



INTERIM REMOVAL PLAN

United States Department of the Interior

BUREAU OF LAND MANAGEMENT  
CARSON CITY DISTRICT OFFICE  
1050 E. William St., Suite 335  
Carson City, Nevada 89701

G 1/23/85  
IN REPLY REFER TO:

4700  
(NV-033)

JAN 23 1985

Wild Horse Organized Assistance  
P.O. Box 555  
Reno, NV 89505

Dear Gentlemen:

Response to the Draft Garfield Flat Wild Horse Removal Plan and Environmental Assessment was minimal. All comments received supported a reduction of wild horse numbers in the Garfield Flat Wild Horse Herd Area. Two respondents supported a greater reduction. Their comments, however, were directed at setting a management level for wild horses. That question is being considered in the development of the Final Walker Resource Management Plan. The Removal Plan and Environmental Assessment here simply deal with an interim measure to restore an ecological balance in the area while the land use planning process comes to a close. Accordingly, the comments of the two respondents advocating a management level for wild horses will be considered in the Final Walker Resource Management Plan.

Sincerely yours,

John Matthiessen  
Area Manager  
Walker Resource Area

cc: Alan Brock  
Office of the Solicitor

# DRAFT

## GARFIELD FLAT WILD HORSE INTERIM REMOVAL PLAN

### I. Objective

The objective of this plan is to discuss the implementation of the proposed action presented in the accompanying Environmental Assessment. Land use planning has not been completed for this area; therefore, to prevent further wild horse habitat deterioration this interim action is necessary.

### II. Area of Concern

The Garfield Flat Wild Horse Herd Use Area is located approximately 10 miles southeast of Hawthorne, Nevada.

### III. Numbers of Wild Horses

It is estimated that 655 head of wild horses inhabit the Herd Use Area (HUA).

It is proposed to reduce this population down to 230 head of wild horses (see the analysis in the accompanying Environmental Assessment) and let them build to 364 head. A removal of approximately 425 head is necessary to implement this proposal.

### IV. Capture Operations

Capture of the wild horses will be through the use of a helicopter and temporary capture corrals. A BLM employee will make careful determination of boundary lines to serve as an outer limit, within which attempts will be made to herd horses to a given trap. Topography, distance and current condition of the horses are factors that will be considered in setting the limits to avoid undue stress on the horses while they are being herded. Each area will be flown prior to the start of trapping to locate any hazards to the horses while being herded (fences, cliffs, etc.). The helicopter will carry a BLM employee only when necessary, and should the horses become unnecessarily stressed during herding, the BLM employee or the pilot will break off the pursuit, so that the animals may rest and recover. All attempts will be made to move and keep bands together.

Trap sites will be selected after determining the habits of the animals and observing the topography of the area. In general, all sites will be located to cause as little damage to the natural resources of the area as possible. Sites will be located on or near existing roads and ways, and all sites will receive cultural resource clearance prior to use. If significant cultural values are found, the trap will be moved.

The temporary capture corrals (traps) will be constructed from portable panels (height 6 to 7 feet). Extending from the capture corral will be wings (up to 1/4 mile in length) also constructed from portable panels. The entire trap may be camouflaged with sagebrush, juniper or pinyon. The helicopter will direct the horses toward the trap. When

the horses enter the wings, riders on horseback will fall in behind the animals driving them into the trap. Once the horses enter the trap, the gate will be closed by hand. Should a horse turn back at the trap, it would be roped, if possible, by the riders.

After capture, the animals may be placed in a central holding corral in or near the capture area. If held overnight or longer, prior to transportation to the Palomino Valley Wild Horse and Burro Adoption Facility, the horses will be fed and watered. If the horses are held overnight in the trap, they will be fed and watered.

Because the capture area and the Palomino Valley Facility are located in the same Nevada State Brand Inspection District, the animals will be transported prior to brand inspection.

- V. Impounded, privately-owned animals will be processed as outlined in Bureau of Land Management, Nevada State Office Instruction Memorandum NV-83-26. A copy of this Instruction Memorandum may be obtained at the Carson City District Office.
- VI. It will be the responsibility of the contractor, who has entered into a contract with the BLM for the purpose of removing the wild horses from the Garfield Flat Herd Use Area, to locate the trap sites (with concurrence from a BLM employee), provide humane treatment to the horses during capture, holding and transportation, and to observe the guidelines set forth in the contract specifications.

The Carson City District Wild Horse and Burro Specialist (designated as the Contracting Officer's Authorized Representative, COAR) will have the responsibility to assure that the capture, holding and transportation of the wild horses is being conducted in accordance with applicable regulations, BLM policy, this capture plan and the contract specifications. He will also have the responsibility to determine if destruction of any sick or lame animals is necessary prior to transportation. If the COAR is not at the site, the alternate COAR or a Project Inspector (P.I.), a BLM employee, will act in his absence.

VII. Destruction of Injured or Sick Animals

Any severely injured or seriously sick animal shall be destroyed in accordance with 43 CFR 4740.3-1. Such animals shall be destroyed only when a definite act of mercy is needed to alleviate pain and suffering. When the COAR or P.I. is unsure, as to the severity of an injury or sickness, a veterinarian will be summoned to make a final determination.

Destruction shall be done in the most humane method available.

VIII. Injuries and Disease

For injuries and disease not requiring destruction, the COAR or P.I. will determine if the animal can be transported to Palomino Valley Corrals (PVC) without further injury, harm or undue pain to the animal. If the animal can be transported, the veterinarian will treat

the animal upon arrival at PVC. If the animal cannot be transported, or if the COAR or P.I. is uncertain, a veterinarian will examine the injured or sick animal at the trap site.

IX. Safety

All capturing and handling of the horses shall be done in the safest manner possible for the wild horses, personnel and saddle horses. Some guidance may be obtained from "Safety Guidelines for Handling Wild Horses", prepared by the BLM.

X. Longevity of the Removal Plan

This plan will remain in effect until the gathering of approximately 425 head of wild horses has been completed.

XI. Signatures

Prepared by:

Timothy B. Reuwsaat  
Timothy B. Reuwsaat  
Wild Horse and Burro Specialist

11-21-84  
Date

Reviewed by:

Norman L. Murray  
Norman L. Murray  
Chief, Division of Resources

11-21-84  
Date

Approved by:

J. Matthiessen  
John Matthiessen  
Area Manager  
Walker Resource Area

11/21/84  
Date

Thomas J. Owen  
Thomas J. Owen  
District Manager  
Carson City District Office

11/21/84  
Date

# DRAFT

## Environmental Assessment Garfield Flat Wild Horse Interim Removal

The purpose of this Environmental Assessment is to analyze the effects of wild horse removal from the Garfield Flat Wild Horse Herd Use Area and other alternatives.

### I. DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

The proposed action is to remove approximately 425 wild horses from the Garfield Flat Wild Horse Herd Use Area (HUA). Approximately 230 head of horses would remain within the herd use area. The horses will be captured in wing traps with the aid of a helicopter. The animals will be transported to Palomino Valley Wild Horse and Burro Adoption Center, where they will be made available for adoption to the public.

Reduction is only an interim measure until management population levels can be determined through Land Use Planning. Monitoring of both horse and livestock use will continue.

Alternatives to this proposed action are: Alternative No. 1 would suspend all livestock use in the Garfield Flat Wild Horse HUA. The wild horse population would be allowed to remain and would not be reduced.

Alternative No. 2 would eliminate all wild horses from the Garfield Flat Wild Horse HUA.

Alternative No. 3 is "no action". Wild horses would not be reduced and livestock use would remain at the current level.

### II. DESCRIPTION OF THE EXISTING SITUATION

The Garfield Flat Wild Horse HUA is located approximately 10 to 15 miles southeast of Hawthorne, Nevada (see attached map). The herd use area is in the Garfield Hills and the northern edge of the Excelsior Mountains.

The major plant species in the area are Indian ricegrass, galleta grass, winterfat, Bailey greasewood, shadscale, sagebrush, pinyon pine, rabbitbrush and spiny menadora. The major wildlife species present are rabbits, coyotes, chukar and deer. There is both key deer winter range and yearlong deer range in the Excelsior Mountains. There is some overlap between wild horse use and deer use, but it is slight.

Although the HUA takes in part of the Marietta and Candelaria allotments (see attached map), the major use area is within the Garfield Flat allotment. The livestock permittee in Garfield Flat is the Sweetwater Ranch. They are authorized to graze the allotment from November 1 to April 15. The total livestock grazing preference for the allotment is 771 head. The livestock use within the allotment for the last four years has averaged 63% of preference. The cattle and wild horse grazing use overlap somewhat, but the permittee has kept this to a minimum by grazing his cattle away from the horse use areas as much as possible.

Population estimates of the wild horses in the area and removal data is shown below:

<u>Date</u>	<u>No. of horses</u>
1975	253
1977	(Removed 182)
1979	245
1983	585

Using the above population figures through use of a regression analysis, at a 95% confidence level, it is estimated that the population has increased 12% annually. Therefore, using the 12% from the 1983 census estimate the current (1984) population estimate is 655 head of wild horses.

The forage utilization studies which have been completed in the Herd Use Area indicate a 90% utilization level in the key spring-summer horse use area. This area was utilized by only wild horses as the utilization studies were conducted prior to livestock turnout. Range Studies Task Group recommends a 50% allowable degree of use during the spring and summer. Therefore, using the Proper Utilization Stocking Rate Formula,

$$\frac{655 \text{ horses}}{90\% \text{ Utilization}} = \frac{\text{"X" horses}}{50\% \text{ Utilization}}$$

proper utilization should be achieved with a population of 364 horses. To ensure that proper utilization is not exceeded due to annual population increase, a further management action is necessary. Using the estimated 12% annual population increase and allowing for four years between horse gathers in the herd area it is necessary to reduce the wild horse population to 230 head of horses. This will allow for the population to increase naturally, without capture operations taking place, for four years to the point where the degree of allowable use on the forage plants is reached again. This will ensure that the key forage species have time to recover their vigor and allow for seedling establishment. Reducing the population to 230 horses will require the removal of 425 head from the estimated population of 655 horses.

### III. ANALYSIS OF THE PROPOSED ACTION AND ALTERNATIVE

#### A. Proposed Action

##### Impacts

The social structure of the wild horses may be disrupted during capture attempts.

The horses may experience stress during capture operations but would eventually benefit when adopted and given proper care. Some of the horses may be injured or killed in the process of capture or being transported to the adoption center.

The horses that are left in Garfield Flat will have better habitat as a result, as the competition for food and water by their own kind will be greatly reduced.

The vegetative resource in the area will probably recover from the severe overuse that is occurring. The grasses would have a chance to recover their vigor and reestablish themselves once they are allowed to go to seed. Amount of vegetation recovery depends on future climatic conditions.

The reduction of the wild horses would make the area more desirable for wildlife due to better forage conditions. The reduction of the horses would also reduce the horse use from the deer winter range in the Excelsior Mountains.

The reduction of the wild horses will also lessen the occurrence of horses on private lands.

Soil and vegetation disturbance may result as a result of capture operations.

Injury to saddle horses and capture personnel may occur during capture operations.

#### Possible Mitigating or Enhancing Measures

- a. Horses, when roped, should not be tied down longer than 1 hour. This is to reduce the possibility of laming a horse.
- b. Wings on the corrals or traps will be constructed of materials and in such a manner as to minimize injury to the horses.
- c. The roundup will be conducted following the Bureau's safety guidelines for capture operations.
- d. No new roads, trails or permanent structures will be constructed in the area.
- e. The roundup will be conducted to the extent possible that only whole bands be removed so band structure would not be disturbed.

#### Recommendations for Mitigation or Enhancement

All the possible mitigating or enhancing measures should be adopted.

#### Residual Impacts

A very small disturbance to the soil and to vegetation cannot be avoided under the proposed action. Natural revegetation will reduce the severity of the disturbance over a period of time.

Injury and death of some wild horses may occur despite safety and humane precautions.

Injury to personnel may occur even though safety precautions will be taken.

#### Relationship Between Short-Term Use and Long-Term Productivity

The removal of horses from the area would alleviate current severe use of the area, but over a long-term period, the wild horse population will probably rebuild. The wild horse population will have to be reduced periodically, or the long-term productivity of the area will be affected.

#### Irreversible and Irretrievable Commitments of Resources

None.

### B. Alternative No. 1

#### 1. Impacts

Elimination of livestock use in the HUA could present a hardship to the permittee. He would have to attempt to make arrangements to graze his livestock on alternative areas.

The vegetation in the livestock use area would benefit slightly, but horses would continue to forage within the heavy-severe utilization area. Some forage plants would disappear from the continued constant use. The basic vegetation community would change with encroachment of invader species, therefore, causing deterioration of the horse habitat. The loss of suitable habitat would have an adverse effect on the animals themselves. Migration to new areas may affect animal behavior and social interactions. As the horses expand their range, they would again compete for forage with livestock use.

No stress would be placed on the wild horses due to capture operations, but there would be additional stress from the horses having to search for available forage and water sources in areas away from their historical use area.

#### Possible Mitigating or Enhancing Measures

- a. Transfer livestock grazing preference to other areas.
- b. Develop new sources of water for the horses.

#### Recommendation for Enhancement as Mitigation

- a. Other areas are not available within close proximity, therefore not recommended.
- b. Development of new water sources would only be a short term mitigation. In the long term, the key forage species would



continue to be overgrazed, resulting in the deterioration of the horse's habitat.

#### Residual Impacts

All impacts would occur as stated.

#### Relationship Between Short-Term Use and Long-Term Productivity

With removal of livestock, the utilization would be decreased in the livestock use area for 1 to 2 years, but over the long term, forage utilization would cause change in the plant communities.

#### Irreversible and Irretrievable Commitments of Resources

The constant utilization of the forage plants may eliminate those species from the area. At that time, some horses may die of starvation if they remain in the historical use area and do not range to other areas in search of available forage.

### C. Alternative No. 2

#### 1. Impacts

This alternative would eliminate the horse population that now occurs in the area. The public would lose the opportunity to observe wild horses in this herd use area.

The vegetation resource would benefit from this action. The forage plant species would increase in vigor and seedling reestablishment would occur. The time period and amount of increased plant vigor and seedling reestablishment would depend on the amount of livestock use and future climatic conditions.

Competition with wildlife and livestock for mutual habitat requirements would be eliminated.

#### Possible Enhancing or Mitigating Measures

All measures identified under the Proposed Action with the exception of Measure "e" should be considered.

#### Recommendation for Enhancement and Mitigation

All presented above.

#### Residual Impacts

A small amount of soil and vegetation disturbance would be associated with the temporary trap sites. Natural revegetation would reduce or eliminate this disturbance over time.

Injury or death to some wild horses may occur despite safety and humane precautions.

2. Relationship Between Short-Term and Long-Term Productivity

The complete removal of all the horses from the area would eliminate the long-term population productivity of the horses.

The complete removal would also have a short-term large increase in vegetation in the area and over a long-term, the productivity would level off.

3. Irreversible and Irretrievable Commitments of Resources

None.

D. Alternative No. 3

1. Impacts

Impacts would be similar to those in Alternative No. 1, with the exception that the livestock permittee would still be allowed to graze in the HUA. The livestock use area would be subject to increased utilization.

Possible Mitigating and Enhancing Measures

Same as Alternative No. 1.

Recommendations for Mitigation and Enhancement

Same as Alternative No. 1.

Residual Impacts

All impacts as stated.

2. Relationship Between Short-Term Use and Long-Term Productivity

Utilization would continue as is in the short term, with eventual vegetation change and species disappearance in the long term.

3. Irreversible and Irretrievable Commitments of Resources

Same as Alternative No. 1.

IV. Persons, Groups and Government Agencies Consulted

This Environmental Assessment was sent to the following persons, groups and agencies for review and comment:

American Horse Protection Association  
American Humane Association  
Animal Protection Institute  
U.S. Humane Society

International Society for the Protection  
of Wild Horses and Burros  
Funds for Animals  
National Mustang Association  
National Wild Horse Association  
Nevada Farm Bureau Federation  
Tina Nappe  
Sierra Club  
Nevada Cattlemen's Assn.  
Nevada Wildlife Federation  
Nevada Humane Society  
State Clearinghouse  
Wild Horse Organized Assistance  
Save the Mustang  
Nevada State Department of Agriculture  
American Bashkir Curley Register  
Humane Society of Southern Nevada  
Toiyabe National Forest  
The Center for Wild Horse and Burro Research  
U.S. Fish and Wildlife Service  
Harris Brothers  
Mervin McKay  
Sweetwater Ranch Company

V. INTENSITY OF PUBLIC INTEREST

Public interest is anticipated to be low to moderate.

VI. PARTICIPATING AND REVIEWING STAFF

Prepared by:

Richard L. Jacobsen  
Richard L. Jacobsen  
Range Conservationist  
Walker Resource Area

11-21-84  
Date

Reviewed by:

Timothy B. Reuwsaat  
Timothy B. Reuwsaat  
Wild Horse and Burro Specialist

11-21-84  
Date

Norman L. Murray  
Norman L. Murray  
Chief, Division of Resources

11-21-84  
Date

Stephen A. Weiss  
Stephen A. Weiss  
Environmental Coordinator

11-21-84  
Date

J. Matthiessen  
J. Matthiessen  
Area Manager  
Walker Resource Area

11/21/84  
Date



SWEETWATER RANCH COMPANY

12/3/84

8 Cottonwood Lane  
Yerington, NV 89447

Nov 33 8 35 AM '84

SEARCHED	INDEXED	SERIALIZED	FILED
December 3, 1984			
AM 12/3			

Bureau of Land Management  
U. S. Department of Interior  
1050 East William  
Carson City, NV 89701

Attention: Mr. Thomas Owen, District Manager

Dear Mr. Owen;

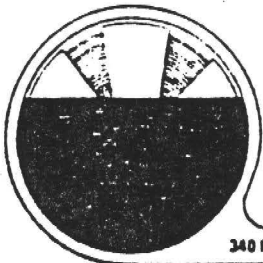
After reviewing the Garfield Flat Wild Horse Interim Removal Plan, I feel that the numbers proposed by Sweetwater Ranch which are the numbers introduced to Lisa Hemmer and to the Carson City Bureau of Land Management are appropriate for the allotment. This is a management level of one-hundred-twenty-four (124) horses. To achieve this management level, the numbers should be reduced to a low of ninety-three (93) head.

In best interest for all users of the allotment concerned, including the wild horses themselves, I feel that a reduction of wild horses to the numbers mentioned above would be very productive and an excellent management practice for this particular area.

I hope you find this proposal acceptable for these are the numbers that Sweetwater Ranch intends to pursue. Thank you for your sincere consideration and I hope this matter can be settled out of court.

Sincerely,

Benny Romero  
General Manager



# RESOURCE CONCEPTS INC.

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BUREAU OF LAND MANAGEMENT  
CARSON CITY, NEVADA  
JAN 7 1 34 PM '85

January 7, 1985

Mr. Tom Owen  
District Manager  
Bureau of Land Management  
1050 E. William Street, Suite 335  
Carson City, Nevada 89701

**LEGEND**

	Info. Only	Take Action	COPI TO	IN'L	DATE
DM					
ASS'T DM					
PLD/ENV					
ADMIN					
RESOURCES					
WALKER RA					
OFFICE					
DEPT. MGR.					
PLANNING					
RECORDS					
TRAINING					
GENERAL					

RE: Sweetwater Ranch Company Comments to the Draft Garfield Flat Interim Wild Horse Removal Plan and Environmental Assessment

Dear Mr. Owen:

Resource Concepts, Inc. (RCI), on behalf of the Sweetwater Ranch Company (SRC), submits the following comments to the Draft Garfield Flat Interim Wild Horse Removal Plan and Environmental Assessment. The SRC is very much in concurrence with the BLM that an immediate reduction in wild horse numbers is necessary on the Garfield Flat Allotment. However, the SRC does not consider the proposed removal of 425 head of sufficient magnitude in which to alleviate wild horse problems on the allotment. The following comments represent the SRC specific concerns with the proposed interim gathering plan and associated environmental assessment.

- ° The environmental assessment does not clearly state the need for the wild horse reduction. The introduction should indicate that 1) wild horses have overgrazed key forage species during the critical growing season for a number of years, 2) the amount of forage consumed by horses prior to livestock arrival is increasing at an alarming rate and impacting the ranch, 3) wild horses are abusing private lands and privately owned water sources, and 4) that only by removing wild horses can the BLM attempt to resolve these problems.
- ° There is no discussion of wild horse use of private lands nor horse dependency upon the ranch's water sources for existence. The BLM's 1977 Garfield Flat Interim Gathering Plan clearly demonstrates the wild horse dependency on private water sources and documents the abuse of these waters resulting from wild horses. This situation should be discussed under the Existing Situation section of the draft gathering plan.

- ° The environmental assessment states "The cattle and wild horse grazing use overlap somewhat, but the permittee has kept this to a minimum by grazing his cattle away from the horse use area as much as possible". This statement should be replaced by the following: "Wild horses have severely utilized available forage within important areas of the historic livestock use area. As a result, cattle have been unable to use these areas. This problem has existed since 1974 (BLM Garfield Flat AMP, 1982) and has continued to expand. Estimated wild horse forage demand in 1979 was 2,940 AUMs and has grown to nearly 8,000 AUMs in 1984, while livestock forage demand has averaged 2,672 AUMs." The existing statement in the environmental assessment indicates that wild horses are not competing with cattle for forage. The SRC has maintained for a number of years that the major threat to their livestock operation has been the increasing horse population.
- ° The BLM proposes to allocate all allowable use of forage to wild horses prior to livestock turnout into the pasture. This proposal is not consistent with the BLM's multiple use mandate. The southwest portion of Garfield Flat was once an important source of livestock forage. It has since been rendered unusable to cattle due to the degree of forage consumed by wild horses prior to livestock arrival on the allotment. The SRC has been unable to pump the well in this area due to the lack of forage. The BLM is attempting to allow this situation to continue by allocating all allowable use of forage to horses.
- ° The Bureau is totally disregarding previous data, the 1977 Interim Gathering Plan, and the 1982 Garfield Flat AMP by advocating a 235-364 head management range. Based on this information, the BLM would intentionally allow overgrazing to continue on the allotment. The BLM has already documented that 245 head of horses would result in overgrazing.
- ° The SRC maintains that the range of 235-364 head is excessive and unacceptable in terms of wild horse use of private lands and waters.

The SRC would appreciate a written response to each of the following questions:

- ° When is the proposed gather scheduled to occur?
- ° Why was the 1973 aerial census of 184 head not included in the "population estimates" portion of the environmental assessment?



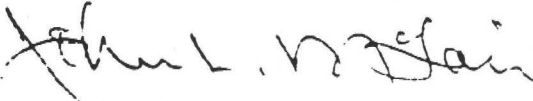
- ° How can the BLM support their prediction that 364 head will properly utilize the HUA, when the Bureau had already documented in 1979 that 245 head of horses will overgraze the same area?
- ° How was the "95 percent confidence level" applied to the regression analysis?
- ° Why was there no mention of the SRC's (owner of the private land and private waters) request to have wild horses removed from the private lands and private waters?
- ° Why was there no attempt to coordinate the 1982 Garfield Flat AMP with the Interim Removal Plan and Environmental Assessment? Is the proposed management range of 235-364 head in contradiction to the statements relating to wild horses and objectives in the AMP?
- ° The draft Walker RMP predicts no change in trend and forage condition on the Garfield Flat Allotment regardless of the numbers of horses or cattle. The removal plan's environmental assessment indicates a downward trend and declining forage condition if the "no action" alternative or the "live-stock elimination" alternatives are implemented. Which document is accurate?
- ° Why was there no attempt to discuss with the SRC the economic impacts to their livestock operation resulting from the implementation of the various alternatives?
- ° The Nevada State Director, while commenting to the Buck and Bald wild Horse Capture Plan, stated ". . . your wild horse specialist estimates that the Buck/Bald Wild Horse population is increasing at the rate of 13 percent per year. Since this rate exceeds the biological potential of the animals, except under extremely unusual conditions, we suggest the statement to be eliminated unless it is based upon an analysis of data as contained in NSO Manual Supplement 4730.1A5". Was the 12 percent annual rate of increase used in the environmental assessment based on methodology presented in NSO Manual Supplement No. 4730.1A5? Does the Carson City BLM contend that the Garfield Flat Herd has experienced "extremely unusual conditions" which would allow them to increase at an average of 12 percent per year?

In conclusion, the SRC contends that the BLM did not 1) use all the available information in determining the proposed management level of 235-364 head, 2) accurately address wild horse impacts to the livestock operation, and 3) consider the importance of private

Mr. Tom Owen  
January 7, 1985  
Page 4

lands and waters to the wild horse population existence. The SRC agrees that a reduction in the horse population is essential to maintaining the health of both public and private lands on the Garfield Flat Allotment. However, the SRC firmly believes that the management range of 235-364 head would not resolve the problems at hand. Please find attached a detailed analysis of the BLM's proposed management range and the SRC alternative. This attachment should be considered as part of the SRC's official comments to the Draft Garfield Flat Intermin Wild Horse Removal Plan.

Sincerely,



John L. McLain, Principal  
Certified Range Management Consultant

JLM:lf

Enclosure

cc: Julian Smith  
Bruce Jones  
Benny Romero

**RESOURCE CONCEPTS INC.**

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Encl. 1-18

APPROPRIATE WILD HORSE NUMBERS ON THE  
THE GARFIELD FLAT ALLOTMENT: A Discussion of  
BLM and Sweetwater Ranch Company Proposals

The Sweetwater Ranch Company (SRC) has initiated litigation against the Bureau of Land Management (BLM) concerning wild horse abuse of the ranch's private lands and waters. Of equal concern to the SRC is the increasing rate at which wild horses are consuming forage on the Garfield Flat Allotment prior to livestock use. The BLM is in concurrence with the SRC that a reduction in wild horse numbers on the allotment is warranted. However, the parties disagree as to the necessary number of horses to be removed. In the Draft Garfield Flat Wild Horse Removal Plan, the BLM proposed an interim management range of 230-364 head of horses. The SRC considers a range of 96-190 head as an appropriate permanent management level. The most recent aerial census, 1983, inventoried 585 head of horses within the Garfield Flat Herd Use Area.

BLM PROPOSAL

The Bureau's "appropriate number" was determined by performing a linear regression analysis based on existing census data to derive an assumed rate of increase, predicting a 1984 population level, and using the Proper Utilization Stocking Rate Formula (PUSRF) to estimate the number of wild horses that would achieve proper utilization of forage. The results of this analysis are presented below:

1983 Wild Horse Census:	585 Head	
Assumed Rate of Increase:	12% Per Year	
1984 Predicted Population:	655 Head	
Key Spring/Summer Horse Area Utilization Results:	90% Utilization	
Proper Utilization Stocking Rate Formula:	$\frac{655 \text{ Horses}}{90\% \text{ Utilization}}$	$= \frac{"x" \text{ Horses}}{50\% \text{ Utilization}}$

"x" = 364 Horses

According to these results, the Bureau predicts that a 50 percent degree of use (proper use) will be achieved in this key area by a population of 364 head of horses. By assuming a constant rate of increase of 12 percent annually and a gathering interval of every four years, the BLM proposes an initial reduction to 230 head.

## DISCUSSION

The Bureau's approach and rationale for deriving the proposed 364 head management level contains numerous significant flaws. These errors are discussed below under the headings "Regression Analysis" and "Proper Utilization Stocking Rate Formula".

Regression Analysis: The 1984 population figure of 655 horses presented in the Interim Gathering Plan was based on a simple linear regression. Input for the analysis consisted of three data points (x,y pairs):

<u>x</u>	<u>y</u>	
75	253	x = Year
79	427	y = Number of Horses
83	767	

The 1979 and 1983 "y" values were based upon aerial census counts plus 182 horses which were removed in 1977. This "corrected count" was an attempt to maintain the linearity of the data (Reuwsatt, personal communication). The resulting linear equation was:

$$y = -4144.96 + 58.375x$$

The percent annual increase in herd population was then estimated by dividing the midpoint of the regression line into 58.375. The BLM calculations were:

$$\frac{58.375}{468} = .1247$$

The BLM interpretation of these results was "at a 95 percent confidence level, it is estimated that the population has increased 12 percent annually". The analysis further predicts that based upon the 1983 census, at a rate of 12 percent increase, the 1984 herd size is 655 horses (Reuwsatt, personal communication).

The following are BLM analyses errors:

- 1) This analysis assumes a linear relationship in population growth. Based upon current knowledge of population dynamics, it is agreed that population growth is exponential rather than linear. A scatter diagram of the BLM data also supports this conclusion.
- 2) On assuming a linear relationship, the population increase would be a constant number of horses rather than a percentage value. This constant is directly provided from the

linear equation as the slope of the line. The direct interpretation from the BLM analysis is that the herd increases by 58.375 horses per year, regardless if the herd size is 100 or 500 horses.

- 3) It is unclear how the midpoint of the regression line was determined. It is a mathematical fact that the least squares line goes through the point  $(\bar{X}, \bar{Y})$ , which in this case would be a population size of 482 rather than 468. Further, it is unclear why the midpoint of the regression line is significant in determining annual herd increase, since a linear relationship and thus a constant increase in number of horses has been assumed.
- 4) Based upon the direct interpretation from the regression equation, the 1984 herd size would be estimated at 759 rather than 655 horses:

$$y = -4144.96 + 58.375x$$

where:  $y$  = population estimate  
 $x$  = year

then,

$$y = -4144.96 + 58.375(84)$$

$$y = 758.9$$

- 5) In order for the 1975, 1979, and 1983 census counts to be related, and result in an 1984 population size of 655 horses, given the 182 head gather in 1977, the population increase would have to be at the rate of 20 percent annually.

	<u>Observed</u>	<u>Herd Size at 20% Increase</u>
1975	253	253
1976		304
1977	(-182 gathered)	364 - 182 = 182
1978		218
1979	245	262
1980		314
1981		377
1982		453
1983	585	543
1984		652

- 6) There can be no significance level associated with this procedure as is alluded to in the Interim Gathering Plan.

Current accepted statistical procedures for estimating animal abundance involves a log transformation of the exponential population curve into a linear form (Conley, 1978; Wolfe, 1980; Book, 1984). A regression analysis on the transformed data results in fitting the least squares line to the data points. The resulting slope of the line in the linear model is the percent annual increase of the population, i.e., the change in the population estimate per year. The resulting linear equation from the data shown in the Interim Gathering Plan with this approach is:

$$y = 5.5236 + .1386x$$

where  $e^y$  = Estimated population size at year "x".

Given the following data:

<u>Year</u>	<u>x</u>	<u>Population Size</u>
1975 = Year 0	0	253 Horses
1976	1	
1977	2	
1978	3	
1979	4	427 (245 from census + 182 from gather)
1980	5	
1981	6	
1982	7	
1983	8	767 (585 from census + 182 from gather)
1984	9	

"9", the 1984 population size would be estimated at 872 horses.

Either application of statistical regression procedures must make the following assumptions:

- 1) The herd census counts are accurate.
- 2) The population has achieved a stable age distribution and increases at a finite rate per unit time, which is not density or climatically dependent.
- 3) There is no immigration or emigration in the population.
- 4) The 182 horses added back to the census counts for 1979 and 1983 did not contribute to the annual population increase over the eight year period from 1977 to 1983.

Not true - we are not doing pop. proj. which requires stable age dist.

Not enough information on horse population demographics is known to verify the above assumptions. Furthermore, any regression analysis based on only three data points is unreliable.

Therefore, while the annual population increase could be reasonably estimated at a "ballpark figure" of 10 to 15 percent, it cannot be said that this figure is statistically substantiated. The 1984 population estimate of 655 horses presented in the Interim Gathering Plan is nothing more than an improper mathematical manipulation.

Proper Utilization Stocking Rate Formula (PUSRF): The appropriate management level should represent the number of horses which can properly graze the Herd Use Area yearlong in conjunction with winter livestock use during normal forage production years. The Bureau's figure of 364 head represents only the number of horses which can properly graze the Herd Use Area for approximately six months during exceptional forage production years without regard to livestock forage demands. The major problems associated with the BLM's use of the PUSRF in establishing their appropriate management level are as follows:

- 1) There were three years in which the PUSRF could have been applied to determine appropriate wild horse numbers. 1984, 1979, and 1976. By using the same method and the Bureau's own data, the 1979 results indicate that only 175 head of horses would have grazed the area to a level of 50 percent utilization as opposed to the 364 head indicated in the 1984 analysis (Table 1). If the BLM considers the PUSRF results of one year legitimate for establishing a stocking rate, then the 1979 data should have been used instead of 1984 as supported with the following:
  - a) 1979 was a "typical" year in terms of spring/summer precipitation (99 percent of normal) and forage production, while 1984 spring/summer precipitation was 50 percent above normal. The determination of proper stocking rates should be based on years of average forage production and not on exceptional ones.
  - b) Numbers of head in the 1979 formula are based on direct observations from an aerial census as opposed to a projected population based on a highly questionable application of statistical analysis as was used in the 1984 analysis. The 1984 figure of 655 head used by the BLM is at best a rough approximation and is unsupported. The accuracy of actual use data, in this case numbers of head, is critical to the PUSRF.

Table 1. Proper Utilization Stocking Rate formula calculations and precipitation data for wild horses on the Garfield Flat Allotment for 1984 and 1979.

Year	Proper Utilization Stocking Rate Formula Calculations	Appropriate horse Numbers at 50% Utilization	Spring/Summer Precipitation
1984	$\frac{655 \text{ head}}{90\% \text{ Utilization}} = \frac{\text{"x" Head}}{50\% \text{ Utilization}}$	364	Above Normal
1979	$\frac{245 \text{ head}}{70\% \text{ Utilization}} = \frac{\text{"x" Head}}{50\% \text{ Utilization}}$	175	Normal



The 1979 analysis would have been a much more reliable year in which to apply the PUSRF if the BLM insists on using the formula.

- 2) The Bureau used number of head as opposed to actual use data (i.e. AUMs) in the PUSRF. As expressed in the Interim Gathering Plan, the BLM indicates that 655 head were responsible for 90 percent utilization. There is no reflection of time in this statement. Did the 90 percent utilization from 655 head occur from one month of use, three months, twelve months, etc.? Since the 1984 utilization data was collected on approximately October 1, it can be estimated that it took the 655 horses at most six months to utilize the key area to a level of 90 percent. The BLM predicts that by reducing horses to 364 head, a proper use figure of 50 percent can be attained during this same six month period. However, management of wild horses must be based on proper use for yearlong use (12 months). The BLM's PUSRF must be adjusted for a 12 month season of use. Table 2 presents the BLM's PUSRF results corrected for yearlong use. Based on the 1984 data, 200 head grazing yearlong would achieve proper use. By using the more reliable 1979 data, 108 head would result in proper use for a yearlong season of use.

The Bureau contends that it is not necessary to correct the data for a 12 month season of use since the utilization data was collected from a supposed key spring/summer horse use area. In addition, the BLM contends that using number of head and not actual use data is reasonable. The problems with this reasoning are as follows:

- a) The BLM assumes that once 50 percent utilization is achieved in this area, horses will move to other areas of the Herd Use Area.
- b) The BLM assumes that the Garfield Flat Herd is seasonally migratory. SRC personnel who are on the allotment daily during the winter disagree with this assumption. The reason for reduced horse use in this area during the fall/winter months is due to lack of forage (as indicated by a 90 percent utilization level in October).
- c) The BLM assumes that the entire 655 head of horses were responsible for the 90 percent degree of use in the area. In reality, it is not known how many horses actually grazed the area. This has direct bearing on determining the appropriate stocking rate.

Table 2. Proper Use Stocking Rate Formula results using corrected values based on the 1984 data.

APPROACH	PUSUP <sup>a</sup> CALCULATIONS		RESULT	INTERPRETATION
	655 Head 80% Utilization	"x" Head 50% Utilization <sup>b</sup>		
BLM Proposal	655 Head 80% Utilization	"x" Head 50% Utilization <sup>b</sup>	x = 364 Head	655 head grazed the area to a degree of 80 percent utilization during a six month period (April 1 to October 1). Results indicate that a reduction to 364 head would achieve proper use in the same six month period.
Correcting for Yearling Season of Use	655 Head (6 mos) 80% Utilization	"x" Head (12 mos) 55% Utilization <sup>c</sup>	x = 200 Head	Wild horse management in this case should be based on proper use achieved from yearlong use. Results indicate that 200 head grazing yearlong would achieve proper use.
Correcting for Livestock Use	655 Head (6 mos) 80% Utilization	"x" Head (12 mos) 27.5% Utilization <sup>d</sup>	x = 81 head	The BLM proposal allocates all proper use of forage to horses prior to livestock turnout. This calculation allocates half of the available forage to yearlong wild horse use and half to winter livestock use. Results indicate that 81 head of horses can graze use area yearlong in conjunction with winter cattle use.

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- <sup>a</sup> Proper Use Stocking Rate Formula.
- <sup>b</sup> Nevada Range Studies Task Group recommends 50 percent utilization as a guideline for proper use under spring/summer season of use.
- <sup>c</sup> Nevada Range Studies Task Group recommends 55 percent utilization as a guideline for proper use under yearlong season of use.
- <sup>d</sup> For analysis purposes, half of the available forage was allocated to wild horses. No attempt was made to proportion livestock actual use to wild horse actual use.

d) The BLM assumes that 90 percent degree of use was accumulative through the month of October. Resource Concepts, Inc. (RCI), documentation in 1984 indicates that this area had already been overgrazed by horses in July.

e) To predict that 364 horses will graze to a proper use level by October ignores previous BLM observations. Based on the 1979 BLM utilization results, it is already known that 245 head of horses will overgraze the area within the same time period. In the 1982 Garfield Flat AMP, the BLM indicates that this area has been overgrazed since 1974 by a number of horses much less than the proposed 364 head.

3) The Bureau's analysis does not consider cattle use of the area. As presented in the Interim Gathering Plan, the BLM is attempting to allocate all allowable use of forage to horses prior to livestock use of the allotment. The SRC has been unable to pump the well in the southwest portion of Garfield Flat because the area has been rendered use-less in terms of available livestock forage, due to prior severe wild horse use. By allocating the forage to wild horses prior to livestock turnout, the BLM is not resolving this situation. The PUSRF should be corrected to consider authorized winter livestock use. Table 2 presents the calculation for determining proper use of forage for year-long wild horse use in conjunction with winter livestock use. Based on this analysis the appropriate number of wild horses should be 81 head. Using this same approach, but with the 1979 data, the result would be 54 head.

#### SWEETWATER RANCH COMPANY PROPOSAL

The SRC proposes a permanent management level range of 96-190 head of horses with 135 head as the median. Horses would be initially reduced to a population of approximately 96 head. The horse herd would be allowed to increase until a level of approximately 190 head is reached. At that point, the horses would again be reduced to 96 head. Assuming a rate of increase of 12 percent annually, gathers would have to be accomplished at least once every eight years or when the numbers reached 190 under this scheme. The following example illustrates this point.

Year 1 . . . . .	Reduce to 96 Head
Year 2 . . . . .	108 Head
Year 3 . . . . .	121 Head
Year 4 . . . . .	135 Head*
Year 5 . . . . .	151 Head
Year 6 . . . . .	169 Head
Year 7 . . . . .	190 Head
Year 8 . . . . .	Reduce to 96 Head

\* 135 head represents the median of population growth.

The SRC maintains that this management range of 96-190 head should represent the permanent management level of wild horses as opposed to an interim management level. This can be accomplished through a court order based upon both parties' consent. Furthermore, in the event that the BLM lacks funding to comply with the future gathering schedule, the SRC recommends that a stipulation be included in the Herd Management Plan which allows the ranch to gather the horses, under BLM supervision, with the reimbursement of ranch expenditures coming in the form of grazing fee credits.

## DISCUSSION

Management Level: The SRC proposed management level of 96-190 is based upon a review of the pertinent BLM documents. This review revealed a variety of significant figures concerning wild horse numbers on the Garfield Flat Allotment which are portrayed in Table 3. It is evident that the appropriate management level for wild horses should be greater than 50 head (BLM established minimum level for a viable herd), but less than 226 head. (The 1982 AMP states that horses have overgrazed the pasture since 1974, and 226 head is the estimated 1974 population using a 12 percent annual rate of increase.) A variety of other BLM statements and documentation (e.g., October, 1979, utilization results) support the contention that horse numbers greater than 226 head are excessive.

The figure of 135 head of horses was selected as the median of the SRC appropriate management level for the following reasons:

- 1) It is an estimate of the horse number remaining after the 1977 interim gather, and the assumption is that the gather was initiated to resolve a serious resource problem attributed to excessive numbers of horses. Those horses remaining after the gather should have constituted a reasonable number of horses. It should be noted that a major reason for the gather was to prevent a probable horse die-off due to drought conditions.
- 2) It is approximately the midpoint of the appropriate management range constraint of 50 to <226 head.
- 3) It is compatible with the 1982 AMP objectives.
- 4) The SRC feels that level would be acceptable in terms of wild horse use of private property.

Permanent Management Level: The SRC is not interested in dismissing the lawsuit or entering into a stipulation that calls for interim management of the Garfield Allotment when there is ample data available to establish permanent management levels. The SRC is mindful that all water for year around horse use either arises on SRC private lands or belongs to the SRC.

Table 3. Significant figures of wild horse numbers of the Garfield Flat Herd Use Area.

WILD HORSE NUMBERS	YEAR	SIGNIFICANCE	SUPPORT AS A MANAGEMENT LEVEL	SOURCE
0	-	The only level of wild horses which would insure no use of private lands or waters.	The WHU&A Act requires that wild horses be managed in those areas where found in 1971. However, the Act also states that wild horses will be removed from private lands.	—
35	1971	Represents wild horse numbers existing on the allotment when the WHU&A Act was passed.	The 1971 Garfield Flat AMP states that 35 head of horses did not pose any problems on the allotment and indicates that this number was compatible with other resource objectives. The AMP foresaw future problems with wild horses on the allotment if their numbers were not controlled.	HLM, 1971, Garfield Flat AMP.
50	-	BLM uses this level as the minimum number of wild horses in which a viable herd can be maintained.	Based on the National Academy of Science research, the BLM uses the 50 head minimum as a "rule of thumb". The assumption is that a herd less than 50 head in number will result in inbreeding and will ultimately reduce the aesthetic quality and health of the herd. Fifty head is used as the minimum management level for wild horse herds.	NAS, 1980, "Wild and Free-Roaming Horse and Burros". BLM, 1983, Lahontan MHP.
81	-	According to the 1964 range adjudication, there are 968 AUMs available above active preference for livestock. If these 968 AUMs were allocated to horses, it would provide forage to 81 head of horses.	The 1953 range survey estimated the carrying capacity of the Garfield Flat at 8,210 AUMs. The 1964 range adjudication allocated 4,242 AUMs to livestock. As a result, 968 AUMs were in surplus. There is currently a forage demand by horses of over 7,200 AUMs and a combined forage demand of livestock and horses of over 11,400 AUMs. Based on the survey results, the allotment forage demand is more than double the carrying capacity. While allocation based on range surveys is no longer used by the BLM, the Sweetwater Ranch active preference level was established by these results. If this approach is not acceptable for determining wild horse numbers, then what rationale is there to hold the ranch to active preference?	BLM, 1971, Garfield Flat AMP.
135	1977	Represents HCL's estimate of wild horse numbers remaining after the 1977 wild horse gather on the allotment.	It is assumed that the interim wild horse gather conducted in 1977 was initiated to resolve a wild horse overgrazing problem. It would be reasonable to assume that the number of horses remaining after the gather represented what the BLM considered to be an "appropriate management level".	HCL rationalizations, based on the HLM, 1982 Garfield Flat AMP.
245	1979	Represents the BLM's wild horse count on the Garfield Flat Allotment.	The appropriate management level for wild horses should be less than 245 head. The 1982 AMP states that until these numbers of horses (245 head) are reduced significantly, there will continue to be an overgrazing problem on the allotment. The BLM's 1979 utilization mapping results support this rationale.	HLM, 1982, Garfield Flat Allotment.
253	1975	Represents the first aerial census results of wild horses on the Garfield Flat Allotment.	Based on the BLM's 1982 Garfield Flat AMP, final appropriate management level of wild horse numbers would have to be less than 253 head. The 1982 AMP states that overgrazing by wild horses has been a problem on the allotment since 1974. Therefore, wild horses should be managed at levels less than the 1975 count.	BLM, 1982, Garfield Flat AMP.
585	1983	Represents the BLM's latest wild horse census on the Garfield Flat Allotment. It is the BLM's preferred management level for wild horses on the Garfield Flat Allotment according to the draft Walker MHP.	The BLM's preferred alternative of Walker MHP states that wild horse populations will be managed at the 1983 level during the short term. Final management numbers will be established through monitoring results. It is interesting to note that the 1983 population of 585 head is more than double the 1975 level (253) when horses were first identified as a problem.	BLM, 1984, Draft Walker MHP.

Grazing Fee Credits for Horse Removal: The SRC is aware that current BLM policy lacks the flexibility to allow grazing fee credits for wild horse removals. However, they feel that the feasibility of this approach deserves further investigation. If policy does not presently allow for this approach, then perhaps the BLM could pursue it through a CMA or Experimental Stewardship in the near future.

#### CONCLUSION

The Bureau approach is superficially based on limited resource data. However, there are serious flaws in the rationale which render the figure of 364 head as being meaningless. As demonstrated in the previous discussion, there are a variety of pertinent considerations which must be accounted for in establishing the appropriate wild horse numbers based on the PUSRF. While this correspondence presents the results of these considerations, the SRC does not advocate the implementation of any of the horse population figures derived from them. The SRC maintains that the BLM has contradicted previous monitoring results and the 1982 AMP by advocating a 364 interim population level of horses, which by their own data is excessive. If the 364 head level was established, the BLM would intentionally allow range abuse to occur by animals which are their responsibility.

The SRC contends that their proposed management range of 96-190 head of horses is:

- 1) In compliance with the Wild and Free-Roaming Horse and Burro Act of 1971.
- 2) Representative of the Bureau's multiple use mandate as established by FLPMA (the BLM's proposal is not multiple use oriented).
- 3) Compatible with the BLM's 1982 AMP objectives (the BLM's proposal is not).
- 4) Supportable by previous BLM data and documents (the BLM proposal is not).
- 5) Acceptable to SRC in terms of wild horse use of private lands and waters. The SRC does not consider the BLM's proposed management level acceptable.

In conclusion, the SRC can perceive no reason why the range of 96-190 head of horses should not be the appropriate number of horses on the Garfield Flat Allotment.

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NOV 21 1984

Enclosed is a copy of the Draft Garfield Flat Interia Wild Horse Removal Plan and accompanying Environmental Assessment. Please review these documents and comment if you so desire. Comments should be received at this office by January 7, 1985 for consideration in the Final Plan.

Sincerely yours,

*[Handwritten signature]*

Thomas J. Owen  
District Manager

Enclosures - as stated above

TJewett:sd:11/20/84



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