

Carson

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7/1995
RRM
~~XXXXXXXXXX~~

A MODEST PROPOSAL (Forage for Wild Burros)

Open
States
5 Times & Forward



Figure 1. Wild Burros in the Marietta Burro Range.

The Bureau of Land Management's Walker Resource Area presents a proposal to improve habitat conditions for wild burros in the Marietta Wild Burro Range. The goals of the project will be to increase perennial grass production using the simplest methods available to management. Secondary benefits will include decreased soil erosion and improved bighorn sheep, pronghorn antelope and non-game habitat.

* By increasing grass roots water penetrates faster deeper into soil this allowing more available H₂O to existing plants and water available for establishing new plants

DESCRIPTION OF ENVIRONMENT

The Marietta Wild Burro Range is the first and only formally recognized burro range in the United States. It is located in Mineral County, Nevada, approximately 55 miles from Hawthorne (refer to Map 1). The range comprises approximately 68,000 acres and is the home to 85 wild burros.

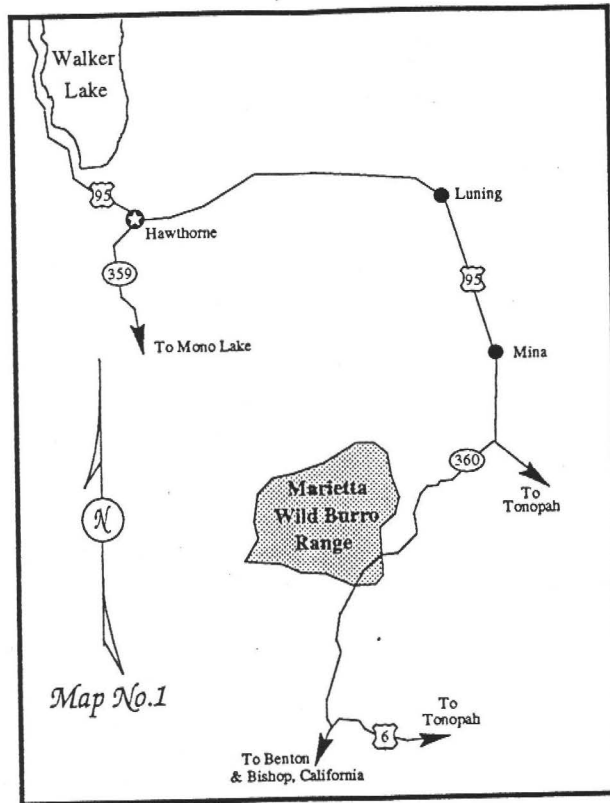


Figure 2 on page 3 overlooks the major concentration area for wild burros and is the area where visitors will most likely see the animals. Important vegetation of this area includes Bailey greasewood, shadscale, wolfberry, fourwing saltbush and Indian ricegrass. Although burros are quite adaptable animals, they feed primarily on Indian ricegrass, fourwing saltbush, winterfat, and annual forbs.

This is arid country, receiving from 3 inches of annual precipitation in the flats to 12 inches in the Excelsior Mountains. Summers are generally hot and dry although sporadic storms can occur in July and August. Topography varies from the level Teels Marsh (which is actually a dry lake bed) to the rugged mountain slopes of the Excelsior Mountains.

→ Wildlife include bighorn sheep in the Excelsior Mountains, pronghorn antelope in the southern portion of the range, and many nongame animals typical of Southern Basin and Range habitats.

Good?

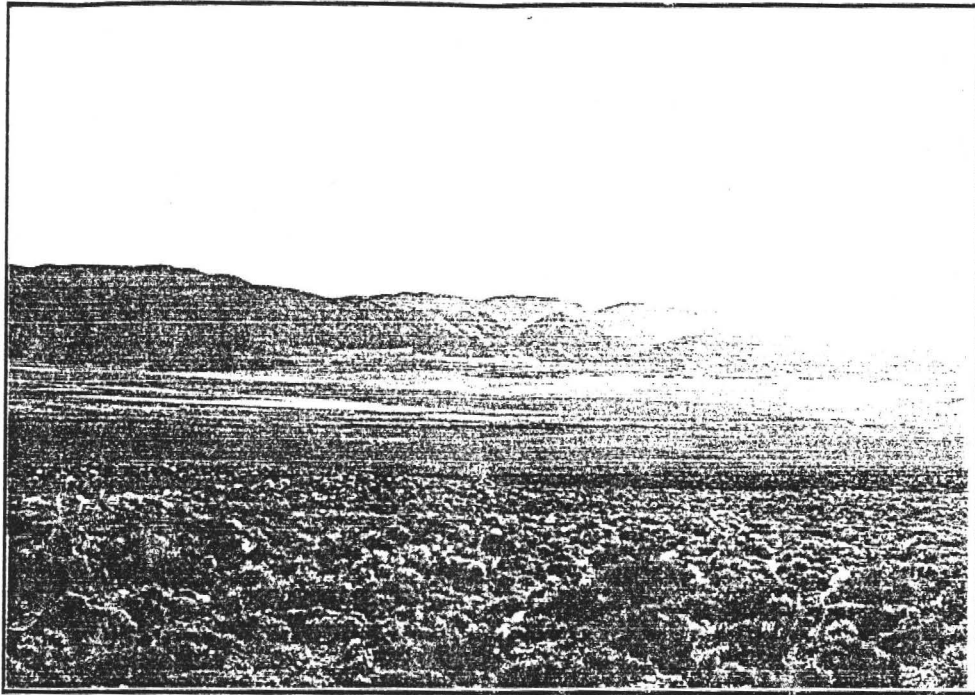


Figure 2. Overlooking the Burro Range. *This photo is taken toward the west overlooking Teels Marsh, which is the dry lake in the upper center portion of the photo. To the right (north) of Teels Marsh is the ghost town of Marietta. The alluvial fans surrounding Teels Marsh is the major concentration area for wild burros.*

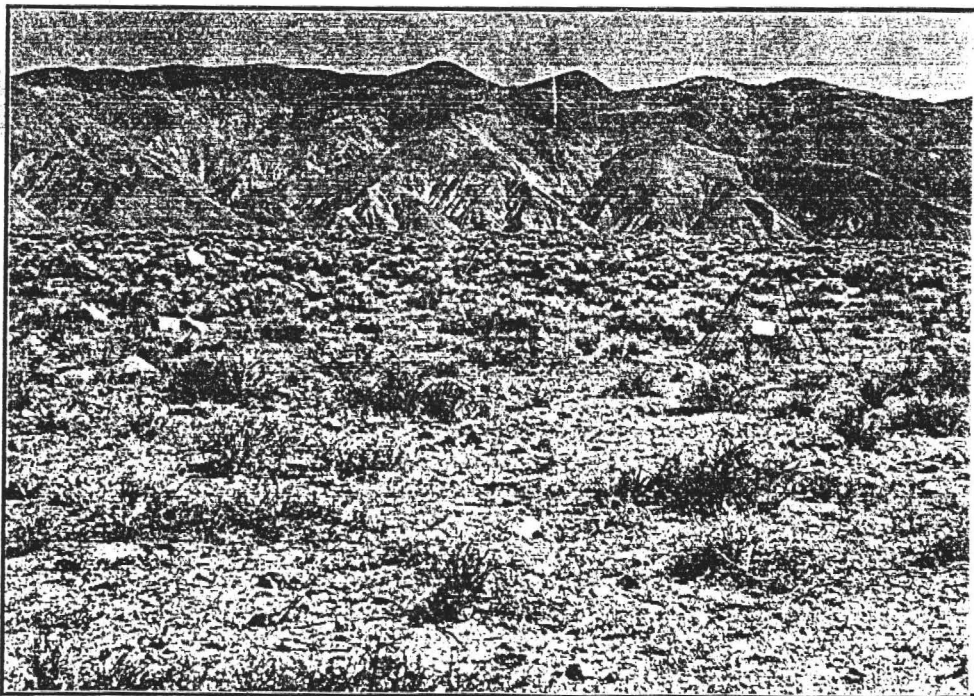


Figure 3. Monitoring Site, Northwest of Teels Marsh. *In terms of burro food, the area contains adequate amounts of fourwing saltbush but almost no perennial grass, especially Indian ricegrass. Instead of ricegrass, the burros were relying on annual forbs in spring and summer, which are precipitation dependent. Since it was a wet spring in 1995 (when this photo was taken), there is plenty of annual forbs. But will the burros be as fortunate next year?*

HISTORY OF THE MARIETTA WILD BURRO RANGE

Prior to the formation of the burro range, the area was managed for both wild burros and livestock in what was then known as the Marietta and Candelaria Allotments. It was recognized in the early 1980's that the area offered a unique opportunity for visitors to view wild burros in the desert environment. Therefore, the Walker Resource Management Plan (1986) proposed that the area be proposed as a national burro range. The subsequent Marietta Wild Burro Herd Management Area Plan (HMAP), approved by the Nevada State Director on July 16, 1987, included several decisions relating to the management of wild burros. Among these was the decision to dedicate a majority of the HMA exclusively to burro management. This decision led to the formation of the Marietta Wild Burro Range, which was publicly dedicated in 1991 (the 20th anniversary of the Wild and Free-Roaming Horse and Burro Act).

The previously mentioned decision to dedicate the major portion of the wild burro area to wild burro management was accomplished in 1992 by the issuance of a grazing decision. The decision adjusted the grazing allotment boundaries to exclude the portion of the burro area that includes Teels Marsh and the ghost town of Marietta (an area the wild burros seem to have preferred). The remaining portions of the Marietta and Candelaria Allotment were combined into the Belleville Allotment. Candelaria was an adjudicated allotment that had been allowed to be grazed in order to reduce competition between livestock and wild burros in the Marietta Allotment. Fortunately, the remaining portions of the Candelaria Allotment more than compensated for the loss of acreage in the Marietta Allotment. Also, the specific area excluded from livestock grazing had historically not been grazed by livestock. The bottom line was that a large area was dedicated exclusively to wild burro management without the reduction of active grazing preference nor overallocation of forage (i.e., all uses were satisfied).

SUCCESSSES AND CHALLENGES

Other decisions included the establishment of wild burro population levels, decisions to maintain water sources for wild burro use, and the improvement of habitat. Since the plans approval, the population has been managed within the parameters established within the HMAP and waters have remained open for wild burro. Among the habitat goals was to increase Indian ricegrass, especially in the concentration area near the site of Marietta.

Perennial grass is an important component to the diet of wild burros. Being adaptable animals, wild burros can survive on annual grasses and forbs in lieu of the native perennial grasses. The problem with annual plants are that they are very precipitation dependent. With the "boom or bust" precipitation of this arid ecosystem, annual plants may not grow during drought years. However, perennial grasses will produce some forage, even in dry years. Based on Soil Conservation Service (SCS) Ecological Site Descriptions, the site shown in Figure 3 (page 3) should support a plant community with 50 - 70% Indian ricegrass. However, the photographers were only able to find two grass plants in a 100 yard radius (one of these plants being the protected one in Figure 4).

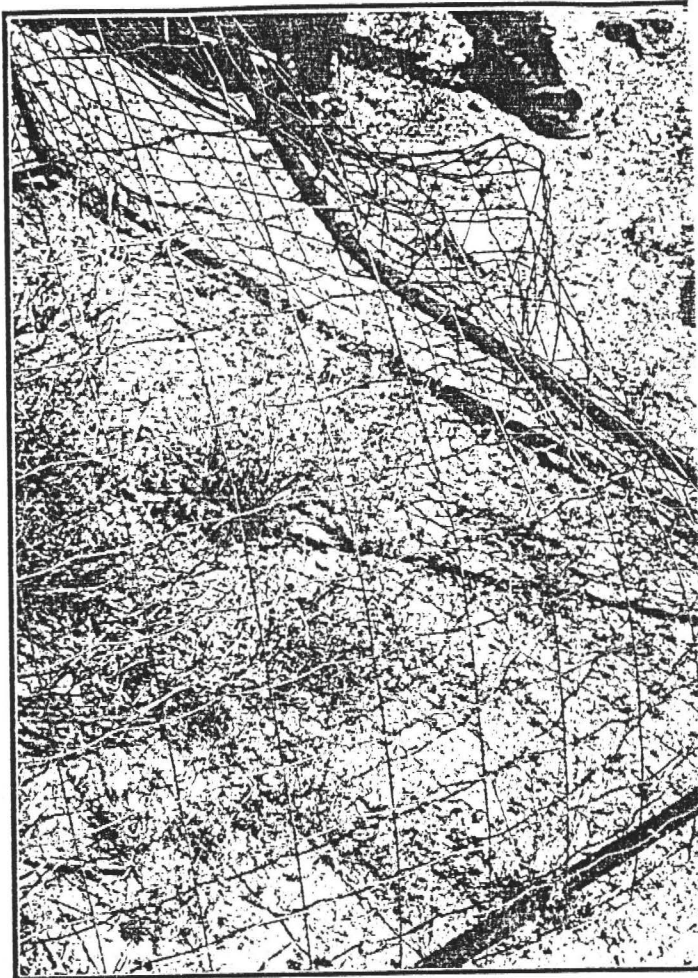


Figure 4. Proof that Burros Love Ricegrass. *This is a close-up photo of the cage seen in Figure 3 (page 3). The burros have tried to smash in the side of the cage to get to the Indian ricegrass plant in the protected plot.*

Even after the use levels were lowered, the surviving ricegrass plants were at a too low density to act as a seed source. Therefore, two one acre seeded exclosures were created to supply ricegrass seed to the adjoining areas (Figure 5). Of course, seedlings are risky even in areas of higher precipitation zones than the burro range. As of 1995, no seed had germinated in the exclosures.

The staff of BLM's Walker Resource Area were then compelled to consider other management alternatives conforming with the following criteria:

1. Method(s) must have shown success on similar plant communities;
2. The method must allow for a thriving wild burro population at the levels established in the Marietta HMAP.
3. This will be accomplished without restricting the free-roam behavior of the wild burros.

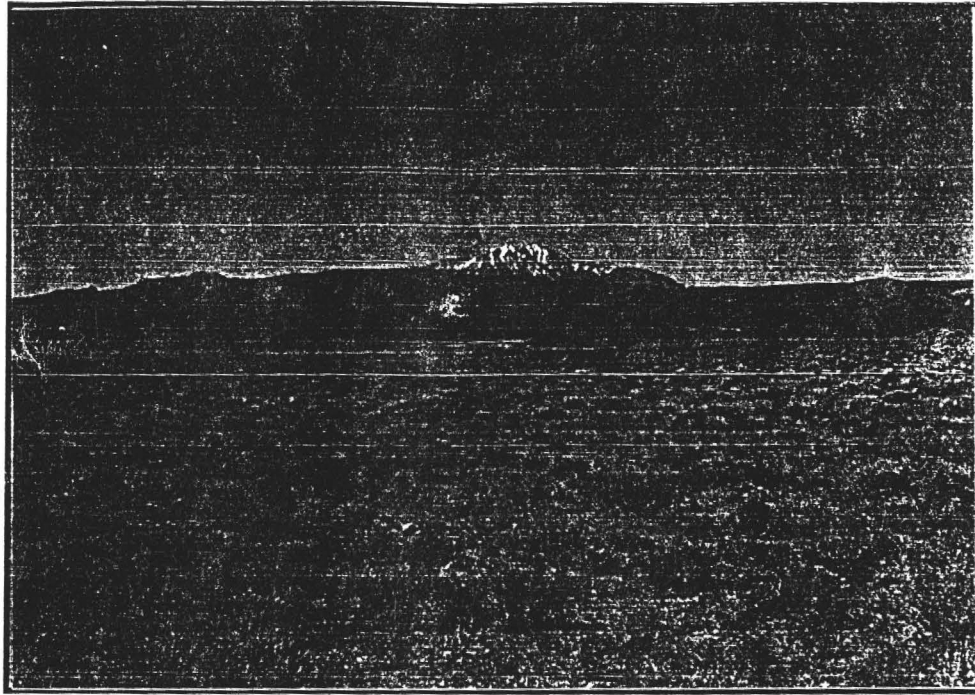


Figure 5. Inside Seeding Enclosure. Only three ricegrass plants were counted inside the one-acre enclosure in 1995 (date of the photograph), which is the same density outside. Currently, there is very little difference inside than outside other than utilization levels (refer to Figure 3, page 3). The plants between shrubs are annual forbs.

Meanwhile, cattle were being grazed in the adjacent Belleville Allotment using some very innovative approaches to management. In 1994, after the first year of grazing, both the rancher and Bureau personnel noticed an increase in ricegrass seedlings. After the second year of grazing, monitoring results indicated that the bare space between perennial plants decreased from approximately 16 inches before grazing to 5 inches after two years (i.e., more than a three-fold increase in perennial plant density). Most of this was due to an increase in Indian ricegrass. Interestingly, this occurred in a plant community with less potential to support ricegrass than the site shown in Figure 3: 5-20% of the potential plant community on the Belleville Allotment site versus 50-70% of the potential plant community on the Burro Range site. This improvement is evidenced in Figures 6 and 7.

Two questions came immediately to mind: (1) what caused this improvement and (2) can this be repeated inside the wild burro area? The answer to the first question lies with principles known for many years by organic gardeners in arid and semi-arid climates: perennial plant seed must be worked into the soil with organic matter to produce seedlings. Otherwise the soil surface becomes crusted and is impenetrable to both seed and plant litter (therefore seeds do not germinate and litter dries up and is not broken down into the essential organic compounds). Also, an accumulation of dead

*Rice grass works best when seeds are planted 2"-6" deep
AND Soil Compacted ALSO

Biological diversity of Microscopic Animals up through the large mammal
and the predator prey relationship keeps things healthy - this
CANNOT be achieved by brush mechanical means

↑
Lost explanation

material in grass plants will cause them to become unhealthy and eventually die out. Successful organic gardeners will remove dead material from their garden, compost it, then work it back into the soil either with seed or around living plants to retain moisture and provide food. What the rancher did was use cattle to remove the dead material and turn it into compost (i.e., dead grass ran through the cow to make manure). The hoof action of the cattle caused seed, manure, and surface litter to be worked into the soil. The greatest response to this impact was the area surrounding the trough where impacts were the greatest. Another key factor was that the cattle were moved off this site shortly after impacts occurred, which allowed plants to regrow and seedlings to establish.

This response is very similar to the inter-relationship between the wandering herds of bison and our native grasslands. In the case of Belleville Allotment, this occurred with domesticated "bison".

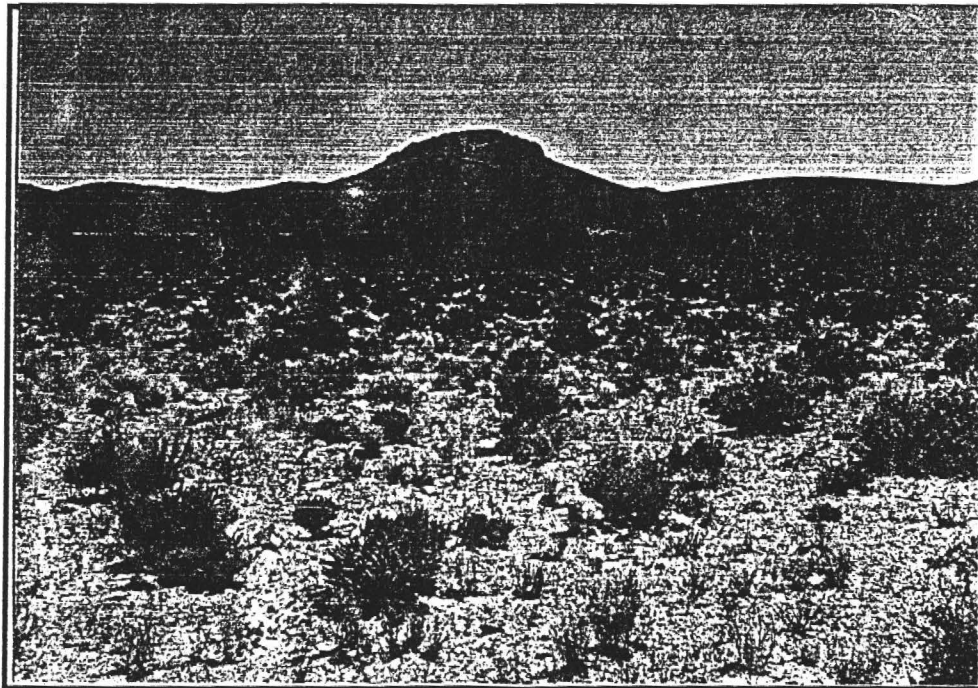


Figure 6. Monitoring site in Belleville Allotment. *The green plants between the shrubs are Indian ricegrass (average spacing of approximately 5 inches). Compare this with Figure 3 (page 3), where only annual forbs can be seen between shrubs. According to the SCS Ecological Site Descriptions, the site shown in Figure 3 has a greater potential to support ricegrass.*

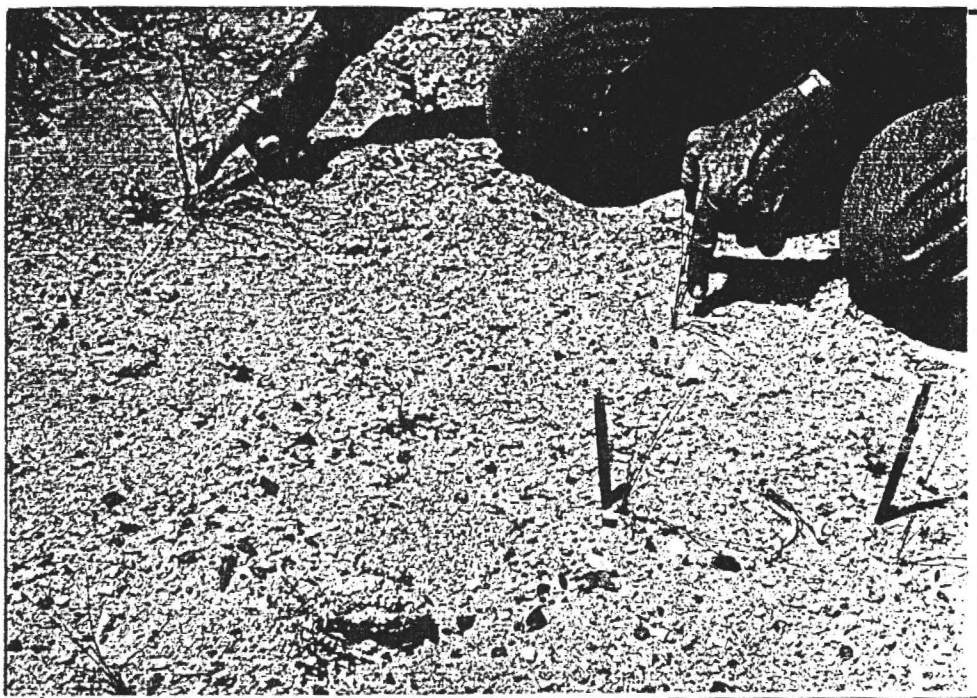


Figure 7. Detail of New seedlings. *The grass plants are less than two years old, which indicates that the area in this photo was bare ground two years ago. The plants in the upper and lower left are two years old. The other marked plants are one year old, but are developed enough to survive.*

The plant communities that this response occurred on in the Belleville Allotment are similar to those in the burro range. Therefore the first of the criteria discussed on page 5 has been met. However certain challenges had to be addressed before such management could be implemented in the Burro Range.

- A. There is not enough wild burros to accomplish the needed impacts. Even if there was, grouping wild burros into a concentrated group would be extremely difficult if not totally contradictory to the free-roaming nature of these animals.
- B. Even assuming we could achieve these impacts, it has already been shown that seed sources are totally inadequate to produce a substantial increase in ricegrass.
- C. Assuming that A and B could be addressed, there is nothing to prevent the wild burros from continuously returning to the impacted areas and feeding on the newly established ricegrass seedlings (i.e., causing undue stress on the developing plant community).

* More animals managed properly create more habitat - very much
 A Compounding effect

A MODEST PROPOSAL

The answer to the first concern is to use the cattle to achieve the necessary impacts. Since there is not enough forage to sustain cattle in this area, they would have to be fed hay. Also, the left-over hay would compensate the wild burros for the limited forage that the cattle may graze. Water hauling and herding ^{of the livestock} would also be necessary.

Due to the lack of seed sources in the area near Marietta and on the alluvial fans west of Teels Marsh (the best areas for wild burro viewing), seed will have to be spread under the cattle hoofs. The animals will then act as self-contained composters and seeders, converting hay into manure and trampling the manure and seed into the ground. The southern portion of the Burro Range in the vicinity of Jack Springs Canyon has more ricegrass (though not very dense) and therefore might have enough seed standing and in the ground.

The answer to the last concern would be to treat a large amount of acreage. Even if the burros returned to treated areas, there would still be enough acres left to recover.

good

SECONDARY BENEFITS

Creating a more diverse plant community will provide additional benefits for the many non-game species that live in the area. The diverse plant community will also encourage the pronghorn antelope to expand their range within the burro area. Also, by providing plenty of forage in the vicinity of Marietta and Teels Marsh, the wild burros would not have to leave their favorite area in search of food. This would reduce competition between wild burros and bighorn sheep in the adjacent Excelsior Mountains.

This area is also prone to soil erosion, especially during the flash floods that frequently occur in this desert environment. As the local residents say: "we might not get much rain, but you ought to be here the day we get it." Increasing the ground cover and providing additional root structure will help stabilize the soil and prevent this erosion.

ce. 1980?

WHAT WE NEED FROM YOU

To be successful, this project would have to be done on a large scale. The first thing we will need is lots of cows (our herd of bison). Schedules can be adjusted to allow interested permittees to participate (e.g., when they are scheduled to be off the range). Since the cattle will have to be fed hay to stay where we want them and not starve, this could not be considered grazing. This means that the grazing fee would be waived.

This would be done inside an area normally restricted to ^{from} livestock use. Therefore, participation by the permittees would not result in any increases in their permit. Therefore,

Pipelines
H₂O could be

it would not be fair to expect them to provide any of the hay or seed necessary to the success of this operation. We are therefore asking for donations in the form of money, hay, Indian ricegrass seed, and/or labor. The labor will be required in monitoring, building monitoring exclosures, controlling the livestock, bucking and transporting hay, etc. Table 1 (page 11) shows an estimate of the cost for a complete treatment. Note that these costs could be significantly reduced through donations of seed, hay, and/or labor.

WHO TO CONTACT

This project is being coordinated by the Walker Resource Area Rangeland Management Staff. Please contact either Rich Benson or Earl McKinney at the Carson City District Office between the hours of 7:30 AM and 5:00 PM, Monday through Friday:

Address: Bureau of Land Management
Carson City District
1535 Hot Springs Road, Suite 300
Carson City, Nevada 89706-0638
Attention Rich Benson

Phone: (702) 885-6100 - Main Receptionist
(702) 885-6124 - To leave voice mail messages

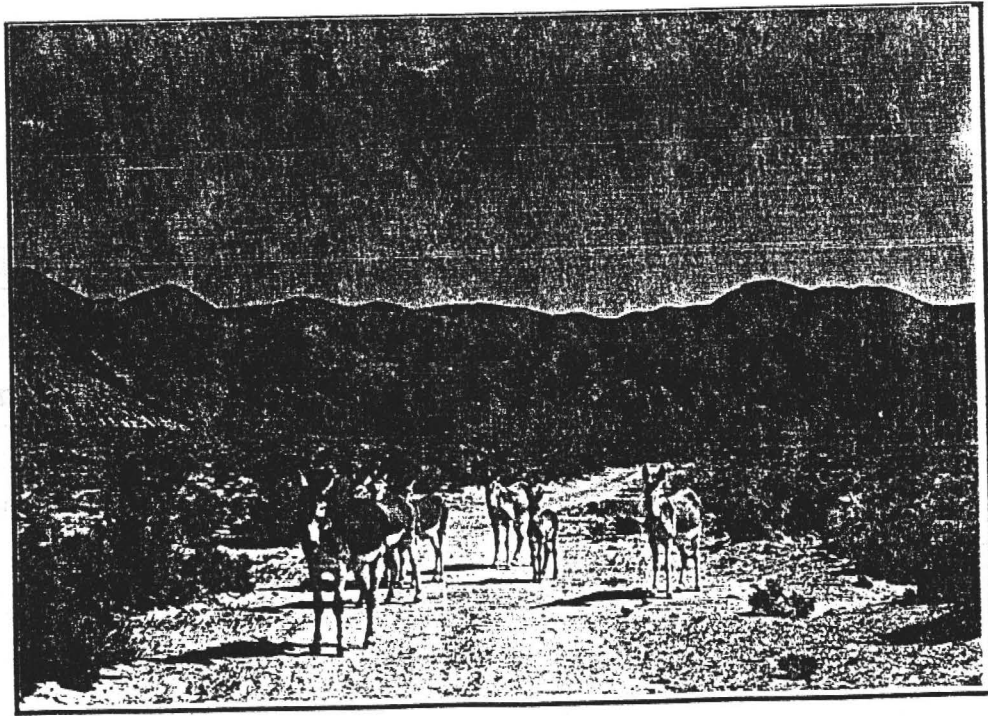


Figure 8. Their future is up to you!

TABLE 1
Marietta Burro Range Habitat Improvement
Cost Estimate

Description	Major Ecological Site(s)	Acres	Type of Treatment	Seed Cost (per pound)	Seeding Rate (lbs / acre)	Hay Cost (per pound)	Tons of Hay / Acre
½ mile to ¾ miles southwest of Marietta town site (SMU 3095 & 4105)	Sandy 5-8" P.Z.	2,000	Feeding livestock with broadcast seeding	\$4.25	1	\$100	1
¾ miles to 5½ miles southwest of Marietta town site (SMU 4100)	Sandy 5-8" P.Z.	700	Feeding livestock with broadcast seeding	\$4.25	1	\$100	1
Bottom of Jack Springs Canyon (SMU 1877)	Sandy 3-5" P.Z.	800	Some feeding may be necessary, no seeding	----	----	\$100	½
East of Teels Marsh. (SMU 1173 & 1040). Note that this site has the potential to support both ricegrass and basin wildrye.	Sandy 5-8" P.Z., Dunes 4-8" P.Z., Deep Sodic Fan 4-8" P.Z.	1,000	Feeding livestock with broadcast seeding	\$4.25	1	\$100	1
Southeast of Teels Marsh		1,600	Feeding livestock with broadcast seeding	\$4.25	1	\$100	1
		6,100					

Explanation of Information in This Table

Order by Priority: priority is based on a combination of factors including preference by burros and potential.

Location: Includes general location, Soil Mapping Unit (SMU), and other information. SMUs are used to reference areas to the SCS Soil Survey.

Ecological Site(s): This, along with SCS Soil Survey information is used to determine an area's suitability for treatment.

Size of each area in acres.

Treatment: Treatment most suited for each area.

Seed Cost: Based on 1995 costs for Nezpar variety of Indian ricegrass.

Seeding Rate: Although this is a fairly light application rate, it is assumed that the added organic matter and planting of seeds through hoof action will increase germination and seedling survival.

Hay Cost: Estimate of high quality alfalfa hay per ton.

Hay Tons: Estimated amount needed for approximately 500 head of cattle.

Total Cost: Estimated total cost. This could be significantly reduced through donations of hay, seed, and labor.

How many years - (5000 for 2 mos?)

TABLE 1
Marietta Burro Range Habitat Improvement
Cost Estimate

Area No. by Priority	Description	Major Ecological Site(s)	Acres	Type of Treatment	Seed Cost (per pound)	Seeding Rate (lbs / acre)	Hay Cost (per pound)	Tons of Hay / Acre	TOTALS
1	½ mile to 3½ miles southwest of Marietta town site (SMU 3095 & 4105)	Sandy 5-8" P.Z.	2,000	Feeding livestock with broadcast seeding	\$4.25	1	\$100	1	\$208,500
2	3½ miles to 5½miles southwest of Marietta town site (SMU 4100)	Sandy 5-8" P.Z.	700	Feeding livestock with broadcast seeding	\$4.25	1	\$100	1	\$72,975
3	Bottom of Jack Springs Canyon (SMU 1877)	Sandy 3-5" P.Z.	800	Some feeding may be necessary, no seeding	----	----	\$100	½	\$4,000 40,000
4	East of Teels Marsh. (SMU 1173 & 1040). Note that this site has the potential to support both ricegrass and basin wildrye.	Sandy 5-8" P.Z., Dunes 4-8" P.Z., Deep Sodic Fan 4-8" P.Z.	1,000	Feeding livestock with broadcast seeding	\$4.25	1	\$100	1	104,250
5	Southeast of Teels Marsh		1,600	Feeding livestock with broadcast seeding	\$4.25	1	\$100	1	166,800
TOTAL			6,100						\$556,525 562,520

Explanation of Information in This Table

Area Number by Priority: priority is based on a combination of factors including preference by burros and potential.

Description: Includes general location, Soil Mapping Unit (SMU), and other information. SMUs are used to reference areas to the SCS Soil Surveys.

Ecological Site(s): This, along with SCS Soil Survey information is used to determine an area's suitability for treatment.

Acres: Size of each area in acres.

Type of Treatment: Treatment most suited for each area.

Seed Cost: Based on 1995 costs for Nezpar variety of Indian ricegrass.

Seeding Rate: Although this is a fairly light application rate, it is assumed that the added organic matter and planting of seeds through hoof action will increase germination and seedling survival.

Hay Cost: Estimate of high quality alfalfa hay per ton.

Tons of Hay: Estimated amount needed for approximately 500 head of cattle. *How many years - (5000 for 2 mos?)*

TOTALS: Estimated total cost. This could be significantly reduced through donations of hay, seed, and labor.

Mark on the document all you want, but please don't damage the photos.

A Modest Proposal (Points to consider)

I have tried to limit the scientific and ~~too~~ bureaucratic BS; however, we might need to add some of it back in for some potential contributors (NBU might think we're patronizing them).

Page 2 - I have included a simple map - we might want a more detailed one, depending on the intended reader.

Page 9 - ~~It is~~ ^{8x10} I tried to do a "one-size fits all". It might be better to have different versions of these 3 sections for different contributors (i.e., stressing different points).

Page 10 - Who to Contact - if Tony & Jerric can get their non-profit organization off the ground, they might be a contact. We probably should be the main coordinators of this project since it is on public land.

Table 1 - The Hay Cost & ~~amount~~ amount is a SWAG. I can use all the help I can get on this. The seeding rate is very conservative; it would be great if we could get more. Also, we might

Seeds/lb
of Rice grass?

consider other species to throw in the mix if we approach wildlife groups (globemallow, winterfat, sand-dropseed, galleta, other natives). The limiting factor is going to be precipitation zone (3" - 8" over much of the area), however using Tipton's "barnyard bison" may give us enough edge on the water cycle to try other species - we still should use species we could consider "native".

Other Points -

- Besides customizing the proposal to each prospective client, letters of introduction from appropriate VIPs might be considered.
- ~~When~~ ^{when} we start getting interest going, consider field trips to the site(s).

Rich Benson
(7/19/95)