

Descriptions, Standards and Guidelines - Geographic Areas 2, 10 and 13

Geographic Area 2 – Williams Forestland: 308,394 Acres

Geographic Area 2 was formerly Management Areas 2 and 5 on the Williams and Chalender Ranger Districts. It is the coniferous forest and some coniferous woodland above the Mogollon Rim in the Williams Ranger District. It includes parts of the Cedar-Deadman, Partridge Creek, Upper Verde, Sycamore Canyon and Cataract-Spring Valley watersheds. This area is an elevated plain interspersed with isolated cinder hills and volcanic mountains. Elevations range from 6,500 feet to 9,388 feet. Drainage systems are generally ill-defined with ephemeral flow. The average annual precipitation is approximately 22 inches. The City of Williams and several rural subdivisions are located in this management area.

Management Area 2 contains most of the suitable timberland in the Williams Ranger District. The predominant vegetation in this area is ponderosa pine with scattered inclusions of aspen and Gambel oak and coniferous woodland composed of ponderosa pine, pinyon pine, alligator juniper, and one-seed juniper. Typical understory in the lower elevations is blue grama; mountain muhly, junegrass and squirreltail are typical at higher elevations. There are extensive prairies of seral grass. Douglas-fir and white fir are found at higher elevations. Cliffrose, ceanothus, and mountain mahogany are found on shallow soils. The sensitive plant species *Potentilla multifoliolata* and *Chrysothamnus molestus* are known to occur in this area with other sensitive species occurrence possible.

Geographic Area 2 is habitat for a variety of animals. The endangered peregrine falcon and bald eagle seasonally use part of the area. Mexican spotted owls, a threatened species, have designated territories and some habitat present. This habitat takes the form of pine/oak

stands dispersed around the unit and islands of mixed conifer vegetation situated on Sitgreaves and Bill Williams Mountains. Red squirrels also live in these mixed conifer islands. The northern goshawk, a sensitive species, nests and forages in almost all parts of the area. The forested area, broken by several large seral grass prairies, is summer habitat for mule deer, elk, pronghorn antelope, turkey, black bear, and some white-tail deer. In lower elevations, pine stringers provide roost-trees for turkey.

Management indicator species where present are mule deer, elk, pronghorn antelope, turkey, Abert squirrel, hairy woodpecker, goshawk, pygmy nuthatch, cinnamon teal, and yellow bellied sapsucker. The riparian indicator species are Lucy's warbler, yellow breasted chat and aquatic macroinvertebrates.

Riparian and aquatic areas consisting of scattered ponds and ephemeral lakes provide some breeding habitat and are important resting stops for migrating waterfowl and shorebirds. Several small lakes and ponds provide fishing opportunities as well as nesting habitat for waterfowl, shorebirds and osprey.

The unit has low potential for locatable and leasable minerals. Cinder material pits and many potential sites are located throughout the unit. Most of the special land uses and linear rights-of-way in the Williams District are in this management area. It also contains three classified electronic sites.

A substantial portion of this management area has been inventoried for heritage resources. Site densities vary from low to high. All sites have not been fully inventoried nor evaluated for disposition. The Beale Wagon Road Historic Trail and the Overland Road Historic Trail cross portions of the unit.

Recreation use within this area is moderate to high. Primary recreation activities are big game hunting, dispersed camping, fishing, sight-seeing, and hiking. There is some off-road vehicle use. The predominate recreation opportunity spectrum classification is roaded and natural appearing.

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The area is summer range for cattle and sheep; most of the area is satisfactory range condition. Permitted grazing use is generally in balance with grazing capacity.

The fuel profile is conducive to high intensity wildland fires that can result in destruction or heavy damage to resources and developed facilities. Prompt appropriate management response must be instituted when the threat of high intensity fire exists.

Geographic Area 10 – Tusayan Forestland: 86,250 Acres

This area is located in the central section of the Tusayan Ranger District. It is an elevated plain with numerous drainage systems. Elevations range from 6,700 feet to 6,900 feet. Drainage systems are well-defined and flows are ephemeral. The average annual precipitation is approximately 18 inches.

Ponderosa pine vegetation makes up the majority of this management area. Gambel oak is scattered throughout as an understory component. Pinyon pine and Utah juniper comprise a substantial component of the vegetative type. Big sagebrush, snakeweed, blue grama, mutton bluegrass, mountain muhly, and junegrass are the predominant forage species.

The principal elk calving, deer and pronghorn antelope fawning, and turkey nesting habitat in the Tusayan District are located here. The category two sensitive species, *Chrysothamnus molestus*, is known to occur in this area with other sensitive species occurrence possible. The only fishery is Russell Tank. Where present, the management indicator species are elk, turkey, mule deer, goshawk, pygmy nuthatch, hairy woodpecker, pronghorn antelope, and plain titmouse.

Riparian indicator species are Lucy's warbler, yellow breasted chat, Lincoln's sparrow and aquatic invertebrates.

The area has moderate potential for uranium. Copper and other minerals may be found in association with uranium deposits. The area has low to moderate potential for oil and gas.

There are high densities of heritage resource sites, but inventoried heritage resource sites have generally not been evaluated for final disposition. Hull Cabin Historic District and Grandview Lookout Tower/Cabin are listed in the National Register of Historic Places and are interpreted to the public.

Recreation use within the unit is moderate, although there are several areas of concentrated use. Use consists mostly of dispersed camping, hunting, and sight-seeing. A portion of the Arizona Trail crosses the management area. The predominate recreation opportunity spectrum class is roaded and natural appearing.

Most of the area is grazed by cattle from late spring until fall. Permitted grazing use is not presently in balance with grazing capacity. Proper distribution of livestock is difficult to obtain due to the lack of water.

The fuels profile is variable with areas of high hazard fuel loading and areas of very sparse fuels.

Geographic Area 13 - Kaibab Plateau Forestland: 268,719 Acres

Geographic Area 13 was formerly Management Areas 13, 14, 15, 17 and 18. This area is located in the middle of the North Kaibab Ranger District. It is part of an elevated plain dissected by numerous drainage systems. Elevations range from 7,000 feet to over 9,000 feet. Drainage systems are well-defined and flows are ephemeral. Annual precipitation ranges from 18 to 30 inches.

Ponderosa pine predominates in most of this management area, except at higher elevations and

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on cooler sites. Understory species include mutton bluegrass, blue grama, squirreltail, junegrass, *Carex* sp., and mountain muhly.

Mixed conifer and spruce-fir vegetation cover a major portion of this area. Aspen is scattered throughout in pure stands and as a component of both the overstory and understory vegetation. In openings and thinned stands important forage producers are pine dropseed, mountain muhly, tall oatgrass, weeping brome, and smooth brome. The forb component includes yarrow, ragweed, columbine, sandwort and cinquefoil. In dense conifer stands, *Carex* sp. and the forb component is essentially the only understory vegetation.

Pine stringers are an important feature in the southwestern part of this area and are valuable turkey habitat. The pine component along the western edge of the mixed conifer provides summer turkey and mule deer habitat and provides travelways between summer and winter ranges. Overall, this area provides important summer turkey and mule deer habitat. All of the area provides habitat for Kaibab squirrels, with red squirrels in the mixed conifer. Numerous openings in the forest including old, small clearcuts in the mixed conifer type, aspen stands and grassy meadows provide biotic diversity. The sensitive plant species *Castilleja kaibabensis*, *Lesquerella kaibabensis*, and *Penstemon virgatus* ssp. *pseudoputus* are known to occur in this management area with other sensitive species occurrence possible. The sensitive plant species *Rosa stellata* was thought to occur in this management area. Recent surveys have not found *Rosa stellata* on the Forest, but potential habitat is present and populations are nearby. Pure aspen stands have, historically, provided the best foraging areas, however invasion by conifers has suppressed the diversity and abundance of this forage resource. Management indicator species where present are turkey, mule deer, Kaibab squirrel, goshawk, red squirrel, plain titmouse, hairy woodpecker, pygmy nuthatch, and yellow-bellied sapsucker. All of this management area is in the Grand Canyon National Game Preserve.

Oxidized copper ores were produced from numerous prospects in the Jacob Lake and Warm Springs area until 1950. The United States acquired the surface estate of these copper properties through land exchanges; however the mineral rights are reserved to third parties until 2000. Occasional prospecting of these properties is expected to continue, although no development proposals are anticipated. The area has moderate potential for uranium, but the entire unit is closed to entry under the mining laws. The area has low to moderate potential for oil and gas; leases have been issued for portions of the unit north of Jacob Lake. Oil and gas prospecting activities, and possibly exploration, are likely to continue.

The wide range of vegetation types represented in the area provide visual diversity which is a major feature of this scenic area. Forest roads access vista points on the rim of the Grand Canyon and other dispersed recreation attractions. These vista points and other attractive spots provide dispersed camping and sight-seeing, which along with hunting, are the major recreational activities in the area. In the fall, many visitors enjoy the scenic contrast provided by the colorful aspen foliage. Some cross-country skiing and snowmobiling activity has developed during the winter. The entire unit is classified as roaded and natural appearing.

This area provides summer grazing for cattle and horses. Open grassy parks and seeded openings in the forest provide most of the grazing capacity. Permitted grazing use is in balance with estimated grazing capacity.

The fuel profile is conducive to large high intensity wildland fires with a potential for very high resource damage.

Standards:

The following additional standards apply only to GAs 2, 10 and 13. Deviation from compliance with a standard requires amendment of the Forest Plan.

1. Implement resource operations and improvements which contribute to achievement of desired conditions and fulfillment of the Forest Service mission. (Resource operations and improvements are specified in Forest Service Handbook (FSH) 1309.16, National Activity Structure Handbook).
2. Identify habitat management territories for threatened, endangered, or sensitive plant or animal species that are consistent with the conservation strategy and the recovery plan established for the species through on-the-ground surveys or record searches. Habitat needs for Federally listed species will take precedence over unlisted species, endangered species take precedence over threatened species and sensitive species take precedence over non-sensitive species.
3. Identify heritage properties through on-the-ground survey or record search that may be affected by resource operations or improvements; evaluate these properties for their eligibility for inclusion in the National Register of Historic Places. When eligible properties are found, apply criteria of effect as specified in the applicable protocol.
4. Identify and portray, describe, or quantify existing conditions in the landscape. If the land area selected for implementation of a resource operation or improvement is not a specified landscape, an ad hoc area shall be defined and geographically located during the initial stages of Forest Plan Implementation. Standards that apply to the implementation of resource operations or improvements in landscapes, apply as well to resource operations or improvements in ad hoc areas.
5. Formulate and portray, describe, or quantify management objectives and desired conditions for the landscape. In landscapes that involve habitat for threatened, endangered, or sensitive plant or animal species, formulate management objectives and desired conditions for each designated management territory. Formulate, design, and implement resource operations or improvements that contribute to the achievement or maintenance of these management objectives and desired conditions.
6. Consult with appropriate tribal, state, county, or local government agencies regarding existing conditions, desired conditions, management objectives, proposed intervention and resource improvement actions for the landscape.
7. Formulate, design, and propose resource operations or improvements that contribute, over time, to the achievement or maintenance of desired resource or ecological conditions in landscapes. Consult when applicable:
 - a. Survey and inventory protocols for TE&S species.
 - b. Recovery plans and conservation strategies for TE&S species.
 - c. Formal Consultation Reports.
 - d. Guidelines for resource operations and improvements.
 - e. Intergovernmental agreements and memoranda of understanding.
 - f. Forest Service Manuals and Handbooks.
 - g. Management review and resource monitoring evaluation reports.
 - h. Technical reports and bulletins, research papers, handbooks, monographs, and other documents in the literature.
 - i. Tribal, state, and local government input.
 - j. Public input.
8. Consult with appropriate Indian tribes and individuals regarding the formulation and design of on-the-ground resource operations, research activities, or improvements in areas with known or suspected socio-cultural or religious significance.

9. Prepare a biological assessment and evaluation (BA&E) to document the effect of the selected action on the habitat and on each individual in the population of threatened or endangered species.
10. For selected actions that require preparation of an environmental analysis or environmental impact statement, prepare a biological assessment and evaluation (BA&E) to document the effect of the selected action on the viability of the population of the sensitive species in the EMA.

Guidelines

These additional guidelines apply only to resource operations and improvements in GAs 2, 10, and 13. Consistent with the published "Draft Environmental Impact Statement for the Proposed Kaibab National Forest Plan, Amended" and "Proposed Kaibab National Forest Plan, Amended", under which these guidelines were analyzed, the following direction from the proposed Plan applies:

"These provide guidance for the conduct of various resource operations or improvements. Deviation from compliance with a guideline does not require amendment of the forest plan, but a departure from a guideline must be discussed in the appropriate decision document."

This direction applies to the following guidelines. It does **not** apply to guidelines for Mexican spotted owls, northern goshawks, old growth or grazing which were developed in the regional amendment and listed previously in this document.

Planning Guidelines:

Planning guidelines provide guidance for planning resource operations or improvements in EMAs or landscapes.

1. Identify, describe, and geographically locate existing conditions in the implementation land area, regarding:
 - a. National Forest lands.
 - b. Research natural areas.
 - c. Wilderness and other administrative designations.
 - d. Ecosystem Management Areas.
 - e. Landscapes.
 - f. Ad hoc areas.
 - g. Administrative, fire, and other facilities.
 - h. Water locations and water rights.
 - i. Roads, trails, airports, and heliports.
 - j. Fuel loadings.
 - k. Ecological land units (aka TES units or SM units).
 - l. Range allotments and pastures.
 - m. Range utilization, condition and trend.
 - n. Range improvements.
 - o. Heritage resource properties.
 - p. Utility corridors and other special land uses.
 - q. NZ: Visual quality objectives; SZ: Scenic Integrity Objectives.
 - r. Existing vegetation.
 - s. Meadows and grasslands.
 - t. Management territories for threatened, endangered, or sensitive species.
 - u. Management territories for other plant or animal species.
 - v. Wetlands.
 - w. Recreation opportunity spectrum.
 - x. Recreation sites, including RARE II areas.
 - y. Mineral sites.
 - z. Off-road vehicular closure areas.
2. Identify and portray desired forest site conditions for the landscape or ad hoc area at the twenty-year and forty-year timemarks.
3. Identify, interpret, and expose public issues, management concerns, and resource opportunities relevant to the landscape.
4. Describe and geographically locate, using geographic information systems technology,

the selected set of proposed intervention or resource improvement actions designed to accelerate progress toward desired conditions or maintain desired conditions. Also:

- a. Geographically identify and locate, the analysis area (aka affected area) relevant to each proposed intervention or resource improvement action.
 - b. For each analysis area, predict the expected effects and resultant forest-site conditions for the five-year, twenty-year, and forty-year timemarks.
 - c. For each analysis area, predict the expected effects and resultant forage conditions for the one-year, five-year, and ten-year timemarks.
 - d. Identify and geographically locate possible conflicts between proposed land use, occupancy, or resource intervention or improvements actions and tribal, state, or local governmental agency interests, missions, or ordinances. Disclose these conflicts and the effects of not being in compliance with the local requirement in the environmental impact statement or environmental assessment. Decision to override a local requirement must be explained in the appropriate decision document.
 - e. Identify and establish monitoring activities for each proposed intervention or resource improvement action.
5. Formulate alternatives to proposed intervention or resource improvement actions not categorically excluded from documentation in an environmental document.
 6. Document findings of environmental analysis, disclose the expected environmental effects of proposed actions, and publish implementation decisions as prescribed by NEPA and its

implementing regulations or regulations of the Secretary of Agriculture.

Implementation Guidelines

The following guidelines are to be considered in the conduct of various resource operations and improvements.

Guidelines for Heritage Resource Operations:

1. Revise heritage overviews to meet specific management needs.
2. In consultation with the SHPO and the Advisory Council on Historic Preservation, manage heritage resource sites during the conduct of undertakings to achieve a "No Effect" finding, when possible. When sites will be affected, consult on appropriate treatment measures.
3. Provide necessary site protection in advance of undertakings. Utilize rejection, denial, redesign or relocation of proposed resource operations to provide in-place preservation of heritage resources in the following circumstances:
 - a. Present methods of investigation and data recovery cannot realize the current research potential of the sites.
 - b. Sites are likely to have greater importance for addressing future research questions than current ones.
 - c. Heritage values derive primarily from qualities other than research potential, and those values are fully realized only when the heritage remains exist undisturbed in their original context (e.g., association with significant historical persons or events, special ethnic or religious values, or unique interpretive values).
 - d. Heritage resources are important primarily for the quality of their architecture and the integrity of their setting.

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- e. In place preservation is necessary to accomplish the objectives of the State Historic Preservation Plan. In-place preservation is necessary to accomplish the objectives of the State Historic Preservation Plan.
 - f. Site densities make data recovery economically infeasible, or require unattainable operating conditions.
4. Include site protection and liability clauses in Forest contracts, permits and leases that are likely to affect heritage resources.
 5. Consult with concerned Indian tribes and individuals for advice and input regarding heritage resource site data recovery programs.
 6. Base the frequency and priority for site inspection and monitoring on its relative susceptibility to rapid deterioration or human disturbance. Monitor sites listed and nominated to the National Register biannually. Inspect eligible sites periodically.
 7. Use signing, fencing, administrative closure, increased patrolling, investigations, interpretive programs, stabilization and data recovery, as appropriate, to protect heritage resources.
5. Revise recreation opportunity guides as necessary.
 6. Operate and maintain heavily used dispersed areas and facilities to standard service management.
 7. Formulate and implement control measures where and when the following damage occurs:
 - a. Soil compaction.
 - b. Loss of vegetative cover.
 - c. Tree damage and mortality.
 - d. Deterioration of water quality.
 8. Prohibit competitive ORV events.
 9. Maintain trails to maintenance level 3 or better.

Guidelines for Visual Resource Operations:

1. NZ: Refer to Visual Quality Objective (VQO) Map for visual management objectives and the location of visual features.
2. NZ: Manage visual features to meet their assigned visual quality objective.
3. NZ: Enhance visual resource diversity in areas with retention VQO.

Guidelines for Recreation Resource Operations and Improvements:

1. NZ: Refer to Recreation Opportunity Spectrum Map for recreation management objectives.
2. Consult with Indian tribes regarding development of interpretive opportunities of prehistoric occupations.
3. Monitor off-road vehicle (ORV) use; prevent resource damage and user conflicts.
4. Prepare district recreation operation and maintenance plans annually.

Guidelines for Rangeland Resource Operations and Improvements:

1. Favor native species in all revegetation activities.
2. Restrict livestock access to 30 percent of the shoreline of the stock tanks that have stable water levels with the capacity to grow emergent aquatic vegetation.
3. In pronghorn antelope range, remove net wire fences; in the interim, modify every one-half mile of such fence to facilitate movement.

Guidelines for Wildlife and Fish Resource Operations and Improvements:

1. In other coniferous forest timberland:
 - a. Encourage and promote oak and aspen.
 - b. Encourage diversity of plant species in the overstory, understory, and ground cover.
 - c. Turkey summer and winter home ranges.
 - (1) Provide not less than four roost-tree groups per 640 acres in winter range.
 - (2) Provide not less than two roost-tree groups per 640 acres in summer range.
 - (3) Minimize human disturbance in turkey nesting areas from April 15 to July 1.
 - d. Provide one permanent water source per 640 acres.
2. In seral grassland.
 - a. Maintain existing openings and create additional openings with high forb composition (25 percent).
 - b. Provide one permanent water source per 640 acres.
3. Establish an osprey nesting territory around existing nesting trees. Provide the following desired forest conditions in osprey nesting territories.
 - a. Provide, for every ten surface acres of water, not less than five acres of mature and overmature trees with not less than four snags, with heights, equal to, or greater than, the surrounding trees, and not less than 18 inches in dbh, per acre, for potential osprey nesting sites.
 - b. Minimize adverse activities within active nesting territories between April 1 and August 15.
 - c. Provide uneven-aged or irregular-aged stand conditions within a 10-chain zone around aquatic areas with five or more surface-acres of water.

Guidelines for Air and Watershed Resource Operations and Improvements:

1. Define, geographically identify and locate best management practices for the landscape during landscape planning and analysis. Apply best management practices to mitigate adverse effects of activities and maintain site soil productivity.

These practices include:

- a. Installation of water control structures or seeding lands in poor and very poor condition where the revegetation potential is moderately high to high and the slope is less than 40 percent.
 - b. Designate stream courses during landscape planning and analysis process.
 - c. Rehabilitate areas impacted by wildfire.
2. Exclude domestic livestock from treated areas for not less than two growing seasons.
 3. Maintain not less than three age classes of woody riparian species with ten percent of the woody plant cover in sprouts, suckers, seedlings, and saplings.
 4. Maintain not less than 90 percent of the potential stream shading from May to September along all perennial cold or cool water streams. Provide shade with tree and other vegetational cover.
 5. Maintain not less than 90 percent of the potential shrub cover in riparian areas.
 6. Maintain not less than 90 percent of total linear streambank in stable condition.
 7. Woody riparian communities in addition to riparian communities which are dominated by shrub and herbaceous species are rated in satisfactory or better condition.
 8. Select riparian areas for treatment based on relative scorecard condition rating with the lowest rating assigned to first treatment.

Guidelines for Timber Resource Operations and Improvements:

1. Inventory all forested lands on a 20-year cycle.
2. Apply group selection silviculture system and progress toward uneven-age site conditions.
3. Tree-group size should range from one to four contiguous acres in area, excepting areas with retention VQO (NZ), where tree-group regeneration areas should not exceed one-half acre in area.
4. Select tree-groups for entry (cutting) that contribute, both short-term and long-term, to progress toward desired distribution of tree-group conditions in the landscape.
5. Select tree-groups for regeneration cutting to achieve and maintain, over time, a diverse geographic distribution of tree-groups recognizing forest type, tree-size, and tree-group density.
6. Reserve three to five, adjacent, mistletoe-free trees (i.e. reserve-trees), 18 inches or larger at dbh, per acre in ponderosa pine tree-group regeneration areas.
7. Reserve six, adjacent, mistletoe-free trees (i.e. reserve-trees), 18 inches or larger at dbh, per acre in mixed conifer tree-group regeneration areas.
8. Reserve two groups of six adjacent, mistletoe-free trees (i.e. reserve-trees), 18 inches or larger at dbh, per acre in spruce-fir tree-group regeneration areas.
9. In northern goshawk existing nest areas, the nesting area may be thinned from below removing suppressed and intermediate trees, using prescribed fire or hand operated tools.
10. In northern goshawk replacement nest areas, tree-groups may be thinned from below; removing, in order: (1) mistletoe infected, (2) suppressed, (3) intermediate, and (4)

codominant individuals. Promote varied, irregular spacing between trees.

11. In forested areas, tree-groups may be thinned from below to achieve the desired tree-group conditions; removing, in order: (1) mistletoe infected, (2) suppressed, (3) intermediate, (4) codominant, and (5) dominant trees. Promote varied, irregular spacing between trees within tree-groups; promote interlocking tree crowns.
12. Salvage stands, or parts thereof, that are moderately or severely damaged by dwarf mistletoe, insects, fire, or windthrow using the uniform shelterwood or clearcutting with planting methods; restrict ORV use during stand re-establishment.
13. Logging residues from commercial sale areas may be made available for personal-use fuelwood.

Guidelines for Geologic and Mineral Resource Operations:

1. NZ: Discontinue common variety mineral material disposals from existing sources, rehabilitate existing material pits and prevent development of potential sites in:
 - a. Areas with semi-primitive or semi-primitive motorized recreation opportunity spectrum classifications.
2. Evaluate transportation proposals for mineral development based on:
 - a. Integration with other resource management uses.
 - b. NZ: Impacts on visual quality objectives.
 - c. Impacts on areas of concentrated recreation use.
 - d. NZ: Avoidance or mitigation of impacts on areas with recreation opportunity spectrum classifications of semi-primitive and semi-primitive motorized.

3. Impose the following operating constraints on leasable mineral prospecting and exploration activities to maintain visual and special resource objectives:
 - a. Restrict surface use and occupancy yearlong within foreground of heritage resource sites with National Register status.
 4. Incorporate the following limited surface use stipulations in oil and gas leases:
 - a. Prohibit surface occupancy yearlong in recreation, administrative and special use sites.
 - b. Restrict use and occupancy yearlong on slopes of 15 percent or greater to prevent loss of soil productivity and vegetative cover.
 - c. Prohibit surface occupancy yearlong within foreground of all sites listed on the National Register to protect historic values
 - d. Require replanting of areas impacted by operations in tree plantations at the cessation of project.
 5. Prohibit the construction of oil and gas well surface facilities in the following areas:
 - a. Within foreground of heritage resource sites with National Register status.
 6. Evaluate the need for the creation or development of areas with substitute or surrogate habitats, facilities and structures to replace areas of substantial loss or destruction from mineral activities.
 7. Impose the following operating constraints on locatable mineral prospecting and exploration activities to maintain wildlife habitat components and visual and special resource objectives:
 - a. Restrict surface use and occupancy yearlong in foreground of heritage resource sites with National Register status.
 8. Incorporate the following limited surface use stipulations in locatable mineral plans of operations for exploration:
 - a. Prohibit surface occupancy yearlong in recreation, administrative and special use sites.
 - b. Restrict use and occupancy yearlong on slopes of 15 percent or greater to prevent loss of soil productivity and vegetative cover.
 - c. Prohibit surface occupancy yearlong in foreground of all sites listed on the National Register to protect historic values
 - d. Require replanting of areas impacted by operations in tree plantations at the cessation of project.
 9. Prohibit the construction of mine surface facilities in the following areas:
 - a. In foreground of heritage resource sites with National Register status.
 10. Evaluate the need for the creation or development of areas with substitute or surrogate habitats, facilities and structures to replace areas of substantial loss or destruction from mineral activities.
- Guidelines for Realty Operations and Improvements:**
1. Allow expansion of existing major utility corridors and clearing of new corridors (refer to Corridor Map for location of major utility corridors). Attempt to avoid the following areas:
 - a. NZ: Areas with pristine, primitive or semi-primitive recreation opportunity spectrum classifications.
 - b. Areas with high heritage resource values.

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- c. Important wildlife habitat areas
 - d. NZ: Visually sensitive areas.
 - e. ORV closure areas.
 - f. Lands classified as suitable timberland.
2. Provide for joint use in corridors and combine uses to the extent possible in light of technical and environmental constraints.
 3. Electronic site permittees shall comply with technical standards and development provisions of site management plans. Site authorizations are restricted to those types of electronic installations specified in site management plans. The following guidelines apply to all classified electronic sites:
 - a. Maximize the number of compatible electronic uses on a minimum site area. If a proposed use can be accommodated on a site, but is incompatible with installations in existing buildings, additional buildings may be authorized. Additional buildings are subject to the same joint-use stipulations that apply to existing structures. The Forest Service reserves the right to issue a prospectus for the construction of any building on-site.
 - b. Each non-exclusive permit reserves the right of the Forest Service to authorize other uses on the site, building, or antenna structures of the holder provided that such use does not interfere with holder's operations. Permittee improvements so used are entitled to reasonable compensation.
 - c. The Forest Service determines the combination of joint occupants, location of permittee improvements on site and the compatibility of users. Each proposed use is evaluated based on consideration of its impact on existing uses, potential future uses and demonstrated need.
 - d. Access development, improvement and maintenance shall be borne by a permittee or permittee association and must be authorized by a separate permit.
 - e. A Federal Communications Commission (FCC) license is required for all non-federal government permittees. Authority for enforcing the terms of an FCC license is vested in the FCC. Applicants are responsible for resolving interference problems with existing users. Within the terms of special-use permits and applicable regulations, the Forest Service reserves the right to determine which special-use permits or proposals must be terminated or denied when interference problems cannot be resolved.
 - f. NZ: Buildings and antennas are subject to painting, design and location requirements imposed by the Forest Service to meet visual quality objectives.
 - g. Permittees are required to organize and be members of a site users association.
 5. For Bill Williams Mountain electronic site, existing facilities may be replaced or remodeled with approval by the Forest Service. No new sites are available.
 6. Conduct annual field inspections of all special use permits and right-of-way grants. Review permit files annually for payment of fees, termination dates and adequacy of permit clauses. Adjust fees based on fair market value at five year intervals or when permits or grants are reissued. Update land use reporting system during annual file reviews.
 7. Attempt to acquire the Bull Basin private land tract adjacent to Kendrick Mountain Wilderness, the Sunflower Flat, and the Tule private land tracts by purchase or exchange to reduce potential for encroachment of nonconforming

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- uses. Acquire key wildlife areas such as riparian areas through acquisition authorities.
8. Refer to Land Adjustment Map for location of lands identified for disposal and acquisition.
 9. Evaluate land exchange proposals in the Tusayan area with these additional criteria:
 - a. Consideration of State and Grand Canyon National Park management objectives for the Grand Canyon.
 - b. Contribution to coordinated community development.
 - c. Social and economic impacts on other communities dependent on Grand Canyon tourism.
 - d. Support of the Coconino County Planning and Zoning Commission with necessary zoning changes.
 - e. Forest Service and Coconino County review of detailed development plans submitted by the proponent as part of the land exchange proposal.
 10. On lands designated as base-in-exchange:
 - a. Limit capital investments in range structural or non-structural improvements, recreation improvements, administrative improvements, or timber stand improvements, etc, to those that can be amortized during the anticipated period of continued government ownership.
 - b. Design heritage practices, such as timber sales, to protect or enhance real estate values by modifying marking prescriptions to retain a component of mature trees, ensuring timely disposal of activity slash and in designing location of permanent roads.
 - c. Avoid, where possible, the authorization of encumbering special uses that detrimentally effect real estate values and, where possible, locate those that must be accommodated in a manner to minimize impacts to the value of real estate.

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Guidelines for Facility Operations and Improvements:

1. Transportation Facilities includes roads, motorized trails, and user created wheel-tracks. Guidance for other trails is in the Recreation Resource Operations.
2. Close local roads and skid trails to vehicular travel with signing and physical obstructions such as gates or barriers.
3. Obliterate all temporary roads and skid trails; restrict ORV use until revegetated.
4. Maintain commensurate share roads for intended commercial use.
5. Maintain signs with routine maintenance and replacement schedule based on inventory and field inspection.
6. Replace surfacing at the rate of five percent per year.
7. Reestablish drainage and subgrade stabilization at the rate of two percent per year.

Guidelines for Activity and Natural Fuel Operations and Improvements:

1. In northern goshawk suitable nesting areas, preferred method for treating woody debris is fire use, next lopping and scattering, and lastly, hand piling.
2. In northern goshawk replacement nesting areas, preferred method for treating woody debris is fire use, next, lopping and scattering, and last, hand piling. Avoid slash piling with crawler tractor.
3. In northern goshawk PFAs, preferred method for treating woody debris is, in order, fire use, lopping and scattering, hand piling, machine

grapple piling, and lastly, crawler tractor piling.

4. In other forested areas, preferred method for treating woody debris is, in order, fire use, lopping and scattering, hand piling, machine grapple piling, and lastly, crawler tractor piling.
5. Priority for fuel treatment investment is given to:
 - a. Wildland-urban interface.
 - b. Areas which exceed the burning conditions which yield the historical, 50 percentile rate of fire spread in fuel model K (National Fire Danger Rating System).
 - c. Maintenance of existing fuelbreaks and fuel reduction corridors.

Guidelines for Fire Protection Operations and Improvements:

1. Do not allow wildland fires to spread to lands of other ownership.
2. Protect human life and improvements.
3. Provide fire protection to restrict wildland fire size to 20 acres.
4. Minimize acreage burned by high intensity fires(200+ BTU/FT/SEC).
5. Long term average annual burned area should not exceed 70 acres.
6. Fires from natural ignitions may exceed these size limits when burning within an approved area and declared a wildland fire use action.
7. Wildland fires which exceed, or are expected to exceed, the size objective for the GA or LUZ are considered escaped and appropriate management response is determined by a Wildland Fire Situation Analysis (WFSA). The WFSA will consider at least the following:
 - a. The resource management emphasis of threatened GAs or LUZs.