



Environmental Assessment

Broomy Lane Fence Project

United States
Department of
Agriculture

Coconino National Forest
Mogollon Rim Ranger District
Coconino County, Arizona



Forest Service

February 2021



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USDA Forest Service

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CHAPTER 1: PURPOSE AND NEED FOR ACTION

INTRODUCTION

Each year the District Rangers and range staff meet with permittees to discuss monitoring results, current weather conditions and predictions, and to identify a strategy for annual operating instructions to implement the term grazing permit on the Bar T Bar Allotment. The permittees, Bob and Judy Prosser of Bar T Bar Ranch, have identified a number of management challenges and potential solutions based on their experience managing livestock on the allotment over the past several decades.

The permittees have noted several circumstances where cattle are not moving through pastures well. There are often livestock lingering behind in areas past the planned time period for grazing use or excessive herding is needed to gather the livestock. This is especially problematic when trying to move young calves between the allotment pastures, off the forest, or to the private land of Bar T Bar Ranch headquarters.

Forest Service staff and the range permittees also discussed the current Jaycox Tank waterlot fencing. Both the permittee and Forest Service staff proposed minor changes to the waterlot boundaries and the roads around the waterlot to help facilitate better livestock gathering and reduce erosion from the ongoing motorized use of the current road alignment.

The permittee also identified a number of fences that are no longer needed to serve any purpose related to livestock management. Many of these fences can affect the movement of wildlife on the landscape and their removal can thus improvement habitat for wildlife.

These “odds and ends” issues identified from annual meetings with the permittees do not fit within established categories identified to exclude analysis of proposed activities from an Environmental Assessment or an Environmental Impact Statement. As a result, the Forest Service has prepared this Environmental Assessment (EA) on the potential environmental effects of proposed Broomy Lane Fence Project in compliance with the National Environmental Policy Act (NEPA) and other relevant federal and state laws and regulations. This EA discloses the direct, indirect and cumulative environmental impacts and any irreversible or irretrievable commitment of resources that would result from the proposed action and alternatives. It is prepared according to the format established by Council of Environmental Quality (CEQ) regulations implementing NEPA (40 CFR 1500-1508). Planning was coordinated with the appropriate federal, state, local agencies, and local landowners. Additional documentation may be found on the project website at <https://www.fs.usda.gov/project/?project=57680>, or in the project planning record located at the Coconino National Forest Supervisor’s Office in Flagstaff, AZ. These records are available for public review.

PURPOSE AND NEED

The purpose of the proposed Broomy Lane Fence is to increase the effectiveness and efficiency of moving cattle between pastures, off the forest, or to the Bar T Bar Ranch headquarters. Moving cattle, particularly cows with small calves, has proved ineffective in this area due to long travel distances, thick trees, and large acreage to gather. There is a need for an effective barrier

and an efficient way to assist in cattle movements to prevent livestock from being left on pastures beyond the authorized use periods and to avoid excessive herding activities.

The purpose of removing unnecessary fencing within the allotment is because they currently play no role in the current management of cattle or vegetation. These fences can affect the movement of wildlife on the landscape and their removal can thus improve habitat for wildlife. The need to remove unnecessary fencing within the allotment is for livestock and wildlife considerations.

The purpose of expanding Jaycox Tank waterlot fencing is to accommodate a larger number of cattle when holding them overnight. Realigning 850 feet of pasture boundary fence between Broomy and South Grapevine may be necessary because the waterlot fencing would be changing shape therefor causing the anchor points of the boundary fence to need relocating. There is a need for this increase in size because the current 2.5 acres is too small.

The purpose of relocating Forest Road (FR) 9722 and FR 9727B is to avoid the public from having to open 2 gates when passing through the proposed waterlot, which often results in gates being left open and cattle returning to previously grazed pastures or rested pastures. Relocating the road would also address erosion concerns caused from the current location of the road. The segment of relocated road would be seeded in places where grasses are not already growing within the road to help in restoration. There is a need to manage water captured by the existing road by installing water bars to control the gully erosion adjacent to Jaycox Tank.

PROPOSED ACTION

To facilitate more efficient movement of livestock, the permittee would construct approximately 3 miles of 4-strand barbed wire fence inside the southwest portion of the Broomy pasture to create a “lane” which would run from Jaycox Tank waterlot to Viejo Tank, then to the boundary fence between Broomy pasture and Trap 3 pasture. This fence would run northwest to southeast through section 25, T17N, R11E and sections 30, 31, and 32, T17N, R11E and would be built to the identified USFS standards.

To address unnecessary barriers to livestock and wildlife movement, roughly 5 miles of unnecessary fencing would be removed (Figure 1). Fence removals would include the north and east boundary of Trap 4 fence (Figure 3), various fencing in the Quail Hill area (Figure 4) and fencing between Girl Scout and Janice pastures (Figure 5). All fencing removed will be removed from the forest and disposed of.

To address current erosion of FR 9722 and FR 9727B into the current Jaycox waterlot, the Jaycox waterlot fencing would be rebuilt and expanded from the current 2.5 acres to roughly 5.5 acres and FR 9722 and FR 9727B would be relocated to the north side of Jaycox waterlot. Some section of the current southern alignment of the routes would be rehabilitated by seeding with weed-free native grass and forb species then worked into the soil with tools such as cultipacker (an implement used to crimp organic matter and seeds into the soil surface) where naturally occurring grasses do not exist. Placing juniper slash on segments of the rerouted road to further rehabilitate and to discourage traffic would also be included (Figure 6). Water bars will be

constructed along the existing section of FR 9727B that descends a hill towards Jaycox Tank to dissipate and manage concentrated water flows coming down the road and contributing to the erosion of a roadside gully.

FOREST PLAN REQUIREMENTS

The proposed action has been reviewed for compliance with the Forest Plan (Land and resource Management Plan for the Coconino National Forest (USDA Forest Service 2018). Proposed activities meet the goals and management direction and guidelines provided by the Forest Plan. The following Forest Management Guidelines applies:

- Structural improvements should be planned and managed to provide wildlife with safe use of water, and to allow safe passage for wildlife prone to movement restrictions, such as pronghorn. For example, the bottom wire of fences should be smooth and at least 18 inches high to allow pronghorn passage. (FW-WFP-G, #5 page 80).
- Important wildlife movement corridors and pronghorn habitat should be generally free of impediments to movement caused by fences, so species can meet basic life history needs and access suitable habitat. For example, in these areas, construction of additional fences should be minimal, fence maintenance should be a priority, and fences that are no longer needed should be removed (FW-WFP-G, #6 page 80).
- Livestock grazing should be managed to meet, or move toward, the desired conditions for forest resources such as soil, water, vegetation, and species (FW-Graz-G, #2 page 86).
- Structural range improvements (such as fences, troughs, earthen stock ponds, pipelines) should be located, constructed, reconstructed, maintained, and used in a manner consistent with the desired conditions for riparian areas, wet meadows, aspen, formally identified archaeological sites, known locations of Southwest Region sensitive species, and other sensitive resources. Range improvements should be modified, relocated, or removed when found incompatible (FW-Graz-G, #4 page 86).

Applicable Forest Plan Goals for Soil, Water, and Aquatic Resources includes the following:

- Maintain satisfactory watershed conditions
- Protect soil and water productivity so that neither will be significantly or permanently impaired
- Maintain or improve soil productivity and watershed qualities within the ecological site capabilities.
- Minimize adverse, man-caused impacts to the soil resource including accelerated erosion, compaction, contamination, and displacement

Bar T Bar Allotment
Broomy Lane Fence Project

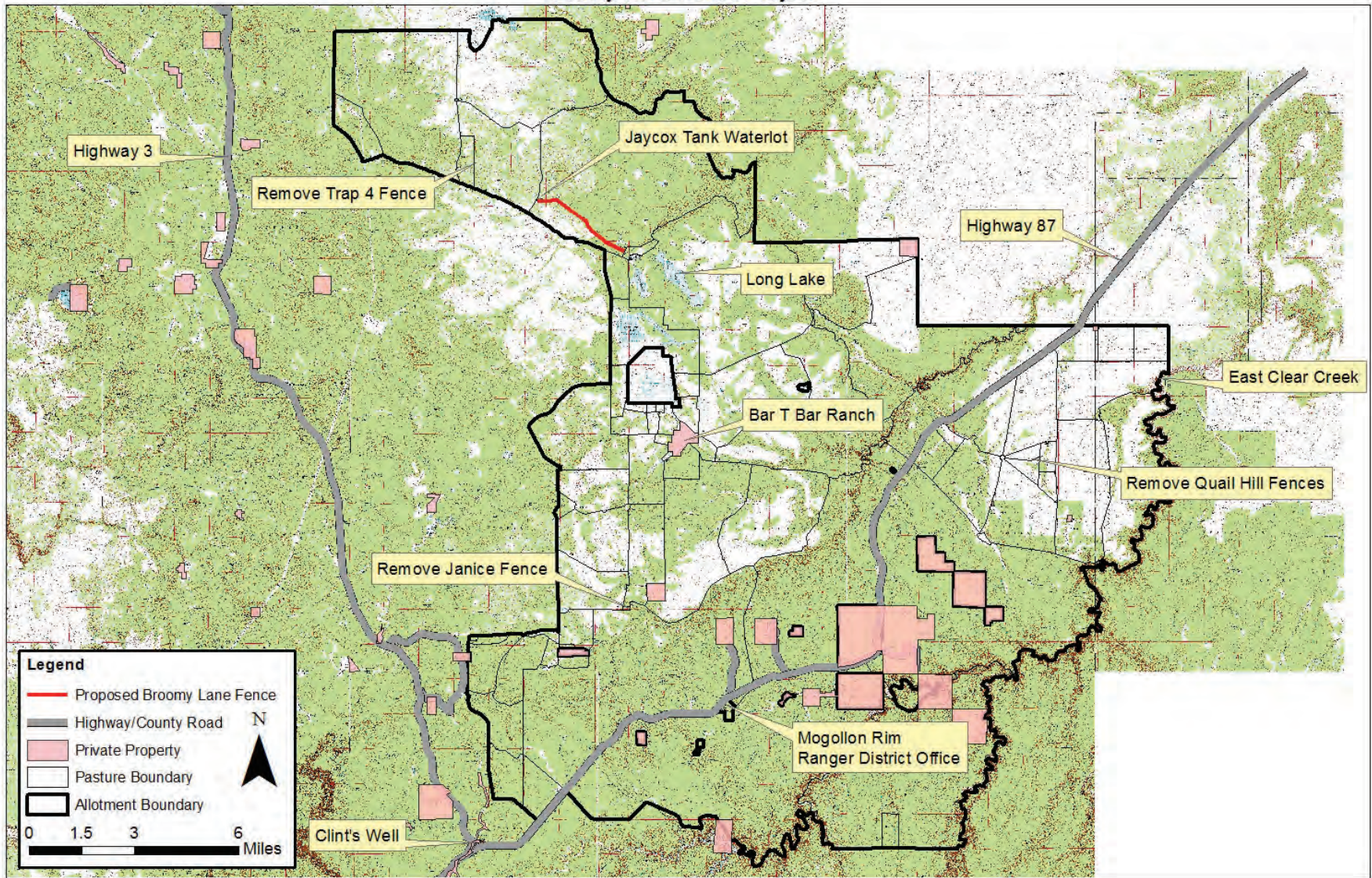


Figure 1: Broomy Lane Fence Project Vicinity Map

Bar T Bar Allotment
Broomy Lane Fence Project

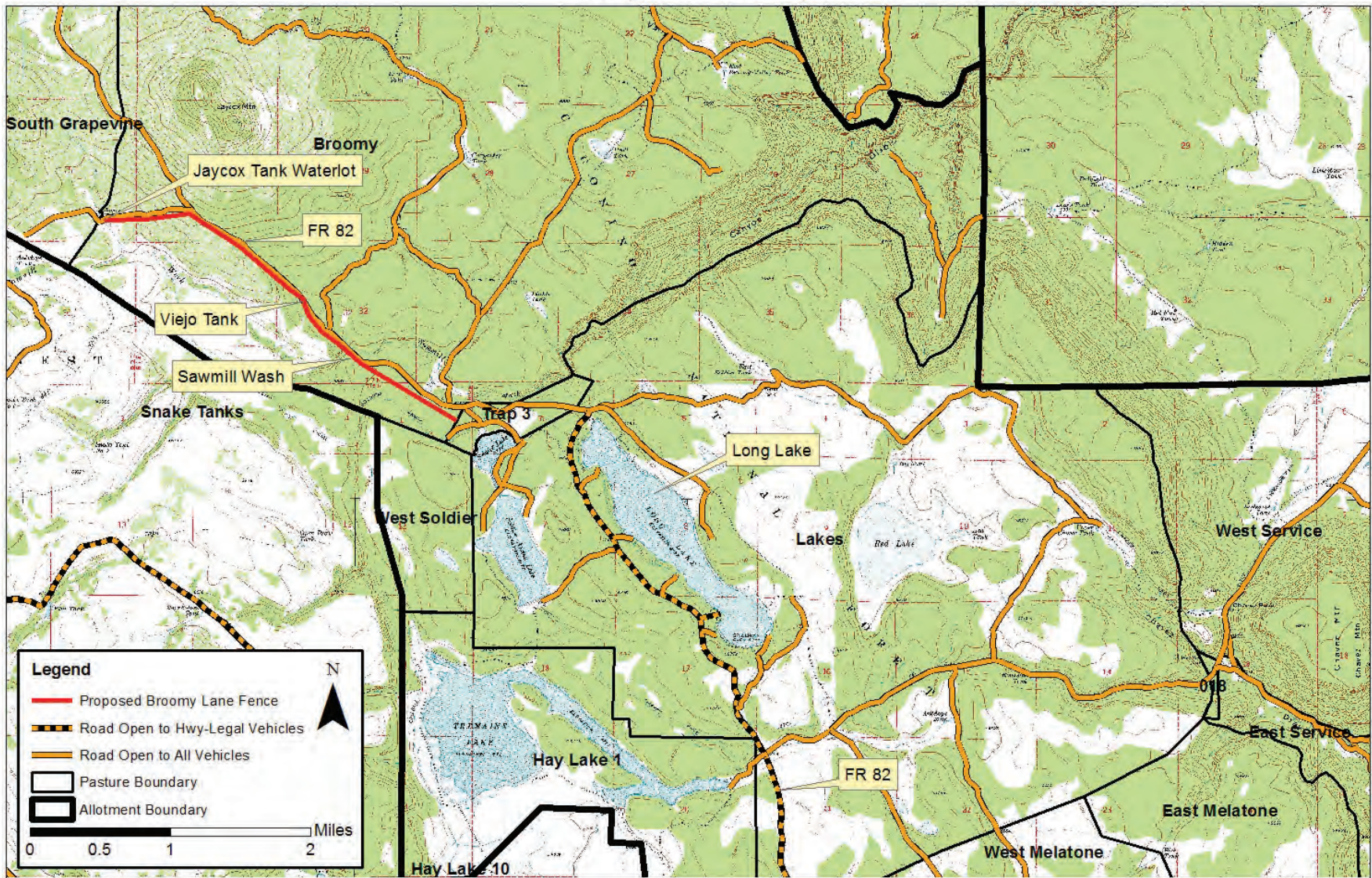


Figure 2: Broomy Lane Fence Project Map

Bar T Bar Allotment
Broomy Lane Fence Project
Trap 4 Fence Removal

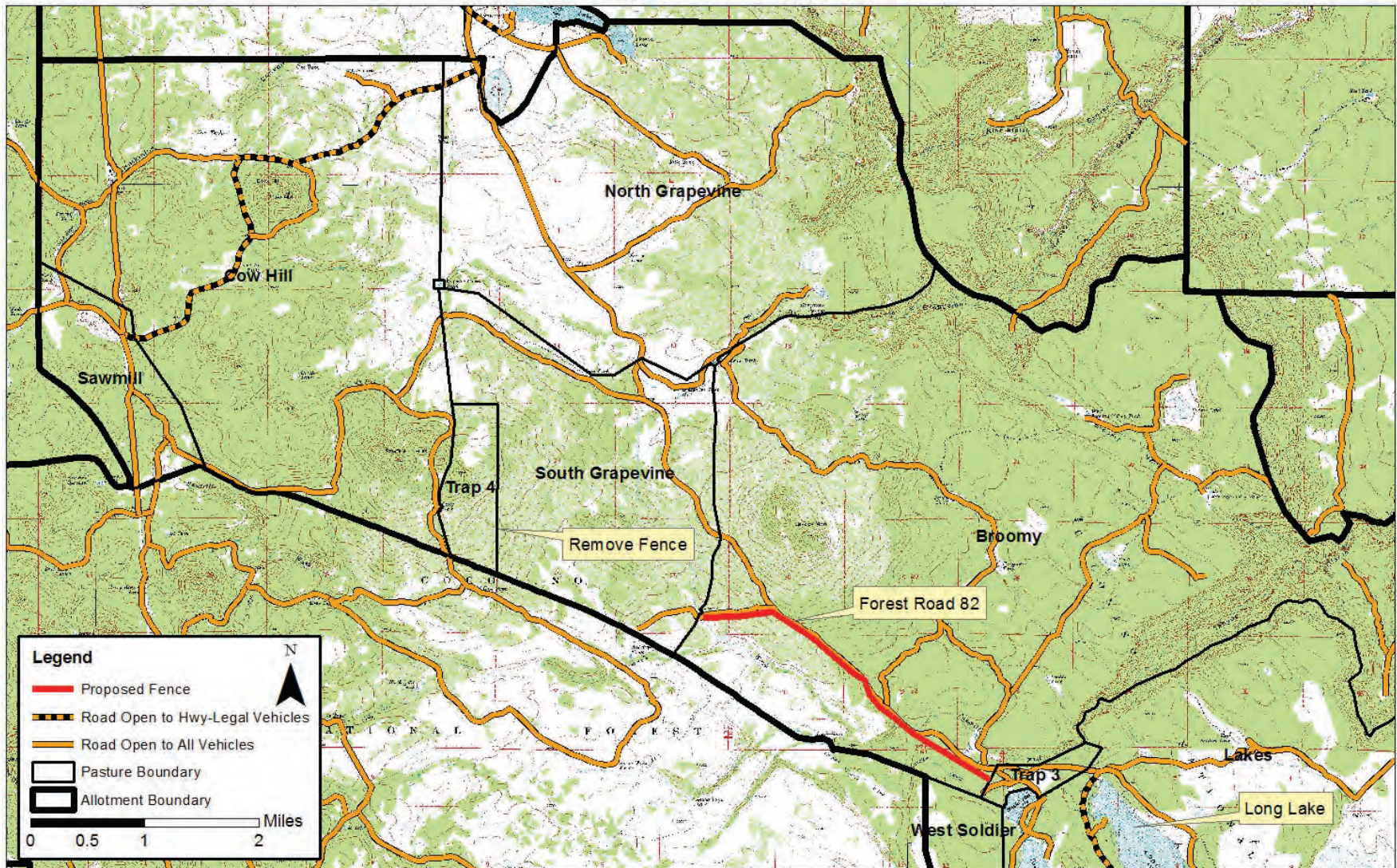


Figure 3: Trap 4 Fence Removal

Bar T Bar Allotment
Broomy Lane Fence Project
Quail Hill Fence Removal

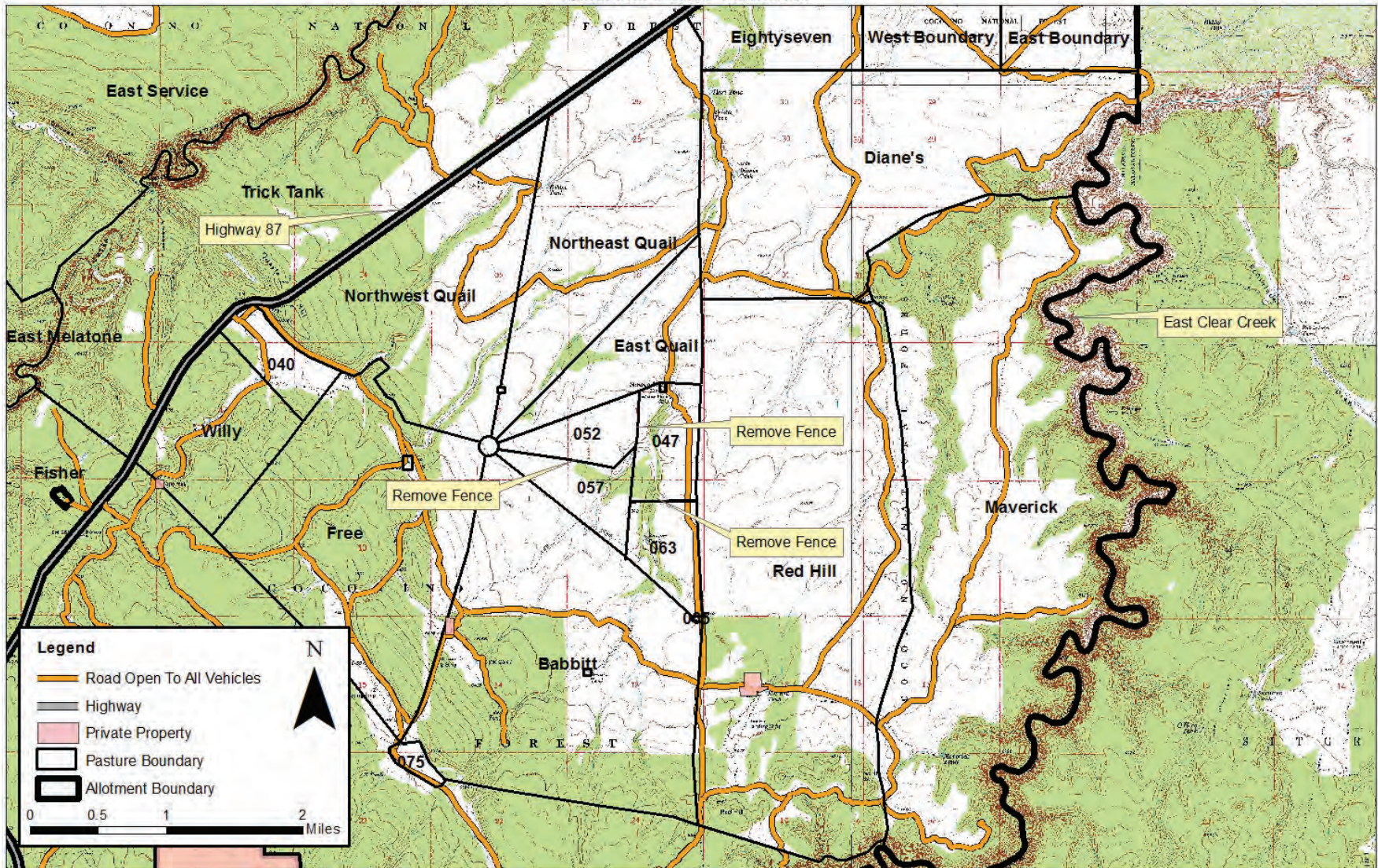


Figure 4: Quail Hill Fence Removal

Bar T Bar Allotment
Broomy Lane Fence Project
Janice Pasture Fence Removal

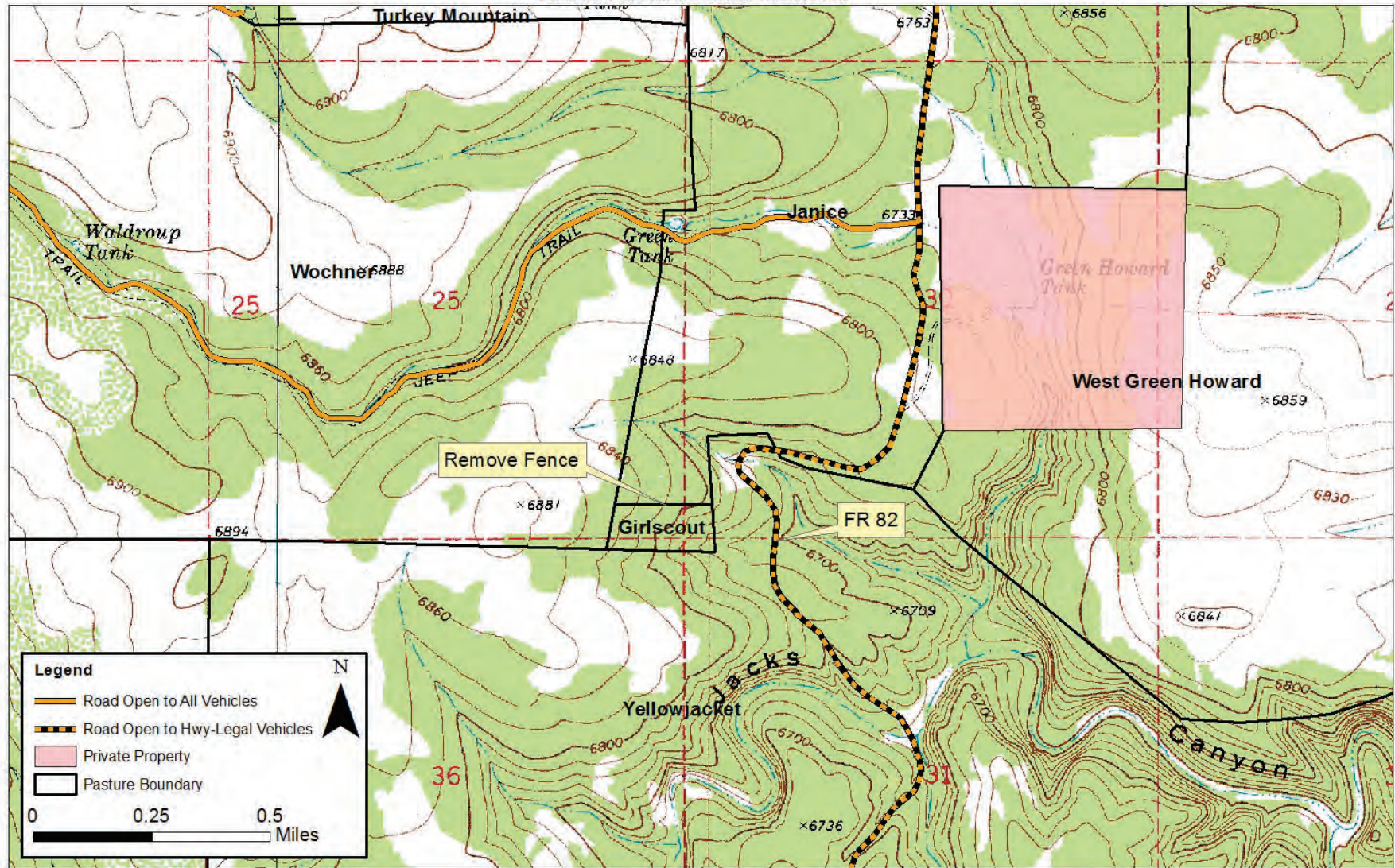


Figure 5: Janice Fencing Removal

Bar T Bar Allotment
Broomy Lane Fence Project
Jaycox Tank Waterlot Expansion and Road Relocation

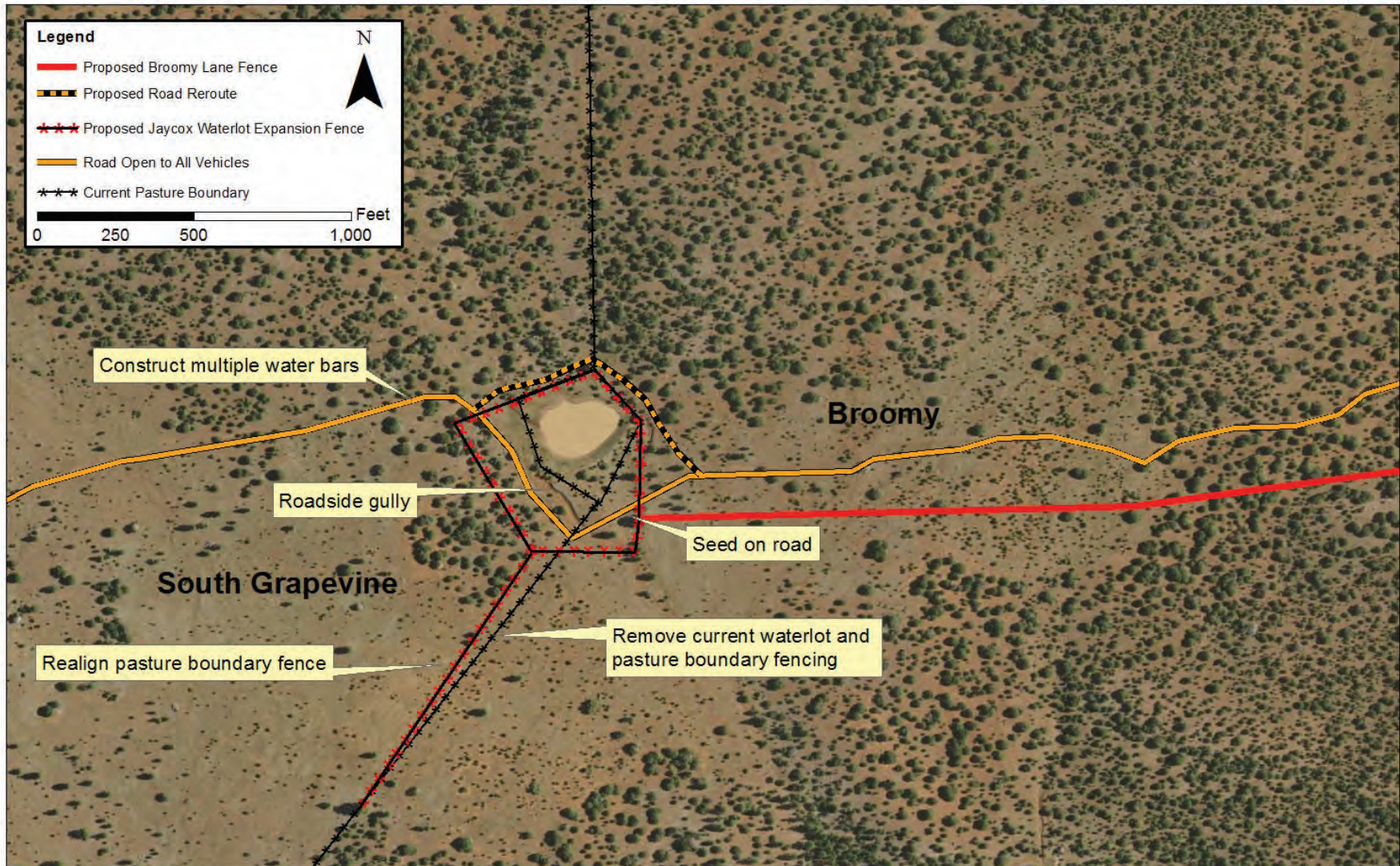


Figure 6: Jaycox Waterlot expansion, fence realignment, and road relocation

Bar T Bar Allotment
Broomy Lane Fence Project

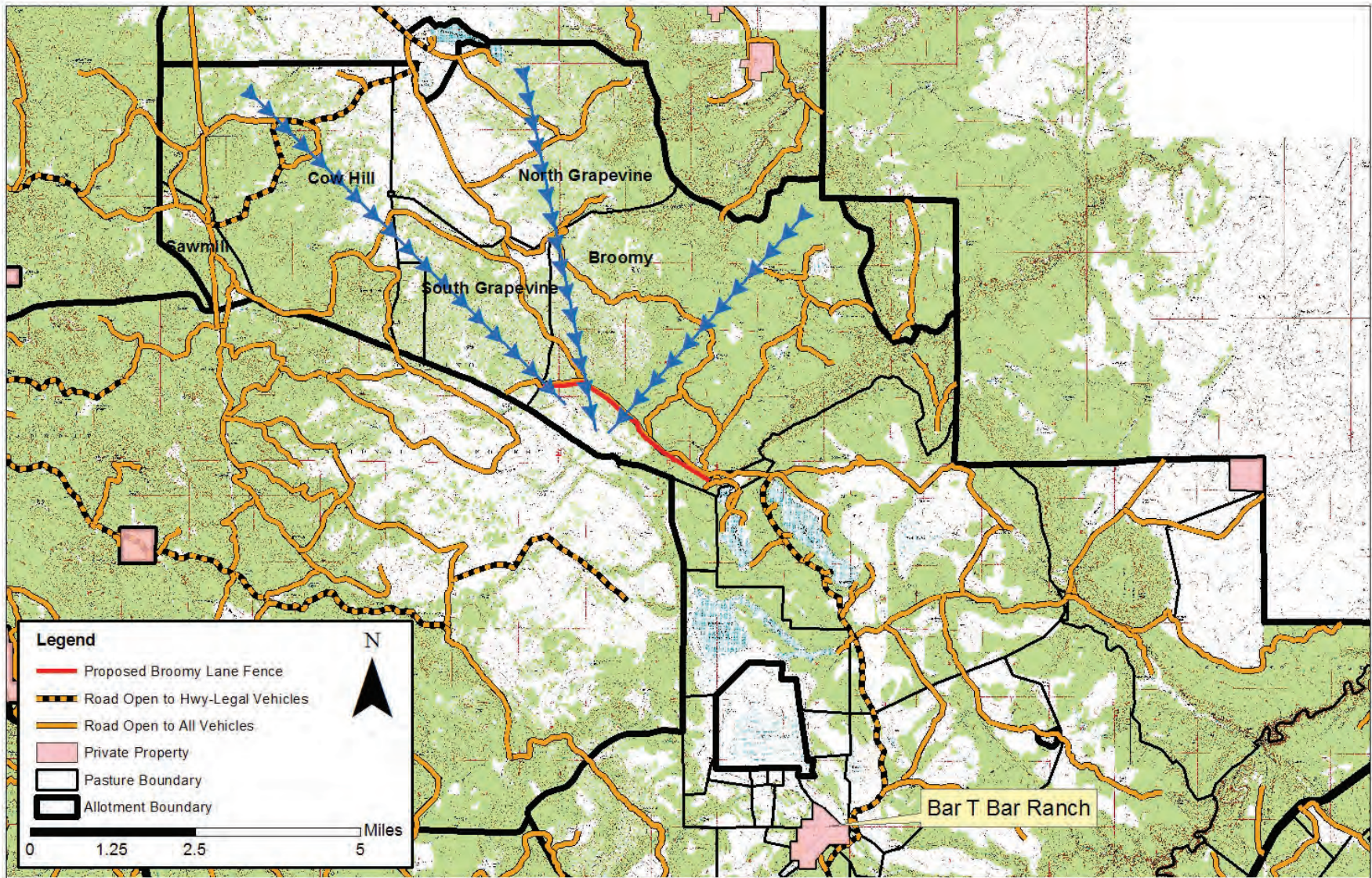


Figure 7: The blue arrows indicate which pasture, on any given year, cattle may be gathered from and put into the proposed Broomy Lane Fence. Once gathered, the cattle can more easily be moved off the forest or to the ranch private property.

DECISION TO BE MADE

The District Ranger of the Mogollon Rim Ranger District is the responsible official who will decide whether or not to authorize and implement the action as proposed or any alternative actions.

PUBLIC INVOLVEMENT

Scoping

This proposal has been listed in the Schedule of Proposed Actions since April 27, 2020. The scoping letter for the Broomy Lane Fence Project EA was signed and sent for public review (scoping) on April 27, 2020. The letter was mailed to 1,500 individuals, organizations, and agencies. Comments were received from 1 individual and/or organizations. The interdisciplinary team reviewed the comments and identified and addressed issues from the scoping letter. The scoping summary can be accessed on the project website.

Issues

Minor issues identified during scoping were considered while writing this EA and included identifying where funding would come from for this project and to further develop the Purpose and Need statement. No key issues requiring development of one or more alternatives were identified during scoping.

CHAPTER 2: ALTERNATIVES

This chapter contains a description of the no action and proposed action alternative. The IDT consisted of Forest Service personnel who have expertise in different natural resource fields in order to provide a diverse, interdisciplinary approach to the project. A list of preparers can be found on page 28.

ALTERNATIVE DESCRIPTIONS

Alternative 1 – No Action

There would be no fence constructed or removed or road relocation. This alternative serves as the baseline for determining effects from implementing the Proposed Action.

Alternative 2 – Proposed Action

To facilitate more efficient movement of livestock, the permittee would construct approximately 3 miles of 4-strand barbed wire fence inside the southwest portion of the Broomy pasture to create a “lane” which would run from Jaycox Tank waterlot to Viejo Tank, then to the boundary fence between Broomy pasture and Trap 3 pasture. This fence would run northwest to southeast through section 25, T17N, R11E and sections 30, 31, and 32, T17N, R11E and would be built to the identified USFS standards.

Roughly 5 miles of unnecessary fencing would also be removed. Fence removals would include the north and east boundary of Trap 4 fence, various fencing in the Quail Hill area and fencing between Girl Scout and Janice pastures. All fencing removed will be removed from the forest and disposed of.

Jaycox waterlot fencing would be rebuilt and expanded from the current 2.5 acres to roughly 5.5 acres and Forest Road (FR) 9722 and FR 9727B would be relocated to the north side of Jaycox waterlot and the current southern route would be seeded with native grass and forb species.

Integrated Design Features and Monitoring Requirements

Design features were developed based on standard operating procedures, Best Management Practices (BMPs), Forest Plan standards and guides, and other procedural direction to eliminate or mitigate potential impacts during project implementation.

Fence Design Features

Fence construction would consist of 4 strands of wire. The top 3 strands would be 12½ gauge barbed wire with spacing at 22”, 28” and 40” from the ground while the bottom 12 ½ gauge smooth wire would be 18” from the ground. “T” post spacing, or line panel, will be about 16 1/2 feet apart with 2 vertical wooden stays between each line panel. End bracing would be built to adequately anchor the ends of a given section of fence where needed. Where the proposed fence uses trees as corners or braces, the tree will be lined with wooden stays or on site stays made of cut junipers to prevent the tree from being girdled by the fence wire. Elk jumps made of white PVC may be installed where trails develop or are evident. Gates needed along Broomy Lane Fence would be installed to allow non-motorized access between pastures. There will be wire gates roughly every half mile. Clearing trees in the way of the fence may be needed and will be removed using chainsaws or other hand tools.

Motorized vehicles may be utilized in the transportation and construction of the fence. They may also be used to remove the unnecessary fencing. Minimizing ground disturbance and off-road vehicle travel will be included to address concerns about noxious weed spread and impacts to soils.

Road Design Features

FR 9722 and FR 9727B, tier 2 roads, would be relocated using carsonite signs with arrows indicating the new route. No blading or heavy machinery activities would be needed to establish the route. Repetitive traffic and signage would establish the new route. The new route will be placed where there is no effect to saturated soils if Jaycox Tank is full water. The old segments of FR 9722 and FR 9727B would be seeded with weed-free native grass and forb species then worked into the soil with tools, such as a cultipacker, where grasses are not already present. Placing juniper slash on segments of the rerouted road to further rehabilitation and to discourage motor vehicle use will occur.

Invasive Weeds

Design features to reduce the risk of introduction of noxious or invasive weeds into the project area are shown below.

- Incorporate weed prevention and control into project layout and design.
- Minimize ground disturbance while implementing the project
- Reduce the risk of introducing weeds into the project area by cleaning vehicles and tools prior to entering project area. Wash vehicles, focusing on areas that may carry weed seeds such as tires, fender wells and undercarriage.
- Use weed-free materials including gravel and road fill to the extent possible during road reconstruction.

- Use weed free seed and mulch
- Monitor the project area for noxious or invasive weeds after completion and control weeds if any appear on the site after the project is completed.

Soils

- To minimize impacts to these grassland soils, construct fencing in the adjacent Pinyon Juniper ERU when there is a reasonable option to do so, such as when the fence is close to the border of the two units.

Monitoring

To help determine the success and effectiveness of the fence construction the Forest Service range personnel will periodically check the fence to ensure maintenance compliance with the directions of the Term Grazing Permit. Also, as part of the regular monitoring of the allotment the pasture within which the proposed fence would be constructed and adjacent pastures may be monitored annually for grazing use and periodically would be monitored for improvement of longer term indicators such as ground cover and species composition conditions and trends.

CHAPTER 3: AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES

Wildlife, Fisheries, and Sensitive Plants

This section summarizes the impacts to wildlife and sensitive plants. The District biologist reviewed this project, assessed the available information on species distributions and habitat (using one or more of the following: field reconnaissance, previous surveys plus recent survey data from the project area, topographic and vegetation maps), and then analyzed the potential for impacts to all federally listed species, Region 3 sensitive species, forest neo-tropical migratory birds, and eagles. The available information is complete and adequate for the analysis of the direct/indirect effects of the proposed project.

Analysis Area

The analysis area for direct and indirect effects to wildlife resources is the area surrounding the proposed project area within the Broomy pasture unit and adjacent units (South Grapevine and Trap 36). At an average elevation of 6,900 feet, the project area contains mainly summer habitat for pronghorn, mule deer and elk. This project area is characterized by Pinyon-Juniper vegetation type interspersed with Ponderosa Pine and Gambel Oak in shallow canyons. This project is within the Anderson Mesa Management Area which is known for wildlife-based recreation such as hunting, fishing and wildlife viewing.

Environmental Consequences

Migratory Birds

There are priority migratory bird species that occur in the area. Birds that use the effected habitat types (pinyon-juniper, Great Basin Grasslands, or Ponderosa Pine) in this area are represented in Table 1.

Unless permitted by regulation, the Migratory Bird Treaty Act (MBTA) prohibits the “taking” and “killing” of migratory birds. “Incidental take” is take that results from an activity but is not the purpose of that activity. The MBTA’s prohibitions on pursuing, hunting, taking, capturing, killing or attempting to do the same apply only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs. While the proposed project may result in incidental take from 20-30 juniper trees that may be removed or limbed to install new fencing, take is not the purpose of the proposed activity. Therefore this proposed project will not result in take or killing of migratory bird and will be in full compliance with the MBTA.

Federally Listed Species

The black-footed ferret is the only terrestrial wildlife species protected under the Endangered Species Act (ESA) with potential habitat in the area of proposed activities; however, it is currently known to be extirpated on the Coconino National Forest.

The following table displays the threatened, endangered, candidate and sensitive species that were analyzed relative to the proposed action and the determination of effects for each (Table 2). The species that may occur on the Coconino National Forest Mogollon Rim Ranger District are included in the analysis for this project.

The determination was “No Effect” for all federally listed Endangered or Threatened species and critical habitat. There would be “No Impact” to any other R3 sensitive wildlife, fish or plant species.

Sensitive Species

The following table displays the sensitive species that were considered and the summary determination of effects for each (Table 2). In summation, there are not any anticipated measurable direct or indirect effects to any sensitive species.

Other Species of Concern

The Anderson Mesa Management Area has a desired condition allowing for the Anderson Mesa pronghorn herd to move freely across their habitats and have access to winter range. Fences can be hazardous to ungulates. Fences, especially those of woven wire, can be a barrier to calves (Paige, 2008). Fence heights greater than one meter (approximately 40 inches) were found to have higher ungulate mortality than sites with lower fence heights. Juveniles suffered the higher mortality from fences than did adults (Harrington, 2006). Wildlife “friendly” fences are those that allow for relatively free passage for animals to either jump over or crawl under and that are highly visible (Paige, 2008).

While there is mostly summer use of the project area by pronghorn, deer and elk, the fence design incorporates features that allows for easy passage of ungulate species, including allowing for passage under the fence. The majority of the length of the fence would be constructed on relatively flat terrain or nominal slopes. Portions of the fence that would be constructed on steeper slopes are relatively short in length and are in close proximity to flatter areas.

Fence construction is designed to improve movement opportunities for big game and to reduce need for future fence maintenance.

The proposed fence removal would result in removal of potential barriers to wildlife migration and would result in a very minor long-term benefit to migrating large ungulates including pronghorn, elk, and deer.

Increase in the size of the Jaycox waterlot and re-alignment of the forest roads in this area may result in short-term to disturbance to wildlife in the area as signs are installed or a cultipacker is used to revegetate the old roadbed alignment. The project is expected to reduce sedimentation to Jaycox tank and increase its potential holding capacity, which would make water more available to the potential benefit of wildlife and migratory birds in the surrounding area over the long-term.

Cumulative Effects

Due to the location, limited scope and intensity of the proposed project, there would be no measurable effects to populations of any of the Threatened and Endangered, Sensitive, Neo-Tropical Migratory Birds, or eagle species. While there is other activity in the area; permitted livestock grazing, dispersed recreation, prescribed burns, the potential effects from these activities do not add cumulatively to any likely effects from the Broomy Lane Fence Project.

Table 1: Ecological Response Units (ERU's) located on the Mogollon Rim Ranger District of the Coconino National Forest occupied by Neo-Tropical Migratory Birds. Displayed colors correlate with the ERU map (Figure 8).

Species	Ponderosa Pine	Pinyon Juniper	Great Basin Grassland	Determination
Black-throated Gray Warbler		X		Will not result in unintentional take and will not lead to a decline in population
Cassin's Finch	X			Will not result in unintentional take and will not lead to a decline in population
Common Nighthawk	X	X	X	Will not result in unintentional take and will not lead to a decline in population
Ferruginous Hawk			X	Will not result in unintentional take and will not lead to a decline in population
Flammulated Owl	X			Will not result in unintentional take and will not lead to a decline in population
Grace's Warbler	X			Will not result in unintentional take and will not lead to a decline in population
Gray Vireo		X		Will not result in unintentional take and will not lead to a decline in population
Lewis's Woodpecker	X			Will not result in unintentional take and will not lead to a decline in population
Olive Warbler	X			Will not result in unintentional take and will not lead to a decline in population
Olive-sided Flycatcher	X			Will not result in unintentional take and will not lead to a decline in population
Red-faced Warbler	X			Will not result in unintentional take and will not lead to a decline in population

Bar T Bar Allotment
 Broomy Lane Fence Project
 Ecological Response Units

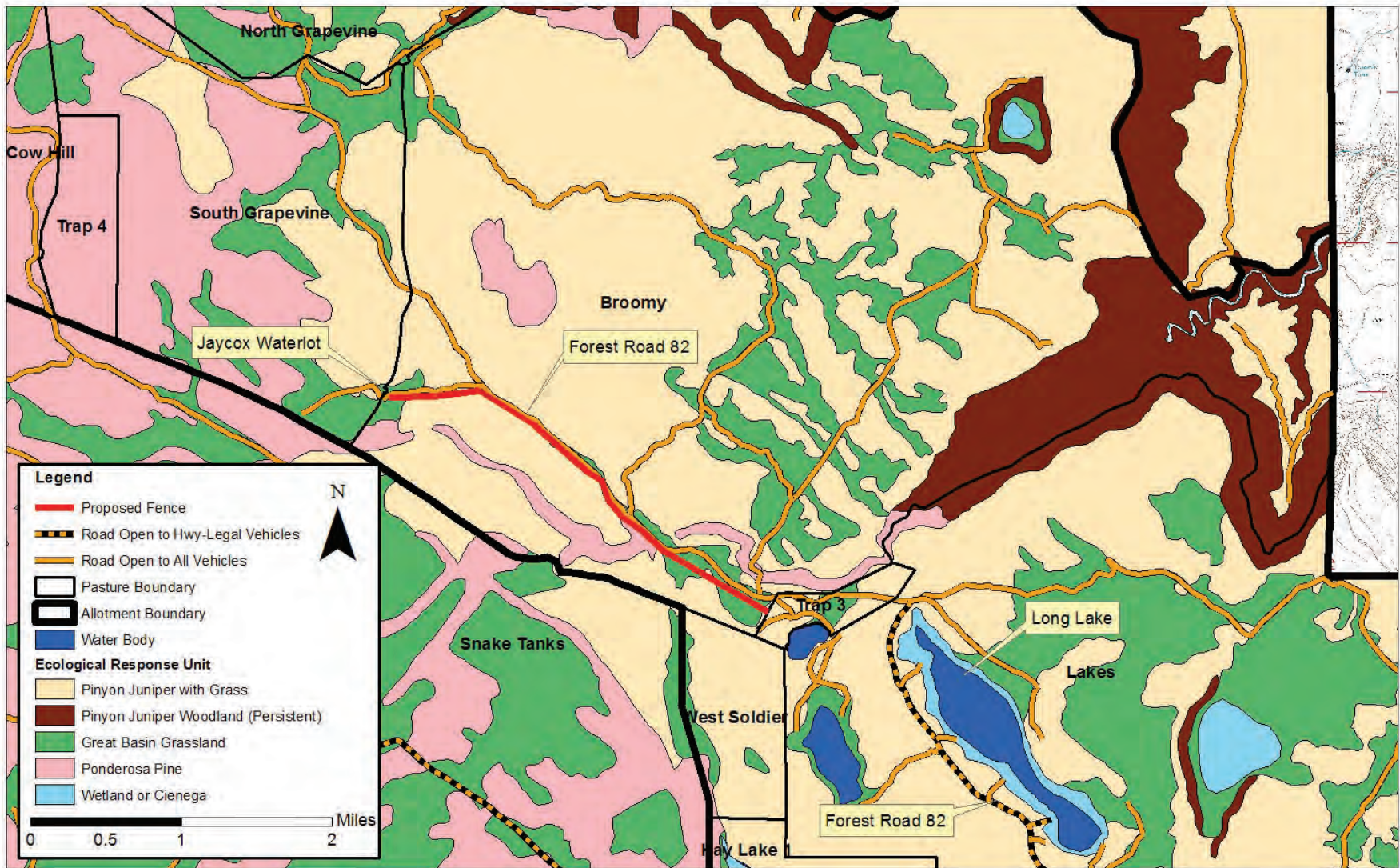


Figure 8: Ecological Response Units (ERUs) associated with the project

Table 2: Threatened and Endangered, Sensitive and Special Status Species that may be present on the Mogollon Rim Ranger District of the Coconino National Forest.

Special Status Species Present on the Mogollon Rim Ranger District of the Coconino National Forest			
Special Status Species (Listed, Proposed, Candidate Sensitive, Eagle Act Species)	Status	Occurrence of Species or Critical Habitat in Project Area	Determination
Birds			
Southwestern willow flycatcher	Endangered	No	Will Not Affect Species or Its Habitat
Mexican spotted owl	Threatened	No	Will Not Affect Species or Its Habitat
Northern goshawk	Sensitive	No	Will Not Impact
American peregrine falcon	Sensitive	No	Will Not Impact
Burrowing owl	Sensitive	No	Will Not Impact
American bald eagle	Eagle Act Species	No	Will not result in take of bald and golden eagles as defined under the BGEPA
Golden eagle	Eagle Act Species	No	Will not result in take of bald and golden eagles as defined under the BGEPA
Fish			
Little Colorado spinedace	Threatened	No	Will Not Affect or Its Habitat
California floater	Sensitive	No	Will Not Impact
Roundtail chub	Sensitive	No	Will Not Impact
Little Colorado sucker	Sensitive	No	Will Not Impact
Mammals			
Black-footed ferret	Endangered	No	Will Not Affect or Its Habitat
Mexican gray wolf	Experimental Non-essential Population	No	No Affect
Navajo Mogollon vole	Sensitive	No	Will Not Impact
Allen's lappet-browed bat	Sensitive	No	Will Not Impact
Pale Townsend's big-eared bat	Sensitive	No	Will Not Impact
Spotted bat	Sensitive	No	Will Not Impact
Western red bat	Sensitive	No	Will Not Impact
Reptiles and Amphibians			
Chiricahua leopard frog	Threatened	No	Will Not Affect or Its Habitat
Narrow-headed gartersnake	Threatened	No	Will Not Affect or Its Habitat
Northern Mexican gartersnake	Threatened	No	Will Not Affect or Its Habitat
Northern leopard frog	Sensitive	No	Will Not Impact
Plants			
Arizona bugbane	Sensitive	No	Will Not Impact
Arizona (clustered) leatherflower	Sensitive	No	Will Not Impact
Arizona sneezeweed	Sensitive	No	Will Not Impact

Special Status Species (Listed, Proposed, Candidate Sensitive, Eagle Act Species)	Status	Occurrence of Species or Critical Habitat in Project Area	Determination
Plants (continued)			
Arizona sunflower	Sensitive	No	Will Not Impact
Blumer's dock	Sensitive	No	Will Not Impact
Flagstaff beardtongue	Sensitive	No	Will Not Impact
Flagstaff pennyroyal	Sensitive	No	Will Not Impact
Mogollon thistle	Sensitive	No	Will Not Impact
Mt. Dellenbaugh sandwort	Sensitive	No	Will Not Impact
Rock fleabane	Sensitive	No	Will Not Impact

Rangelands

This section summarizes the affected environment for vegetation and related resources in the analysis area and the predicted environmental effects on those resources from taking No Action or implementing the Proposed Action.

Analysis Area

The analysis area for direct, indirect and cumulative effects to range resources includes the adjacent pasture units within the Bar T Bar allotment affected by the proposal as well as 1 pasture on the Apache Maid allotment. The delineated area for the analysis represents a reasonable extent of anticipated effects to the resources from the proposed activities.

Rangeland Resource

The Bar T Bar Allotment encompasses about 186,310 acres and is divided into 79 pasture units ranging from roughly 40 acres to roughly 16,000 acres. Grazing occurs on the allotment between May 15th and November 15th with a rest-rotation/deferred rest-rotation system with multiple herds. Currently 18,050 Head Months (HM) are permitted on the allotment.

Located in the southwest side of the Broomy pasture, the proposed Broomy Lane Fence would tie into the waterlot fencing at Jaycox Tank, then run to Viejo Tank. At Viejo Tank the fence would run down the middle of the tank to split it between the two pastures. The new fence would then end at the Trap 3 boundary fence creating a lane roughly $\frac{3}{4}$ mile wide that narrows to roughly 1000 feet wide (Figure 1). The fence would generally run adjacent to Forest Road 82.

Realignment of 850 feet of pasture boundary fence and expansion of waterlot fencing would occur at Jaycox Tank. In order to hold cattle overnight, as part of the process of moving cattle, the size of the waterlot would need to increase. Currently the waterlot size is 2.5 acres. When Jaycox Tank is full of water it occupies 1 acre of waterlot leaving 1.5 acres for cattle. Expanding the waterlot fencing to encompass 5.5 acres provides adequate space for an overnight stay of cattle (Figure 6).

Economics

The grazing permittee has reported spending roughly 16 hours moving cattle from the northern portions of the allotment to the private property where the cattle are sorted and shipped. Cows with little calves can only travel so far, and weak or tired pairs will need to be left behind and gathered another day which then costs more time and money. The cows left behind can pose the risk of not being located again in a timely manner. If unfound, there is the risk of losing the economic value of the livestock as well as the permittee being out of compliance for not removing cattle from the allotment. The Broomy Lane Fence provides a pasture that the cattle can be put into from the surrounding pastures (Figure 7). Once cattle are put in the lane pasture, the cattle can be easily moved the remainder of the stock drive.

Funding

All new fencing materials would be funded through range betterment funds. These funds are derived from grazing fees the permittees pay to the Forest Service. The range betterment fund intended purpose is to provide money for materials for projects related to improving range

conditions within active grazing allotments. The Bar T Bar permittee will contribute all labor for fence installation, fence removal, and road maintenance associated with this project. Grass seed for revegetation of old road alignments and disturbed areas and signage will also be paid for by range betterment funds.

Alternative 1- No Action

There would be no fence constructed or removed. Current management would continue with existing challenges. Unnecessary fencing would remain a hazard to free movements of wildlife and livestock. This alternative serves as the baseline for determining effects from implementing the Proposed Action.

Alternative 2- Proposed Action

Direct and Indirect Effects

Effects of the Broomy Lane Fence Project are temporary ground disturbance and cutting of a small number of juniper trees from the installation and removal of fencing. The reduction in total fencing will have positive effects on large ungulates. Expanding Jaycox Tank waterlot by 3 acres will result in this area being exposed to the effects of concentrated livestock use including reduced vegetative cover. Relocating FR 9722 and FR 9727B will cause soil compaction directly on the newly created road, which would affect less than 1 acre of land. Seeding the re-routed segments of FR 9722 and FR 9727B is expected to have positive effects of stabilizing soils within the old road prism. It is estimated there would be no net increase or decrease in vegetation from the road realignment.

Cumulative Effects

Recent and reasonably foreseeable activities and actions within or near to the project area include; ungulate grazing and browsing, dispersed recreation, hunting, fuelwood gathering, pole collecting, and other local juniper reduction projects. Impacts of fence construction and removal are expected to be positive and no negative cumulative impacts are expected.

Noxious or Invasive Weeds

There are no documented occurrences of noxious or invasive weeds in the project area. The nearest documented noxious or invasive weed population is an area with bull thistle (*Cirsium vulgare*) approximately 2 miles away. To reduce the risk of introduction of noxious or invasive weeds into the project area, the guidelines described within the Integrated Design Feature and Monitoring Requirements section (page 17) will be followed. If these mitigations are adhered to, there will be no effects from this project on noxious or invasive weeds.

Alternative 1- No Action

There would be no fence constructed or removed and thus no increased risk of invasive species introduction or spread.

Alternative 2- Proposed Action

Direct and Indirect Effects

Effects of the Broomy Lane Fence Project are temporary ground disturbance and cutting of a small number of juniper trees from the installation and removal of fencing. Any ground

disturbance increases the risk of introduction and spread of invasive species. To reduce the risk of introduction of noxious or invasive weeds into the project area, the guidelines described within the Integrated Design Feature and Monitoring Requirements section (page 17) will be followed. If these mitigations are adhered to, there will be negligible effects from this project on noxious or invasive weeds.

Cumulative Effects

Recent and reasonably foreseeable activities and actions within or near to the project area include; ungulate grazing and browsing, dispersed recreation, hunting, fuelwood gathering, pole collecting, and other local juniper reduction projects. Impacts of fence construction and removal may slightly contribute to cumulative effects if the project introduces invasive species populations. This effect would be limited due to the design features to prevent and mitigate such introductions.

Heritage Resources

Pursuant to Section 106 of the National Historic Preservation Act (NHPA), the Broomy Lane Fence Project was analyzed for potential impacts to significant cultural resources. Section 106 of the NHPA requires federal agencies to consider the effects of their activities and programs (undertakings) on historic properties and to provide the Advisory Council on Historic Preservation (ACHP) the opportunity to comment. Agency “undertakings” and “historic properties” are defined in 36 CFR 800, the regulations implementing Section 106 of NHPA as amended (16 USC 470f). Significant cultural resources are historic properties that are included in or eligible for inclusion to the National Register of Historic Places (NRHP). The Southwest Region has developed a programmatic agreement (PA) with the ACHP and with the State Historic Preservation Officers (SHPO) of Arizona, New Mexico, Oklahoma, and Texas that stipulates the Forest Service’s responsibilities for complying with NHPA.

By following the stipulations of the PA, the ACHP and the SHPO have agreed that the Coconino National Forest will satisfy the legal requirements for the identification, evaluation, and treatment of historic properties. Under the PA, the signatories have agreed that certain types of undertakings that meet the criteria in Appendix A, Section II may be determined exempt from review and consultation. The proposed removal of fence lines, realignment of existing fence and installation of the new fence line has been determined to meet the criteria of a screened exemption for consultation (CNF #2020-04-07Q). A cultural resource inventory was completed for the proposed road reroute. No historic properties or traditional cultural places were identified within the project area (CNF #2020-04-24). The proposed action is determined to have No Historic Properties Affected. Since there are no cultural resources affected, there are no direct, indirect or cumulative effects. This project is in compliance with the PA and the Forest Plan.

Riparian and Stream Resources

The proposed fence and other proposed actions do not intersect any riparian areas. There are also no perennial or intermittent streams within or nearby the project area. The proposed fence does cross Sawmill wash which is classified as an ephemeral wash (Figure 2). This wash only flows in response to high intensity summer rains and during snow melt. A direct effect from the proposed action is the fence catching debris from high flow events which could cause a debris dam to form, altering the way water moves through the channel. This would be prevented by using fencing techniques that would cause the fence to easily break away when debris begin to accumulate thus preventing a sudden release of water from debris dam failure. Based on these

design features the proposed action would not result in any impacts to stream and riparian resources. Since there are no riparian and stream resources affected, there are no direct, indirect or cumulative effects.

Soil and Water Resources

Soils in the project area include a mixture of satisfactory, impaired, and satisfactory soils (Figures XXX and XXX). The majority of the project area is made up of impaired soils. Impaired soils generally occur in pinyon-juniper woodlands and semi-desert grassland/shrublands. Compared to satisfactory soils, these soils have reduced species composition, less diversity of plants and vegetative ground cover, and may show signs of accelerated erosion. Unsatisfactory soils generally occur on flat slopes (less than 10 percent slope). They have visible signs of compaction or accelerated erosion, including rilling and gullying. The unsatisfactory and impaired soils conditions are primarily attributed to the dense pinyon juniper overstory and, consequently, understory grasses and forbs are generally absent with soil movement and soil loss apparent. In some instances, unsatisfactory soils may be due to historic canal construction and road construction, which can concentrate run-off and cause accelerated erosion and downstream gully formation. This is evident in the concentration of unsatisfactory soils along the length of FR 82.



Figure 9. Map of soil conditions in the vicinity of the proposed Broomy Lane fence.

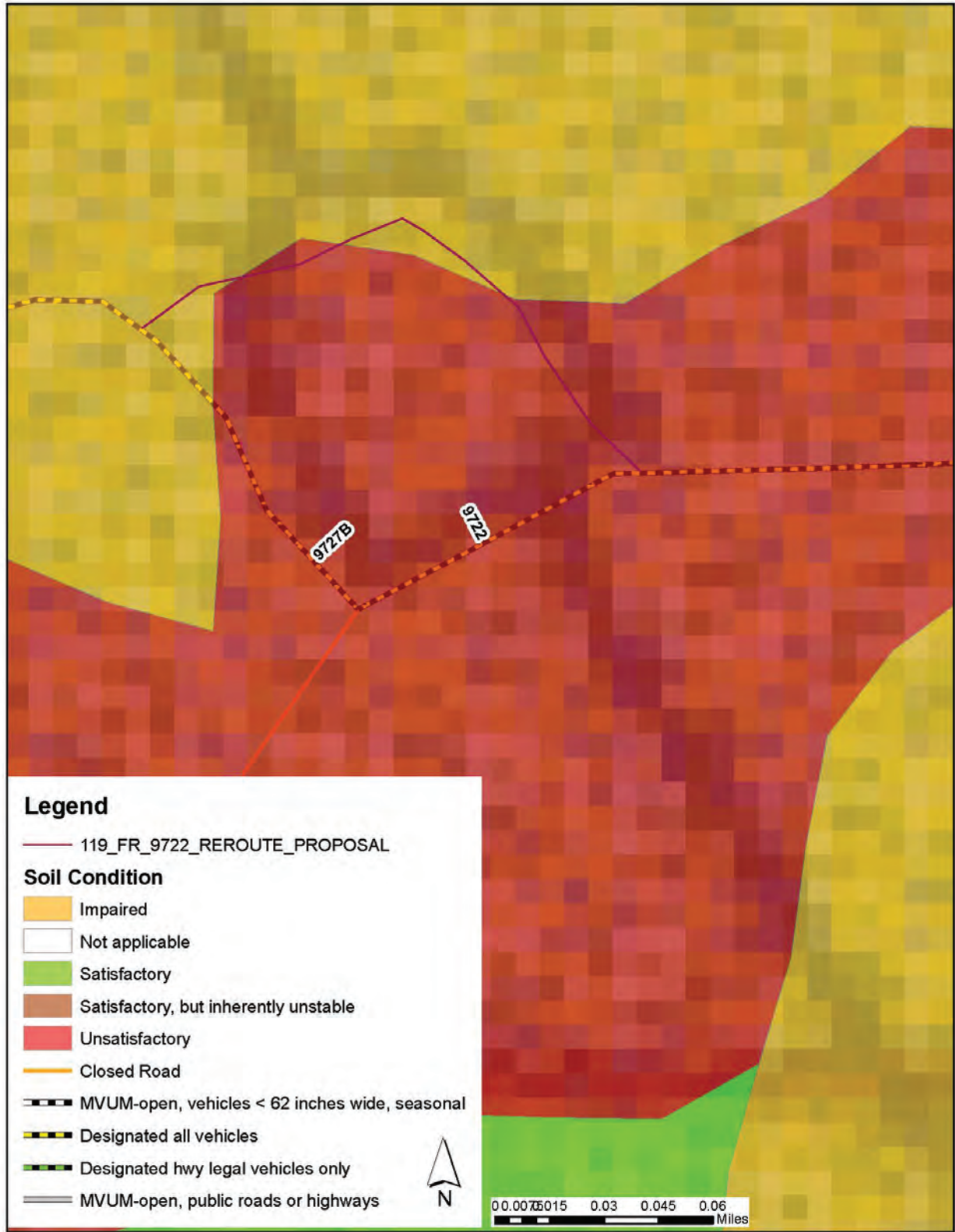


Figure 10. Soil conditions in the vicinity of the proposed 9722 and 9727B re-alignment.

The proposed Broomy Lane Fence passes through the Great Basin Grassland ERU, although there are many inclusions of pinyon-juniper forest within the project area. Some areas of the Great Basin Grassland ERU, such as along Sawmill Wash, have mollisol soils. Mollisol soils include a rich layer of organic material. The Forest Plan identifies desired conditions for the Great Basin Grassland ERU to maintain the productivity of and minimize impacts and fragmentation of these mollisol soils.

There are no natural lakes or wetlands in the project, area but portions of the extensive lake and ditch system that conveys water to support grazing operations on the Bar T Bar grazing allotment and nearby private lands. Portions of the Sawmill Wash and Soldiers Lake Annex canal are present in the project area and traversed by the proposed Broomy Lane fence. Both of these drainages convey water to Soldiers Lake typically during the spring months from snowmelt, but occasional heavy precipitation events will result in runoff collection and conveyance via Sawmill Wash during summer months.

Alternative 1- No Action

There would be no fence constructed or removed and thus no increased impacts to soil and water resources. Difficulties with rounding up and moving cattle out of the allotment could result in additional range-riding and small patches of forage overuse, which could reduce vegetation cover needed for soil stability in some areas. These impacts would generally be limited in size and timing and would not result in long-term effects to soil productivity.

Alternative 2- Proposed Action

Direct and Indirect Effects

Construction of the Broomy Lane fence may result in concentrating livestock use and thus potential impacts on soils for short periods of time as the fenced lane is being used once or twice a year to gather livestock from the surrounding allotment. At the larger scale of the allotment, this fence would reduce soil impacts by facilitating the movement and forage use of livestock and this minimizing effects that may be caused by lingering cattle. The concentrated, short-term use of the lane created by the new fence, may result in short-term impacts to the area within the lane primarily along the fenceline where livestock trailing may occur; however, the fenceline is to be located along FR 82, which is already used for this purpose. The potential increase in concentrated use once or twice a year would be limited to a very small footprint and is not expected to result in a loss of soil productivity.

Expanding the waterlot at Jaycox Tank from 2.5 acres to roughly 5.5 acres will result in compaction in the localized area within the waterlot. The current effects of the road layout and cattle already concentrating in this area due to the presence of water at the tank is not expected to increase overall impacts to soil resources.

Constructing water bars to manage water flows and transportation of sediment off FR 9727B is expected to have positive effects on ceasing the continuation of erosion at a roadside gully. Rerouting FR 9722 and FR 9227B out of the Great Basin Grassland ERU and out of unsatisfactory soil conditions and into the Pinyon Juniper ERU at Jaycox Tank is expected to improve local soil condition because the Pinyon Juniper ERU has rocky and well drained soils whereas the Great Basin Grassland soils typically are finer and have a high clay component. The

rocky, well drained soils are more suitable for motorized traffic because they dry faster and are more passable when wet preventing vehicles from leaving large ruts and causing alternate routes to be formed.

Cumulative Effects

The proposed action would result in compaction and possible decrease in soil condition of approximately three acres and a slight improvement in soil conditions in less than an acre along the rehabilitated roadways. The new fence and fence removals would also reduce the potential for potential soil impacts throughout several hundred acres of the allotment by reducing delays in moving livestock and preventing overutilization of forage resources. The site specific effects of the road re-alignments are expected to prevent ongoing erosion and gulying which could be exacerbated by the potential for increased intensity of summer monsoon storms as a result of climate change. However, given the surrounding area would become part of the Jaycox water lot, there is not likely to be an increase or decrease in acreage with unsatisfactory, impaired, or satisfactory soil condition.

Effects from fence installation and removals would result in diffuse benefits on the surrounding landscape. These impacts may partially overlap with activities implemented under the currently proposed Chavez Pass Erosion Control Project (<https://www.fs.usda.gov/project/?project=58090>), which would combine to result in a slight improvement in soil function of a small amount of unsatisfactory or impaired soils over the next several decades at the scale of the allotment.

CHAPTER 4: CONSULTATION AND COORDINATION/BIBLIOGRAPHY

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