SULLIVAN ELECTRIC FENCE
ENVIRONMENTAL ASSESSMENT
WY-030-EA1-180

I. INTRODUCTION

The Sullivan Allotment occurs both east and west of Wyoming Highway 487 as well as north and south of Wyoming Highway 77. The allotment begins about 14 miles north of Medicine Bow, Wyoming (See Map 1). The Sullivan Allotment has 17 large pastures which include varying amounts of public and private land and several smaller pastures which contain mostly private property. Any decision resulting from the following analysis of the proposed action and alternatives will apply to only the BLM-administered public lands within the Sullivan Allotment.

Topography is diverse across the allotment. Topographic features include rolling prairies and large mesas to the north and rugged, mountainous terrain to the south. The dominant plant community on the north end of the allotment is mixed grass prairie, and on the south end of the allotment a more diverse mix of communities occurs including mountain shrub, big sagebrush, and mountain sagebrush.

In the spring of 2000, Q Creek Land and Livestock Company LLC (Q Creek) applied to convert 700 animal units of cattle use to bison in the Sullivan Allotment. Q Creek also proposed to construct approximately 70 miles of electric fence on private, state, and BLM-administered public land. At the time, Q Creek proposed building the following types and configurations of fence:

a. Three-wire electric fence with wire spacing of 20, 30, and 40 inches from the ground
b. Four-wire electric fence with wire spacing of 14, 20, 30, and 40 inches from the ground
c. Five-wire electric fence with wire spacing of 14, 22, 30, 40, and 50 inches from the ground

Q Creek also proposed to electrify the fences year-round, with the top and bottom wires electrified or “hot.” The BLM received numerous public comments during the scoping period for that proposal.

Segments of the above-described electric fence were constructed by Q Creek but were not electrified. In June 2000, Q Creek formally withdrew its proposal. Since that time, certain segments of electric fence have been removed or converted to previously-authorized barbed-wire fence. During the winter of 2000/2001, Q Creek submitted a redesigned proposal for electrifying segments of the remaining electric fence and removing one segment of electric fence. This proposal would be an interim measure while a more complete grazing plan is developed.

A. PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the proposed action is to electrify a segment of the fencing in the Sullivan allotment and remove another segment of electric fence (Map 2). The non-electrified electric fence has been ineffective in controlling livestock within the grazing rotation authorized for the allotment. Electrifying certain segments of the fence (Segment 1) will control livestock when they are present in those pastures while reducing costs associated with fence maintenance. Segment 2 of the non-electrified

electric fence will be removed until management decisions are made regarding the necessity of additional fencing and appropriate locations for any additional electric or barbed-wire fence.

B. CONFORMANCE WITH LAND USE PLAN

This proposal is in conformance with the Great Divide Resource Management Plan (RMP) approved on November 8, 1990, and the Great Divide Rangeland Program Summary approved February 1993. The Great Divide Resource Area Record of Decision (ROD) and Approved Resource Management Plan (RMP) allows for the construction of range improvements, including fences, for the purpose of livestock management. In June 1999, the Rawlins Field Office Programmatic Environmental Assessment for Fence Projects was approved. The programmatic assessment included electric fence analysis. In 2000, the Rawlins Field Office issued an Interim Electric Fence Policy that specifically identifies electric fence standards. In the spring of 2001, this interim policy was revised in response to Wyoming Game and Fish Department (WGFD) comments.

This proposal is consistent with the Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the State of Wyoming.

The proposed action is consistent with federal, state, and local government programs, plans, zoning, and applicable regulations.

II. PROPOSED ACTION AND ALTERNATIVES

A. PROPOSED ACTION - FENCE ELECTRIFICATION AND REMOVAL

The proposed action is to electrify Segment 1 of the fence within the Sullivan Allotment after ensuring compliance with the Rawlins Field Office electric fence policy for a three-wire electric fence. Segment 2, which consists of existing non-electrified electric fence, will be removed.

After analysis of the grazing management needs for any additional pasture fences within the Sullivan allotment, Segment 2 of the fence may be replaced in its present location, the Segment 2 fence location may be changed, or the fence may not be rebuilt at all. However, if any of this segment of fence is proposed for use as a pasture fence, it will be analyzed in a separate environmental assessment.

Segment 1: This area of the Sullivan allotment is located in Townships 25 and 26 North, Range 79 West. This segment of fence would result in approximately 14.3 miles of electrified three-wire fence. Segment 1 consists of 3.8 miles of fence on public land, 4.5 miles of fence along public land/private land boundary, and 6.0 miles of fence on private property. ***Note: fence constructed along any public land/private land boundary that is constructed on private land is considered to be private fence and does not fall under the jurisdiction of the BLM.***

Segment 2: This area of the Sullivan Allotment is also located in Township 26 North, Range 79 West. This segment of fence would result in the removal of approximately 3.2 miles of three-wire non-electrified electric fence. Segment 2 consists of 1.95 miles of fence on public land and 1.25 miles of fence along public land/state land boundary.

Q Creek will be responsible for all fence modifications contained in this proposal. All fences on public land will comply with BLM accepted standards (BLM Fence Manual H-1741-1) and the revised Rawlins Field Office Interim Electric Fence Policy.

Mitigation Measures, Standard Operating Procedures, Special Stipulations

Fence projects will be accessed using existing roads and trails.

Cross-country travel will be restricted to the actual fence route.

Only rubber-tired vehicles will be used during fence construction, alteration, or maintenance.

Identifying and/or treating weed patches prior to construction and ensuring that vehicles are cleaned prior to leaving weed infested areas will reduce the spread of noxious weeds.

Wildlife Timing Stipulations - Timing restrictions to avoid construction during critical breeding, nesting, or wintering periods will be established by the Authorized Officer and will meet site-specific needs of affected wildlife species. Wildlife timing stipulations in place at this time for the project area include:

> Construction activities would not be allowed during the mountain plover reproductive period of April 10 through July 10 within 200 meters of identified concentration areas; concentration areas are defined as areas where broods and/or adults have been found in the current year or documented in at least two of the past five years.
>
> Construction activities would not occur within identified big game crucial winter ranges between the dates of November 15 and April 30.
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> Construction, maintenance, and other activities potentially disruptive to strutting and nesting greater sage/sharp-tailed grouse are prohibited during the period of March 1 to June 30 for the protection of strutting and nesting areas.
>
> Construction, maintenance, and other activities potentially disruptive to wintering greater sage-grouse are prohibited during the period of November 15 to April 30 for the protection of winter concentration areas.

No fence modification/removal activities on public land will occur during established big game hunting seasons.

A Class III Cultural Resource Inventory will be conducted for all the above fence activities. All National Register-eligible resources will be avoided. If cultural or paleontological resources are discovered at any time during construction, all construction activities would cease and BLM personnel will be immediately notified. Work will not proceed until cultural or paleontological materials are evaluated and clearance to proceed is given.

Fence modification will be postponed or suspended if soils become saturated or ruts are produced by vehicles.

All existing legal public vehicular and walk-in access areas will be maintained regardless of type of fence constructed. Where electric fence remains, regular wire or steel gates will be used at existing vehicle access points, with warning signs posted. In addition, if necessary, fence stiles for pedestrians, additional gates, or other methods of access will be provided when and where identified by the Authorized Officer.

No electric fence across which there exists legal public access will be electrified during established big game hunting seasons.

B. ALTERNATIVE 1 - CONVERT ALL EXISTING NON-ELECTRIFIED ELECTRIC FENCE TO CONVENTIONAL BARBED-WIRE FENCE

This alternative would replace electric fence Segment 1 with conventional barbed-wire fence (BLM standard three- or four-wire fence). Conventional barbed-wire fence would allow for improved livestock control compared to the existing non-electrified electric fence situation. Segment 2 of the electric fence would be removed until further analysis of the need for additional fence can be completed.

C. ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL

1. No Action

This alternative would leave both Segments 1 and 2 of the existing electric fence in place but non-electrified. Leaving the electric fence in place but not energized would not provide the livestock control required to implement the grazing management strategy developed for the Sullivan Allotment. Livestock are not deterred by the smooth wires used in electric fence construction unless the wires are “hot.” Therefore, this is not a viable alternative and will not be considered further in this document.

2. Remove Both Segments 1 and 2 of the Electric Fence

This alternative would remove both segments of electric fence within the Sullivan allotment. Removing all non-electrified electric fence and not replacing it with conventional fence would greatly increase the size of pastures and result in poor livestock distribution, longer duration of grazing on vegetation, and increased impacts to riparian areas. Vegetation monitoring and livestock supervision for the allotment has identified a need to reduce the size of pastures and improve control of livestock within the larger pastures of the allotment in order to meet rangeland health standards. Because this need would not be met by removing both segments of fence, this alternative will not be considered further in this document.

III. AFFECTED ENVIRONMENT

A. CRITICAL ELEMENTS OF THE HUMAN ENVIRONMENT

Neither the proposed action nor the alternative analyzed in detail will have an effect on Wilderness, Areas of Critical Environmental Concern, Prime or Unique Farmlands, Hazardous Wastes, Environmental Justice, Threatened or Endangered Species, Floodplains, Water Quality (Surface or Ground), Native-American Religious Concerns, or Wild and Scenic Rivers.

B. GENERAL ALLOTMENT DESCRIPTION

The Sullivan Allotment is located on the northeast side of Shirley Mountain in northeast Carbon County, Wyoming. The allotment starts approximately 14 miles north of Medicine Bow, Wyoming. The allotment is about 26 miles east to west by 18 miles north to south. Elevations range from 6,750 feet to 9,150 feet above sea level.

The allotment is approximately 192,653 acres in size (108,640 acres of public land, 14,738 acres of state land, and 69,275 acres of private land). Q Creek is authorized to graze cattle on the Sullivan Allotment from May 1 to October 15.

1. Water Resources

There are several streams in the allotment including: south fork of Sage Creek, Cave Creek, Muddy Creek, Difficulty Creek, Q Creek, First Ranch

Creek, and other unnamed drainages. Riparian areas within the allotment were rated in 1998, according to the BLM's Proper Functioning Condition (PFC) procedure, and 75% were found to be in the Functioning-At-Risk category with a static trend; the remaining 25% were rated as Proper Functioning. Livestock ponds, wells, and pipelines to improve livestock and wildlife water distribution have been and are being built within the allotment.

The north end of the Sullivan allotment occurs within the 10-14 inch precipitation zone. The remainder of the allotment lies within the 15-19 inch precipitation zone. The greatest proportion of this precipitation occurs as snow within this region.

2. Air Resources

Air quality within the Rawlins Field Office management area is generally very good. The persistent wind common to Wyoming tends to dissipate emissions from industrial developments, highways, and natural and man-made fires but also tends to reduce visibility by adding dust to the air.

3. Soils

Soils in the Sullivan Allotment are grey clays (40%), friable grey loams (25%), reddish loams (25%) and mountain soils (10%). Sheet and gully erosion is a problem on about 30% of the area where either the soils are impermeable, the topography is steep, or the vegetative cover is insufficient due to geology and soil chemistry. Erosion over the rest of the area is light to moderate. Soils are generally shallow, light to medium texture with moderate permeability. This results in good infiltration rates and slight to moderate erosion potential.

4. Vegetation

Several vegetative cover types occur in the Sullivan allotment, including: desert shrub, greasewood, mixed grass prairie, Wyoming big sagebrush steppe, xeric upland shrub, mountain big sagebrush, aspen, limber pine, lodgepole pine, shrub riparian, and irrigated crops. In 1984, the Range Site Condition Classification Inventory conducted on the public land determined that 6,568 acres were in excellent condition, 49,880 acres were in good condition, 41,497 acres were in fair condition, 712 acres were in poor condition, and 12,038 acres were unclassified.

An intensive survey has not been conducted; however, there are known to be invasive, non-native species within the allotment on public and private lands.

5. Cultural Resources

A Class III Cultural Resources Inventory will be conducted for the project area.

6. Visual Resources

A visual resources Visual Contrast Rating Worksheet was completed for the project area. The management classes for the area are Class II and III. The objective of a VRM Class II area (area that includes the Shirley Mountains and the Medicine Bow breaks) is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape. In a Class III area (remainder of the allotment), the management activity may be evident in the characteristic landscape. However, the changes should remain subordinate to the visual strength of the existing character.

7. Recreation

Access to much of the land within this allotment is controlled by Q Creek. Legally accessible public lands within the allotment are limited, except on the north end. Q Creek does operate a hunting lodge and conducts big game hunts. In addition, Q Creek has developed a trout fishery which is also operated on a guided basis.

8. Wildlife

The Sullivan Allotment contains crucial winter range and year-long range for antelope, mule deer, and elk and is home to numerous other wildlife species. The riparian habitat supports many species of songbirds, with other commonly observed wildlife including rabbits, coyotes, badger, beaver, hawks, and golden eagles.

9. Fisheries

There are several public fisheries in or adjacent to the project area, including Shirley Basin Reservoir and Cave Creek. Q Creek has developed numerous ponds on its property and has developed a high-quality trout fishery for ranch guests.

10. Endangered, Threatened, and Proposed Species

There are 20 endangered, threatened, proposed and/or candidate wildlife species that may be found, or have the potential to be found or be affected, within the Rawlins Field Office area. The species that may be affected by range improvement projects, such as fencing or water developments include seven fauna: Wyoming toad, boreal toad, bald eagle, peregrine falcon, black-footed ferret, Preble's meadow jumping mouse, Canada lynx, and mountain plover; and three flora: blowout penstemon, Ute's ladies tresses and Colorado butterfly plant. The following species should not be affected by range improvements: Colorado River species--humpback chub, razorback sucker, Colorado pike minnow and bonytail chub; North Platte River species--least tern, pallid sturgeon, piping plover, Eskimo curlew, whooping crane and western prairie fringed orchid.

The following species may be affected by range improvements; however, the associated habitat types are not located within, or the species itself has not been found within the project area:

a. Wyoming toad: This species' distribution is located within 30 miles of Laramie, Wyoming, specifically Mortenson Lake and the Hutton Lake

National Wildlife Refuge; this restricted area is not located within this allotment.

b. Boreal toad: This species inhabits riparian habitat located in areas above 7,500 feet in elevation adjacent to the Medicine Bow National Forest; this habitat type is not located within this allotment.

c. Bald eagle: This species is found in coniferous or cottonwood habitats near large rivers; no nests are known to occur in the allotment at this time.

d. Preble's meadow jumping mouse: This species is located within or adjacent to riparian habitats; however, there are no Mouse Protection Areas (MPAs) and Potential Mouse Protection Areas (PMPAs) located within this allotment.

e. Canada lynx: This species is located in high elevation coniferous forests and, although they use corridors, they have not been found moving along the flats between coniferous habitats within this allotment.

f. Ute's ladies tresses: This species is found in habitats above 7,000 feet in elevation in Albany, Goshen, Niobrara, and Laramie Counties; there are no mapped locations of this plant found within this allotment.

g. Colorado butterfly plant: This species is found in southeastern Wyoming, north central Colorado, and extreme western Nebraska; there are no mapped locations of this plant within this allotment.

h. Blowout penstemon: This species occurs in sparsely vegetated shifting sand dunes or wind carved depressions (blowouts); there are no mapped locations of this plant within the allotment.

i. Mountain plover: This species is located within shortgrass prairie and shrub-steppe habitat types and may be located within this allotment. The nest sites are usually found in areas where the vegetation is less than 10 cm in height, in areas that are 30% bare ground, and rarely near water. The birds often nest in areas that are heavily grazed by livestock and/or prairie dogs. These areas may occur adjacent to or within the project area and construction activities during the breeding and nesting period may disturb the birds or destroy a nest.

j. The black-footed ferret, an endangered species, has habitat that may be located in the project area. This species is located within prairie dog colonies with black-tailed prairie dog complexes greater than 80 acres and white-tailed prairie dog complexes greater than 200 acres. Informal consultation occurred with the WGFD non-game biologist to identify if this project would impact black-footed ferret habitat, and it appears that the project will not impact the habitat.

IV. ENVIRONMENTAL CONSEQUENCES

A. PROPOSED ACTION

1. Air Quality

Modification (non-electrified electric fence brought into conformance with the Rawlins Interim Electric Fence Policy and electrified) and/or electric fence removal would involve the use of light motorized equipment that would add short-term combustion engine emissions to the air. Emissions would dissipate rapidly and would not pose a health hazard to anyone in the area, including the construction crew. Vehicle travel along the fence line would be at relatively slow speed and would add minimal amounts of dust (particulate matter) to the air.

Engine noise would occur only during fence modification and/or removal and during periods of fence maintenance. Increased noise levels would only disturb workers directly involved in the actual fence modification. Proper hearing protection may be required in some instances to properly protect workers. Wildlife in the area would be displaced as a result of increased construction noises but would likely return to the area soon after the fence was modified.

2. Soils

The principal short-term impact to soils is the disturbance and compaction caused by vehicles driving along the fenceline during modification and removal. Two-track roads following the fencelines have already been established where terrain permits. Some minor amounts of oil and other fluids from vehicles used in modification and maintenance may be dripped or spilled on the ground.

Long-term effects to soils would result from fences influencing animal behavior. Managing livestock movements between pastures would change duration-of-use and season-of-use. More appropriate use of vegetation would lead to improved ground cover through increased vegetation production and would result in improved watershed condition and reduced soil erosion.

3. Vegetation

No additional vegetation disturbance would be required to modify or remove fences within the Sullivan Allotment. Vehicle use during fence modification/removal could introduce noxious weeds to uninfested areas.

Effects on vegetation would result from a change in animal behavior and distribution. Currently, the non-electrified fences are not effective in modifying livestock behavior. When modified and electrified, these fences would provide for manipulation of duration-of-use, season-of-use, distribution, and amount of forage use for most plant species of concern.

4. Visual Resources

The proposed action conforms with the VRM classes currently in place within the project area. Historically, there were conventional barbed-wire fences along the identified segments. Rangeland fences (including electric fences) are fairly unobtrusive and do not greatly detract from the scenery of the area.

5. Recreation

The impact to recreation caused by the proposed action would be both short-term and long-term. The short-term presence of equipment and workers would decrease people's sense of solitude and decrease the quality of their outdoor experience. The activity and noise would possibly cause some members of the recreating public to relocate to other areas. Displacement of wildlife due to activity during modification, removal and/or maintenance activity may also impact recreational experience or quality in close proximity to the activity. People interested in wildlife viewing may relocate as well during the fence modification/removal activity.

No loss in public access due to fence modification/removal would occur. There would be no net gain of fences, only a change in the type and use of existing fences. Where electric fences remain and legal public access exists, regular wire or steel gates to ensure safe public access would be installed. The electric fences would only be electrified when livestock are present in the pastures. In addition, during hunting season, no fence with public access would be electrified. This would reduce impacts to legal public access along any electric fence segment. In areas identified by the recreating public, additional gates, stiles or other mechanisms for crossing the fence will be available.

Some members of the public may be uncomfortable about crossing electric fences when they are "hot" and are naturally more comfortable crossing conventional fences due to more exposure and experience with conventional fences. The Rawlins Field Office management area currently contains over 100 miles of electric fence that is often energized during big game hunting seasons. The Rawlins BLM has not received any complaints to date that would indicate that the public is having difficulty crossing these permitted fences. With a little experience and practice, electric fences can be crossed with less effort than that required to cross a conventional barbed-wire fence.

6. Wildlife

Little research has been done on wildlife passage through electric fences. An ongoing study by the Wyoming Cooperative Fish and Wildlife Research Unit (funded in part by UW, WGFD and BLM) began in the spring of 2000.

Until further information becomes available, the BLM Rawlins Field Office relies on the discussion of impacts in the Interim Electric Fence Policy:

> Electric fences tend to be less hazardous to wildlife due to several factors. The smooth wire has no barbs on which animals get caught. In addition, deer, antelope, and elk have hollow hair which provides an insulating effect against the electricity. Electric fences built to the Rawlins Field Office Fence Policy standards include wire spacings and fence construction techniques that provide for a more flexible fence.

Electric fences built to the Rawlins Field Office Interim Electric Fence Policy standards would provide less impact on large game animals during hunting seasons than conventional fences. Even if the animal is forced through an electric fence during the hunting season, the fence will give enough to let the animal through without injuring it.

7. Threatened, Endangered, and Proposed Species

The construction activities would not be allowed during the mountain plover reproductive period of April 10 through July 10 within 200 meters of identified

concentration areas; concentration areas are defined as areas where broods and/or adults have been found in the current year or documented in at least two of the past five years.

No other Threatened, Endangered, or Proposed Species or their habitat are identified as being affected by the proposed action.

8. Livestock Grazing Management

Whether the construction and maintenance of electric fence would be reduced when compared to the costs of construction and maintenance of conventional barbed-wire fence is still unresolved. In some situations, due to the spans between posts, electric fence may be better able to withstand pressure from wildlife, loads from heavy snow accumulation, and, in timbered areas, trees falling across the fence. In other situations, where terrain is rough and/or uneven, the costs may be comparable or more than for standard barbed-wire fence.

Mitigation Measures

No additional mitigation measures other than those identified under the proposed action would be required to lessen impacts of the action.

Residual Impacts

Because no additional mitigation is required, impacts would remain as described above.

Cumulative Impacts

The Cumulative Impact Analysis Area for this project is considered to be the entire Sullivan Allotment. The only other projects/developments within the Sullivan Allotment include rangeland improvement projects such as fences, vegetation treatments, spring developments, and water catchments. Other developments include improved roads and two-track roads required to access the allotment and surrounding lands. Cumulative impacts of the proposed action when combined with all other range improvement projects within the allotment would result in improved livestock grazing management over the present situation. Improvement in plant health and vigor by shorter durations of livestock grazing would benefit both upland and riparian sites. All segments of the modified electric fence would follow the Rawlins Interim Electric Fence Policy which is designed to facilitate wildlife movement when compared to woven, conventional barbed-wire or non-standard electric fence configurations. No additional cumulative impacts would result due to the proposed action. Conventional barbed-wire fencing was already present in the fence locations. The proposed action would only result in a modification of type of fence.

B. ALTERNATIVE 1 - CONVERT EXISTING ELECTRIC FENCE TO CONVENTIONAL BARBED-WIRE FENCE

This alternative would result in the same impacts as the proposed action for all resources other than Recreation, Wildlife, and Livestock Grazing.

1. Recreation

Recreationists crossing, hunting, hiking, on public land would not be intimidated by the presence of barbed-wire fence along segments of the fence that had legal public access. The public is relatively comfortable with the idea of crossing a barbed-wire fence and would not hesitate to do so. No crossovers would be provided where the fence is standard barbed-wire design and none would be needed. Regular barbed-wire gates or steel gates in conventional barbed-wire fences would be similar to regular wire gates or steel gates found in electric fences.

2. Wildlife

Conventional barbed-wire fences would be a greater obstacle to wildlife movement than electric fences. Even barbed-wire fences that are built to conform with the BLM fence standards and are designed to allow wildlife passage would occasionally entangle and/or kill big game animals attempting to cross. Severe winters, stressful times of year, and overall animal health would all reduce the ability of big game animals to negotiate conventional barbed-wire fences.

3. Livestock Grazing Management

Fence maintenance costs would be increased for these segments of fence. Current construction practices produce a relatively rigid fence that would be subjected to pressure from livestock, wildlife, and snow loads. These types of pressures on a barbed-wire fence reduces the life of the fence and increases the maintenance requirements for the fence.

Mitigation Measures

No additional mitigation measures would be required to lessen impacts of this alternative.

Residual Impacts

Because no additional mitigation is required, impacts would remain as described above.

Cumulative Impacts

Cumulative impacts of Alternative 1 would be the same as identified for the Proposed Action.

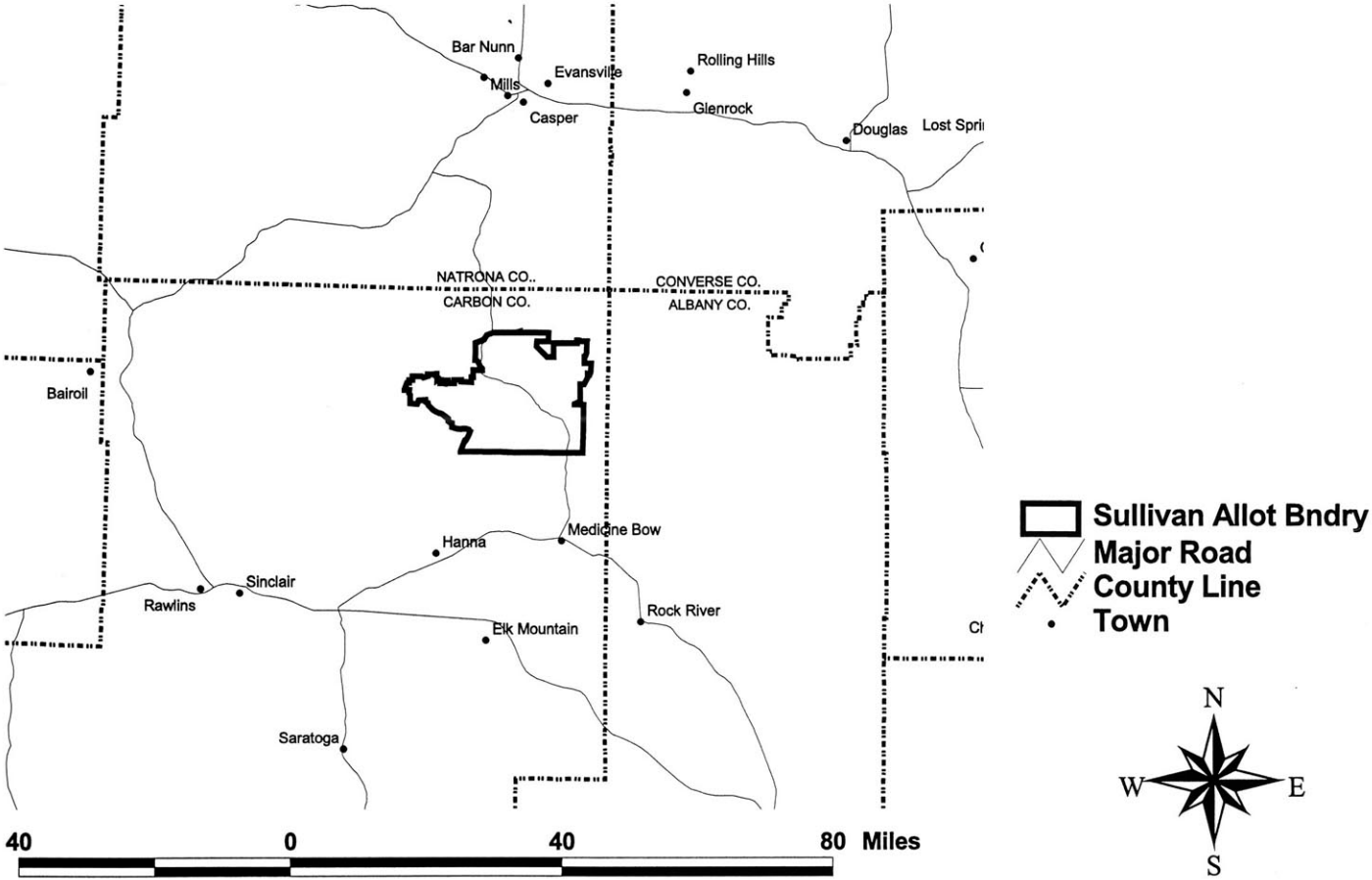
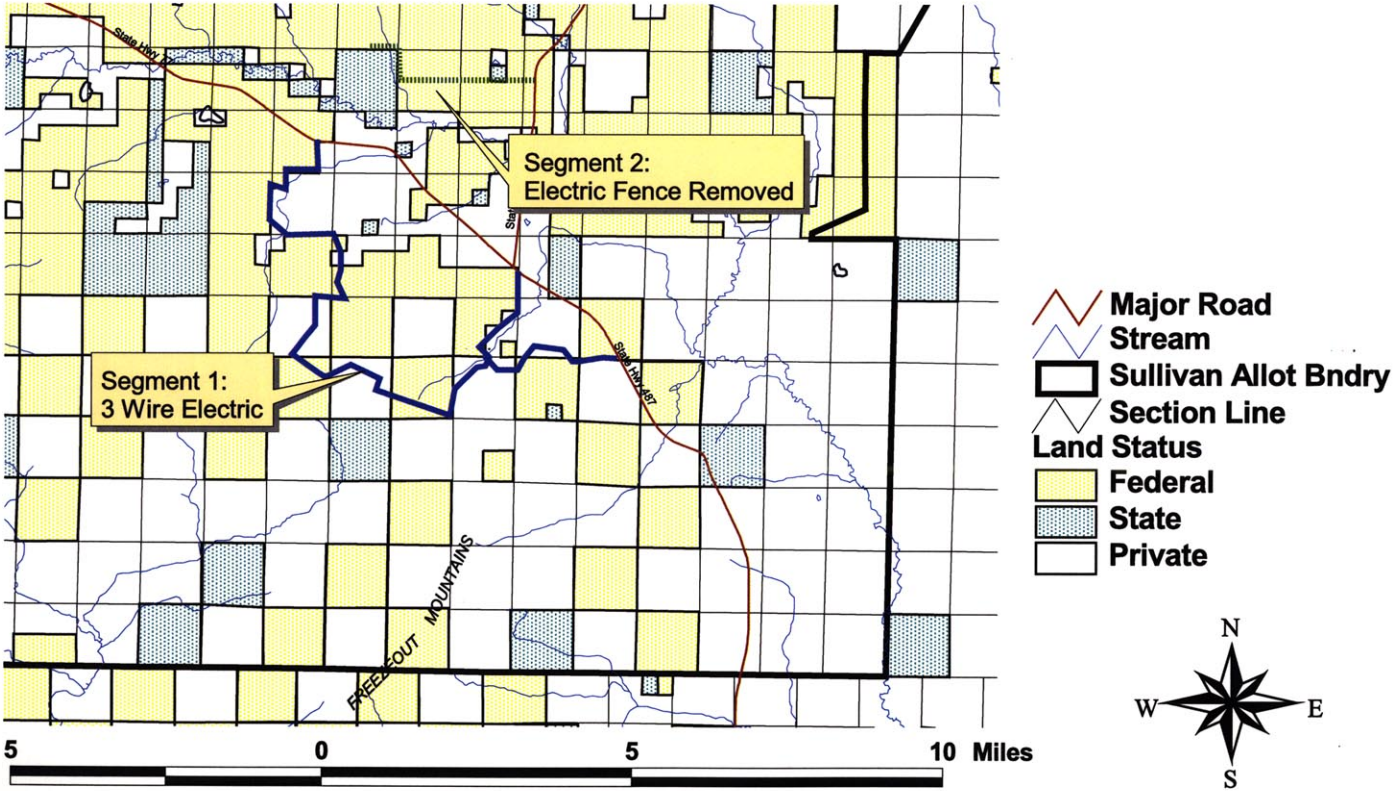
V. MONITORING

Monitoring of modification activities and impacts of fences on natural resources will be conducted by the Rawlins Field Office natural resources staff. Areas with legal public access within the project area will also be monitored by the natural resources staff.

VI. CONSULTATION AND COORDINATION

Andy Warren - BLM - Rangeland Management Specialist
Robert Epp - BLM - Rangeland Management Specialist
Sam Connolly - Q Creek
Keith Flynn - Q Creek

MAP 1: SULLIVAN ALLOTMENT



MAP 2: PROPOSED ACTION