

INTRODUCTION

As development around the planning area continues, and as populations and tourism grow, demand for, and concern about, scenic quality is also increasing. Visitors and residents place a high value on the protection of intact natural and cultural landscapes. The economic and lifestyle benefits of high-quality scenery are a primary contribution to the wealth of this region.

LEGAL AND ADMINISTRATIVE FRAMEWORK

LAWS

- ***The National Environmental Policy Act of January 1, 1970:*** NEPA states that it is the “continuing responsibility of the Federal government to use all practicable means to assure for all Americans, aesthetically and culturally pleasing surroundings.” NEPA mandates agencies to develop methodologies for scenery management of “aesthetically and culturally pleasing surroundings” that are capable of being put into practice. NEPA requires “a systematic and interdisciplinary approach, which will ensure the integrated use of the natural and social sciences and the environmental design arts into planning and decision-making which may have an impact on man’s environment.”
- ***The Multiple-Use Sustained-Yield Act of 1960:*** Under this act, “National forests are established and shall be used for outdoor recreation, range, timber, watershed, and wildlife and fish purposes.” The Secretary of Agriculture is authorized and directed to develop and administer the renewable surface resources of the national forests for multiple uses and sustained yield, without impairment of the productivity of the land.
- The Federal Land Policy and Management Act of 1976 (FLPMA) states, “...public lands will be managed in a manner which will protect the quality of the scenic (visual) values of these lands.”

DESIGN CRITERIA

Management guidelines and design criteria describe the environmental protection measures that would be applied to all of the alternatives at the project level in order to protect, enhance, and, where appropriate, improve resources related to scenery, visual quality, and the built environment. Guidelines and design criteria are presented in Part 3 of Volume 2 of the DLMP/DEIS.

Scenic quality objectives for Forest Service Lands are identified on a map that was developed as part of the 1983 LRMP. This information is displayed as Alternative A in this EIS.

Scenic quality objectives for BLM lands were not identified as part of the 1985 San Juan/San Miguel RMP. The RMP states that visual resource objectives will be developed on a project specific basis. BLM policy outlines a process to identify Interim VRM Classes for each project. Consequently VRM Classes for BLM lands in Alternative A are not shown in this EIS.

AFFECTED ENVIRONMENT

Existing Conditions and Trends

The planning area encompasses extraordinary scenic resources, including the San Juan Skyway, three National Scenic and Recreation Trails, the Colorado Trail, segments of eligible Wild and Scenic Rivers (WSRs) Colorado's largest Wilderness (the Weminuche), the spectacular Dolores River Canyon, and three cultural landscapes (McPhee, Chimney Rock, and Silverton Structured Recreation Management Area). The planning area is known for its picturesque groves of aspen and ponderosa pine. Large reservoirs (including McPhee, Lemon, Vallecito, and Haviland) and scenic rivers (including the Animas, the Dolores, the Piedra, and the Hermosa Rivers) provide scenic recreation settings.

Tourism that is substantially dependent upon scenery and heritage resources is an economic mainstay of southwestern Colorado. People live in area communities, in large part, in order to benefit from high-quality scenery.

The National Survey on Recreation and the Environment surveyed 60,000 households in the United States. More than 86% of respondents said "managing forests to leave them natural looking" was important or very important. In 1997, approximately 1.037 million sightseeing excursions were made to national forests, and 671 million people participated in wildlife viewing (Cordell 1999).

According to the 2003 "America's Scenic Byways, The Colorado Report," the total vehicle miles traveled on the San Juan Skyway nearly doubled from approximately 700,000 daily vehicle miles traveled in 1990 to more than 1.2 million daily vehicle miles traveled in 2002. The same report concluded that 54% of all travelers on the San Juan Skyway are traveling just to drive the Skyway, with no particular destination.

Interviews with people who recreate within the planning area found that nearly everyone made reference to the core value of a pristine natural environment as one of the primary reasons they choose to recreate on public lands (San Juan Interviews 2004 <http://ocs.fortlewis.edu/forestPlan/reports.asp>).

According to the 2001 National Visitor Use Monitoring (NVUM) project conducted in the planning area, viewing scenery was the most popular activity, with a 68% participation rate (NVUM, San Juan data). SJPL has some of the highest scenic values found in Southwest Colorado. This is indicated by the 95 percent of SJPL that are rated as Scenic Class 1-3 and VRM Inventory Class I – III. Landscapes with these ratings have very high visibility and demand for high-quality scenery, as well as dramatic landscapes with mountains, water, and aspen.

The planning area exhibits extraordinary inherent scenic values. This is indicated by the 95% of San Juan Public Lands (SJPL) that are inventoried as Scenic Class 1-3 and VRM Inventory Class I – III. (USFS lands are rated by Scenic Integrity Levels; BLM lands are rated by Visual Resource Inventory (VRM) Class.) Landscapes with these ratings have very high visibility and demand for high-quality scenery, as well as inherently dramatic landscapes with features such as mountains, water, and aspen. The value of scenery within the planning area is high, when compared with other geographic areas in the southwestern United States.

An additional indicator of scenic value is the visibility of the landscape. "Visibility" assesses how much access visitors have to view scenery on roads, trails, and at recreation sites, as well as how concerned they are about scenery. The planning area has a landscape with very high visibility, and also has visitors with a high concern for scenic quality. Nearly half of the planning area is in the foreground viewshed of a constituency that cares about high-quality scenery.

Most USFS-administered lands retain their high or moderate scenic integrity. The condition of BLM-administered lands is not as intact, with 69% equal to the Moderate to Low VRM Class. The existing conditions are shown in Table 3.22.1.

Table 3.22.1 – Existing Scenic and Visual Resource Condition – Percent of Total Area

EXISTING SCENIC AND VISUAL RESOURCE CONDITION	Activities not visible Very High Integrity VRM Class I	Activities may be visible, but do not attract attention High Integrity VRM Class II	Activities may attract attention, but do not dominate view Moderate Integrity VRM Class III	Activities may dominate the view Low – Very Low Integrity VRM Class IV – V
USFS Lands	22%	34%	38%	6%
BLM Lands	10%	21%	68%	1%

Within the planning area, management activities have altered the natural landscape character. The most visible impacts result from energy development and past timber harvesting activity.

Scenic Stability

Scenery is dependent upon a healthy ecosystem. Natural disturbance elements (including fire, flood, landslides, and avalanches) are normal ecosystem processes, and create or perpetuate natural scenic conditions. In particular, wildfire is a disturbance factor that has been profoundly affected (impacted) by landscape management.

Current conditions in aspen and ponderosa forests place scenic quality in jeopardy. This includes the lack of age-class diversity, the encroachment of fir, and the potential for catastrophic wildfires.

Existing Conditions Related to Oil and Gas Development

To better describe the existing condition as it relates to oil and gas development within the planning area, this section focuses on the four areas where oil and gas development may occur: Paradox Basin (BLM), Paradox Basin (USFS), the Northern San Juan Basin, and the San Juan Sag. These areas include landscapes that generally having positive, but ordinary or common, scenic qualities, as well as portions of the landscape with low scenic quality. The existing scenic condition also includes existing oil and gas leases on which development of 1,100 more wells and associated facilities may occur.

Throughout these four areas, particularly the northwestern portion of San Juan Basin and the northern Paradox Basin, the landscape has been modified by agricultural, residential, commercial, transportation, and oil and gas development.

A typical well site and access road affects 4 to 5 acres. The existing visual impact of oil and gas development includes many facilities and components such as tanks, pumpjacks, wellheads, fences, and signs. Well structures currently impact views at all distance zones in the BLM Paradox Basin and the northern San Juan Basin. There are no wellheads currently in the SJNF portion of the Paradox Basin or the San Juan Sag area. Most of these existing visual impacts occur in foreground views within ½ mile of viewers. Oil and gas facilities are readily visible from nearby residences, recreational areas, highways, and county roads.

- **Paradox Basin (BLM):** Currently the scenic condition throughout this area is Visual Resource Inventory Class III – partial retention of existing landscape character, with some areas of VRM Class II and IV. This area has low visibility due to few viewers, and low screening potential due to the predominantly open landscape. The BLM portion of the Paradox Basin has approximately 150 operating wells that give an industrial character to the landscape. Native vegetation has been cleared and numerous access roads constructed. A total of 235 wells may be developed in the BLM portion of the Paradox Basin over the next decade. In addition, this area has experienced substantial vegetation management.
- **Paradox Basin (USFS):** The current scenic condition for this area is Moderate Scenic Integrity, which is a slightly altered landscape character. Due to the predominately open landscape, this area has low visibility with few viewers, and low screening potential. It has a well-developed road network and substantial evidence of active vegetation management; however, it does not have the same level of oil and gas development as that of the BLM portion of the Paradox Basin.
- **Northern San Juan Basin:** The current scenic condition of this area is Moderate to Low Scenic Integrity, which is a slightly to moderately altered landscape character. Due to its mixed deciduous shrub and forest cover, this area has low to high visibility and medium screening potential. In the western portion of the area, approximately 300 wells have been developed on BLM, State, and private lands. An additional 750 wells may be developed on currently leased lands over the next decade. Also in the western BLM portion, five compressor stations are planned in an area where most of the current residential development also exists. There is currently substantial existing gas development visible from individual residences, county roads, and subdivisions, as well as from within the urban interface. There is visual impact from wells on USFS lands in the Saul’s Creek area of the northern San Juan Basin.
- **San Juan Sag Area:** The current scenic condition is Moderate Scenic Integrity, which is a slightly altered landscape character with some locations of High and some locations of Low scenic integrity. Due to varied terrain and forest cover, this area has moderate visibility and high screening potential. The San Juan Sag area has a well-developed road network; however, in other respects the area remains natural in appearance. There may be as many as 30 wells developed in the area at a rate of 2 wells per year.

Visual Conditions Related to Oil and Gas Development

A legacy of active forest vegetation management that has left behind, in some areas, an accumulation of visual impacts. This limits the ability to conduct future activities and to meet desired scenic objectives.

- Development of oil and gas is resulting in increased visual impacts (including from access roads, communication towers, well-pad sites, pipeline corridors, and compressor facilities) and in the loss of night sky darkness.
- In some areas, recent industrial activity for oil and gas is resulting in cumulative impacts that limit options for future activities, if scenic objectives are to be met.
- Scenic resource guidelines and mitigation measures have often not been integrated during project implementation. On BLM-administered lands, visual resources have been partially addressed on a site-specific basis with little attention paid to cumulative impacts.
- Public demand for, and concern about, scenic quality is increasing.
- Increasing wildland/urban interface (WUI) development is leading to increased demand for access roads, utility corridors, and cell phone relay towers. These facilities are degrading the natural-appearing condition of some areas.

- Haze from regional coal-burning power plants is reducing the clarity of views.
- Large uninterrupted tracts of undeveloped lands are increasingly scarce and valued in the southwestern region, especially as residential development and populations grow.
- Planning, infrastructure, and marketing for popular scenic driving routes is lagging behind the increasing demand for recreation benefits associated with these routes. Essential safety, information, and sanitary services are missing.

Valued scenic and cultural landscapes associated with scenic byways remain in jeopardy of development and degradation from a variety of impacts.

Larger numbers of visitors are anticipated to take up driving for pleasure as the overall population increases, and as Baby-Boomers grow older and are less able to engage in more physically active forms of recreation. Heritage tourism is the fastest growing segment of the tourism industry. Cultural heritage sites along scenic routes (including early historic mining and Native American sites) offer increasing opportunities for interpretation while, at the same time, are educating visitors about public land stewardship.

ENVIRONMENTAL CONSEQUENCES

Five key indicators are used to assess current scenic conditions and the potential impacts under the alternatives. Scenic Integrity Levels (SIL) on USFS lands: On USFS-administered lands, scenic integrity is used as a measure of existing scenic condition. These levels are also used to compare the impacts of alternatives. Scenic integrity is a measure of the lack of noticeable human-caused disturbance that detracts from the dominant, valued attributes of landscape character. The Scenic Integrity Levels are:

- **Very High SIL** – This refers to landscapes where the valued landscape character is intact with only minute, if any, deviations. The existing landscape character and sense of place is expressed at the highest possible level.
- **High SIL** – This refers to landscapes where the valued landscape character appears intact. Deviations may be present; however, they must repeat the form, line, color, texture, and pattern common to the landscape character so completely, and at such a scale, that they are not evident.
- **Moderate SIL** – This refers to landscapes where the valued landscape character appears slightly altered. Noticeable deviations must remain visually subordinate to the landscape character being viewed.
- **Low SIL** – This refers to landscape where the valued landscape character appears moderately altered. Deviations begin to dominate the valued landscape character being viewed; however, they borrow valued attributes (including size, shape, edge effect, and pattern of natural openings), vegetative type changes, and/or architectural styles outside the landscape being viewed. These should appear as valued character outside the landscape being viewed, and should be compatible or complimentary to the character within.
- **Very Low SIL** – This refers to landscapes where the valued landscape character appears heavily altered. Deviations may strongly dominate the valued landscape character. They may not borrow from valued attributes (including size, shape, edge effect, and pattern of natural openings), vegetative type changes, or architectural styles within or outside of the landscape being viewed. However, deviations must be shaped and blended with the natural terrain (landforms) so that elements such as unnatural edges, roads, landings, and structures do not dominate the compositions.

- **Visual Resource Management Classes (VRM) on BLM Lands:** Visual resource management classes define the degree of acceptable visual change within a characteristic landscape. A class is based on the physical and sociological characteristics of any given homogeneous area and serves as a management objective. Categories assigned to public lands based on scenic quality, sensitivity level, and distance zones. Each class has an objective, which prescribes the amount of change allowed in the characteristic landscape. The VRM Classes are:
 - **Class I** – Here, the objective is to preserve the existing character of the landscape, and to manage for natural ecological changes.
 - **Class II** – Here, the objective is to retain the existing character of the landscape.
 - **Class III** – Here, the objective is to partially retain the existing character of the landscape.
 - **Class IV** – Here, the objective is to provide for management activities that require major modification of the existing character of the landscape.

Scenic Stability: Scenic sustainability is a measure of the degree to which the ecosystem is able to restore, maintain, or continue to exhibit the positive scenic attributes of the landscape. The levels of scenic stability are: High - High scenic stability is a condition with the positive scenic attributes expected to be perpetuated. Low - Low scenic stability is a condition that puts scenic values in jeopardy of being lost from catastrophic fire, for example.

Narrative Description of Scenic Character: This indicator describes what the general forest would look like to the visitor in the short- and long-term. The narrative describes the dominant landscape character attributes and the impacts to scenery of management activities and the built environment.

Management Areas and ROS Classes: These two indicators are important because they determine a substantial part of the physical setting that is important to recreating visitors.

DIRECT AND INDIRECT IMPACTS

The activities allowed under each MA may have a large influence on scenic condition. For example, MA 1 (where natural processes dominate) would have virtually no management activities. This may result in a natural appearing landscape. The intensity of activities (including oil and gas development, timber harvesting, fuels reduction, and mining) would vary by MA. Table 3.22.2 shows the scenic condition expected for each alternative. The table takes into account the impacts of existing, and projected, oil and gas leasing. For example, under Alternative C, there are MA 3s (natural landscapes with limited management) that are currently leased for oil and gas. These areas may have an objective to conserve the natural appearing landscape; however, leases would allow development that is inconsistent with the maintenance of a natural appearing environment. As these leases are developed, the natural appearing landscape may be changed into a landscape that is moderately or heavily altered.

Figure 3.22.1 - Scenic Integrity Objectives (SIO) and Visual Resource Management (VRM) Classes Alternative A

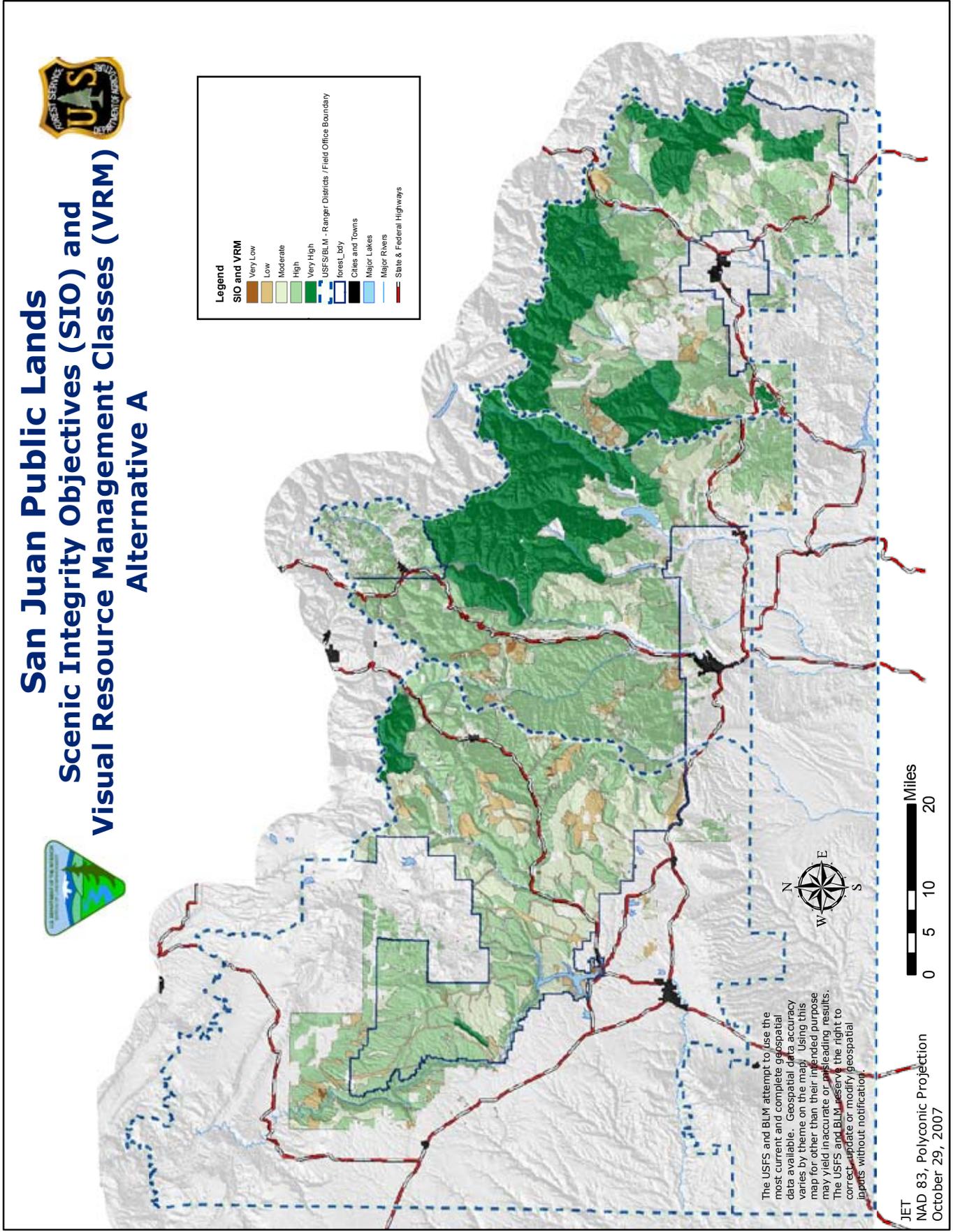


Figure 3.22.2 - Scenic Integrity Objectives and Visual Resource Management (VRM) Classes Alternative B

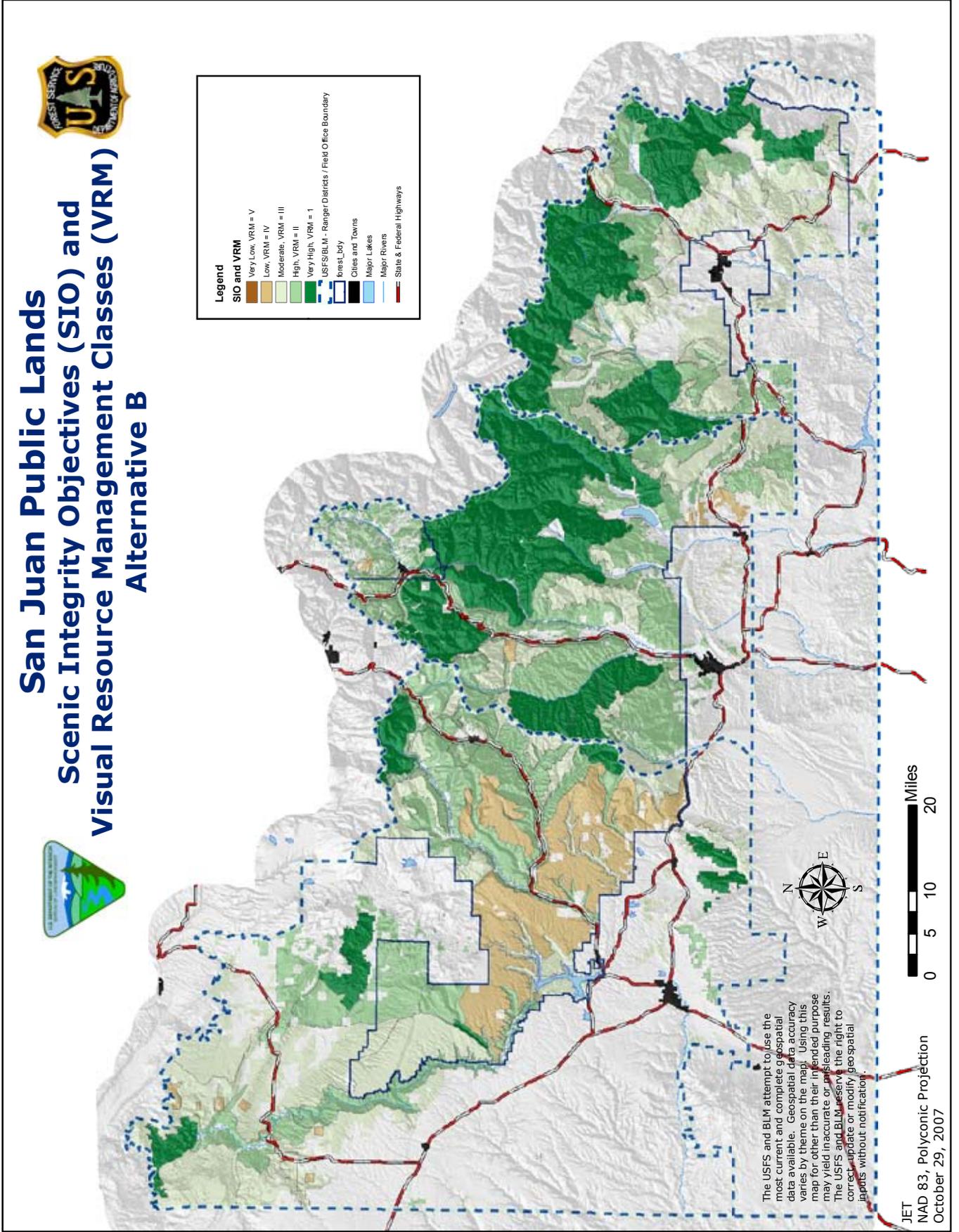


Figure 3.22.3 - Scenic Integrity Objectives and Visual Resource Management (VRM) Classes Alternative C

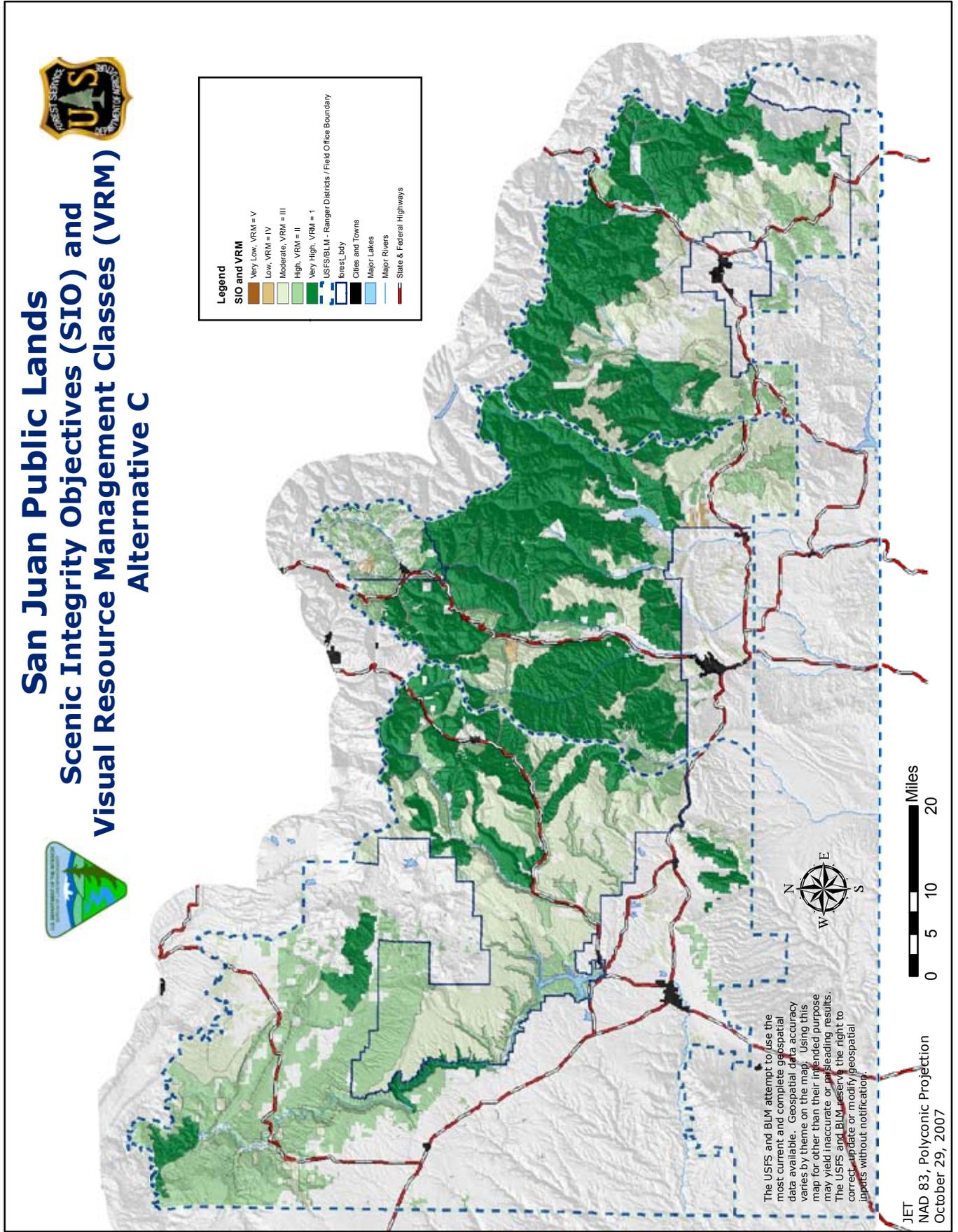


Figure 3.22.4 - Scenic Integrity Objectives and Visual Resource Management (VRM) Classes Alternative D

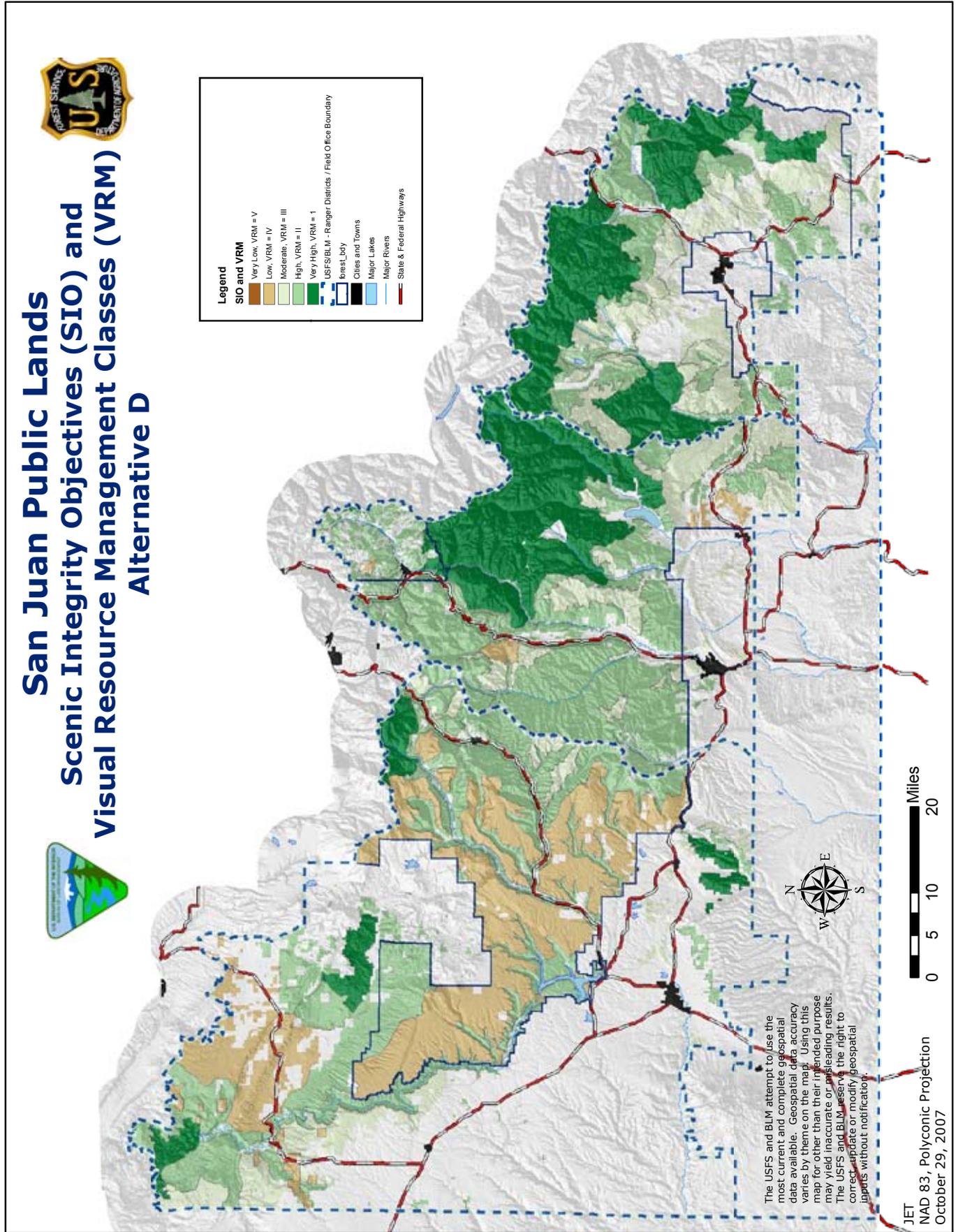


Table 3.22.2 – Scenic Condition by Alternative (Percentage of Total SJPL Acres)

SCENIC INTEGRITY*	Current Condition	Alternative A	Alternative B	Alternative C	Alternative D
Landscape appears unaltered (MA 1, 2) Very High to High; VRM Class I	16%	56%	54%	60%	55%
Landscape appears slightly altered (MA 3, 4) Moderate; VRM Class II and III	80%	23%	38%	39%	26%
Landscape moderately to heavily altered (MA 5, 7, 8) Low to Very Low; VRM Class IV	1%	6%	8%	<1%	17%

* Refer to definitions listed above.

Natural Appearing Landscape

The SILs Very High, High, and Moderate; and the VRM Classes I, II, and III would result in a relatively natural appearing landscape. Research shows that this is a condition most people prefer. Table 3.22.3 displays a comparison of the amount of natural appearing landscape expected under each alternative. Alternative C would provide for more acres of natural appearing landscape than would Alternatives A and D. This would be primarily due to the amount of oil and gas, timber harvesting, and fuels-reduction activities expected under each alternative, as well as to the associated mitigation measures required for oil and gas development (stipulations).

Table 3.22.3 – Natural Appearing Landscape by Alternative (Percentage of Total SJPL Acres)

	Current Condition	Alternative A	Alternative B	Alternative C	Alternative D
Percentage (%) Natural Appearing Landscape	96%	79%	90%	99%	81%

Impacts Related to Fire and Fuels Management

All of the alternatives would include treatment for fuels reduction (including mechanical and prescribed burns). Fuels-reduction efforts may result in short-term negative scenic impacts, as well as in a lowered scenic integrity due to cut vegetation, slash, and disturbed soils. Planning for scenic elements and adherence to design criteria would minimize short-term impacts and reap long-term scenic benefits, meeting scenic integrity objectives. Fuels-reduction activities may result in a more stable forest condition, which may then better resist catastrophic wildfires. Without fuels-reduction treatments, catastrophic wildfires may be more likely, and indirect negative impacts may be more likely to result from the use of bulldozers in fire suppression or development of roads for post-fire timber salvage. Natural disturbance factors, such as low-intensity wildfire, have the potential to alter the appearance of the planning area. Periodic low-intensity wildfire is a natural disturbance factor that may change scenic conditions; however, it may have no direct impact on scenic integrity. Generally, low-intensity fire (wild or prescribed) may result in long-term beneficial impacts to scenery.

DLMP/DEIS Alternatives: Alternative D would propose to treat slightly more acres than would the other alternatives, therefore, it would result in the greatest impacts to scenery, in terms of short-term degradation and long-term benefits.

Impacts Related to Vegetation Management

Timber management activities typically reduce scenic quality in the short term due to the associated visible slash, stumps, landings, and roads. In the long-term, harvesting activities may maintain or enhance scenic qualities and scenic stability, and the ability to resist insects, disease, and catastrophic wildfire. Consequently, treated areas may appear moderately to highly altered for 5 and 20 years, depending upon treatment and recovery time.

Historic treatments within the planning area have mostly included selective harvesting of ponderosa pine and mixed-conifer, clear-cutting of aspen, and thinning of pinyon and juniper trees. Future treatments would use the same prescriptions. Selective tree cutting and partial cutting may enhance forest scenery in the long term. This is because this activity may result in more open park-like groves of trees, may enhance structural and species diversity, may create vistas, and may reduce susceptibility to wildfire. Aspen clear-cutting may result in large-scale openings that have short-term negative elements (including stumps, slash, crushed trees, landings, disturbed soil and ground vegetation, and roads). In the long term, these openings may regenerate with highly valued groves of scenic aspen.

DLMP/DEIS Alternatives: Under all of the alternatives, the short-term impacts related to timber management activities may be adverse. Long-term impacts may be positive to scenic values. Long-term and short-term impacts to scenery would be the greatest under Alternative D, which would treat more acres and reconstruct more road miles than would Alternatives A, B, or C.

Impacts Related to Facilities

The main variables that influence the number of new facilities, as well as the maintenance and restoration of old facilities, are budget, adherence to design guidelines, and partnerships. Since these variables are expected to be the same under all of the alternatives, the related impact to scenic integrity of managing existing facilities and developing new facilities is expected to be site-specific and similar under all of the alternatives.

Impacts Related to Utility Corridors

The potential impacts of utility corridors on scenery may be the same under all of the alternatives. Site-specific analysis would be undertaken for projects involving new or existing utilities. When this occurs, scenic issues would be identified and addressed.

Impacts Related to Roads and Trails

Impacts related to roads and trails may include higher road and trail densities within areas suitable for motorized recreation; increased soil and ground-cover disturbance associated with parking, dispersed camping, trail use, and motor vehicle travel; and increased number of signs and gates in the landscape. Alternative C would have fewer impacts related to roads and trails than would the other alternatives. This is due to the reduced area considered suitable for motorized recreation use under Alternative C, as well as the reduced road use for active management.

Travel routes may have a positive social benefit, in that they provide places for people to access and view scenery. From that standpoint, Alternative C would provide the least benefit. Alternative D may provide the most access to experience scenery; therefore, it may provide the greatest benefit.

DLMP/DEIS Alternatives: Alternatives D, A, B, and C, respectively, would have the greatest to least adverse impacts to visual resources, even though the travel routes may have a beneficial impact by providing access for people to view scenery.

Impacts Related to Air, Fish, Wildlife, Water, Invasive Plants, and Livestock Management

Potential impacts may be the same under all of the alternatives. Direct impacts may include site-specific construction of structures (including fencing, stock tank installation, water pipelines, and watershed protection structures). The impacts related to these elements would be local. Site-specific planning and design would be undertaken in order to limit adverse impacts to scenery while, at the same time, taking every opportunity to enhance scenery. As a result, these features may be installed so that they are noticeable to the casual observer, but do not dominate the view.

Impacts Related to Fluid-Minerals Management

The analysis of direct and indirect impacts involves approximately 435,000 Federal acres on which as many as 170 new wells could be constructed (if the RFD were completely realized). These wells and associated ancillary facilities may directly impact approximately 650 acres. Impacts from, and differences between, alternatives are herein described for the four areas where oil and gas development may occur: Paradox Basin (BLM), Paradox Basin (USFS), the northern San Juan Basin, and the San Juan Sag.

The potential visual impact of oil and gas development may include components such as tanks, pumps, pits, compressors, pipelines, fences, and signs.

Generally, the impacts to scenic resources will be the greatest in the sparsely vegetated, lower-elevation areas of the Paradox Basin and the San Juan Basin. The visual impact of oil and gas development would depend substantially upon terrain and vegetative cover (screening capacity). Furthermore, where varied terrain screens a development, the varied topography may result in extensive grading that could detract from scenic quality. To avoid this grading, oil and gas developments may be located on valley bottoms, which are places that may directly impact the views of traveling recreationists.

The effects of oil and gas development depend substantially on successful application of Best Management Practices (BMPs). The scenic effects disclosed within this EIS assume that appropriate BMPs are applied extensively to all oil and gas development, whether under existing leases or future leases and address both site specific impacts as well as cumulative impacts.

Visual Impacts of Linear Features, Well Pads, and Associated Facilities - In the middleground and foreground distance zones, well pads and access roads would be the most obvious feature of oil and gas development. Development of linear facilities (including oil and gas pipelines and roads) may involve clearing dense vegetation and construction on steep slopes. Pipeline, road, and well-pad construction may present an obvious contrast in color with the surrounding vegetation. These cleared areas may be visually prominent at foreground and middleground distance zones for more than a decade.

Disturbed areas associated with well pads, roads, and pipelines would be the most obvious immediately after construction. Impacts would decrease as the disturbed surface began to blend in color, form, and texture, when interim reclamation occurs. In the harsh conditions of the Southwest, it may take 10 years or more to establish a cover of grasses and shrubs.

Short-term impacts may occur where construction-related equipment, activities, and dust would be visible to observers. During the 10- to 12-day construction period, the presence of heavy equipment and dust generated by construction and traffic may detract from the visual quality of the landscape at each well location. These actions may be visually and audibly intrusive to visitors and to residents. Visual impacts may be greater for well locations near residential areas, along roads, and in open areas that are not screened by topography or vegetation.

Long-term visual impacts at well sites may persist for as long as 50 years, depending upon production and reclamation. Long-term impacts may include vegetation removal, alteration of the landscape, and installation of equipment and facilities. These impacts may accumulate in some locations, which may, in turn, result in an industrial landscape character.

The most visible component of the proposed facilities would be the pumping units at each well site, as well as the clear-cuts associated with roads, pads, and flowlines. Gas-gathering and water pipelines would be buried adjacent to, or within, ROWs for existing and new roads. These impacts typically degrade scenery and change the road character from narrow and rugged to wider lanes, higher speeds, and greater development. This may have the effect of substantially changing the recreation setting, as well as degrading the natural appearance of the foreground.

When abandoned, the facilities would be removed and the wells plugged. The entire pad would be contoured and planted in order to blend with the existing topography and vegetation. Reclamation of the long-term visual disturbance from construction of well pads, roads, facilities, and pipelines would be a decades-long process, with a typically low success rate in the arid Southwest.

Flaring and Compressor Lighting - Other elements that may degrade scenic quality include activities or components of the facility that result in lighting contrasts (including flaring and lighting from compressor stations). Flaring is a common practice that occurs only when the well is being developed. It is estimated that only 1 to 3 wells would be flaring at any one time in the RFD area. Flaring would result in a short-term impact that may last from 3 to 5 days

Night-time lighting of compressor stations may be a long-term impact that could substantially degrade scenic quality. However, the use of motion-activated lights in combination with shielded and focused fixtures may greatly reduce or eliminate this impact.

DLMP/DEIS Alternatives: The visual impacts of energy development may change depending on the location and the stipulations under each Alternative. Alternatives B, C, and D have potential for more well development and, consequently, for more impacts (even though they have more restrictive stipulations aimed at the protection of scenic values, than does Alternative A).

Table 3.22.4 – Direct Impacts Related to Well Development

Well Facility (CBM and Conventional)	Frequency of Occurrence ¹	Foreground (0–0.50 miles) ²	Middle Ground (0.50–3 to 5 miles) ²	Background (middle ground to infinity) ²
Well head	Common	P	U	U
Separator	Common	P	U	U
Meter house	Common	P	U	U
Pump jack (CBM)	Moderate	P	U	U
Dehydrator	Sporadic	P	U	U
Condensate tank	Sporadic	P	S	U
On-site water storage tanks	Moderate	P	S	U
Uncovered pit for produced water	Sporadic	S	U	U
Covered pit for produced water	Sporadic	S	S	U
Cathodic protection well	Sporadic	S	U	U
SUPPORT FACILITIES				
Water injection well facilities	Sporadic	P	P	S
Compressor station/gas plant	Sporadic	P	P	S
LINEAR ELEMENTS				
Access roads	Common	P	P	S
Gathering pipeline	Common	P	P	S
Transmission pipeline	Common	P	P	S
Well pad	Common	P	S/P ³	U/S ⁴

¹ Sporadic occurrence = very few structures; Moderate occurrence = found with only one type of well, optional components of well; Common occurrence = widespread, common distribution of wells.

² P = prominent, dominates surrounding setting; S = subordinate, begins to attract attention, U= unnoticed, does not attract attention.

³ S if partially reclaimed, P if not partially reclaimed.

⁴ U if partially reclaimed, S if not partially reclaimed.

Effects of No New Leasing

The effects to scenery of no-new leasing would essentially be the same as what is described under the action alternatives. This is because there would still be extensive oil and gas development under current leases. The development under the existing leases is assumed to occur consistent with effective and up to date Best Management Practices for protection of scenic qualities throughout the SJPL.

CUMULATIVE IMPACTS

Fuels reduction and oil and gas development activities may result in major cumulative impacts to scenery within portions of the planning area. Table 2.23 in Chapter 2 shows a comparison of alternatives.

Fuels Reduction Activities

Most fuels reduction activities would occur within MA 7 (which is an urban intermix). Fuels reduction activities are typically highly visible in the short term. When combined with the numerous other development activities, utilities, and infrastructure found within the intermix, these impacts may substantially reduce the overall scenic integrity in locations where people have high concern for changes that affect scenery. Cumulative impacts would occur under all of the alternatives, with impacts being the greatest under Alternative D, which treats more acres.

Oil and Gas Activities

The cumulative impacts related to oil and gas activity associated with new leases, combined with existing leases, may be major and extensive on portions of the planning area, and visually obvious to the casual observer. Approximately 170 new wells may be constructed on new leases under Alternatives B, C, and D. An estimated 1,000 wells may be permitted on existing leases over the next 15 years under all of the alternatives. The narrative below (and Table 3.22.5) describe what visitors and residents may expect to see.

Cumulatively, oil and gas development in the RFD area may impact approximately 3,000 acres, or 1% of the RFD area in addition to the 2,100 acres of current impact. As many as 1,200 wells, as well as an unknown number of compressors, could be developed in the RFD area. Approximately 60% of these facilities would be on Federal land.

Table 3.22.5– Cumulative Impacts Related to Oil and Gas Development

	Existing Condition	Alternative A	Alternative B	Alternative C	Alternative D
Paradox Basin – BLM	Change attracts attention but does not dominate views. Natural landscape character predominates.	Major modification of the natural landscape character. Management activities may dominate the view and are major focus.	Change attracts attention but does not dominate views. Natural landscape character predominates.	Change attracts attention but does not dominate views. Natural landscape character predominates.	Change attracts attention but does not dominate views. Natural landscape character predominates.
Paradox Basin – USFS	Natural Landscape character appears slightly altered. Management activities remain visually subordinate to the landscape being viewed.	Natural Landscape character appears slightly altered. Management activities remain visually subordinate to the landscape being viewed.	Natural Landscape character appears slightly altered. Management activities remain visually subordinate to the landscape being viewed.	Natural Landscape character appears slightly altered. Management activities remain visually subordinate to the landscape being viewed.	Natural Landscape character appears slightly altered. Management activities remain visually subordinate to the landscape being viewed.
N. San Juan Basin	Landscape character appears slightly altered. Management activities remain visually subordinate to the landscape being viewed.	Landscape character appears slightly altered. Management activities remain visually subordinate to the landscape being viewed.	Landscape character appears slightly altered. Management activities remain visually subordinate to the landscape being viewed.	Landscape character appears slightly altered. Management activities remain visually subordinate to the landscape being viewed.	Landscape character appears slightly altered. Management activities remain visually subordinate to the landscape being viewed.
San Juan Sag	Landscape character appears intact. Management activities are not visually evident.	Landscape character appears slightly altered. Landscape character appears slightly altered. Management activities remain visually subordinate to the landscape being viewed.	Landscape character appears slightly altered. Landscape character appears slightly altered. Management activities remain visually subordinate to the landscape being viewed.	Landscape character appears slightly altered. Landscape character appears slightly altered. Management activities remain visually subordinate to the landscape being viewed.	Landscape character appears slightly altered. Landscape character appears slightly altered. Management activities remain visually subordinate to the landscape being viewed.

The cumulative effects analysis includes existing oil and gas leases within the 4 areas on which development of 1,100 more wells and associated facilities may occur.

- **Paradox Basin (BLM):** Under all alternatives, there could be an additional development of 235 wells on already leased land. This may result in a VRM Class III if effective BMPs are applied. The industrial features of the oil and gas development will be visually evident in the landscape of the Paradox Basin. However, the cumulative effect on the landscape is expected to be partial retention of natural character.
- **Paradox Basin (USFS):** Under all alternatives, this area would achieve a Moderate Scenic Integrity (slightly altered).
- **Northern San Juan Basin** Under all alternatives, this area would achieve a Moderate Scenic Integrity (slightly altered).
- **San Juan Sag Area:** Visual impacts of oil and gas development in the San Juan Sag area would be minor. The area where development may take place has terrain and vegetation to screen most development. Exceptions may occur where companies propose exploratory wells within a specific location in order to test a potential oil or gas trap. In such cases, there may be less flexibility to site facilities away from road corridors or to fully utilize screening techniques. Most well development in the San Juan Sag area would be exploratory in nature, and facilities may be temporary. These disturbed locations would present a visible contrast to the observer for a period of several years. The duration of this impact would depend upon the application of BMPs and the success of reclamation.

Other Contributing Factors

Residential and commercial growth will continue along U.S. 160, as well as near many of the county roads north of U.S. 160. Tourism travel will expose more visitors to areas of the Paradox Basin. Oil and gas well operations and facilities will gain greater visibility. Even with the best mitigation and development techniques, site planning, and facility design in the Northern San Juan Basin and the Paradox Basin (BLM), the extensive amount of development would result in viewers (primarily residents on private land and visitors traveling through) experiencing a landscape that is moderately altered by industrial features.