range Analysis Summary for Montgomery Pass Wild Horse Territory, U.S. Forest Service, 1987. Mono Lake R.D. Project File.
- (4) Committee Report, Wild Horse Committee Report and Recommendations, Oct. 1987. Mono Lake R.D. Project File.
- (5) Committee Report, Trend Studies for the Montgomery Pass Wild Horse Territory, U.S. Forest Service, July 1987. Mono Lake R.D. Project File.
- (6) Committee Report, Habitat Improvement-Management Direction for Montgomery Pass Wild Horse Territory, Oct. 1987. Mono Lake R.D. Project File.
- (7) Committee Report, Wildlife Committee for Montgomery Pass Wild Horse Territory, Sept. 1987. Mono Lake R.D. Project File.

- (8) Preliminary Report, Wild Horse Observations, July 1987.
Mono Lake R.D. Project File.

VII. Glossary of Terms

The following definitions are designed to assist the reader in understanding the management plan.

Animal-Unit (A.U.). Considered to be one mature (1,000 pound) cow or the equivalent based upon average daily forage consumption of 26 pounds of dry matter per day.

Animal-Unit Month (A.U.M.). The amount of feed or forage required by an animal-unit for one month.

Animal-Unit Conversion Factor. A numerical figure expressing the forage requirements of a particular kind or class of animal relative to the requirements for an animal-unit.

Band. Refers to a family group of wild horses or burros. May also be used to denote other special groups together (i.e., band of stallions).

Carrying Capacity or Grazing Capacity. The maximum stocking rate possible without inducing damage to vegetation or related resources. It may vary from year to year on the same area due to fluctuating forage production.

Excess Animals. Wild free-roaming horses or burros which have been removed from an area by the Secretary pursuant to applicable law, or which must be removed from an area in order to preserve and maintain an ecological balance and multiple-use relationship in that area.

Herd. One or more bands, or one or more stallions and his mares, which utilize the same general area.

Home Range. A specific herd management area which, by choice of the animals, is occupied by one or more particular bands of horses or burros. (Also, see definition of Range.)

Habitat Requirements. The basic requirements of food, cover, water and living space.

Public Lands. Any lands administered by the Secretary of the Interior through the Bureau of Land Management or by the Secretary of Agriculture through the Forest Service.

Range. The amount of land necessary to sustain an existing herd or herds of wild free-roaming horses and burros which does not exceed their known territorial limits. It is devoted principally but not necessarily exclusively to their welfare in keeping with the multiple-use management concept of the public lands.

Wild Horse or Burro Area. The maximum geographic limits used by wild horses or burros as their yearlong habitat as of December 15, 1971. These areas serve as a basis for herd management area plans.

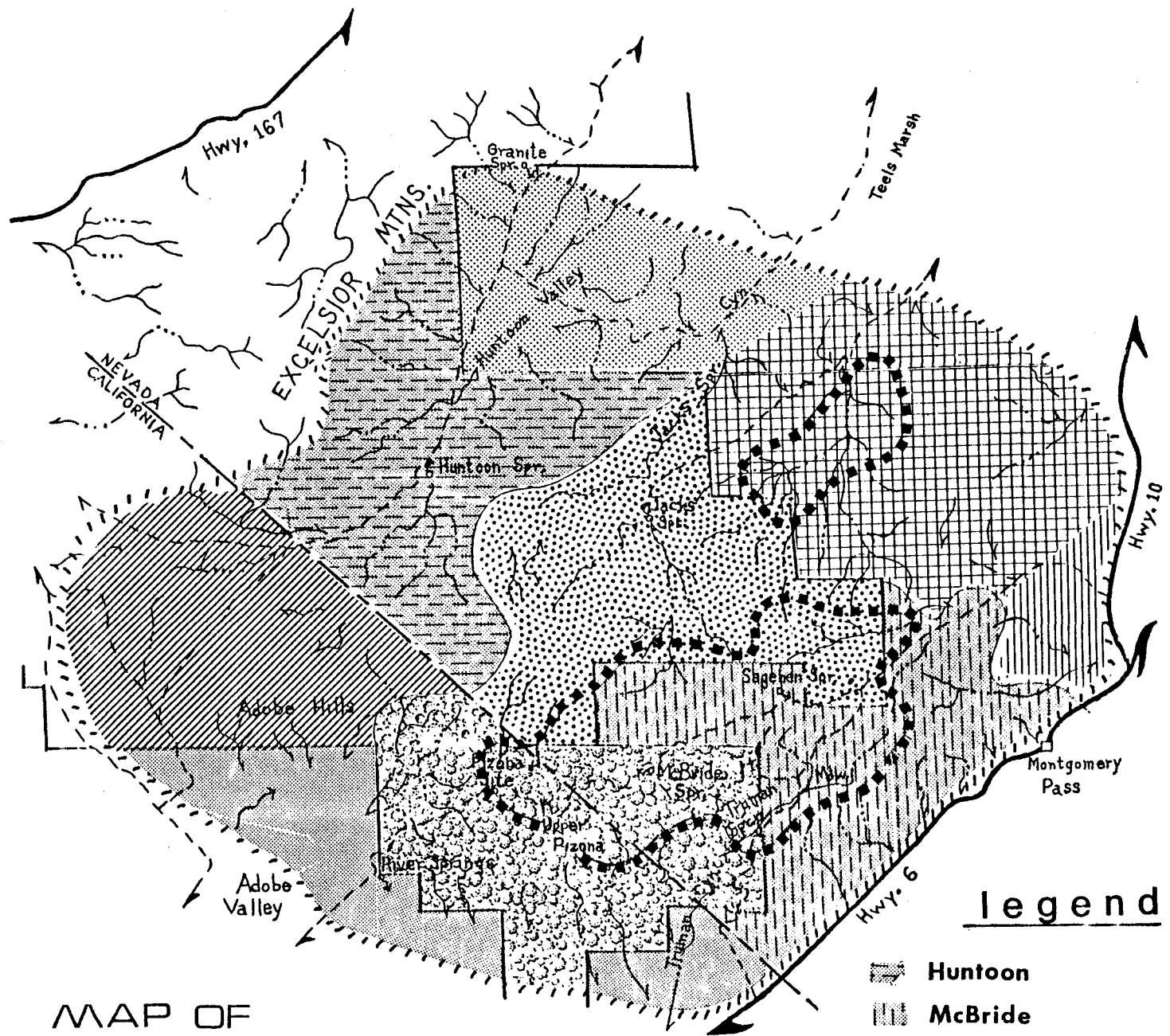
Wild Free-Roaming Horses or Burros. All unbranded and unclaimed horses and burros and their progeny that have used public lands on or after December 15, 1971.

VIII. Attachments

Maps of the range allotments and the land status within the Montgomery Pass Wild Horse Territory are attached.

IX. Appendix

- A. Range Monitoring Plan
- B. Wild Horse Monitoring Plan



MAP OF
RANGE ALLOTMENTS

MAR., 1988 REM

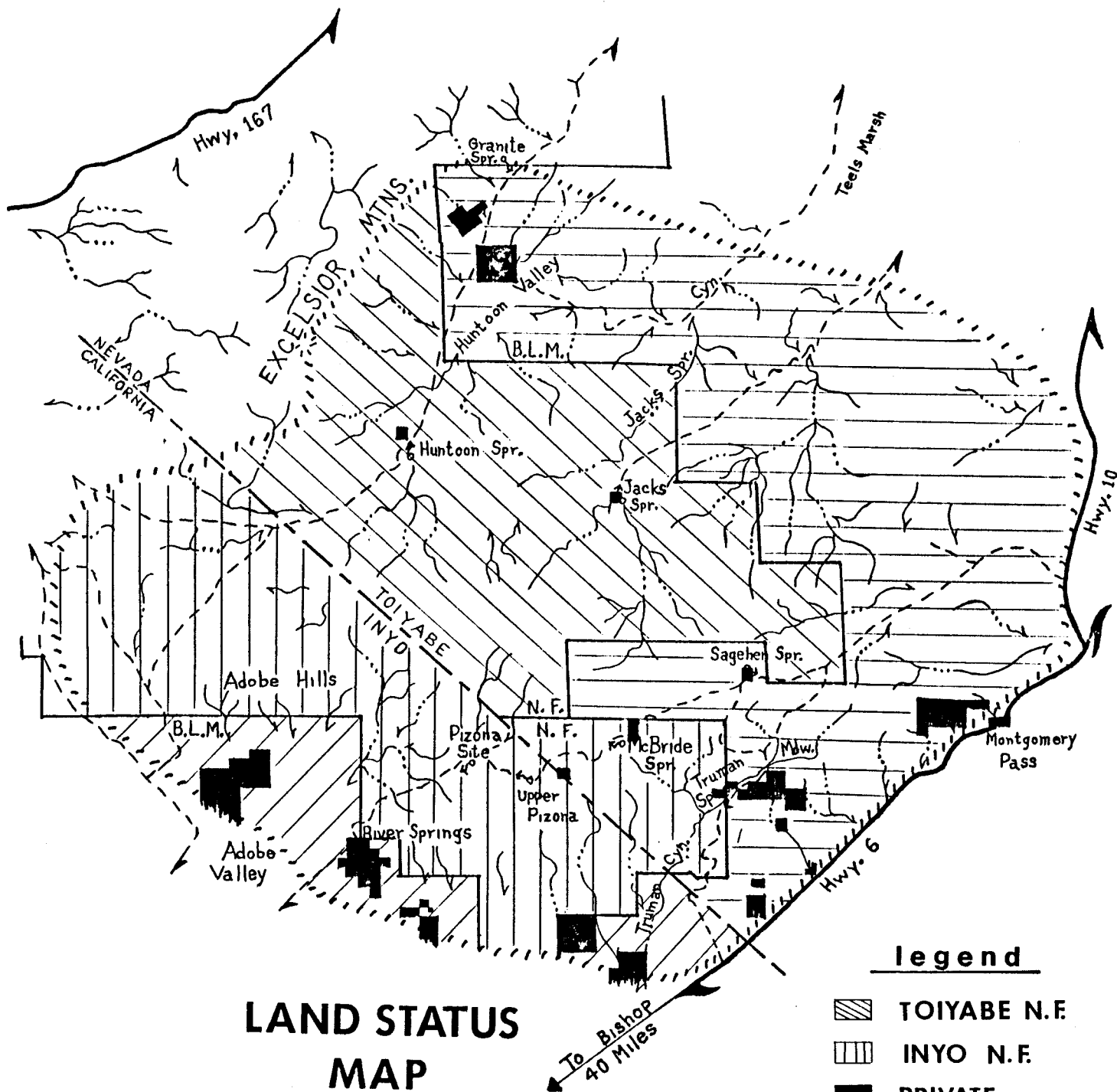


MONTGOMERY PASS
WILD HORSE TERRITORY

Legend

-  Huntoon
-  McBride
-  Pizona
-  Basalt
-  Adobe Valley
-  Closed
-  Wild Horse Territory
-  Key Range Area - Wild Horse
-  Adobe Hills
-  Marietta
-  Huntoon Valley






MONTGOMERY PASS WILD HORSE TERRITORY



LAND STATUS MAP

MAR. 1988
REM

Legend

-  TOIYABE N.F.
-  INYO N.F.
-  PRIVATE
-  BLM CA
-  BLM NV

RANGE MONITORING PLAN

Evaluation

A. Habitat Studies

1. Utilization

Need: To determine the amount of use (degree of utilization) occurring on available forage by large herbivores (Livestock, wild life and wild horses).

Method: The Key Forage Plant Method will be used (source - Nevada Rangeland Monitoring Handbook).

<u>Areas of Study</u>	<u>Timing</u>	<u>Responsibility</u>
Casa Diablo (deer)	5/31	Bishop R.A.
Summer Range (horses)	10/1	all jurisdictions
Allotments (livestock)		
Bramlette	5/31	Bishop R.A.
Adobe Valley	7/15	Bishop R.A.
Adobe Lake	10/31	Bishop R.A.
Huntoon Valley	4/15	Walker R.A.
Marietta	4/15	Walker R.A.
McBride	7/1 & 10/1	Walker R.A.
Basalt	3/31 & 10/1	Walker R.A.

Duration: Utilization studies will occur for three full years at the dates shown and after determination of Key Areas will be conducted only on and around these areas. Any implementation of management actions which could affect distribution of large herbivores would require utilization studies to be conducted in areas of expected use.

2. Use-Pattern Mapping

Need: To show relative areas of intensity of utilization to aid in the identification of the key areas.

Method: Use-pattern mapping the zones of utilization (Nevada Rangeland Monitoring Handbook).

Studies areas: Initially, the use-pattern mapping will be conducted on those areas utilization studies are conducted (see above).

Timing: After completion of utilization studies as shown above for the same three year period. Use-pattern mapping would continue on and around the key areas and would be mapped as utilization data is collected. Any implementation of management actions which could affect distribution of large herbivores would require use-pattern mapping to be conducted in areas of expected use.

Responsibility: as shown above.

3. Key Area Determination

Need: Because it is impractical to establish monitoring studies over the entire Territory, it is necessary to select a relatively small portion of the Territory which will be used to measure change in soil and vegetation and the impacts of grazing. The areas chosen will represent the entire Territory and if these areas are managed properly will allow for proper management of the entire territory.

Method: General Key Area locations will be determined through overlaying animal distribution on the Use-Pattern Maps. In an attempt to determine the general key area locations by seasons, winter distribution will be used with the winter use pattern maps and summer animal distribution will be used with the summer use pattern mapping. Specific Key Areas will be identified within the general key areas from on the ground determinations. The factors considered will include:

1. The vegetation community has potential for observing change resulting from grazing impacts.
2. The area be large enough and be representative of the major vegetation communities in the Territory.
3. The areas be at least 1/2 mile from water, but not too remote as to show no or low amounts of grazing. Riparian Areas are recognized as critical management areas, however should not be designated as Key Areas for monitoring the entire Territory. If excessive use and/or impacts occur on these sites, alternative management measures other than reduction of herbivores should be explored.
4. The key Areas selected should provide a significant amount of forage, but not necessarily the greatest amount.

Timing: The Key Areas will be selected after three years of utilization, use-pattern mapping and animal distribution data collection occurs. The target date is summer of 1991. Key Areas have been determined in those livestock grazing allotments within the Carson City District, BLM. However, only one may be in an area of significant wild horse use. These will continue to be reread in accordance with the existing Carson City District schedule. These may or may not be included in the Montgomery Pass Wild Horse Territory key area selection due 1991 in this plan, depending on

the outcome of distribution and use-pattern mapping.

Responsibility: All jurisdictions will participate with Inyo National Forest taking the lead to coordinate.

4. Ecological Status

Need: Ecological status is defined as the present state of the vegetation and soil production of an ecological site in relation to the potential natural community for that site. Current ecological status is necessary to determine a baseline condition of the soil and vegetation resource in which to measure against any future monitoring data.

Method: Determine Ecological Status through the composition by weight of plant species (Nevada Rangeland Monitoring Handbook or The Double Sampling technique - SCS National Range Handbook).

Study Areas: Ecological Status will be established on the Key Areas when they are determined.

Timing: The determination of ecological status will be conducted when key areas are established. The target date is summer 1991.

Responsibility: Each office of jurisdiction will determine the ecological status on the lands they administer, with direction and coordination from the lead office (Inyo) as they determine the general locations of Key Areas.

5. Trend

Need: Trend is the direction of change in ecological status. Trend is used with ecological status in conjunction with utilization studies to analyze if current or past management practices and actions are accomplishing the established objectives.

Method: Continue reading the established Parker Three step method sites. These are:

1. Huntoon
2. Montgomery Pass (W. of Sagehen Spg)
3. Montgomery Pass (E. of Sagehen Spg)
4. Pizona

Establish Frequency Trend Plots in the Key Areas when they are determined.

Timing: Establishment target date summer 1992.
Rereading will occur every 5 to 8 years.

Responsibility: Each office of jurisdiction.

6. Range Survey

Need: Range Survey data aids, with the use of Utilization, Ecological Status and Trend information on Key Areas, in the determination of adjustments in numbers of large herbivores, should such monitoring information indicate a need.

Method: To be determined at time of need.

Study Areas: In any key areas that are found outside the 42,000 acres already surveyed and analyzed.

Timing: As funding becomes available from the office of jurisdiction.

Responsibility: The office of jurisdiction.

7. Climate

Need: To fully analyze utilization and distribution, climatological data is necessary.

Method: Review of monthly precipitation and mean temperature data collected by National Oceanographic and Atmospheric Administration (NOAA).

Study Area: Determine the closest data collection sites to the Territory for stratification to the Territory.

Timing: This data should be collected each year and made apart of the utilization files.

Responsibility: Inyo National Forest will make the necessary contact with NOAA.

B. Animal Studies

1. Population Estimates

Need: It is necessary to know the number of animals which are contributing to the degree of utilization in order to determine adjust the numbers of animals within the Territory, seasonal ranges, key areas, or allotments.

Method: Helicopter censusing will be the method used to establish wild horse population estimates in conjunction with the on the ground identification of specific animals. Actual use of wild horses will be derived from population estimates. Censuses will be

conducted during August or September as to include and identify most of the young (see Young/Adult Ratios). A winter census will be conducted during January or February. Livestock actual use will come from billing statements, actual use records and/or livestock counts during standard compliance checks. Deer estimates will be supplied by the California Department of Fish and Game and Nevada Division of Wildlife.

Study Area: Censuses will be Territory wide, with additional flight patterns allowed to determine if animals may be inhabiting areas outside the Territory during portions of the year.

Timing: Population estimates will occur twice yearly for three years.

Responsibility: Inyo National Forest will be responsible for conducting or coordinating the censuses. Each office of jurisdiction will attempt to provide \$1000 to be used for this purpose.

2. Distribution

Need: Animal distribution is needed to aid in determination of seasonal movements of the animals and identification of the general key areas of use.

Method: Two methods will be used in collection of animal distribution data. The first will consist of marking the approximate location and abundance of animals on a map during the census flights. The second method will be from driving on preselected roads within the Territory and observing animals at selected stops during the "driving transect". All classes of animals will be plotted on maps in the approximate location sighted in both methods.

Study Area: The area covered will include all areas accessible within the Territory.

Timing: The aerial censusing timing is described above in the Population Estimate section. The driving transects should occur at least once during the spring and once during the fall to determine distribution during these seasons. In addition, a driving transect will be conducted in livestock allotments during the period that livestock are authorized (even though livestock may not be turned out in the allotment).

Responsibility: The Inyo National Forest will be responsible for conducting the Spring and Fall driving

transects. The office of jurisdiction will be responsible for the driving transect during the period livestock are authorized.

3. Sex Ratios and Young/Adult Ratios

Need: Sex ratios and young/adult ratios will aid in determining if a healthy population exists.

Method: Capture data will provide the sample set for this information. In the absence of capture data, field observations will be used.

Timing: When captures are conducted, the information will be analyzed for this data. During the course of Dr. Turner's research, this information will be collected.

Responsibility: Inyo National Forest will be responsible for analyzing the data. During the course of the ongoing research, Dr. Turner will provide the Inyo National Forest either the raw data or a summary of the sex ratio and young/adult ratio data.

C. Evaluation

Utilization and the resulting Use-pattern mapping, in conjunction with the animal distribution mapping will be collected for a full three years. The results will allow for establishment of Key Areas. These key areas will allow monitoring studies to be concentrated on the areas of predominate use. Establishment of the key areas will also allow placement of longterm ecological site studies (ecological status and trend).

A full analysis of all data collected will occur at the five year timeframe to evaluate if the habitat and horse population are both healthy and in balance and to identify specific long term objectives in the Territory. In the interim, any studies (most likely utilization or population estimates) which in the course of collection or summarization, indicate problems, shall trigger the need to conduct a Steering Committee meeting to review the data. The standard to be used in identification of this type of problem will be a data result or data analysis which shows variation of or a need to vary the horse population plus or minus 25%.

**Procedures for Location
and Identification of Free-Roaming Feral Horses**

A distinct advantage of the horse over other wildlife species in a monitoring study is that individual horses can readily be identified by coloration, markings (facial and leg) and band association (Berger, 1986; Turner et al., 1981). This permits temporal evaluation of individual mares, their pregnancies and their foals, and thus potentially allows study of horse populations on the basis of complete enumeration. Following the fate of individual animals, particularly foals, across seasons and years also allows estimation of age specific survival rates. Due to the rugged terrain of the horse ranges, it is necessary to initially locate specific bands from the air and plot their approximate position on a topographical map. Although bands do move from day to day, they usually remain in a home range area, and once they are located it is not difficult to follow them and monitor them from day to day. One person can locate and observe a number of bands in a given day after the movement patterns are established. During the course of ground observation, a photographic record of each band and its foals and yearlings will be made using a telephoto lens. Data will also be recorded on cassette tape or in written notes. Accurate documentation of each animal is time consuming but absolutely essential.

Horses are observed with 8 or 10x binoculars or 20-40x zoom spotting scope depending on distance and conditions. Observers should make an effort to avoid detection by the horses, and behavioral data collected only when horses are unaware of observers can be used. The most reliable observation system consists of locating one or two bands of horses in the early morning and observing them throughout the day by following them when they move. This permits the observer to establish daily behavior patterns in the context of daily activities. Conditions existing at the time of observation should be recorded, including time, weather, location, and general nature of horse activity, i.e., grazing, resting, trailing, watering. A description of each stallion and his location relative to the other horses should be recorded. Since some bands of horses may have more than one adult male, it is important to ascertain which one is the harem stud. This may require observing stallion behavior for periods of an hour or more. The relative frequency of some types of behavior displayed by stallions is listed in Table 1. It is also

important to determine the sex of each animal. This may seem simple, but in fact, some males do not seem particularly male-like in their movements or may not show male-type behavior very often. Most males periodically extended the penis or show characteristic male stance on urinating, and thus may be sexed only with sustained observation.

Table 1

Behavior	Frequency of Display
Mounting.	4
Copulation	2
Threat	8
Fight	4
Herding	10
Mutual Grooming	8
Submission	6
Elimination Marking	44

*Based on 68 h of observation of 23 stallions in April, May and June.

Specific data to be collected:

1. Band by band locations recorded on Topo map as often as observed, with as many sets of observation possible to be collected for each area covered.
 - a) Location will consist of i.d., letter-number (eg. A8B) to be placed on map. When unsure of exact location, make educated guess.
 - b) Map i.d. will also be recorded in notebook, with date.
 - c) When several bands are located in proximity (< 200 meters) the relative location of each band should be diagrammed in notebook, using drawings showing landmarks.

2. Identification data will be recorded in notebook for each location note. Data will include number and description of band members including:
 - a) Sex and age (foal, yearling, 2-year-old, adult)
 - b) Photographs will be taken of each band and, if possible, each band member. Detailed band composition and individual horse descriptions will be notebook recorded as follows:
 1. Number of animals
 2. Age (foal, immature, adult)
 3. Sex (stud, subordinate, immature male, female)
 4. Coat color
 5. Identifying marks (stockings, blaze, paint, etc.)

SEE APPENDIX FOR EXAMPLES
 - c) Photo reference numbers of photos which were taken (to be recorded on photos and in notebooks).
 - d) Any details of activity
 - e) Weather condition
 - f) Graze (food) conditions)

SEE THE ATTACHED OBSERVATION SHEET FOR ORIENTATION

3. Head counts will be made for each band at each observation.
 - a. Foal and yearling counts are the most important counts,

to be made as often as possible and immediately upon sighting a band that is moving out, i.e., before anything else.

- b. Determining who is the mother of each foal and yearling is important. This may be possible only with extended observation time and/or repeated observations of a given band. The only sure evidence is to see who is nursing who.
 - c. New foal survival rates through the summer, from fall to spring and from year 1 to year 2 will be determined.
 - d. Total number of new foals observed each month from March through September will be determined to assess possible shifts in the peak foaling period due to predation.
 - e. Frequencies of specific sexual behavior endpoints including mare heat, mounting and copulation will be determined when possible to aid in detection of mare estrus cycling from March through August.
 - f. Number of stable bands will be determined by recording incidence of harem stallion turnover.
4. Food supply should be evaluated when possible by:
- a. Observation of what horses are eating, as often as is reasonable.
 - b. Noting graze utilization e.g., untouched, partial, extensive, extreme. For details of this aspect, see Range Utilization Monitoring Procedures of CPMP.

Footnote: Although mountain lion activity is not a direct part of these observations, it would be useful if casually observed mountain lion activity were recorded.

- a. Any direct observations of lion should be recorded on a map and a description of the circumstances written.
- b. Any lion kills (or any carcasses found) should be precisely site documented and a complete description of condition given. Presence of lion tracks, scat, scratch, bone puncture marks and carcass brush cover indicate lion

involvement. Approximation of the age of the carcass is helpful.

- c. Any lion sighting and/or sign (track, skat, scratch, etc.) encountered during the course of this study should be described and precisely map located.

BAY - mixture of varying shades of red and yellow. It includes many shades from light yellowish tan to a dark rich shade. Always has a black mane and tail, and often black legs and black on the tips of the ears.

BLACK - completely black, including muzzle and flanks.

BROWN - (seal brown) is actually black, but has tan or brown on the muzzle and flanks. Much more common than a true black.

CHESTNUT - (sorrel) basically red, the shades vary from light washy yellow to a dark liver color, between which come the brilliant red gold and copper shades. Normally, the mane and tail of a chestnut are the same shade as the body, although they may be lighter in color; these are termed a flaxen mane & tail. A chestnut will never have a black mane and tail.

WHITE - a true white horse is born white and remains white throughout its life. A white horse has snow white hair, pink skin, and brown eyes (rarely blue).

GREY - varies from almost white (differentiated by black skin) to dark steel grey. Many of this range have black manes and tails.

PALOMINO - golden color with light colored mane and tail (white, silver, ivory).

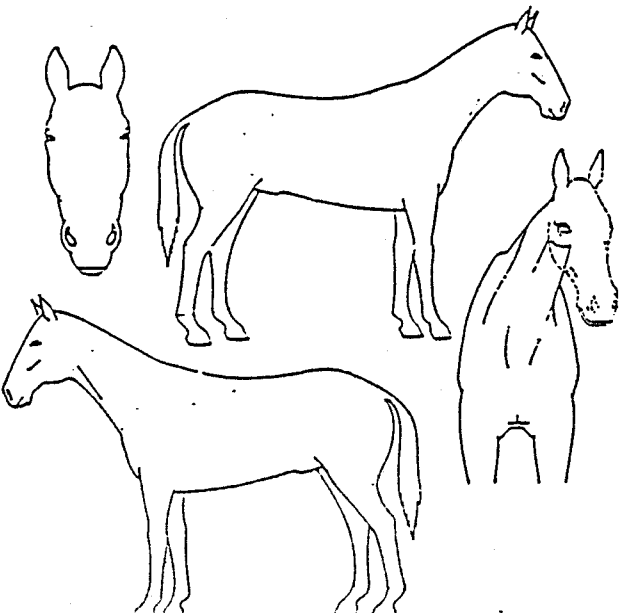
DUN - (grulla) range from yellowish beige to dark grey beige - distinguishable by the dorsal stripe down the back and sometimes across withers, occasionally horizontal stripes on backs of legs. Manes and tails same color as body, but a few shades darker.

BUCKSKIN - yellowish tan to a light red-beige (looks almost sunburnt). Always black mane and tail; sometimes legs are also black and may have a dorsal stripe, as well.

Band I.D.: _____
Date/Time: ____/____/____
Markings: _____
Color: _____
Sex: _____
Age: _____
Dams: _____

Remarks:
a) Weather - _____
b) Graze Condition - _____
(1 poor - 5 excellent)
c) Topo Location - _____

d) Activity - _____



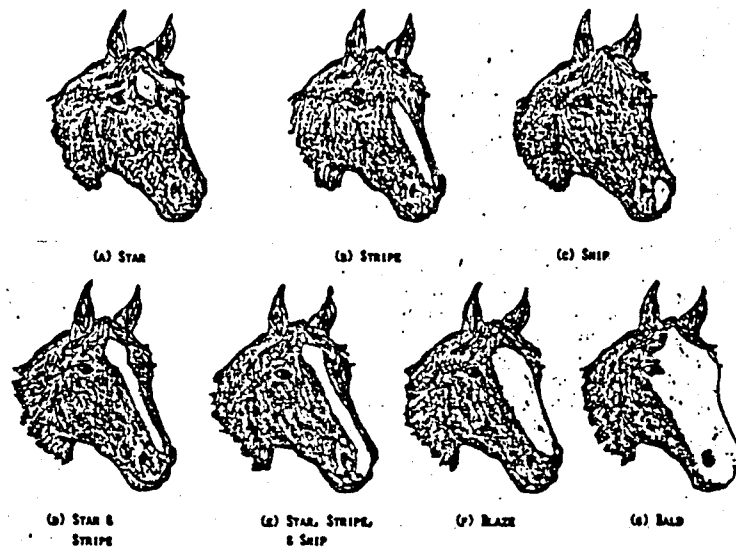


Fig. 4-18. The head marks of horses. (A) Star is any white mark on the forehead located above a line running from eye to eye; (B) stripe is a narrow white marking that extends from about the line of the eyes to the nostrils; (C) snip is a white mark between the nostrils or on the lip; (D) star and stripe includes both a star and stripe; (E) star, stripe, and snip includes all three of these marks—star, strip, and snip; (F) blaze is a broad, white marking covering almost all the forehead but not including the eyes or nostrils; (G) bald is a bald, or white, face including the eyes and nostrils, or a partially white face.

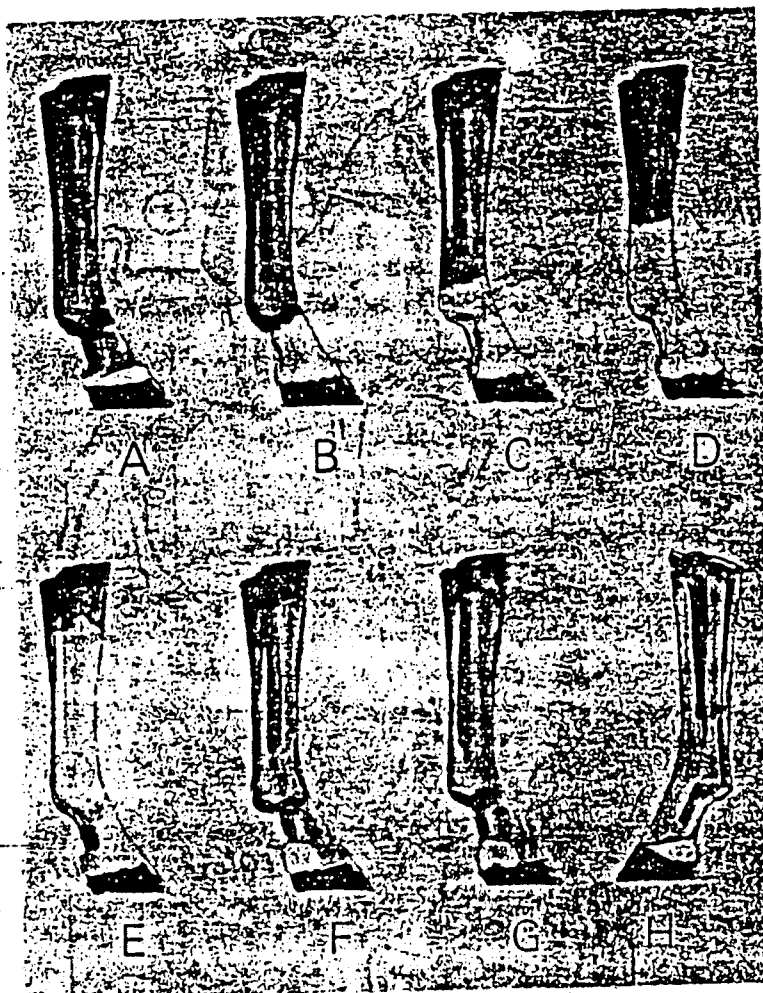


Fig. 4-19. Most common leg marks: A, coronet—a white strip covering the coronet band; B, pastern—white extends from the coronet to and including the pastern; C, ankle—white extends from the coronet to the middle of the cannon; E, stocking—white extends from the coronet to the knee. When the white includes the knee, it is known as a full stocking; F, white outside heels—both heels are white; G, white outside heel—outside heel only is white; H, white inside heel—inside heel only is white. (Courtesy, USDA)