

INTRODUCTION

Domestic livestock grazing has occurred on public lands (USFS- and BLM-administered lands) since the late 1870s (BLM 1980). The livestock industry has been an integral part of community development, as well as overall lifestyle, in southwestern Colorado. Public lands supply winter, spring, and summer grazing for dependent livestock producers, and represent a significant portion of their total operations. Generally, term grazing permits are issued for 10 years to qualified producers, allowing grazing on designated areas (or allotments). Permit holders or grazing permittees pay an annual fee for the privilege of using public land forage. They are also required to abide by the terms and conditions of the grazing permit. These terms and conditions address livestock and land ownership, range improvement construction and maintenance, and required livestock management practices. Most permitted livestock spend approximately 4 months of the year on public lands (although grazing permittees who have grazing permits for both USFS and BLM public lands may use public lands for a longer period of time.) Day-to-day public land grazing administration is delegated to local District Rangers/Field Office Managers. Implementation of required management practices, and the long-term impacts related to grazing, are monitored. As necessary, adjustments are made in order to ensure compliance with the terms and conditions of grazing permits, as well as to maintain or improve long-term public land health.

LEGAL AND ADMINISTRATIVE FRAMEWORK

Laws

- **Taylor Grazing Act of 1934, as amended:** This act provides for the regulation of grazing on public lands (excluding Alaska) in order to improve rangeland conditions and to stabilize the western livestock industry.
- **Federal Land Policy and Management Act of 1976:** This is the BLM's "Organic Act." It formally established the multiple-use mission of the agency. Pertinent sections of FLPMA relating to rangeland management can be found in Sections 102, 201, 202, 302-304, 307, 309, 310, and 401-403. Various sections of the Act also pertain to USFS management.
- **Public Rangelands Improvement Act of 1978:** This act established the present grazing-fee formula, re-affirmed grazing boards, and authorized expenditure of funds for range improvements. In addition, the law required both the Secretary of the Interior and the Secretary of Agriculture to undertake, and maintain, an inventory of range conditions and trends on public rangelands.
- **Multiple-Use Sustained-Yield Act of June 12, 1960:** This act formally established the policy of managing national forests for multiple uses, including for grazing.
- **Wilderness Act of September 3, 1964, Section 4(4):** This act established the National Wilderness Preservation System; it also recognized livestock grazing as a legitimate use in Wilderness Areas where livestock grazing had been an established use prior to Wilderness designation.
- **Rescissions Act of 1995, Section 504:** This act directed the USFS to complete site-specific National Environmental Policy Act (NEPA) analysis and management decisions for allotments on a 15-year schedule.

- **Public Lands and National Parks Act of 1983, Section 12:** This act allowed for the transfer of USFS lands outside the boundaries of the San Juan National Forest (SJNF) to the BLM, and vice versa.

REGULATIONS AND POLICIES

- **Consolidated Appropriations Resolutions 1999-2003:** These resolutions directed the BLM to complete site-specific NEPA analysis and implement management decisions on allotments expiring in the fiscal year of the resolution. Subsequent Federal appropriation acts allowed the re-issuance of expired BLM and USFS grazing permits (until analysis was complete) in order to avoid disruption of dependent livestock operations.
- **BLM IM 2003-71:** This IM directed the BLM to process all grazing permits by the end of FY 2009.
- Livestock grazing regulations for the administration of public rangelands for the BLM and the USFS can be found at 43 CFR 4100 and 36 CFR 222 Subpart A, respectively.

AFFECTED ENVIRONMENT

Existing Conditions and Trends

Public grazing lands support 117 USFS and 81 BLM grazing permittees. Of these grazing permittees, 20 have grazing privileges on lands administered by both agencies.

The grazing season on BLM-administered lands is usually fall, winter, or early spring (with the exception of 7 sheep allotments in the Silverton area that are only grazed during the summer). Generally, National Forest System lands are grazed during the summer.

Due to the creation of the Canyons of the Ancients National Monument (the Monument) in 2001, the number of BLM grazing allotments considered in this analysis has changed. A total of 28 BLM grazing allotments are being analyzed in the separate planning process specific to the Monument. Table 3.14.1 lists the status of grazing allotments in the planning area.

Over the last several decades, forage demand on public lands has remained constant. Market factors, predator-control issues, and Federal government policies eliminating wool subsidies, have resulted in a significant reduction in sheep numbers.

During the planning process for this DLMP/DEIS, suitable grazing lands were re-evaluated. Suitability is a combination of lands with physical attributes (including slope, cover, and vegetation type) that would support grazing. Suitability is also a determination of the appropriateness of livestock grazing on a landscape. In general, although both the USFS and the BLM have acquired, and disposed of, land, suitability determinations have not changed.

The following paragraphs discuss on-going, and possible future, trends in livestock grazing and rangeland management across the planning area.

Rangeland Management

Management directed at improving and maintaining rangeland health (as opposed to increasing livestock numbers) would occur. Overall livestock numbers may remain stable; however, adjustments may occur in order to solve resource problems at the project level.

On-Going Drought

Should the on-going drought continue, rangeland productivity would continue to decline, which, in turn, would require management adjustments. Over time, if the drought does not abate, these adjustments (including reduced livestock numbers and modified grazing seasons) may become permanent. In addition, permanent unfavorable changes to rangeland vegetation, such as cheatgrass invasion into healthy rangelands, could also occur which could also require permanent livestock management changes.

Decline in Investments for Range Improvements

Earlier resource management plans called for substantial investments in range improvements (including fences, reservoirs, and vegetative manipulations). A declining Federal budget, as well as potential resource conflicts, combined with other market factors (including high land prices and continuing loss of rural lands to development), may make investment in range improvements increasingly unattractive. There may be some temporary gains made through indirect benefits provided by on-going fuels reduction projects; however, resource problems are not going to be resolved by constructing more range improvements.

In addition to considering changes in livestock numbers, and/or grazing seasons, managers may consider combining grazing allotments in order to increase and improve management flexibility to reduce grazing conflicts.

Forage Competition between Domestic Livestock and Big Game

Forage competition between domestic livestock and big game will continue to increase. As more private land is developed, and consequently more habitat is impacted on private lands, there will be less available forage overall. Reducing forage conflicts may require changes to livestock numbers and grazing seasons.

Loss of Open Space

As the rate of private land development, both regionally and locally, increases, there will be a net loss of agricultural lands. This means management options designed to address resource conflicts would decrease over time. This trend would require public land management agencies to revisit the current base property requirements necessary to hold a Federal grazing permit. Over the last 5 years, there has been an increasing use of conservation easements designed to limit development on private lands in order to preserve open space. Should this trend continue, the rate of loss of agricultural lands may be slowed.

Demand for Federal Grazing Privileges

Due to the reasons previously discussed, demand for Federal grazing permits may increase as a result of the loss of private agricultural lands capable of supporting livestock.

Demand for Red Meat

Due to population increases, overall beef consumption is expected to continue to increase. Improved animal production and marketing, as well as product selection, may help meet the demand without substantially increasing permitted livestock numbers.

Demand for Wool and Sheep

The demand for these products has been declining over the years. However, based on the use of sheep for weed-control work, an improved wool market, and an improved competitive stand with the rest of the world's wool-producing countries, demand may increase.

ENVIRONMENTAL CONSEQUENCES

DIRECT AND INDIRECT IMPACTS

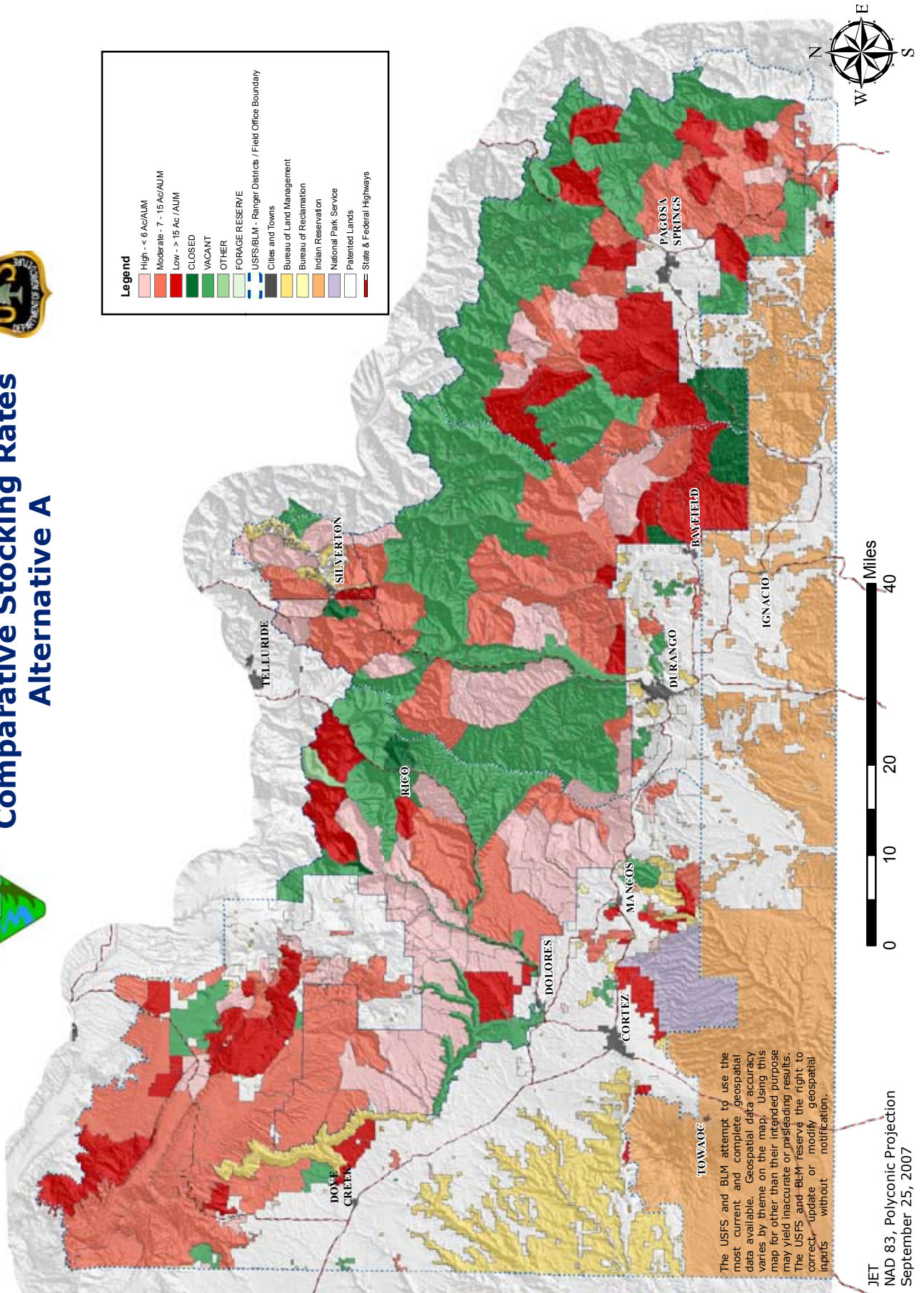
Under Alternatives A and B, impacts related to livestock grazing management would generally be minor. Alternative A would propose to continue current permitted livestock levels. Alternative B would propose to reduce permitted AUMs slightly by eliminating permitted AUMs on public land parcels slated for disposal, and eliminating permitted AUMs on several Category C allotments within the Pagosa Geographic Area where the allotments are surrounded by developing private land subdivisions. Alternative C would be the most restrictive alternative. This is because several vacant sheep allotments would be permanently closed to livestock grazing, and livestock grazing would be managed in order to enhance wildlife, cultural, and soils values. Alternative D would propose to increase grazing by offering vacant allotments to qualified operators, and would increase AUMs in those areas where restoration activities are planned.

Lands suitable for livestock grazing would also change by alternative (see Table 3.14.5). Generally, lands suitable for grazing would be similar under Alternatives A and B. Alternative C, however, would propose major changes in lands suitable for sheep grazing, as well as minor changes in lands suitable for cattle grazing by reducing the amount of overall suitable grazing lands. Alternative D would propose a major increase in lands suitable for sheep grazing. At the same time, Alternative D would propose minor increases in lands available for cattle grazing. Alternative D, when compared to the other alternatives, would provide the most suitable grazing lands; Alternative C would provide the least suitable grazing lands.

Figure 3.14.1 - Comparative Stocking Rates - Alternative A



San Juan Public Lands Comparative Stocking Rates Alternative A

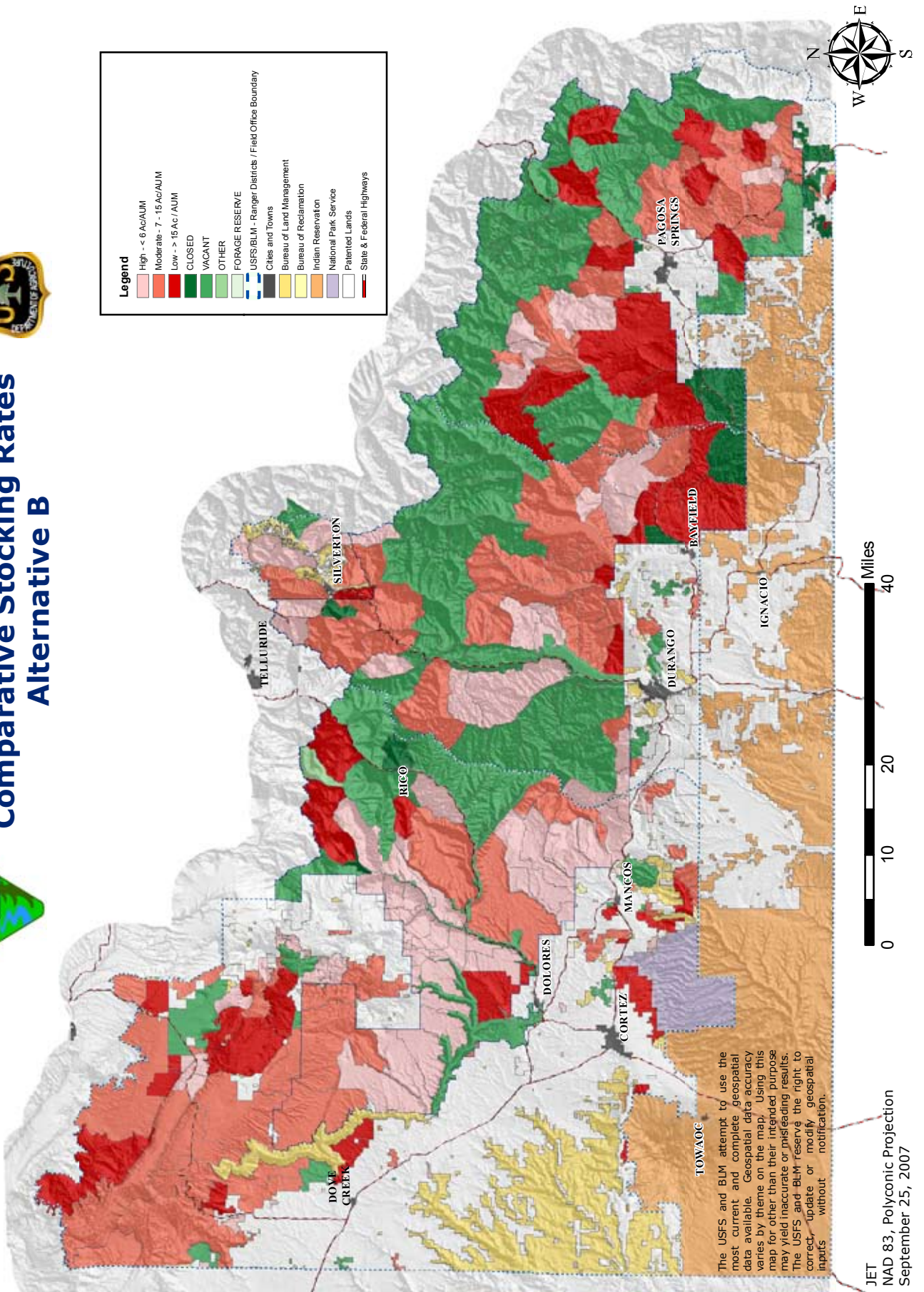


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Figure 3.14.2 - Comparative Stocking Rates - Alternative B

San Juan Public Lands Comparative Stocking Rates Alternative B



Legend

- High - < 6 Ac/AUM
- Moderate - 7 - 15 Ac/AUM
- Low - > 15 Ac/AUM
- CLOSED
- VACANT
- OTHER
- FORAGE RESERVE
- USFS/BLM - Ranger Districts / Field Office Boundary
- Cities and Towns
- Bureau of Land Management
- Bureau of Reclamation
- Indian Reservation
- National Park Service
- Patented Lands
- State & Federal Highways

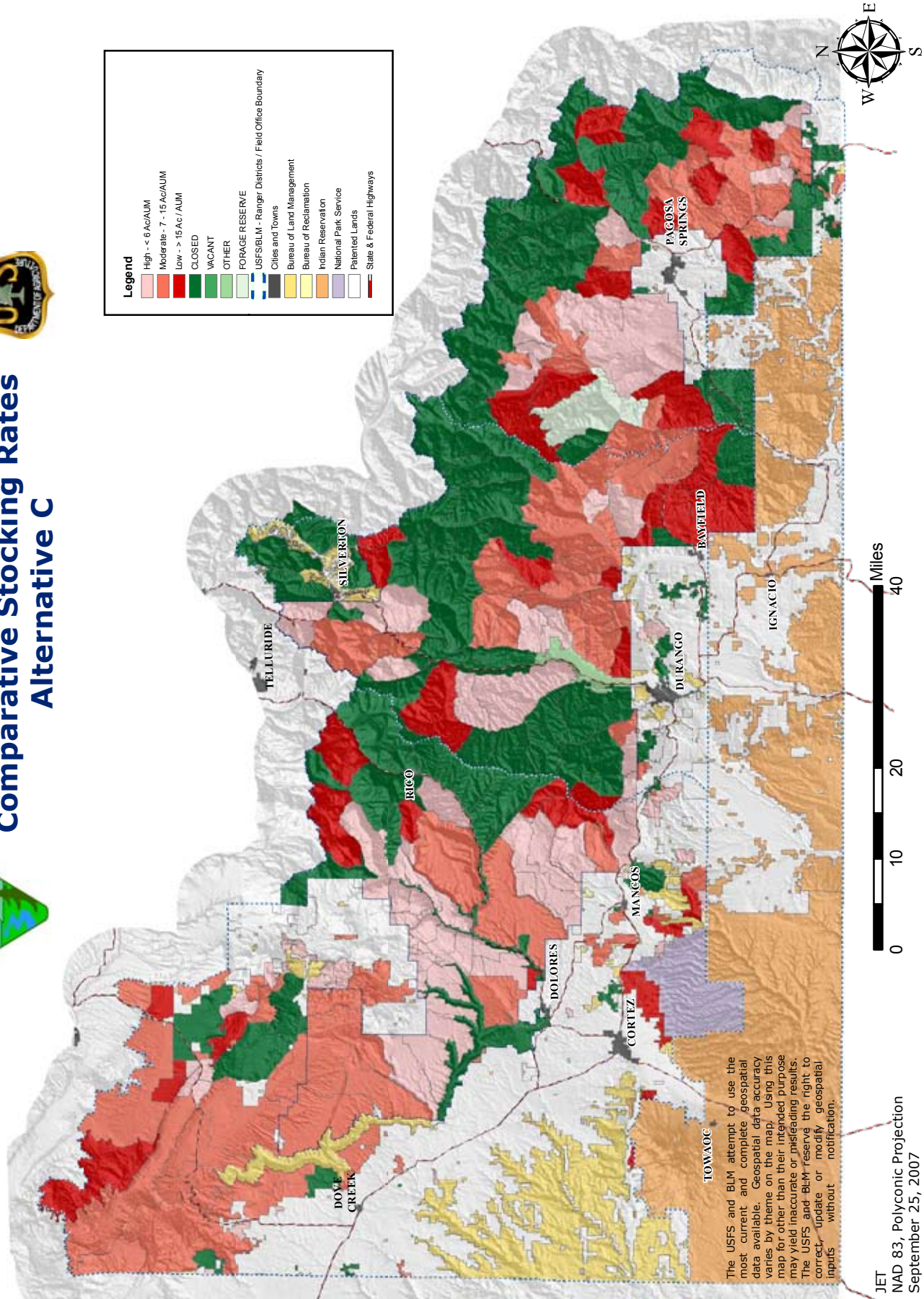
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Figure 3.14.3 - Comparative Stocking Rates - Alternative C



San Juan Public Lands Comparative Stocking Rates Alternative C



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Figure 3.14.4 - Comparative Stocking Rates - Alternative



San Juan Public Lands Comparative Stocking Rates Alternative D

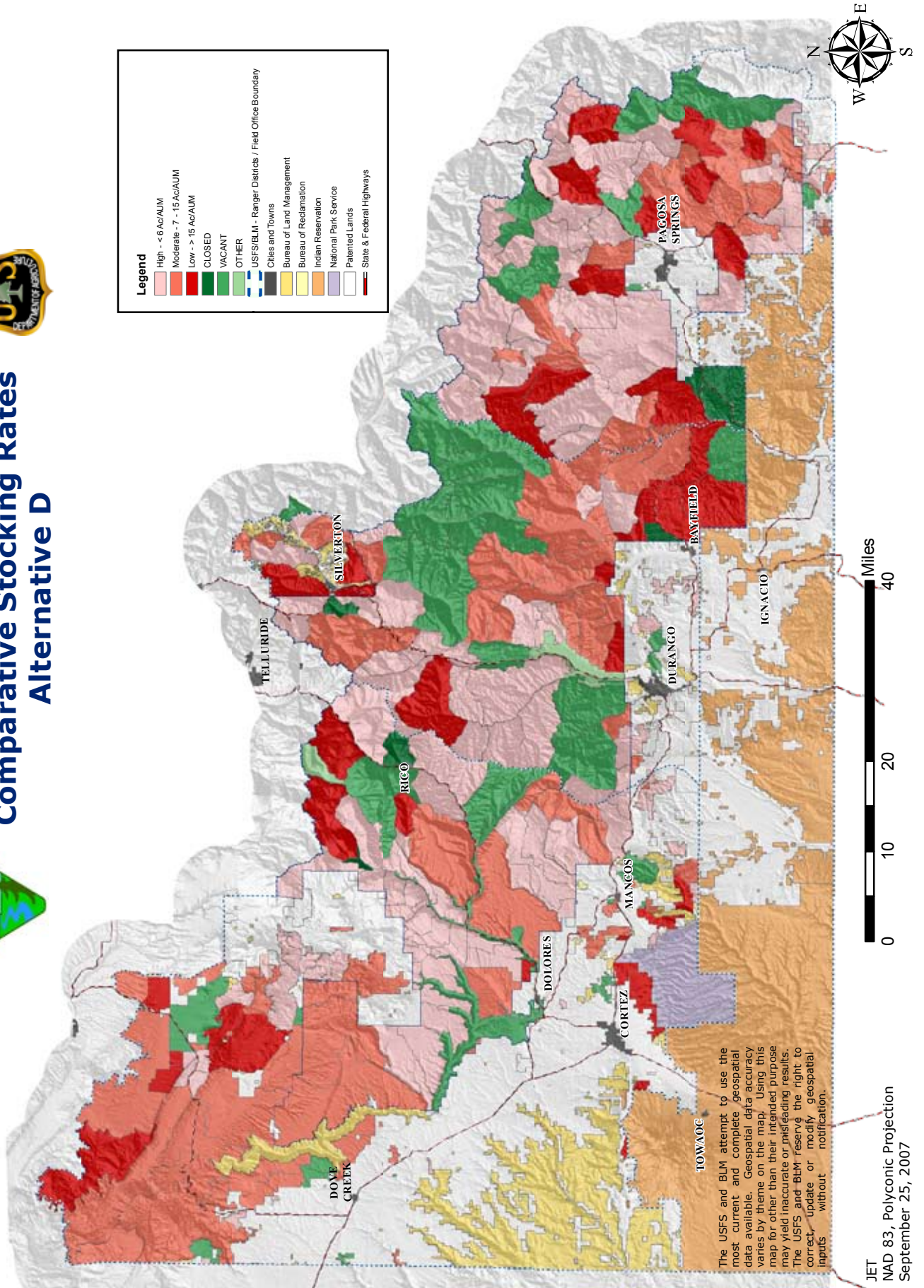


Table 3.14.1 – Grazing Allotment Status on Lands Administered by SJPLC

ALLOTMENT STATUS	AGENCY		TOTAL
	USFS	BLM	
Active	117	100	217
Vacant	48	23	71
Other	1	0	1
Total	166	123	289

Table 3.14.2 – Current Active AUMs on Lands Administered by the SJPLC*

LIVESTOCK CLASS	AGENCY		TOTAL
	USFS	BLM	
Cattle	115,312	22,100	137,412
Sheep	8,754	2,204	10,958
Total	124,066	24,304	148,370

*From FY2005. Active AUMs are those permitted as shown on the term grazing permit.

**Ewe/lamb animal-unit factor of 0.3 used to calculate forage demand.

Table 3.14.3 displays grazing suitability by class of livestock for public lands administered by the SJPLC.

Table 3.14.3 – Suitable Acres of Public Lands Administered by the SJPLC

LIVESTOCK CLASS	AGENCY		ACRES	
	USFS	BLM	USFS	BLM
Cattle	1,168,620 (63%)	399,112 (79%)	1,864,839	504,398
Sheep	695,612 (37%)	31,862 (6%)	1,864,839	504,398

Table 3.14.4 – Estimated AUMs by Alternative

LIVESTOCK CLASS	ALTERNATIVE A (NO-ACTION ALTERNATIVE)	ALTERNATIVE B (PREFERRED ALTERNATIVE)	ALTERNATIVE C	ALTERNATIVE D
Cattle	137,413	137,412	129,084	140,081
Sheep	10,958	10,958	6,456	24,024
Total	148,371	148,370	135,540	164,105

Table 3.14.5 – Suitable Grazing Acres by Alternative

LIVESTOCK CLASS	ALTERNATIVE A (NO-ACTION ALTERNATIVE)	ALTERNATIVE B (PREFERRED ALTERNATIVE)	ALTERNATIVE C	ALTERNATIVE D
Cattle	137,413	137,412	129,084	140,081
Sheep	10,958	10,958	6,456	24,024
Total	148,371	148,370	135,540	164,105

Differences in suitable grazing lands may also be used to estimate potential livestock grazing impacts to other resources (including riparian areas and wildlife habitat). Alternative D (followed by Alternatives A, B, and C) would provide the most suitable acres of grazing lands (assuming that the potential for livestock grazing conflicts may be the most significant under Alternative D, and least significant under Alternative C). It would be reasonable to assume that livestock management, including grazing permittee management involvement, would need to be more intensive. This may require more investments in range improvements (including fencing, vegetation manipulation, and water developments) in order to avoid or mitigate potential impacts to other resources should Alternative D be implemented. Alternative C would provide the most opportunity to remedy livestock grazing conflicts with other resources. This is because livestock grazing would occur on less acres of public land under Alternative C than it would under any other alternative. Specific changes to allotment management practices, regardless of the alternative chosen, would be made at the project level.

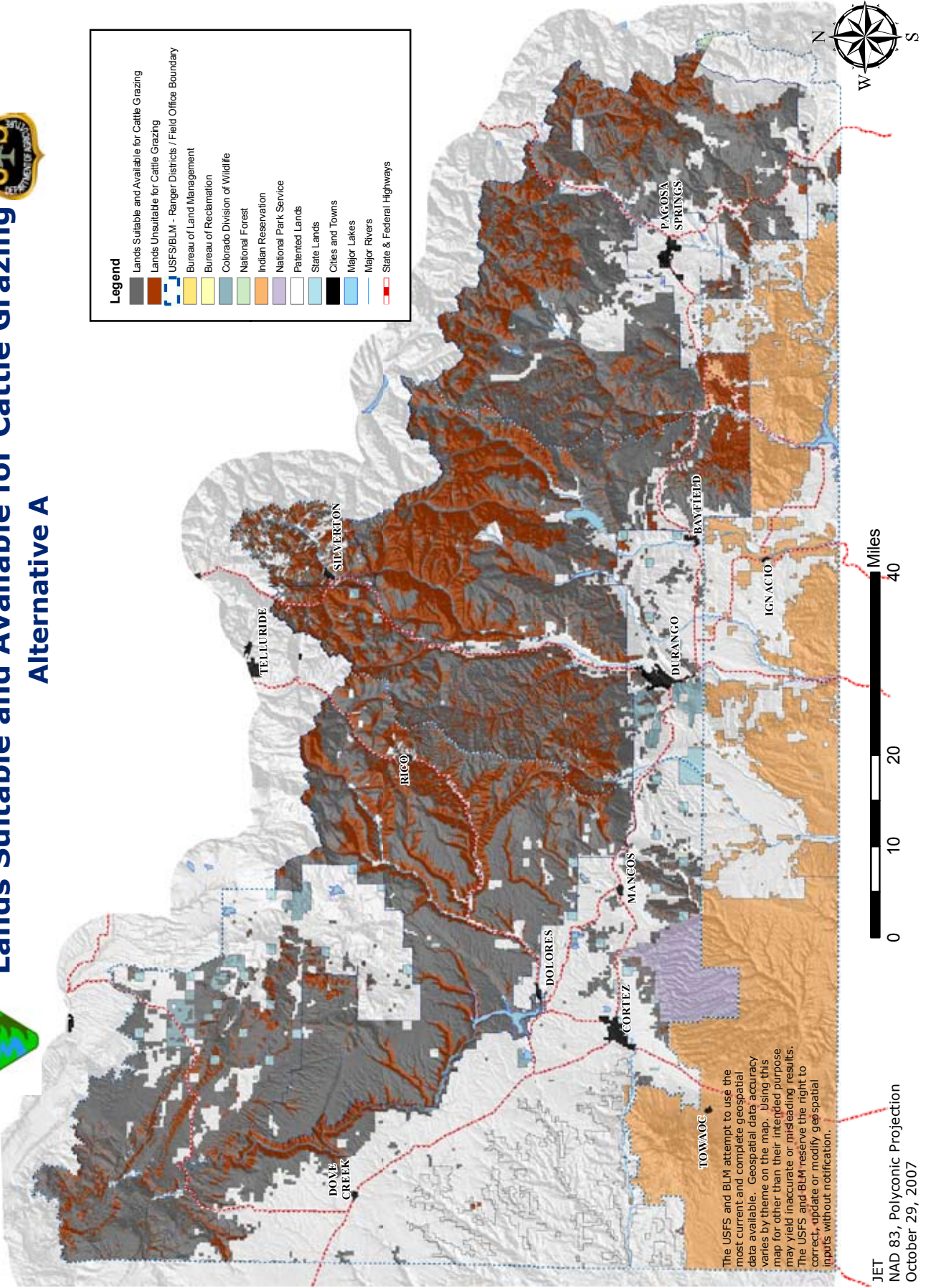
General Impacts

Under all of the alternatives, program desired conditions, objectives, and guidelines would be the same. Changes from the current USFS LMP and the BLM RMP would be mainly due to changes in laws and regulations. At the forest and field office level, changes resulting from any of the alternatives would be generally small and difficult to quantify.

Figure 3.14.5- Lands Suitable and Available for Cattle Grazing - Alternative A



San Juan Public Lands Lands Suitable and Available for Cattle Grazing Alternative A

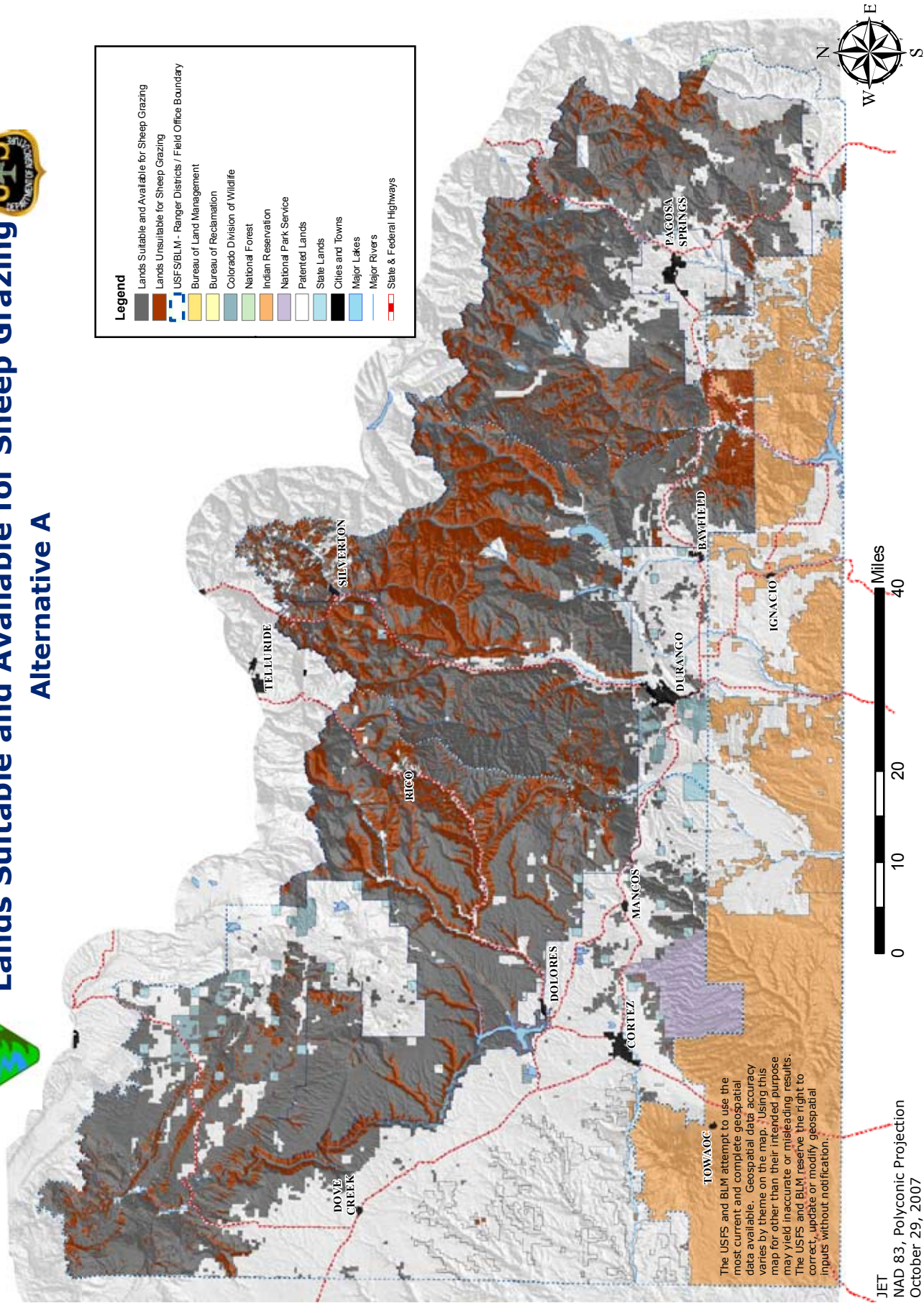
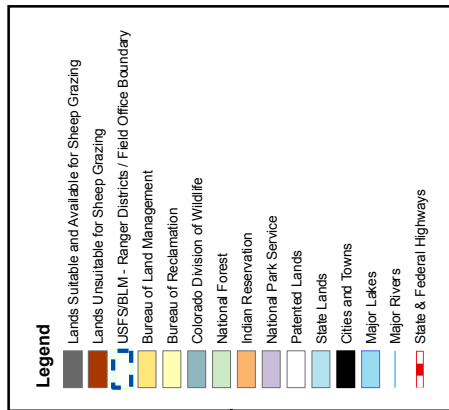


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Figure 3.14.6 - Lands Suitable and Available for Sheep Grazing - Alternative A

San Juan Public Lands Lands Suitable and Available for Sheep Grazing Alternative A



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Figure 3.14.7 - Lands Suitable and Available for Cattle Grazing - Alternative B

San Juan Public Lands Lands Suitable and Available for Cattle Grazing Alternative B

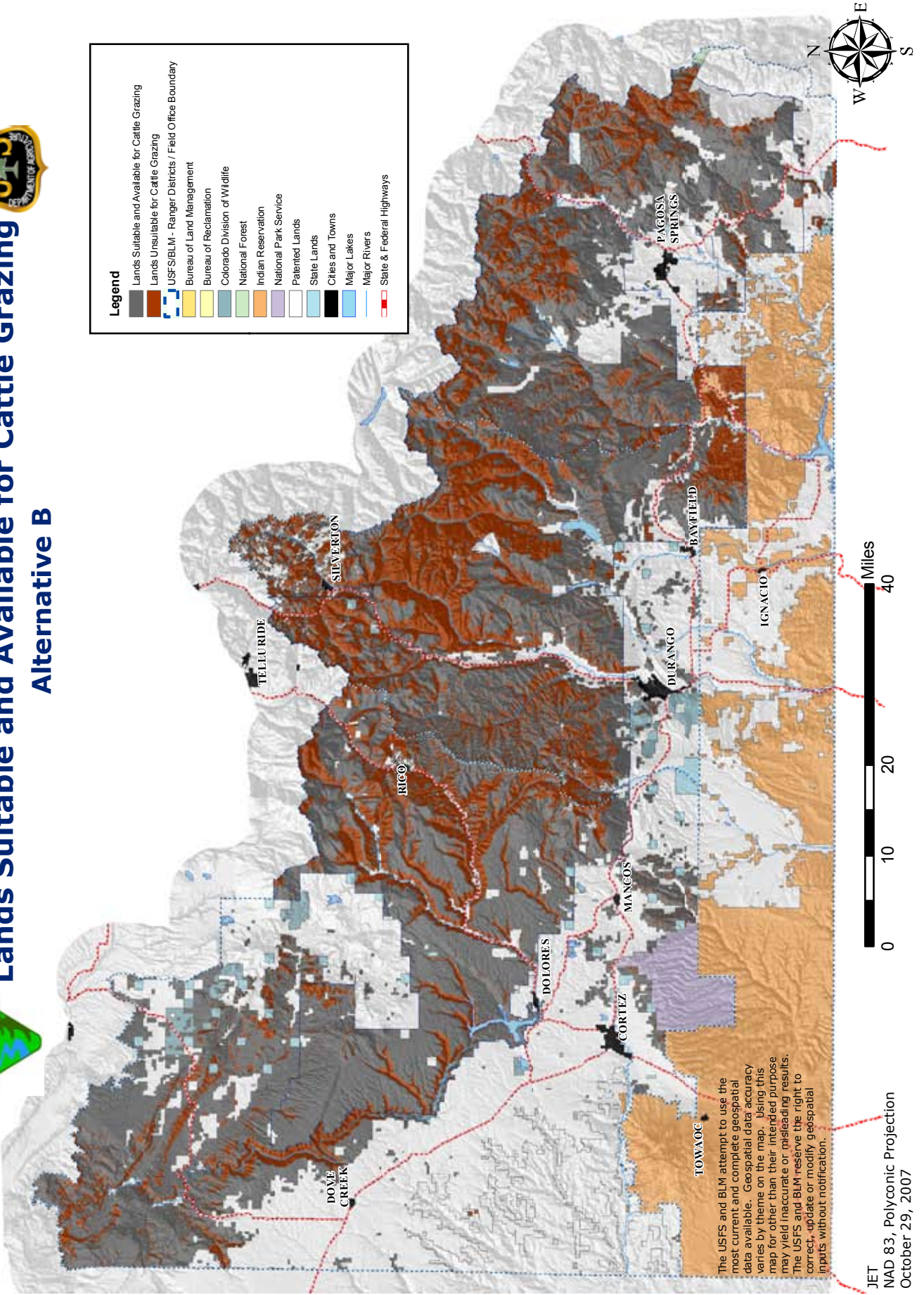
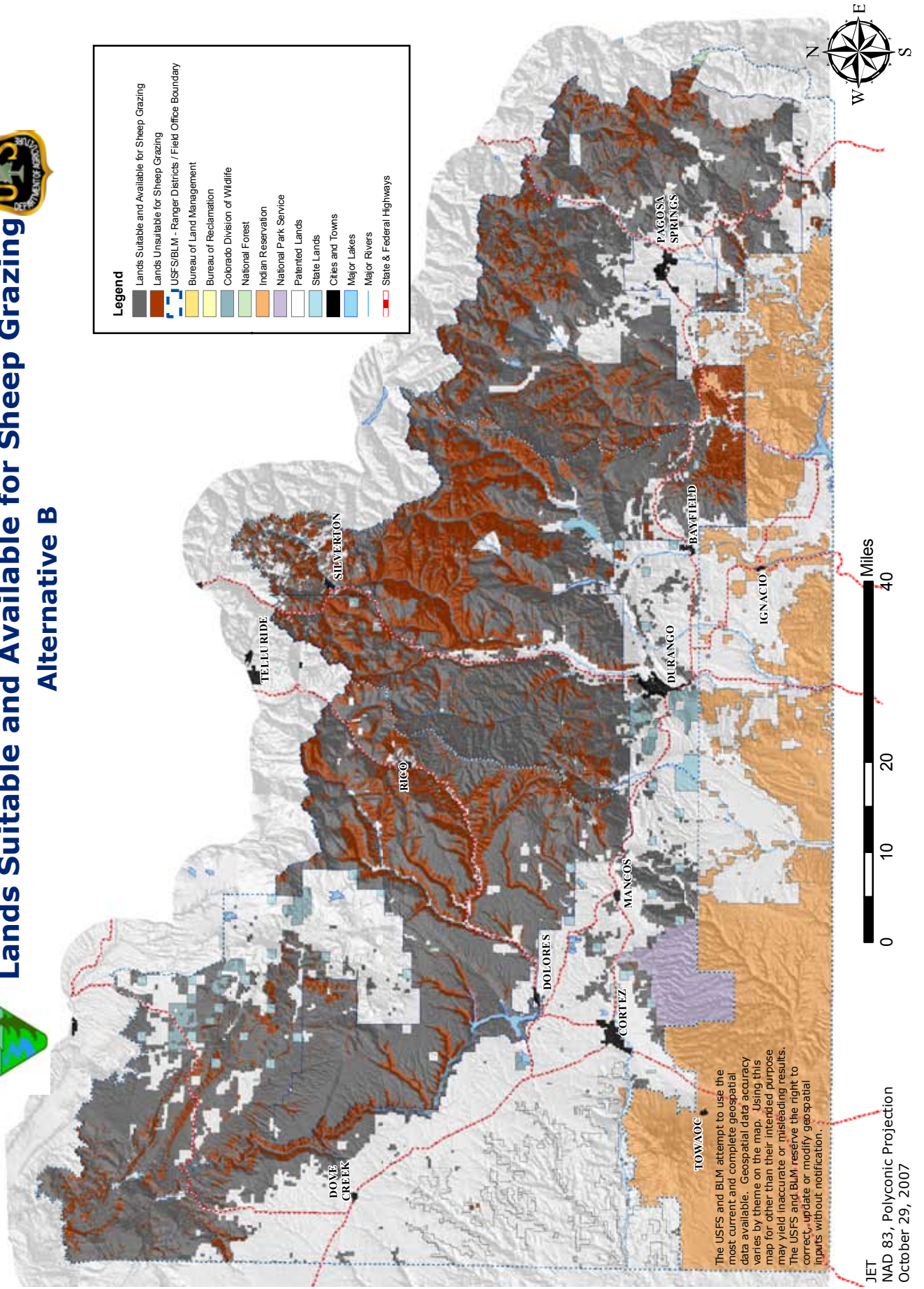


Figure 3.14.8 - Lands Suitable and Available for Sheep Grazing - Alternative B



San Juan Public Lands Lands Suitable and Available for Sheep Grazing Alternative B

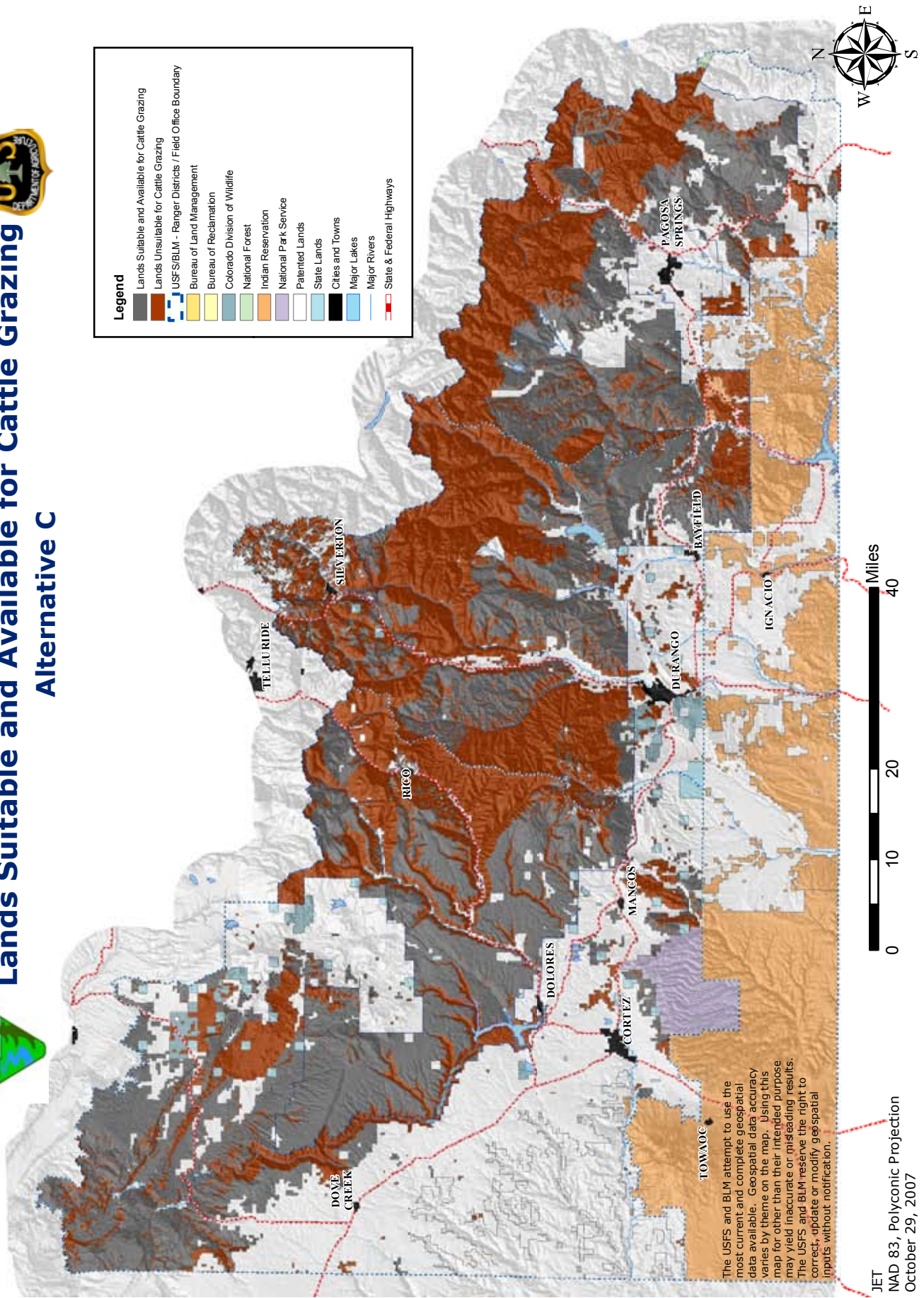


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Figure 3.14.9 - Lands Suitable and Available for Cattle Grazing - Alternative C



San Juan Public Lands Lands Suitable and Available for Cattle Grazing Alternative C



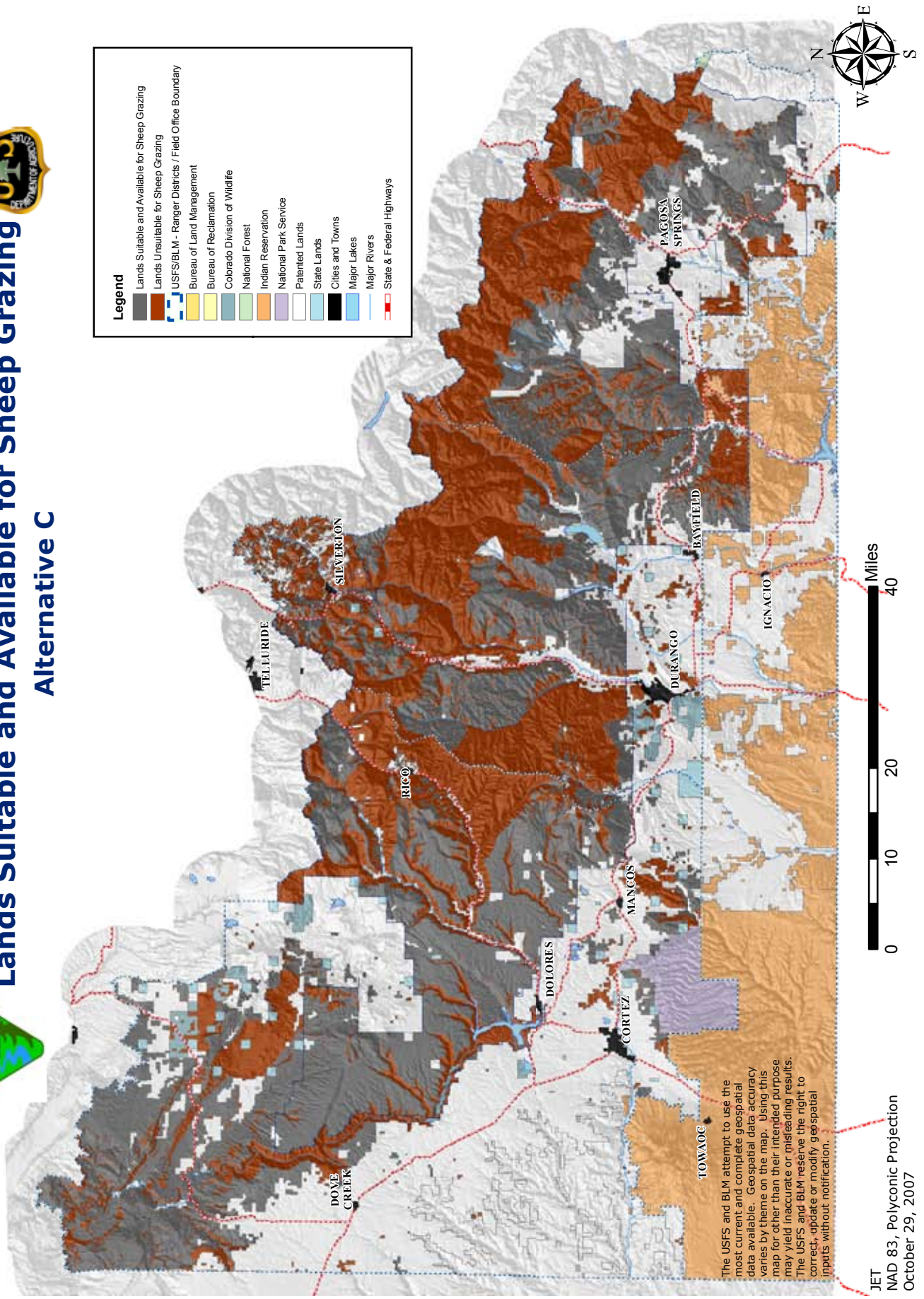
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Figure 3.14.10 - Lands Suitable and Available for Sheep Grazing - Alternative C



San Juan Public Lands Lands Suitable and Available for Sheep Grazing Alternative C



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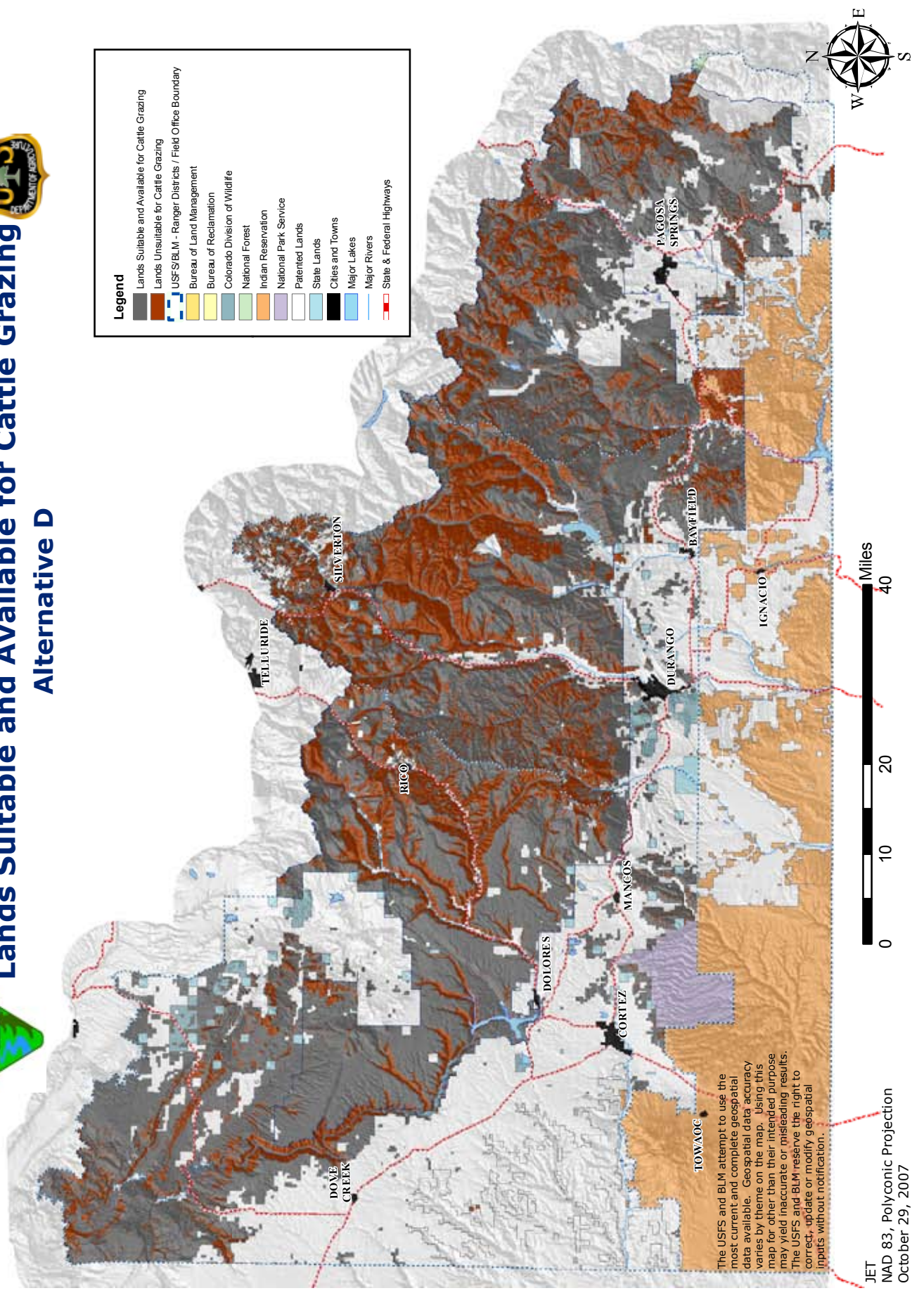
0 10 20 40 Miles

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Figure 3.14.11 - Lands Suitable and Available for Cattle Grazing - Alternative D



San Juan Public Lands Lands Suitable and Available for Cattle Grazing Alternative D



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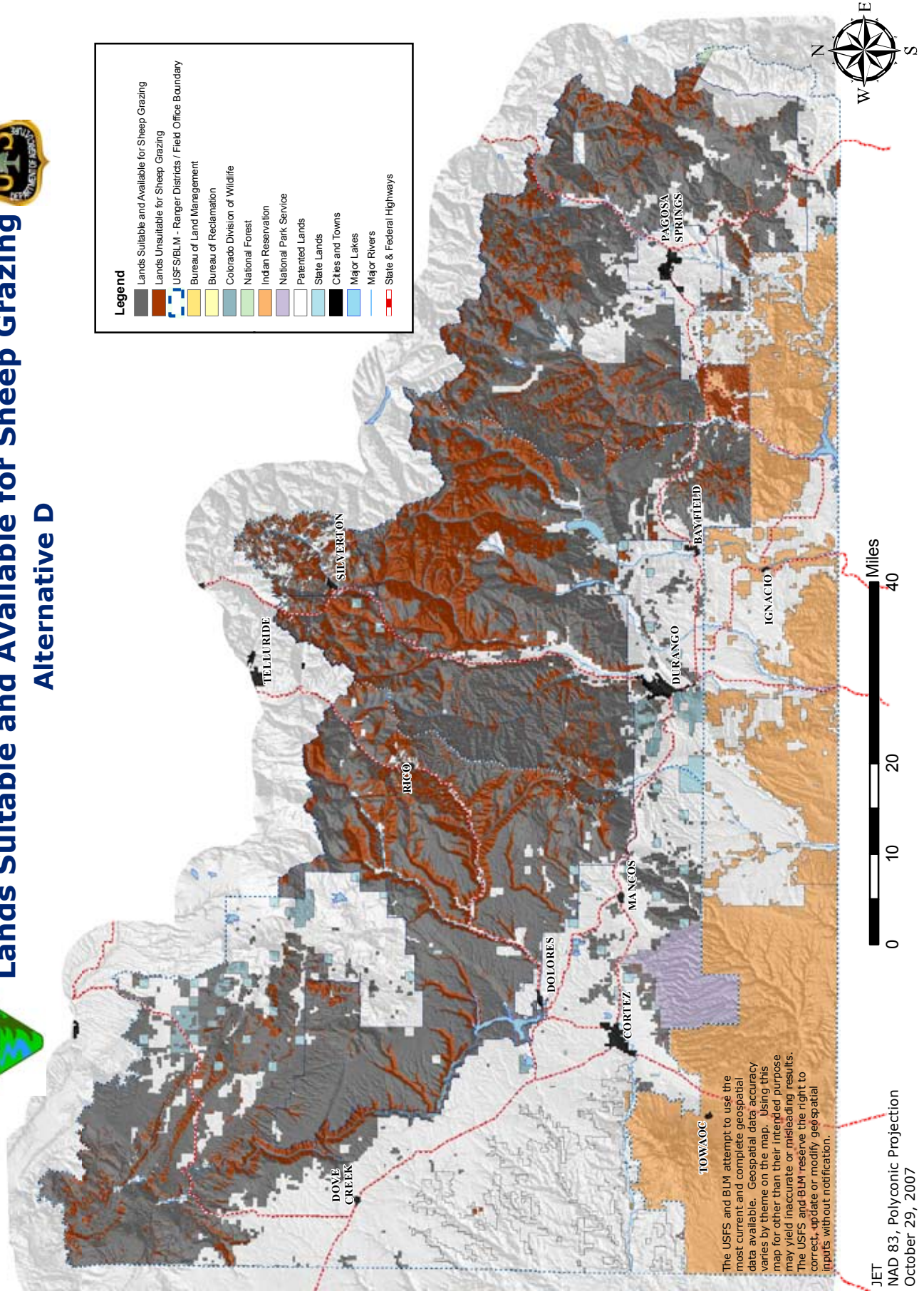
Figure 3.14.12 - Lands Suitable and Available for Sheep Grazing - Alternative D

San Juan Public Lands Lands Suitable and Available for Sheep Grazing Alternative D



Legend

- Lands Suitable and Available for Sheep Grazing
- Lands Unsuitable for Sheep Grazing
- USFS/BLM - Ranger Districts / Field Office Boundary
- Bureau of Land Management
- Bureau of Reclamation
- Colorado Division of Wildlife
- National Forest
- Indian Reservation
- National Park Service
- Patented Lands
- State Lands
- Cities and Towns
- Major Lakes
- Major Rivers
- State & Federal Highways



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Since the early 1920s, permitted livestock grazing on public lands has decreased. Since the 1980s, however, livestock numbers appear to have stabilized. Increasing demands for other public land uses, as well as changes in the market and in the use of surrounding private lands, may account for the long-term decrease. In addition, a persistent drought has reduced the ability of public lands to supply forage sufficient to meet current demand. Overall, demand for public land grazing privileges remains strong, especially for cattle allotments.

Grazing permittee involvement and commitment to meeting public land goals and objectives will be critical in maintaining current stocking levels. Some grazing permittees may be able to maintain, or even increase, permitted AUMs. However, there would be some who would not be able to at least maintain these numbers. These grazing permittees would face changes in stocking levels and in livestock management operations.

Monitoring indicates that there are areas where management area direction and goals are not being moved toward desired conditions, and areas that meet desired conditions. Therefore, it is possible that as project-specific NEPA and grazing decisions are implemented, downward changes in permitted use could occur in order to reach sustainable stocking levels.

Permitted livestock grazing, along with the combination of vegetative treatments designed to improve rangeland health (including aspen management, seeding native species, and prescribed and natural fires) would all contribute to moving rangeland vegetation toward desired conditions. In contrast, current trends in motorized recreation, the current lack of fire in fire-adapted ecosystems, current increases in noxious weed populations, and current livestock management occurring outside of prescribed guidelines, may move rangeland vegetation away from desired conditions.

Effects of Fire and Fuels

It is expected that an average of 13,000 acres will be treated annually using a combination of mechanical fuels treatment and prescribed fire. In addition, approximately 3,000 acres projected using wildland fire use fires. These methods and objectives are consistent across alternatives.

Generally earlier seral conditions favorable to production of grasses and forbs will be maintained or even increased in some areas. Managed fire and fuels projects could result in increased availability of forage in the long-term. The potential for forage allocation increases (AUMs) are considered in Alternative D. Fire and fuels projects planned in unsuitable rangelands would generally have little beneficial effects.

Project proposals prescribing mechanical treatments used to date that result in a woody structural vegetation change such as brush and tree removal often result in a temporary increase in grasses and forbs. Generally the critical pre and post-project planning that occurs when managed fire is prescribed, is not as important in mechanical treatments as the impacts and disturbance are far less.

Wildfires have the potential to disrupt normal grazing management as well as adversely affect the forage base for some time.

While wildfire can be beneficial due to changes made to vegetation structure through removal of trees and brush, nutrient recycling, and a subsequent increase in forage production, wildfires can also destroy natural boundaries, fences and other range improvements, and cause additional environmental impacts such as burned soils that necessitate removal of livestock for some time in order to ensure recovery takes place. These effects can increase costs to grazing permittees as they are forced to find other forage sources, and the effects can increase costs to both the government and grazing permittee due to range improvement replacement costs. Generally, effects to vegetation result in at least a short-term forage production improvement. Provided that projects are re-treated to maintain desired vegetation conditions, managed fire and fuels projects could result in increased availability of forage in the long-term. Secondary beneficial effects would be improved livestock distribution, improved riparian condition, suitable acres for livestock at least maintained, and overall management flexibility improved.

Effects of Minerals Management

It is expected that uranium development in the Dove Creek/Slickrock area will be the major solid minerals activity in the coming years and will disturb 540 acres in the first decade of the plan. This activity is expected to increase over the long-term. Other minor development will take place across the SJPLC with fewer disturbances. This level of development would occur under all alternatives. The effects to livestock grazing would depend on where disturbance occurs, and when the activity would be re-claimed. If the disturbance occurs on suitable grazing lands on active grazing allotments, there could be a short-term loss of AUMs although the amount would be negligible under current stocking rates. As all ground-disturbing activities are required to be reclaimed, long-term AUM loss should not occur. Other short-term impacts such as the need for gates or cattle guards due to increased traffic would be mitigated through leasing and operating stipulations. Adverse impacts from minerals management activities would occur only when vegetative reclamation activities are unsuccessful. This would provide a risk for invasive species establishment, unacceptable soil loss, and reduced forage production potential. When reclamation is successful, then opportunities for invasive species establishment and soil loss are lessened, while forage production should increase. As the amount and rate of minerals development is the same across alternatives, there would be little net change between alternatives. Within a 15 year timeframe approximately 670 acres of disturbance related to oil and gas activities (on currently unleased lands) may occur across all alternatives. If all disturbance is in active cattle allotments this level of development would represent a short-term loss of approximately 69 AUMs. This temporary loss would be minor. Other impacts associated with mineral development such as increased traffic could be mitigated. The types of impacts would be the same regardless whether additional oil and gas leasing occurred or not.

Effects of New Research Natural Area (RNA) Designations

Existing and proposed RNAs are located on National Forest System lands. The major direct effect to livestock grazing due to new RNA designations would depend on whether livestock grazing could occur within the RNA. The decision to graze or not graze is made when RNA management plans are completed and approved by the appropriate Forest Officer. Should grazing not be allowed for proposed RNAs there could be a potential loss of AUMs. Any AUM loss would be tempered by current vegetation conditions, grazing system, and stocking rate. Rangeland suitability may be impacted by RNA establishment. Should natural disturbances such as fire and insects outbreaks not be allowed to occur, then natural succession would move towards later seral stages resulting in long term decreased forage production. These effects could be mitigated if individual RNA management plans allow for disturbance activities such as fires to maintain herbaceous cover and production.

Table 2.11 displays suitable acres within RNAs by alternative and the potential AUM loss considering current class of livestock use on FS grazing allotments⁶.

⁶ AUM loss calculated for RNAs using an average figure of 14.1 acres/AUM and 8.9 acres/AUM for sheep and cattle, respectively as these are average stocking rates on NFS lands within the SJNF. In addition, AUM loss is only calculated for those RNAs where livestock grazing could still be permitted at this point in time. For instance, the Narraguinnep Natural Area is closed to grazing; therefore, there would be no loss of potential AUMs.

Table 3.14.6 - Potential AUM Loss Due to New RNA Designations

ALTERNATIVES	SUITABLE SHEEP ACRES	SHEEP AUMS	SUITABLE CATTLE ACRES	CATTLE AUMS
A	0	0	0	0
B	2,135	151	906	102
C	13,409	951	906	102
D	18	1	0	0

Alternative C followed by Alternative B has the greatest potential to affect livestock grazing.

Effects of Wilderness Management

Wilderness areas are to be managed to protect wilderness characteristics. Direction contained in Congressional Grazing Guidelines dictates that livestock grazing in wilderness areas would be permitted to continue in wilderness areas when such grazing was established prior to an area being classified as wilderness (W.O. Amendment 2300-90-2, FSM 2323.2). In addition, the same guidelines provide that wilderness designation not preclude range improvement construction and maintenance that are consistent with allotment management plans and/or needed to protect rangelands.

Livestock management in wilderness areas can be more difficult and costly than on other public lands as motorized access and equipment are restricted, and there may other restrictions on new range improvement designs which can be more costly.

Some indirect effects include:

- increased expectation of no livestock presence within wilderness areas by visitors,
- the need to manage around a recreational “wilderness” experience expected by visitors – especially those areas currently not designated wilderness, but may be in the future,
- the need to manage for wilderness character and plant communities, and
- the difficulty of administering grazing permits due off-road travel restrictions.

Management Area 1 designations are also managed like wilderness areas; however, resource management is more flexible. For the purposes of comparison only, Management Area 1 areas have been included with acres of wilderness to compare effects across alternatives.

Alternative C has objectives for the most suitable grazing acres in Management Area 1 and wilderness areas, followed by Alternative B. However, Alternative C allows the least amount of grazing, including grazing use within wilderness areas. Alternatives A and D are virtually identical. Effects to rangeland vegetation within Management Area 1, proposed wilderness, and wilderness areas would be dependent on whether natural disturbance processes such as wildfires, would be allowed to take place. If these disturbance processes are not allowed to occur then it would be expected that vegetation seral stages would advance and many areas presently considered suitable, such as meadows, would ultimately convert to timber stands over the long term and thus not be available for livestock.

Effects of Timber Management

Timber harvest would open the canopy so that an increase of forage occurs in the understory. This forage increase is considered temporary and the term “transitory range” is used to describe this result. Over time forested stands once again close-in or young trees become dense enough that the increased rangeland vegetation no longer is available on site. The use of transitory range can be beneficial in improving livestock distribution in the short run.

Timber harvest may also result in the removal of natural livestock barriers. Fence construction would be required to maintain these barriers. In addition, there may be a need to construct new gates and/or cattleguards to accommodate harvest activities.

An indirect effect of aspen harvest is that once stands close-in they become virtual barriers to livestock movement. This affects livestock distribution and management until aspen are naturally thinned over time. Alternative D has objectives to harvest the most aspen followed by Alternative B. Alternatives A and C has objectives to harvest the least amount and acreages are identical.

Permitted livestock are not expected to increase due to the temporary increase in transitory range. The greatest amount of transitory range would be created in Alternative D, followed by A, B, and C.

Effects of Wildlife and Fisheries Management

Wildlife management activities that may result in effects to livestock grazing are:

- **Effects from big game management:** Forage demands from big game can exceed the capability of the land and cause detrimental impacts to soil and vegetation. Conflicts over allocation of forage between livestock and big game are ongoing and will increase as big game populations continue to increase. In some cases this could result in limitations on permitted livestock use through changes in grazing seasons and/or livestock numbers.
- **Sage grouse management:** Allowable livestock forage use and grazing season could be affected on those grazing allotments where sage grouse is present and where grouse habitat needs are not being met. These effects would be greatest on those grazing allotments managed without some form of pasture rotation.
- **Management for big horn sheep:** The need to avoid contact between domestic and big horn sheep could result in removal of domestic sheep and grazing allotment closures to domestic sheep use.
- **Wildlife and fisheries:** Management may also involve adjusting grazing time, intensity, and timing of livestock use, livestock exclusion, fencing, range improvements, etc. where livestock use adversely impacts upland and riparian vegetation.
- **Threatened/Endangered/Sensitive Species Management:** Habitat for T, E & S species will be protected, maintained or increased. These actions may require changes in livestock management through changes in grazing strategies, grazing use, and range improvement use and design. Conservation strategies, critical habitat designations, and biological opinions address specific management requirements.

Livestock, big game animals and other wildlife that graze and browse herbs, grasses, and shrubs are disturbance agents. These animals also create disturbance through hoof action, which affects vegetation and soils in riparian and upland sites. Effects depend on a number of factors including grazing and browsing intensity, timing and frequency, herbivore type, soil moisture, and existing vegetative conditions. Heavy browsing and grazing intensities, repeated grazing and browsing use during periods of rapid vegetative growth, and frequent use of individual or preferred plants without allowing for recovery from grazing tend to move vegetation towards earlier successional stages. Moderate or light grazing intensities, less frequent use, and shorter grazing periods tend to maintain or improve desired vegetative conditions. While livestock numbers are expected to remain stable and grazing management continues to improve, big game numbers are expected to increase. This will place more demand on rangeland vegetation to support increased grazing and browsing pressure. Livestock grazing intensity, timing and frequency will need to be addressed in order to meet demand. This will be a long-term impact and the magnitude will need to be addressed at the project level as these impacts will be site-specific. In addition, more active management of big game populations by CDOW may need to occur. Management actions such as depredation hunts or increased take could be employed by the agency to address big game numbers as required to meet rangeland vegetation needs.

An indirect effect is the potential to create additional, available livestock forage through wildlife habitat improvement projects such as wildland fire use.

Effects from wildlife and fisheries management are consistent across alternatives. Potential changes to livestock management are site-specific and are addressed at the project level.

Effects of Travel Management and Recreation

Public lands roads and trails are used by grazing permittees to manage grazing activities within grazing allotments. These same roads and trails are used by public lands visitors and other permit holders for a variety of uses other than livestock management activities resulting in the potential for conflict.

Generally management costs are reduced for grazing permittees having access to grazing allotments along open public lands roads. While management efficiency may be improved, increased access by visitors can create additional management problems such as gates being left open, livestock disturbance, and vandalizing of cow camps and range improvements. There are also potential benefits as different public lands users become acquainted with differing valid uses of public lands.

Recreation use in and of itself would generally have little impacts to rangeland vegetation, except in those areas that receive repeated and continued uses such as camping areas, hiking trails, and off-road vehicle use. These activities, if conducted in a manner that promotes soil loss and compaction, could adversely affect rangeland vegetation by moving vegetation conditions to an earlier seral stage and away from desired conditions. Overall, livestock management should benefit with implementation of the 2005 travel management rule which allows continued motorized access to grazing allotments using existing routes. Alternative C restricts summer motorized travel the most, while the other alternatives are relatively similar. Winter travel restrictions should not impact livestock management activities..

CUMULATIVE EFFECTS

Past Effects

Effects from historic livestock use on public lands within SJPLC continue to be evident and influence livestock management today. Historic livestock numbers, both sheep and cattle, were higher in the past than at present. Higher stocking densities without today's investments in range improvements, such as fences and water developments, resulted in soil and vegetation degradation in those areas easily accessible to livestock such as riparian areas. Generally, unrestricted or longer grazing seasons adversely impacted native upland vegetation by not allowing adequate grazing recovery periods. This resulted in the replacement or decrease of some native bunchgrasses, such as Parry oatgrass and Arizona fescue, with less desirable species such as Kentucky bluegrass. Overall potential productivity decreased with unrestricted grazing practices. These conditions have gradually been improved using improved livestock management practices along with shorter grazing seasons and reduced permitted livestock on public lands.

Past fire suppression activities has resulted in conifer encroachment into formally suitable grazing lands which limits forage productivity and availability. This has also affected livestock use and distribution patterns. Past timber harvest, especially in higher elevation spruce/fir, increased available transition range.

Current Effects

Permitted livestock numbers should remain stable and the demand for grazing privileges is expected to remain high for cattle allotments. The sheep market is expected to continue its decline; however, the number of sheep permittees is expected to remain stable. Ongoing livestock management practices to mitigate drought impacts are continuing.

Improved management such as fencing and water developments has helped arrest soil and vegetation degradation. In addition, knowledge of the appropriate time, timing and grazing intensity have improved livestock management on public lands. Drought impacts to rangeland vegetation are continuing. There are still livestock stocking issues and management concerns on some grazing allotments; however, these issues are addressed administratively at the project level. None of the alternatives would affect overall livestock management.

Ongoing timber harvest and fuels management are creating increased transitory range. This is an overall benefit to livestock management as these activities should benefit management flexibility and livestock distribution as long as they continue. There will continue to be impacts to rangeland vegetation from fire suppression, noxious weed management, livestock and big game grazing, recreation use, and other vegetative management activities. Some activities will result in positive effects, while other activities such as fires suppression and unmanaged recreation could result in unfavorable effects. In general, those activities that move or keep rangeland vegetation in a range between early and mid-seral conditions will be beneficial.

Conflicts between grazing permittees and other public lands users are expected to continue. These conflicts are seen in the form of open gates, shared trails, and range improvement vandalism to name a few. Forage competition between big game and livestock will continue as big game numbers continue to increase. Solid minerals management is expected to remain stable. Fluid minerals management is not expected to adversely impact livestock grazing management.

Agricultural land prices are increasing and may be out of reach for those buyers intending to continue agricultural uses on purchased lands. This could adversely impact grazing permittees needing to acquire additional lands to manage around the requirements of public lands grazing, and also make it more difficult those wanting to enter the livestock business. The use of conservation easements to maintain open space should increase which should reduce the rate of agricultural lands to other uses.

Foreseeable Effects

Livestock grazing, under improving management systems, should continue on public lands; however, the demand for grazing privileges will depend on the ability of current and future grazing permittees to absorb increasing operating costs.

As land values continue to increase, some grazing permittees will likely choose to sell their land for conversion to other uses. No grazing could have adverse effects such as the loss of privately owned open land, and the change in local customs and culture. The use of conservation easements to maintain open space should continue. Loss of grazing would also result in the loss of a vegetation management “tool”. However, in those areas where vegetative condition is not meeting desired conditions, no grazing could result in an improvement in these conditions.

Fuels and fire management should continue to increase the amount of transitory range which would remain a benefit.

Solid minerals management activities will continue to remain stable. Fluid minerals activity is expected to increase by a factor of almost two. These activities should be mitigated. Even should no additional oil and gas leasing occur the types of impacts would be the same overall, but again, these impacts should be mitigated. Where mitigation cannot be accomplished, it would be likely that adjustments to livestock operations in the form of changes to permitted numbers and grazing seasons would be considered. Any changes would be on an allotment-by-allotment basis.

Conflicts between grazing permittees and other public lands users are expected to continue and possibly increase as the amount of recreation, especially motorized uses, continues to increase.

Impacts to rangeland vegetation will continue to increase as recreation demand, especially motorized use, increases as local community populations’ increase through retirement and re-location of baby boomers and others who prefer motorized recreation experiences on public lands. Associated activities such as hiking and biking could also impact rangeland vegetation if not managed. In addition, there could continue to be adverse impacts due to an ongoing drought which would further restrict forage availability and land health. It is expected that cheatgrass would continue to expand on public lands administered by SJPLC due to the ongoing drought.

Forage competition between big game and livestock will continue as big game numbers continue to increase. As this trend continues changes in livestock management through reductions in permitted livestock numbers or seasons could be expected should soil and vegetation changes trend away from desired conditions. This trend would also be exacerbated should the pattern of changing land uses on private lands continue.

In summary, livestock management would be expected to continue and that the trends described above would be the same regardless of alternative.