

STANDARDS AND GUIDELINES

Standards and guidelines are used in combination with desired conditions, objectives, and suitable uses to guide the management of San Juan Public Lands (SJPL). Standards and guidelines provide specifications and guidance for project and activity decisionmaking in order to protect resources and help achieve desired conditions and accomplish objectives. They are project-level operational controls that help ensure that projects are consistently implemented in ways that reduce environmental impacts.

The USFS and BLM will conduct environmental analysis, pursuant to NEPA, when projects are proposed. During project planning, applicable and appropriate Land Management Plan guidance will be incorporated as required design features and/or mitigation measures when the project decision is made.

A standard (which is worded as “must”) describes a course of action that must be followed, or a level of attainment that must be reached. Deviations from standards must be analyzed and documented in a Land Management Plan amendment.

A guideline (which is worded as “should”) provides guidance that a project or activity would typically follow, although exceptions may exist. If deviation from a guideline is necessary, the Responsible Official must record the reasons for such deviation as part of the project-level decision; however, no Land Management Plan amendment would be required.

For species of viability concern (threatened, endangered, and/or sensitive species), the intent of guidelines must be met. Many guidelines have two components, a quantitative part (distance, %, etc.), and a statement of intent. If the quantitative part cannot be met, it must be documented in the appropriate NEPA document. The NEPA document must show how the intent of the guideline is met, or how progress is made towards the conditions described in the guidelines.

CONFORMANCE WITH OTHER DIRECTION

This set of standards and guidelines is designed to be specific to the SJPL. The development of projects is also guided by other sources such as Best Management Practices (BMPs), State laws and/or policies, and terms and conditions from U.S. Fish and Wildlife Service conservation strategies or biological opinions. Additional examples include leasing stipulations, conditions of approval, and conditions for protecting resources that apply to coal and natural gas development projects. These and other applicable guidance from laws, regulations, policies, and agency directives are listed following the standards and guidelines for each resource as “Additional Referenced Guidance” (but are not contained in, or attached to, this document).

I. AIR QUALITY

- A. All new or replacement internal combustion engines within a fixed facility for fluid minerals less than 300 horsepower (excluding very small engines with less than 40 horsepower) must have a mandatory NO_x limit of 2.0 grams per horsepower-hour or the minimum acceptable limit, as determined by the Four Corners Air Quality Task Force process.
- B. All new or replacement fluid-minerals production engines greater than 300 horsepower must have a NO_x limit of 1.0 grams per horsepower-hour or the minimum acceptable limit, as determined by the Four Corners Air Quality Task Force process.
- C. No more than four fluid minerals well pads and associated access roads should be constructed concurrently in any given square mile, with each well no closer than 0.5 miles to another well during construction. (This guideline is necessary in order to minimize air pollutant concentrations and ensure compliance with State air quality standards.)
- D. Well-drilling permits issued for the SJPL should implement terms and conditions, as necessary, in order to limit volatile organic compounds (VOC) emissions.
- E. Roads that produce high fugitive-dust concentrations should apply continuous dust abatement measures in order to reduce impacts to health, safety, nuisance, and visibility.

Additional Referenced Guidance

BLM 7300, Air Resource Management, Climate and Air Quality; FSM 2580, Air Resource Management; FSM 5100, Fire Management; the Clean Air Act, as amended (42 USC 7401 et seq.); the Wilderness Act of 1964; the Federal Land Policy Management Act of 1976; EPA Interim Air Quality Policy on Wildlands and Prescribed Fires, 1998; Weminuche Wilderness Monitoring Plan for Air Quality Related Values (USFS 1991), and Federal Land Managers Air Quality Related Values Workgroup Phase I Report (FLAG 2000).

II. SOILS

- A. Projects should be designed to avoid lands that display evidence of past or present slope instability, and these lands should be avoided during project implementation unless site-specific data indicates that mass movement won't occur or could be mitigated.
- B. Projects should be designed to avoid the shale soils of the Mancos Shale, Lewis, Fruitland, and Morrison Geologic Formations, and these soils should be avoided during project implementation unless site-specific data indicates that detrimental soil erosion or compaction won't occur or could be mitigated.
- C. Projects should be designed to avoid highly erosive soils and these soils should be avoided during project implementation unless site-specific data indicates that irreversible soil damage won't occur or could be mitigated.
- D. Ground disturbance should be limited in watersheds that are the most sensitive to anthropogenic disturbance, as identified in Appendix J.
- E. Native vegetation and ground-cover should be restored on disturbed sites where soils have been exposed as soon as practical following the disturbance.
- F. Organic slash (including tree tops and limbs) should be retained on-site as much as practicable following timber harvesting and mechanical fuels treatments, and must be distributed throughout the treatment units.

Additional Referenced Guidance

FSM 2550, Soil Management; and FSH 2509.25, Watershed Conservation Practices Handbook (Region 2 Supplement).

III. WATER

- A. Roads and trails that are removed from the SJPL transportation network, as well as roads that are put into a “stored” status that are unnecessary for travel (i.e., closed for future use), should be treated sufficiently in order to avoid future risks to watershed functions, water quality, and/or aquatic habitat. Sufficient treatments may include the:
 - A.1 removal of unstable fills;
 - A.2 effective and permanent breaching of drainage ditches;
 - A.3 elimination of persistent in-sloped road surfaces;
 - A.4 complete removal of stream-crossing structures and associated fills with restoration of floodplains;
 - A.5 restoration of self-sustaining hydrologic functions on the site (where no further management intervention would be necessary in order to sustain natural processes and function); and
 - A.6 the maintenance or restoration of fish passage.
- B. Where land use activities (including fluid-minerals development and production) are shown to adversely impact groundwater quality and/or quantity, those land use activities may be curtailed, and requirements may be made to replace impacted groundwater with water of equal or greater water quality (as compared to the natural conditions of the aquifer).
- C. In cases where the USFS or BLM places conditions and other requirements on special use authorizations related to water diversion or storage that are outside the jurisdiction of Colorado Division of Water Resources, the USFS or BLM will be responsible to enforce compliance.
- D. Ditches authorized on the SJPL should maintain a freeboard above the water-line of the ditch. Headgates and conveyance structures should be maintained in good functioning condition and should be clear of sediment and other debris in order to ensure proper operation. The operator should close the headgate at the end of the diversion (e.g., irrigation) season.
- E. Water conveyance structures authorized on the SJPL should be maintained to prevent and control soil erosion and gulying on adjacent lands resulting from operations and maintenance of the structure. Design criteria may include maintaining the ditch channel to prevent downcutting and ditch failure, removal of all obstructions from the channel, and prompt remediation of pipeline breaks and ditch failures, and rehabilitation of any erosion resulting from failure of a waterconveyance structure.
- F. In general, system and non-system road densities should not exceed 2 miles per square mile in any 6th level Hydrologic Unit Basin watershed on the SJPL. In municipal supply watersheds, and watersheds identified as sensitive to ground-disturbing anthropogenic activities (human activities, as opposed to events occurring in natural environments without human influences), watershed rehabilitation efforts should be focused on reducing system and non-system road densities to below 2 miles per square mile (See Appendix J, detailing watersheds that are the most sensitive to anthropogenic activities).
- G. All accepted groundwater development proposals should establish terms and conditions designed to maintain groundwater levels necessary in order to avoid or minimize impacts on groundwater-dependant resources (eg., wetlands, riparian areas, connected surface water, etc).

Additional Referenced Guidance

The principal guidelines used to protect all watershed and aquatic resources within the planning area are found in the Region 2 Watershed Conservation Practices Handbook (R2 FSH 2509.25-2006-1).

Additional guidance includes BLM Manual 7200, Water Management; the Colorado River Basin Salinity Control Act of 1974; the Federal Land Policy Management Act of 1976; the Clean Water Act of 1977; EO 11288, 1966; EO 11752, 1973; EO 11988, 1977; EO 11990, 1977; FSM 2500; FSH 2500; BLM Supplemental Manual 7240, Water Quality; MOU between the Colorado Department of Natural Resources and the USFS, 2004; MOU between the Colorado Department of Natural Resources, the Colorado Water Conservation Board, and the BLM, 2005; and FSH 2509.13, Burned Area Emergency Rehabilitation.

IV. AQUATIC ECOSYSTEMS AND AQUATIC SPECIES

A. As described under Part 2, “Strategy,” cooperative and collaborative efforts are the preferred approach to sustaining aquatic ecosystems and ensuring that viable populations of aquatic species are maintained or improved. In the event collaborative efforts do not result in more workable and mutually acceptable solutions, the following apply:

A.1 Management activities throughout the Unit should be consistent with the objectives of the Conservation Agreement and Strategy for Colorado River Cutthroat Trout in the States of Colorado, Utah, and Wyoming. For formally designated conservation populations of Colorado River cutthroat trout, 100% of existing habitat must be maintained.

A.2 For all other populations of vertebrate aquatic species:

A.2.1 Streamflow in riffle habitats should be at levels that maintain minimum water depth, wetted perimeter, and mean velocity values consistent with those identified for each stream size category identified below:

Bankfull Width (ft)	Mean Depth (ft)	Wetted Perimeter (%)	Mean Velocity (ft/sec)
1 to 2	≥ 0.2	50	1.0
21 to 40	0.2 to 0.4	50	1.0
41 to 60	0.4 to 0.6	50 to 60	1.0
> 60	> 0.6	> 60	1.0

A.2.2 Streamflow in each reach should be sufficient to maintain, for each life stage of each target species, a minimum of 50% of the Weighted Usable Area that would occur under natural flow conditions.

A.2.3 Habitat quality, including large woody debris, residual pool depths, composition of habitat units (eg. pools, riffles), and overall habitat complexity, should be maintained or improved commensurate with reference stream conditions and in a manner that maintains viable, self-sustaining fish populations.

- B. Conservation pools should be provided in water storage facilities where there are aquatic USFS Management Indicator Species, and/or BLM or USFS Sensitive Species.
- C. Management activities (including land adjustments) that result in a trend toward Federal listing or the loss of population or habitat sustainability for Special-Status Species (Threatened, Endangered, Sensitive, or State-Listed species) should be avoided.
- D. Activities that may disturb native or desired non-native fish, or directly deliver sediment to occupied streams, should be limited to the times outside of spawning and incubation periods.
- E. Activities that may cause sedimentation to amphibian habitats should be minimized.
- F. Documented boreal toad and canyon tree frog breeding sites must be buffered from management activities that could potentially disturb such sites.
- G. Livestock must not occur in documented boreal toad and canyon tree frog breeding sites from May 15 to September 15, in order to reduce the risk of trampling and to maintain the ecological integrity of those wetlands.
- H. The drainage of acid-mine run-off into riparian areas and wetland amphibian habitats should be avoided.
- I. The drainage or filling of wetlands that function as amphibian breeding sites should be avoided. Conservation pools in water storage facilities where there are aquatic Highlight Species should be provided.
- J. Management activities that result in consumptive water uses are implemented in compliance with the Section 7 Agreement and Recovery Implementation Program Action Plan (RIPRAP)(USFWS 1993) and San Juan Basin Recovery Implementation Program (USFWS 2003) for the four endangered fish species found in the Upper Colorado and San Juan river systems (Colorado pikeminnow, razorback sucker, humpback chub, and bonytail chub).
- K. Standards and guidelines for aquatic invasive species are found in the Invasive Species Section.

Additional Referenced Guidance

FSM 2600, Wildlife, Fish, and Sensitive Plant Habitat Management; FSH 2609.13, Wildlife and Fisheries Program Management Handbook; FSH 2509.25, Watershed Conservation Practices Handbook (Region 2 Supplement); USDOJ and USDA Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development, 2006; the Endangered Species Act of 1973 (16 USC. 1531); Boreal Toad Conservation Plan and Agreement, 2001; Fungus Contamination Prevention Guidelines found in CDOW Procedures for Monitoring and Surveying Boreal Toad Populations, 2004; the Conservation Agreement signed by the R2 USFS Regional Forester (3/29/2001) and the BLM State Director (3/26/2001); the Conservation Agreement and Strategy for Colorado River Cutthroat Trout in the States of Colorado, Utah, and Wyoming (CRCT Task Force 2001); BLM Manual 1120, Fish and Wildlife Management; BLM Manual 6840, Sensitive Species Management; Fungus Contamination Prevention Guidelines, found in CDOW Procedures for Monitoring and Surveying Boreal Toad Populations, 2004; and Appendix H of the DLMP/DEIS, Oil and Gas Leasing Stipulations.

V. RIPARIAN AREAS AND WETLANDS

- A. Fens must be avoided during project design and implementation.
- B. Projects should be designed to avoid riparian areas and wetlands unless the project is designed to improve or restore ecological components or function.
- C. The streambanks of forest and shrubland riparian area types should contain at least 50 percent canopy cover of native hydrophytic trees or shrubs.
- D. Livestock browsing of willows and young cottonwood trees in riparian areas and wetlands should not exceed 40% of the current year's leader growth.
- E. Projects that occur in watersheds containing fens and hanging gardens must not adversely impact the hydrologic function of those watersheds in order to protect the ecological integrity of those ecosystems and any R2 Regional Forester's Sensitive Plant Species, BLM Sensitive Plant Species, and SJPL Plant Highlight Species that occur in them.
- F. Projects that occur in watersheds containing riparian areas and wetlands should not adversely impact the hydrologic function of those watersheds in order to protect the ecological integrity of those ecosystems and any R2 Regional Forester's Sensitive Plant Species, BLM Sensitive Plant Species, and SJPL Plant Highlight Species that occur in them.
- G. Additional Standards and Guidelines associated with riparian area and wetland ecosystems are found in the Livestock and Rangeland Management section.

Additional Referenced Guidance

The principal guidelines used to protect all riparian areas and wetlands on SJPL are found in the Region 2 Watershed Conservation Practices Handbook (R2 FSH 2509.25-2006-1). This handbook contains guidelines that prevent adverse impacts, maintain or improve stream health, preserve ecosystem function, prevent stream sedimentation, and reclaim disturbed sites.

VI. TERRESTRIAL ECOSYSTEMS

- A. Management activities should be designed so that they contribute to vegetation conditions similar to those that were produced by the natural disturbance agents and processes that occurred during the reference period (HRV conditions).
- B. Timber harvesting in aspen and aspen-conifer forests should be designed in order to increase the patch size of young aspen forests and better mimic the large patches of young aspen forests that were common during the reference period (HRV conditions).
- C. Construction of new roads, pipelines, and other linear features should be avoided or minimized during project design in order to avoid or minimize ecosystem fragmentation, as well as to avoid the establishment and spread of invasive plant species.
- D. Old-growth ponderosa pine forests, old growth warm-dry mixed-conifer forests, and old-growth pinyon-juniper woodlands should not decrease in acreage; these ecosystems should not be altered unless an action is needed in order to achieve a desired condition.

- E. Projects should be designed so that old growth doesn't fall below the minimum desired conditions stated in Table 41, for vegetation types where the minimum level is currently met. For vegetation types that currently do not meet the minimum desired conditions for old growth stated in Table 2-3, stands that are close to the old-growth development stage should be identified as old-growth recruitment areas in order to meet these desired conditions in the future.
- F. Following timber harvest and fuels treatments, snags and large wood on the forest floor must meet the minimum standards described in Table 41 unless the site did not contain these attributes before the activity, in which case units must be designed to retain snags, snag recruits, and large wood in order to meet these minimum standards in the future.

Table 41 - Snag and Large Wood Quantities

Forest Type	SNAGS			LARGE WOOD	
	Minimum Diameter (dbh)	Number (per acre)	Minimum Height (feet)	Minimum Diameter (dbh)	Number (linear feet per acre)
Spruce-Fir	10	5-10	25	10	50
Cool-Moist Mixed-Conifer	10	5-10	25	10	50
Aspen	8	5-10	25	8	33
Warm-Dry Mixed-Conifer	10	5-10	25	10	50
Ponderosa Pine	10	2-3	25	10	50
	20	1	25	20	40

Additional Referenced Guidance

EO 13112; the Federal Land Policy and Management Act of 1976; the Carson-Foley Act of 1968; the Public Rangelands Improvement Act of 1978; the Plant Protection Act of 2000; the Healthy Forests Restoration Act of 2003; the Wilderness Act of 1964; the Cooperative Forestry Assistance Act of 1978; the Resource Conservation and Recovery Act of 1976; the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended; FSH 2509.13, Burned Area Rehabilitation Handbook; FSH 2509.25, Watershed Conservation Practices Handbook; FSH 2409.19, Renewable Resource Uses for Knutson-Vandenberg (K-V) Fund Handbook; and the 1992 letter from USFS R2 Regional Forester to Forest Supervisors regarding regional old-growth descriptions.

VII. PLANT SPECIES

- A. *Pediocactus knowltonii* (an endangered species), *Ipomopsis polyantha* (a candidate species), R2 Regional Forester's Sensitive Plant Species, BLM Sensitive Plant Species, and SJPL Plant Highlight Species, as well as their potential habitat, should be avoided whenever practical during project design and implementation – unless the project is designed to improve their habitat.
- B. A qualified specialist (who should have a college degree in botany, ecology, or a closely related field) must conduct pre-construction surveys for Knowlton's cactus and Pagosa skyrocket in all potential areas of disturbance that are identified as suitable habitat during the pre-construction phase of the project. Since Knowlton's cactus is extremely inconspicuous except when in flower, pre-construction surveys for Knowlton's cactus must occur between April 1 and May 15 when the species is most likely to be flowering. Pre-construction surveys for Pagosa skyrocket must occur between May 15 and June 15 when the species is most likely to be flowering.
- C. Projects (including road construction and maintenance) that occur in watersheds containing fens, wetlands, hanging gardens, or riparian areas should not adversely impact the hydrology in those watersheds (due to the potentially adverse impacts they could have on the R2 Regional Forester's Sensitive Plant Species, BLM Sensitive Plant Species, and SJPL Plant Highlight Species that occur in those ecosystems).
- D. Livestock grazing practices that may result in a decrease in the abundance or distribution of *Pediocactus knowltonii* (an endangered species), *Ipomopsis polyantha* (a candidate species), R2 Regional Foresters Sensitive Plant Species, BLM Sensitive Plant Species, and SJPL highlight plant species, or the habitat for all these species, should be changed or avoided.
- E. Livestock grazing practices that result in a decrease in the abundance or distribution of Arizona fescue, Thurber fescue, or willow species should be changed or avoided.
- F. Native plant species, preferably of local origin, should be used in projects needing revegetation, reclamation, and/or restoration.
- G. Large old ponderosa pine, Douglas-fir, pinyon-pine, Utah juniper, southwestern white pine, and Gambel oak trees should be avoided during project design and implementation.
- H. Native plant species with high values for pollinator species should be identified and protected from management activities.

Additional Referenced Guidance

EO 13112; the Federal Land Policy and Management Act of 1976; the Carson-Foley Act of 1968; the Public Rangelands Improvement Act of 1978; the Plant Protection Act of 2000; the Healthy Forests Restoration Act of 2003; the Wilderness Act of 1964; the Cooperative Forestry Assistance Act of 1978; the Resource Conservation and Recovery Act of 1976; the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended; FSH 2509.13, Burned Area Rehabilitation Handbook; FSH 2509.25, Watershed Conservation Practices Handbook; FSH 2409.19, Renewable Resource Uses for Knutson-Vandenberg (K-V) Fund Handbook; and the 1992 letter from USFS R2 Regional Forester to Forest Supervisors regarding regional old-growth descriptions.

VIII. FIRE MANAGEMENT

- A. An appropriate management response should be applied to all ignitions, as described in the direction for Management Areas found in the Suitability Section in Part 2 of this Draft Land Management Plan (Refer to Table 42 for tactical options and prescribed fire direction).
- B. Additional seeding and other site-rehabilitation practices should be provided, as necessary, on: wildland fire and wildland fire use areas (burned area rehabilitation); fire suppression support activities and facilities (including constructed fire lines, fuel breaks and safety areas, fire camps, staging areas, heli-bases, and heli-spots); and mechanical and prescribed fire treatment areas.
- C. Protection of threatened, endangered and sensitive (TES) aquatic species should be provided in the selection of helicopter dip-sites and drafting locations.
- D. Other standards and guidelines that pertain to Fire Management are found in the Invasive Species Section.
- E. Fire management should recognize and consider the role of natural fire in wilderness, and should use natural fire opportunities.

Table 42 - Fire Management Direction for the San Juan Public Lands

Management Area	UNPLANNED IGNITIONS WILDLAND FIRE TACTICAL OPTIONS		PLANNED IGNITIONS
	Mechanized Equipment	Aerial Retardant Application ^c	Prescribed Fire
1	x ^a	x	x ^b
2	x ^b	x	x ^b
3	x	x	x
4	x	x	x
5	x	x	x
7	x	x	x
8	x	x	x
All WUI Areas	x	x	x

^a Within designated Wilderness Areas and the Piedra Area, dozers are prohibited (except with Regional Forester approval). Use of helicopters, motorized equipment, and/or mechanical transport is prohibited (except with Forest Supervisor/ Center Manager approval). Within other Management Area 1s, including BLM Wilderness Study Areas– Dozers are prohibited except with Forest Supervisor/Center Manager approval. Chainsaws, engines, ATV's and pumps are allowed without Forest Supervisor/Center Manager approval.

^b Mechanical Equipment and prescribed fires in Wilderness Study Areas, Research Natural Areas and Special Areas would have to be compatible with the overall purposes and objectives for those areas.

Aerial application of retardant in live water, wetlands and riparian areas should be avoided unless necessitated by human safety or property loss considerations. Unplanned Ignitions: Wildland Fire should be managed as unwanted wildland fire if human-caused, or if unacceptable threat to human safety or values exists.

Planned Ignitions: May be implemented by management action authorized by approved plans.

Additional Referenced Guidance

FSM 5100, Fire Management; BLM MR 9210, Fire Management; FSM 5110, Wildfire Prevention; FSM 5120, Presuppression Management; FSM 5130, Fire Suppression; FSM 5140, Prescribed Fire; FSM 5150, Fuel Management; FSM 5160, Fire Management Equipment and Supplies; FSM 5170, Fire Management Cooperation; BLM 9200 Series Handbooks for Fire Management Plans, Fire Effects, etc.; FSM 5180, Fire Reports; FSM 5190, Management; FSH 5109.14, Individual Fire Report Handbook; FSH 5109.17, Wildland Fire Qualifications Handbook; FSH 5109.18, Wildland and Prescribed Fire Qualifications System Guide; PMS 310-1, Wildfire Prevention Handbook; FSH 5109.19, Fire Management Analysis and Planning Handbook; FSH 5109.31, Wildfire Cause Determination Handbook (NWCG Handbook 1); FSH 5109.32a, Fireline Handbook (NWCG Handbook 3); FSH 5109.34, Interagency Fire Business Management Handbook (NWCG Handbook 2); 2006 Wildland and Prescribed Fire Management Policy Implementation Procedures Reference Guide; 2001 Review and Update of the 1995 Federal Wildland Fire Management Policy; A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy; 2001; A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan, 2002; Wildland Fire Use Implementation Procedures Reference Guide, 2005; Interagency Standards for Fire and Fire Aviation Operations (Red Book) updated annually, 2005; San Juan BLM Wildland-Urban Interface Hazardous Fuels Reduction Programmatic Environmental Assessment, 2004; and Fire and Community Wildfire Protection Plans for Montezuma, La Plata, Archuleta, Dolores, San Juan, Mineral, Conejos, Montrose, San Miguel, Hinsdale, and Rio Grande Counties.

IX. TERRESTRIAL WILDLIFE SPECIES

General

- A. Activities must be managed in order to avoid impacts to BLM and USFS Sensitive Species and to SJPL Highlight Species that would compromise viability across the planning area or contribute to the trend towards Federal listing. Special attention must be given during breeding, young rearing, and at other times that are critical to survival.
- B. Land management activities and projects must avoid disturbing proposed, threatened or endangered species during breeding, young rearing, or at other times that are critical to survival. (Exceptions may occur when individuals are adapted to human activity, or when the activities are not considered a threat or unless otherwise provided for under Section 7 consultation.)
- C. Projects (including, but not limited to, wildlife viewing sites, fences, highways, bridge upgrades or replacements, communication towers, utility lines, and canals) should be designed and built to provide for wildlife movement and maintenance of effective habitat.
- D. Management activities in, and immediately adjacent to, important wildlife habitats for Federally listed and sensitive species (including falcon and eagle nesting cliffs, bat roosts and hibernacula, Canada lynx landscape linkage areas, and winter raptor concentration areas) must be designed and conducted in a manner protecting the value of those areas for wildlife population sustainability.
- E. Management activities in, and immediately adjacent to, important wildlife habitats (including big game concentration and severe winter range) should be designed and conducted in a manner protecting the value of those areas for wildlife objectives and habitat effectiveness.

- F. Management actions should maintain habitat effectiveness supporting limiting life functions in key wildlife habitat for elk and deer. Actions considered may include, but not limited to, seasonal travel restrictions, partial or complete route closures, and designing new route alignment or realigning existing routes.
- G. On National Forest System lands within the planning area, animal damage should be managed in cooperation with the State wildlife agencies, the U.S. Fish and Wildlife Services (USFWS), and other appropriate agencies and cooperators in order to reduce damage to other resources (and to direct control toward removing only the offending animal). Preventive methods (including denning, aerial gunning, and poisons of any kind) must not be allowed on National Forest System lands within the planning area under any circumstances.
- H. Sustaining populations of pollinators should be considered in relation to the broad application of pesticides.

X. THREATENED AND ENDANGERED TERRESTRIAL WILDLIFE SPECIES

- A. A decision recommending against, denying consent, or recommending a NSO stipulation must be made for issuance of mineral leases where operational damages on surface resources would intrude upon identified critical or essential habitat for a federally listed wildlife or plant species, or upon the plant or animal itself.

Canada lynx (Threatened):

- A.1 This Land Management Plan adopts The Lynx Conservation Assessment and Strategy (LCAS 2000, revised 2006). All conservation measures and guidelines contained therein must be implemented.

Southwestern willow flycatcher (SWWF) (Endangered):

- A.2 Location, size, shape, and spacing of riparian habitat must be mapped.
- A.3 Designated habitat stage for each site (including suitable-occupied, suitable-unoccupied, suitable-unsurveyed, and potential) must be identified.
- A.4 Surveys for SWWF (*Empidonax traillii extimus*) in occupied and suitable habitat: every year in occupied, every 3 years in suitable-unoccupied, and every 5 years in potential habitat must be implemented.
- A.5 Annual monitoring of SWWF in occupied habitat must occur.
- A.6 A report on the status of habitat, survey results, and monitoring of SWWF must be provided annually.
- A.7 Tree and/or shrub removal within SWWF habitat must only be conducted in order to benefit the SWWF and/or its habitat.
- A.8 Maintenance and other management activities in occupied or unsurveyed, suitable SWWF habitat must occur outside the SWWF breeding season (May 1 through August 31), unless it is a necessary direct benefit to the SWWF and can be implemented without detriment to breeding success of the SWWF.

- A.9 In unoccupied, suitable habitat and potential habitat, resource uses must be managed in order to benefit the suitability of SWWF habitat.
- A.10 Resource uses must be managed in order to benefit regeneration and/or recruitment of woody vegetation needed by SWWF.
- A.11 When SWWF nest parasitism exceeds 10%, measures to reduce parasitism rates (i.e., reduce cattle presence within a 2-mile radius of occupied SWWF habitat, or begin a cowbird control program) must be implemented.
- A.12 Human disturbance from recreation and other management activities in occupied and unsurveyed, suitable habitat during the breeding season (May 1 through August 31) must be reduced.
- A.13 The destruction and/or modification of all SWWF habitat (due to road construction, oil and gas activities, etc.) must be prevented.

SWWF in relation to livestock grazing in suitable unsurveyed habitat:

- A.14 For the purposes of range projects, if habitat is found to be suitable for SWWF, full USFWS protocol surveys must be conducted for 2 consecutive seasons in order to determine occupancy. Current livestock management practices may continue while surveys are being conducted, as long as SWWF are not detected. If SWWF are detected, then livestock management practices must follow the guidelines for occupied habitat. If protocol surveys are not conducted, then the habitat patch must be assumed to be occupied by SWWF; therefore, livestock must be managed in accordance with the standards for an occupied site (i.e., livestock grazing will not be allowed until after August 15, and utilization standards will be applied). Rangeland and riparian health guidelines must be met in suitable SWWF habitat. If criteria are not being met, then adaptive management strategies to recover/improve and maintain suitable SWWF habitat will be required. Upward trend must be demonstrated during the 5-year habitat monitoring period.
- A.15 Protocol surveys must be conducted for 2 consecutive years, or until SWWF are detected; then, they must be conducted periodically every 3 years for another 2 consecutive years, or until SWWF are detected. If no SWWF are detected during the second monitoring cycle, then a 5-year monitoring period would begin. This would require that habitat monitoring forms be completed during each survey cycle, and that monitoring results document that SWWF habitat conditions are remaining stable or are in an upward trend throughout the monitoring period.
- A.16 If habitat monitoring documents that habitat conditions have declined, or that they have become unsuitable for SWWF, then adaptive management strategies must be applied to livestock grazing practices in order to recover and maintain suitable SWWF habitat conditions. During the time period(s) that habitat remains unsuitable, monitoring will occur at least every 3 years in order to document the trend of habitat conditions, as well as whether or not adaptive management strategies are successful.
- A.17 Protocol surveys should not be required during the time period(s) that habitat remains unsuitable for SWWF occupancy.
- A.18 When habitat is recovered to a condition suitable for SWWF, the 3-year protocol survey cycle must begin again in order to determine SWWF occupancy status.

SWWF in relation to livestock grazing in suitable and unoccupied habitat (as determined by survey results):

- A.19 Current livestock management practices should continue as long as survey results show that the habitat patch remains unoccupied, and habitat monitoring documents show that habitat trend is stable or upward.
- A.20 Protocol surveys must be conducted for 2 consecutive years, on a 5-year cycle, as long as habitat remains suitable for SWWF, and as long as survey results show the habitat patch is not occupied. This would require that habitat monitoring forms be completed during each survey cycle, and that monitoring results document that SWWF habitat conditions remain stable or in an upward trend through out the monitoring period.
- A.21 If habitat monitoring documents that habitat conditions are declining, or that they have become unsuitable for SWWF due to the affects of livestock, then adaptive management strategies must be applied to livestock grazing practices in order to recover and maintain suitable SWWF habitat conditions. During the time period(s) that habitat remains unsuitable, monitoring must occur at least every 3 years in order to document the trend of habitat conditions, as well as whether or not livestock adaptive management strategies are successful.
- A.22 Protocol surveys should not be required during the time period(s) that habitat remains unsuitable for SWWF occupancy.
- A.23 When habitat is recovered to a condition suitable for SWWF, the 3-year protocol survey cycle must begin again in order to determine SWWF occupancy status.
- A.24 If SWWF are detected at any time during surveys, then monitoring and livestock management practices must follow the guidelines for suitable and occupied habitat.

SWWF in relation to livestock grazing in occupied habitat:

- A.25 Livestock grazing must not be allowed in occupied habitat patches during the SWWF nesting season (May 15 through August 15). Methods for excluding livestock from occupied habitat could include the construction of temporary (i.e., electric) or permanent fencing, riding with intensive animal supervision, modification of pasture rotation schedules, and/or other adaptive measures.
- A.26 Controlled livestock trailing should be allowed along existing stock driveways within occupied habitat during the nesting season.
- A.27 If livestock cannot be excluded from occupied habitat patches, then the USFWS must be contacted immediately and mitigation/conservation measures would be developed jointly, on a case-by-case basis. Temporary closure of occupied grazing pastures may be required in order to protect SWWF and their habitat during the time period(s) that livestock management measures are being developed.

SWWF in relation to livestock grazing when previously unknown suitable habitat is discovered:

- A.28 If/when previously unknown suitable SWWF habitat patches are discovered, protocol surveys for SWWF occupancy must be conducted using the process described for suitable and occupied habitat.
- A.29 Current livestock grazing practices should continue during the time period(s) that protocol surveys are being conducted.
- A.30 If protocol surveys for SWWF occupancy are not conducted, then the habitat patch would be assumed to be occupied by SWWF; therefore, livestock must be managed in accordance with the standards for an occupied site (i.e. livestock grazing will not be allowed until after August 15 and utilization standards are applied).

Mexican spotted owl (MSO) (Threatened):

- A.31 MSO field surveys must occur in areas where human activities may remove or modify MSO habitat, or otherwise adversely impact the species. MSO survey protocol requires that 4 surveys be conducted each season for 2 consecutive seasons.
- A.32 No constructed improvements may occur in protected activity centers (PACs) in order to avoid surface disturbance (unless the improvement protects or improves habitat). Prescribed burns and fuels reduction may occur in PACs in specific cases; however, they would require separate Section 7 consultation with the USFWS.
- A.33 Activities including non-surface disturbing ones in PACs must avoid the MSO breeding season (March 1 through August 31).
- A.34 Within MSO “steep slope” and “canyon” habitats (as defined in the recovery plan), trees greater than 9-inches dbh should not be removed. Thinning of trees less than 9-inches dbh, fuels treatments, and prescribed burns should be allowed on a case-by-case basis in order to reduce fire hazard and improve habitat condition for owl prey. Habitat components that should be retained include large logs (≥ 12 -inches dbh), grasses, forbs, and shrubs. No seasonal restrictions would apply in this habitat type.
- A.35 Within “restricted” habitats (as defined in the recovery plan), management priority should be placed on reducing risks to MSO habitat. Habitats within the planning area should be on an uneven-aged management system and the use of prescribed burns should be encouraged.
- A.36 Livestock grazing in protected and restricted MSO habitats should maintain good to excellent range conditions (as defined by Range Analysis Handbook and Training Guide, USFS Rocky Mountain Region, 1996) within key grazing areas (including riparian areas and wetland ecosystems, meadows, and oak types) in order to provide for adequate levels of plant cover, fruits, and seeds for owl prey species. Management strategies should be implemented in order to restore degraded riparian communities as soon as possible.
- A.37 The presence and intensity of recreational activities (as described in the recovery plan) within PACs should be evaluated on a case-by-case basis. Spatial and temporal restrictions must be required for all new activities, and specific dates and distances will be developed for each individual project.

- A.38 Spatial and temporal restrictions should be implemented where appropriate for recreational activities (as described in the recovery plan) with regard to other protected and “restricted” habitats.

Uncompahgre fritillary butterfly (Endangered):

- A.39 Reproductive habitat must be protected from management activities that would eliminate or reduce sustainability of host plants (including any necessary off-site contributing hydrologic conditions).

Cavity Nesting Birds including Sensitive Species

- A.40 Dead snags should be retained for the following species: aspen and cottonwood (particularly when mixed with conifer), ponderosa pine, Douglas-fir, bristlecone pine, southwestern white pine, Engelmann spruce, blue spruce, white fir, and subalpine/corkbark fir.
- A.41 Snags that exhibit the following characteristics must be retained: those containing cavities; large to largest sizes (diameter and height); structural Class 2, Class 1s and Class 3s; or located in, or near, site/geographic features (including ridgetops, upper portions of canyon walls, along stream bottoms, edges of forest openings, or in clumps).
- Class 1 snags are those that have recently died, typically have little decay, and retain their bark, branches, and top. Class 2 snags are those that show some evidence of decay and have lost some bark and branches, and often a portion of their top. Class 3 snags are those that have extensive decay, are missing bark and most of their branches, and have a broken top (Bull et al 1997).
- A.42 Snag Recruitment: Large old trees, generally > 16 inch dbh, must be protected in numbers (e.g., per acre) and distribution, by species, to assure that snag retention guidelines are met over the implementation-life of this and future Plans (taking into account mortality from expected disturbance agents and exceptions for human health and safety). See Table 41 for snag retention standards.
- A.43 Standing live trees that exhibit the following characteristics should be retained: those containing cavities; large/largest sizes; spiked tops; broken tops; sapsucker patterned; lightning scarred; nest-quality brooms; and/or “wolfy” crowns (dominant overstory).

Migratory Birds including Sensitive Species

- A.44 In areas where tall, dense cover is desired for ground-nesting birds, sufficient cover to meet species nesting needs must be maintained.
- A.45 Some bird species need to nest in undisturbed cover. In areas where these species are a primary consideration, activities must be managed in order to avoid adverse impacts on nests and nesting habitat.
- A.46 Environmental analyses required by the NEPA or other established environmental review processes must evaluate the effects of actions and agency plans on migratory birds, with emphasis on Highlight Species (Appendix M, Table M.3).
- A.47 Management actions must protect, restore, or enhance the habitat of migratory birds and/or prevent or reduce pollution or detrimental alteration of migratory bird habitats, as practicable, focusing first on Highlight Species (Appendix M, Table M.3), priority habitats, and key risk factors.

- A.48 Management actions must focus on Highlight Species (Table M.3) that occupy the project area, priority habitats, and key risk factors when analyzing, disclosing and mitigating the effects of proposed actions.
- A.49 Management actions must consider and undertake proactive bird conservation actions, as practicable.
- A.50 Best management practices must be implemented to minimize or prevent bird mortality due to wind energy development, communication towers, and power line development.

Raptors including Sensitive Species

- A.51 Trees and other structures containing raptor nests must be retained. Disruptive activities must be prohibited during the breeding season at nest sites or within the area of influence. The area of influence should be determined on a case-by-case basis. Where literature and other evidence shows, exceptions may occur when individuals are adapted to human activity.
- A.52 The publication, Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors (CDOW 2002) should be followed. Exceptions to these recommendations are based on differing local conditions and are listed below in Table 43.

Table 43 - Raptor Timing Restrictions and Buffer Zone Distances

Nesting Group	Species	Timeframe	Buffer Distance
Tree Platform Nesters	RTHA, NOGO, GOEA	April 1 – August 31	
	GOEA – nest	December 15 – July 15	No human encroachment within ½ mile of nest.
	NOGO - nest	Year-round	No surface occupancy within ½ mile of nest .
	NOGO – nest	March 1 – August 31	No human encroachment within ¼ mile of nest, depending on topographic and vegetational screening.
	RTHA - nest	Year-round	No surface occupancy within ¼ mile of nest.
	RTHA – nest	March 1 – July 15	No human encroachment within 1/8 to ¼ mile of nest, depending on topographic and vegetational screening.
Cliff Nesters	PEFA, PRFA, GOEA, RTHA	March 1 – July 15	
	PEFA - nest	Year-round	No surface occupancy within ½ mile of nest-cliff complex.
	PRFA - nest	Year-round	No surface occupancy within ½ mile of nest-cliff complex.
	GOEA - nest	Year-round	No surface occupancy within ¼ mile of nest-cliff complex.
	GOEA – nest	December 15 – July 15	No human encroachment within ½ mile of nest-cliff complex.
	RTHA - nest	Year-round	No surface occupancy within ¼ mile of nest-cliff complex.
	RTHA – nest	March 1 – July 15	No human encroachment within 1/8 to ¼ mile of nest-cliff complex.

RTHA: red-tailed hawk; NOGO: northern goshawk; GOEA: golden eagle; PEFA: peregrine falcon; PRFA: prairie falcon.
 No human encroachment refers to all disturbing activities and other management changes to habitat effectiveness.
 Surface occupancy (beyond that historically occurring in an area) includes new improvements (including oil and gas wells, tanks, roads, trails, buildings, etc.).

Bald Eagles (Sensitive Species)

- A.53 Human activities within ¼ mile of winter daytime communal perching areas and perching areas within important foraging habitat must be restricted from October 15 to March 15.
- A.54 Cutting down any tree that is 12 inches dbh or greater, and within 100 feet of a river bank or other foraging area must be prohibited.
- A.55 Any activity that has the potential to kill perch trees or impede utilization of foraging areas must be prohibited.
- A.56 Silvicultural practices designed to enhance perch site availability must be implemented.
- A.57 Non-surface disturbing activities within ½ mile of critical winter nocturnal roosts should be restricted from October 15 to March 15.
- A.58 All surface disturbing activities including new roads and bridges should be located at least ½ mile from critical winter nocturnal roosts and major foraging areas, unless topography and vegetation could reduce disturbance to acceptable levels (see Raptor Section above for Bald Eagle Nesting Conservation Measures).

Bats including Sensitive Species

- A.59 Human disturbance must be managed at caves, and at abandoned mines, where known bat populations exist to levels meeting requirements of the occupying species (maternity, hibernacula, or summer roosts).
- A.60 When closing mines and/or caves for human safety which are occupied by bats, continued bat access must be ensured. Disturbance to residing bat populations must not be limiting to population requirements. Project may include necessary requirements such as timing restrictions and closure designs to meet species needs.
- A.61 Where known bat concentrations are located outside of caves or mines (such as in bridges structures, rock crevasse, or tree snags), human disturbance must be managed in order to protect those populations. Also see snag provisions in Table 41 and snag requirements under Cavity Nesters above. Class 1 and 2 snags provide the loose bark bats need for roosting. Class 1 snags are those that have recently died, typically have little decay, and retain their bark, branches, and top. Class 2 snags are those that show some evidence of decay and have lost some bark and branches, and often a portion of their top. (Bull et al 1997).
- A.62 Human access must be restricted at occupied sites during the following periods: maternity sites (April 15 through September 1); swarming sites (August 15 through October 15, 30 minutes before sunset to 30 minutes after sunrise); and winter hibernaculum (October 15 through May 15).
- A.63 Activities that may impact cave and mine bat roosts (by altering the vegetative and structural characteristics leading to the entrance of roosts and/or impeding the movement of bats) should occur outside a radius of 500 feet beyond the cave or mine opening.
- A.64 Gates designed for free bat movement must be used in order to protect, and provide, bat habitat in abandoned mines that are considered for closure or other management actions.
- A.65 Where protection of individual mine sites are necessary in order to ensure conservation of Special-Status Species, formal mineral withdrawal should be considered.

- A.66 Best management practices must be implemented to minimize or prevent bat mortality due to wind energy development.

Ungulates - Rocky Mountain bighorn sheep (a Sensitive Species), Mule deer, desert bighorn sheep:

- A.67 Management goals should be established in coordination with local, State, Native American tribal, and other Federal agencies; as well as with owners of intermingled privately owned lands in order to minimize resource conflicts on, and off, BLM and USFS lands. Resource opportunities should be explored to meet management goals where conflicts are identified.
- A.68 Grazing strategies must provide sufficient forage to support sustaining populations of ungulates across the planning area.
- A.69 In order to minimize disturbance and harassment of deer, elk, and big horn sheep vegetation screening should be considered along roads that are kept open for human use and around openings.
- A.70 In order to provide for habitat effectiveness for deer and elk, travel management should manage for road densities of 1 mile or less per square mile in areas providing critical wildlife needs such as within winter concentration and critical winter range, calving areas, and transition habitat.
- A.71 Management activities should avoid or minimize disturbance impacts to ungulate concentration areas and severe winter range between December 1 and April 30, with the exception of through routes. Management activities that occur on concentration areas and severe winter range during the winter period should concentrate activities in order to reduce impacts to ungulates.
- A.72 When constructing roads and trails, important forage and cover locations should be considered.
- A.73 All active sheep allotments with potential for direct contact between domestic sheep and goats and wild sheep must be evaluated during project level planning to develop management options to prevent contact.
- A.74 Actions such as boundary modification, livestock-type conversion, or allotment closures must be taken on vacant Sheep and Goat (S&G) allotments in occupied wild sheep range in order to eliminate potential for future interactions between domestic and wild sheep.
- A.75 Recreational pack goats and other domestic goats must be managed in order to prevent any interaction with wild sheep.
- A.76 Domestic goats used for invasive plant control must be veterinarian certified as free of pathogens transmissible to bighorn sheep.

Butterflies including Sensitive Species:

- A.77 Reproductive habitat occupied by BLM and USFS Sensitive Species and SJPL Highlight Species must be protected from activities that could eliminate or reduce sustainability of host plants (including from any necessary on-site or off-site contributing hydrologic conditions).
- A.78 Development of springs or seeps at sites that support *Viola nephrophylla* (host plant for the *Nokomis fritillary*), must be accomplished using methods that retain the productivity of *Viola nephrophylla*, hydrologic conditions, and associated plant community.

Additional Referenced Guidance

Threatened and Endangered Species: Leasing Stipulation Summary, Appendix H of the DLMP/DEIS; Final Southwestern Willow Flycatcher Recovery Plan, 2002; Mexican Spotted Owl Recovery Plan, 1995; Uncompahgre Fritillary Butterfly Recovery Plan, 1994; Annual Uncompahgre fritillary butterfly monitoring and inventory field report and status updates (current contracts through Western State College, Gunnison, Colorado); and the final designation of critical habitat for the Mexican Spotted Owl: Final Rule, 2004; FSM 2600; BLM Manual 6840; and the Endangered Species Act 1973.

Landscape and Habitat Connectivity: The Southern Rockies Ecosystem Project (SREP); Linking Colorado's Landscapes, Phase II Reports, 2006; and Lynx Linkages Areas discussed in the 2004 Programmatic Consultation Agreement for Canada Lynx, 2004.

Applicable MOUs: There are numerous Master MOUs between the USFS and/or the BLM, and partners/ organizations that share similar conservation goals and interests on public lands. A recent example is the MOU between Bat Conservation International, Inc. (BCI) and the USFS (4/27/2004). All of these MOUs are not delineated in this document; however, they should be considered as other sources of design criteria for terrestrial wildlife resources within the planning area.

General: BLM Manual 6840; FSM 2600, Wildlife, Fish and Sensitive Plant Habitat Management; FSH 2609-13, Wildlife and Fisheries Program Management; FSM 2550, Soil Management; FSM 5150, Fuel Management; FSH 2509-18, Soil Management; the Endangered Species Act of 1973; FSH 2509-25, Watershed Conservation Practices Handbook (Region 2 Supplement); and Colorado's Comprehensive Wildlife Conservation Strategy, 2005. (See Appendix H for details on wildlife guidance in relation to leasable minerals.)

Birds: FSM 2600-Wildlife, Fish and Sensitive Plant Habitat Management; Managing Forested Lands for Wildlife (Hoover and Wills 1984); Flammulated, Boreal, and Great Gray Owls in the United States: A Technical Conservation Assessment (Hayward and Verner 1994); and Colorado's Comprehensive Wildlife Conservation Strategy, 2005.

Gunnison Sage-Grouse: The Conservation Plan Agreement to participate in the Plan, signed by the R2 Regional Forester (4/28/2005) and the BLM State Director (4/29/2005). (The DLMP provides recommendations for minimizing adverse impacts caused by human and/or activity disturbances, as well as impacts to breeding and foraging habitat (see Appendix H, Rangewide Conservation Plan for Gunnison Sage-Grouse, 2005)..

Migratory Bird: the Migratory Bird Treaty Act of 1918; The Migratory Bird Conservation Act of 1929; the Neotropical Migratory Bird Conservation Act of 2000; Executive Order 13186, 2001; USFWS Birds of Conservation Concern, 2002; the Colorado Partners-in-Flight Bird Conservation Plan (Beidleman 2000); the Partners-In-Flight North American Landbird Conservation Plan, 2005; the U.S. Shorebird Conservation Plan, 2nd ed., 2001; Waterbird Conservation Plan for the Americas: The North American Waterbird Conservation Plan, Version 1, 2002; and Flammulated, Boreal, and Great Gray Owls in the United States: A Technical Conservation Assessment (Hayward and Verner 1994).

Raptors: Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors (CDOW 2002); Management Recommendations for the Northern Goshawk in the Southwestern United States (Reynolds et al. 1992); Flammulated, Boreal, and Great Gray Owls in the United States: A technical Conservation Assessment (Hayward and Verner 1994); Recovery Plan for Mexican Spotted Owls (USFWS 1995); Northern States Bald Eagle Recovery Plan, 1983; the Bald and Golden Eagle Protection Act of 1940; and Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996 (Edison Electric Institute/Raptor Research Foundation, 1996).

Bats: Colorado Bat Conservation Plan, 2003 (which provides conservation information concerning mines, caves and crevice, rangeland, snag, and forest management; as well as research and inventory protocols for bat species in Colorado); Habitat Conservation Assessment and Conservation Strategy for the Townsend's Big-eared Bat, 1995; The Fringed Myotis: A Technical Conservation Assessment, 2004; the Federal Cave Resources Protection Act of 1988 (which provides protection for caves that have been determined to be significant, as well as procedures for nominating them).

Ungulates: Leasing Analysis, Appendix H to the DLMP/DEIS; Leasing Stipulation Summary, Appendix H to the DLMP/DEIS; BLM Manual 6840; FSM 2600, Wildlife, Fish, and Sensitive Plant Habitat Management; FSH 2609.13, Wildlife and Fisheries Program Management Handbook; Managing Forested Lands for Wildlife, 1984; Hermosa Deer Management Plan: Data Analysis Unit D-52 (CDOW 2001); San Juan Deer Management Plan: Data Analysis Unit D-30 (CDOW 2001); Colorado's Comprehensive Wildlife Conservation Strategy, 2005; and A Process for Finding Management Solutions to the Incompatibility Between Domestic and Bighorn Sheep (USFS 2001).

Animal Damage Control: BLM IM No. CO-2000, Animal Damage Control Activities; Master MOU between the BLM and APHIS-WS, 1995; Colorado State level MOU between the DOAI, the CDOW, the BLM, the USFS, the Contractors State License Board (CSLB), and the Animal and Plant Health Inspection Service-Wildlife Service (APHIS-WS), 1999; San Juan National Forest Plan Amendment #15, and associated Decision Notice for Animal Damage Control, 1992; and a Master MOU between the USFS and the APHIS-WS, 1998. Butterflies and Pollinators: Leasing NatureServe comprehensive text for identified BLM and USFS sensitive species; SJPL Highlight Species; and T&E species.

BLM AND USFS SENSITIVE SPECIES

The BLM will conserve Sensitive Species by fulfilling the requirements of the Endangered Species Act (ESA), and by using other authorized methods in order to ensure that the actions authorized by BLM are consistent with the conservation of such species, and that they do not contribute to the need to list any Special-Status species under provisions of the ESA, or designate additional Sensitive Species under provisions of this policy (BLM Manual 6840). The Forest Service will conserve sensitive species through direction found in FSM 2600. Sensitive Species are considered in accordance with direction during project-level NEPA analysis.

Recommend against, deny consent or recommend NSO stipulation for issuance of mineral leases where operational damages on surface resources (including access, transportation of goods, and ancillary facilities) would intrude upon the habitat of an individual plant or animal species that is documented as needing special management in order to prevent its need for listing as a threatened or endangered species.

Additional Referenced Guidance

FSM 2600; BLM Manual 6840; and the Endangered Species Act 1973: Appendix H Leasing Stipulation Summary.

XI. USFS MANAGEMENT INDICATOR SPECIES (MIS)

Marten

- A. Avoid Activities (Timber Harvest, Salvage Logging, Fuels Treatments, Road construction) that fragment or alter interior late-successional or old growth forest characteristics, or could increase edge effects unless these activities have either a short – or long-term benefit to American Marten.
- B. Timber removal in marten habitat should be designed to provide for sustainable habitat to support marten populations over time.
- C. Large, contiguous, well-distributed blocks or smaller, closely interconnected patches of late-successional and old growth spruce-fir habitat must be maintained for habitat effectiveness. Edge effect must be minimized to maintain habitat effectiveness.
- D. Closed canopy connectivity between habitat blocks must be maintained to facilitate marten dispersal and population interaction.
- E. A complex vegetation understory and forest floor structure, including coarse woody material, must be maintained for reproductive success and for maximizing a microtine and pine squirrel prey base.

Trout

- F. Management activities throughout SJPL should be consistent with the objectives of the Conservation Agreement and Strategy for Colorado River Cutthroat Trout in the States of Colorado, Utah, and Wyoming. For formally designated conservation populations of Colorado River cutthroat trout, 100% of existing habitat must be maintained.
- G. Streamflow in each reach should be sufficient to maintain, for each life stage of each target species, a minimum of 50% of the Weighted Usable Area that would occur under natural flow conditions.
- H. Habitat quality, including large woody debris, residual pool depths, composition of habitat units (eg. pools, riffles), and overall habitat complexity, should be maintained or improved commensurate with reference stream conditions and in a manner that maintains self-sustaining fish populations.
- I. Conservation pools should be provided in water storage facilities where there are trout MIS.
- J. Streamflow in riffle habitats should be at levels that maintain minimum water depth, wetted perimeter, and mean velocity values consistent with those identified for each stream size category identified below:

Bankfull Width (ft)	Mean Depth (ft)	Wetted Perimeter (%)	Mean Velocity (ft/sec)
1 to 20	≥ 0.2	50	1.0
21 to 40	0.2 to 0.4	50	1.0
41 to 60	0.4 to 0.6	50 to 60	1.0
> 60	> 0.6	> 60	1.0

Bluebird

- K. Patches of mature and older aspen forest in proximity to open foraging habitats should be maintained. Aspen management should provide for sustainable habitat conditions to support bluebird populations over time.
- L. Timber harvest, Salvage Logging, and Fuels Treatments must avoid large diameter aspen trees that are in close proximity to open foraging habitats to ensure continued recruitment of nesting habitat.
- M. Large stands of burned or insect-infested aspen, ponderosa pine, or pinyon-juniper vegetation types should be retained for 3-5 years to promote woodpecker populations which create cavities for bluebird nesting.

Abert's Squirrel

- N. Ponderosa pine forests occupied by Abert's squirrels should have an uneven-aged, multi-layered, high-closure canopy structure.
- O. Frequent interconnected groupings of large cone-producing Ponderosa pine trees must be maintained in patches for feeding, nesting sites, and regeneration within the broader matrix of forest.
- P. Large patches of dense Ponderosa pine trees with interlocking canopy cover must be maintained to create microclimatic conditions for the production of important truffle foods. These patches will occur within the broader matrix of forest described in the terrestrial ecosystem desired conditions and objectives.
- Q. Frequent (several per hectare) clusters of (0.1 to 0.15 ha) of large, even-aged Ponderosa pine trees with tight, interlocking canopy must be maintained to provide for nesting and juvenile protection.

Elk

- R. In order to minimize disturbance and harassment of elk, vegetation screening should be retained or promoted where conditions will support such cover along roads that are kept open for human use and around openings.
- S. Domestic livestock grazing strategies must provide sufficient forage in summer and winter habitat across the planning area to sustain populations of elk at levels to meet state management objectives.
- T. To maintain habitat effectiveness for elk, manage for road densities of 1 mile or less per square mile in areas providing critical wildlife needs such as within winter concentration and critical winter range, calving areas, and transition habitat.
- U. Management activities should avoid or minimize disturbance in elk concentration areas and severe winter range between December 1 and April 30, with the exception of through routes. Management activities that occur on concentration areas and severe winter range during the winter period should concentrate activities in order to reduce impacts to elk.

Additional MIS Referenced Guidance

Hayward et al. 2004; 36 CFR 219.19, 36 CFR219.20; and FSM 2600.

SJPL HIGHLIGHT SPECIES

SJPL Highlight Species are listed in Appendix M of this DLMP/DEIS. Appendix M also provides an index of the desired condition statements, objectives, and the standards and guidelines in this DLMP that addresses diversity components for maintaining sustainable populations.

Additional Referenced Guidance

Landscape and Habitat Connectivity: The Southern Rockies Ecosystem Project (SREP); Linking Colorado's Landscapes, Phase II Reports, 2006; and Lynx Linkages Areas discussed in the 2004 Programmatic Consultation Agreement for Canada Lynx, 2004.

Applicable MOUs: There are numerous Master MOUs between the USFS and/or the BLM, and partners/ organizations that share similar conservation goals and interests on public lands. A recent example is the MOU between Bat Conservation International, Inc. (BCI) and the USFS (4/27/2004). All of these MOUs are not delineated in this document; however, they should be considered as other sources of design criteria for terrestrial wildlife resources within the planning area.

XII. INVASIVE SPECIES

VEGETATIVE INVASIVE SPECIES

- A. Projects or activities that would authorize the use of forage products must use certified “noxious weed seed-free” forage products.
- B. Contracts, leases, and permits that involve the use of the SJPL should contain the provisions necessary for preventing the establishment and spread of noxious weeds.
- C. Treatment of invasive plants in areas having known populations of SJPL Plant Highlight Species and BLM Sensitive Species should avoid harm to these species in order to maintain sustainable populations.

AQUATIC INVASIVE SPECIES

- D. Appropriate educational and cleaning facilities should be developed for important boating areas.
- E. Cooperative, interagency assessments of aquatic invasive species should be conducted to determine their extent.
- F. Fire Management Operations
 - F.1 Obtain maps of where invasive organisms occur in watersheds where fire management operations will take place.
 - F.2 Avoid entering waterbodies or contacting mud and aquatic plants with fire engines or equipment. Avoid transferring water between drainages or unconnected waters within the same drainage.
 - F.3 Avoid sucking organic and bottom material into water intake hoses, pumps, and tanks from streams or ponds.
 - F.4 Prior to leaving the project site, power wash all accessible equipment surfaces with clean water and soap, and completely remove all mud and organics. Equipment should be thoroughly dried as much as possible.
 - F.5 Disinfect tanks from water tenders, engines, and other equipment after the incident. Flush tanks and hoses with clean water and drain to an upland location, and then rinse with an appropriate solution.
 - F.6 Do not dump treated water into any stream or lake, or on areas where it can migrate into any waterbody.

Additional Referenced Guidance

EO 13112; the Federal Land Policy and Management Act of 1976; the Carson-Foley Act of 1968; the Federal Noxious Weed Act of 1974, the Public Rangelands Improvement Act of 1978; the Plant Protection Act of 2000; the Healthy Forests Restoration Act of 2003; the Wilderness Act of 1964, Section 2 (c); the Federal Insecticide, Fungicide, and Rodenticide Act of 1972; the Cooperative Forestry Assistance Act of 1978; the Resource Conservation and Recovery Act of 1976; the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended; Management and Control of Noxious Plants on the San Juan/Rio Grande National Forests, Decision Notice and FONSI 1996; Vegetation Treatment on BLM lands in the 13 Western States (FEIS 1991); Weeds-Revised Integrated Weed Management in the San Juan Field Office (CO-038-99-035 EA); FSM 2200; FSM 2080; BLM Manual 9015; FSH 2109.14, Pesticide Use-Management and Coordination Handbook; FSH 2509.13, Burned Area Rehabilitation Handbook; FSH 2509.25 Watershed Conservation Practices Handbook; FSH 2409.19, Renewable Resource Uses for Knutson-Vandenberg (K-V) Fund Handbook; Rules Pertaining to the Administration and Enforcement of the Colorado Noxious Weed Act. (8 CCR 1203-10); USFS National Strategy and Implementation Plan for Invasive Species Management (FS-805 2004); USFS Guide to Noxious Weed Prevention Practices (Version 1.0 July 2001); BLM Partners Against Weeds, 1996; and various BLM Instruction Memoranda and Information Bulletins relating to noxious weed management and pesticide use.

XIII. ACCESS AND TRAVEL MANAGEMENT

TEMPORARY ROADS

- A. Approval for temporary road construction should be contingent on the completion of an environmental analysis that addresses road construction and road decommissioning, including setting project timelines and establishing a funding source (bonding or other mechanism) for accomplishing the work.
- B. Temporary roads should be constructed to the minimum standard needed for the specific project (the minimum standard that would provide for the protection of resource values identified during the environmental analysis).

ROAD AND TRAIL MAINTENANCE

- C. Road and trail maintenance investment should be prioritized by a travel analysis that categorizes investment priority based on route value to public lands and loss of agency investment, as well as risk to the environment and to the traveling public. The risk categories and strategies that should be used include:
- C.1 **High-Value/Low-Risk Routes:** The route condition should be preserved through annual maintenance. Roads in this category that have high value for private access should be considered for transfer to county jurisdiction.
 - C.2 **High-Value/High-Risk Routes:** These routes should receive first priority for investment and for maintenance funding (in order for them to be restored to appropriate standard(s) and in order to reduce resource risks). Roads in this category that have a high value for private access should be considered for transfer to county jurisdiction.
 - C.3 **Low-Value/High-Risk Routes:** These routes should receive the highest priority in order to reduce maintenance levels. Roads in this category may be considered for conversion to trails. These routes should be considered for decommissioning, if/when such an action could be done with minimal investment.
 - C.4 **Low-Value/Low-Risk Routes:** These routes should receive the lowest priority for maintenance funding. Consideration should be given to converting the roads to trails. These routes should be considered for decommissioning, or for reduction in maintenance level, when such an action could be done with minimal investment.

ROUTE DENSITY

- D. All 6th level Hydrologic Unit Basins (HUBs) with high motorized-route densities should be considered for measures that reduce those densities. Motorized routes, for the purposes of this guideline, include designated motorized routes open to the public, as well as roads closed to public use that are authorized by permit or agreement (including administrative oil and gas well access roads). Prior to constructing new roads or motorized trails that would add to existing high watershed road/trail densities, management actions should consider:
- D.1 opportunities to decommission roads found to be in excess of transportation system needs, as determined through a travel analysis; and
 - D.2 opportunities to reconstruct existing routes that may serve the same purpose.
- E. Upper limits on designated motorized route densities should not exceed the following:
- E.1 **Management Area 3:** 6th level HUBs should not have a designated motorized route density that exceeds 1 mile/square mile.
 - E.2 **Management Area 5:** 6th level HUBs should not have a designated motorized route density that exceeds 3 miles/square mile.
 - E.3 **Management Area 7:** 6th level HUBs should not have a designated motorized route density that exceeds 1.5 miles/square mile.

- F. Opportunities should be sought to rehabilitate or decommission unauthorized roads causing resource impacts.
- N. Where motorized route densities in key wildlife habitat exceed 1 mile per square mile, management actions should be considered that maintain habitat effectiveness supporting limiting life functions. Key wildlife habitat may include severe big game winter range and concentration areas, kidding and lambing areas, calving and fawning areas, and migration corridors. Travel management actions considered may include seasonal travel restrictions, partial or complete route closures, and new route alignments (or the realignment of existing routes in order to avoid key wildlife habitat).

Additional Referenced Guidance

Roads: FSH 2509.25, Watershed Conservation Practices Handbook; FSH 2709.12, Road Rights-of-Way Grants Handbook; FSM 5460, Right-of-Way Acquisition Manual; FSH 5409.17, Rights-of-Way Acquisition Handbook; FSM 7100, Engineering Operations; FSM 7700, Travel Management; FSH 7709.55, Travel Analysis Handbook; FSH 7709.56, Road Pre-construction Handbook; FSH 7709.56b, Transportation Structures Handbook; FSH 7709.57, Road Construction Handbook; FSH 7709.58, Transportation System Maintenance Handbook; FSH 7709.59, Transportation System Operations Handbook; FSH 7100, Engineering Operations, R2 Supplement 7100-2006-1; FSH 7709.55, Transportation Planning Handbook, R2 Supplement 7709.55-94-1; FSH 7709.58, Transportation System Maintenance Handbook, R2 Supplement 7709.58-90-1; Miscellaneous Report FS-643 Roads Analysis: Informing Decisions about Managing the National Forest Transportation System; R6 Guidelines for Bridge Design; American Association of State Highway and Transportation Officials (AASHTO) HB-17 Standard Specifications for Highway Bridges; and AASHTO Manual on Uniform Traffic Control Devices.

Access and Travel Management: FSM 7700, Travel Management; FSH 7709.55, Travel Analysis Handbook; Rocky Mountain Region Travel Management Rule Implementation Strategy, 2005; Motor Vehicle Route and Area Designation Guide (v.111705); San Juan Public Lands Center Travel Management Rule Implementation Action Plan, 2006; USFS EM-7700-30, Guidelines for Engineering Analysis of Motorized Mixed Use on National Forest System Roads; and USFS EM 7100-15: Sign and Poster Guidelines for the Forest Service.

Trails: FSM 2300, Recreation, Wilderness, and Related Resource Management; Chapter 2350, Trail, River, and Similar Recreation Opportunities; and FSH 2309.18, Trails Management Handbook.

XIV. RECREATION AND TOURISM

- A. During implementation of other resource projects, recreation facilities (including campgrounds, day-use areas, interpreted sites, trailheads, and trail systems) should be maintained in order to ensure functionality and visitor safety.
- B. Summer and winter Recreation Opportunity Spectrum (ROS) maps establish setting descriptions for the entire SJPL. These ROS settings descriptions should guide project-specific decisions and implementation activity. These maps define broad physical, social, and administrative settings for the entire SJPL. Site-specific analysis is necessary to further refine desired setting conditions that may apply at the project level.
- C. Structured Recreation Management Areas (SRMAs) have been identified in order to provide specific recreation benefits. Established setting prescriptions for SRMAs should guide project-specific decisions.
- D. Intensive resource management activities in MA 5s may result in ROS settings that vary from Semi-Primitive to Roaded Natural. Disturbances from forest restoration, timber harvesting, fuel reduction, and/or mineral development may be experienced by visitors in limited portions of the management area at any one time.
- E. Dispersed sites should be closed, rehabilitated, or otherwise mitigated if there are social-use conflicts and/or resource impacts, or where dispersed sites conflict with the management of developed recreation sites (public or private).

Additional Referenced Guidance

The San Juan/Rio Grande National Forest Wilderness Management Direction decision, 1998; 36 CFR 212, Travel Management; 36 CFR 219, Planning; 36 CFR 251, Land Uses; 36 CFR 261, Prohibitions; 36 CFR 290, Cave Resources Management; 36 CFR 291, Occupancy and Use of Developed Sites and Areas of Concentrated Public Use; 36 CFR 293, Wilderness/Primitive Areas; 36 CFR 294, Special Areas; 36 CFR 297, Wild and Scenic Rivers; FSM 1950, Environmental Policy and Procedures; FSM 2300, Recreation, Wilderness, and Related Resource Management; FSM 2710, Special-Use Authorizations; FSM 2720, Special Uses Administration; FSM 7300, Buildings and Other Structures; FSM 7400, Public Health and Pollution Control Facilities; FSH 1909.15, Environmental Policy and Procedures Handbook; FSH 2309.18, Trails Management Handbook; FSH 2709.11, Special Uses Handbook; FSH 7309.11, Buildings and Related Facilities Handbook; FSH 7409.11, Sanitary Engineering and Public Health Handbook; the Federal Land Policy and Management Act of 1976; BLM Handbook 1601; BLM Manual 8300; 43 CFR 8342; 43 CFR 8340; BLM Handbook 8550, Architectural Barriers Act of 1968; Section 504 of the Rehabilitation Act of 1973, as amended; USFS ROS Manual; the Dolores River Management Plan; the San Juan Capacity Study; RAMPs; and the SJPL Recreation Facility Masterplan.

XV. HERITAGE RESOURCES

- A. Sites eligible for the National Register of Historic Places (NRHP), and those that have not been evaluated should be avoided by a 300-foot minimum buffer, unless otherwise specified by the Authorized Officer, and/or unless other mitigating measures are developed. If a project is specified by the Authorizing Officer to be within 100 feet of an eligible or unevaluated site, all ground-disturbing activity should be monitored by a qualified Archaeologist.

Additional Referenced Guidance

Policy and Handbooks: BLM policy and program guidance for the management of cultural resources as outlined in Manual Sections 8100, 8110, 8120, H-8120-1, 8130, 8140, 8150, and 8170; BLM Colorado Handbook of Guidelines and Procedures for Identification, Evaluation, and Mitigation of Cultural Resources, 1998; FSM 2360, Special Interest Areas; Departmental Manual Part 411, Museum Property Management; and Instruction Memorandum.

Executive Orders (EOs): EO 11593, Protection and Enhancement of the Cultural Environment; EO 13007, Providing for American Indian and Alaska Native Religious Freedom and Sacred Land Protections; EO 13084, Consultation and Coordination with Indian Tribal Governments; EO 13195, Trails for America in the 21st Century; and EO 13287, Preserve America.

Agreements: Programmatic Agreement between the BLM, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers, regarding the manner in which BLM would meet its responsibilities under the National Historic Preservation Act (NHPA); State Protocol Agreement between the Colorado State Director of the BLM and the Colorado State Historic Preservation Officer, regarding the manner in which BLM would meet its responsibilities under the NHPA; the National Programmatic Agreement between the BLM, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers; and the Programmatic Agreement between the BLM, the State of Colorado, the national forests in the State of Colorado, the USDA Forest Service, the Colorado State Historic Preservation Office, and the Advisory Council on Historic Preservation regarding the Management of Wildland Fire for Resource Benefits (Agreement No. 1102-002-98-038).

Figure 30 - Summer Recreation Opportunity Spectrum (ROS)



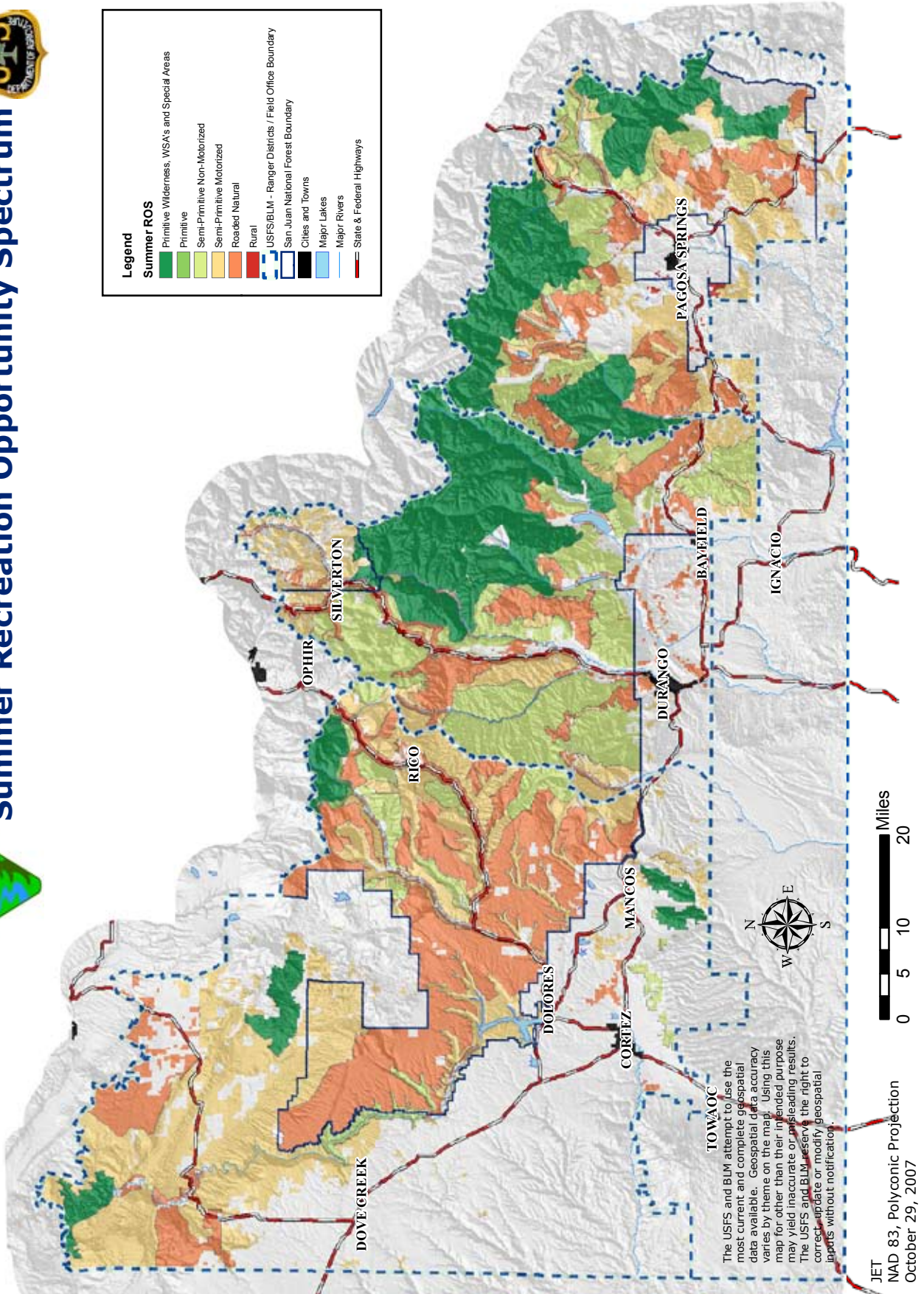
San Juan Public Lands Summer Recreation Opportunity Spectrum



Legend

Summer ROS

- Primitive Wilderness, WSAs and Special Areas
- Primitive
- Semi-Primitive Non-Motorized
- Semi-Primitive Motorized
- Roaded Natural
- Rural
- USFS/BLM - Ranger Districts / Field Office Boundary
- Son Juan National Forest Boundary
- Cities and Towns
- Major Lakes
- Major Rivers
- State & Federal Highways



TO WAOOC

The USFS and BLM attempt to use the most current and complete geospatial data available. Geospatial data accuracy varies by theme on the map. Using this map for other than their intended purpose may yield inaccurate or misleading results. The USFS and BLM reserve the right to correct, update or modify geospatial inputs without notification.



JET
NAD 83, Polyconic Projection
October 29, 2007

Figure 31 - Winter Recreation Opportunity Spectrum (ROS)



San Juan Public Lands Winter Recreation Opportunity Spectrum



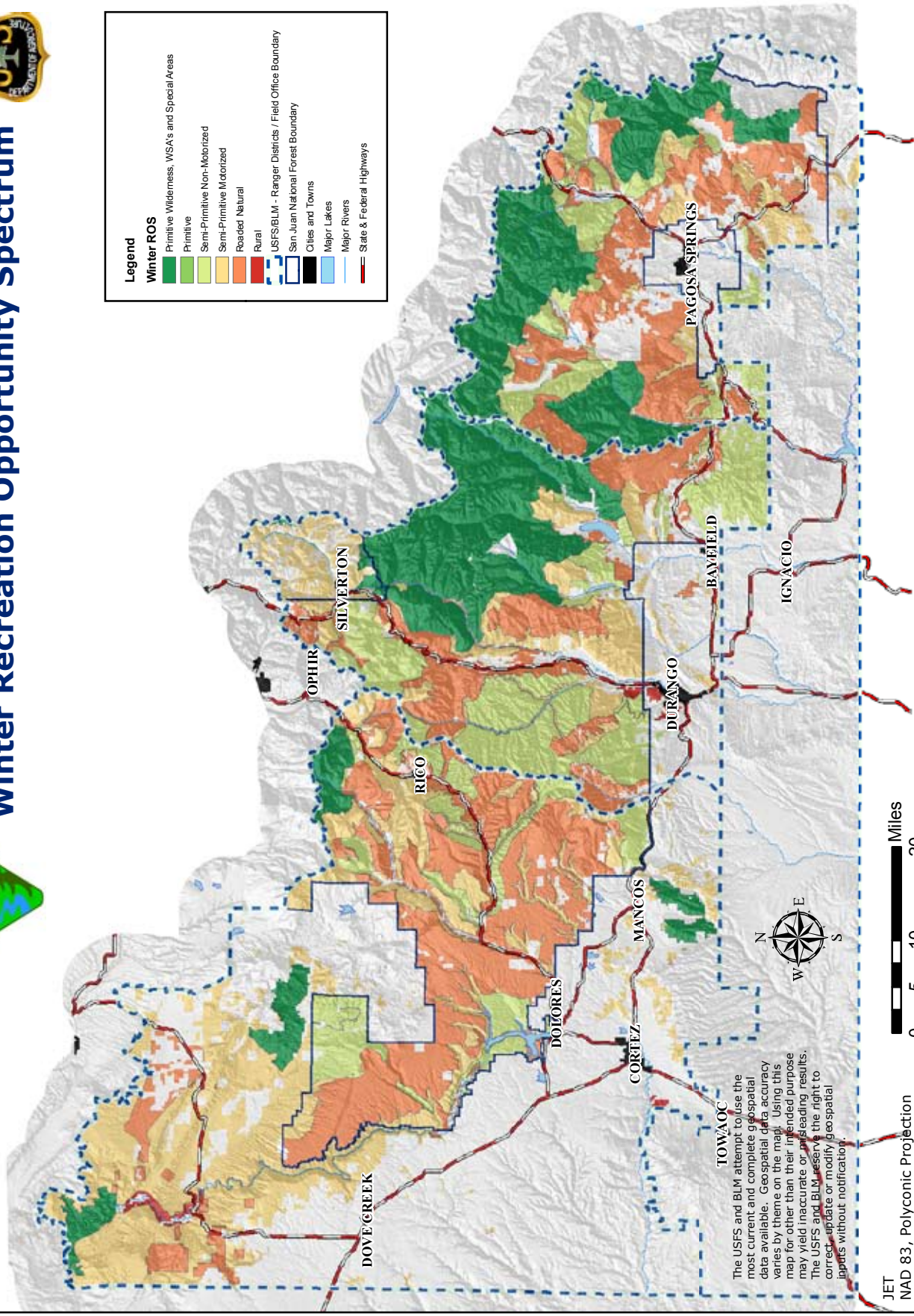
Legend

Winter ROS

- Primitive Wilderness, WSA's and Special Areas
- Primitive
- Semi-Primitive Non-Motorized
- Semi-Primitive Motorized
- Roaded Natural
- Rural

Other Features:

- USFS/BLM - Ranger Districts / Field Office Boundary
- San Juan National Forest Boundary
- Cities and Towns
- Major Lakes
- Major Rivers
- State & Federal Highways



TOWAOC
The USFS and BLM attempt to use the most current and complete geospatial data available. Geospatial data accuracy varies by theme on the map. Using this map for other than their intended purpose may yield inaccurate or misleading results. The USFS and BLM reserve the right to correct, update or modify geospatial inputs without notification.

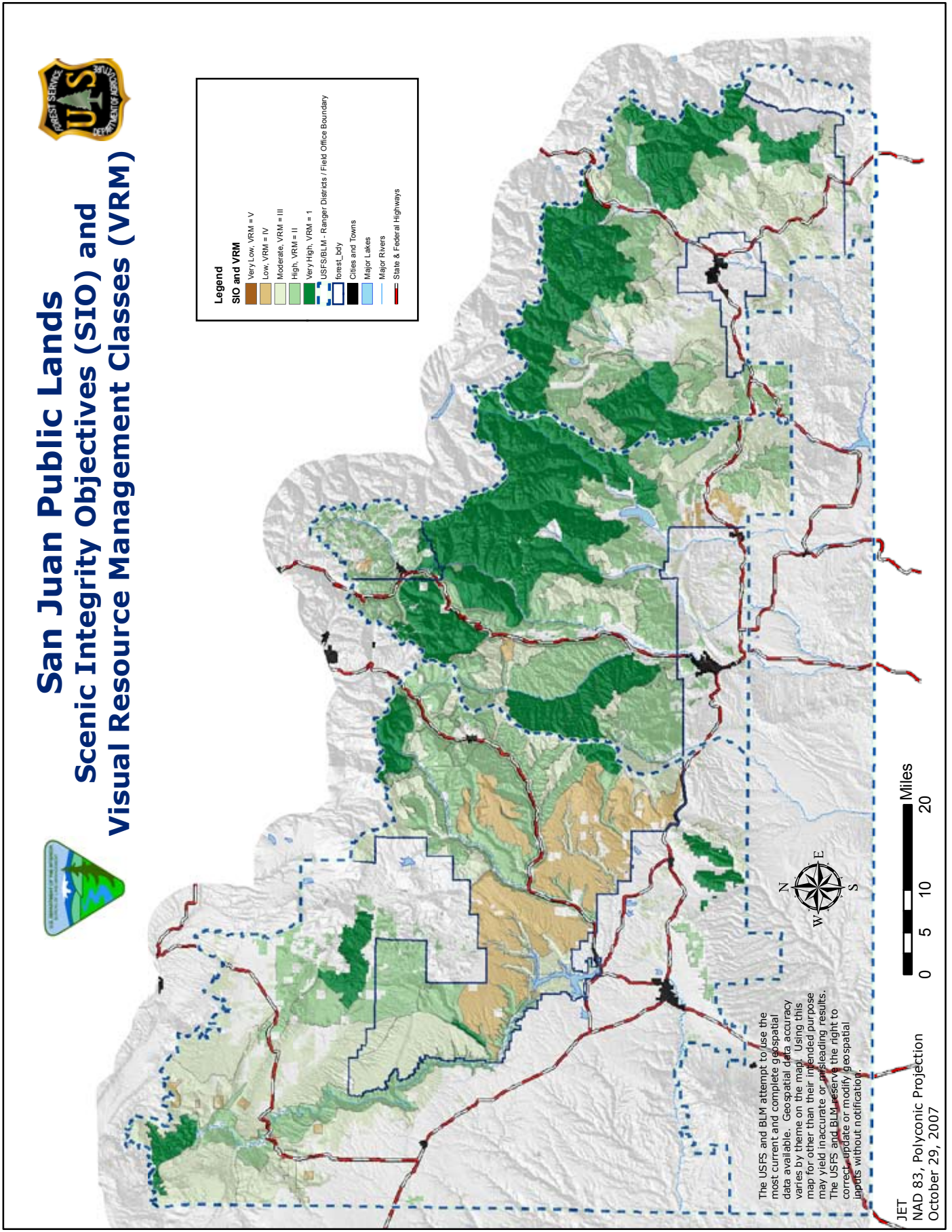


JET
NAD 83, Polyconic Projection
October 29, 2007

XVI. SCENERY, VISUAL RESOURCES, AND THE BUILT ENVIRONMENT

- A. All resource management activities should be consistent with the established scenery objectives shown on the Scenic Integrity Objectives and Visual Resource Management (VRM) Class Map (see Figure 32) unless a decision is made to deviate from the management guidance in a site-specific NEPA decision.
- B. On USFS lands, scenic integrity levels, as viewed from sensitive viewer locations (including National Scenic Byways, National Scenic and Recreation Trails, and developed recreation sites) should generally be managed as High Scenic Integrity Objective (SIO) for foreground, and moderate SIO for middle ground and background. On BLM lands, visual resources, as viewed from sensitive viewer locations (including National Scenic Byways and Backcountry Byways, special designation trails, sensitive locations within SRMAs, and ACECs) should generally be managed for a VRM Class II foreground, and Class III middle and background. Short-term deviations from this may occur in order to achieve long-term desired scenic conditions if disclosed in a site-specific NEPA decision. Short-term deviations are defined as not meeting the desired objective within the first 3 to 5 years after project completion.
- C. For all SJPL, the built environment (structures), including those for non-recreation functions, should be consistent with the Rocky Mountain Province or the Southwest Province, as appropriate (BEIG FS710). They should conform to the designated ROS class. Efforts should be made to provide consistency in architectural styles to promote a professional and recognizable public image.
- D. The quality of the built environment should benefit from sound site planning, as well as from low-energy and environmental design (LEED) principles.
- E. Straight line-of-sight road construction should be avoided. Roads through wooded areas should be designed in order to follow a curvilinear path using natural topography. Road construction across ridge tops should be avoided where it may cause a visual contrast in the landscape, or where it may add skyline alterations that are visually obvious.
- F. Interim reclamation should be completed as soon as possible so that successful revegetation can be established in order to stabilize soils and to reduce visual impacts.
- G. All permanent structures (on-site for more than 6 months) should be painted in a flat, non-reflective, earth-tone color that matches the surrounding summer vegetation or rocks. The USFS/BLM representative should approve colors.
- H. Traffic, regulatory, and site identification signs should be minimized. All sign backs and posts should be painted a flat, non-reflective dark brown color approved by FS/BLM representative.

Figure 32 - Scenic Integrity Objectives and Visual Resource Management (VRM) Classes



- I. Landscaping should blend site developments into the surrounding landscape. Native tree, shrub, and grass species should be employed in landscaping in order to lessen the contrast between clearing and adjacent natural environment.
- J. Linear utility corridors and pipeline installations should employ vegetative edge feathering in sloped areas that may be visible from sensitive areas (including roads, use areas, and residences). Vegetation should be cleared in a non-linear fashion in order to avoid a visually dominant straight line.
- K. The minimum amount of permanent lighting needed should be installed. Light-sensitive, motion-activated lighting systems that are illuminated only when needed for security and/or for maintenance should be used. Light fixtures should be hooded in order to prevent horizontal and upward light pollution.
- L. For oil and gas activities:
 - L.1 The height of the pumping unit should be at, or below, the predominant tree height. Well pad and facilities should be designed with scalloped edges in wooded areas, and should avoid high wall cuts.
 - L.2 Any fencing should be limited to typical wire range fencing using wood or painted “T” posts. If other fencing is needed (including chain link fencing), it should be vinyl-clad or painted a flat non-reflective dark brown, as approved by the USFS/BLM representative.
- M. For fuel reduction and/or timber harvesting activities:
 - M.1 Treatment areas should be comprehensively designed in order to achieve scenery desired conditions for the landscape. Treatment mitigations that create “hiding” screens or buffers along sensitive travel routes should be avoided. Treatments should be designed in order to leave sufficiently large clumps of residual trees or shrubs that reduce the apparent scale of fuel reductions and achieve a more natural appearance in the short-term.
 - M.2 With regard to clearcutting, sanitation salvage, thinning, shelterwood harvests, and overstory removal, foreground views from Concern Level 1 system trails and roads, and from recreation areas, should be designed in a manner that avoids unattractive views of large, continuous openings and is mitigated by the presence of sufficient groups of residual trees. Uncut islands should be reserved within unit(s) in order to reduce apparent size of unit, provide visual diversity, and achieve a more natural-appearing treatment area.
 - M.3 With regard to treatments in developed recreation sites (including campgrounds, picnic areas, and trailheads), slash should be substantially disposed of. Stumps should be flush-cut or flush-ground within developed sites. Stumps within 66 feet of a developed site should be cut to a 6-inch maximum. Slash should be substantially reduced (pile 0 to 3-inch material, leave remainder); chipping is acceptable if chips are removed from view. Any treatment units located within 66 feet of a developed site should be designed to retain screening vegetation between developed site and treatment area. In sensitive foreground areas, as needed to meet scenery objectives, stumps should be low-cut and slash should be substantially reduced. Fire control lines should be restored to a natural appearance in areas within view of roads, trails, and recreation sites. Work should be accomplished within 3 years of completion of burn.
 - M.4 With regard to temporary access roads, cut and fill, and width should be minimized, and, where appropriate, should meet scenic objectives. Roads should be restored to natural contour and should be revegetated in order to remove scenic impacts resulting from linear road alignments.

- M.5 With regard to thinning units, a natural-appearing shape and variable tree spacing, as viewed from roads, trails and recreation sites, should be created. Treatment should avoid visual uniformity. Variations in unit boundaries should be designed to result in a natural appearing treatment area.
- M.6 Slash piles and landings located in high and moderate SIO areas, and VRM Class I, II, and III areas, where feasible, should be screened from view or set at least 66 feet away from the view of recreationists on Concern Level 1 routes. Slash piles up to 15 feet in diameter are acceptable in visible foreground, if they are disposed of within 3 years. Slash piles left for wildlife habitat enhancement should be located out of immediate foreground views (generally, 66 feet back from viewer).
- M.7 With regard to unit boundary and tree marking, long-term visible paint, tags, and flagging should be avoided in sensitive foreground areas (including Concern Level 1 system roads, trails, and/or developed recreation sites).

N. For Developed Ski Areas:

- N.1 Structures (including lift towers, lift terminals, sign backs, posts, utility boxes and transformers) should meet R2 color darkness standard of 4.5 on the Munsell Scale, in order to blend into the summer background vegetation.
- N.2 Lift towers and cross-arms should be painted, or in some way colored, so that the galvanized steel does not reflect light.
- N.3 Glass windows of buildings at or above treeline, or in highly visible areas, should be non-reflective.
- N.4 Ski trail design should replicate patterns of natural landscape vegetation mosaic. Pattern, size, shape, and topographic location should be considered in mosaic.
- N.5 Trail design should consider stand condition, age class, species composition, and structure. Stand diagnosis and prescriptions included in the vegetation management plan should incorporate visual management objectives and be used to design trails.
- N.6 Lift lines should be incorporated into trail clearings in order to reduce vertical openings in forest stands.
- N.7 Linear appearance of ski trails should be minimized by varying shape, arrangement, texture, and size of leave vegetation. Size and shape of islands should be varied in order to avoid straight edges and geometric forms that contrast with natural openings and landforms.
- N.8 Natural clearings should be incorporated into trail design.
- N.9 Trail edges should be softened through feathering, scalloping, and/or other means.
- N.10 Soil/plant/ground disturbances should be minimized to the smallest footprint feasible. Where disturbance is unavoidable, topsoil and organic matter should be salvaged and used for rehabilitation (so that color and textural contrast of the disturbed area is gone, and the disturbed area blends visually with the surrounding undisturbed area) within 3 growing seasons.
- N.11 Disturbance of valued landscape elements important to foreground views (including tree groves and boulders) should be limited. Construction fencing should be used to mark limits of disturbance at all construction sites.
- N.12 The size and disturbance associated with material staging and equipment access and parking should be limited. These areas should be located, where feasible, outside of sensitive viewsheds.

- N.13 Within 66 feet of summer viewers, stumps should be low-cut to 4 inches maximum height, slash should be reduced substantially; and chips from chipping should be removed from view.
- N.14 Decks and landings should be located and screened from view, or set at least 66 feet away from the view of summer recreationists. Hand piles would be acceptable in the foreground, if disposed of within 3 years.
- N.15 Unit boundary and tree marking paint should be painted on side facing away from viewer.

Additional Referenced Guidance

USDA Handbook 701, Landscape Aesthetics; USFS Publication FS-710, The Built Environment Image Guide; BLM Handbook 8410-1, Visual Resource Inventory; BLM Handbook 8431-1, Visual Resource Contrast Rating; BLM Manual 8431-1; USDOJ Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development, 2006 BLM/WO/ST-06/021+3071 BLM; USFS 2007 Final Decision for SJCBM Scenic Mitigations Conditions of Approval; Visual Resource Management for Fluid Minerals Best Management Practices; and Visual Resource Management BMPs for Fluid Minerals.

XVII. TIMBER AND OTHER FOREST PRODUCTS

- A. Table 44 shows the acceptable silvicultural systems that may be used in a given forest cover type in order to meet the management objectives for the landscape and/or for individual stands of trees within a landscape setting.

Table 44 - Appropriate Silvicultural Systems by Forest Cover Type

FOREST COVER TYPES	EVEN-AGED	TWO-AGED	UNEVEN-AGED
Ponderosa Pine	Shelterwood Seed Tree	Irregular Shelterwood	Group Selection; Single Tree Selection Restoration
Cool-Moist Mixed-Conifer	Shelterwood *Clear-cut Seed Tree	Irregular Shelterwood	Group Selection; Single Tree Selection Restoration
Warm-Dry Mixed-Conifer	Shelterwood Seed Tree	Irregular Shelterwood	Group Selection; Single Tree Selection Restoration
Engelmann Spruce – Subalpine Fir	Shelterwood	Irregular Shelterwood	Group Selection; Single Tree Selection
Engelmann Spruce – Subalpine Fir – Aspen	Shelterwood, *Clear-cut	Irregular Shelterwood	Group Selection; Single Tree Selection
Aspen	Coppice	NA	NA

* Clear-cut allowed for seral aspen regeneration only

B. Table 45 shows the acceptable types of stand improvements and regeneration methods that should be used in a given forest cover type in order to meet the management objectives for the landscape and/or for individual stands of trees within a landscape setting.

Table 45 – Guidelines for Allowable Stand Improvements and Regeneration Methods by Forest Cover Type

FOREST COVER TYPES	STAND IMPROVEMENTS	REGENERATION METHODS
Ponderosa Pine	Precommercial thin Commercial thin Sanitation Release & Weed Improvement cuts *	Natural Artificial*
Cool-Moist Mixed-Conifer	Precommercial thin Commercial thin Sanitation Release & Weed Improvement cuts *	Natural Artificial*
Warm-Dry Mixed-Conifer	Precommercial thin Commercial thin Sanitation Release & Weed Improvement cuts *	Natural Artificial*
Engelmann Spruce – Subalpine Fir	Commercial thin Sanitation Release & Weed Improvement cuts *	Natural Artificial*
Engelmann Spruce – Subalpine Fir – Aspen	Commercial thin Sanitation Release & Weed Improvement cuts *	Natural Artificial*
Aspen	Sanitation Improvement cuts*	Natural*

*Other treatments may be applied if supported by a silvicultural prescription developed by a certified silviculturist, and if consistent with LMP desired conditions and objectives.

- C. Timber harvest activities for timber production objectives must be limited to those lands classified as “suitable.”
- D. Where trees are harvested to meet timber production objectives, the cut must be designed in a way that there is assurance that the technology and knowledge exists to adequately restock these areas within 5 years after final harvest. Following a final regeneration harvest, the area is considered adequately restocked when the minimum number of seedlings per acre, as shown in Table 46, is attained.

Table 46 - Minimum Number of Seedlings for Adequately Restocking Regeneration Site

VEGETATION TYPE	MINIMUM NUMBERS OF SEEDLINGS (PER ACRE)
Spruce-fir	150
Aspen	200
Mixed Conifer	150
Ponderosa Pine	150

- E. Where trees are harvested to meet objectives other than timber production, there is no required minimum number of seedlings, however, there should be appropriate forest cover consistent with the desired conditions relevant to that area.
- F. Land managers may consider regeneration harvesting of even-aged timber stands before the stands have generally reached the culmination of mean annual increment where special resource management objectives or considerations require earlier harvesting, including:
 - F.1 when a stand is in imminent danger from insects or disease;
 - F.2 for wildlife habitat improvement;
 - F.3 for scenery resource enhancement or rehabilitation;
 - F.4 for mistletoe control; and/or
 - F.5 for overall ecosystem restoration.
- G. The maximum size of openings created by the application of even-aged silviculture must not exceed 40 acres, regardless of forest cover type, with the following exceptions:
 - G.1 proposals for larger openings may be approved by the Regional Forester, subject to a 60-day public review;
 - G.2 where larger openings are the result of natural catastrophic conditions (including those resulting from fire, insect or disease attack, or windstorm); or
 - G.3 where the area that is cut does not meet the definition of created openings.

H. A created opening would no longer be considered an opening when:

H.1 minimum stocking standards by forest cover type are met; and

H.2 average tree height is 6 feet or greater with a 70% distribution for conifer species, and 10 feet or greater with a 70% distribution for aspen.

Additional Referenced Guidance

36 CFR 221, Timber Management Planning; 36 CFR 223, Sale and Disposal of National Forest System Timber; FSM 1920, Land Management Planning; FSM 2400, Timber Management; FSM 5400, Forest Pest Management; FSH 1900 Planning; and timber sale contract provisions and procurement contracts.

XVIII. LIVESTOCK AND RANGELAND MANAGEMENT

A. LIVESTOCK MANAGEMENT

- A.1 Land managers should phase out grazing systems that allow for livestock use in an individual unit during the entire vegetative growth period (season-long), except where such management has been determined to be able to achieve or maintain desired conditions.
- A.2 If grazing privileges are relinquished on SJPL where fragile soils, low forage production, fencing problems, low livestock water availability, and/or conflicts with other resources make livestock grazing undesirable, the privileges should not be re-allocated.
- A.3 Prior to allocating grazing privileges for a new grazing permittee on unallocated grazing allotments, the needs of existing rangeland management, as well as ecological diversity and species viability, should be considered.
- A.4 Grazing systems should be designed in a manner to provide periodic rest during the critical growing season in order to promote plant vigor, reproduction, and productivity.
- A.5 Avoid livestock grazing during the same time, and in the same place, in consecutive years.
- A.6 When designing a grazing plan, on-going and potential forage and browse competition among livestock, big game, and wild horses should be considered.
- A.7 The designation of forage reserve grazing allotments should be considered when grazing privileges terminate if such designations would improve land management as well as livestock management opportunities for existing grazing permittees.
- A.8 Where dense cover is desired for spring or early summer ground-nesting birds, management activities should carry over adequate residual cover from the previous growing season. Management strategies should strive to limit conflicts between livestock and ground-nesting birds during the nesting season.
- A.9 Grazing management activities should be modified, or livestock excluded from riparian areas that are “Not Functioning” (NF) or “Functioning-at-Risk” (FAR) with a downward trend (as rated by the proper functioning condition (PFC) protocol) where livestock have been determined to be a key causative agent.
- A.10 Trailing of livestock should be prohibited along the length of riparian areas.
- A.11 Groundcover within the mountain grassland type should be adequate to prevent erosion and to

maintain soil productivity.

- A.12 Soil surface compaction should not be apparent after grazing each year, as evidenced by platy soil structure in the surface horizon.
- A.13 Domestic sheep should be managed to avoid contact with bighorn sheep.
- A.14 Rangeland managers will track climate (drought) patterns and will implement appropriate steps to ensure that livestock management during and following drought does not impact the long-term health of rangeland plant, soils, or key wildlife habitat.

B. RANGELAND VEGETATION

- B.1 Project-level NEPA analysis and decisions, and the resultant allotment management plans (AMPs), should specify utilization guidelines (including desirable woody vegetation, as required) that should vary with grazing system and with ecological condition.
- B.2 Project-level design will incorporate habitat needs to satisfy MIS requirements within FS grazing allotments. Adaptive management principles will be used to correct unsatisfactory conditions identified through interdisciplinary monitoring.
- B.3 Livestock should be moved from the grazing unit or allotment when utilization on key areas meets or exceeds use guidelines identified in Table 47 below, or as specified in NEPA documentation for the particular allotment’s Allotment Management Plan (AMP), or in annual operating instructions (AOI).

Table 47 - Allowable Use Guidelines by Livestock Grazing Management System

MANAGEMENT SYSTEM	PERCENTAGE OF SATISFACTORY RANGE - HEALTHY SYSTEMS	PERCENTAGE OF UNSATISFACTORY RANGE - UNHEALTHY OR AT RISK SYSTEMS *
Season-long	40%	30%
Rotation	45%	35%
Deferred Rotation	50%	40%
Rest Rotation	55%	45%

* Utilization percentages are expressed in terms of annual forage production present at the time the livestock leave the area, and are generally a measurement of designated key species on key areas.

- B.4 The riparian vegetation residue guidelines, as shown in Table 48, should be met at the time the livestock leave the unit.

Table 48 - Post-Grazing Vegetation Heights Under Different Seasons of Use in Riparian Areas and Wetlands

SEASON OF USE	RESIDUAL RIPARIAN VEGETATION HEIGHT*
Season-long (i.e. no regrowth potential)	6 inches
Early Growing Season (i.e. significant regrowth potential)	3 inches
Mid-season (i.e. limited regrowth potential)	4 inches
Late Season (i.e. little to no regrowth potential)	4-6 inches
Late Fall and Winter (i.e. dormant season use)	6 inches

*Maximum riparian and wetland allowable use (residue) guidelines to be applied on key sedge or rush species, lacking sedge and/or rush species, use existing herbaceous vegetation. Consider the duration livestock have access to the key areas when setting allowable use standards – the shorter the duration, the less the opportunity for repeat grazing of individual plants.

- B.5 After sheep have grazed an area, there should be only moderate signs of use. Forage should show that it has been topped and selectively grazed; trampling should be minimal and trailing may be evident, but not common.
- B.6 Allowable use, residual vegetation, and other grazing guidelines apply to wildlife, livestock, and wild horses. If allowable use guidelines continue to be exceeded, reductions to livestock utilization levels, recommendations for reductions in wildlife numbers, and/or reductions in wild horse numbers should be made.

C. RANGE IMPROVEMENTS

- C.1 New range improvement needs should be identified and prioritized based on rangeland health assessments and/or other monitoring efforts.
- C.2 The need to re-treat non-structural range improvements when planning fuels management projects should be considered.
- C.3 Grazing allotments with current NEPA decisions should be given the highest priority when considering the use of range-betterment funds.
- C.4 Livestock grazing use should be deferred for 2 growing seasons following severe wildfire, ground-disturbing vegetative treatment projects, or seeding. For prescribed burns or mechanical vegetation treatment, grazing should be deferred for at least 2 growing seasons. These guidelines should apply unless it is demonstrated that such use would not be detrimental.
- C.5 Grazing permittees should receive at least 2 years notice prior to implementing range improvement projects that require changes to current livestock management.

- C.6 Where appropriate, and where the appropriate kind and class of livestock are available, livestock grazing should be considered as an invasive species management tool.
- C.7 Wildlife needs should be considered in the design of structural and non-structural range improvements.

Additional Referenced Guidance

The Taylor Grazing Act of 1934, as amended; the Federal Land Policy and Management Act of 1976; the Public Rangelands Improvement Act of 1978; the Multiple-Use/Sustained- Yield Act of 1960; the Wilderness Act of 1964, Section 4(4); Section 504 of the Rescissions Act of 1995; the Consolidated Appropriations Resolutions 1999-2003; the Colorado Public Land Health Standards EA and FONSI 1997; 43 CFR 4100 and 36 CFR 222 Subpart A; FSM 2200; FSM 1950; FSH 1905.15, Environmental Policy and Procedures Handbook; FSH 1909.17, Economic and Social Analysis Handbook; FSH 2509.13, Burned Area Rehabilitation Handbook; FSH 2509.25, Watershed Conservation Practices Handbook; FSH 2409.19, Renewable Resource Uses for Knutson-Vandenberg (K-V) Fund Handbook; FSH 2109.13, Grazing Permit Administration Handbook; USFS Rocky Mountain Region Rangeland Analysis and Management Training Guide 1996; Interagency Technical References; BLM Handbook 4180-1, Rangeland Health Standards; BLM Handbook 4120-1, Grazing Management; BLM Handbooks 4010 and 4010-1, Range Management Program Records; BLM Handbook 4110-1, Qualifications and Preference; BLM Handbook 4160-1, Administrative Remedies; BLM Handbook 4400, Rangeland Inventory, Monitoring, and Evaluation; BLM Handbook 4150-1, Unauthorized Grazing Use; BLM Handbook H-1790-1, NEPA Handbook; and various BLM Instruction Memoranda and Informational Bulletins relating to rangeland administration and management.

XIX. MINERALS AND ENERGY

There are no standards or guidelines specific to the SJPL that are not already included in existing law, regulations, and policies.

Additional Referenced Guidance

USDOJ and USDA Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development, 2006 (BLM/WO/ST-06/021+3071); BLM Handbooks H-8410-1, Visual Resource Inventory and 8431-1, Visual Resource Contrast Rating; BLM Manual 8431-1; and Appendix H, Volume 3, Oil and Gas Leasing Stipulations.

DESIGNATED ENERGY CORRIDORS AND LINEAR ENERGY TRANSMISSION AUTHORIZATIONS

- A. The Trans-Colorado Pipeline Corridor should be limited to upgrading of existing facilities, requirements of microtunneling to avoid disturbance on steep slopes and for placement of pipelines under stream beds.
- B. Vegetation treatments within corridors and along linear transmission facilities should meet facility safety requirements, and should provide for the control and reduction of invasive species, and for the feathering of vegetation in order to reduce visual impacts.

- C. All areas having VRM Class I, II, or III, or moderate through very high SIO should be avoided or appropriate mitigation measures taken.
- D. Transportation and utility systems should be consolidated within existing corridors and along linear energy transmission facilities in order to reduce habitat loss, degradation, and fragmentation resulting from new construction.
- E. Corridors should occupy the minimum amount of valley bottoms needed to accomplish their purpose, in order to reduce the risk of ground and surface water contamination.

XX. ABANDONED MINE LANDS AND HAZARDOUS MATERIALS

There are no guidelines specific to the SJPL.

Additional Referenced Guidance

FSM 2160; USDA DM 5500-1; BLM Handbook 3720-1, Abandoned Mine Lands Policy; BLM CERCLA Response Actions Handbook 1703-1; and USDOJ Solid Waste and Hazardous Materials Management Compliance Handbook.

XXI. LANDS PROGRAM

LAND OWNERSHIP

- A. Land boundary lines should be surveyed, posted, and marked according to these priorities: 1) lines needed to meet planned activities; 2) lines needed to protect USFS or BLM lands from encroachment; and 3) all other land boundary lines.
- B. BLM land ownership adjustments should meet the recommendations and priorities of the specific BLM land classification category (see Part 2, Figure 19 - Lands Available for Disposal).
- C. Acquisition of lands/interests should be prioritized as follows: 1) lands within designated Wilderness areas and other Congressionally classified areas; 2) lands that enhance resource management; 3) lands that provide habitat for animal and plant species designated as threatened or endangered, and/or for SJPL Highlight Species; 4) lands that contain wetlands and/or floodplains; or 5) lands where resource values are threatened by change of use, or lands that may be enhanced by public ownership.
- D. Disposal of lands/interests should be prioritized as follows: 1) to States, counties, cities, or other Federal agencies when a greater public interest exists; 2) where small parcels intermingle with mineral or homestead patents; 3) where development by the private sector is in the greater public interest; 4) where exchange brings into public ownership higher critical resources or values; or 5) where reserving interests to protect resources and/or resource values mitigates the effects of disposal.
- E. Jurisdictional transfers between agencies should be prioritized as follows: 1) to reduce duplication of effort, time, cost, or coordination by users and agencies; 2) to maintain or improve user access; 3) to decrease travel and enhance management; 4) to improve public understanding of management policy; 5) to develop more effective and efficient work units; and 6) to reduce administrative cost.

LAND USE AND ACCESS

- F. Land use authorizations should avoid developed sites, unless the proposed use or occupancy is compatible with the purpose and use of the developed site.
- G. Land use authorizations should include all necessary and applicable environmental protection designs, terms and conditions, mitigation measures, and maintenance and monitoring requirements.
- H. ROWs for public access across private lands should be pursued from willing landowners.
- I. USFS or BLM roads where private use substantially dominates public use should be conveyed to the appropriate local government jurisdiction.
- J. Existing trespass and encroachments should be resolved according to the following priorities: 1) where public safety is threatened; 2) where damage to resources and/or resource values is occurring; 3) where public access is interfered with; 4) where the encroachment is unintentional; and 5) where no substantial damage or management concern exists.
- K. New or replacement telephone lines and electrical utility lines of 33 kilovolts or less should be buried unless: 1) objectives for scenery can be met using an overhead line; 2) burial is not economically or geologically feasible; or 3) greater long-term site disturbance would result if the lines were buried.
- L. Overhead electric lines should use non-specular or “dulled” wire. All utility poles and hardware should be colored to blend in with the surrounding environment, as needed, in order to meet scenic quality objectives.

XXII. COMMUNICATION SITES

- A. Communication sites should be designed to minimize the visual appearance of structures. All areas having VRM Class I, II, or III, or moderate through very high SIO should be avoided, or appropriate mitigation measures should be taken.
- B. The use of roads constructed for specific non-public purposes (including access routes to communication sites) should be limited to administrative use only.
- C. New communication sites should emphasize co-location and subleasing of existing facilities. Permittees should be encouraged to include multi-user options. The first leaseholder should be designated as the site manager, prior to authorization.
- D. Communication antennas should utilize non-reflective surfaces or be painted to minimize visual impacts.

Additional Referenced Guidance

FSM 1920; FSM 2700; FSH 2709; FSM 5400; FSH 5409; FSM 5500; FSM 5509; FSM 2760; FSH 2509.25, Watershed Conservation Practices Handbook, Region 2 Supplement; 43 CFR 2000; BLM Manuals and Handbooks 2100, 2200, 2300, 2740, 2800, 2880, and 2900.

XXIII. PALEONTOLOGICAL RESOURCES

- A. The land manager's highest concern for paleontology resources should focus on Probably Fossil Yield Classification - Class 5 formations. Fossil-bearing areas of these formations are likely to be vandalized. Mitigation of ground-disturbing activities should be required, and may be intense. Frequent use by the full range of interested individuals and groups is to be expected. Areas of special interest and concern should be designated and intensely managed.

Additional Referenced Guidance

Probable Fossil Yield Classification - (PFYQ), as developed by the Paleontology Center of Excellence; and the Region 2 Paleo-Initiative, 1996.