Appendix I. Crosswalk between Apache-Sitgreaves 1987 Forest Plan (as amended) and the Revised Forest Plan

The intent of this appendix is to provide greater transparency on how existing plan direction (e.g., standards and guidelines) was incorporated into the revised plan. The following table is not an exhaustive account of all plan direction, but rather highlights those issues that drove the plan revision process (e.g., priority needs for change) and or were critical to Appendix A (response to comments). The revised plan is strategic in nature, so many of the standards and guidelines in the current plan were reframed as desired conditions or guidelines in the revised plan. In other instances, existing plan guidance was modified or removed because it reiterated other law, regulation, or policy.

Acronyms and Abbreviations Used in this Appendix

ADOT	Arizona Department of Transportation
ADWR	Arizona Department of Water Resources
AQRV	Air Quality Related Values
ASNF	Apache-Sitgreaves National Forests
ASQ	Allowable Sale Quantity
AZGFD	Arizona Game and Fish Department
BA	Basal Area
BF	Board Feet
BMP	Best Management Practice
CCF	Hundred Cubic Feet
CFR	Code of Federal Regulations
CWD	Coarse Woody Debris
DBH	Diameter at Breast Height
DC	Desired Conditions
DEIS	Draft Environmental Impact Statement
DMC	Dry Mixed Conifer
DRC	Diameter at Root Collar
EIS	Environmental Impact Statement
EMA	Ecosystem Management Area
EO	Executive Order
ESA	Endangered Species Act
FSH	Forest Service Handbook

FSM	Forest Service Manual
FWS	Fish and Wildlife Service
GD	Guideline
GSL	Growing Stock Level
HUC	Hydrologic Unit Code
IRM	Integrated Resource Management
LMP	Land Management Plan
LTSYC	Long-Term Sustained Yield Capacity
MA	Management Area
MBF	Thousand Board Feet
MBTA	Migratory Bird Treaty Act
MCF	Thousand Cubic Feet
MIS	Management Indicator Species
MMBF	Million Board Feet
MOU	Memorandum of Understanding
MPO	Madrean Pine-Oak
MRNG	Management Recommendations for Northern Goshawk (RM GTR-217)
MSO	Mexican Spotted Owl
MSO RP	Mexican Spotted Owl Recovery Plan
NF	National Forest
NFMA	National Forest Management Act
NFS	National Forest System
NOGO	Northern Goshawk
NRHP	National Register of Historic Places
O&M	Operation and Maintenance
OBJ	Objective
OHV	Off-Highway Vehicle
ORV	Off-Road Vehicle
PAC	Protected Activity Center
PFA	Post-fledgling Family Area
PJ	Piñon-Juniper
PL	Public Law
PNVT	Potential Natural Vegetation Type
PP	Ponderosa Pine

PSD	Prevention of Significant Deterioration
RATM	Resource Access/Travel Management
RNA	Research Natural Area
ROS	Recreation Opportunity Spectrum
RU	Recovery Unit
SCS	Soil Conservation Service (Now Natural Resources Conservation Service)
SDWA	Safe Drinking Water Act
SF	Spruce-Fir
ST	Standard
T&E	Threatened and Endangered [species]
TCP	Traditional Cultural Property
TES	Threatened, Endangered, and Sensitive Species, Terrestrial Ecosystem Survey
TESH, TE Handbook, TES Handbook	Terrestrial Ecosystem Survey Handbook (USDA-FS 1986)
USC	United States Code
VSS	Vegetative Structural Stages
WMC	Wet Mixed Conifer
WQA	Wildlife Quiet Area
WUI	Wildland-Urban Interface
WURR	Water Uses, Requirements, and Rights

Air, Soil, Water, and Riparian

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Air, Soil, Water, & Riparian	Goals (P 16): Maintain, or where needed, enhance soil productivity and watershed condition. Put all areas in a satisfactory watershed condition by 2020. Maintain a high quality sustained water yield for Forest users and others. Identify and protect wetlands and floodplains."	**DC Overall Ecosystem Health** - Ecological components (e.g., soil, vegetation, water) are resilient to disturbances including human activities, and natural ecological disturbances (e.g., climate variability, fire, drought, wind, insects, disease, pathogens). **OBJ Overall Ecosystem Health**- During the planning period, improve the condition class on at least 10 priority 6th level HUC watersheds by removing or mitigating degrading factors [1]. **DC Soil -** Soil condition rating is satisfactory [2]. **DC Soil -** Soils are stable within their natural capability. Vegetation and litter limit accelerated erosion (e.g., rills, gullies, root exposure, topsoil loss) and contribute to soil deposition and development. **DC Soil -** Soil loss rates do not exceed tolerance soil loss rates [3]. **GD Soil -** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to soil resources. Where disturbance cannot be avoided, project specific soil and water conservation practices should be developed. **GD Soil** Coarse woody debris retention and/or creation should be used as needed to help retain long term soil productivity. **OBJ Soil** Annually, enhance or restore an average of 350 acres within priority 6th level HUC watersheds, including treating the causes of State and federally designated impaired or threatened waters to improve watershed condition and water quality. **DC Water Resources -** Water quality, stream channel stability, and aquatic habitats retain their inherent resilience to natural and other disturbances. **DC Water Resources -** Water resources maintain the capability to respond and adjust to disturbances without long term adverse changes. **DC Water Resources -** Vegetation and soil conditions above the floodplain protect downstream water quality, quantity, and aquatic habitat. **DC Water Resources -** Streamflows provide connectivity among fish populations and provide unobstructed routes critical for fulfilling needs	A new national protocol, the Watershed Condition Framework, is now in place setting objectives for watershed condition on all lands. Multiple objectives, desired conditions and guidelines support 87 Plan Goal. Included here are most relevant to original goal. FSM 2520, 2530, 2540, 2550

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		of aquatic, riparian dependent, and many upland species of plants and animals. **DC Water Resources -** Water quantity meets the needs for forest administration and authorized activities (e.g., livestock grazing, recreation, firefighting, domestic use, road maintenance). **DC Water Resources -** Water quality meets or exceeds Arizona State standards or Environmental Protection Agency water quality standards for designated uses. **DC Water Resources -** Water quality meets the needs of desirable aquatic species such as the California floater, northern and Chiricahua leopard frog, and invertebrates that support fish populations. **ST Water Resources -** Consistent with existing water rights, water diversions or obstructions shall at all times allow sufficient water to pass downstream to preserve minimum levels of water flow that maintain aquatic life and other purposes of national forest establishment. **GD Water Resources -** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to water resources. Where disturbance cannot be avoided, project specific soil and water conservation practices and BMPs should be developed. **GD Water Resources -** Streams, streambanks, shorelines, lakes, wetlands, seeps, springs and other bodies of water should be protected from detrimental changes [4] in water temperature and sediment to protect aquatic species and riparian habitat. **GD Water Resources -** Aquatic management zones should be in place between streams and disturbed areas and/or road locations to maintain water quality and suitable stream temperatures for aquatic species. **GD Water Resources -** To protect water quality and aquatic species, heavy equipment and vehicles driven into a water body to accomplish work should be completely clean of petroleum residue. Water levels should be below the gear boxes of the equipment in use. Lubricants and fuels should be sealed such that inundation by water should not result in leaks. **DC All PNVTs -** Vegetative ground cover (herbaceous vegetation and litter cover) is optimized [5] to protect and enrich soils and promote	

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		water infiltration. There is a diverse mix of cool and warm season grasses and desirable forbs species. **DC Riparian Areas -** The spatial extent of wetlands is maintained [6]. **DC Riparian Areas -** Riparian obligate species within wet meadows, around springs and seeps, along streambanks, and active floodplains provide sufficient [5] vegetative ground cover (herbaceous vegetation, litter, and woody riparian species) to protect and enrich soils, trap sediment, mitigate flood energy, stabilize streambanks, and provide for wildlife and plant needs. **OBJ Riparian Areas -** Annually, move 200 to 500 acres toward desired composition, structure, and function of streams, floodplains, and riparian vegetation. **OBJ Water Uses -** Annually, prepare at least one instream flow water rights application until water acquisition needs are complete to sustain riparian areas, fish, wildlife, and water-based recreation. **ST Water Uses -** Streams on NFS lands with high aquatic values and at risk from new water diversions shall be preserved and protected with instream flow water rights.	
Air, Soil, Water, & Riparian	Goals (P 15): Improve vegetation condition in riparian areas. This is an emphasis for entire plan. Improvements will be accomplished by reducing, or in some cases, eliminating adverse impacts from grazing, vehicles and over-use by man.	**OBJ Overall Ecosystem Health -** During the planning period, improve the condition class on at least 10 priority 6th level HUC watersheds by removing or mitigating degrading factors [1]. **OBJ Aquatic Habitat and Species -** Annually, enhance or restore 5 to 15 miles of stream and riparian habitat to restore structure, composition, and function of physical habitat for native fisheries and riparian-dependent species. **OBJ Aquatic Habitat and Species -** During the planning period, complete at least five projects (e.g., remove barriers, restore dewatered stream segments, or connect fragmented habitat) to provide for aquatic and riparian associated species and migratory species. **OBJ Riparian Areas -** Annually, move 200 to 500 acres toward desired composition, structure, and function of streams, floodplains, and riparian vegetation. **OBJ Riparian Areas -** Within the planning period, relocate, repair, improve, or decommission a minimum of 4 miles of National Forest	Retained through numerous Objectives, Desired conditions, standards and guidelines within soil, water, aquatic species and riparian sections.

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		System roads or trails that add sediment to streams, damage riparian vegetation, erode streambanks, cause gullies, and/or compact floodplain soils. **OBJ Riparian Areas -** Annually, remove an average of 2 miles of unauthorized roads or trails that add sediment to streams, damage riparian vegetation, erode streambanks, cause gullies, and/or compact floodplain soils. **OBJ Riparian Areas -** Within the planning period, enhance or restore 5 to 25 wet meadows, springs, seeps or cienegas to proper hydrologic function and native plant and animal species composition. **OBJ Riparian Areas -** Annually, work with partners to reduce animal damage to native willows and other riparian species on an average of 5 miles of riparian habitat. **DC Water Resources -** Instream flows provide for channel and floodplain maintenance, recharge of riparian aquifers, water quality, and minimal temperature fluctuations. **DC Water Resources -** Streamflows provide connectivity among fish populations and provide unobstructed routes critical for fulfilling needs of aquatic, riparian dependent, and many upland species of plants and animals. **DC Aquatic Habitat and Species** - Streamflows, habitat, and water quality support native aquatic and riparian-dependent species and habitat. **DC Aquatic Habitat and Species** - Habitat and ecological conditions are capable of providing for self-sustaining populations of native, riparian dependent plant and animal species. **ST All PNVTs -** Within each PNVT, vegetation management activities shall be designed to maintain or move plant composition towards a moderate to high plant community similarity as compared to site potential. **DC Riparian Areas -** Riparian-wetland conditions maintain water-related processes (e.g., hydrologic, hydraulic, geomorphic). They also maintain the physical and biological community characteristics, functions, and processes. **DC Riparian Areas -** Soil compaction from forest activities (e.g., vehicle use, recreation, livestock grazing) does not negatively impact	

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		riparian areas. **DC Riparian Areas -** The ecological function of riparian areas is resilient to animal and human use. **DC Riparian Areas -** Riparian soil productivity is optimized as described by the specific TES map unit [5] as indicated by the vigor of the herbaceous vegetation community. Based on species composition, ungrazed plant heights [7] range from 10 inches to 36 inches. **GD Riparian Areas -** Ground-disturbing projects (including prescribed fire) which may degrade long term riparian conditions should be avoided. **GD Riparian Areas -** Wet meadows, springs, seeps and cienegas should not be used for concentrated activities (e.g., equipment storage, forest product or mineral stockpiling, livestock handling facilities, special uses) that cause damage to soil and vegetation. **GD Riparian Areas -** Active grazing allotments should be managed to maintain or improve to desired riparian conditions. **GD Livestock Grazing -** New livestock troughs, tanks, and holding facilities should be located out of riparian areas to reduce concentration of livestock in these areas. Existing facilities in riparian areas should be modified, relocated, or removed where their presence is determined to inhibit movement toward desired riparian or aquatic conditions. **GD Livestock Grazing -** To prevent resource damage (e.g., streambanks) and disturbance to federally listed and sensitive wildlife species, trailing of livestock should not occur along riparian areas. Where no alternative route is available, approval may be granted where effective mitigation measures are implemented (e.g., timing of trailing, number of livestock trailed at one time). **GD Minerals and Geology -** Streambed and floodplain alteration or removal of material should not occur if it prevents attainment of riparian, channel morphology, or streambank desired conditions.	

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Air, Soil, Water, & Riparian	ST & GD (portions pertaining to soil and water) (p 34, 35) Existing as well as additional OHV closures are implemented when one or more of the following situations or areas exist, and ORV use is likely to occur that would result in significant adverse effects: Soil groups having a high sensitivity rating: slope, erosion hazards, and run-off potential Soils with surface textures of clay, clay loam and heavy silt loam, or soils where such textures are within 6 to 8 inches of the surface Effects of water quality such as increased sediment and turbidity. Also bacteriological and chemical problems due to heavy concentrations of users. Municipal watersheds Watershed restoration projects.	**GD Soils -** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to soil resources. Where disturbance cannot be avoided, project specific soil and water conservation practices should be developed. **DC Water Resources -** Vegetation and soil conditions above the floodplain protect downstream water quality, quantity, and aquatic habitat. **GD Water Resources -** Aquatic management zones should be in place between streams and disturbed areas and/or road locations to maintain water quality and suitable stream temperatures for aquatic species. **DC Riparian Areas -** Soil compaction from forest activities (e.g., vehicle use, recreation, livestock grazing) does not negatively impact riparian areas. **OBJ Riparian Areas -** Within the planning period, relocate, repair, improve, or decommission a minimum of 4 miles of National Forest System roads or trails that add sediment to streams, damage riparian vegetation, erode streambanks, cause gullies, and/or compact floodplain soils. **OBJ Riparian Areas -** Annually, remove an average of 2 miles of unauthorized roads or trails that add sediment to streams, damage riparian vegetation, erode streambanks, cause gullies, and/or compact floodplain soils. **GD Riparian Areas -** Wet meadows, springs, seeps and cienegas should not be used for concentrated activities (e.g., equipment storage, forest product or mineral stockpiling, livestock handling facilities, special uses) that cause damage to soil and vegetation.	Retained through numerous objectives, desired conditions and guidelines within riparian, aquatic species
Air, Soil, Water, & Riparian	Forest wide GD for MSO and NOGO Habitat (p 52, 54) Emphasize maintenance and restoration of healthy riparian ecosystems through conformance with forest plan riparian standards and guidelines. Management strategies should restore degraded riparian areas to good condition as soon as possible. Damage to riparian vegetation, stream banks, and channels should be prevented	**DC Water Resources -** Water quality, stream channel stability, and aquatic habitats retain their inherent resilience to natural and other disturbances. **DC Water Resources -** Vegetation and soil conditions above the floodplain protect downstream water quality, quantity, and aquatic habitat. **GD Water Resources -** Streams, streambanks, shorelines, lakes, wetlands, seeps, springs and other bodies of water should be	Retained through numerous objectives, desired conditions, standards and guidelines within soil, water, aquatic species, riparian and grazing sections.

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		protected from detrimental changes [4] in water temperature and sediment to protect aquatic species and riparian habitat. **GD Water Resources -** Aquatic management zones should be in place between streams and disturbed areas and/or road locations to maintain water quality and suitable stream temperatures for aquatic species. **DC Aquatic Habitat and Species -** Streamflows, habitat, and water quality support native aquatic and riparian-dependent species and habitat. **DC Aquatic Habitat and Species -** Habitat and ecological conditions are capable of providing for self-sustaining populations of native, riparian dependent plant and animal species. **OBJ Aquatic Habitat and Species -** Annually, enhance or restore 5 to 15 miles of stream and riparian habitat to restore structure, composition, and function of physical habitat for native fisheries and riparian-dependent species. **DC Riparian Areas -** Natural ecological disturbances (e.g., flooding, scouring) promote a diverse plant structure consisting of herbaceous, shrub, and tree species of all ages and size classes necessary for the recruitment of riparian-dependent species. **DC Riparian Areas -** Riparian-wetland conditions maintain water-related processes (e.g., hydrologic, hydraulic, geomorphic). They also maintain the physical and biological community characteristics, functions, and processes. **DC Riparian Areas -** Stream (lotic) riparian-wetland areas have vegetation, landform, and/or large coarse woody debris to dissipate stream energy associated with high water flow. **DC Riparian Areas -** Streams and their adjacent floodplains are capable of filtering, processing, and storing sediment; aiding floodplain development; improving floodwater retention; and increasing groundwater recharge. **DC Riparian Areas -** Vegetation and root masses stabilize streambanks, islands, and shoreline features against the cutting action of water. **DC Riparian Areas -** Willows (e.g., Bebb, Geyer, Arizona, Goodding's) are reproducing with all age classes present, where the	

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		potential exists. **DC Riparian Areas -** Diversity and density of riparian forest vegetation provides for breeding, escape, hiding, and resting cover for wildlife and provides travelways between other habitat areas and seasonal ranges. **DC Riparian Areas -** The ecological function of riparian areas is resilient to animal and human use. **DC Riparian Areas -** Riparian obligate species within wet meadows, around springs and seeps, along streambanks, and active floodplains provide sufficient [5] vegetative ground cover (herbaceous vegetation, litter, and woody riparian species) to protect and enrich soils, trap sediment, mitigate flood energy, stabilize streambanks, and provide for wildlife and plant needs. **DC Riparian Areas -** Riparian soil productivity is optimized as described by the specific TES map unit[5] as indicated by the vigor of the herbaceous vegetation community. Based on species composition, ungrazed plant heights [7] range from 10 inches to 36 inches. **DC Riparian Areas -** Large coarse woody debris provides stability to riparian areas and stream bottoms lacking geologic control (e.g., bedrock) or geomorphic features (e.g., functioning floodplains, stream sinuosity, width/depth ratio). **OBJ Riparian Areas -** Annually, move 200 to 500 acres toward desired composition, structure, and function of streams, floodplains, and riparian vegetation. **OBJ Riparian Areas -** Within the planning period, relocate, repair, improve, or decommission a minimum of 4 miles of National Forest System roads or trails that add sediment to streams, damage riparian vegetation, erode streambanks, cause gullies, and/or compact floodplain soils. **OBJ Riparian Areas -** Annually, remove an average of 2 miles of unauthorized roads or trails that add sediment to streams, damage riparian vegetation, erode streambanks, cause gullies, and/or compact floodplain soils. **OBJ Riparian Areas -** Within the planning period, enhance or restore 5 to 25 wet meadows, springs, seeps or cienegas to proper hydrologic function and native plant and animal species composition. **OBJ Riparian Areas -** Annually, work with partners to reduce animal	

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		damage to native willows and other riparian species on an average of 5 miles of riparian habitat. **GD Riparian Areas -** Ground-disturbing projects (including prescribed fire) which may degrade long term riparian conditions should be avoided. **GD Riparian Areas -** Wet meadows, springs, seeps and cienegas should not be used for concentrated activities (e.g., equipment storage, forest product or mineral stockpiling, livestock handling facilities, special uses) that cause damage to soil and vegetation. **GD Riparian Areas -** Active grazing allotments should be managed to maintain or improve to desired riparian conditions.	
Air, Soil, Water, & Riparian	Forest wide ST for NOGO Habitat (p 54) Manage the ground surface layer to maintain satisfactory soil conditions i.e. to minimize soil compaction; and to maintain hydrologic and nutrient cycles.	**DC Soils -** Ecological and hydrologic functions are not impaired by soil compaction. **DC Soils -** Soil condition rating is satisfactory [2]. **DC Soils -** Soils are stable within their natural capability. Vegetation and litter limit accelerated erosion (e.g., rills, gullies, root exposure, topsoil loss) and contribute to soil deposition and development. **DC Soils -** Soil loss rates do not exceed tolerance soil loss rates [3]. **DC Soils -** Vegetation and litter is sufficient to maintain and improve water infiltration, nutrient cycling, and soil stability. **GD Soils -** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to soil resources. Where disturbance cannot be avoided, project specific soil and water conservation practices should be developed. **GD Soils -** Severely disturbed sites should be revegetated with native plant species when loss of long term soil productivity is predicted.	Carried forward through modified DCs, GDs and management approach.
Air, Soil, Water, & Riparian	Forest wide GDs for Ground Surface Layer (p 59). Piling of debris should be limited. When necessary, hand or grapple piling should be used to minimize soil compaction within piles and to minimize forest floor and herbaceous layer displacement and destruction.	**DC Soils -** Ecological and hydrologic functions are not impaired by soil compaction. **DC Soils -** Soil condition rating is satisfactory [2]. **DC Soils -** Soils are stable within their natural capability. Vegetation and litter limit accelerated erosion (e.g., rills, gullies, root exposure, topsoil loss) and contribute to soil deposition and development. **DC Soils -** Soil loss rates do not exceed tolerance soil loss rates [3]. **DC Soils -** Vegetation and litter is sufficient to maintain and improve	Carried forward through modified DCs, GDs and management approach.

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		water infiltration, nutrient cycling, and soil stability. **GD Soils -** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to soil resources. Where disturbance cannot be avoided, project specific soil and water conservation practices should be developed. **GD Soils -** Severely disturbed sites should be revegetated with native plant species when loss of long term soil productivity is predicted.	
Air, Soil, Water, & Riparian	SG (p 64) Salt is not placed within ¼ mile of any riparian area or water.	**DC Riparian Area -** Soil compaction from forest activities (e.g., vehicle use, recreation, livestock grazing) does not negatively impact riparian areas **GD Riparian Area -** Ground-disturbing projects (including prescribed fire) which may degrade long term riparian conditions should be avoided. **GD Riparian Area -** Wet meadows, springs, seeps and cienegas should not be used for concentrated activities (e.g., equipment storage, forest product or mineral stockpiling, livestock handling facilities, special uses) that cause damage to soil and vegetation. **GD Riparian Area -** Active grazing allotments should be managed to maintain or improve to desired riparian conditions. **GD Livestock Grazing -** New livestock troughs, tanks, and holding facilities should be located out of riparian areas to reduce concentration of livestock in these areas. Existing facilities in riparian areas should be modified, relocated, or removed where their presence is determined to inhibit movement toward desired riparian or aquatic conditions. **GD Livestock Grazing -** To minimize potential resource impacts from livestock, salt or nutritional supplements should not be placed within a quarter of a mile of any riparian area or water source. Salt or nutritional supplements should also be located to minimize herbivory impacts to aspen clones.	Retained through numerous objectives, desired conditions and guidelines within riparian, aquatic species
Air, Soil, Water, & Riparian	SG (p 66) Watershed condition will be updated and periodically mapped. Amend the forest plan, as appropriate, to reflect changes as new data becomes available. Determine forest watershed conditions using R-3 Hydrology	**OBJ Overall Ecosystem Health -** During the planning period, improve the condition class on at least 10 priority 6th level HUC watersheds by removing or mitigating degrading factors [1]. **Management Approach Overall Ecosystem Health -** There is a concerted effort to restore priority 6th level HUC watersheds by	Watershed Condition was evaluated forest wide using Watershed Condition and Tracking Protocol in 2010 and

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	Note No. 20 (water resources inventory).	reducing degrading factors. Priority 6th level watersheds are identified on an ongoing basis using the Watershed Condition Framework process. The 6-step "Watershed Condition Framework" for improving watershed condition class includes (1) rating watersheds for current condition, (2) prioritizing watersheds for treatment, (3) developing watershed action plans for the entire watershed (including non-NFS lands) that identify specific project level activities needed to change condition classes, (4) implementing integrated suites of projects within priority watersheds, (5) tracking restoration accomplishments, and (6) monitoring the effectiveness of change in condition.	updated in 2012 following Wallow Fire.
Air, Soil, Water, & Riparian	SG (p 66) Utilize the Forests' Geographic Information System and Terrestrial Ecosystem Survey information as one tool to evaluate grazing capability based upon watershed condition, vegetation and other appropriate factors by March 1990.	**Livestock Grazing Suitability Section** - Capability is the potential of an area of land to produce resources and supply goods and services. Capability depends upon current conditions and site conditions such as climate variability, slope, landform, soils, and geology. Capability was determined in the 1980s during the first round of forest planning by compiling data from the most recent individual grazing allotment analyses. Landscape scale conditions have not changed significantly since this evaluation.	Was completed in 1990. Capability continues to be determined at the project NEPA level.
Air, Soil, Water, & Riparian	SG (p 67) Survey proposed earthen stock tank sites for location accuracy, soil suitability, and legal requirements. Design structures built in drainages to meet appropriate flood occurrence intervals. Assure that on new stock tanks appropriate documents for construction and water rights applications are filed in a timely manner and according to State law.	**DC Water Uses -** Apache-Sitgreaves NFs water rights are secure and contribute to livestock, recreation, wildlife, and administrative uses. **DC Water Uses -** Dams, diversions, or other water control structures are designed, maintained, and operated to conserve water resources. **ST Water Uses -** Forest Service water rights must be put to beneficial use and that use documented and consistent with ADWR regulations.	Specific portions of this direction were not carried forward because they duplicate State of Arizona State Revised Statutes Title 45 - Waters FSM 2527, EO 11514, EO 11988, EO 11990 FSM 2540
Air, Soil, Water, & Riparian	SG (p 68) Conduct Terrestrial Ecosystem Survey to standards, policies, and guidelines as defined in 2550 TES Handbook and National Cooperative Soil Survey. This is accomplished by the Arizona TES Crew.	**OBJ Soils -** During the planning period, update the Terrestrial Ecosystem Survey to reflect current conditions and concepts.	TES for ASNF completed and Published in 1987
Air, Soil, Water, & Riparian	SG (p 68) Ensure compliance with Public Law 92-500 "Federal Water Pollution Control Act" and amendments including Clear Water Act of	**OBJ Overall Ecosystem Health -** During the planning period, improve the condition class on at least 10 priority 6th level HUC watersheds by removing or mitigating degrading factors [1].	Generally do not repeat Law, Regulation, Policy in Revised plan,

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	1977. Implement best management practices to prevent water quality degradation. Implement improvement action where water quality degradation does occur, except for special cases where temporary or short term degradation is occurring from road crossing construction or similar situations.	**OBJ Soils -** Annually, enhance or restore an average of 350 acres within priority 6th level HUC watersheds, including treating the causes of State and federally designated impaired or threatened waters to improve watershed condition and water quality. **GD Soils -** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to soil resources. Where disturbance cannot be avoided, project specific soil and water conservation practices should be developed. **DC Water Resources -** Vegetation and soil conditions above the floodplain protect downstream water quality, quantity, and aquatic habitat **DC Water Resources -** Water quality meets or exceeds Arizona State standards or Environmental Protection Agency water quality standards for designated uses. **GD Water Resources -** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to water resources. Where disturbance cannot be avoided, project specific soil and water conservation practices and BMPs should be developed. **GD Water Resources -** Streams, stream banks, shorelines, lakes, wetlands, seeps, springs and other bodies of water should be protected from detrimental changes [4] in water temperature and sediment to protect aquatic species and riparian habitat. **GD Water Resources -** Aquatic management zones should be in place between streams and disturbed areas and/or road locations to maintain water quality and suitable stream temperatures for aquatic species. **GD Water Resources -** Short term impacts in watersheds containing Outstanding Arizona Waters may be allowed when long term benefits to water quality, riparian areas, and aquatic resources would occur. **GD Water Resources -** To protect water quality and aquatic species, heavy equipment and vehicles driven into a water body to accomplish work should be completely clean of petroleum residue. Water levels should be below the gear boxes of the equipment in use. Lubricants and fuels should be sealed such that inundation by water should not result in leaks.	however, there are DC, ST and GD that were carried forward. FSM 2532

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Air, Soil, Water, & Riparian	SG (p 69) Provide adequate drainage to prevent concentrated flow and sediment laden runoff from entering water courses.	**GD Soils -** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to soil resources. Where disturbance cannot be avoided, project specific soil and water conservation practices should be developed. **DC Water Resources -** Water quality meets or exceeds Arizona State standards or Environmental Protection Agency water quality standards for designated uses. **GD Water Resources -** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to water resources. Where disturbance cannot be avoided, project specific soil and water conservation practices and BMPs should be developed. **GD Water Resources -** Aquatic management zones should be in place between streams and disturbed areas and/or road locations to maintain water quality and suitable stream temperatures for aquatic species.	Carried forward in DCs, GDs and management approaches
Air, Soil, Water, & Riparian	SG (p 69) Designate stream courses to receive protection during projects (e.g., timber sales, road work). Those streams shown on 7.5 minute quads as a stream course should be considered for designated stream courses.	**GD Water Resources -** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to water resources. Where disturbance cannot be avoided, project specific soil and water conservation practices and BMPs should be developed. **GD Water Resources -** Aquatic management zones should be in place between streams and disturbed areas and/or road locations to maintain water quality and suitable stream temperatures for aquatic species.	Carried forward through modified DCs, GDs and management approach.
Air, Soil, Water, & Riparian	SG (p 69) Roads will be located away from stream bottoms to minimize sediment delivery to the stream course whenever possible. Sediment Production from roads may be minimized by methods such as: a. Outsloping of road. b. Lead-out ditches. c. Energy dissipaters on culverts. d. Grass seeding e. Rock riprap.	**GD Water Resources -** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to water resources. Where disturbance cannot be avoided, project specific soil and water conservation practices and BMPs should be developed. **GD Water Resources -** Streams, streambanks, shorelines, lakes, wetlands, seeps, springs and other bodies of water should be protected from detrimental changes [4] in water temperature and sediment to protect aquatic species and riparian habitat. **GD Water Resources -** Aquatic management zones should be in place between streams and disturbed areas and/or road locations to maintain water quality and suitable stream temperatures for aquatic species.	Carried forward through modified GDs and management approaches.

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Air, Soil, Water, & Riparian	SG (p 69) Evaluate projects to determine if detailed soil survey (order 2) and hydrologic survey is needed.	Direction not carried forward into revised plan.	This direction was not carried forward because it duplicates law, regulation, or policy found in FSM 2520, FSM 2550
Air, Soil, Water, & Riparian	SG (p 69) Conserve soil and water resources; avoid permanent impairment of site productivity and ensure conservation of soil and water resources. The minimum soil and resource management requirement is to control surface water runoff and erosion at not less than tolerance conditions. 36 CFR 218.23 and 27.	**GD Soils -** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to soil resources. Where disturbance cannot be avoided, project specific soil and water conservation practices should be developed. **DC Water Resources -** Vegetation and soil conditions above the floodplain protect downstream water quality, quantity, and aquatic habitat **DC Water Resources -** Water quality meets or exceeds Arizona State standards or Environmental Protection Agency water quality standards for designated uses. **GD Water Resources -** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to water resources. Where disturbance cannot be avoided, project specific soil and water conservation practices and BMPs should be developed. **GD Water Resources -** Streams, streambanks, shorelines, lakes, wetlands, seeps, springs and other bodies of water should be protected from detrimental changes [4] in water temperature and sediment to protect aquatic species and riparian habitat. **GD Water Resources -** Aquatic management zones should be in place between streams and disturbed areas and/or road locations to maintain water quality and suitable stream temperatures for aquatic species. **GD Water Resources -** Short term impacts in watersheds containing Outstanding Arizona Waters may be allowed when long term benefits to water quality, riparian areas, and aquatic resources would occur.	Carried forward through modified DCs, GDs and management approach.
Air, Soil, Water, & Riparian	SG (p 69) Soil disturbing activities, being planned on cinder cones and datil soils requires input from the forest soil scientist.	**DC Soils -** Ecological and hydrologic functions are not impaired by soil compaction. **DC Soils -** Soil condition rating is satisfactory [2]. **DC Soils -** Soils are stable within their natural capability. Vegetation	Carried forward through modified DCs, GDs and management approach.

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		and litter limit accelerated erosion (e.g., rills, gullies, root exposure, topsoil loss) and contribute to soil deposition and development. **DC Soils -** Soil loss rates do not exceed tolerance soil loss rates [3]. **DC Soils -** Vegetation and litter is sufficient to maintain and improve water infiltration, nutrient cycling, and soil stability. **GD Soils -** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to soil resources. Where disturbance cannot be avoided, project specific soil and water conservation practices should be developed. **GD Soils -** Severely disturbed sites should be revegetated with native plant species when loss of long term soil productivity is predicted.	
Air, Soil, Water, & Riparian	SG (p 69 and 113) Skidding and hauling should be restricted to soil moisture conditions which do not cause excessive soil compaction, displacement or puddling. These soils are included within TES units – 181, 182, 183, 191, 192, 193, 194, 201, 202, 532, 561, 562, 595, 942, 943, and 944. When possible limit logging activities (skidding, machine piling, etc.) on those soils to dry or frozen conditions.	**DC Soils -** Ecological and hydrologic functions are not impaired by soil compaction. **DC Soils -** Soil condition rating is satisfactory [2]. **DC Soils -** Soils are stable within their natural capability. Vegetation and litter limit accelerated erosion (e.g., rills, gullies, root exposure, topsoil loss) and contribute to soil deposition and development. **DC Soils -** Soil loss rates do not exceed tolerance soil loss rates [3]. **DC Soils -** Vegetation and litter is sufficient to maintain and improve water infiltration, nutrient cycling, and soil stability. **GD Soils -** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to soil resources. Where disturbance cannot be avoided, project specific soil and water conservation practices should be developed. **GD Soils -** Severely disturbed sites should be revegetated with native plant species when loss of long term soil productivity is predicted.	Carried forward through modified DCs, GDs and management approaches.
Air, Soil, Water, & Riparian	SG (p 69) Plan/accomplish erosion reduction projects on areas disturbed by project activities where the site is not expected to stabilize within 2 years or when water quality degradation will occur.	**DC Soils -** Ecological and hydrologic functions are not impaired by soil compaction. **DC Soils -** Soil condition rating is satisfactory [2]. **DC Soils -** Soils are stable within their natural capability. Vegetation and litter limit accelerated erosion (e.g., rills, gullies, root exposure, topsoil loss) and contribute to soil deposition and development. **DC Soils -** Soil loss rates do not exceed tolerance soil loss rates [3]. **DC Soils -** Vegetation and litter is sufficient to maintain and improve	Carried forward through modified DCs, GDs and management approaches.

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		water infiltration, nutrient cycling, and soil stability. **GD Soils -** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to soil resources. Where disturbance cannot be avoided, project specific soil and water conservation practices should be developed. **GD Soils -** Severely disturbed sites should be revegetated with native plant species when loss of long term soil productivity is predicted.	
Air, Soil, Water, & Riparian	SG (p 69) Plan/carry out fire rehabilitation where necessary to protect water and soil resources or to prevent unacceptable downstream damage.	**ST Landscape Scale Disturbance -** Threats to human safety and property shall be promptly addressed following landscape scale disturbance and mitigated through measures such as signing, temporary closures, or treatment. **GD Landscape Scale Disturbance -** Erosion control mitigation features should be implemented to protect significant resource values and infrastructure such as stream channels, roads, structures, threatened and endangered species, and cultural resources. **GD Landscape Scale Disturbance -** Projects and activities (e.g., revegetation, mulching, lop and scatter) should be designed to stabilize soils and restore nutrient cycling, if needed, and establish movement toward the desired conditions for the affected PNVT(s).	Direction is found in FSM 2523 BAER, additional ST GD in landscape Scale Disturbance Events section.
Air, Soil, Water, & Riparian	SG (p 70) Conserve and encourage efficient use (conservation) of water through project design and recommendations. Ensure compliance with executive order 11990 “Protection of Wetlands”, executive order 11988 “Floodplain Management”.	**DC Water Uses -** Apache-Sitgreaves NFs water rights are secure and contribute to livestock, recreation, wildlife, and administrative uses. **DC Water Uses -** Dams, diversions, or other water control structures are designed, maintained, and operated to conserve water resources. **ST Water Uses -** Forest Service water rights must be put to beneficial use and that use documented and consistent with ADWR regulations.	Specific portions of this direction were not carried forward because they duplicate law, regulation, or policy found in State of Arizona State Revised Statutes Title 45 -Waters FSM 2527, EO 11514, EO 11988, EO 11990 FSM 2540
Air, Soil, Water, & Riparian	SG (p 70) Design structures to be built/reconstructed in drainages to meet appropriate flood recurrence intervals.	Direction not carried forward into revised plan.	This direction was not carried forward because it duplicates law, regulation, or policy found in FSM 2527, EO 11514, EO 11988, EO

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
			11990 FSM 2540
Air, Soil, Water, & Riparian	SG (p 70) Design facilities to avoid situations that entrap users during flood events. Provide identified escape routes from high hazard floodplains.	Direction not carried forward into revised plan.	This direction was not carried forward because it duplicates law, regulation, or policy found in FSM 2527, EO 11514, EO 11988, EO 11990 FSM 2540ef
Air, Soil, Water, & Riparian	SG (p 70) Limit use of herbicides, insecticides, rodenticides, or other chemical agents as part of management activities to times and places where possible transport to or by surface or groundwater has a low probability of occurrence.	**GD Invasive Species -** Pesticide use should minimize impacts on nontarget plants and animals.	Carried forward through modified GDs and management approaches.
Air, Soil, Water, & Riparian	SG (p 70) Limit the use of certain facilities in floodplains to non-flood seasons or daylight hours only.	Direction not carried forward into revised plan.	This direction was not carried forward because it duplicates law, regulation, or policy found in FSM 2527, EO 11514, EO 11988, EO 11990 FSM 2540
Air, Soil, Water, & Riparian	SG (p 70) Accomplish flood hazard analysis and wetland evaluation on all proposed land exchanges.	Direction not carried forward into revised plan.	This direction was not carried forward because it duplicates law, regulation, or policy found in FSM 2527, EO 11514, EO 11988, EO 11990 FSM 2540
Air, Soil, Water, & Riparian	SG (p 70) Maintain suitable filter/buffer strips between stream courses and disturbed areas and/or road locations to: a. Maintain Suitable Stream Temperature b. Maintain Water Quality Standards	**GD Soils -** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to water resources. Where disturbance cannot be avoided, project specific soil and water conservation practices and BMPs should be developed. **GD Water Resources -** Aquatic management zones should be in place between streams and disturbed areas and/or road locations to maintain water quality and suitable stream temperatures for aquatic	Carried forward through modified GDs and management approaches.

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		species.	
Air, Soil, Water, & Riparian	SG (p 70) Protect surface resource conditions to maintain water quality of domestic water supplies.	**GD Soils -** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to water resources. Where disturbance cannot be avoided, project specific soil and water conservation practices and BMPs should be developed. **GD Water Resources -** Streams, streambanks, shorelines, lakes, wetlands, seeps, springs and other bodies of water should be protected from detrimental changes [4] in water temperature and sediment to protect aquatic species and riparian habitat. **GD Water Resources -** Aquatic management zones should be in place between streams and disturbed areas and/or road locations to maintain water quality and suitable stream temperatures for aquatic species.	Carried forward through modified GDs and management approaches.
Air, Soil, Water, & Riparian	SG (p 70 and 114) Evaluate soils information to predict areas where vegetation type conversion is likely to occur as a result of management activity. Determine the reforestation/revegetation potential prior to project initiation. (Ref. TE Handbook).	**DC All PNVTs -** Natural processes and human and natural disturbances (e.g., wildland fire, mechanical vegetation treatments) provide desired overall tree density, structure, species composition, coarse woody debris, and nutrient cycling. Natural fire regimes are restored. Uncharacteristic fire behavior is minimal or absent on the landscape. **DC All PNVTs -** Vegetation conditions allow for transition zones or ecotones between riparian areas, forests, woodlands, shrublands, and grasslands. Transition zones may shift in time and space due to changing site conditions from disturbances (e.g., fire, climate variability). **ST All PNVTs -** Within each PNVT, vegetation management activities shall be designed to maintain or move plant composition towards a moderate to high plant community similarity as compared to site potential. **ST All Forested PNVTs -** On lands suitable for timber production, timber harvest activities shall only be used when there is reasonable assurance of restocking within 5 years after final regeneration harvest. This also applies where wildland fire is used to create openings for tree regeneration purposes on suitable timber lands. Restocking level is prescribed in a site specific silvicultural prescription for a project treatment unit and is determined to be adequate depending on the objectives and desired conditions for the plan area. In some instances,	Carried forward through modified DC, ST, GDs and management approaches.

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		such as when lands are harvested or prescribed burned to create openings for firebreaks and vistas or to prevent encroaching trees, it is appropriate not to restock.	
Air, Soil, Water, & Riparian	SG (p 71) Maintain and enhance riparian vegetation along streams to maintain suitable water temperature and other conditions for stream flow.	**DC Water Resources -** Water quality, stream channel stability, and aquatic habitats retain their inherent resilience to natural and other disturbances. **DC Water Resources -** Vegetation and soil conditions above the floodplain protect downstream water quality, quantity, and aquatic habitat. **GD Water Resources -** Streams, streambanks, shorelines, lakes, wetlands, seeps, springs and other bodies of water should be protected from detrimental changes [4] in water temperature and sediment to protect aquatic species and riparian habitat. **GD Water Resources -** Aquatic management zones should be in place between streams and disturbed areas and/or road locations to maintain water quality and suitable stream temperatures for aquatic species. **DC Aquatic Habitat and Species -** Streams and aquatic habitats support native fish and/or other aquatic species providing the quantity and quality of aquatic habitat within reference conditions [8]. **DC Aquatic Habitat and Species -** Streamflows, habitat, and water quality support native aquatic and riparian-dependent species and habitat. **DC Aquatic Habitat and Species -** Habitat and ecological conditions are capable of providing for self-sustaining populations of native, riparian dependent plant and animal species. **OBJ Aquatic Habitat and Species -** Annually, enhance or restore 5 to 15 miles of stream and riparian habitat to restore structure, composition, and function of physical habitat for native fisheries and riparian-dependent species. **DC Riparian Areas -** Natural ecological disturbances (e.g., flooding, scouring) promote a diverse plant structure consisting of herbaceous, shrub, and tree species of all ages and size classes necessary for the recruitment of riparian-dependent species.	Retained through numerous objectives, desired conditions, standards and guidelines within soil, water, aquatic species, riparian and grazing sections.

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		DC Riparian Areas - Riparian-wetland conditions maintain water-related processes (e.g., hydrologic, hydraulic, geomorphic). They also maintain the physical and biological community characteristics, functions, and processes. **DC Riparian Areas -** Stream (lotic) riparian-wetland areas have vegetation, landform, and/or large coarse woody debris to dissipate stream energy associated with high water flow. **DC Riparian Areas -** Streams and their adjacent floodplains are capable of filtering, processing, and storing sediment; aiding floodplain development; improving floodwater retention; and increasing groundwater recharge. **DC Riparian Areas -** Vegetation and root masses stabilize streambanks, islands, and shoreline features against the cutting action of water. **DC Riparian Areas -** Ponding and channel characteristics provide habitat, water depth, water duration, and the temperatures necessary for maintaining populations of riparian-dependent species and for their dispersal. **DC Riparian Areas -** Beavers occupy capable stream reaches and help promote the function and stability of riparian areas. **DC Riparian Areas -** Lentic riparian areas (e.g., wet meadows, fens, bogs) have vegetation and landform present to dissipate wind action, wave action, and overland flow from uplands. **DC Riparian Areas -** Wetland riparian areas are capable of filtering sediment and aiding floodplain development that contribute to water retention and groundwater recharge. **DC Riparian Areas -** Willows (e.g., Bebb, Geyer, Arizona, Goodding's) are reproducing with all age classes present, where the potential exists. **DC Riparian Areas -** The spatial extent of wetlands is maintained [6]. **DC Riparian Areas -** Diversity and density of riparian forest vegetation provides for breeding, escape, hiding, and resting cover for wildlife and provides travelways between other habitat areas and seasonal ranges. **DC Riparian Areas -** The ecological function of riparian areas is resilient to animal and human use.	

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		DC Riparian Areas - Riparian obligate species within wet meadows, around springs and seeps, along streambanks, and active floodplains provide sufficient [5] vegetative ground cover (herbaceous vegetation, litter, and woody riparian species) to protect and enrich soils, trap sediment, mitigate flood energy, stabilize streambanks, and provide for wildlife and plant needs. **DC Riparian Areas -** Riparian soil productivity is optimized as described by the specific TES map unit [5] as indicated by the vigor of the herbaceous vegetation community. Based on species composition, ungrazed plant heights [7] range from 10 inches to 36 inches. **DC Riparian Areas -** Large coarse woody debris provides stability to riparian areas and stream bottoms lacking geologic control (e.g., bedrock) or geomorphic features (e.g., functioning floodplains, stream sinuosity, width/depth ratio). **OBJ Riparian Areas -** Annually, move 200 to 500 acres toward desired composition, structure, and function of streams, floodplains, and riparian vegetation. **OBJ Riparian Areas -** Within the planning period, relocate, repair, improve, or decommission a minimum of 4 miles of National Forest System roads or trails that add sediment to streams, damage riparian vegetation, erode streambanks, cause gullies, and/or compact floodplain soils. **OBJ Riparian Areas -** Annually, remove an average of 2 miles of unauthorized roads or trails that add sediment to streams, damage riparian vegetation, erode streambanks, cause gullies, and/or compact floodplain soils. **OBJ Riparian Areas -** Within the planning period, enhance or restore 5 to 25 wet meadows, springs, seeps or cienegas to proper hydrologic function and native plant and animal species composition. **OBJ Riparian Areas -** Annually, work with partners to reduce animal damage to native willows and other riparian species on an average of 5 miles of riparian habitat. **GD Riparian Areas -** Ground-disturbing projects (including prescribed fire) which may degrade long term riparian conditions should be avoided. **GD Riparian Areas -** Wet meadows, springs, seeps and cienegas	

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		should not be used for concentrated activities (e.g., equipment storage, forest product or mineral stockpiling, livestock handling facilities, special uses) that cause damage to soil and vegetation. **GD Riparian Areas -** Active grazing allotments should be managed to maintain or improve to desired riparian conditions.	
Air, Soil, Water, & Riparian	SG (p 71) Effectively close or obliterate roads causing intolerable resource damage (relocate roads as needed).	**GD Motorized Opportunities -** As projects occur in riparian or wet meadow areas, unneeded roads or motorized trails should be closed or relocated, drainage restored, and native vegetation reestablished to move these areas toward their desired condition. **GD Motorized Opportunities -** As projects occur, redundant roads or motorized trails should be removed to reduce degradation of natural resources. **GD Motorized Opportunities -** Roads and motorized trails removed from the transportation network should be treated in order to avoid future risk to hydrologic function and aquatic habitat. **GD Motorized Opportunities -** As projects occur, existing meadow crossings should be relocated or redesigned, as needed, to maintain or restore hydrologic function using appropriate tools such as French drains and elevated culverts. **GD Motorized Opportunities -** After management activities occur in areas with high potential for cross-country motorized vehicle use, methods (e.g., barriers, signing) should be used to control unauthorized motorized use.	Carried forward through modified GDs and management approaches.
Air, Soil, Water, & Riparian	SG (p 71) Soil resource improvement will be accomplished on an opportunity basis. Accomplish/maintain soil resource improvement projects to prevent loss of soil productivity.	**OBJ Overall Ecosystem Health -** During the planning period, improve the condition class on at least 10 priority 6th level HUC watersheds by removing or mitigating degrading factors [1]. **OBJ Soils -** Annually, enhance or restore an average of 350 acres within priority 6th level HUC watersheds, including treating the causes of State and federally designated impaired or threatened waters to improve watershed condition and water quality.	Carried forward through new objectives and management approaches.

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Air, Soil, Water, & Riparian	SG (p 71) Develop/carry out water resource improvement plan per A/S NF's watershed improvement needs inventory within the first 2 periods.	**OBJ Overall Ecosystem Health -** During the planning period, improve the condition class on at least 10 priority 6th level HUC watersheds by removing or mitigating degrading factors [1]. **OBJ Soils -** Annually, enhance or restore an average of 350 acres within priority 6th level HUC watersheds, including treating the causes of State and federally designated impaired or threatened waters to improve watershed condition and water quality.	Existing plan was completed in 1990. No new inventory was developed. New direction through Watershed Condition Framework.
Air, Soil, Water, & Riparian	SG (p 71) Utilize sale area improvement plans as an opportunity to accomplish resource improvements within the timber sale area.	**Management Approach All Forested PNVTs -** Forest treatments occur predominantly in ponderosa pine and dry and wet mixed conifer. There is an emphasis on restoring natural fire regimes, providing wildlife species habitat needs, obtaining sustainable forest products, and/or achieving ecosystem health within priority 6th level HUC watersheds. Treatment methods (see appendix B) may include wildland fire, fencing, mechanized and hand thinning, planting, chemical treatments, and other silvicultural treatments.	Generally carried forward in management approaches
Air Quality	SG (p 71) In the Class 1 air quality area (Mt. Baldy) maintain high quality visual conditions. The form, line, texture, and color characteristic landscape will be clearly distinguishable when viewed as middle ground.	**DC Air** - Air quality related values, including high quality visual conditions, are maintained within the Class I airshed over Mount Baldy Wilderness.	Direction also found in FSM 2580
Air, Soil, Water, & Riparian	SG (p 71) Review Prevention of Significant Deterioration (PSD) Permit applications to determine the potential effect increased emissions from major stationary sources will have on air quality related values in the Mt. Baldy Class 1 area. Predict the impacts of air pollution generating activities with current modeling techniques.	**Management Approach Air -** The Apache-Sitgreaves NFs participate with the State of Arizona in the air quality regulatory process. Specialists review air permit applications for new and modified industrial facilities to ensure that their air emissions do not adversely impact the air quality related values (e.g., visibility) of federally protected Class I wilderness areas.	Discussed in Management approach, PSD process covered in Arizona State Regulatory Process and FSM 2580
Air, Soil, Water, & Riparian	SG (p 71) Ensure compliance with State of Arizona Water Law "Arizona revised statutes sections 45-101 through 46". "Reserved Water Rights" may not fall under jurisdiction of State Statutes.	Direction not carried forward into revised plan.	This direction was not carried forward because it duplicates law, regulation, or policy found in State of Arizona State Revised Statutes Title 45 Waters

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
			FSM 2540
Air, Soil, Water, & Riparian	SG (p 71) Participate in State adjudications on forest watersheds. Protest other uses in conflict with forest uses. Participate in State Water Right hearings to protect forest uses.	**Management Approach Water Uses -** The forests participate in water rights adjudications, maintain a water rights and water uses database, and honor the water rights of others. Forest personnel work with legal water right holders to help conserve water through terms and conditions of permits or easements to capture and transmit water on or across public lands. The forests work with the State and other agencies to deal with groundwater issues and maintain instream flows. The forests work with affected members of the public to gain their support for instream flows.	Carried forward in management approaches.
Air, Soil, Water, & Riparian	SG (p 71) File permits to appropriate water for range, recreation, wildlife, and administration developments.	**DC Water Resources -** Instream flows provide for channel and floodplain maintenance, recharge of riparian aquifers, water quality, and minimal temperature fluctuations. **DC Water Resources -** Streamflows provide connectivity among fish populations and provide unobstructed routes critical for fulfilling needs of aquatic, riparian dependent, and many upland species of plants and animals. **DC Water Resources -** Water quantity meets the needs for forest administration and authorized activities (e.g., livestock grazing, recreation, firefighting, domestic use, road maintenance). **GD Water Resources -** As State of Arizona water rights permits (e.g., water impoundments, diversions) are issued, the base level of instream flow should be retained by the Apache-Sitgreaves NFs. **GD Water Resources -** Constraints (e.g., maximum limit to which water level can be drawn down or minimum distance from a connected river, stream, wetland, or groundwater-dependent ecosystem) should be established for new groundwater pumping sites permitted on NFS lands in order to protect the character and function of water resources. **GD Aquatic Habitat and Species -** Sufficient water should be left in streams to provide for aquatic species and riparian vegetation. **DC Water Uses -** Water developments contribute to fish, wildlife, and riparian habitat as well as scenic and aesthetic values. **DC Water Uses -** Apache-Sitgreaves NFs water rights are secure and contribute to livestock, recreation, wildlife, and administrative uses. **DC Water Uses -** Surface water is not diminished by groundwater	Further direction found in State of Arizona State Revised Statutes Title 45 Waters; FSM 2540

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		pumping. **DC Water Uses -** Dams, diversions, or other water control structures are designed, maintained, and operated to conserve water resources. **OBJ Water Uses -** Annually, prepare at least one instream flow water rights application until water acquisition needs are complete to sustain riparian areas, fish, wildlife, and water-based recreation. **ST Water Uses -** Streams on NFS lands with high aquatic values and at risk from new water diversions shall be preserved and protected with instream flow water rights.	
Air, Soil, Water, & Riparian	SG (p 71) Secure water rights through purchase for additional water sources when needed.	**OBJ Water Uses -** Annually, prepare at least one instream flow water rights application until water acquisition needs are complete to sustain riparian areas, fish, wildlife, and water-based recreation.	Further direction found in State of Arizona State Revised Statutes Title 45 Waters; FSM 2540
Air, Soil, Water, & Riparian	SG (p 72) Insure new special use permittees utilizing water from the A/S have acquired a right to appropriate from the State.	**GD Special Uses -** Water use associated with special use authorizations should be in accordance with Arizona State Statutes and should have a decreed water right or a valid claim.	Further direction found in State of Arizona State Revised Statutes Title 45 Waters; FSM 2540
Air, Soil, Water, & Riparian	SG (p 72) Maintain/update files for national water use inventory (WURR).	**Management Approach Water Uses -** Project level analysis (e.g., compliance with the National Environmental Policy Act of 1970 (Public Law 91-190)) for new water developments or reissuances includes an assessment of Forest Service water needs with an inventory of existing water rights and water uses within the sub-watershed (6th level HUC) of the subject water development.	Carried forward in management approaches. Further direction found in FSM 2540
Air, Soil, Water, & Riparian	SG (p 72) Recognize valid water users and solicit their cooperation in lake management.	**Management Approach Water Uses -** The forests participate in water rights adjudications, maintain a water rights and water uses database, and honor the water rights of others. Forest personnel work with legal water right holders to help conserve water through terms and conditions of permits or easements to capture and transmit water on or across public lands. The forests work with the State and other agencies to deal with groundwater issues and maintain instream flows. The forests work with affected members of the public to gain their support for instream flows.	Carried forward in management approaches; Further direction found in FSM 2540

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Air, Soil, Water, & Riparian	SG (p 72) Maintain water resource improvement projects where improvement and downstream values will be jeopardized if work is not accomplished currently."	**GL Livestock Grazing -** Constructed features should be maintained to standard or removed when no longer needed.	Carried forward in GL and management approaches..
Air, Soil, Water, & Riparian	SG (p 72) Monitor water quality and quantity in compliance with P.L. 95-200, Section 208.	Direction not carried forward into revised plan.	This direction was not carried forward because it duplicates law, regulation, or policy found in MOU FS R3-ADEQ; FSM 2530; FSM 7420
Air, Soil, Water, & Riparian	SG (p 72) Monitor potable water systems in accordance with the Safe Drinking Water Act.	**DC Water Resources -** Water quality meets or exceeds Arizona State standards or Environmental Protection Agency water quality standards for designated uses.	Further direction found in FSM 2530; FSM 7420
Air, Soil, Water, & Riparian	SG (p 72) Conduct water quality monitoring of primary contact recreation sites to standards of FSM 2540 (sic.) and Arizona Water Quality Standards for full body contact waters (swimming and wading).	**DC Water Resources -** Water quality meets or exceeds Arizona State standards or Environmental Protection Agency water quality standards for designated uses.	Further direction found in FSM 2030; FSM 7420
Air, Soil, Water, & Riparian	SG (p 72) Monitor specific air pollutant and meteorological parameters necessary for the determination of air quality in the Mt. Baldy Class 1 area.	**DC Air -** Air quality related values, including high quality visual conditions, are maintained within the Class I airshed over Mount Baldy Wilderness. **DC Air -** Class II airsheds meet State of Arizona air quality standards including those for visibility and public health. **Monitoring Plan Monitoring Question 4 -** Review interagency monitoring of protected visual environments' (IMPROVE) data.	Management Approach and Monitoring Plan (Draft)
Air, Soil, Water, & Riparian	SG (p 72) Cooperate with the SCS on winter snow course monitoring and weather station activities.	**Management Approach Water Uses -** Management emphasis is to provide adequate water supplies to support the mission of the Agency in addition to helping maintain continuous water supplies to downstream users on and off the forests including small communities located adjacent to the Apache-Sitgreaves NFs.	Carried forward in management approaches.
Air, Soil, Water, & Riparian	SG (p 72) Monitor those activities that are a management concern or a public issue: (such as "Little Colorado Unique Water" or	**Monitoring Plan Monitoring Question 2 -** Review a sample of soil-disturbing activities for compliance with BMPs by project; allotment operating instruction implementation; Section 18 reviews of allotment	Carried forward within monitoring plan.

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	controversial timber sales).	National Environmental Policy Act (NEPA); burn area emergency response (BAER) assessments; and Arizona Department of Environmental Quality water quality data. **Monitoring Plan Monitoring Question 3 -** Review a sample of ground-disturbing activities for compliance with BMPs by project; allotment operating instruction implementation; prescribed fire burn plan implementation; proper functioning data or other approved Forest Service methodologies; and Section 18 reviews of allotment NEPA. Monitor riparian habitats for changes in ground cover, species composition, bank stability, and water quality.	
Air, Soil, Water, & Riparian	SG (p 75) No streambed alteration or removal of material is allowed if it significantly effects on riparian dependent resources, channel morphology, or streambank stability.	**GL Water Resources -** To protect water quality and aquatic species, heavy equipment and vehicles driven into a water body to accomplish work should be completely clean of petroleum residue. Water levels should be below the gear boxes of the equipment in use. Lubricants and fuels should be sealed such that inundation by water should not result in leaks. **GL Minerals and Geology -** Streambed and floodplain alteration or removal of material should not occur if it prevents attainment of riparian, channel morphology, or streambank desired conditions.	Carried forward through modified GDs and management approaches.
Air, Soil, Water, & Riparian	SG (p 77) Comply with State and Federal air quality standards. (See FSM 2120).	Direction not carried forward into revised plan.	Now FSM 2580
Air, Soil, Water, & Riparian	SG (p 105) Restrict regeneration cuts to areas where soils have reforestation potential of low-moderate or higher.	**ST All Forested PNVTs** - On lands suitable for timber production, timber harvest activities shall only be used when there is reasonable assurance of restocking within 5 years after final regeneration harvest. This also applies where wildland fire is used to create openings for tree regeneration purposes on suitable timber lands. Restocking level is prescribed in a site specific silvicultural prescription for a project treatment unit and is determined to be adequate depending on the objectives and desired conditions for the plan area. In some instances, such as when lands are harvested or prescribed burned to create openings for firebreaks and vistas or to prevent encroaching trees, it is appropriate not to restock.	Carried forward through modified ST and management approaches.

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Air, Soil, Water, & Riparian	SG (p 111) Restrict logging to areas where soil movement is expected to return to tolerance levels within 2 years.	**DC Soils -** Ecological and hydrologic functions are not impaired by soil compaction. **DC Soils -** Soil condition rating is satisfactory [2]. **DC Soils -** Soils are stable within their natural capability. Vegetation and litter limit accelerated erosion (e.g., rills, gullies, root exposure, topsoil loss) and contribute to soil deposition and development. **DC Soils -** Soil loss rates do not exceed tolerance soil loss rates [3]. **DC Soils -** Vegetation and litter is sufficient to maintain and improve water infiltration, nutrient cycling, and soil stability. **GD Soils -** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to soil resources. Where disturbance cannot be avoided, project specific soil and water conservation practices should be developed. **GD Soils -** Severely disturbed sites should be revegetated with native plant species when loss of long term soil productivity is predicted.	Carried forward through modified DC, GDs and management approaches.
Air, Soil, Water, & Riparian	SG (p 111) Drain and seed all roads, landings, and skid trails that are no longer needed for immediate use.	**DC Soils -** Ecological and hydrologic functions are not impaired by soil compaction. **DC Soils -** Soil condition rating is satisfactory [2]. **DC Soils -** Soils are stable within their natural capability. Vegetation and litter limit accelerated erosion (e.g., rills, gullies, root exposure, topsoil loss) and contribute to soil deposition and development. **DC Soils -** Soil loss rates do not exceed tolerance soil loss rates [3]. **DC Soils -** Vegetation and litter is sufficient to maintain and improve water infiltration, nutrient cycling, and soil stability. **GD Soils -** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to soil resources. Where disturbance cannot be avoided, project specific soil and water conservation practices should be developed. **GD Soils -** Severely disturbed sites should be revegetated with native plant species when loss of long term soil productivity is predicted.	Carried forward through modified DC, GDs and management approaches.

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Air, Soil, Water, & Riparian	SG (p 113) Log landings should be the smallest size and fewest numbers necessary to facilitate the safe loading of logs (to minimize compaction/loss of soil productivity).	**DC Soils -** Ecological and hydrologic functions are not impaired by soil compaction. **DC Soils -** Soil condition rating is satisfactory [2]. **DC Soils -** Soils are stable within their natural capability. Vegetation and litter limit accelerated erosion (e.g., rills, gullies, root exposure, topsoil loss) and contribute to soil deposition and development. **DC Soils -** Soil loss rates do not exceed tolerance soil loss rates [3]. **DC Soils -** Vegetation and litter is sufficient to maintain and improve water infiltration, nutrient cycling, and soil stability. **GD Soils -** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to soil resources. Where disturbance cannot be avoided, project specific soil and water conservation practices should be developed. **GD Soils -** Severely disturbed sites should be revegetated with native plant species when loss of long term soil productivity is predicted.	Carried forward through modified DC, GDs and management approaches.
Air, Soil, Water, & Riparian	SG (p 114) Locate/Design landings on slopes less than 15% (5-10% preferred, ensure proper drainage on all landings).	**DC Soils -** Ecological and hydrologic functions are not impaired by soil compaction. **DC Soils -** Soil condition rating is satisfactory [2]. **DC Soils -** Soils are stable within their natural capability. Vegetation and litter limit accelerated erosion (e.g., rills, gullies, root exposure, topsoil loss) and contribute to soil deposition and development. **DC Soils -** Soil loss rates do not exceed tolerance soil loss rates [3]. **DC Soils -** Vegetation and litter is sufficient to maintain and improve water infiltration, nutrient cycling, and soil stability. **GD Soils -** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to soil resources. Where disturbance cannot be avoided, project specific soil and water conservation practices should be developed. **GD Soils -** Severely disturbed sites should be revegetated with native plant species when loss of long term soil productivity is predicted.	Carried forward through modified DC, GDs and management approaches.

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Air, Soil, Water, & Riparian	SG (p 118) Small site conversions to a lower successional state occur only where the rating of soil potential for revegetation and the erosion potential (TESH, January 7, 1985) are determined to be suitable and where the forage production rating is moderate or high.	**DC All PNVTs -** Diverse vegetation structure, species composition, densities, and seral states provide quality habitat for native and desirable nonnative plant and animal species throughout their life cycle and at multiple spatial scales. Landscapes provide for the full range of ecosystem diversity at multiple scales, including habitats for those species associated with late seral states and old growth forests. **ST All PNVTs -** Within each PNVT, vegetation management activities shall be designed to maintain or move plant composition towards a moderate to high plant community similarity as compared to site potential.	Identification of grassland PNVTs eliminated need for this guidance. Now these kinds of projects fall within scope of desired conditions.
Air, Soil, Water, & Riparian	SG (p 122) Forage utilization standards for riparian areas will be determined for each allotment at levels permitting timely achievement of fisheries and T&E objectives. The following general utilization guidelines will guide revisions for allotment management plans. Areas in unsatisfactory riparian condition 0 – 45% Areas in satisfactory riparian condition 0 – 55% The above utilization guidelines are a starting point for development of allotment management strategies. Variations in soil productivity, species composition, and sophistication of management will be considered when actual utilization standards are set for each individual allotment during the allotment management plan revision process.	**DC All PNVTs -** Herbivory is in balance with available forage (i.e., grazing and browsing by authorized livestock, wild horses, and wildlife do not exceed available forage production within established use levels). **DC All PNVTs -** Stand densities and species compositions are such that vegetation conditions are resilient under a variety of potential future climates. **DC All PNVTs -** Vegetative ground cover (herbaceous vegetation and litter cover) is optimized [5] to protect and enrich soils and promote water infiltration. There is a diverse mix of cool and warm season grasses and desirable forbs species. **ST All PNVTs -** Within each PNVT, vegetation management activities shall be designed to maintain or move plant composition towards a moderate to high plant community similarity as compared to site potential. **DC Riparian Areas -** The ecological function of riparian areas is resilient to animal and human use. **DC Riparian Areas -** Riparian obligate species within wet meadows, around springs and seeps, along streambanks, and active floodplains provide sufficient [5] vegetative ground cover (herbaceous vegetation, litter, and woody riparian species) to protect and enrich soils, trap sediment, mitigate flood energy, stabilize streambanks, and provide for wildlife and plant needs. **DC Riparian Areas -** Riparian soil productivity is optimized as described by the specific TES map unit[5] as indicated by the vigor of the herbaceous vegetation community. Based on species composition,	Carried forward through modified DC, ST, GDs and management approaches.

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		ungrazed plant heights [7] range from 10 inches to 36 inches. **GD Riparian Areas -** Wet meadows, springs, seeps and cienegas should not be used for concentrated activities (e.g., equipment storage, forest product or mineral stockpiling, livestock handling facilities, special uses) that cause damage to soil and vegetation. **GD Riparian Areas -** Active grazing allotments should be managed to maintain or improve to desired riparian conditions. **DC Livestock Grazing -** Livestock grazing and associated activities contribute to healthy, diverse plant communities, satisfactory condition soils, and wildlife habitat. **DC Livestock Grazing -** Livestock grazing is in balance with available forage (i.e., grazing and browsing by authorized livestock, wild horses, and wildlife do not exceed available forage production within established use levels). **GD Livestock Grazing -** Critical areas should be managed to address the inherent or unique site factors, conditions, values, or potential conflicts associated with them. **GD Livestock Grazing -** Grazing use on seasonal allotments should be timed to the appropriate plant growth stage and soil moisture.	
Air, Soil, Water, & Riparian	SG (p 123) Acquire riparian areas when funding becomes available or through exchange authorities.	**GD Lands -** Land acquisitions and exchanges should evaluate, and possibly include, associated beneficial encumbrances (e.g., water rights, mineral rights, easements, instream flow). **Management Approach Lands -** Lands desirable for acquisition generally meet one or more of the following criteria: (1) lands that contain vital species habitat or vital wildlife habitat (e.g., calving areas, critical winter range); (2) lands needed for developed or dispersed recreation; (3) wetlands, riparian areas, and other water oriented lands; (4) lands that contain unique natural or cultural values; (5) lands that improve public land management, meet specified administrative needs, or benefit other NFS programs; (6) lands that provide needed access, protect public lands from fire or trespass, or prevent damage to public land resources; (7) lands that are needed to consolidate public landownership or meet research needs; (8) lands that are needed to meet programs prescribed or endorsed by acts or reports of Congress or the Department of Agriculture; (9) inholdings that contain needed access; or (10) undeveloped inholdings.	Carried forward through modified DC, ST, GDs and management approaches. Also found in FSM 2540

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Air, Soil, Water, & Riparian	SG (p 124) Recreation use, including off-road vehicle use, will be prohibited or restricted and sites rehabilitated in areas in unsatisfactory condition, when recreation was a significant causative factor affecting condition.	**DC Soils -** Ecological and hydrologic functions are not impaired by soil compaction. **DC Soils -** Soil condition rating is satisfactory [2]. **DC Soils -** Soils are stable within their natural capability. Vegetation and litter limit accelerated erosion (e.g., rills, gullies, root exposure, topsoil loss) and contribute to soil deposition and development. **DC Soils -** Soil loss rates do not exceed tolerance soil loss rates [3]. **DC Soils -** Vegetation and litter is sufficient to maintain and improve water infiltration, nutrient cycling, and soil stability. **GD Soils -** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to soil resources. Where disturbance cannot be avoided, project specific soil and water conservation practices should be developed. **GD Soils -** Severely disturbed sites should be revegetated with native plant species when loss of long term soil productivity is predicted.	Carried forward through modified DC, ST, GDs and management approaches.
Air, Soil, Water, & Riparian	SG (p 125) Maintain riparian and meadow communities by providing waters for wildlife and livestock away from sensitive riparian areas.	**GD Riparian Areas -** Wet meadows, springs, seeps and cienegas should not be used for concentrated activities (e.g., equipment storage, forest product or mineral stockpiling, livestock handling facilities, special uses) that cause damage to soil and vegetation.	Carried forward through modified GDs and management approaches.
Air, Soil, Water, & Riparian	SG (p 125) Establish exclosures to determine riparian vegetation potential on representative streams.	**Monitoring Plan Monitoring Question 8 -** Conduct aspen/riparian monitoring in accordance with species' specific protocols in both treated and untreated areas and in burned (within large wildfire burns) and unburned areas. Interdisciplinary team reviews the annual aspen/riparian ecological indicator species monitoring reports to determine trend.	Dropped exclosure establishment and maintenance. Establishing new riparian veg monitoring protocol.
Air, Soil, Water, & Riparian	SG (p 126) Limit moving of livestock from pasture to pasture or between allotments along the length of riparian areas except on approved routes as specified in annual permittee instructions. Approval will be granted only where it is determined that there is no alternative route and that riparian areas will not be damaged.	**GL Livestock Grazing -** To prevent resource damage (e.g., streambanks) and disturbance to federally listed and sensitive wildlife species, trailing of livestock should not occur along riparian areas. Where no alternative route is available, approval may be granted where effective mitigation measures are implemented (e.g., timing of trailing, number of livestock trailed at one time).	Carried forward through modified GDs and management approaches.

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Air, Soil, Water, & Riparian	SG (p 137) Conduct water quality monitoring of primary contact recreation sites to standards of FSM 2540 and Arizona Water Quality Standards for full body contact waters (swimming and wading). (developed rec sites)	Direction not carried forward into revised plan.	This direction was not carried forward because it duplicates law, regulation, or policy found in FSM 2530 and 7420
Air, Soil, Water, & Riparian	SG (p 161) Coordinate with other resource functions to pursue instream flow rights to protect aquatic ecosystems, fish, and wildlife. MA 11. SG (p 161) Review existing and potential water impoundments and water impoundment sites, and obtain water rights for developing and maintaining fishing and/or wetland conditions in lakes and streams. MA 11. SG (p 161) Improvements such as wildlife spring developments, fish barriers, erosion control structures, trails, etc., can be authorized as long as they do not conflict with the management emphasis. MA 14.	**DC Water Resources –** Instream flows provide for channel and floodplain maintenance, recharge of riparian aquifers, water quality, and minimal temperature fluctuations. **DC Water Resources –** Streamflows provide connectivity among fish populations and provide unobstructed routes critical for fulfilling needs of aquatic, riparian dependent, and many upland species of plants and animals. **DC Water Resources –** Water quantity meets the needs for forest administration and authorized activities (e.g., livestock grazing, recreation, firefighting, domestic use, road maintenance). **GD Water Resources –** As State of Arizona water rights permits (e.g., water impoundments, diversions) are issued, the base level of instream flow should be retained by the Apache-Sitgreaves NFs. **GD Water Resources –** Constraints (e.g., maximum limit to which water level can be drawn down or minimum distance from a connected river, stream, wetland, or groundwater-dependent ecosystem) should be established for new groundwater pumping sites permitted on NFS lands in order to protect the character and function of water resources. **GD Aquatic Habitat and Species -** Sufficient water should be left in streams to provide for aquatic species and riparian vegetation. **DC Water Uses -** Water developments contribute to fish, wildlife, and riparian habitat as well as scenic and aesthetic values. **DC Water Uses -** Apache-Sitgreaves NFs water rights are secure and contribute to livestock, recreation, wildlife, and administrative uses. **DC Water Uses -** Surface water is not diminished by groundwater pumping. **DC Water Uses -** Dams, diversions, or other water control structures are designed, maintained, and operated to conserve water resources. **OBJ Water Uses -** Annually, prepare at least one instream flow water	Carried forward through modified OBJ, DC, ST, GDs and management approaches.

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		rights application until water acquisition needs are complete to sustain riparian areas, fish, wildlife, and water-based recreation. **ST Water Uses -** Streams on NFS lands with high aquatic values and at risk from new water diversions shall be preserved and protected with instream flow water rights.	
Air, Soil, Water, & Riparian	SG (p 173) Except where permitted by outstanding rights; dams, diversions, or other water resource developments are prohibited. Gauging stations will be allowed if a suitable location does not exist elsewhere on the river and if there is not significant adverse effect on the natural character of the area. MA 15	**DC Eligible and Suitable Wild and Scenic Rivers -** Eligible and suitable wild river segments display unaltered landscapes where generally only ecological changes occur (very high scenic integrity) and provide primitive and/or semi-primitive nonmotorized recreation opportunities. **DC Eligible and Suitable Wild and Scenic Rivers -** Eligible and suitable scenic river segments display landscapes which vary from slightly altered where human activities may be seen but do not attract attention (moderate scenic integrity) to natural appearing where human activities do not stand out (high scenic integrity) and provide semi-primitive nonmotorized, semi-primitive motorized, and/or roaded natural recreation opportunities. **DC Eligible and Suitable Wild and Scenic Rivers -** Eligible and suitable recreational river segments display landscapes which vary from moderately altered where human activities are evident (low scenic integrity) to slightly altered where human activities may be seen but do not attract attention (moderate scenic integrity) and provide primitive, semi-primitive nonmotorized, semi-primitive motorized, and/or roaded natural recreation opportunities. **ST Eligible and Suitable Wild and Scenic Rivers -** Each eligible river's free-flowing condition, outstandingly remarkable values, and classification shall be sustained until further study is conducted. **ST Eligible and Suitable Wild and Scenic Rivers -** Each suitable river's free-flowing condition, outstandingly remarkable values, and classification shall be maintained until congressional action is completed.	Carried forward through modified DC, ST and management approaches.
Air, Soil, Water, & Riparian	SG (p 175 and 178) Improvements such as wildlife spring developments, fish barriers, erosion control structures, trails, etc., can be authorized as long as they do not conflict with the management emphasis.	**DC Eligible and Suitable Wild and Scenic Rivers -** Eligible and suitable wild river segments display unaltered landscapes where generally only ecological changes occur (very high scenic integrity) and provide primitive and/or semi-primitive nonmotorized recreation opportunities.	Carried forward through modified DC, ST and management approaches.

Resource	1987 Plan Content (as amended) Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	Gauging stations will be allowed if a suitable location does not exist elsewhere on the river and if there is no significant adverse effect on the natural character of the area. MA 16, 17	**DC Eligible and Suitable Wild and Scenic Rivers -** Eligible and suitable scenic river segments display landscapes which vary from slightly altered where human activities may be seen but do not attract attention (moderate scenic integrity) to natural appearing where human activities do not stand out (high scenic integrity) and provide semi-primitive nonmotorized, semi-primitive motorized, and/or roaded natural recreation opportunities. **DC Eligible and Suitable Wild and Scenic Rivers -** Eligible and suitable recreational river segments display landscapes which vary from moderately altered where human activities are evident (low scenic integrity) to slightly altered where human activities may be seen but do not attract attention (moderate scenic integrity) and provide primitive, semi-primitive nonmotorized, semi-primitive motorized, and/or roaded natural recreation opportunities. **ST Eligible and Suitable Wild and Scenic Rivers -** Each eligible river's free-flowing condition, outstandingly remarkable values, and classification shall be sustained until further study is conducted. **ST Eligible and Suitable Wild and Scenic Rivers -** Each suitable river's free-flowing condition, outstandingly remarkable values, and classification shall be maintained until congressional action is completed.	
Air, Soil, Water, & Riparian	SG (p 181) Defer from grazing until critical watershed and riparian areas are satisfactorily restored. (Sandrock)	Direction not carried forward into revised plan.	Not carried forward however established proposed RNA within allotment to potentially monitor semi-desert grassland ecosystem recovery.

Aquatics and Fish

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Aquatics/Fish	**Goals (p 14):** By the end of Decade 5, the Forest is attempting to achieve a management situation that can respond to local and national demands for wood products, livestock production, water yield, and a wide mix of recreation opportunities, including hunting and fishing, that range from the primitive to the urban. The goal is to produce these outputs and opportunities on a sustained basis while maintaining air, soil, and water resources at or above minimum applicable standards. Levels of outputs and uses are adjusted to be within long-term supply potentials, and to ensure the harmonious and coordinated management of all resources, each with the other, without impairing the productivity of the land. Non-renewable resources are adequately protected to ensure their future availability.	**DC Overall Ecosystem Health** Ecological conditions for habitat quality, distribution, and abundance contribute to self-sustaining populations of native and desirable nonnative plants and animals that are healthy, well distributed, connected, and genetically diverse. Conditions provide for the life history, distribution, and natural population fluctuations of the species within the capability of the landscape. **DC Overall Ecosystem Health** Healthy ecosystems provide a wide range of ecosystem services. **DC Aquatic Habitat and Species** Streams and aquatic habitats support native fish and/or other aquatic species providing the quantity and quality of aquatic habitat within reference conditions. **DC Aquatic Habitat and Species** Habitat and ecological conditions are capable of providing for self-sustaining populations of native, riparian dependent plant and animal species. **DC Aquatic Habitat and Species** Desirable nonnative fish species provide recreational fishing in waters where those opportunities are not in conflict with the recovery of native species. **DC Overall Recreation Opportunities** Recreation activities occur within the ability of the land to support them and with minimal user conflicts. **DC Overall Recreation Opportunities** Recreation enhances the quality of life for local residents (e.g., social interaction, physical activity, connection with nature), provides tourist destinations, and contributes monetarily to local economies. **DC Overall Recreation Opportunities** Recreation use does not negatively affect wildlife habitat and populations. Negative interactions between people and wildlife are minimized. **DC Dispersed Recreation** Water-based settings are available and the associated recreation opportunities (e.g., canoeing, fishing, waterfowl hunting) do not degrade aquatic resources. Developed recreation sites provide opportunities for people to camp, obtain information, and participate in day-use activities (e.g., picnic areas, fishing piers, scenic overlooks, wildlife viewing sites).	Retained as DCs in Overall Ecosystem Health, Aquatic Habitat and Species, Overall Recreation Opportunities, and Dispersed Recreation sections of the revised plan. Language specific to aquatics/fish opportunities and sustainability carried forward in 9 DCs. Also covered by Directives (FSM 2603, 2620.2, 2630.3, 2634, 2634.2, and 2640.3)

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Aquatics/Fish	**Goal (p 15):** Maintain habitat to maintain viable populations of wildlife and fish species and improve habitat for selected species. This is accomplished "directly" through habitat management and "indirectly" through coordination of habitat management in conjunction with other resource activities.	**DC Overall Ecosystem Health** Ecological conditions for habitat quality, distribution, and abundance contribute to self-sustaining populations of native and desirable nonnative plants and animals that are healthy, well distributed, connected, and genetically diverse. Conditions provide for the life history, distribution, and natural population fluctuations of the species within the capability of the landscape. **DC Overall Ecosystem Health** Habitat quality, distribution, and abundance exist to support the recovery of federally listed species and the continued existence of all native and desirable nonnative species. **DC Water Resources** Water quality meets the needs of aquatic species such as the California floater, northern and Chiricahua leopard frog, and invertebrates that support fish populations. **GD Water Resources** Streams, streambanks, shorelines, lakes, wetlands, seeps, springs and other bodies of water should be protected from detrimental changes in water temperature and sediment to protect aquatic species and riparian habitat. **GD Water Resources** Aquatic management zones should be in place between streams and disturbed areas and/or road locations to maintain water quality and suitable stream temperatures for aquatic species. **DC Aquatic Habitat and Species** Streams and aquatic habitats support native fish and/or other aquatic species providing the quantity and quality of aquatic habitat within reference conditions. **DC Aquatic Habitat and Species** Streamflows, habitat, and water quality support native aquatic and riparian-dependent species and habitat. **DC Aquatic Habitat and Species** Habitat and ecological conditions are capable of providing for self-sustaining populations of native, riparian dependent plant and animal species. **DC Aquatic Habitat and Species** Aquatic species habitat conditions provide the resiliency and redundancy necessary to maintain species diversity and metapopulations. **OBJ Aquatic Habitat and Species** Annually, enhance or restore 5 to 15 miles of stream and riparian habitat to restore structure, composition, and function of physical habitat for native fisheries and riparian-dependent species. **OBJ Aquatic Habitat and Species** During the planning period, complete	Retained and modified as OBJs, DCs, STs, and GDs in the Overall Ecosystem Health, Water Resources, Aquatic Habitat and Species, Dispersed Recreation, Motorized Opportunities, Nonmotorized Opportunities, Livestock Grazing, and Minerals and Geology sections of the revised plan. Language specific to viability and habitat management for aquatics/fish was brought forward in 2 OBJs, 8 DCs, 1 ST, and 11 GDs. Also covered by Directives (FSM 2601.2, 2602, 2604.11, 2620.1, 2622.01, 2670.12, 2672.1, and 2672.32)

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		at least five projects (e.g., remove barriers, restore dewatered stream segments, or connect fragmented habitat) to provide for aquatic and riparian associated species and migratory species. **GD Aquatic Habitat and Species** Management and activities should not contribute to a trend toward the Federal listing of a species. **DC Dispersed Recreation** Water-based settings are available, and the associated recreation opportunities (e.g., canoeing, fishing, waterfowl hunting) do not degrade aquatic resources. **ST Water Uses** Special uses for water diversions shall maintain fish, wildlife, and aesthetic values and otherwise protect the environment. **GD Motorized Opportunities** New roads, motorized trails, or designated motorized areas should be located to avoid meadows, wetlands, seeps, springs, riparian areas, stream bottoms, sacred sites, and areas with high concentrations of significant archaeological sites. The number of stream crossings should be minimized or mitigated to reduce impacts to aquatic species. **GD Motorized Opportunities** Roads and motorized trails removed from the transportation network should be treated in order to avoid future risk to hydrologic function and aquatic habitat. **GD Motorized Opportunities** Roads and motorized trails should be designed and located so as to not impede terrestrial and aquatic species movement and connectivity. **GD Nonmotorized Opportunities** New nonmotorized routes should avoid meadows, wetlands, seeps, springs, riparian areas, stream bottoms, sacred sites, and areas with high concentrations of significant archaeological sites. The number of stream crossings should be minimized or mitigated to reduce impacts to aquatic habitat. **GD Nonmotorized Opportunities** New trails and trail relocations should be designed and located so as to not impede terrestrial and aquatic species movement and connectivity. **GD Livestock Grazing** New livestock troughs, tanks, and holding facilities should be located out of riparian areas to reduce concentration of livestock in these areas. Existing facilities in riparian areas should be modified, relocated, or removed where their presence is determined to inhibit movement toward desired riparian or aquatic conditions.	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		GD Livestock Grazing To prevent resource damage (e.g., streambanks) and disturbance to federally listed and sensitive wildlife species, trailing of livestock should not occur along riparian areas. Where no alternative route is available, approval may be granted where effective mitigation measures are implemented (e.g., timing of trailing, number of livestock trailed at one time). **GD Minerals and Geology** Streambed and floodplain alteration or removal of material should not occur if it prevents attainment of riparian, channel morphology, or streambank desired conditions.	
Aquatics/Fish	**Goal (p 15):** Cooperate with the Arizona Game and Fish Department to achieve management goals and objectives specified in the Arizona Wildlife and Fisheries Comprehensive Plan, and on proposals for reintroduction of extirpated species into suitable habitat. Support the Arizona Game and Fish Department in meeting its objectives for the State. No unapproved species are introduced.	**Management Approaches for Aquatic Habitat and Species** The Apache-Sitgreaves NFs assists Arizona Game and Fish Department (AZGFD) with efforts to protect and reintroduce native aquatic species where appropriate and control or eradicate nonnative species.	Document is outdated and language is covered in Directives (FSM 2603, 2610.2, 2610.3, 2611, 2620.2, 2630.3, 2640.42, 2670.45, 2671.1, 2672.24b). Retained as Management Approach for Aquatic Habitat and Species.
Aquatics/Fish	**Goal (p 15):** Cooperate with the Arizona Game & Fish Department to achieve management goals and objectives in the Arizona Cold Water Fisheries Strategic Plan.	**Management Approaches for Aquatic Habitat and Species -** The Apache-Sitgreaves NFs assists Arizona Game and Fish Department (AZGFD) with efforts to protect and reintroduce native aquatic species where appropriate and control or eradicate nonnative species.	Document is outdated and language is covered in Directives (FSM 2603, 2610.2, 2610.3, 2611, 2620.2, 2630.3, 2640.42, 2670.45, 2671.1, 2672.24b). Retained as Management Approach for Aquatic Habitat and Species.
Aquatics/Fish	**Goal (p 15)**: Improve habitat for listed threatened, endangered, or sensitive species of plants and animals and other species as they become threatened or	**DC Overall Ecosystem Health** Ecological conditions for habitat quality, distribution, and abundance contribute to self-sustaining populations of native and desirable nonnative plants and animals that are healthy, well distributed, connected, and genetically diverse. Conditions provide for the	Retained and modified as OBJs, DCs, and GDs within the Overall

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	endangered. Work toward recovery and declassification species.	life history, distribution, and natural population fluctuations of the species within the capability of the landscape. **DC Overall Ecosystem Health** Habitat quality, distribution, and abundance exist to support the recovery of federally listed species and the continued existence of all native and desirable nonnative species. **DC Aquatic Habitat and Species** Streams and aquatic habitats support native fish and/or other aquatic species providing the quantity and quality of aquatic habitat within reference conditions. **DC Aquatic Habitat and Species** Habitat conditions contribute to the recovery of federally listed species. **DC Aquatic Habitat and Species** Streamflows, habitat, and water quality support native aquatic and riparian-dependent species and habitat. **DC Aquatic Habitat and Species** Habitat and ecological conditions are capable of providing for self-sustaining populations of native, riparian dependent plant and animal species. **DC Aquatic Habitat and Species** Aquatic species habitat conditions provide the resiliency and redundancy necessary to maintain species diversity and metapopulations. **OBJ Aquatic Habitat and Species** Annually, enhance or restore 5 to 15 miles of stream and riparian habitat to restore structure, composition, and function of physical habitat for native fisheries and riparian-dependent species. **OBJ Aquatic Habitat and Species** During the planning period, complete at least five projects (e.g., remove barriers, restore dewatered stream segments, or connect fragmented habitat) to provide for aquatic and riparian associated species and migratory species. **GD Aquatic Habitat and Species** Management and activities should not contribute to a trend toward the Federal listing of a species. **GD Aquatic Habitat and Species** Activities occurring within federally listed species habitat should apply habitat management direction and species protection measures from recovery plans.	Ecosystem Health and Aquatic Habitat and Species sections of the revised plan. Also covered by Directives (FSM 2601.2, 2602, 2604.2, 2620.3, 2622.01, 2670.11, 2670.12, 2670.21, 2670.22, 2670.31, 2670.32, 2670.45, 2670.46, 2672.1, and 2672.21) and ESA. Language updated in revised plan with 2 OBJs, 7 DCs, and 2 GDs.
Aquatics/Fish	**Goal (p 15):** Identify and protect areas that contain threatened, endangered, and sensitive species of plants and animals.	**DC Overall Ecosystem Health** Ecological conditions for habitat quality, distribution, and abundance contribute to self-sustaining populations of native and desirable nonnative plants and animals that are healthy, well	Retained and modified as OBJs, DCs, and GDs within

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		distributed, connected, and genetically diverse. Conditions provide for the life history, distribution, and natural population fluctuations of the species within the capability of the landscape. **DC Overall Ecosystem Health** Habitat quality, distribution, and abundance exist to support the recovery of federally listed species and the continued existence of all native and desirable nonnative species. **DC Aquatic Habitat and Species** Streams and aquatic habitats support native fish and/or other aquatic species providing the quantity and quality of aquatic habitat within reference conditions. **DC Aquatic Habitat and Species** Habitat conditions contribute to the recovery of federally listed species. Streamflows, habitat, and water quality support native aquatic and riparian-dependent species and habitat. **DC Aquatic Habitat and Species** Habitat and ecological conditions are capable of providing for self-sustaining populations of native, riparian dependent plant and animal species. **DC Aquatic Habitat and Species** Aquatic species habitat conditions provide the resiliency and redundancy necessary to maintain species diversity and metapopulations. **OBJ Aquatic Habitat and Species** Annually, enhance or restore 5 to 15 miles of stream and riparian habitat to restore structure, composition, and function of physical habitat for native fisheries and riparian-dependent species. **OBJ Aquatic Habitat and Species** During the planning period, complete at least five projects (e.g., remove barriers, restore dewatered stream segments, or connect fragmented habitat) to provide for aquatic and riparian associated species and migratory species. **GD Aquatic Habitat and Species** Management and activities should not contribute to a trend toward the Federal listing of a species. **GD Aquatic Habitat and Species** Activities occurring within federally listed species habitat should apply habitat management direction and species protection measures from recovery plans.	the Overall Ecosystem Health and Aquatic Habitat and Species sections of the revised plan. Also covered by Directives (FSM 2601.2, 2604.21, 2622.01, 2670.11, 2670.12, 2670.21, 2670.22, 2670.31, 2670.32, 2670.44, 2670.45, 2670.46, 2672.1, 2672.11, and 2672.23) and ESA. Language updated in revised plan with 2 OBJs, 6 DCs, and 2 GDs.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Aquatics/Fish	**Goal (p 15):** Increase opportunities for wildlife and fish oriented recreation opportunities.	**DC Overall Recreation Opportunities** Recreation enhances the quality of life for local residents (e.g., social interaction, physical activity, connection with nature), provides tourist destinations, and contributes monetarily to local economies. **DC Dispersed Recreation** Dispersed recreation opportunities (e.g., hunting, fishing, hiking, camping) are available and dispersed recreation sites (e.g., campsites, trailheads, vistas, parking areas) occur in a variety of ROS classes throughout the forests. **DC Developed Recreation** Developed recreation sites provide opportunities for people to camp, obtain information, and participate in day-use activities (e.g., picnic areas, fishing piers, scenic overlooks, wildlife viewing sites).	Language retained and modified as three DCs in the revised plan within the Overall Recreation Opportunities, Dispersed Recreation and Developed Recreation sections.
Aquatics/Fish	**Forest-Wide Standards And Guidelines (Recreation Management, p 30):** All plans must be consistent with Arizona Game and Fish Department's Cold Water Strategic Plan (1995-1990) and the Arizona Trout Recovery Plan, and coordinated with the Arizona Game and Fish Department.	**DC Aquatic Habitat and Species** Habitat conditions contribute to the recovery of federally listed species. **GD Aquatic Habitat and Species** Activities occurring within federally listed species habitat should apply habitat management direction and species protection measures from recovery plans. **Management Approaches for Aquatic Habitat and Species** The Apache-Sitgreaves NFs assists Arizona Game and Fish Department (AZGFD) with efforts to protect and reintroduce native aquatic species where appropriate and control or eradicate nonnative species. **DC Dispersed Recreation** Water-based settings are available, and the associated recreation opportunities (e.g., canoeing, fishing, waterfowl hunting) do not degrade aquatic resources.	Language retained and modified as two DCs, one GD, and a Management Approach in the revised plan within the Aquatic Habitat and Species and Dispersed Recreation sections. Also covered by Directive (FSM 2611) and ESA.
Aquatics/Fish	**Forest-Wide Standards And Guidelines (Off-Road Vehicle Management, p 34 and 35):** Existing, as well as additional ORV closures are implemented when one or more of the following situations or areas exist, and ORV use is likely to occur that would result in significant adverse effects: All critical areas as defined in Section 2(b) of the Rare and Endangered Species Act of 1973.	**ST Motorized Opportunities** Motorized vehicle travel shall be managed to occur only on the designated system of NFS roads and motorized trails and designated motorized areas. **ST Motorized Opportunities** Unless specifically authorized, motorized cross-country travel shall be managed to occur only in designated motorized areas.	Language retained and modified as two STs in the revised plan within the Motorized Opportunities section. Also covered by Directive (FSM 2670.44) and ESA.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Aquatics/Fish	**Forest-Wide Standards And Guidelines (Off-Road Vehicle Management, p 34 and 35):** Existing, as well as additional ORV closures are implemented when one or more of the following situations or areas exist, and ORV use is likely to occur that would result in significant adverse effects: Areas where there is agreement with the Arizona Game & Fish Department to maintain a quality hunting and fishing experience.	**DC Overall Recreation Opportunities** Recreation activities occur within the ability of the land to support them and with minimal user conflicts. **ST Motorized Opportunities** Motorized vehicle travel shall be managed to occur only on the designated system of NFS roads and motorized trails and designated motorized areas. **ST Motorized Opportunities** Unless specifically authorized, motorized cross-country travel shall be managed to occur only in designated motorized areas.	Language retained and modified as one DC and two STs in the revised plan within the Overall Recreation Opportunities and Motorized Opportunities sections.
Aquatics/Fish	**Forest-Wide Standards And Guidelines (Wildlife Management, p 46):** Manage threatened and endangered animal, fish, and plant habitat to achieve declassifying in a manner consistent with the goals established by the U.S. Fish and Wildlife Service and the Arizona Game and Fish Department.	**DC Overall Ecosystem Health** Habitat quality, distribution, and abundance exist to support the recovery of federally listed species and the continued existence of all native and desirable nonnative species. **DC Aquatic Habitat and Species** Habitat conditions contribute to the recovery of federally listed species. **GD Aquatic Habitat and Species** Activities occurring within federally listed species habitat should apply habitat management direction and species protection measures from recovery plans.	Language retained and modified as two DCs and one GD in the revised plan within the Overall Ecosystem Health and Aquatic Habitat and Species sections. Also covered by Directives (FSM 2670.21, 2672.21, and 2672.31) and ESA.
Aquatics/Fish	**Forest-Wide Standards And Guidelines (Wildlife Management, p 46):** Habitat management for Federally listed species will take precedence over unlisted species. Habitat management for endangered species will take precedence over threatened species. Habitat management for sensitive species will take precedence over non-sensitive species.	Direction not carried forward into the revised plan.	Directive (FSM 2670.31) places top priority only on endangered, threatened, and proposed species. Also covered by ESA.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Aquatics/Fish	**Forest-Wide Standards And Guidelines (Wildlife Management, p 46):** Implement threatened and endangered species recovery plans.	**DC Overall Ecosystem Health** Habitat quality, distribution, and abundance exist to support the recovery of federally listed species and the continued existence of all native and desirable nonnative species. **DC Aquatic Habitat and Species** Habitat conditions contribute to the recovery of federally listed species. **GD Aquatic Habitat and Species** Activities occurring within federally listed species habitat should apply habitat management direction and species protection measures from recovery plans.	Language retained and modified as two DCs and one GD in the revised plan within the Overall Ecosystem Health and Aquatic Habitat and Species sections. Also covered by ESA.
Aquatics/Fish	**Forest-Wide Standards And Guidelines (Wildlife Management, p 46):** Carry out the appropriate management activities outlined in the Rocky Mountain Southwest Peregrine Falcon and Apache Trout Recovery Plans.	**GD Aquatic Habitat and Species** Activities occurring within federally listed species habitat should apply habitat management direction and species protection measures from recovery plans.	Language retained and modified as one GD in the revised plan within the Aquatic Habitat and Species section. Also covered by Directives (FSM 2670.12 and 2670.21) and ESA.
Aquatics/Fish	**Forest-Wide Standards And Guidelines (Threatened, Endangered, and Sensitive Species, p 47):** Continue to identify existing and potential habitat for peregrine falcons and Apache Trout as outlined in the Species Recovery Plans.	**DC Aquatic Habitat and Species** Habitat conditions contribute to the recovery of federally listed species. **GD Aquatic habitat and Species** Activities occurring within federally listed species habitat should apply habitat management direction and species protection measures from recovery plans.	Language retained and modified as one DC and one GD in the revised plan within the Aquatic Habitat and Species section. Also covered by ESA.
Aquatics/Fish	**Forest-Wide Standards And Guidelines (Threatened, Endangered, and Sensitive Species, p 47):** Monitor management practices within occupied and potential peregrine falcon, Apache Trout, bald eagle, loach minnow, and Little Colorado River spinedace habitat, and evaluate impacts.	**GD Aquatic Habitat and Species** Activities occurring within federally listed species habitat should apply habitat management direction and species protection measures from recovery plans.	Language retained and modified as one GD in the revised plan within the Aquatic Habitat and Species section. Also covered by Directives (FSM 2670.12 and 2670.21) and ESA.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Aquatics/Fish	**Forest-Wide Standards And Guidelines (Threatened, Endangered, and Sensitive Species, p 47):** Monitor management practices within occupied and potential habitat of plants listed as threatened, endangered, state sensitive animals, or on the Regional Forester's Sensitive Plant List. Manage sensitive species to sustain viability and prevent the need for listing as threatened or endangered.	**DC Overall Ecosystem Health** Ecological conditions for habitat quality, distribution, and abundance contribute to self-sustaining populations of native and desirable nonnative plants and animals that are healthy, well distributed, connected, and genetically diverse. Conditions provide for the life history, distribution, and natural population fluctuations of the species within the capability of the landscape. **DC Overall Ecosystem Health** Habitat quality, distribution, and abundance exist to support the recovery of federally listed species and the continued existence of all native and desirable nonnative species. **DC Aquatic Habitat and Species** Habitat conditions contribute to the recovery of federally listed species. **DC Aquatic Habitat and Species** Habitat and ecological conditions are capable of providing for self-sustaining populations of native, riparian dependent plant and animal species. Aquatic species habitat conditions provide the resiliency and redundancy necessary to maintain species diversity and metapopulations. **GD Aquatic Habitat and Species** Management and activities should not contribute to a trend toward the Federal listing of a species.	Language retained and modified as 4 DCs and one GD in the revised plan within the Overall Ecosystem Health and Aquatic Habitat and Species sections. Also covered by Directives (FSM 2670.12, 2670.22, and 2670.32).
Aquatics/Fish	**Forest-Wide Standards And Guidelines (Threatened, Endangered, and Sensitive Species, p 59):** Recovery activities will be pursued where pertinent.	**DC Overall Ecosystem Health** Habitat quality, distribution, and abundance exist to support the recovery of federally listed species and the continued existence of all native and desirable nonnative species. **DC Aquatic Habitat and Species** Habitat conditions contribute to the recovery of federally listed species. **GD Aquatic Habitat and Species** Activities occurring within federally listed species habitat should apply habitat management direction and species protection measures from recovery plans.	Language retained and modified as 2 DCs and one GD in the revised plan within the Overall Ecosystem Health and Aquatic Habitat and Species sections. Also covered by Directive (FSM 2670.11) and ESA.
Aquatics/Fish	**Forest-Wide Standards And Guidelines (Threatened, Endangered, and Sensitive Species, p 59):** Monitor actions to determine effect of management practices on T&E species habitat and the need for a consultation with the U.S. Fish	**Monitoring Question** Are habitats for threatened, endangered, sensitive, and other species for the forests being maintained or enhanced; meeting recovery objectives; moving toward desired conditions; and contributing to species viability?	This direction was not carried forward because it duplicates law, regulation, or policy found in Directives (FSM 2634,

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	and Wildlife Service.		2671.45, and 2672.4) and ESA. Also brought forward in the revised plan in the Monitoring Strategy.
Aquatics/Fish	**Forest-Wide Standards And Guidelines (Threatened, Endangered, and Sensitive Species, p 59):** Monitor status of federal listings. If elevated to threatened or endangered status. Consult with U.S. Fish and Wildlife Service as needed.	Direction not carried forward into revised plan.	This direction was not carried forward because it duplicates law, regulation, or policy found in the ESA and covered in Directives (FSM 2601.2, 2670.11, 2670.31, and 2671.45).
Aquatics/Fish	**Forest-Wide Standards And Guidelines (Threatened, Endangered, and Sensitive Species, p 59):** All vegetation manipulations will be coordinated with threatened and endangered species requirements.	Direction not carried forward into revised plan.	This direction was not carried forward because it duplicates law, regulation, or policy found in the ESA and covered in Directive (FSM 2634).
Aquatics/Fish	**Forest-Wide Standards And Guidelines (Threatened, Endangered, and Sensitive Species, p 59):** Studies by appropriate, qualified personnel will be conducted to ascertain suitability of reintroduction of endangered, threatened, proposed, and State listed native species to suitable habitat where not presently occupied.	**Management Approaches for Aquatic Habitat and Species** The Apache-Sitgreaves NFs assists Arizona Game and Fish Department (AZGFD) with efforts to protect and reintroduce native aquatic species where appropriate and control or eradicate nonnative species.	Modified and included in the revised plan as a Management Approach.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Aquatics/Fish	**Forest-Wide Standards And Guidelines (Threatened, Endangered, and Sensitive Species, p 60):** The Forest Wildlife Biologist will be consulted on all proposed activities, modifications, and other commitments of lands within known habitats of peregrine falcon, bald eagle, spotted owl, loach minnow, Little Colorado spinedace, and Apache Trout, threatened, endangered or sensitive plants.	Direction not carried forward into revised plan.	This direction was not carried forward because it duplicates law, regulation, or policy found in Directives (FSM 2670.45 and 2670.46).
Aquatics/Fish	**Forest-Wide Standards And Guidelines (Threatened, Endangered, and Sensitive Species, p 60):** When management practices are proposed in listed or proposed species habitats, the Forest Wildlife Biologist will evaluate the need for consultation of conference with the Fish and Wildlife Service and Arizona Game and Fish Department.	Direction not carried forward into revised plan.	This direction was not carried forward because it duplicates law, regulation, or policy found in the ESA and covered in Directives (FSM 2670.45 and 2670.46).
Aquatics/Fish	**Forest-Wide Standards And Guidelines (Threatened, Endangered, and Sensitive Species, p 60):** Allow area closures to protect habitat of listed, sensitive, or proposed T&E species.	**Management Approaches for Wildlife and Rare plants** Where the need is demonstrated, seasonal road restrictions and area closures may be used to provide refuge in small and large blocks of land for a wide range of species.	Modified in the revised plan as a Management Approach. Also covered by FSM 2670.44.
Aquatics/Fish	**Forest-Wide Standards And Guidelines (Wildlife Management, p 60):** Consult and cooperate with Arizona Game and Fish Department to achieve management goals and objectives specified in the Arizona Wildlife and Fisheries Comprehensive Plan and State-wide Strategic Plans. Cooperate with the Fish and Wildlife Service and other agencies and organizations as the need arises.	**Management Approaches for Aquatic Habitat and Species** The Apache-Sitgreaves NFs assists Arizona Game and Fish Department (AZGFD) with efforts to protect and reintroduce native aquatic species where appropriate and control or eradicate nonnative species.	Modified in the revised plan as a Management Approach. Also required by the ESA and covered in Directives (FSM 2603, 2604.2, 2604.21, 2610.1, 2610.2, 2610.3, 2610.42,

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
			2610.43, 2610.44, 2611.1, 2612, 2613, 2641, 2670.31, 2671.1, 2671.4, 2672.24b, and 2611).
Aquatics/Fish	**Forest-Wide Standards And Guidelines (Wildlife Management, p 60):** Cooperate with Arizona Game and Fish Department in evaluating proposals for reintroducing extirpated species into suitable habitat and on fish stocking and public access for fishing.	**Management Approaches for Aquatic Habitat and Species** The Apache-Sitgreaves NFs assists Arizona Game and Fish Department (AZGFD) with efforts to protect and reintroduce native aquatic species where appropriate and control or eradicate nonnative species.	Modified in the revised plan as a Management Approach. Also covered in Directives (FSM 2601.2, 2603, 2604.21, 2610.1, 2610.2, 2610.3, 2610.42, 2620.2, 2620.43, 2620.44, 2624.01, 2630.3, 2635.01, 2640.2, 2640.3, 2640.41, 2640.42, 2641, 2671.1, 2672.24b, and 2611).
Aquatics/Fish	**Forest-Wide Standards And Guidelines (Wildlife Management, p 62):** Maintain habitat for viable populations of all existing vertebrate wildlife species.	**DC Overall Ecosystem Health** Ecological conditions for habitat quality, distribution, and abundance contribute to self-sustaining populations of native and desirable nonnative plants and animals that are healthy, well distributed, connected, and genetically diverse. Conditions provide for the life history, distribution, and natural population fluctuations of the species within the capability of the landscape. **DC Overall Ecosystem Health** Habitat quality, distribution, and abundance exist to support the recovery of federally listed species and the continued existence of all native and desirable nonnative species. **DC Aquatic Habitat and Species** Streams and aquatic habitats support native fish and/or other aquatic species providing the quantity and quality of aquatic habitat within reference conditions. **DC Aquatic Habitat and Species** Streamflows, habitat, and water quality support native aquatic and riparian-dependent species and habitat.	Retained and modified as OBJs, DCs, and GDs within the Overall Ecosystem Health and Aquatic Habitat and Species sections of the revised plan. Also covered by Directives (FSM 2601.2, 2602, 2604.11, 2620.1, 2622.01, 2670.12, 2672.1, and 2672.32) and ESA. Language

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		DC Aquatic Habitat and Species Habitat and ecological conditions are capable of providing for self-sustaining populations of native, riparian dependent plant and animal species. **DC Aquatic Habitat and Species** Aquatic species habitat conditions provide the resiliency and redundancy necessary to maintain species diversity and metapopulations. **OBJ Aquatic habitat and Species** Annually, enhance or restore 5 to 15 miles of stream and riparian habitat to restore structure, composition, and function of physical habitat for native fisheries and riparian-dependent species. **OBJ Aquatic habitat and Species** During the planning period, complete at least five projects (e.g., remove barriers, restore dewatered stream segments, or connect fragmented habitat) to provide for aquatic and riparian associated species and migratory species. **GD Aquatic Habitat and Species** Management and activities should not contribute to a trend toward the Federal listing of a species.	updated in revised plan with 2 OBJs, 6 DCs, and 1 GD.
Aquatics/Fish	**MANAGEMENT AREA 3, Recreation (Standards and Guidelines, p 124):** Prepare implementation plans for dispersed recreation use areas in those riparian areas associated with a viable fishery.	**DC Dispersed Recreation** Water-based settings are available, and the associated recreation opportunities (e.g., canoeing, fishing, waterfowl hunting) do not degrade aquatic resources.	Modified language and changed to a DC in the Dispersed Recreation section of the revised plan.
Aquatic/Fish	**MANAGEMENT AREA 3, Wildlife Management (Standards and Guidelines, p 125):** Cooperate with Arizona Game and Fish Department to: 1. develop implementation plans for Arizona Cold Water Fisheries Strategic Plan; 2. plan lake and stream habitat improvement projects; 3. maintain a current fish habitat inventory; and 4. control fish populations, aquatic plants, and fish stocking to meet state fisheries management goals.	**OBJ Aquatic Habitat and Species** Annually, enhance or restore 5 to 15 miles of stream and riparian habitat to restore structure, composition, and function of physical habitat for native fisheries and riparian-dependent species. **OBJ Aquatic Habitat and Species** During the planning period, complete at least five projects (e.g., remove barriers, restore dewatered stream segments, or connect fragmented habitat) to provide for aquatic and riparian associated species and migratory species. **Management Approaches for Aquatic Habitat and Species** The Apache-Sitgreaves NFs assists Arizona Game and Fish Department (AZGFD) with efforts to protect and reintroduce native aquatic species where appropriate and control or eradicate nonnative species.	Reworded as 2 OBJs and a Management Approach in the Aquatic Habitat and Species section of the revised plan. Also covered by Directives (FSM 2601.2, 2603, 2604.21, 2610.1, 2610.2, 2610.3, 2610.42, 2620.2, 2620.43, 2620.44,

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
			2624.01, 2630.3, 2635.01, 2640.2, 2640.3, 2640.41, 2640.42, 2641, 2671.1, 2672.24b, and 2611).
Aquatics/Fish	**MANAGEMENT AREA 3, Wildlife Management (Standards and Guidelines, p 125):** Manage for or maintain a least 60% of potential habitat capability for Apache Trout, Rainbow Trout, Brook Trout, Brown Trout, Loach Minnow, and Little Colorado Spinedace.	**DC Overall Ecosystem Health -** Ecological conditions for habitat quality, distribution, and abundance contribute to self-sustaining populations of native and desirable nonnative plants and animals that are healthy, well distributed, connected, and genetically diverse. Conditions provide for the life history, distribution, and natural population fluctuations of the species within the capability of the landscape. **DC Overall Ecosystem Health** Habitat quality, distribution, and abundance exist to support the recovery of federally listed species and the continued existence of all native and desirable nonnative species. **DC Aquatic Habitat and Species** Streams and aquatic habitats support native fish and/or other aquatic species providing the quantity and quality of aquatic habitat within reference conditions. **DC Aquatic Habitat and Species** Streamflows, habitat, and water quality support native aquatic and riparian-dependent species and habitat. **DC Aquatic Habitat and Species** Habitat and ecological conditions are capable of providing for self-sustaining populations of native, riparian dependent plant and animal species. **DC Aquatic habitat and Species** Aquatic species habitat conditions provide the resiliency and redundancy necessary to maintain species diversity and metapopulations.	Reworded as 6 DCs within the Overall Ecosystem Health and Aquatic Habitat and Species section of the revised plan.
Aquatics/Fish	**MANAGEMENT AREA 3, Wildlife Management (Standards and Guidelines, p 125 and 126):** For Priority 1 and 2 Riparian Areas: a) Aquatic resources: (1) Manage for and maintain at least 80 percent of near natural shade over water surfaces.	**DC Overall Ecosystem Health** Ecological conditions for habitat quality, distribution, and abundance contribute to self-sustaining populations of native and desirable nonnative plants and animals that are healthy, well distributed, connected, and genetically diverse. Conditions provide for the life history, distribution, and natural population fluctuations of the species within the capability of the landscape. **DC Aquatic Habitat and Species** Habitat quality, distribution, and abundance exist to support the recovery of federally listed species and the continued existence of all native and desirable nonnative species.	Reworded as 6 DCs within the Overall Ecosystem Health and Aquatic Habitat and Species section of the revised plan. Also covered by FSM 2636.4.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	(2) Manage for and maintain at least 80 percent of streambank total linear distance in stable condition. (3) Prevent siltation not to exceed 20 percent fines (<855mm) in riffle areas. (4) Maintain 80 percent of the spawning gravel surface free of inorganic sediment. (5) Manage for stream temperatures not to exceed 68 degrees F, unless not technically feasible. (6) Manage for and maintain at least a 80 Biotic Condition Index on all perennial streams.	**DC Aquatic Habitat and Species** Streams and aquatic habitats support native fish and/or other aquatic species providing the quantity and quality of aquatic habitat within reference conditions. **DC Aquatic Habitat and Species** Streamflows, habitat, and water quality support native aquatic and riparian-dependent species and habitat. **DC Aquatic Habitat and Species** Habitat and ecological conditions are capable of providing for self-sustaining populations of native, riparian dependent plant and animal species. **DC Aquatic Habitat and Species** Aquatic species habitat conditions provide the resiliency and redundancy necessary to maintain species diversity and metapopulations.	
Aquatics/Fish	**MANAGEMENT AREA 11, Wildlife and Fish (Standards and Guidelines, p 161):** Manage waters capable of supporting fish to maintain a fishery.	**DC Aquatic Habitat and Species** Streams and aquatic habitats support native fish and/or other aquatic species providing the quantity and quality of aquatic habitat within reference conditions. **DC Aquatic Habitat and Species** Streamflows, habitat, and water quality support native aquatic and riparian-dependent species and habitat. **DC Aquatic Habitat and Species** Habitat and ecological conditions are capable of providing for self-sustaining populations of native, riparian dependent plant and animal species. **DC Aquatic Habitat and Species** Aquatic species habitat conditions provide the resiliency and redundancy necessary to maintain species diversity and metapopulations. **GD Water Resources** Streams, streambanks, shorelines, lakes, wetlands, seeps, springs and other bodies of water should be protected from detrimental changes in water temperature and sediment to protect aquatic species and riparian habitat.	Reworded as 4 DCs within the Aquatic Habitat and Species section of the revised plan, and one guideline within the Water Resources section of the plan.
Aquatics/Fish	**MANAGEMENT AREA 11, Wildlife and Fish (Standards and Guidelines, p 161):** Manage lakes to improve fisheries habitat through construction of structures as selected based on analysis and professional judgment of the responsible	**OBJ Aquatic Habitat and Species** During the planning period, complete at least five projects (e.g., remove barriers, restore dewatered stream segments, or connect fragmented habitat) to provide for aquatic and riparian associated species and migratory species.	Rewritten as an OBJ in the Aquatic Habitat and Species section of the revised plan.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	official and resource specialist:		
Aquatics/Fish	**MANAGEMENT AREA 11, Wildlife and Fish (Standards and Guidelines, p 161):** Manage waters to perpetuate Apache Trout in order that this species can be delisted from the endangered category.	**DC Aquatic Habitat and Species** Habitat conditions contribute to the recovery of federally listed species. **GD Aquatic Habitat and Species** Management and activities should not contribute to a trend toward the Federal listing of a species. **GD Aquatic Habitat and Species** Activities occurring within federally listed species habitat should apply habitat management direction and species protection measures from recovery plans.	Modified as 1 DC and 2 GDs in the Aquatic Habitat and Species section of the revised plan, as lentic systems are not part of recovery for this species. Also covered by ESA.
Aquatics/Fish	**MANAGEMENT AREA 12, Bear Wallow Wilderness Area (Standards and Guidelines, p 164):** Cooperate with the Arizona Game and Fish Department in the management of the Threatened Apache Trout.	Direction not carried forward into revised plan.	This direction was not carried forward because it duplicates law, regulation, or policy found in Directives (FSM 2601.2, 2603, 2610.2, 2671.1, and 2672.24b) and ESA.
Aquatics/Fish	**MANAGEMENT AREA 17, East and West Forks Little Colorado River (Standards and Guidelines, p 179):** Improve habitat capability for fish, and maintain stream channel stability.	**DC Overall Ecosystem Health** Ecological conditions for habitat quality, distribution, and abundance contribute to self-sustaining populations of native and desirable nonnative plants and animals that are healthy, well distributed, connected, and genetically diverse. Conditions provide for the life history, distribution, and natural population fluctuations of the species within the capability of the landscape. **DC Water Resources** Water quality, stream channel stability, and aquatic habitats retain their inherent resilience to natural and other disturbances. **DC Water Resources** Stream channels and floodplains are dynamic and resilient to disturbances. The water and sediment balance between streams and their watersheds allow a natural frequency of low and high flows. **DC Water Resources** Stream condition is sufficient to withstand floods without disrupting normal stream characteristics (e.g., water transport,	Language now captured in 4 DCs from the Overall Ecosystem Health and Water Resources sections of the revised plan.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		sediment, woody material) or altering stream dimensions (e.g., bankfull width, depth, slope, sinuosity).	
Aquatics/Fish	**MANAGEMENT AREA 18, Sandrock (Standards and Guidelines, p 182):** Cooperate with the Arizona Game & Fish Department and the U.S. Fish and Wildlife Service in the management of the Loach Minnow.	Direction not carried forward into revised plan.	This direction was not carried forward because it duplicates law, regulation, or policy found in the ESA and covered in Directives (FSM 2603, 2604.2, 2604.21, 2610.1, 2610.2, 2610.3, 2610.42, 2610.43, 2610.44, 2611.1, 2612, 2613, 2641, 2670.31, 2671.1, 2671.4, 2672.24b, and 2611).
Aquatics/Fish	**MONITORING PLAN: AQUATIC MACROINVERTEBRATES,** **LOACH MINNOW, LITTLE COLORADO SPINEDACE, APACHE TROUT, SPIKEDACE, RAZORBACK SUCKER, ROUNDTAIL CHUB, GILA CHUB (p 190-192):** Maintain and/or improve aquatic habitat effectiveness. Sustain viable habitats. Meet recovery plans where completed. Manage at appropriate levels to prevent listings as threatened or endangered.	**Monitoring Strategy -** Monitoring Question: Are habitats for threatened, endangered, sensitive, and other species for the forests being maintained or enhanced; meeting recovery objectives; moving toward desired conditions; and contributing to species viability? Monitoring Method: Review implementation of biological opinion terms and conditions and aquatic habitat and population surveys using current approved methodologies. Review implementation and evaluate effectiveness of project mitigation measures affecting habitat.	Modified monitoring strategy and methodologies to address outdated protocols and reduce costs.

Engineering

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Engineering	**Goal (P 17):** Provide and manage a serviceable road transportation system that meets needs for public access, land management, resource protection, and user safety. Provisions are made for construction/reconstruction, maintenance, seasonal and special closures, and obliterating unnecessary roads.	**DC Motorized Opportunities** A maintained road and motorized trail system is in place and provides for safety and access for the use (e.g. recreation, minerals, vegetation treatment, fire protection) of the Apache-Sitgreaves NFs **DC Motorized Opportunities** Users have opportunities for motorized access and travel on a system of designated NFS roads, motorized trails, and motorized areas. **DC Motorized Opportunities** The transportation system provides a variety of recreation opportunities including varying degrees of difficulty, from OHV trails to paved scenic byways, while limiting resource and/or user conflicts. **OBJ Motorized Opportunities** Annually maintain at least 20 percent of the passenger vehicle and 10 percent of the high-clearance vehicle NFS roads. **OBJ Motorized Opportunities** Annually maintain at least 20 percent of NFS motorized trails. **ST Motorized Opportunities** Motorized vehicle travel shall be managed to occur only on the designated system of NFS roads and motorized trails and designated motorized areas. **ST Motorized Opportunities** Unless specifically authorized, motorized cross-country travel shall be managed to occur only in designated motorized areas.	Retained through detailed objectives, desired conditions, and standards throughout the new plan and Forest Service Manual 7700 – Chapter 7730
Engineering	**Standard and Guideline (P 87):** Seasonally or permanently close existing roads prohibit off-road vehicle use or manage use when conflicts occur with wildlife and soil resource objectives. Generally limit closures to local roads in erosive soil areas, riparian areas, or wildlife areas that require specific management practices	**DC Riparian Areas** Soil compaction from forest activities (e.g., vehicle use, recreation, livestock grazing) does not negatively impact riparian areas. **DC Motorized Opportunities** The location and design of roads and trails does not impede wildlife and fish movement. **DC Wildlife Quiet Areas** WQAs lack disturbance from motorized vehicles, resulting in less stress to wildlife. **DC Research natural Area** Recreation opportunities, although not encouraged, are semi-primitive nonmotorized. **ST Motorized Opportunities** Motorized vehicle travel shall be	Retained through detailed objectives, desired conditions, standards and guidelines throughout the new plan.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		managed to occur only on the designated system of NFS roads and motorized trails and designated motorized areas. **ST Motorized Opportunities** Unless specifically authorized, motorized cross-country travel shall be managed to occur only in designated motorized areas. **ST Motorized Opportunities** Road maintenance and construction activities shall be designed to reduce sediment (e.g., water bars, sediment traps, grade dips) while first providing for user safety. **ST Research Natural Area** The Phelps Cabin RNA will be managed for nonmotorized access within the area; exceptions may be made for permitted research use. **GD Motorized Opportunities** New roads or motorized trails should be located to avoid Mexican spotted owl protected activity centers, northern goshawk post-fledging family areas, and other wildlife areas as identified; seasonal restrictions may be an option. **GD Motorized Opportunities** New roads, motorized trails, or designated motorized areas should be located to avoid meadows, wetlands, riparian areas, stream bottoms, sacred sites, and areas with high concentrations of significant archaeological sites. The number of stream crossings should be minimized or mitigated to reduce impacts to aquatic species. **GD Motorized Opportunities** As projects occur in riparian or wet meadow areas, unneeded roads or motorized trails should be closed or relocated, drainage restored, and native vegetation reestablished to move these areas toward their desired condition. **GD Motorized Opportunities** As project occur, roads or motorized trails that contribute to negative impacts on cultural resources should be closed or relocated. **GD Motorized Opportunities** As projects occur, redundant roads or motorized trails should be removed to reduce degradation of natural resources. **GD Motorized Opportunities** Roads and motorized trails removed from the transportation network should be treated in order to avoid future risk to hydrologic function and aquatic habitat. **GD Motorized Opportunities** Roads and motorized trails should be designed and located so as to not impede terrestrial and aquatic	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		species movement and connectivity. **GD Motorized Opportunities** As projects occur, existing meadow crossings should be relocated or redesigned, as needed, to maintain or restore hydrologic function using appropriate tools such as French drains, and elevated culverts. **GD Wildlife Quiet Area** Hiding cover and travelways should be maintained to provide for security and connectivity of habitat. **GD Recommended Research Natural Area** Recommended RNA's should be managed for nonmotorized access within the area to minimize ground disturbances and protect the resources which make these areas unique. **GD Recommended Wilderness** Only nonmotorized travel may occur in recommended wilderness. However, motorized use associated with grazing allotments may occur and should be limited to that needed to carry out required management practices and comply with the terms and conditions of term grazing permits.	
Engineering	**Standard and Guideline (P 87):** Roads not needed for industry, public, and/or administrative use which are uneconomical to maintain or which are causing significant resource conflicts will be obliterated. Obliteration of unneeded roads and trails is a means of implementing Resource Access/Travel Management (RATM) decisions. Obliteration will be accomplished by mechanically destroying the facility or by implementing management strategies to discourage, eliminate, or prohibit traffic to allow natural vegetation to return to the site. The road or trail shall be removed from the inventory when obliteration is complete.	**OBJ Overall Ecosystem Health** During the planning period, improve the condition class on at least 10 priority 6th level HUC watersheds by removing or mitigating degrading factors. Footnote: Degrading factors include, but are not limited to, actions that cause or maintain high departure from historic vegetation conditions, unsatisfactory or impaired soil condition, nonfunctioning riparian areas, impaired species habitat, occurrence of invasive species, and unstable road and trail conditions. **OBJ Riparian Areas** Within the planning period, relocate, repair, improve, or decommission a minimum of 4 miles of National Forest System roads or trails that add sediment to streams, damage riparian vegetation, erode streambanks, cause gullies, and/or compact floodplain soils. **OBJ Riparian Areas** Annually, remove an average of 2 miles of unauthorized roads or trails that add sediment to streams, damage riparian vegetation, erode streambanks, cause gullies, and/or compact floodplain soils. **GD Motorized Opportunities** As projects occur in riparian or wet meadow areas, unneeded roads or motorized trails should be closed or relocated, drainage restored and native vegetation	Retained through detailed objectives, desired conditions, and standards throughout the new plan, Forest Service Manual 7700 – Chapter 7730 and 36 CFR 212 Travel Management. The term obliteration is now referred to as Road decommissioning – Activities that result in the stabilization and restoration of unneeded roads to a more natural state (36CFR 212.1). It includes a range of activities from ripping and seeding to full reclamation by restoring the original topography. Road decommissioning results in the removal of a National Forest System road.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		reestablished to move these areas toward their desired condition. **GD Motorized Opportunities** As projects occur, redundant roads or motorized trails should be removed to reduce degradation of natural resources. **GD Motorized Opportunities** Roads and motorized trails removed from the transportation network should be treated in order to avoid future risk to hydrologic function and aquatic habitat.	
Engineering	**Standard and Guideline Management Area 1 (P 115):** Construct/reconstruct access roads minimal standard, and minimal density necessary for removing green firewood and in a manner to minimize resource impacts and ground disturbance and provide for user safety. Use collections from firewood permit surcharge to fund road work activities.	**DC Motorized Opportunities** A maintained road and motorized trail system is in place and provides for safety and access for the use (e.g. recreation, minerals, vegetation treatment, fire protection) of the Apache-Sitgreaves N.F. **DC Motorized Opportunities** The location and design of roads and trails does not impede wildlife and fish movement. **ST Motorized Opportunities Temporary** road construction shall minimize the impacts to resource values and facilitate road rehabilitation. Temporary roads shall be rehabilitated following completion of the activities for which they were constructed. **ST Motorized Opportunities** Road maintenance and construction activities shall be designed to reduce sediment (e.g., water bars, sediment traps, grade dips) while first providing for user safety. **GD Motorized Opportunities** As projects occur, roads or motorized trails that contribute to negative impacts on cultural resources should be closed or relocated.	Retained through detailed objectives, desired conditions, and standards throughout the new plan, Forest Service Manual 7700 – Chapter 7730 and 36 CFR 212 Travel Management. Funding mechanisms are a function of appropriation law, and WO, RO and Forest Budget direction/ advice, not plan direction.

Fire and Fuels

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Fire/Fuels	**Fire and Fuels Management** Fire is used as a resource management tool where it can effectively accomplish resource management objectives. (p. 17)	**DC Wildland Fire Management** •Human life, property, and natural and cultural resource are protected within and adjacent to NFS lands. •Wildland fires burn within the range of frequency and intensity of natural fire regimes. Uncharacteristic high severity fires rarely occur and do not burn at the landscape scale. •Wildland fire maintains and enhances resources and functions in its natural ecological role. •For all PNVTs, the composition, cover, structure, and mosaic of vegetative conditions reduce uncharacteristic wildfire hazard to local communities and forest ecosystems. **GD Wildland Fire Management** •Wildland fire may be used to meet PNVT desired conditions and enable natural fire regimes. •Human-induced impacts (e.g., smoke production, suppression actions) to natural processes, resources, or infrastructure attributable to wildland fire activities should be managed towards achieving objectives as identified in the applicable decision document.	Plan Direction carried forward with updates to comply with Federal Wildland Fire Management Policy (Forest Service and DOI, 2009).

Goshawk

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Goshawk	Establish a minimum of three nest areas and three replacement nest areas per Post-fledgling family area. The nest areas and replacement nest areas should be approximately 30 acres in size. A minimum total of 180 acres of nest areas should be identified within each PFA. Post-fledgling family areas (PFA) will be approximately 600 acres in size. Post-fledgling family areas will include the nest sites and consist of the habitat most likely to be used by the fledglings during their early development.	**GD Wildlife and Rare Plants** A minimum of six nest areas (known and replacement) should be located per northern goshawk territory. Northern goshawk nest and replacement nest areas should be located around active nests, in drainages, at the base of slopes, and on northerly (northwest to northeast) aspects. Nest areas should be 25 to 30 acres each in size. **GD Wildlife and Rare Plants** Northern goshawk post-fledging family areas (PFAs) of approximately 420 acres in size should be designated around the nest sites.	The requirements in the new plan are the same as the old plan. The new plan nest areas plus PFAs add up to 600 acres (6x30=180 acres plus 420 acres), same as in the previous direction.
Goshawk	**Within PFAs** General: Provide for healthy sustainable forest environment for the post-fledgling family needs of goshawks. The principle difference between within the post-fledgling family area and outside the post-fledgling family area is the higher canopy cover within the post-fledgling family area and smaller opening size within the post-fledgling family area. Vegetative Structural Stage distribution and structural conditions are the same within and outside the post-fledgling family area.	**DC Ponderosa Pine** Northern goshawk post-fledging family areas (PFAs) may contain 10 to 20 percent higher basal area in mid-aged to old tree groups than northern goshawk foraging areas and the surrounding forest. **DC Ponderosa Pine** Northern goshawk nest areas have forest conditions that are multi-aged and dominated by large trees with relatively denser canopies than the surrounding forest. **DC Dry Mixed Conifer** Northern goshawk post-fledging family areas (PFAs) may contain 10 to 20 percent higher basal area in mid-aged to old tree groups than northern goshawk foraging areas and the surrounding forest. **DC Dry Mixed Conifer** Northern goshawk nest areas have forest conditions that are multi-aged but are dominated by large trees with relatively denser canopies than the surrounding forest **DC Wet Mixed Conifer** Northern goshawk post-fledging family areas (PFAs) may contain 10 to 20 percent higher basal area in mid-aged to old tree groups than northern goshawk foraging areas and the surrounding forest.	The new plan direction, along with other Desired Conditions for forested types, provides the same direction as the previous plan. The previous direction specified higher canopy cover and smaller openings in PFAs; the increased basal area will provide both, as well as the requirement for nesting areas (which are within PFAs) to have denser canopies than surrounding stands.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		DC Wet Mixed Conifer Northern goshawk nest areas have forest conditions that are multi-aged but are dominated by large trees with relatively denser canopies than the surrounding forest **DC Spruce-fir** Northern goshawk post-fledging family areas (PFAs) may contain 10 to 20 percent higher basal area in mid-aged to old tree groups than northern goshawk foraging areas and the surrounding forest. **DC Spruce-fir** Northern goshawk nest areas have forest conditions that are multi-aged but are dominated by large trees with relatively denser canopies than the surrounding forest.	
Goshawk	**Within nesting areas:** The structure of the vegetation within nest areas is associated with the forest type, and tree age, size, and density, and the developmental history of the stand. Table 5 of RM-217 presents attributes required for goshawks on locations with "low" and "high" site productivity.	See above, also: **DC Ponderosa Pine** Ponderosa pine forest is characterized by variation in the size and number of tree groups depending on elevation, soil type, aspect, and site productivity. The more biologically productive sites contain more trees per group and more groups per area, resulting in less space between groups. Openings typically range from 10 percent in more biologically productive sites to 70 percent in the less productive sites. Tree density within forested areas ranges from 20 to 80 square feet basal area per acre. **DC Dry Mixed Conifer** The dry mixed conifer forest is characterized by a variety of size and number of tree groups depending on elevation, soil type, aspect, and site productivity. The more biologically productive sites contain more trees per group and more groups per area, resulting in less space between groups. Openings typically range from 10 percent in more biologically productive sites to 50 percent in less productive sites. Tree density within forested areas ranges from 30 to 100 square feet basal area per acre. **DC Wet Mixed Conifer** The size and number of groups and patches vary depending on disturbance, elevation, soil type, aspect, and site productivity. Patch sizes vary but are frequently hundreds of acres and rarely thousands of acres. Groups of tens of acres or less are relatively common. There	The new direction captures the degree of site variation within each vegetation type within the desired conditions themselves. The degree of site variation exhibited is based on more recent work than RM-217. See Desired Conditions for Use in Forest Planning in the Southwestern Region: Development and Science Basis (USDA, 2013) and also see Reynolds et al., 2013. Site productivity (site index) and site capability to provide the RM-217 Table 5 criteria are determined by specialists using site (stand) level data collected for project activity analysis and implementation.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		is a mosaic of primarily even-aged groups and patches, which vary in size, species composition, and age. Grass, forb, and shrub openings created by disturbances may comprise 10 to 100 percent of the area depending on the type of disturbance. **DC Spruce-fir** The size and number of groups and patches vary depending on disturbance, elevation, soil type, aspect, and site productivity. Patch sizes vary but are mostly hundreds of acres and rarely thousands of acres. There may be frequent small disturbances resulting in groups of tens of acres or less. A mosaic of primarily even-aged groups and patches, which vary in size, species composition, and age, is present. Grass, forb, and shrub openings created by disturbances may comprise 10 to 100 percent of the area depending on time since disturbances. Aspen is occasionally present in large patches.	
Goshawk	**Human disturbance**. Limit human disturbance in or near nest sites and PFAs during the breeding season so that goshawk reproductive success is not affected by human activities. The breeding season extends from March 1 through September 30.	**GD Wildlife and Rare Plants** Active raptor nests should be protected from treatments and disturbance during the nesting season to provide for successful reproduction. Specifically for northern goshawk nest areas, human presence should be minimized during nesting season of March 1 through September 30. **GD Motorized Opportunities** New roads or motorized trails should be located to avoid Mexican spotted owl protected activity centers, northern goshawk post-fledging family areas, and other wildlife areas as identified; seasonal restrictions may be an option.	The new plan has different wording, but the guidance remains the same.
Goshawk	**Applicability:** The northern goshawk standards and guidelines apply to the forest and woodland communities described below that are outside of Mexican spotted owl protected and restricted areas. Within Mexican spotted owl protected and restricted areas, the Mexican spotted owl standards and guidelines take precedence over the	Direction not carried forward into revised plan.	This precedence statement is no longer necessary and is not included in the new plan. The new plan sets direction for forested PNVTs that is designed to restore these systems to a level of ecological function similar to historical reference conditions. Protection of and requirements for

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	northern goshawk standards and guidelines. One or the other set of standards and guidelines apply to all forest and woodland communities but the Mexican spotted owl standards always take precedence in areas of overlap.		listed species, such as the Mexican spotted owl, already exist in law, regulation, and policy and are not duplicated in the plan. In addition, the statutory requirement to conserve listed species is met in the plan by guidance emphasizing actions that provide for listed species recovery.
Goshawk	Establish, and delineate on a map, a post-fledgling family area that includes six nesting areas per pair of nesting goshawks for known nest sites, old nest sites, areas where historical data indicates goshawks have nested there in the past, and where goshawks have been repeatedly sighted over a two year or greater time period but no nest sites have been located.	**GD Wildlife and Rare Plants** A minimum of six nest areas (known and replacement) should be located per northern goshawk territory. Northern goshawk nest and replacement nest areas should be located around active nests, in drainages, at the base of slopes, and on northerly (northwest to northeast) aspects. Nest areas should be 25 to 30 acres each in size. **GD Wildlife and Rare Plants** Northern goshawk post-fledging family areas (PFAs) of approximately 420 acres in size should be designated around the nest sites.	The new plan guidance meets the same intent as prior plan guidance.
Goshawk	**Forest wide ST under Management for goshawk habitat.** Survey the management analysis area prior to habitat modifying activities including a 1/2 mile beyond the boundary. **Forest wide GDs for goshawk inventories.** For areas where complete inventories cannot be done, use aerial photographs to locate vegetative structural stages (VSS) 4-6 within the project area and inventory just those sites for goshawk nest areas using R3 inventory protocol. All un-inventoried areas (VSS 1-3) will be managed to post-fledgling family area (PFA) specifications while in that stage. If, while using this inventory option, evidence suggests	Direction not carried forward into revised plan.	Inventories for goshawks, while not specifically required, will need to be conducted in order to fulfill provisions of the new plan for disturbance, establishment of nest sites and PFAs, and other provisions in the new plan.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	goshawks are present (such as finding plucking perches or molted goshawk feathers) conduct a complete inventory as outlined above. **Forest wide GDs for goshawk inventories**. If forests have goshawks commonly nesting in stands classified as VSS 1-3, use the complete inventory methods for those areas. There may be situations where an area is classified as a VSS 3, based on the predominant VSS class, but in actuality a combination of VSS 4 & 5 predominate the area. For those situations, use the complete inventory methods.		
Goshawk	**Forest wide ST for goshawk habitats.** Limit human activity in nesting areas during the breeding season.	**GD Wildlife and Rare Plants** Active raptor nests should be protected from treatments and disturbance during the nesting season to provide for successful reproduction. Specifically for northern goshawk nest areas, human presence should be minimized during nesting season of March 1 through September 30. **GD Motorized Opportunities** New roads or motorized trails should be located to avoid Mexican spotted owl protected activity centers, northern goshawk post-fledging family areas, and other wildlife areas as identified; seasonal restrictions may be an option.	The new plan guidance meets the intent of the previous guidance.
Goshawk	**Forest wide GD for goshawk habitats.** Refer to USDA Forest Service General Technical Report RM-217 entitled "Management Recommendations for the Northern Goshawk in the Southwestern United States" for scientific information on goshawk ecology and management which provide the basis for the management guidelines. Supplemental information on	Direction not carried forward into revised plan.	The science in RM-217, as well as more recent work, has been incorporated into the plan components for all forested PNVTs, including those PNVTs (Ponderosa pine, Dry and Wet Mixed Conifer, and Spruce-fir) that are goshawk habitat. Survey protocols have changed since the 1996 ROD

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	goshawk ecology and management may be found in "The Northern Goshawk: Ecology and Management" published by the Cooper Ornithological Society as Studies in Avian Biology No. 16. In woodland forest cover types, use empirical data to determine desired habitat conditions. **Forestwide GD for goshawk habitats.** Use the R3 survey protocol to get complete coverage of the management analysis area (Kennedy and Stahlecker 1993, as modified by Joy, Reynolds, and Leslie 1994.) Management analysis areas should be entire ecosystem management areas if possible. Complete at least one year of survey, but two years of survey should be done to verify questionable sightings, unconfirmed nest sites, etc. If nesting goshawks are found during the first year of inventory, a second year of inventory is not needed in that territory.		amended the forest plan; the current survey protocol is from 2006, and may change in future. The new plan does not specify the monitoring protocol to be used because this may change.
Goshawk	**Forest wide GDs for goshawk home range.** Manage for nest replacement sites to attain sufficient quality and size to replace the three suitable nest sites. **Forest wide GDs for goshawk home range**. Nest site selection will be based first on using active nest sites followed by the most recently used historical nest areas. When possible, all historical nest areas should be maintained.	**GD Wildlife and Rare Plants** A minimum of six nest areas (known and replacement) should be located per northern goshawk territory. Northern goshawk nest and replacement nest areas should be located around active nests, in drainages, at the base of slopes, and on northerly (northwest to northeast) aspects. Nest areas should be 25 to 30 acres each in size. **GD Wildlife and Rare Plants** A minimum of six nest areas (known and replacement) should be located per northern goshawk territory. Northern goshawk nest and replacement nest areas should be located around active nests, in drainages, at the base of slopes, and on northerly (northwest to northeast) aspects. Nest areas should be 25 to 30 acres each in size.	The new plan direction meets the intent of the previous direction.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Goshawk	**Forest wide GDs outside PFAs**. The distribution of VSS, tree density, and tree age are a product of site quality in the ecosystem management area. Use site quality to guide in the distribution of VSS, tree density and tree ages. Use site quality to identify and manage dispersal PFA and nest habitat at 2 - 2.5 mile spacing across the landscape.	**DC Ponderosa Pine** Ponderosa pine forest is characterized by variation in the size and number of tree groups depending on elevation, soil type, aspect, and site productivity. The more biologically productive sites contain more trees per group and more groups per area, resulting in less space between groups. Openings typically range from 10 percent in more biologically productive sites to 70 percent in the less productive sites. Tree density within forested areas ranges from 20 to 80 square feet basal area per acre. **DC Dry Mixed Conifer** The dry mixed conifer forest is characterized by a variety of size and number of tree groups depending on elevation, soil type, aspect, and site productivity. The more biologically productive sites contain more trees per group and more groups per area, resulting in less space between groups. Openings typically range from 10 percent in more biologically productive sites to 50 percent in less productive sites. Tree density within forested areas ranges from 30 to 100 square feet basal area per acre. **DC Wet Mixed Conifer** The size and number of groups and patches vary depending on disturbance, elevation, soil type, aspect, and site productivity. Patch sizes vary but are frequently hundreds of acres and rarely thousands of acres. Groups of tens of acres or less are relatively common. There is a mosaic of primarily even-aged groups and patches, which vary in size, species composition, and age. Grass, forb, and shrub openings created by disturbances may comprise 10 to 100 percent of the area depending on the type of disturbance. **DC Spruce-fir** The size and number of groups and patches vary depending on disturbance, elevation, soil type, aspect, and site productivity. Patch sizes vary but are mostly hundreds of acres and rarely thousands of acres. There may be frequent small disturbances resulting in groups of tens of acres or less. A mosaic of primarily even-aged groups and patches, which vary in size, species composition, and age, is present. Grass, forb, and shrub openings created by disturbances may comprise 10 to 100 percent of the area	The new plan direction, while it does not mention VSS, specifies that the variation in forested systems is a product of local site conditions and management must account for this and incorporate this variation into the variation in the vegetation type. This fully meets the intent of the old guidance.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		depending on time since disturbances. Aspen is occasionally present in large patches.	
Goshawk	**Forest wide GDs within nesting areas**. Limit dozer use for piling or scattering of logging debris so that the forest floor and herbaceous layer is not displaced or destroyed.	**DC Soil** Soils are stable within their natural capability. Vegetation and litter limit accelerated erosion (e.g., rills, gullies, root exposure, topsoil loss) and contribute to soil deposition and development. **DC Soil** Soils provide for diverse native plant species [9]. Vegetative ground cover (herbaceous vegetation and litter) is distributed evenly across the soil surface to promote nutrient cycling, water infiltration, and to maintain natural fire regimes. **GD Soil** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to soil resources. Where disturbance cannot be avoided, project specific soil and water conservation practices should be developed.	The new plan direction meets the intent of the previous direction.
Goshawk	**Forest wide GDs for human disturbance.** Limit human activities in or near nest sites and post-fledgling family areas during the breeding season so that goshawk reproductive success is not affected by human activities.	**GD Wildlife and Rare Plants** Active raptor nests should be protected from treatments and disturbance during the nesting season to provide for successful reproduction. Specifically for northern goshawk nest areas, human presence should be minimized during nesting season of March 1 through September 30. **GD Motorized Opportunities** New roads or motorized trails should be located to avoid Mexican spotted owl protected activity centers, northern goshawk post-fledging family areas, and other wildlife areas as identified; seasonal restrictions may be an option.	The new plan direction meets the intent of the previous direction.
Goshawk	**Forest wide ST for goshawk.** When activities conducted in conformance with these standards and guidelines may adversely affect other threatened, endangered, or sensitive species or may conflict with other established recovery plans or conservation agreements; consult with U.S. Fish and Wildlife Service to resolve the conflict.	**GD Wildlife and Rare Plants** Activities occurring within federally listed species habitat should apply habitat management objectives and species protection measures from recovery plans.	This precedence statement is no longer necessary and is not included in the new plan. Protection of and requirements for listed species, such as the Mexican spotted owl, already exist in law, regulation, and policy and are not duplicated in the plan. In addition, the statutory requirement to conserve listed species is met in the

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
			plan by guidance emphasizing actions that provide for listed species recovery.
Goshawk	**Forest wide ST for goshawk**. Within the ranges of the Kaibab pincushion cactus, *Pediocactus paradinei*, and the Arizona leatherflower, *Clematis hirsutissima arizonica*, management activities needed for the conservation of these two species that may conflict with northern goshawk standards and guidelines will be exempt from the conflicting northern goshawk standards and guidelines until conservation strategies or recovery plans (if listed) are developed for the two species.	Direction not carried forward into revised plan.	These species do not occur on the forests.
Goshawk	**Forest wide ST for NOGO Habitat:** Manage for uneven-age stand conditions for live trees and retain live reserve trees, snags, downed logs, and woody debris levels throughout woodland, ponderosa pine, mixed conifer and spruce-fir forest cover types. Manage for old age trees such that as much old forest structure as possible is sustained over time across the landscape. Sustain a mosaic of vegetation densities (overstory and understory), age classes and species composition across the landscape. Provide foods and cover for goshawk prey. **Forest wide GDs outside PFAs. Woodland:** Manage for uneven age conditions to sustain a mosaic of vegetation densities (overstory and understory), age classes, and species	**Concept retained, but specific text deleted. Replaced with:** *multiple DCs and GDs for forest and woodland densities, structure, arrangement, and function at the landscape, mid-scale and fine scale for All PNVTs and for each PNVT in the revised plan. As written, most revised plan DCs describe uneven-aged (multiple-aged) conditions that would make habitats more sustainable, providing both vertical and horizontal diversity, as well as tree age and species diversity. See new plan direction already presented in this crosswalk's **Vegetation** section for addressing the existing plan's "old growth" STs & GDs, wildlife "vertical and horizontal diversity" STs & GDs, deer/elk "hiding and thermal cover" STs & GDs, and "uneven-aged" management STs & GDs, as well as those presented in this crosswalk for MSO habitat. Those DCs and GDs are further supplemented in the revised plan with the following applicable for NOGO:* **DC for Overall Ecosystem Health** Large blocks of habitat are interconnected, allowing for behavioral and predator-prey interactions, and the persistence of metapopulations and	Redundant with revised plan's PNVT DCs and GDs. The revised plan presents a more holistic approach to providing wildlife habitat needs, including NOGO and its prey base. New plan direction is consistent with GTR RM-217 (MRNG). Also see Desired Conditions for Use in Forest Planning in the Southwestern Region: Development and Science Basis (USDA, 2013). **Management Approach for All Forested PNVTs -** Mexican spotted owl and northern goshawk are management indicator species (MIS) of forest density and structure. The treatment objective listed (*Annually treat 5,000 to*

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	composition well distributed across the landscape. Provide for reserve trees, snags, and down woody debris.	highly interactive wildlife species across the landscape. Ecological connectivity extends through all plant communities. **DCs for All PNVTs** Herbaceous vegetation amount and structure (e.g., plant density, height, litter, seed heads) provides habitat to support wildlife and prey species. **DCs for Forests: PP** •Northern goshawk post-fledging family areas (PFAs) may contain 10 to 20 percent higher basal area in mid-aged to old tree groups than northern goshawk foraging areas and the surrounding forest. •Northern goshawk nest areas have forest conditions that are multi-aged and dominated by large trees with relatively denser canopies than the surrounding forest. **DCs for Forests: DMC** •Northern goshawk post-fledging family areas (PFAs) may contain 10 to 20 percent higher basal area in mid-aged to old tree groups than northern goshawk foraging areas and the surrounding forest. •Northern goshawk nest areas have forest conditions that are multi-aged but are dominated by large trees with relatively denser canopies than the surrounding forest. **DCs for Forests: WMC** •Northern goshawk post-fledging family areas (PFAs) may contain 10 to 20 percent higher basal area in mid-aged to old tree groups than northern goshawk foraging areas and the surrounding forest. •Northern goshawk nest areas have forest conditions that are multi-aged but are dominated by large trees with relatively denser canopies than the surrounding forest. **DCs for Forests: SF** •Northern goshawk post-fledging family areas (PFAs) may contain 10 to 20 percent higher basal area in mid-aged to old tree groups than northern goshawk foraging areas and the surrounding forest. •Northern goshawk nest areas have forest conditions that are multi-aged but are dominated by large trees with relatively denser canopies than the surrounding forest. **OBJ for Woodlands: All Woodland PNVTs** Annually, treat or maintain 5,000 to 15,000 acres to promote a highly diverse	*35,000 acres …)* would contribute to species viability. Uneven-aged management techniques are used primarily, and some even-aged management is used especially when managing species such as aspen and spruce. Even-aged treatments may be applied in the short term for forest health concerns (e.g., heavy dwarf mistletoe infections) to facilitate a transition to uneven-aged management.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		structure. **DCs for Woodlands: Madrean Pine-Oak** •A mix of desired species[10], ages, heights, and groupings of trees create a mosaic across the landscape. •The majority of this woodland has an open canopy consisting of large trees and an herbaceous understory, with some groups of closed canopy. Overall, canopy cover is 10 to 50 percent. •Snags, averaging 1 to 2 per acre, and older trees are scattered across the landscape. Coarse woody debris averages 1 to 5 tons per acre. •Understory vegetation includes evergreen oaks, mountain mahogany, grasses, and forbs. •Ground cover consists of perennial grasses and forbs that frequently carry fire through the landscape. •Grasses, forbs, shrubs, needles, leaves, and small trees support the natural fire regime. The larger proportion (60 percent or greater) of soil cover is composed of grasses and forbs as opposed to needles and leaves. Mid-Scale Desired Conditions (100 to 1,000 acres) •Some large patches in the Madrean pine-oak woodland are closed canopy, have multiple age classes, large trees, and old growth-like characteristics (e.g., numerous snags, large coarse woody debris) in order to provide for wildlife such as Mexican spotted owl and black bear, that need denser habitat. •The size and number of groups and patches vary depending on disturbance, elevation, soil type, aspect, and site productivity. Patch sizes vary but are mostly tens of acres, with rare disturbances of hundreds of acres. There may be frequent small disturbances resulting in groups and patches of tens of acres or less. A mosaic of groups and patches of trees, primarily even-aged, that are variable in size, species composition, and age, is present. Grass, forb, and shrub openings created by disturbance may comprise 10 to 100	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		percent of the area depending on the disturbances. •Woodland densities range from 15 to 50 square feet basal area per acre. **DCs for Woodlands: Piñon-Juniper – Savanna** •The piñon-juniper savanna is open in appearance with trees occurring as individuals or in small groups and ranging from young to old. Overall, tree canopy cover is 10 to 15 percent, but may range up to 30 percent. •Scattered shrubs and a continuous herbaceous understory, including native grasses, forbs, and annuals, are present to support a natural fire regime. •Grasses, forbs, shrubs, needles, leaves, and small trees support the natural fire regime. The larger proportion (60 percent or greater) of soil cover is composed of grasses and forbs as opposed to needles and leaves. •Old growth occurs in isolated locations scattered throughout the landscape, as individual old trees or as clumps of old trees. Other old growth components may also be present including dead trees (snags), downed wood (coarse woody debris), and/or structural diversity. **DCs for Woodlands: Piñon-Juniper – Persistent Woodland** •A mix of desired species[10], ages, heights, and groupings of trees create a mosaic across the landscape. •Tree canopy cover is closed (greater than 30 percent), shrubs are sparse to moderate, and herbaceous cover is patchy. •Snags, averaging one to two per acre, and older trees with dead limbs and tops are scattered across the landscape. Coarse woody debris averages 2 to 5 tons per acre. •Old growth includes old trees, dead trees (snags), downed wood (coarse woody debris), and/or structural diversity. The location of old growth shifts on the landscape over time as a result of succession and disturbance (tree growth and mortality).	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		GDs for Wildlife and Rare Plants •Management and activities should not contribute to a trend toward the Federal listing of a species. •Modifications, mitigations, or other measures should be incorporated to reduce negative impacts to plants, animals, and their habitats and to help provide for species needs, consistent with project or activity objectives.	
Goshawk	**Forest wide GD outside PFAs: General**: The distribution of vegetation structural stages for **ponderosa pine, mixed conifer and spruce-fir forests** is 10% grass/forb/shrub (VSS1), 10% seedling-sapling (VSS2), 20% young forest (VSS 3), 20% mid-aged forest (VSS4), 20% mature forest (VSS 5), 20% old forest (VSS6). NOTE: The specified percentages are a guide and actual percentages are expected to vary + or - up to 3%.	**General concept retained, but prescriptive VSS provisions deleted.** **DCs for Overall Ecosystem Health –** •Natural ecological cycles (i.e., hydrologic, energy, nutrient) facilitate shifting of plant communities, structure, and ages across the landscape. Ecotone shifts are influenced at both the landscape and watershed scale by ecological processes. The mosaic of plant communities and the variety within the communities are resilient to disturbances. •Ecological conditions for habitat quality, distribution, and abundance contribute to self-sustaining populations of native and desirable nonnative plants and animals that are healthy, well distributed, connected, and genetically diverse. Conditions provide for the life history, distribution, and natural population fluctuations of the species within the capability of the landscape. •Habitat configuration and availability allows wildlife populations to adjust their movements (e.g., seasonal migration, foraging) in response to climate change and promote genetic flow between wildlife populations. •Habitat quality, distribution, and abundance exist to support the recovery of federally listed species and the continued existence of all native and desirable nonnative species. **DCs for All PNVTs –** •Each PNVT contains a mosaic of vegetative conditions, densities, and structures. This mosaic occurs at a variety of scales across landscapes and watersheds. The distribution of physical and biological conditions is appropriate to the natural disturbance regimes affecting the area.	Revised plan's DCs for all Forests, Woodlands, and PNVTs are consistent with GTR-217 (MRNG) and provide for sustainable goshawk habitat. Uneven-aged management is emphasized as the silvicultural tool to help achieve a sustainable range of tree age/size classes across the NOGO's habitat. See Desired Conditions for Use in Forest Planning in the Southwestern Region: Development and Science Basis (USDA 2013), including illustration of VSS class distribution as a form of uneven-aged management. Also see Reynolds et al., 2013 for further illustrations of how revised plan direction is consistent with the MRNG, especially for the frequent-fire PNVTs (PP and DMC). **Management Approaches for Wildlife and Rare Plants -** The management approach is to provide a diversity of habitats, well distributed, with ecological conditions that support native and

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		•Diverse vegetation structure, species composition, densities, and seral states provide quality habitat for native and desirable nonnative plant and animal species throughout their life cycle and at multiple spatial scales. Landscapes provide for the full range of ecosystem diversity at multiple scales, including habitats for those species associated with late seral states and old growth forests. •Old growth is dynamic in nature and occurs in well-distributed patches that spatially shift across forest and woodland landscapes over time. •Old or large trees, multistoried canopies, large coarse woody debris, and snags provide the structure, function, and associated vegetation composition as appropriate for each forested and woodland PNVTs. •Stand densities and species compositions are such that vegetation conditions are resilient under a variety of potential future climates. **Also see DCs for Forests: Ponderosa pine, Dry Mixed conifer, Wet mixed conifer, Spruce-fir, Aspen; and DCs for Woodlands: Madrean pine-oak, and Piñon-juniper.**	desired nonnative animal species over the long term. The forests also provide for wildlife and their needs consistent with recovery plans, biological opinions, conservation strategies, conservation assessments, management plans, memorandums of understanding (MOUs), and Forest Service direction. Species conservation assessments/strategies and agreements executed at the forest level are reviewed every 10 years and updated as necessary. The forests participate in the development and implementation of conservation plans and activities for identified species to help preclude Federal or State listing. Actions (e.g., closures, timing of treatments) are implemented to limit management impacts and disturbances and to help prevent listing of species as threatened or endangered.
Goshawk	**Forest wide GDs outside PFAs: Spruce-fir**: Canopy cover for mid-aged forest (VSS 4) should average 1/3 60% and 2/3 40%, mature forest (VSS 5) should average 60+%, and old forest (VSS 6) should average 60+%. Maximum opening size is 1 acre with a maximum width of 125 feet. Provide two groups of reserve trees per acre with six trees per group when opening size exceeds 0.5. Leave at least 3 snags, 5 downed logs, and 10-15 tons	**Concept retained but prescriptive text deleted. Replaced with:** **GDs for All PNVTs** •During project design and implementation, precautions should be taken to reduce the potential for damage to residual vegetation in order to prevent premature or excessive mortality. •Project plans should include quantitative and/or qualitative objectives for implementation monitoring and effectiveness monitoring to assist in moving toward or maintaining desired conditions. **OBJ for All Forested PNVTs** Annually, treat 5,000 to 35,000 acres to reduce tree densities, restore natural fire regimes, promote species habitat and ecosystem health, reduce fire	The majority of this forested PNVT lies within designated wilderness areas. Thus no SF acres in the revised plan are classified as suitable timberlands. Much of the remaining habitat in this type needs restoration to sustainable conditions, where possible. From revised plan's **Spruce-Fir forest Background** section:

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	of woody debris per acre (including the downed logs).	hazard, maintain desired conditions, initiate recovery from uncharacteristic disturbance, and provide forest products, leaving a desired mix of species with the range of desired densities that are resilient to changing climatic conditions. **See <u>all</u> DCs for Forests: Spruce-Fir at Landscape Scale, Mid-scale, and Fine scale.** (Listing them all here would be too lengthy and redundant) **GD for Wildlife and Rare Plants**- Modifications, mitigations, or other measures should be incorporated to reduce negative impacts to plants, animals, and their habitats and to help provide for species needs, consistent with project or activity objectives. **GDs for Landscape Scale Disturbance Events** •Where conifer seed sources are lost or poorly distributed and/or deciduous tree species are not adequately resprouting, artificial regeneration (e.g., planting, seeding) should be used to promote movement toward desired conditions, provided adequate site conditions exist. •Management should emphasize long term reestablishment of native deciduous trees, shrubs, and herbaceous vegetation to maintain ecosystem diversity. •An adequate number and size of snags and logs, appropriate for the affected PNVT, should be retained individually and in clumps to provide benefits for wildlife and coarse woody debris for soil and other resource benefits. **STs for Wilderness and Primitive Area, and Recommended Wilderness** •Objective(s) and strategies for all wildfires shall be identified. •Human-caused disturbed areas that do not complement wilderness characteristics will be rehabilitated to a natural appearance, using species or other materials native to the area. **GD for Wilderness and Primitive Area, and Recommended Wilderness** Prescribed fire should be considered to reduce the risks and consequences of	"Spruce-fir intergrades with the wet mixed conifer PNVT at lower elevations. This PNVT's overstory is currently (post-Wallow Fire) highly departed from reference conditions. There is a lack of aspen regeneration. There are also too few large to very large shade tolerant trees with closed canopies. Approximately 31 percent of this PNVT was reset to an early developmental state because of the 2011 Wallow Fire. The natural fire regime is also moderately departed from reference conditions. Historically, principal ecological disturbance factors were insects, disease, and wind followed by infrequent high severity fires."

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		uncharacteristic wildfire within wilderness or escaping from wilderness by reducing unnatural fuel accumulations, if necessary to meet wilderness fire management objectives. Naturally occurring wildfires should be allowed to perform, as much as possible, their natural ecological role within wilderness.	
Goshawk	**Forest wide GDs outside PFAs: Mixed Conifer**: Canopy cover for mid-aged forest (VSS 4) should average 1/3 60+% and 2/3 40+%, mature forest (VSS 5) should average 50+%, and old forest (VSS 6) should average 60+%. Maximum opening size is up to 4 acres with a maximum width of up to 200 feet. Retain one group of reserve trees per acre of 3-5 trees per group for openings greater than 1 acre in size. Leave at least 3 snags, 5 downed logs, and 10-15 tons of woody debris per acre, (including the downed logs).	**Concept retained but prescriptive text deleted. Replaced with:** **GDs for All PNVTs** •During project design and implementation, precautions should be taken to reduce the potential for damage to residual vegetation in order to prevent premature or excessive mortality. •Project plans should include quantitative and/or qualitative objectives for implementation monitoring and effectiveness monitoring to assist in moving toward or maintaining desired conditions. **OBJ for All Forested PNVTs** Annually, treat 5,000 to 35,000 acres to reduce tree densities, restore natural fire regimes, promote species habitat and ecosystem health, reduce fire hazard, maintain desired conditions, initiate recovery from uncharacteristic disturbance, and provide forest products, leaving a desired mix of species with the range of desired densities that are resilient to changing climatic conditions. **See <u>all</u> DCs for Forests: Dry Mixed Conifer at Landscape Scale, Mid-scale, and Fine scale.** + also **See <u>all</u> DCs for Forests: Wet Mixed Conifer at Landscape Scale, Mid-scale, and Fine scale.** (Listing them all here would be too lengthy and redundant) **GD for Wildlife and Rare Plants**- Modifications, mitigations, or other measures should be incorporated to reduce negative impacts to plants, animals, and their habitats and to help provide for species needs, consistent with project or activity objectives. **GDs for Landscape Scale Disturbance Events**	Much of the remaining habitat in types needs restoration to sustainable conditions. From revised plan's **DMC and WMC forests Background** sections: **-DMC: "**This PNVT's overstory is currently (post-Wallow Fire) highly departed from reference conditions. The forest composition has shifted toward more shade tolerant species that are not adapted to fire, such as true firs. It also has too many stands with a closed canopy characteristic, and there is an underrepresentation of medium to very large size trees with an open canopy character. Approximately 25 percent of this PNVT was reset to an early developmental state because of the 2011 Wallow Fire. The natural fire regime is also severely departed from reference conditions. Historically, fire burned relatively frequently (every 10 to 22 years) and at low intensities. This historic regime kept the forest open and maintained fire-resistant species and an abundant herbaceous understory." **-WMC:** "This PNVT's overstory is currently (post-Wallow Fire) highly

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		•Where conifer seed sources are lost or poorly distributed and/or deciduous tree species are not adequately resprouting, artificial regeneration (e.g., planting, seeding) should be used to promote movement toward desired conditions, provided adequate site conditions exist. •Management should emphasize long term reestablishment of native deciduous trees, shrubs, and herbaceous vegetation to maintain ecosystem diversity. •An adequate number and size of snags and logs, appropriate for the affected PNVT, should be retained individually and in clumps to provide benefits for wildlife and coarse woody debris for soil and other resource benefits.	departed from reference conditions. There is a lack of aspen regeneration and too few large to very large shade tolerant trees with a closed canopy characteristic. Approximately 35 percent of this PNVT was reset to an early developmental state because of the 2011 Wallow Fire. The majority (approximately 74 percent) of the herbaceous understory vegetation within the wet mixed conifer forest is highly to severely departed from desired conditions. The natural fire regime is also moderately departed from reference conditions. Historic fire regimes were typically of mixed severity fires (every 35 to 50 years) and occasional high severity, stand replacing, crown fires (every 120 to 400 or more years). Natural ecological disturbances in this PNVT typically occur at two spatial and temporal scales: large scale infrequent (mostly fire) and small scale frequent (e.g., fire, insects, disease, wind)." Analyses done for the revised plan's EIS show that increasing the annual treatment OBJ acres and/or the ASQ stated in the revised plan could jeopardize key habitat conditions for NOGO and MSO in the short-term (i.e., during life of the revised plan).

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Goshawk	**Forestwide GDs outside PFAs. Ponderosa Pine**: Canopy Cover for mid-aged forest (VSS 4) should average 40+%, mature forest (VSS 5) should average 40+%, and old forest (VSS 6) should average 40+%. Opening size is up to 4 acres with a maximum width of up to 200 feet. One group of reserve trees, 3-5 trees per group, will be left if the opening is greater than an acre in size. Leave at least 2 snags per acre, 3 downed logs per acre, and 5-7 tons of woody debris per acre, (including the downed logs).	**Concept retained but prescriptive text deleted. Replaced with:** **GDs for All PNVTs** •During project design and implementation, precautions should be taken to reduce the potential for damage to residual vegetation in order to prevent premature or excessive mortality. •Project plans should include quantitative and/or qualitative objectives for implementation monitoring and effectiveness monitoring to assist in moving toward or maintaining desired conditions. **OBJ for All Forested PNVTs** Annually, treat 5,000 to 35,000 acres to reduce tree densities, restore natural fire regimes, promote species habitat and ecosystem health, reduce fire hazard, maintain desired conditions, initiate recovery from uncharacteristic disturbance, and provide forest products, leaving a desired mix of species with the range of desired densities that are resilient to changing climatic conditions. **See <u>all</u> DCs for Forests: Ponderosa pine at Landscape Scale, Mid-scale, and Fine scale**. (Listing them all here would be too lengthy and redundant) **OBJ for Grasslands** Decrease or maintain the woody canopy cover at less than 10 percent by treating up to 25,000 acres annually. **GD for Wildlife and Rare Plants**- Modifications, mitigations, or other measures should be incorporated to reduce negative impacts to plants, animals, and their habitats and to help provide for species needs, consistent with project or activity objectives. **GDs for Landscape Scale Disturbance Events** •Where conifer seed sources are lost or poorly distributed and/or deciduous tree species are not adequately resprouting, artificial regeneration (e.g., planting, seeding) should be used to promote movement toward desired conditions, provided adequate site conditions exist. •Management should emphasize long term reestablishment of native deciduous trees, shrubs, and herbaceous vegetation to maintain ecosystem diversity.	Much of the remaining habitat in this type needs restoration to sustainable conditions. From revised plan's **Ponderosa pine forest Background** section: "This PNVT's overstory is currently (post-Wallow Fire) severely departed from reference conditions. There are too many stands in all diameter classes with a closed canopy characteristic, and there are too few large to very large size trees with an open canopy character. The majority (85 percent) of the herbaceous understory vegetation within ponderosa pine forest is highly to severely departed from desired conditions. Approximately 9 percent of this PNVT was reset to an early developmental state because of the 2011 Wallow Fire. The natural fire regime is also severely departed from reference conditions. Historically, fire burned relatively frequently (every 2 to 17 years) and at low intensities that kept the forest open with abundant herbaceous cover. Some areas that appear to be ponderosa pine forest are actually historic montane/subalpine or Great Basin grasslands that have been encroached by conifer species." By removing trees to restore grasslands, natural fire breaks will

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		•An adequate number and size of snags and logs, appropriate for the affected PNVT, should be retained individually and in clumps to provide benefits for wildlife and coarse woody debris for soil and other resource benefits.	result to help prevent wildfire spread to adjacent NOGO and MSO habitat. Analyses done for the revised plan's EIS show that increasing the annual treatment OBJ acres and/or the ASQ stated in the revised plan could jeopardize key habitat conditions for NOGO and MSO in the short-term (i.e., during life of the revised plan).
Goshawk	**Forest wide GDs within Nesting Areas** General: Provide unique nesting habitat conditions for goshawks. Important features include trees of mature to old age with high canopy cover.	**DC Ponderosa Pine** Northern goshawk post-fledging family areas (PFAs) may contain 10 to 20 percent higher basal area in mid-aged to old tree groups than northern goshawk foraging areas and the surrounding forest. •Northern goshawk nest areas have forest conditions that are multi-aged and dominated by large trees with relatively denser canopies than the surrounding forest. **DC Dry Mixed Conifer:** Northern goshawk post-fledging family areas (PFAs) may contain 10 to 20 percent higher basal area in mid-aged to old tree groups than northern goshawk foraging areas and the surrounding forest. •Northern goshawk nest areas have forest conditions that are multi-aged but are dominated by large trees with relatively denser canopies than the surrounding forest **DC Wet Mixed Conifer:** Northern goshawk post-fledging family areas (PFAs) may contain 10 to 20 percent higher basal area in mid-aged to old tree groups than northern goshawk foraging areas and the surrounding forest. •Northern goshawk nest areas have forest conditions that are multi-aged but are dominated by large trees with relatively	The new plan direction, along with other Desired Conditions for forested types, provides the same direction as the previous plan. The previous direction specified higher canopy cover and smaller openings in PFAs; the increased basal area will provide both, as well as the requirement for nesting areas (which are within PFAs) to have denser canopies than surrounding stands.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		denser canopies than the surrounding forest **DC Spruce-fir:** Northern goshawk post-fledging family areas (PFAs) may contain 10 to 20 percent higher basal area in mid-aged to old tree groups than northern goshawk foraging areas and the surrounding forest. •Northern goshawk nest areas have forest conditions that are multi-aged but are dominated by large trees with relatively denser canopies than the surrounding forest	
Goshawk	**Forest wide GDs within PFAs. Spruce-fir, Mixed Conifer and Ponderosa Pine Cover Types:** The **nesting area** contains only mature to old forest (VSS 5 & 6) having a canopy cover (measured vertically) between 50-70% with mid-aged VSS 6 trees 200-300 years old. Non-uniform spacing of trees and clumpiness is desirable. **Forest wide GDs within PFAs: Spruce-fir**: Canopy Cover for mid-aged forest (VSS 4) should average 60+% and for mature (VSS 5) and old forest (VSS 6) should average 70+%. **Forest wide GDs within PFAs Mixed Conifer**: Canopy Cover for mid-aged (VSS 4) to old forest (VSS 6) should average 60+%. **Forest wide GDs within PFAs: Ponderosa Pine:** Canopy Cover for mid-aged forest (VSS 4) should average 1/3 60+% and 2/3 50+%. Mature (VSS 5) and old forest (VSS 6) should average 50+%.	**Concept retained but prescriptive text deleted. Replaced with:** **DCs for All PNVTs Landscape Scale** Diverse vegetation structure, species composition, densities, and seral states provide quality habitat for native and desirable nonnative plant and animal species throughout their life cycle and at multiple spatial scales. Landscapes provide for the full range of ecosystem diversity at multiple scales, including habitats for those species associated with late seral states and old growth. **GD for All Forested PNVTs** -Trees, snags, and logs immediately adjacent to active red squirrel cone caches, Abert's squirrel nests, and raptor nests should be retained to maintain needed habitat components and provide tree groupings. **DCs for Forests: PP** •Northern goshawk post-fledging family areas (PFAs) may contain 10 to 20 percent higher basal area in mid-aged to old tree groups than northern goshawk foraging areas and the surrounding forest. •Northern goshawk nest areas have forest conditions that are multi-aged and dominated by large trees with relatively denser canopies than the surrounding forest. **DCs for Forests: DMC** •Northern goshawk post-fledging family areas (PFAs) may contain 10 to 20 percent higher basal area in mid-aged to old tree groups than northern goshawk foraging areas and the surrounding forest. •Northern goshawk nest areas have forest conditions that are	Revised plan's DCs and GDs are consistent with GTR-RM-217 (MRNG), and provide for healthy and sustainable NOGO habitat at multiple scales. Uneven-aged management is emphasized as the silvicultural tool to help achieve a sustainable range of tree age/size classes across the NOGO's habitat. See Desired Conditions for Use in Forest Planning in the Southwestern Region: Development and Science Basis (USDA 2013), including illustration of VSS class distribution as a form of uneven-aged management.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		multi-aged but are dominated by large trees with relatively denser canopies than the surrounding forest. **DCs for Forests: WMC** •Canopies are more closed than dry mixed conifer. •Tree density ranges from 30 to 180 square feet basal area per acre depending upon time since disturbance and seral states of groups and patches. •In mid-aged and older forests, trees are typically variably spaced with crowns interlocking (grouped and clumped trees) or nearly interlocking providing for species such as red squirrel. Trees within groups can be of similar or variable species and ages. •Northern goshawk post-fledging family areas (PFAs) may contain 10 to 20 percent higher basal area in mid-aged to old tree groups than northern goshawk foraging areas and the surrounding forest. •Northern goshawk nest areas have forest conditions that are multi-aged but are dominated by large trees with relatively denser canopies than the surrounding forest. **DCs for Forests: SF** •Tree canopies in this forest are closed. An understory, consisting of native grass, forbs, and/or shrubs, is present in early seral states and is replaced by trees in later seral states. •Old growth occurs over large, continuous areas. … •Tree density ranges from 30 to 250 square feet basal area per acre, depending upon disturbance and seral states of the groups and patches. •Mid-aged to old trees grow tightly together with interlocking crowns. Trees are of the same size and/or age class in early group/patch development. In late development, they may be multilayered. •Northern goshawk post-fledging family areas (PFAs) may contain 10 to 20 percent higher basal area in mid-aged to old tree groups than northern goshawk foraging areas and the surrounding forest. •Northern goshawk nest areas have forest conditions that are multi-aged but are dominated by large trees with relatively denser canopies than the surrounding forest. **GDs for Wildlife and Rare Plants** – •Modifications, mitigations, or other measures should be	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		incorporated to reduce negative impacts to plants, animals, and their habitats and to help provide for species needs, consistent with project or activity objectives. •Cool and/or dense vegetation cover should be provided for species needing these habitat components … **DCs for Wildlife Quiet Area** •WQAs provide blocks of core habitat to meet wildlife life stage requirements during the breeding, rearing, and, in some cases, the critical wintering period. •WQAs contribute to preserving natural behaviors and processes that sustain wildlife populations associated with each WQA (see below) {different for each WQA listed in the WQA section}. •The Hulsey Bench WQA on the Alpine Ranger District provides Mexican spotted owl, northern goshawk, elk, deer, turkey, and bear refuge habitat. •Middle Mountain WQA provides refuge for northern goshawk, turkey, deer, elk, and Mexican spotted owl amid extensive dispersed recreation on the Alpine Ranger District.	
Goshawk	**Forest wide GDs within Nesting areas.** Woodland: Maintain existing canopy cover levels. Forest wide GDs within PFAs. Woodland: Maintain existing canopy cover levels.	**Deleted. Replaced with:** **OBJ for Woodlands: All Woodland PNVTs** Annually, treat or maintain 5,000 to 15,000 acres to promote a highly diverse structure. **GDs for Woodlands: All Woodland PNVTs** •Treatments should leave single or small groups of medium to large native trees that are widely spaced with expanses of herbaceous vegetation and coarse woody debris to provide for soil productivity, traditional uses (e.g., piñon nut gathering), and wildlife needs such as foraging habitat for migratory birds (e.g., black-throated gray warbler, piñon jay) and other birds. •Hiding cover, approach cover (by waters), and travel corridor cover should be provided where needed by wildlife. **DCs for Woodlands: Madrean Pine-Oak –**	**Background for Woodlands: Madrean Pine-Oak -** This PNVT's overstory is currently (2011) highly departed from reference conditions. There are too many acres of closed canopy conditions consisting of small, medium, or large trees. Medium to very large trees with herbaceous understory and open canopy are lacking. The herbaceous understory vegetation within the Madrean pine-oak woodland is split, nearly equally, between low to moderately departed and highly to severely departed from desired conditions. The fire regime is also severely

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		•The majority of this woodland has an open canopy consisting of large trees and an herbaceous understory, with some groups of closed canopy. Overall, canopy cover is 10 to 50 percent. •Some large patches in the Madrean pine-oak woodland are closed canopy, have multiple age classes, large trees, and old growth-like characteristics (e.g., numerous snags, large coarse woody debris) in order to provide for wildlife such as Mexican spotted owl and black bear, that need denser habitat. •The size and number of groups and patches vary depending on disturbance, elevation, soil type, aspect, and site productivity. Patch sizes vary but are mostly tens of acres, with rare disturbances of hundreds of acres. There may be frequent small disturbances resulting in groups and patches of tens of acres or less. A mosaic of groups and patches of trees, primarily even-aged, that are variable in size, species composition, and age, is present. Grass, forb, and shrub openings created by disturbance may comprise 10 to 100 percent of the area depending on the disturbances. •Woodland densities range from 15 to 50 square feet basal area per acre. •Single large trees or small groups are widely spaced between large expanses of herbaceous vegetation and shrubs. **DCs for Woodlands: Piñon-Juniper - Savanna** The piñon-juniper savanna is open in appearance with trees occurring as individuals or in small groups and ranging from young to old. Overall, tree canopy cover is 10 to 15 percent, but may range up to 30 percent. **DCs for Woodlands: PJ - Persistent Woodland** •A mix of desired species[10], ages, heights, and groupings of trees create a mosaic across the landscape. •Tree canopy cover is closed (greater than 30 percent), shrubs are sparse to moderate, and herbaceous cover is patchy. **OBJ for Grasslands** Decrease or maintain the woody canopy cover at less than 10 percent by treating up to 25,000	departed from reference conditions. Low severity surface fires frequently (every 3 to 8 years) burned through this PNVT maintaining an open stand structure. Some areas that appear to be Madrean pine-oak woodlands are actually historic semi-desert grasslands that have been encroached by woody species. **Background for Woodlands: PJ** - The piñon-juniper woodland can be divided into two subgroups: savanna and persistent woodland. This PNVT's overstory is currently (2011) slightly departed from reference conditions. When compared to desired conditions, there are too many medium to very large trees with open and/or closed canopies. While there are too few seedlings, saplings, and small trees with open and/or closed canopies, understory vegetation is lacking in many areas. The majority (91 percent) of the herbaceous understory vegetation within the piñon-juniper woodland is highly to severely departed from desired conditions. The current fire regime is similar to reference conditions. Many areas that appear to be piñon-juniper woodland are actually historic Great Basin grassland that has been encroached by woody species.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		acres annually. **GD for Wildlife and Rare Plants** Cool and/or dense vegetation cover should be provided for species needing these habitat components. **DC for Wildlife Quiet Area –** The Hulsey Bench WQA on the Alpine Ranger District provides Mexican spotted owl, northern goshawk, elk, deer, turkey, and bear refuge habitat.	Given that many existing "woodland" acres on the ASNFs are not sustainable with an existing closed canopy condition, this existing plan direction is not restoration-based in many cases and will ultimately not favor the NOGO. Acres that have existing canopy cover densities more consistent with the DCs (especially PJ persistent woodland) will be treated to maintain that existing canopy cover. Project specialists will need to determine if existing acres that appear to be woodland are actually encroached grasslands in need of tree removal for grassland restoration. Hulsey Bench WQA contains some PJ woodland.
Goshawk	**Forest wide GDs outside PFAs.** Canopy Cover: Canopy cover guidelines apply only to mid-aged to old forest structural stages (VSS 4, VSS 5, and VSS 6) and not to grass/forb/shrub to young forest structural stages (VSS 1, VSS 2, and VSS 3).	Direction not carried forward into revised plan.	Canopy cover not defined in revised plan glossary. This GD is outdated since revised plan does not use VSS classes. DCs are designed to be consistent with MRNG.
Goshawk	**Forest wide GDs outside PFAs.** Snags are 18" or larger DBH and 30 feet or larger in height, downed logs are 12 inches in diameter and at least 8 feet long, woody debris is 3 inches or larger on the forest floor, canopy cover is measured with vertical crown projection on average	**Deleted. Replaced with:** **DC for Forests: PP** Snags and coarse woody debris are well distributed throughout the landscape. Ponderosa pine snags are typically 18 inches or greater in diameter and average 1 to 2 per acre. **DC for Forests: DMC** Snags and coarse woody debris are well distributed throughout the landscape. Snags are typically	**Glossary: Snags** – "Standing dead or partially dead trees (snag topped), often missing many or all limbs and/or bark. Snags (generally 12 inches or larger) provide essential wildlife habitat for many species and are important for forest ecosystem function".

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	across the landscape.	18 inches in diameter or greater and average 3 per acre. **DC for Forests: WMC** There are 20 or more snags greater than 8 inches in diameter per acre and 1 to 5 of those snags are 18 inches or greater in diameter. **DC for Forests: SF** In general, there are 13 to 30 snags greater than 8 inches in diameter per acre and 1 to 3 of those snags are 18 inches or greater in diameter. **Glossary: Coarse woody debris –** Woody material, including logs, on the ground greater than 3 inches in diameter—a component of litter. Large coarse woody debris is often considered to be downed logs at least 12 inches in diameter and 8 feet in length.	Larger snag sizes are embedded in the DCs. Sizes of CWD are not repeated in the DCs, since they are consistently defined in the revised plan's glossary. The exact canopy cover measurement method to use is not specified in the revised plan because better scientific methods may be developed, which would require a forest plan amendment to utilize them.
Goshawk	**Forest wide GD at the management scale**. Distribution of habitat structures (tree size and age classes, tree groups of different densities, snags, dead and down woody material, etc.) should be evaluated at the ecosystem management area level, at the mid-scale such as drainage, and at the small scale of site.	**Modified with:** Desired conditions are now set at these three scales: **Landscape Scale (10,000 acres or greater)** **Mid-Scale (100 to 1,000 acres)** **Fine Scale (less than 10 acres)**	Ecosystem management areas (EMAs) were distinct geographic delineated areas across each ranger district, and are no longer a relevant designation under the revised plan. Thus, one scale below and one scale above the EMA level are also obsolete. Habitat structure distribution for each proposed project will now be analyzed for compliance with the revised plan at the scales stated for each applicable DC. The mid-scale is viewed as containing assemblages of the fine scale. The landscape scale is viewed as containing assemblages of the mid-scale. Also see Desired Conditions for Use in Forest Planning in the Southwestern Region: Development and Science Basis (USDA, 2013).

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Goshawk	**Forest wide GDs outside PFAs.** The order of preferred treatment for woody debris is: 1) prescribed burning, 2) lopping & scattering, 3) hand piling or machine grapple piling, 4) dozer piling. **Forest wide GDs within nesting areas.** Preferred treatments to maintain the desired structure are to thin from below with non-uniform spacing and use of hand tools and fire to reduce fuel loads. Lopping and scattering of thinning debris is preferred if prescribed fire cannot be used. Piling of debris should be limited. When necessary, hand piling should be used to minimize compaction within piles and to minimize displacement and destruction of the forest floor and the herbaceous layer. Do not grapple or Dozer pile debris. Manage road densities at the lowest level possible to minimize disturbance in the nest area. Use small, permanent skid trails in lieu of roads for timber harvesting. **Forest wide GDs for human disturbance.** Low intensity ground fires are allowed at any time in all forested cover types, but high intensity crown fires are not acceptable in the post-fledgling family area or nest areas. Avoid burning the entire home range of a goshawk pair in a single year. For fires planned in the occupied nest area, a fire management plan should be prepared. The fire management plan should minimize the risk of goshawk abandonment while low intensity ground fire burns in the nesting area. Prescribed fire within nesting areas	Preferred order of woody debris retention has been excluded from the new plan direction. **Desired Conditions for All PNVTs** • Natural processes and human and natural disturbances (e.g., wildland fire, mechanical vegetation treatments) provide desired overall tree density, structure, species composition, coarse woody debris, and nutrient cycling. Natural fire regimes are restored. Uncharacteristic fire behavior is minimal or absent on the landscape. • Wildland fire maintains and enhances resources and, as nearly as possible, is allowed to function in its natural ecological role.• Old or large trees, multistoried canopies, large coarse woody debris, and snags provide the structure, function, and associated vegetation composition as appropriate for each forested and woodland PNVT. **GD All PNVTs** • Restoration methods, such as thinning or prescribed fire, should leave a mosaic of untreated areas within the larger treated project area to allow recolonization of treated areas by plants, small mammals, and insects (e.g., long-tailed voles, fritillary butterflies). • Wildland fires may be used to meet desired resource conditions, maintain or promote desired vegetation species, and enable natural fires to return to their historic role. **DC for PP** • The ponderosa pine forest is composed predominantly of vigorous trees, but declining, top-killed, lightning-scarred, and fire-scarred trees provide snags and coarse woody debris. Snags and coarse woody debris are well distributed throughout the landscape. Ponderosa pine snags are typically 18 inches or greater in diameter and average 1 to 2 per acre. • Coarse woody debris, including logs, ranges from 3 to 10 tons per acre. Logs average 3 per acre within the forested area of the landscape. **DC for DMC** • The dry mixed conifer forest is composed predominantly of vigorous trees, but declining, top-killed, lightning-scarred, and fire-scarred trees provide snags and coarse woody debris. Snags and coarse woody debris are well distributed throughout the landscape. Snags are typically 18 inches in diameter or greater and average 3 per acre. •	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	should be planned to move with prevailing winds away from the nest tree to minimize smoke and risk of crown fire developing and driving the adults off or consuming the nest tree.	Coarse woody debris, including logs, ranges from 5 to 15 tons per acre. Logs average 3 per acre within the forested area of the landscape. **DC for WMC** • The wet mixed conifer forest is composed predominantly of vigorous trees, but declining, top-killed, lightning-scarred, and fire-scarred trees provide snags and coarse woody debris. Snags and coarse woody debris are well distributed throughout the landscape. The number of snags and logs and amount of coarse woody debris varies by seral state ranging from 8 to more than 16 tons per acre. • Coarse woody debris, including logs, varies by seral state, ranging from 5 to 20 tons per acre for early-seral states; 20 to 40 tons per acre for mid-seral states; and may be as high as 35 tons per acre, or greater, for late-seral states. These conditions also provide an abundance of fungi including mushrooms and truffles used by small mammals. **GD for All Forested PNVTs** •Trees, snags, and logs immediately adjacent to active red squirrel cone caches, Abert's squirrel nests, and raptor nests should be retained to maintain needed habitat components and provide tree groupings. **GDs for Motorized Opportunities** •New roads or motorized trails should be located to avoid Mexican spotted owl protected activity centers, northern goshawk post-fledging family areas, and other wildlife areas as identified; seasonal restrictions may be an option. •As projects occur, redundant roads or motorized trails should be removed to reduce degradation of natural resources.	
Goshawk	**Forest wide GDs for Ground Surface Layer.** Manage road densities at the lowest level possible. Where timber harvesting has been prescribed to achieve desired forest condition, use small, skid trails in lieu of roads.	**Text deleted, but concept retained. Replaced with:** **GD for Water Resources** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to water resources. Where disturbance cannot be avoided, project specific soil and water conservation practices and best management practices (BMPs) should be developed. **DC for Riparian Areas** Sedimentation and soil compaction	Since the existing plan GD was written, modern harvesting equipment has evolved to efficient vehicles that drive to every tree cut (e.g. feller-bunchers), which requires the revised plan to provide more holistic direction for soils and ground cover protections.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		from forest activities (e.g., vehicle use, recreation, livestock grazing) do not negatively impact riparian areas. **OBJs for Riparian Areas** •Within the planning period, relocate, repair, improve, or decommission a minimum of 4 miles of National Forest System roads or trails that add sediment to streams, damage riparian vegetation, erode streambanks, cause gullies, and/or compact floodplain soils. •Annually, remove an average of 2 miles of unauthorized roads or trails that add sediment to streams, damage riparian vegetation, erode streambanks, cause gullies, and/or compact floodplain soils. **DCs for Soil** •Ecological and hydrologic functions are not impaired by soil compaction. •Soils are stable within their natural capability4. Vegetation and litter limit accelerated erosion (e.g., rills, gullies, root exposure, topsoil loss) and contribute to soil deposition and development. •Soils provide for diverse native plant species. Vegetative ground cover (herbaceous vegetation and litter) is distributed evenly across the soil surface to promote nutrient cycling, water infiltration, and maintain natural fire regimes. •Logs and other woody material are distributed across the surface to maintain soil productivity. •Vegetation and litter are sufficient to maintain and improve water infiltration, nutrient cycling, and soil stability. **OBJ for Soil** Annually, enhance or restore an average of 350 acres within priority 6th level HUC watersheds, including treating the causes of State and federally designated impaired or threatened waters to improve watershed condition and water quality. **GDs for Soil** •Projects with ground-disturbing activities should be designed to minimize long and short term impacts to soil resources. Where disturbance cannot be avoided, project specific soil and water conservation practices should be developed. •Coarse woody debris retention and/or creation should be used as needed to help retain long term soil productivity. **DCs for All PNVTs** – •Natural processes and human and	Site-specific mitigations for protecting more sensitive soils and/or more sensitive desired residual vegetation should be integrated into project activity designs and contracts for compliance with the revised plan, as well as post-project road closures. Small skid trails may not be a suitable substitute for well-designed and maintained roads or using temporary roads. The revised plan recognizes the added resource value of using road closures/restrictions (either seasonal or year-round), and using temporary road construction for mechanized treatment access with post-project removal of temporary roads. The revised plan also provides the framework to guide future changes to the transportation system. Once the final decision of this plan has been made, potential changes to the forests' transportation system will be evaluated under this framework and through implementation of the Travel Management Rule (36 CFR § 212) as required by Executive Order 11644. That analysis will consider potential resource impacts, access

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		natural disturbances (e.g., wildland fire, mechanical vegetation treatments) provide desired overall tree density, structure, species composition, coarse woody debris, and nutrient cycling. … •Organic soil cover and herbaceous vegetation protect soil, facilitate moisture infiltration, and contribute to plant and animal diversity and ecosystem function. **GD for All PNVTs** -During project design and implementation, precautions should be taken to reduce the potential for damage to residual vegetation in order to prevent premature or excessive mortality. **GD for All Woodland PNVTS** Mechanical restoration of woodlands should emphasize individual tree removal to limit ground disturbance. **GD for Wildlife and Rare Plants** Constructed features should be maintained to support the purpose(s) for which they were built. Constructed features should be removed when no longer needed. **DCs for Motorized Opportunities** •A maintained road and motorized trail system is in place and provides for safety and access for the use (e.g., recreation, minerals, vegetation treatment, fire protection) of the Apache-Sitgreaves NFs. •As projects occur, redundant roads or motorized trails should be removed to reduce degradation of natural resources. **ST for Motorized Opportunities** Temporary road construction shall minimize the impacts to resource values and facilitate road rehabilitation. Temporary roads shall be rehabilitated following completion of the activities for which they were constructed. **GD for Motorized Opportunities** New roads or motorized trails should be located to avoid Mexican spotted owl protected activity centers, northern goshawk post-fledging family areas, and other wildlife areas as identified; seasonal restrictions may be an option. ***Also see many more plan components listed for road density management in the Vegetation & Engineering***	needs, public input, and alternative views rather than setting a uniform road density target. *Also see more rationale listed for road density management in the Vegetation & Engineering sections of this crosswalk*.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		sections of this crosswalk.	
Goshawk	**Forest wide GDs for Ground Surface Layer.** Piling of debris should be limited. When necessary, hand or grapple piling should be used to minimize soil compaction within piles and to minimize forest floor and herbaceous layer displacement and destruction.	**DC Soils** Ecological and hydrologic functions are not impaired by soil compaction. **DC Soils** Soil condition rating is satisfactory [2]. **DC Soils** Soils are stable within their natural capability. Vegetation and litter limit accelerated erosion (e.g., rills, gullies, root exposure, topsoil loss) and contribute to soil deposition and development. **DC Soils** Soil loss rates do not exceed tolerance soil loss rates [3]. **DC Soils** Vegetation and litter are sufficient to maintain and improve water infiltration, nutrient cycling, and soil stability. **GD Soils** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to soil resources. Where disturbance cannot be avoided, project specific soil and water conservation practices should be developed. **GD Soils** Severely disturbed sites should be revegetated with native plant species when loss of long term soil productivity is predicted.	Carried forward through modified DCs, GDs and management approach.
Goshawk	**Forest wide ST for NOGO Habitat**: Manage the ground surface layer to maintain satisfactory soil conditions i.e. to minimize soil compaction; and to maintain hydrologic and nutrient cycles.	**DC Soils** Ecological and hydrologic functions are not impaired by soil compaction. **DC Soils** Soil condition rating is satisfactory [2]. **DC Soils** Soils are stable within their natural capability. Vegetation and litter limit accelerated erosion (e.g., rills, gullies, root exposure, topsoil loss) and contribute to soil deposition and development. **DC Soils** Soil loss rates do not exceed tolerance soil loss rates [3]. **DC Soils** Vegetation and litter are sufficient to maintain and improve water infiltration, nutrient cycling, and soil stability. **GD Soils** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to soil resources. Where disturbance cannot be avoided, project specific soil and water conservation practices should be	Carried forward through modified DCs, GDs and management approach.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		developed. **GD Soils** Severely disturbed sites should be revegetated with native plant species when loss of long term soil productivity is predicted.	
Goshawk	**Forest wide GD for NOGO Habitat:** Emphasize maintenance and restoration of healthy riparian ecosystems through conformance with forest plan riparian standards and guidelines. Management strategies should restore degraded riparian areas to good condition as soon as possible. Damage to riparian vegetation, stream banks, and channels should be prevented.	**DC Water Resources** Water quality, stream channel stability, and aquatic habitats retain their inherent resilience to natural and other disturbances. **DC Water Resources** Vegetation and soil conditions above the floodplain protect downstream water quality, quantity, and aquatic habitat. **GD Water Resources** Streams, streambanks, shorelines, lakes, wetlands, seeps, springs and other bodies of water should be protected from detrimental changes [4] in water temperature and sediment to protect aquatic species and riparian habitat. **GD Water Resources** Aquatic management zones should be in place between streams and disturbed areas and/or road locations to maintain water quality and suitable stream temperatures for aquatic species. **DC Aquatic Habitat and Species** Streamflows, habitat, and water quality support native aquatic and riparian-dependent species and habitat. **DC Aquatic Habitat and Species** Habitat and ecological conditions are capable of providing for self-sustaining populations of native, riparian dependent plant and animal species. **OBJ Aquatic Habitat and Species** Annually, enhance or restore 5 to 15 miles of stream and riparian habitat to restore structure, composition, and function of physical habitat for native fisheries and riparian-dependent species. **DC Riparian Areas** Natural ecological disturbances (e.g., flooding, scouring) promote a diverse plant structure consisting of herbaceous, shrub, and tree species of all ages and size classes necessary for the recruitment of riparian-dependent species.	Retained through numerous objectives, desired conditions, standards and guidelines within soil, water, aquatic species, riparian and grazing sections.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		DC Riparian Areas Riparian-wetland conditions maintain water-related processes (e.g., hydrologic, hydraulic, geomorphic). They also maintain the physical and biological community characteristics, functions, and processes. **DC Riparian Areas** Stream (lotic) riparian-wetland areas have vegetation, landform, and/or large coarse woody debris to dissipate stream energy associated with high water flow. **DC Riparian Areas** Streams and their adjacent floodplains are capable of filtering, processing, and storing sediment; aiding floodplain development; improving floodwater retention; and increasing groundwater recharge. **DC Riparian Areas** Vegetation and root masses stabilize streambanks, islands, and shoreline features against the cutting action of water. **DC Riparian Areas** Willows (e.g., Bebb, Geyer, Arizona, Goodding's) are reproducing with all age classes present, where the potential exists. **DC Riparian Areas** Diversity and density of riparian forest vegetation provides for breeding, escape, hiding, and resting cover for wildlife and provides travelways between other habitat areas and seasonal ranges. **DC Riparian Areas** The ecological function of riparian areas is resilient to animal and human use. **DC Riparian Areas** Riparian obligate species within wet meadows, around springs and seeps, along streambanks, and active floodplains provide sufficient [5] vegetative ground cover (herbaceous vegetation, litter, and woody riparian species) to protect and enrich soils, trap sediment, mitigate flood energy, stabilize streambanks, and provide for wildlife and plant needs. **DC Riparian Areas** Riparian soil productivity is optimized as described by the specific TES map unit[5] as indicated by the vigor of the herbaceous vegetation community. Based on species composition, ungrazed plant heights [7] range from 10 inches to 36 inches. **DC Riparian Areas** Large coarse woody debris provides	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		stability to riparian areas and stream bottoms lacking geologic control (e.g., bedrock) or geomorphic features (e.g., functioning floodplains, stream sinuosity, width/depth ratio). **OBJ Riparian Areas** Annually, move 200 to 500 acres toward desired composition, structure, and function of streams, floodplains, and riparian vegetation. **OBJ Riparian Areas** Within the planning period, relocate, repair, improve, or decommission a minimum of 4 miles of National Forest System roads or trails that add sediment to streams, damage riparian vegetation, erode streambanks, cause gullies, and/or compact floodplain soils. **OBJ Riparian Areas** Annually, remove an average of 2 miles of unauthorized roads or trails that add sediment to streams, damage riparian vegetation, erode streambanks, cause gullies, and/or compact floodplain soils. **OBJ Riparian Areas** Within the planning period, enhance or restore 5 to 25 wet meadows, springs, seeps or cienegas to proper hydrologic function and native plant and animal species composition. **OBJ Riparian Areas** Annually, work with partners to reduce animal damage to native willows and other riparian species on an average of 5 miles of riparian habitat. **GD Riparian Areas** Ground-disturbing projects (including prescribed fire) which may degrade long term riparian conditions should be avoided. **GD Riparian Areas** Wet meadows, springs, seeps and cienegas should not be used for concentrated activities (e.g., equipment storage, forest product or mineral stockpiling, livestock handling facilities, special uses) that cause damage to soil and vegetation. **GD Riparian Areas** Active grazing allotments should be managed to maintain or improve to desired riparian conditions.	

Lands and Minerals

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Lands and Minerals	Administer compliance with 36 CFR 228 (Forest Service surface use regulations). Fulfill Forest's responsibilities regarding the processing of contests, suits, hearing, and appeals under the terms of the 1872 Mining Law. 36 CFR 228 regulations and appropriate environmental analysis are used to minimize potential adverse effects from mining activities. Review and administer Operating Plans to ensure that; 1) the proposed operations are reasonable methods of operations; 2) reclamation needs are properly addressed, 3) where appropriate, a bond to insure reclamation is secured, and 4) operations receive monitoring during operations. STs &GDs - Mining Law Compliance and Administration – Pg. 72-73	Direction not carried forward into revised plan. The Apache-Sitgreaves NFs would work with claimants to ensure their actions are consistent with overall plan guidance, laws, policy, and regulations.	Due to Public comments, clarification was needed in the Minerals and Energy section of the Plan Revision. Regulations governing locatable minerals are found in 36 CFR § 228, Part A. The plan does not repeat existing law, policy, or regulation. Locatable minerals are discussed in the "Minerals and Energy" section in chapter 3 of the EIS.
Lands and Minerals	Off-Road Vehicle activities will be managed to minimize conflicts with other uses, to prevent interference with the management of other resources, to prevent general environmental degradation, while providing a range of ORV opportunities. The three wilderness areas and the Blue Range Primitive Area are closed to ORV use. STs &GDs - Off-Road Vehicle Management, pg. 34. The Resource Access and Travel Management (RATM) process will be used to determine the management strategies for all existing roads, trails, and areas. RATM will also consider the management of off-road and off-trail use by motorized vehicles with the objective of resolving user conflicts, eliminating wildlife harassment and resource damage. STs &GDs - Off-Road Vehicle	**GD Energy Corridor** Energy corridors should be managed as nonmotorized areas to avoid conflicts with corridor operations and maintenance needs, although operations and maintenance activities may use motorized equipment.	Comments provided by the public requested that the plan address allowing for utilities users to have motorized access to the energy corridors as well as within the energy corridor. Clarification was needed in the Plan Revision to address this concern so that only utility operators may use corridors for operations and maintenance. This guideline to manage energy corridors for nonmotorized travel has been modified to allow motorized equipment for operations and maintenance.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	Management, pg. 34. New corridors are managed to maintain current resource protection and outputs to the degree possible. STs &GDs - Lands & Special Use Management, pg. 76.		
Lands and Minerals	Request for transmission corridors are evaluated based on public need, economics, and environmental impacts of the alternatives. Emphasis is to use existing corridors to their capacity with compatible utilities, including upgrade power lines, before evaluating new routes. New corridors through avoidance areas in the ponderosa pine and mixed Conifer vegetation types will be minimized and always avoided when feasible. New corridors are managed to maintain current resource protection and outputs to the degree possible. In period 1, determine those special uses and rights-of-way grants with potential to highly impact the environment or other resource management and administer them per FSM standards. Inspections of permitted uses will be made where potential for serious damage to the environment exists where public health and safety could be seriously affected and when permits are reissued or transferred. STs &GDs - Lands & Special Use Management, pg. 76.	**GD Energy Corridor** To limit impacts to undisturbed areas, new utilities (e.g., power lines, telephone lines, gas lines) should be co-located within existing corridors whenever technically feasible, within existing rights-of-way (including road rights-of-way), or follow major transportation routes. The following statement has been added to the Management Approaches for Energy Corridor section of the plan in chapter 3: Energy utility companies also comply with maintenance standards enforced by the North American Electric Reliability Corporation.	There are increasing demands for goods, services, and forest access from growing populations and urban developments that border the forests. Many communities are surrounded by the forests and can be affected by adjustment to the forests' land ownership. Commodity use and production have shown declines from the past. However, these forest uses contribute to sustaining the lifestyles and traditions of local communities. Energy resource demands also continue to grow. There was a need to update and include more information in the Plan revision due to growing needs of the communities.

Mexican Spotted Owl

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
MSO	**Forest wide GD for MSO "Protected Areas":** **In PACs:** Manage (fuelwood harvest) within the following limitations to minimize effects on the owl: **In PACs**: Retain key forest species such as oak. Retain key habitat components such as snags and large downed logs. **In and outside of PACs:** Retain woody debris larger than 12 inches in diameter, snags, clumps of broad-leafed woody vegetation, and hardwood trees larger than 10 inches in diameter at the root collar.	**Concept retained but specific text deleted. Replaced with:** **DC for All PNVTS -** Disjunct populations of Chihuahuan pine, Arizona cypress, and Rocky Mountain maple are present with the ability to reproduce on capable sites. **GD for All PNVTs** -During project design and implementation, precautions should be taken to reduce the potential for damage to residual vegetation in order to prevent premature or excessive mortality. **GD for All Forested PNVTS** - Trees, snags, and logs immediately adjacent to active red squirrel cone caches, Abert's squirrel nests, and raptor nests should be retained to maintain needed habitat components and provide tree groupings. **GD for All Forested PNVTs -** Where a site-specific analysis indicates the need to reduce fire-kill of desired residual trees, fuel continuity and/or loading should be reduced before use of prescribed fire. **DCs for Forests: PP** - •The ponderosa pine forest is composed predominantly of vigorous trees, but declining, top-killed, lightning-scarred, and fire-scarred trees provide snags and coarse woody debris. Snags and coarse woody debris are well distributed throughout the landscape. Ponderosa pine snags are typically 18 inches or greater in diameter and average 1 to 2 per acre. •Coarse woody debris, including logs, ranges from 3 to 10 tons per acre. Logs average 3 per acre within the forested area of the landscape. •Where it naturally occurs, Gambel oak is present with all age classes represented. It is reproducing to maintain or expand its presence on capable sites across the landscape. Large Gambel oak snags are typically 10 inches or larger in diameter and are well distributed. •Where Gambel oak occurs, the majority are single trunk trees over 8 inches in diameter with full crowns. **GD for Forests: PP** - Where Gambel oak or other native hardwood trees and shrubs are desirable to retain for diversity, treatments should improve vigor and growth of these species.	ASNFs revised plan contains a total of 2 PNVTS that cover the "Pine-oak" type as defined in the MSO Recovery Plan: the **Ponderosa pine forest PNVT** includes Pine-Gambel oak as a subtype, and **MPO woodland.** ASNFs revised plan contains a total of 3 PNVTs that cover the "Mixed Conifer" type as defined in the MSO Recovery Plan: DMC, WMC, and SF forests. The SF forest on the ASNFs is the low elevation, mixed species SF PNVT, which also can provide MSO habitat = see revised plan's "Background" section for the SF forest PNVT. Revised plan **Glossary** defines **Snags** as "generally 12 inches or larger". **Coarse woody debris** is defined as "Woody material, including logs, on the ground greater than 3 inches in diameter—a component of litter. Large coarse woody debris is often considered to be downed logs at least 12 inches in diameter and 8 feet in length." Hardwood and oak diameters stated in the revised plan imply measurement at diameter root collar (DRC), because these species are always measured at DRC. See "Diameter" definitions in

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		DCs for Forests: DMC - •The dry mixed conifer forest is composed predominantly of vigorous trees, but declining, top-killed, lightning-scarred, and fire-scarred trees provide snags and coarse woody debris. Snags and coarse woody debris are well distributed throughout the landscape. Snags are typically 18 inches in diameter or greater and average 3 per acre. •Coarse woody debris, including logs, ranges from 5 to 15 tons per acre. Logs average 3 per acre within the forested area of the landscape. • …Where they naturally occur, groups of Gambel oak are healthy and maintained or increased. … •Where Gambel oak occurs, the majority are single trunk trees over 8 inches in diameter with full crowns. **GD for Forests: DMC** - Where Gambel oak or other native hardwood trees and shrubs are desirable to retain for diversity, treatments should improve vigor and growth of these species. **DCs for Forests: WMC** - •The wet mixed conifer forest is composed predominantly of vigorous trees, but declining, top-killed, lightning-scarred, and fire-scarred trees provide snags and coarse woody debris. Snags and coarse woody debris are well distributed throughout the landscape. The number of snags and logs and amount of coarse woody debris varies by seral state ranging from 8 to more than 16 tons per acre. •There are 20 or more snags greater than 8 inches in diameter per acre and 1 to 5 of those snags are 18 inches or greater in diameter. •Coarse woody debris, including logs, varies by seral state, ranging from 5 to 20 tons per acre for early-seral states; 20 to 40 tons per acre for mid-seral states; and may be as high as 35 tons per acre, or greater, for late-seral states. These conditions also provide an abundance of fungi including mushrooms and truffles used by small mammals. **DCs for Forests: SF -** •In general, there are 13 to 30 snags greater than 8 inches in diameter per acre and 1 to 3 of those snags are 18 inches or greater in diameter. •Coarse woody debris, including logs, varies by seral state, ranging from 5 to 30 tons per acre for early-seral states; 30 to 40 tons per acre for mid-seral states; and 40 tons per acre or greater for late-seral states. These conditions also provide an abundance of fungi	revised plan's **Glossary.** Sizes of snags, logs, and large trees to be retained at the project and activity level are dependent upon existing site conditions, capabilities, and objectives and should be determined by project interdisciplinary specialists using local data for the specific area while keeping MSO recovery needs in mind.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		including mushrooms and truffles used by small mammals. **DC for Forests: Aspen** - Aspen may comprise 10 to 100 percent of the area depending on disturbance (e.g., fire, insects, silvicultural treatments) in multistoried patches. **DC for Woodlands: MPO** - Some large patches in the Madrean pine-oak woodland are closed canopy, have multiple age classes, large trees, and old growth-like characteristics (e.g., numerous snags, large coarse woody debris) in order to provide for wildlife such as Mexican spotted owl and black bear, that need denser habitat. **GD for Woodlands: Madrean Pine-Oak -** Where Mexican spotted owls are found nesting in canyons or on north slopes within the Madrean pine-oak woodland, adjacent treatments should be modified to meet the needs of foraging owls. **GD for Landscape Scale Disturbance Events** - Management should emphasize long term reestablishment of native deciduous trees, shrubs, and herbaceous vegetation to maintain ecosystem diversity. **GDs for Wildlife and Rare Plants** - •Activities occurring within federally listed species habitat should apply habitat management objectives and species protection measures from recovery plans. •Modifications, mitigations, or other measures should be incorporated to reduce negative impacts to plants, animals, and their habitats and to help provide for species needs, consistent with project or activity objectives.	
MSO	**Forest wide GD for MSO in "Protected Areas":** **In PACs**: Harvest conifers less than 9 inches in diameter only within those protected activity centers treated to abate fire risk as described below. **In PACs:** Use combinations of thinning trees less than 9	**Deleted. Replaced with:** **GD for Wildlife and Rare Plants -** Activities occurring within federally listed species habitat should apply habitat management objectives and species protection measures from recovery plans. **GD for All PNVTs -**During project design and implementation, precautions should be taken to reduce the potential for damage to residual vegetation in order to prevent premature or excessive mortality. **GD for All PNVTs -** Projects should include quantitative and/or qualitative objectives for implementation monitoring and effectiveness monitoring to assist in moving toward or	The 2012 Revised MSO RP no longer specifies a 9-inch diameter upper cutting limit. While PACs remain unchanged, the "Protected Areas" terminology is no longer consistent with the 2012 Revised MSO RP. Mechanical fuel treatment is usually not

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	inches in diameter, mechanical fuel treatment and prescribed fire to abate fire risk in the remainder of the selected protected activity center outside the 100 acre "no treatment" area. **Protected Areas outside of PACs** (MC and pine-oak forest on slopes over 40% not logged in past 20 yrs.)**:** Use combinations of thinning trees less than 9 inches in diameter, mechanical fuel removal, and prescribed fire.	maintaining desired conditions. **GD for Forests: All Forested PNVTs -** Where a site-specific analysis indicates the need to reduce fire-kill of desired residual trees, fuel continuity and/or loading should be reduced before use of prescribed fire. **GD for Woodlands: Madrean Pine-Oak -** Where Mexican spotted owls are found nesting in canyons or on north slopes within the Madrean pine-oak woodland, adjacent treatments should be modified to meet the needs of foraging owls. **DCs for Wildland Fire Management:** •Human life, property, and natural and cultural resource are protected within and adjacent to NFS lands. •Wildland fires burn within the range of frequency and intensity of natural fire regimes. Uncharacteristic high severity fires rarely occur and do not burn at the landscape scale. •Wildland fire maintains and enhances resources and functions in its natural ecological role. •For all PNVTs, the composition, cover, structure, and mosaic of vegetative conditions reduce uncharacteristic wildfire hazard to local communities and forest ecosystems. **GD for Wildland Fire Management** - Wildland fire may be used to meet PNVT desired conditions and enable natural fire regimes. **Chapter 4. Table 8. Suitability of lands for timber production and tree cutting:** Timber production is classified as not suitable in MSO PACs, while tree cutting is suitable if used to meet DCs for MSO and its habitat in PACs.	feasible, as most MSO PACs are on very steep, unroaded, inaccessible slopes. Hand thinning and prescribed fire remain the most practical tools of choice, to be determined by specialists at the project and activity level. See revised forest plan's definition of "Wildland fire."
MSO	**Forest wide GD for MSO in PACs.** No seasonal restrictions apply. Treat fuel accumulations to abate fire risk. **Forest wide GD for MSO in PACs**. Use light prescribed burns in non-selected protected activity centers on a case-by-case basis. Burning	**DC for Overall Ecosystem Health** •Natural ecological disturbances return to their characteristic roles within the ecosystem. Wildfire, in particular, is restored to a more natural function. **DC for all PNVTs** • Natural processes and human and natural disturbances (e.g., wildland fire, mechanical vegetation treatments) provide desired overall tree density, structure, species composition, coarse woody debris, and nutrient cycling. Natural fire regimes are restored. Uncharacteristic fire behavior is minimal or absent on the landscape. • Wildland fire maintains	**Mgmt. Approach for Overall Ecosystem Health** - Wildland fire has played an important ecological role in shaping the vegetation on the Apache-Sitgreaves NFs. Forest managers utilize prescribed fire (planned ignitions) and wildfire (unplanned ignitions) to help reintroduce fire into the ecosystems, restore natural fire regimes, and remove excessive fuels. Fire may be used alone

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	should avoid a 100 acre "no treatment" area around the activity center. Large woody debris, snags, clumps of broad-leafed woody vegetation should be retained and hardwood trees larger than 10 inches diameter at the root collar.	and enhances resources and, as nearly as possible, is allowed to function in its natural ecological role. •Diverse vegetation structure, species composition, densities, and seral states provide quality habitat for native and desirable nonnative plant and animal species throughout their life cycle and at multiple spatial scales. Landscapes provide for the full range of ecosystem diversity at multiple scales, including habitats for those species associated with late seral states and old growth. **GD for All PNVTs** • During project design and implementation, precautions should be taken to reduce the potential for damage to residual vegetation in order to prevent premature or excessive mortality. • Restoration methods, such as thinning or prescribed fire, should leave a mosaic of untreated areas within the larger treated project area to allow recolonization of treated areas by plants, small mammals, and insects (e.g., long-tailed voles, fritillary butterflies).	or in combination with other treatments. Direction for managing wildland fire is found in the "Wildland Fire Management" section. **Background for all PNVTs** -Vegetation conditions for Mexican spotted owl (MSO) and other federally listed species, although not described in detail below, are managed consistent with the habitat requirements specified in the appropriate species recovery plan.
MSO	**Forest wide GD for MSO in Restricted Areas (Mixed conifer and pine-oak forests):** Attempt to mimic natural disturbance patterns by incorporating natural variation, such as irregular tree spacing and various patch sizes, into management prescriptions. Maintain all species of native trees in the landscape including early seral species. Allow natural canopy gap processes to occur, thus producing horizontal variation in stand structure.	Text deleted but concept retained. Replaced with: numerous DCs, STs, GDs and monitoring strategy. See crosswalk sections on *old growth* in particular for detailed components that provide for *vertical* diversity and some *horizontal* diversity. Additional revised plan components for *native tree species* and *early seral tree species* maintenance include: **DC for Overall Ecosystem Health** - •Ecological conditions for habitat quality, distribution, and abundance contribute to self-sustaining populations of native and desirable nonnative plants and animals that are healthy, well distributed, connected, and genetically diverse. Conditions provide for the life history, distribution, and natural population fluctuations of the species within the capability of the landscape. **DC for all PNVTS** – •Native plant communities dominate the landscape. •Species genetic diversity remains within native vegetation and animal populations, thus enabling species to adapt to changing environmental and climatic conditions. •Diverse vegetation structure, species composition, densities,	Background for all PNVTs -Vegetation conditions for Mexican spotted owl (MSO) and other federally listed species, although not described in detail below, are managed consistent with the habitat requirements specified in the appropriate species recovery plan. The term "Restricted" MSO habitat became obsolete with the 2012 revision of the MSO RP. Mgmt. Approach for All Forested PNVTs - Mexican spotted owl and northern goshawk are management indicator species (MIS) of forest density and structure. The treatment objective listed (*Annually, treat 5,000 to 35,000 acres…)* would contribute to species viability. - Cone collection, tree planting, and

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		and seral states provide quality habitat for native and desirable nonnative plant and animal species throughout their life cycle and at multiple spatial scales. Landscapes provide for the full range of ecosystem diversity at multiple scales, including habitats for those species associated with late seral states and old growth. •Disjunct populations of Chihuahuan pine, Arizona cypress, and Rocky Mountain maple are present with the ability to reproduce on capable sites. **GD for All Forested PNVTs** - Healthy southwestern white pine should be retained to maintain the wide range of genetic variability that contributes to resistance against the nonnative white pine blister rust disease. **GD for Forests**: PP - •Where Gambel oak or other native hardwood trees and shrubs are desirable to retain for diversity, treatments should improve vigor and growth of these species. **DC for Forests**: DMC - Southwestern white pine is present with the ability to reproduce on capable sites. **DC for Forests**: SF - Corkbark fir is present with the ability to reproduce on late-seral sites appropriate for the species. **GDS for Forests**: Aspen - •When managing for early seral states, competing conifers should be removed from aspen stands when needed to increase aspen longevity and increase diversity of aspen age classes. •Aspen restoration and retention efforts should include measures to ensure viability of aspen on the landscape. **GD for Landscape Scale Disturbances** - •Where conifer seed sources are lost or poorly distributed and/or deciduous tree species are not adequately resprouting, artificial regeneration (e.g., planting, seeding) should be used to promote movement toward desired conditions, provided adequate site conditions exist. •Management should emphasize long term reestablishment of native deciduous trees, shrubs, and herbaceous vegetation to maintain ecosystem diversity. **ST for Special Uses**- •Special use authorizations for the collection of live species with limited distribution (e.g., some invertebrates, plants) shall include permit provisions to ensure	natural regeneration are used to ensure the perpetuation of desired tree species. Management Approach for Landscape Scale Disturbances - Based on site conditions, ecological restoration projects and activities focus on establishing and ensuring survival of native vegetation. Native tree and shrub planting follows plan guidelines for those individual forested and woodland PNVTs. To ensure their persistence, there is a focus on reintroduction of fire, protection of tree regeneration, treatment of insects and disease, or adjustment of management actions as needed. Additional direction found in the FSM 2400, Chapters 70 and 90, and FSM 2300, Chapter 20, guides managers in silvicultural practices, reforestation, and forest management in wilderness.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		the species persist onsite. Additional revised plan components for *horizontal* diversity and *canopy gap processes* include: **DC for Forests**: PP - The forest arrangement consists of individual trees, small clumps, and groups of trees with variably-sized interspaces of grasses, forbs, and shrubs. Vegetation associations are similar to reference conditions. The size, shape, and number of trees per group and the number of groups per area vary across the landscape. Tree density may be greater in some locations, such as north-facing slopes and canyon bottoms. **DC for Forests**: PP - Ponderosa pine forest is characterized by variation in the size and number of tree groups depending on elevation, soil type, aspect, and site productivity. The more biologically productive sites contain more trees per group and more groups per area, resulting in less space between groups. Interspaces typically range from 10 percent in more biologically productive sites to 70 percent in the less productive sites. Tree density within forested areas ranges from 20 to 80 square feet basal area per acre. **DC for Forests**: PP - Interspaces surrounding tree groups are variably shaped and composed of a grass, forb, and shrub mix. Some may contain individual trees or snags. **DC for Forests**: PP - Forest structure in the wildland-urban interface (WUI) may have smaller, more widely spaced groups of trees than in the non-WUI areas. **GD for Forests**: PP - Where consistent with project or activity objectives, canopy cover should be retained on the south and southwest sides of small, existing forest openings that are naturally cooler and moister. These small (generally one-tenth to one-quarter acre) shaded openings provide habitat conditions needed by small mammals, plants, and insects (e.g., Merriam's shrew, Mogollon clover, four-spotted skipperling butterfly). Where these openings naturally occur across a project area, these conditions should be maintained on an average of 2 or more	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		such openings per 100 acres. **DC for Forests**: DMC - The forest arrangement consists of small clumps and groups of trees with variably-sized interspaces of grass, forb, and shrub vegetation associations similar to reference conditions. Size, shape, number of trees per group, and number of groups per area are variable across the landscape. Where they naturally occur, groups of Gambel oak are healthy and maintained or increased. Tree density may be greater in some locations, such as north-facing slopes and canyon bottoms. **DC for Forests**: DMC – The dry mixed conifer forest is characterized by a variety of size and number of tree groups depending on elevation, soil type, aspect, and site productivity. The more biologically productive sites contain more trees per group and more groups per area, resulting in less space between groups. Interspaces typically range from 10 percent in more biologically productive sites to 50 percent in less productive sites. Tree density within forested areas ranges from 30 to 100 square feet basal area per acre. **DC for Forests**: DMC - Forest structure in the wildland-urban interface (WUI) may have smaller, more widely spaced groups of trees than in the non-WUI areas. **DC for Forests**: DMC -Interspaces surrounding tree groups are composed of a grass, forb, and shrub mix. Some may contain individual trees or snags. **GD for Forests**: DMC - Where consistent with project or activity objectives, canopy cover should be retained on the south and southwest sides of small, existing forest openings that are naturally cooler and moister. These small (generally one-tenth to one-quarter acre) shaded openings provide habitat conditions needed by small mammals, plants, and insects (e.g., Merriam's shrew, Mogollon clover, four-spotted skipperling butterfly). Where these openings naturally occur across a project area, these conditions should be maintained on an average of 2 or more such openings per 100 acres. **DC for Forests**: WMC - The size and number of groups and patches vary depending on disturbance, elevation, soil type,	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		aspect, and site productivity. Patch sizes vary but are frequently hundreds of acres and rarely thousands of acres. Groups of tens of acres or less are relatively common. There is a mosaic of primarily even-aged groups and patches, which vary in size, species composition, and age. Grass, forb, and shrub openings created by disturbances may comprise 10 to 100 percent of the area depending on the type of disturbance. **DC for Forests**: WMC - Small openings are present as a result of disturbances (e.g., wind, disease). **DC for Forests**: SF - The size and number of groups and patches vary depending on disturbance, elevation, soil type, aspect, and site productivity. Patch sizes vary but are mostly hundreds of acres and rarely thousands of acres. There may be frequent small disturbances resulting in groups of tens of acres or less. A mosaic of primarily even-aged groups and patches, which vary in size, species composition, and age, is present. Grass, forb, and shrub openings created by disturbances may comprise 10 to 100 percent of the area depending on time since disturbances. Aspen is occasionally present in large patches. **DC for Forests**: SF - Small openings are present as a result of localized disturbances (e.g., wind, disease).	
MSO	**GDs for MSO Restricted (Nest/Roost in MC and Pine-oak) :** The following **table** displays the minimum percentage of restricted area, by MSO Recovery Unit, which should be managed to have nest/roost characteristics. The minimum mixed conifer restricted area includes 10% at 170 basal area and an additional 15% of MC or 10% of Pine-oak area at 150 basal area. Minimum 20 trees/acre over 18 inches diameter, + 10% total stand	Table deleted. Concept retained. Replaced with: **DCs for All PNVTs Landscape Scale** - Diverse vegetation structure, species composition, densities, and seral states provide quality habitat for native and desirable nonnative plant and animal species throughout their life cycle and at multiple spatial scales. Landscapes provide for the full range of ecosystem diversity at multiple scales, including habitats for those species associated with late seral states and old growth. **GD for All PNVTs** - During project design and implementation, precautions should be taken to reduce the potential for damage to residual vegetation in order to prevent premature or excessive mortality. **GD for Forests** - All Forested PNVTs - Where a site-specific analysis indicates the need to reduce fire-kill of desired residual trees, fuel continuity and/or loading should be reduced before	Background for all PNVTs -Vegetation conditions for Mexican spotted owl (MSO) and other federally listed species, although not described in detail below, are managed consistent with the habitat requirements specified in the appropriate species recovery plan. The terms “Restricted” MSO habitat and “threshold values” became obsolete with the 2012 revision of the MSO RP. Table C.3. is the replacement table of habitat criteria of “Minimum desired conditions for mixed conifer and pine-oak forest areas managed for Recovery

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	density index by 3 large tree size classes in MC, or 15% per3 large tree size class in Pine-oak. The variables are for stand averages, are minimum threshold values and must be met simultaneously. In project design, no stands simultaneously meeting or exceeding the minimum threshold values should be reduced below the threshold values unless a district-wide or larger landscape analysis of restricted areas shows that there is a surplus of restricted area acres simultaneously meeting the threshold values. Management should be designed to create minimum threshold conditions on project areas where there is a deficit of stands simultaneously meeting minimum threshold conditions unless the district-wide or larger landscape analysis shows there is a surplus. **Table: Minimum Percentage of Restricted Area Managed for Nest/Roost Characteristics**	use of prescribed fire. **DCs for Forests**: WMC - •Canopies are more closed than dry mixed conifer. •Tree density ranges from 30 to 180 square feet basal area per acre depending upon time since disturbance and seral states of groups and patches. •In mid-aged and older forests, trees are typically variably spaced with crowns interlocking (grouped and clumped trees) or nearly interlocking providing for species such as red squirrel. Trees within groups can be of similar or variable species and ages. **DCs for Forests**: SF - •Tree canopies in this forest are closed. An understory, consisting of native grass, forbs, and/or shrubs, is present in early seral states and is replaced by trees in later seral states. • Old growth occurs over large, continuous areas. … •Tree density ranges from 30 to 250 square feet basal area per acre, depending upon disturbance and seral states of the groups and patches. •Mid-aged to old trees grow tightly together with interlocking crowns. Trees are of the same size and/or age class in early group/patch development. In late development, they may be multilayered. **GDs for Wildlife and Rare Plants** – •Activities occurring within federally listed species habitat should apply habitat management objectives and species protection measures from recovery plans. •Modifications, mitigations, or other measures should be incorporated to reduce negative impacts to plants, animals, and their habitats and to help provide for species needs, consistent with project or activity objectives. •Cool and/or dense vegetation cover should be provided for species needing these habitat components … **DCs for Wildlife Quiet Area** - •WQAs provide blocks of core habitat to meet wildlife life stage requirements during the breeding, rearing, and, in some cases, the critical wintering period. •WQAs contribute to preserving natural behaviors and processes that sustain wildlife populations associated with each WQA (see below) {different for each WQA listed in the WQA section}.	nesting/roosting habitat" in the 2012 MSO RP that replaces the now obsolete table in the existing forest plan. Before decision, every project must first consult with the U.S. Fish and Wildlife Service with respect to compliance with the revised (now current) MSO RP. Specific numeric values or criteria from any species recovery plan are not displayed in the revised forest plan because if those values should change during the life of the forest plan, a forest plan amendment would be required first to adopt the new values. The GD stated is intended to provide the forests enough flexibility to more quickly adopt new recovery plans as they become available or are updated. Meeting the higher stand densities stated in DCs for forested PNVTs, as well as the old growth aspects of the revised plan's DCs, STs and GDs should assist with ensuring the values in Table C.3. in the 2012 MSO RP could be met. Additionally, Wildlife Quiet Areas, Wilderness, Recommended RNAs (like the recommended Lower Campbell Blue RNA), and other MAs in the revised plan can contribute to meeting these habitat criteria. Project analysis will be required to analyze all such considerations at various scales and build mitigations into project design if needed. The revised plan also uses "closed canopy" and/or "dense canopy" as terms

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		•The Hulsey Bench WQA on the Alpine Ranger District provides Mexican spotted owl, northern goshawk, elk, deer, turkey, and bear refuge habitat. •Middle Mountain WQA provides refuge for northern goshawk, turkey, deer, elk, and Mexican spotted owl amid extensive dispersed recreation on the Alpine Ranger District. •St. Peters Dome WQA on the Springerville Ranger District provides high quality spruce-fir habitat for dusky grouse, bear, and other high elevation species. **GDs for Wildlife Quiet Area** - •Hiding cover and travelways for wildlife should be maintained to provide for security and connectivity of habitat. •Restoration treatments should consider the needs of wildlife (e.g., calving/fawning areas, wallows, game crossings) to minimize potential impacts to the species and their habitat. **Chapter 5 Table 12** - Monitoring Strategy questions: - What is the effect of management upon habitat and population trends of management indicator species (Mexican spotted owl, northern goshawk, pronghorn antelope) across the forests? -How are management activities affecting late successional forest structure in relation to desired conditions? -Are management activities moving vegetation communities and habitats closer to the desired condition identified at the appropriate scales?	to describe a more densely stocked forest condition.
MSO	**GDs for MSO Restricted (MC, Pine oak, and Riparian).** Encourage prescribed and prescribed natural wildland fire use to reduce hazardous fuel accumulation. Thinning from below may be desirable or necessary before burning to reduce ladder fuels and the risk of crown fire.	Replaced with: **DC for All PNVTs** - Natural processes and human and natural disturbances (e.g., wildland fire, mechanical vegetation treatments) provide desired overall tree density, structure, species composition, coarse woody debris, and nutrient cycling. Natural fire regimes are restored. Uncharacteristic fire behavior is minimal or absent on the landscape. **GDs for All PNVTs** – •During project design and implementation, precautions should be taken to reduce the potential for damage to residual vegetation in order to prevent premature or excessive mortality. •Restoration methods, such as	Revised plan DCs and GDs were used to capture this concept.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		thinning or prescribed fire, should leave a mosaic of untreated areas within the larger treated project area to allow recolonization of treated areas by plants, small mammals and insects (e.g., long-tailed voles, fritillary butterflies). •Wildfire may be used to meet desired resource conditions, maintain or promote desired vegetation species, and enable natural fires to return to their historic role. **GD for Riparian Areas** - Ground-disturbing projects (including prescribed fire) which may degrade long term riparian conditions should be avoided. **GD for All Forested PNVTs** - Where a site specific analysis indicates the need to reduce fire-kill of desired residual trees, fuel continuity and/or loading should be reduced before use of prescribed fire. **DCS for Wildland Fire Management** - •Human life, property, and natural and cultural resources are protected within and adjacent to NFS lands. •Wildland fires burn within the range of frequency and intensity of natural fire regimes. Uncharacteristic high-severity fires rarely occur and do not burn at the landscape scale. •Wildland fire maintains and enhances resources and functions in its natural ecological role. •For all PNVTs, the composition, cover, structure, and mosaic of vegetative conditions reduce uncharacteristic wildfire hazard to local communities and forest ecosystems. **GDs for Wildland Fire Management** - •Wildland fire may be used to meet PNVT desired conditions and enable natural fire regimes. •Human-induced impacts (e.g., smoke production, suppression actions) to natural processes, resources, or infrastructure attributable to wildland fire activities should be managed towards achieving objectives as identified in the applicable decision document. •Firelines, helispots, and fire camps should be located to avoid disturbance to critical species and impacts to cultural resources. •Aerial retardant drops should avoid threatened, endangered, proposed, or candidate, or identified sensitive species and waterways [11].	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
MSO	**GDs for MSO Restricted (MC and Pine oak)**. Emphasize uneven-aged management systems. However, both even-aged and uneven-aged systems may be used where appropriate to provide variation in existing stand structure and species diversity. Existing stand conditions will determine which system is appropriate. Extend rotation ages for even-aged stands to greater than 200 years. Silvicultural prescriptions should explicitly state when vegetative manipulation will cease until rotation age is reached.	Text deleted, but concepts retained. Replaced with: *See revised plan components and additional rationale listed in this crosswalk's Vegetation section for existing plan's "MA #1 STs & GDs, pg. 107" which pertain to using uneven-aged and even-aged management systems.*	Mgmt. Approach for All Forested PNVTs - Uneven-aged management techniques are used primarily, and some even-aged management is used especially when managing species such as aspen and spruce. Even-aged treatments may be applied in the short term for forest health concerns (e.g., heavy dwarf mistletoe infections) to facilitate a transition to uneven-aged management. *Rotation age* is a concept specific to even-aged management and is the biological point at which thinnings no longer produce stand growth results. Longer rotation ages are set to ensure that the stand of trees reaches mature-to-overmature age status, with some degree of decadence like snags developing over that period of time. Large tree size is also dependent on site capability, which in some cases 200 years may or may not be adequate to achieve such a goal. This silvicultural tool was used in the existing plan as a surrogate means to ensure that large/old trees would be permitted to remain on the landscape in the event that even-aged management was employed more than uneven-aged cutting systems were. In cases when even-aged management is used, rotation age should be determined and documented by interdisciplinary specialists at the project and activity level, using site-specific information and objectives to move toward the revised plan's DCs, including MSO habitat needs for recovery.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
MSO	**GDs for MSO Restricted Areas (MC, Pine oak, and Riparian):** In pine-oak forests, retain existing large oaks and promote growth of additional large oaks.	**GD for Forests: PP** - Where Gambel oak or other native hardwood trees and shrubs are desirable to retain for diversity, treatments should improve vigor and growth of these species. **DC for Woodlands: MPO** - Some large patches in the Madrean pine-oak woodland are closed canopy, have multiple age classes, large trees, and old growth-like characteristics (e.g., numerous snags, large coarse woody debris) in order to provide for wildlife such as Mexican spotted owl and black bear, that need denser habitat. **GD for Landscape Scale Disturbance Events** - Management should emphasize long term reestablishment of native deciduous trees, shrubs, and herbaceous vegetation to maintain ecosystem diversity.	The term "Restricted" MSO habitat became obsolete with the 2012 revision of the MSO RP. "Pine-oak" forests exist in two PNVTs in the ASNFs revised plan: Ponderosa pine PNVT (pine-Gambel oak is a subtype), and Madrean pine-oak PNVT.
MSO	**GDs for MSO Restricted Areas (MC, Pine oak, and Riparian).** Retain substantive amounts of key habitat components: Snags 18 inches in diameter and larger, down logs over 12 inches midpoint diameter, hardwoods for retention, recruitment, and replacement of large hardwoods. Save all trees greater than 24 inches dbh.	**Concept retained but specific text deleted. Replaced with:** **DC for All PNVTS -** Disjunct populations of Chihuahuan pine, Arizona cypress, and Rocky Mountain maple are present with the ability to reproduce on capable sites. **GD for All PNVTs -**During project design and implementation, precautions should be taken to reduce the potential for damage to residual vegetation in order to prevent premature or excessive mortality. **DC for Riparian Areas -** Diversity and density of riparian forest vegetation provides for breeding, escape, hiding, and resting cover for wildlife and provides travelways between other habitat areas and seasonal ranges. **GD for Riparian Areas -** Ground-disturbing projects (including prescribed fire) which may degrade long term riparian conditions should be avoided. **GD for All Forested PNVTS** - Trees, snags, and logs immediately adjacent to active red squirrel cone caches, Abert's squirrel nests, and raptor nests should be retained to maintain needed habitat components and provide tree groupings. **GD for All Forested PNVTs -** Where a site-specific analysis indicates the need to reduce fire-kill of desired residual trees, fuel continuity and/or loading should be reduced before use of	The term "Restricted" MSO habitat became obsolete with the 2012 revision of the MSO RP. The 2012 MSO RP directs managers to strive to retain trees over 24 inches as much as possible, and also over 18 inches diameter, but stresses that removal of some trees these sizes should be done judiciously and only when necessary to meet specific resource objectives. It states on pg. 269 that previous wording of this GD to not allow cutting any trees over 18 inches was misinterpreted. Although not a separate PNVT in the revised forest plan, aspen is included here as an important hardwood habitat component within the mixed conifer, and spruce-fir PNVTs, and sometimes also occurs within the pine-oak (ponderosa pine) and some riparian forest PNVTs.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		prescribed fire. **DCs for Forests: PP** - •The ponderosa pine forest is composed predominantly of vigorous trees, but declining, top-killed, lightning-scarred, and fire-scarred trees provide snags and coarse woody debris. Snags and coarse woody debris are well distributed throughout the landscape. Ponderosa pine snags are typically 18 inches or greater in diameter and average 1 to 2 per acre. •Coarse woody debris, including logs, ranges from 3 to 10 tons per acre. Logs average 3 per acre within the forested area of the landscape. •Where it naturally occurs, Gambel oak is present with all age classes represented. It is reproducing to maintain or expand its presence on capable sites across the landscape. Large Gambel oak snags are typically 10 inches or larger in diameter and are well distributed. •Where Gambel oak occurs, the majority are single trunk trees over 8 inches in diameter with full crowns. **GD for Forests: PP** - Where Gambel oak or other native hardwood trees and shrubs are desirable to retain for diversity, treatments should improve vigor and growth of these species. **DCs for Forests: DMC** - •The dry mixed conifer forest is composed predominantly of vigorous trees, but declining, top-killed, lightning-scarred, and fire-scarred trees provide snags and coarse woody debris. Snags and coarse woody debris are well distributed throughout the landscape. Snags are typically 18 inches in diameter or greater and average 3 per acre. •Coarse woody debris, including logs, ranges from 5 to 15 tons per acre. Logs average 3 per acre within the forested area of the landscape. • …Where they naturally occur, groups of Gambel oak are healthy and maintained or increased. •Where Gambel oak occurs, the majority are single trunk trees over 8 inches in diameter with full crowns. **GD for Forests: DMC** - Where Gambel oak or other native hardwood trees and shrubs are desirable to retain for diversity, treatments should improve vigor and growth of these species. **DCs for Forests: WMC** - •The wet mixed conifer forest is composed predominantly of vigorous trees, but declining, top-killed, lightning-scarred, and fire-scarred trees provide snags and	Sizes of snags, logs, and large trees to be retained at the project and activity level are dependent upon existing site conditions, capabilities, and objectives and should be determined by project interdisciplinary specialists using local data for the specific area while keeping MSO recovery needs in mind.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		coarse woody debris. Snags and coarse woody debris are well distributed throughout the landscape. The number of snags and logs and amount of coarse woody debris varies by seral state ranging from 8 to more than 16 tons per acre. •There are 20 or more snags greater than 8 inches in diameter per acre and 1 to 5 of those snags are 18 inches or greater in diameter. •Coarse woody debris, including logs, varies by seral state, ranging from 5 to 20 tons per acre for early-seral states; 20 to 40 tons per acre for mid-seral states; and may be as high as 35 tons per acre, or greater, for late-seral states. These conditions also provide an abundance of fungi including mushrooms and truffles used by small mammals. **DCs for Forests: SF -** •In general, there are 13 to 30 snags greater than 8 inches in diameter per acre and 1 to 3 of those snags are 18 inches or greater in diameter. •Coarse woody debris, including logs, varies by seral state, ranging from 5 to 30 tons per acre for early-seral states; 30 to 40 tons per acre for mid-seral states; and 40 tons per acre or greater for late-seral states. These conditions also provide an abundance of fungi including mushrooms and truffles used by small mammals. **DC for Forests: Aspen** - Aspen may comprise 10 to 100 percent of the area depending on disturbance (e.g., fire, insects, silvicultural treatments) in multistoried patches. **DC for Woodlands: MPO** - Some large patches in the Madrean pine-oak woodland are closed canopy, have multiple age classes, large trees, and old growth-like characteristics (e.g., numerous snags, large coarse woody debris) in order to provide for wildlife such as Mexican spotted owl and black bear, that need denser habitat. **GD for Landscape Scale Disturbance Events** - Management should emphasize long term reestablishment of native deciduous trees, shrubs, and herbaceous vegetation to maintain ecosystem diversity. **GDs for Wildlife and Rare Plants -** Activities occurring within federally listed species habitat should apply habitat management objectives and species protection measures from recovery plans. •Modifications, mitigations, or other measures should be	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		incorporated to reduce negative impacts to plants, animals, and their habitats and to help provide for species needs, consistent with project or activity objectives.	
MSO	**GDs for MSO in Riparian Areas.** Emphasize maintenance and restoration of healthy riparian ecosystems through conformance with forest plan riparian standards and guidelines. Management strategies should move degraded riparian vegetation toward good condition as soon as possible. Damage to riparian vegetation, stream banks, and channels should be prevented.	**DC Water Resources** - Water quality, stream channel stability, and aquatic habitats retain their inherent resilience to natural and other disturbances. **DC Water Resources** - Vegetation and soil conditions above the floodplain protect downstream water quality, quantity, and aquatic habitat. **GD Water Resources** - Streams, streambanks, shorelines, lakes, wetlands, seeps, springs and other bodies of water should be protected from detrimental changes [4] in water temperature and sediment to protect aquatic species and riparian habitat. **GD Water Resources** - Aquatic management zones should be in place between streams and disturbed areas and/or road locations to maintain water quality and suitable stream temperatures for aquatic species. **DC Aquatic Habitat and Species** - Streamflows, habitat, and water quality support native aquatic and riparian-dependent species and habitat. **DC Aquatic Habitat and Species** - Habitat and ecological conditions are capable of providing for self-sustaining populations of native, riparian dependent plant and animal species. **OBJ Aquatic Habitat and Species** - Annually, enhance or restore 5 to 15 miles of stream and riparian habitat to restore structure, composition, and function of physical habitat for native fisheries and riparian-dependent species. **DC Riparian Areas** - Natural ecological disturbances (e.g., flooding, scouring) promote a diverse plant structure consisting of herbaceous, shrub, and tree species of all ages and size classes necessary for the recruitment of riparian-dependent species. **DC Riparian Areas** - Riparian-wetland conditions maintain water-related processes (e.g., hydrologic, hydraulic, geomorphic). They also maintain the physical and biological	Retained through numerous objectives, desired conditions, standards and guidelines within soil, water, aquatic species, riparian and grazing sections.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		community characteristics, functions, and processes. **DC Riparian Areas** - Stream (lotic) riparian-wetland areas have vegetation, landform, and/or large coarse woody debris to dissipate stream energy associated with high water flow. **DC Riparian Areas** - Streams and their adjacent floodplains are capable of filtering, processing, and storing sediment; aiding floodplain development; improving floodwater retention; and increasing groundwater recharge. **DC Riparian Areas** - Vegetation and root masses stabilize streambanks, islands, and shoreline features against the cutting action of water. **DC Riparian Areas** - Willows (e.g., Bebb, Geyer, Arizona, Goodding's) are reproducing with all age classes present, where the potential exists. **DC Riparian Areas** - Diversity and density of riparian forest vegetation provides for breeding, escape, hiding, and resting cover for wildlife and provides travelways between other habitat areas and seasonal ranges. **DC Riparian Areas** - The ecological function of riparian areas is resilient to animal and human use. **DC Riparian Areas** - Riparian obligate species within wet meadows, around springs and seeps, along streambanks, and active floodplains provide sufficient [5] vegetative ground cover (herbaceous vegetation, litter, and woody riparian species) to protect and enrich soils, trap sediment, mitigate flood energy, stabilize streambanks, and provide for wildlife and plant needs. **DC Riparian Areas** - Riparian soil productivity is optimized as described by the specific TES map unit [5] as indicated by the vigor of the herbaceous vegetation community. Based on species composition, ungrazed plant heights [7] range from 10 inches to 36 inches. **DC Riparian Areas** - Large coarse woody debris provides stability to riparian areas and stream bottoms lacking geologic control (e.g., bedrock) or geomorphic features (e.g., functioning floodplains, stream sinuosity, width/depth ratio). **OBJ Riparian Areas** - Annually, move 200 to 500 acres toward	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		desired composition, structure, and function of streams, floodplains, and riparian vegetation. **OBJ Riparian Areas** - Within the planning period, relocate, repair, improve, or decommission a minimum of 4 miles of National Forest System roads or trails that add sediment to streams, damage riparian vegetation, erode streambanks, cause gullies, and/or compact floodplain soils. **OBJ Riparian Areas** - Annually, remove an average of 2 miles of unauthorized roads or trails that add sediment to streams, damage riparian vegetation, erode streambanks, cause gullies, and/or compact floodplain soils. **OBJ Riparian Areas** - Within the planning period, enhance or restore 5 to 25 wet meadows, springs, seeps or cienegas to proper hydrologic function and native plant and animal species composition. **OBJ Riparian Areas** - Annually, work with partners to reduce animal damage to native willows and other riparian species on an average of 5 miles of riparian habitat. **GD Riparian Areas** - Ground-disturbing projects (including prescribed fire) which may degrade long term riparian conditions should be avoided. **GD Riparian Areas** - Wet meadows, springs, seeps and cienegas should not be used for concentrated activities (e.g., equipment storage, forest product or mineral stockpiling, livestock handling facilities, special uses) that cause damage to soil and vegetation. **GD Riparian Areas** - Active grazing allotments should be managed to maintain or improve to desired riparian conditions.	
MSO	**GDs for MSO - Old growth:** Except where otherwise noted, implement forest plan old growth standards and guidelines to maintain and promote development of owl	**Existing plan old growth STs & GDs deleted. Replaced with:** *Forest/woodland density, structure, age classes, species, and vertical and horizontal diversity revised plan components pertaining to old growth are already displayed elsewhere = See revised plan direction already presented in this crosswalk's Vegetation section for addressing the existing plan's "old growth" STs & GDs, wildlife "vertical and horizontal diversity" STs & GDs, deer/elk "hiding and thermal cover" STs & GDs. Those DCs and*	Redundant with revised plan's old growth components already addressed elsewhere in this crosswalk. **Management Approaches for Wildlife and Rare Plants -** The forests provide for wildlife and their needs consistent with recovery plans, biological opinions,

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	habitat.	*GDs are further supplemented in the revised plan with the following direction applicable for MSO habitat:* **GDs for Wildlife and Rare Plants** - •Activities occurring within federally listed species habitat should apply habitat management objectives and species protection measures from recovery plans. •Modifications, mitigations, or other measures should be incorporated to reduce negative impacts to plants, animals, and their habitats and to help provide for species needs, consistent with project or activity objectives.	conservation strategies, conservation assessments, management plans, memorandums of understanding (MOUs), and Forest Service direction. The forests actively participate in implementation of recovery plan actions for federally listed species.
MSO	**GDs for MSO Other Forest and Woodland Types**. Apply ecosystem approaches to manage for landscape diversity mimicking natural disturbance patterns, incorporating natural variation in stand conditions and retaining special features such as snags and large trees, utilizing appropriate fires, and retention of existing old growth in accordance with forest plan old-growth standards and guidelines.	**Concept retained, but specific text deleted. Replaced with:** **DCs for Overall Ecosystem Health –** •Ecological components (e.g., soil, vegetation, water) are resilient to disturbances including human activities and natural ecological disturbances (e.g., fire, drought, wind, insects, disease, pathogens). •Natural ecological disturbances return to their characteristic roles within the ecosystem. Wildfire, in particular, is restored to a more natural function. •Natural ecological cycles (i.e., hydrologic, energy, nutrient) facilitate shifting of plant communities, structure, and ages across the landscape. Ecotone shifts are influenced at both the landscape and watershed scale by ecological processes. The mosaic of plant communities and the variety within the communities are resilient to disturbances. •Ecological conditions for habitat quality, distribution, and abundance contribute to self-sustaining populations of native and desirable nonnative plants and animals that are healthy, well distributed, connected, and genetically diverse. Conditions provide for the life history, distribution, and natural population fluctuations of the species within the capability of the landscape. •Large blocks of habitat are interconnected, allowing for behavioral and predator-prey interactions, and the persistence of metapopulations and highly interactive wildlife species across the landscape. Ecological connectivity extends through all plant communities.	In the ASNFs revised plan, "Other Forest and Woodland Types" not already identified for MSO "Protected and Restricted" habitats (per the 1987 forest plan amended to incorporate the 1995 MSO RP) include the following PNVTS: PJ Woodland, various types of Grasslands, and Interior Chaparral. The **2012 revised MSO RP** now states (on page VIII) "Other forest and woodland types, such as ponderosa pine forest, spruce-fir forest, and pinyon-juniper woodland. No specific management is suggested for these habitat types, recognizing that current emphasis for sustainable and resilient forests should be compatible with needs of the owl." On pages 268-269 it also uses the term "other forest types where hardwoods are a component of owl habitat". The ASNFs grasslands and interior chaparral PNVTs do not typically contain hardwood trees, except in transitional ecotones, which are addressed here in the crosswalk. Because the Ponderosa pine - Gambel

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		•Habitat configuration and availability allows wildlife populations to adjust their movements (e.g., seasonal migration, foraging) in response to climate change and promote genetic flow between wildlife populations. •Habitat quality, distribution, and abundance exist to support the recovery of federally listed species and the continued existence of all native and desirable nonnative species. •Watersheds exhibit high geomorphic, hydrologic, and biotic integrity relative to their natural potential condition. **DCs for All PNVTs –** •Each PNVT contains a mosaic of vegetative conditions, densities, and structures. This mosaic occurs at a variety of scales across landscapes and watersheds. The distribution of physical and biological conditions is appropriate to the natural disturbance regimes affecting the area. •The vegetative conditions and functions are resilient to the frequency, extent, and severity of disturbances (e.g., fire, insects and disease, flood, climate change, management activities). The landscape is a functioning ecosystem that contains all its components and processes. •Natural processes and human and natural disturbances (e.g., wildland fire, mechanical vegetation treatments) provide desired overall tree density, structure, species composition, coarse woody debris, and nutrient cycling. Natural fire regimes are restored. Uncharacteristic fire behavior is minimal or absent on the landscape. •Wildland fire maintains and enhances resources and, as nearly as possible, is allowed to function in its natural ecological role. •Native plant communities dominate the landscape. •Species genetic diversity remains within native vegetation and animal populations, thus enabling species to adapt to changing environmental and climatic conditions. •Vegetative connectivity provides for species dispersal, genetic exchange, and daily and seasonal movements across multiple spatial scales. •Organic soil cover and herbaceous vegetation protect soil,	oak type is a subtype of the ASNFs PP PNVT, and because the ASNFs SF forest fits the MSO RP definition of "mixed conifer" both of these PNVTS have already been addressed for the Protected and Restricted MSO amended 1987 plan crosswalk items, thus not redundantly presented here. Likewise, old growth revised plan components specific to each PNVT are not repeated here as they are already covered elsewhere in this same crosswalk.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		facilitate moisture infiltration, and contribute to plant and animal diversity and ecosystem function. •Diverse vegetation structure, species composition, densities, and seral states provide quality habitat for native and desirable nonnative plant and animal species throughout their life cycle and at multiple spatial scales. Landscapes provide for the full range of ecosystem diversity at multiple scales, including habitats for those species associated with late seral states and old growth. •Old growth is dynamic in nature, well distributed, and spatially shifts across forest and woodland landscapes over time. •Old or large trees, multistoried canopies, large coarse woody debris, and snags provide the structure, function, and associated vegetation composition as appropriate for each forested and woodland PNVT. •Vegetation conditions allow for transition zones or ecotones between riparian areas, forests, woodlands, shrublands, and grasslands. Transition zones may shift in time and space due to changing site conditions from disturbances (e.g., fire, climate change). •Insect and disease populations are at endemic levels with occasional outbreaks. A variety of seral states usually restricts the scale of localized insect and disease outbreaks. •Disjunct populations of Chihuahuan pine, Arizona cypress, and Rocky Mountain maple are present with the ability to reproduce on capable sites. •Herbivory is in balance with available forage (i.e., grazing and browsing by authorized livestock, wild horses, and wildlife do not exceed available forage production within established use levels). •Vegetation conditions within each PNVT should be similar to site potential. •Shrub components contain a diverse array of native vegetation that is well distributed across the landscape to provide nutritional needs for browsers. •Vegetation provides products—such as wood fiber or forage—to	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		help meet local and regional needs in a manner that is consistent with other desired conditions on a sustainable basis within the capacity of the land. •Stand densities and species compositions are such that vegetation conditions are resilient under a variety of potential future climates. •Vegetation conditions provide hiding and thermal cover in contiguous blocks for wildlife. Native plant species are present in all age classes and are healthy, reproducing, and persisting. •Vegetative ground cover (herbaceous vegetation and litter) is optimized to protect and enrich soils and promote water infiltration. There is a diverse mix of cool and warm season grasses and desirable forbs species. •Grasses, forbs, shrubs, and litter are abundant and continuous to support natural fire regimes. •The composition, density, structure, and mosaic of vegetative conditions reduce uncharacteristic wildfire hazard to local communities and forest ecosystems. •Some isolated infestations of mistletoe provide for a diversity of habitat components (e.g., food, nesting, cover) for a variety of species such as owls, squirrels, and some birds and insects. **STs for All PNVTs -** •Across the planning unit, within each PNVT, vegetation management activities shall be designed to maintain or move plant composition toward a moderate to high plant community similarity as compared to site potential. •Vegetation treatments shall include measures to reduce the potential for introduction of invasive plants and animals and damage from nonnative insects and diseases. **GDs for All PNVTs -** •During project design and implementation, precautions should be taken to reduce the potential for damage to residual vegetation in order to prevent premature or excessive mortality. •Landscape scale restoration projects should be designed to spread treatments out spatially and/or temporally within the	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		project area to reduce implementation impacts and allow reestablishment of vegetation and soil cover. •Restoration methods, such as thinning or prescribed fire, should leave a mosaic of untreated areas within the larger treated project area to allow recolonization of treated areas by plants, small mammals, and insects (e.g., long-tailed voles, fritillary butterflies). •Wildland fires may be used to meet desired resource conditions, maintain or promote desired vegetation species, and enable natural fires to return to their historic role. •Insect and disease infected trees should be removed to prevent spread beyond endemic levels. •Project implementation should include bark beetle monitoring within and adjacent to all active slash-creating projects to help prevent beetle outbreak. •Projects should include quantitative and/or qualitative objectives for implementation monitoring and effectiveness monitoring to assist in moving toward or maintaining desired conditions. **GD for Woodlands: Madrean Pine-Oak -** Where Mexican spotted owls are found nesting in canyons or on north slopes within the Madrean pine-oak woodland, adjacent treatments should be modified to meet the needs of foraging owls. **DCs for Woodlands: Piñon-Juniper – Savanna:** •The piñon-juniper savanna is open in appearance with trees occurring as individuals or in small groups and ranging from young to old. Overall, tree canopy cover is 10 to 15 percent, but may range up to 30 percent. •Scattered shrubs and a continuous herbaceous understory, including native grasses, forbs, and annuals, are present to support a natural fire regime. •Grasses, forbs, shrubs, needles, leaves, and small trees support the natural fire regime. The larger proportion (60 percent or greater) of soil cover is composed of grasses and forbs as opposed to needles and leaves. •Old growth occurs in isolated locations scattered throughout the landscape, as individual old trees or as clumps of old trees.	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		Other old growth components may also be present including dead trees (snags), downed wood (coarse woody debris), and/or structural diversity. •Fires are low to mixed severity (fire regime I), occurring every 1 to 35 years. **DCs for Woodlands: Piñon-Juniper – Persistent Woodland:** •A mix of desired species[10], ages, heights, and groupings of trees create a mosaic across the landscape. •Tree canopy cover is closed (greater than 30 percent), shrubs are sparse to moderate, and herbaceous cover is patchy. •Snags, averaging one to two per acre, and older trees with dead limbs and tops are scattered across the landscape. Coarse woody debris averages 2 to 5 tons per acre. •Old growth includes old trees, dead trees (snags), downed wood (coarse woody debris), and/or structural diversity. The location of old growth shifts on the landscape over time as a result of succession and disturbance (tree growth and mortality). •Fire is less frequent and more variable than in the savanna due to patchiness of ground cover. The fires that do occur are mixed to high severity (fire regimes II, III, IV, and V).	
MSO	**Forest wide GDs for MSO.** The activity center is defined as the nest site. In the absence of a known nest, the activity center should be defined as a roost grove commonly used during breeding. In the absence of a known nest or roost, the activity center should be defined as the best nest/roost habitat. **Forest wide ST for MSO.** Other forest and woodland types include all ponderosa pine, spruce-fir, woodland, and	**DC Overall Ecosystem Health** Habitat quality, distribution, and abundance exist to support the recovery of federally listed species and the continued existence of all native and desirable nonnative species. **DC Aquatic Habitat and Species** Habitat conditions contribute to the recovery of federally listed species. **GD Aquatic Habitat and Species** Activities occurring within federally listed species habitat should apply habitat management direction and species protection measures from recovery plans. **DC Wildlife and Rare Plants** Habitat conditions contribute to the recovery of federally listed species. **GD Wildlife and Rare Plants** Activities occurring within federally listed species habitat should apply habitat management objectives and species protection measures from recovery plans.	These are administrative designations and other measures that were included in the previous direction and came from the first Mexican spotted owl recovery plan. The new recovery plan designations of habitat are different, though PACs remain. Rather than cite the material from the recovery plan in the forest plan, including language on using the recovery plan provides for incorporating recovery plan designations as plan guidance while allowing for changes in the recovery plan to make their way into projects without the need to revise the forest plan.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	aspen forests outside protected and restricted areas. **Forest wide ST for MSO.** Protected areas include delineated protected activity centers; mixed conifer and pine-oak forests with slopes greater than 40% where timber harvest has not occurred in the last 20 years; and reserved lands which include wilderness, research natural areas, wild and scenic rivers, and congressionally recognized wilderness study areas. **Forest wide ST for MSO.** Restricted areas include all mixed-conifer, pine-oak, and riparian forests outside of protected areas. **Forest wide ST for MSO.** Survey all potential spotted owl areas including protected, restricted, and other forest and woodland types within an analysis area plus the area 1/2 mile beyond the perimeter of the proposed treatment area. **Neither ST nor GD for MSO.** As the foregoing example shows, the guidelines are the detailed information about implementation of the standards. While standards and guidelines both specify the management bounds and		In terms of survey requirements, the forest must survey for owls in order to meet its legal obligation to consult on projects under Section 7(a)(2) of the ESA. The provisions for allowing no timber harvest have also changed in the recovery plan since it is recognized that treatments to restore natural fire regimes are necessary to preserve owl habitat. Avoiding disturbance is adequately covered in new plan guidance addressed elsewhere, and treatment of PACs and other habitats will designed to meet recovery objectives.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	constraints, the standards contain no discretionary elements and the guidelines may occasionally contain discretionary elements. For example one of the Mexican spotted owl guidelines is "The Protected Activity Center should enclose the best possible owl habitat..." The terms "should" and "best" imply some discretion on the part of the person implementing the guideline. **Neither ST nor GD for MSO.** Submit protected activity center maps and descriptions to the recovery unit working group for comment as soon as possible after completion of surveys. **Neither ST nor GD for MSO.** The corresponding guidelines read "Delineate an area of not less than 600 acres around the activity center using boundaries of known habitat polygons and/or topographic features. Written justification for boundary delineation should be provided". **Neither ST nor GD for MSO.** The Protected Activity Center boundary should enclose the best possible owl habitat configured in as compact a unit as possible, with the nest		

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	or activity center located near the center. **Forest wide ST for MSO.** Provide three levels of habitat management - protected, restricted, and other forest and woodland types to achieve a diversity of habitat conditions across the landscape. **Forest wide ST for MSO.** Provide three levels of habitat management - protected, restricted, and other forest and woodland types to achieve a diversity of habitat conditions across the landscape. **Forest wide ST for MSO.** Establish a protected activity center at all Mexican spotted owl sites located during surveys and all management territories established since 1989. **Forest wide ST for MSO.** Allow no timber harvest except for fire risk abatement in mixed conifer and pine-oak forests on slopes greater than 40%where timber harvest has not occurred in the last 20 years. **Forest wide STs for MSO.** Allow no timber harvest except for fuelwood and fire risk abatement in established protected activity centers. For protected activity centers destroyed by fire, windstorm,		

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	or other natural disaster, salvage timber harvest or declassification may be allowed after evaluation on a case-by-case basis in consultation with U.S. Fish and Wildlife Service. Limit human activity in protected activity centers during the breeding season. In protected and restricted areas, when activities conducted in conformance with these standards and guidelines may adversely affect other threatened, endangered, or sensitive species or may conflict with other established recovery plans or conservation agreements; consult with US Fish and Wildlife Service to resolve the conflict. Monitor changes in owl populations and habitat needed for de-listing. **Forest wide GD for MSO.** Breeding season is March 1 to August 31. Conduct surveys following Region 3 survey protocol. **Forest wide GD for MSO in PACs**. Delineate an area of not less than 600 acres around the activity center using boundaries of known habitat polygons and/or topographic features. Written justification		

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	for boundary delineation should be provided.		
MSO	**Forest wide GD for MSO in PACs.** Generally allow continuation of the level of recreation activities that was occurring prior to listing.	**DC Overall Recreation Opportunities** Recreation use does not negatively affect wildlife habitat and populations. Negative interactions between people and wildlife are minimized. **GD Dispersed Recreation** Timing restrictions on recreation uses should be considered to reduce conflicts with wildlife needs or soil moisture conditions. Dispersed campsites should not be located on or adjacent to archaeological sites or sensitive wildlife areas. **DC Motorized Opportunities** The location and design of roads and trails does not impede wildlife and fish movement. **ST Motorized Opportunities** Temporary road construction shall minimize the impacts to resource values and facilitate road rehabilitation. Temporary roads shall be rehabilitated following completion of the activities for which they were constructed. **GD Motorized Opportunities** New roads or motorized trails should be located to avoid Mexican spotted owl protected activity centers, northern goshawk post-fledging family areas, and other wildlife areas as identified; seasonal restrictions may be an option. **GD Motorized Opportunities** Roads and motorized trails should be designed and located so as to not impede terrestrial and aquatic species movement and connectivity. **GD Nonmotorized Opportunities** New trails and trail relocations should be designed and located so as to not impede terrestrial and aquatic species movement and connectivity.	The new plan direction meets the intent of the previous direction.
MSO	**Forest wide GD for MSO in PACs.** Protected Activity Center boundaries should not overlap.	**DC Aquatic Habitat and Species** Habitat conditions contribute to the recovery of federally listed species. **GD Aquatic Habitat and Species** Activities occurring within federally listed species habitat should apply habitat management direction and species protection measures from recovery plans. **DC Wildlife and Rare Plants** Habitat conditions contribute to the recovery of federally listed species.	This is an administrative designation and was included in the previous direction from the first Mexican spotted owl recovery plan. The new recovery plan contains guidance on designating PACs. Rather than cite the material from the recovery plan in the forest plan,

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		GD Wildlife and Rare Plants Activities occurring within federally listed species habitat should apply habitat management objectives and species protection measures from recovery plans.	including language on using the recovery plan provides for incorporating recovery plan designations as plan guidance while allowing for changes in the recovery plan to make there way into projects without the need to revise the forest plan.
MSO	**Forest wide GD for MSO in PACs.** Require bird guides to apply for and obtain a special use permit. A condition of the permit shall be that they obtain a sub-permit under the U.S. Fish and Wildlife Service Master endangered species permit. The permit should stipulate the sites, dates, number of visits and maximum group size permissible.	**DC Wildlife and Rare Plants** Collection of animals and plants does not negatively impact species abundance.	The new plan language broadens the intent to more than the MSO while not getting into specific requirements of permitting under existing law, regulation, and policy.
MSO	**Forest wide GD for MSO in PACs.** Road or trail building in protected activity centers should be avoided but maybe permitted on a case-by-case basis for pressing management reasons.	**DC Overall Recreation Opportunities** Recreation use does not negatively affect wildlife habitat and populations. Negative interactions between people and wildlife are minimized. **GD Dispersed Recreation** Timing restrictions on recreation uses should be considered to reduce conflicts with wildlife needs or soil moisture conditions. **GD Dispersed Recreation** Dispersed campsites should not be located on or adjacent to archaeological sites or sensitive wildlife areas. **DC Motorized Opportunities** The location and design of roads and trails does not impede wildlife and fish movement. **ST Motorized Opportunities** Temporary road construction shall minimize the impacts to resource values and facilitate road rehabilitation. Temporary roads shall be rehabilitated following completion of the activities for which they were constructed. **GD Motorized Opportunities** New roads or motorized trails	The new plan direction meets the intent of the previous direction.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		should be located to avoid Mexican spotted owl protected activity centers, northern goshawk post-fledging family areas, and other wildlife areas as identified; seasonal restrictions may be an option. **GD Motorized Opportunities** Roads and motorized trails should be designed and located so as to not impede terrestrial and aquatic species movement and connectivity.	
MSO	**Forest wide GD for MSO in PACs.** Harvest fuelwood when it can be done in such a way that effects on the owl are minimized. Manage within the following limitations to minimize effects on the owl: Harvest conifers less than 9 inches in diameter only within those protected activity centers treated to abate fire risk as described below. Designate a 100 acre "no treatment" area around the known nest site of each selected protected activity center. Habitat in the no treatment area should be as similar as possible in structure and composition as that found in the activity center. Retain key forest species such as oak. Retain key habitat components such as snags and large downed logs. **Forest wide GD for MSO in PACs.** Pre and post treatment monitoring should occur within all steep slopes treated for fire risk abatement. (See	**DC Overall Ecosystem Health** Habitat quality, distribution, and abundance exist to support the recovery of federally listed species and the continued existence of all native and desirable nonnative species. **DC Wildlife and Rare Plants** Habitat conditions contribute to the recovery of federally listed species. **GD Wildlife and Rare Plants** Activities occurring within federally listed species habitat should apply habitat management objectives and species protection measures from recovery plans.	These are administrative designations and other measures that were included in the previous direction and came from the first Mexican spotted owl recovery plan. The new recovery plan designations of habitat are different, though PACs remain. Rather than cite the material from the recovery plan in the forest plan, including language on using the recovery plan provides for incorporating recovery plan designations as plan guidance while allowing for changes in the recovery plan to make their way into projects without the need to revise the forest plan. In terms of survey and monitoring requirements, the forest must survey for owls in order to meet its legal obligation to consult on projects under Section 7(a)(2) of the ESA. The provisions for management activities have also changed in the recovery plan since it is recognized that treatments to restore natural fire regimes are necessary to preserve owl habitat. Avoiding disturbance is adequately covered in new plan guidance

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	monitoring guidelines) **Forest wide GD for MSO in PACs.** Pre- and post-treatment monitoring should be conducted in all protected activity centers treated for fire risk abatement. (See monitoring guidelines) **Forest wide GD for MSO in PACs.** Reserved Lands (Wilderness, Research Natural Areas, Wild and Scenic Rivers, and Congressionally Recognized Wilderness Study Areas). Allow prescribed fire where appropriate. **Forest wide GD for MSO in PACs.** Select and treat additional protected activity centers in 10% increments if monitoring of the initial sample shows there were no negative impacts or there were negative impacts which can be mitigated by modifying treatment methods. **Forest wide GD for MSO in PACs.** Select for treatment 10% of the protected activity centers where nest sites are known in each recovery unit having high fire risk conditions. Also select another 10% of the protected activity centers where nest sites are known as a paired sample to serve as control areas.		addressed elsewhere, and treatment of PACs and other habitats will designed to meet recovery objectives.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	Forest wide GD for MSO in PACs. Steep Slopes (Mixed conifer and pine-oak forests outside protected activity centers with slopes greater than 40% that have not been logged within the past 20 years)		
MSO	GDs for MSO Restricted (MC, Pine oak, and Riparian) Manage to ensure a sustained level of owl nest/roost habitat well distributed across the landscape. Create replacement owl nest/roost habitat where appropriate while providing a diversity of stand conditions across the landscape to ensure habitat for a diversity of prey species.	**DC All PNVTs** Diverse vegetation structure, species composition, densities, and seral states provide quality habitat for native and desirable nonnative plant and animal species throughout their life cycle and at multiple spatial scales. Landscapes provide for the full range of ecosystem diversity at multiple scales, including habitats for those species associated with late seral states and old growth forests. **GD All PNVTs** Restoration methods, such as thinning or prescribed fire, should leave a mosaic of untreated areas within the larger treated project area to allow recolonization of treated areas by plants, small mammals and insects (e.g., long-tailed voles, fritillary butterflies). **DC Ponderosa Pine** Where it naturally occurs, Gambel oak is present with all age classes represented. It is reproducing to maintain or expand its presence on capable sites across the landscape. Large Gambel oak snags are typically 10 inches or larger in diameter and are well distributed. **DC Ponderosa Pine** Old growth occurs throughout the landscape, in small, discontinuous areas consisting of clumps of old trees, or occasionally individual old trees. Other old growth components are also present including dead trees (snags), downed wood (coarse woody debris), and/or structural diversity. The location of old growth shifts on the landscape over time as a result of succession and disturbance (tree growth and mortality). **DC Ponderosa Pine** Where Gambel oak occurs, the majority are single trunk trees over 8 inches in diameter with full crowns. **GD Ponderosa Pine** Where Gambel oak or other native hardwood trees and shrubs are desirable to retain for diversity,	The new plan guidance provides for the maintenance of owl nest/roost habitat within each forest type. This specificity meets the intent of the previous guidance while allowing for the different potentials for habitat development within these sites, as well as allowing for greater management flexibility to achieve these conditions.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		treatments should improve vigor and growth of these species. **DC Dry Mixed Conifer** Old growth occurs throughout the landscape, in small, discontinuous areas consisting of clumps of old trees, or occasionally individual old trees. Other old growth components are also present including dead trees (snags), downed wood (coarse woody debris), and/or structural diversity. The location of old growth shifts on the landscape over time as a result of succession and disturbance (tree growth and mortality). **DC Wet Mixed Conifer** Old growth occurs over large, continuous areas. Old growth components include old trees, dead trees (snags), downed wood (coarse woody debris), and/or structural diversity. The location of old growth shifts on the landscape over time as a result of succession and disturbance (tree growth and mortality). **DC Madrean Pine-Oak** Some large patches in the Madrean pine-oak woodland are closed canopy, have multiple age classes, large trees, and old growth-like characteristics (e.g., numerous snags, large coarse woody debris) in order to provide for wildlife such as Mexican spotted owl and black bear that need denser habitat. **GD Madrean Pine-Oak** Where Mexican spotted owls are found nesting in canyons or on north slopes within the Madrean pine-oak woodland, adjacent treatments should be modified to meet the needs of foraging owls.	
MSO	GDs for MSO Livestock Grazing. Implement forest plan forage utilization standards and guidelines to maintain owl prey availability, maintain potential for beneficial fire while inhibiting potential destructive fire, maintain and restore riparian ecosystems, and promote development of owl habitat. Strive to attain good to excellent range	**DC Livestock Grazing** Livestock grazing and associated activities contribute to healthy, diverse plant communities, satisfactory condition soils, and wildlife habitat. **DC Livestock Grazing** Range developments for livestock minimize impacts to wildlife and blend with the natural environment. **GD Livestock Grazing** Forage, browse, and cover needs of wildlife, authorized livestock, and wild horses should be managed in balance with available forage so that providing for these needs remain at or move toward a healthy, persistent state. **DC for Overall Ecosystem Health** Large blocks of habitat are	The new plan guidance meets the intent of the previous guidance.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	conditions. GDs for MSO Livestock Grazing. Implement forest plan forage utilization standards and guidelines to maintain owl prey availability, maintain potential for beneficial fire while inhibiting potential destructive fire, maintain and restore riparian ecosystems, and promote development of owl habitat. Strive to attain good to excellent range conditions.	interconnected, allowing for behavioral and predator-prey interactions, and the persistence of metapopulations and highly interactive wildlife species across the landscape. Ecological connectivity extends through all plant communities. **DC for All PNVTs** Herbaceous vegetation amount and structure (e.g., plant density, height, litter, seed heads) provides habitat to support wildlife and prey species.	
MSO	GDs for MSO Monitoring. Monitoring and evaluation should be collaboratively planned and coordinated with involvement from each national forest, USFWS Ecological Services Field Office, USFWS Regional Office, USFS Regional Office, Rocky Mountain Research Station, recovery team, and recovery unit working groups. Population monitoring should be a collaborative effort with participation of all appropriate resource agencies. Habitat monitoring of gross habitat changes should be a collaborative effort of all appropriate resource agencies. Habitat monitoring of treatment effects (pre and post treatment) should be done by	**DC Overall Ecosystem Health** Habitat quality, distribution, and abundance exist to support the recovery of federally listed species and the continued existence of all native and desirable nonnative species. **DC Aquatic Habitat and Species** Habitat conditions contribute to the recovery of federally listed species. **GD Aquatic Habitat and Species** Activities occurring within federally listed species habitat should apply habitat management direction and species protection measures from recovery plans. **DC Wildlife and Rare Plants** Habitat conditions contribute to the recovery of federally listed species. **GD Wildlife and Rare Plants** Activities occurring within federally listed species habitat should apply habitat management objectives and species protection measures from recovery plans.	These provisions came from the first Mexican spotted owl recovery plan. The new recovery plan has monitoring provisions that vary from these. Rather than cite the material from the recovery plan in the forest plan, including language on using the recovery plan provides for incorporating recovery plan designations as plan guidance while allowing for changes in the recovery plan to make their way into projects without the need to revise the forest plan. In terms of survey and monitoring requirements, the forest must survey for owls in order to meet its legal obligation to consult on projects under Section 7(a)(2) of the ESA, and must also contribute to species recovery under Section 7(a)(1). There is no need to duplicate these requirements in the plan language.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	the agency conducting the treatment. Prepare an annual monitoring and evaluation report covering all levels of monitoring done in the previous year. The annual report should be forwarded to the Regional Forester with copies provided to the recovery unit working groups, USFWS Ecological Services field offices, and the USFWS Regional Office. GDs for MSO Monitoring Rangewide. Track gross changes in acres of owl habitat resulting from natural and human caused disturbances. Acreage changes in vegetation composition, structure, and density should be tracked, evaluated, and reported. Remote sensing techniques should provide an adequate level of accuracy. In protected and restricted areas where silvicultural or fire abatement treatments are planned, monitor treated stands pre and post treatment to determine changes and trajectories in fuel levels; snag basal areas; live tree basal areas; volume of down logs over 12 inches in diameter; and basal area of hardwood trees over 10 inches in diameter at the root crown.		

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	GDs for MSO Monitoring Upper Gila RUs. Assist the recovery team and recovery unit working group to establish sampling units consisting of 19 to 39 square mile quadrats randomly allocated to habitat strata. Quadrats should be defined based on ecological boundaries such as ridge lines and watersheds. Quadrat boundaries should not traverse owl territories. Twenty percent of the quadrats will be replaced each year at random. Using the sample quadrats, monitor the number of territorial individuals and pairs per quadrat; reproduction; apparent survival; recruitment; and age structure. Track population density both per quadrat and habitat stratum.		

Plan

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Plan	Mission Section Mission P. 14 The Apache-Sitgreaves Forest mission is to effectively and efficiently manage National Forest lands and resources to meet the needs and desires of the public while enhancing the environment.	**The Apache-Sitgreaves NFs Mission** The Apache-Sitgreaves NFs staff strives to effectively and efficiently manage National Forest System lands and resources to meet the needs and desires of the public following applicable laws, regulations, and policies while enhancing the environment.	No substantive changes
Plan	Goals Section Goal P. 14 By the end of Decade 5, the Forest is attempting to achieve a management situation that can respond to local and national demands for wood products, livestock production, water yield, and a wide mix of recreation opportunities, including hunting and fishing, that range from the primitive to the urban. The goal is to produce these outputs and opportunities on a sustained basis while maintaining air, soil, and water resources at or above minimum applicable standards. Levels of outputs and uses are adjusted to be within long-term supply potentials, and to ensure the harmonious and coordinated management of all resources, each with the other, without impairing the productivity of the land. Non-renewable resources are adequately protected to ensure their future availability.	**DC Overall Ecosystem Health** Ecological components (e.g., soil, vegetation, water) are resilient to disturbances including human activities and natural ecological disturbances (e.g., fire, drought, wind, insects, disease, pathogens). **DC Forest Products** The Apache-Sitgreaves NFs provide a sustainable supply of forest products (e.g., small roundwood, sawlogs, biomass, firewood, cones, Christmas trees, wildlings) to businesses and individuals within the capability of the land. **DC Forest Products** The collection of live plants, mushrooms, and other forest products does not impact species persistence onsite. **OBJ Forest Products** Annually, prepare and offer up to an average of 122,000 CCF from suitable timberlands resulting from sustainable harvest to provide wood products to businesses and individuals. **OBJ Forest Products** Annually, provide up to 94,000 CCF (119,380 cords) of firewood for personal and commercial use. **OBJ Forest Products** Annually, provide an average of 5,000 permits for Christmas trees. **ST Forest Products** Authorizations to cut, collect, or use forest products for any personal, commercial, or scientific purpose (i.e., permits, contracts, agreements) shall include provisions to ensure the needs of wildlife, which depend upon those forest products, will continue to be met (e.g., fungi and cone collection with respect to overwinter forage needs of squirrels). **GD Forest Products** Permits issued for forest products should include	Overall goal from 1987 plan is carried forward and distributed through several places in the new plan.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	Goals have been identified for each resource.	stipulations to protect resources. **DC All PNVTs** Herbivory is in balance with available forage (i.e., grazing and browsing by authorized livestock, wild horses, and wildlife do not exceed available forage production within established use levels). **DC All PNVTs** Vegetation provides products—such as wood fiber or forage—to help meet local and regional needs in a manner that is consistent with other desired conditions on a sustainable basis within the capacity of the land. **DC Livestock Grazing** Livestock grazing contributes to the social, economic, and cultural diversity and stability of rural communities. **DC Livestock Grazing** Livestock grazing and associated activities occur such that healthy, diverse plant communities, satisfactory condition soils, and wildlife habitat are maintained or improved. **DC Livestock Grazing** Range developments for livestock minimize impacts to wildlife and blend with the natural environment. **DC Livestock Grazing** Livestock grazing is in balance with available forage (i.e., grazing and browsing by authorized livestock, wild horses, and wildlife do not exceed available forage production within established use levels). **DC Livestock Grazing** Livestock grazing and associated activities do not negatively impact cultural resources. **GD Livestock Grazing** Forage, browse, and cover needs of wildlife, authorized livestock, and wild horses should be managed in balance with available forage so that plants providing for these needs remain at or move toward a healthy, persistent state. **GD Livestock Grazing** New range developments should be located to minimize impacts to scenic resources and reduce the potential for vandalism and livestock-vehicle conflicts. Range developments should be designed in consideration of public safety, especially in areas of concentrated recreation use. **DC Minerals and Geology** Mineral materials (e.g., gravel, cinders) are available for road maintenance activities for the Forest Service transportation system, public road system, and ADOT use. **DC Minerals and Geology** Mineral materials (e.g., cinders, decorative stone) are available to support resource management needs, personal	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		use, and commercial pursuits. **DC Minerals and Geology** Lands where past mineral development or exploration has occurred are returned to stable conditions and vegetated with native species. **GD Minerals and Geology** Existing designated mineral material collection areas and community pits should be utilized to the maximum before new areas are developed. Additional mineral material development should balance private and community needs while providing for sustainable administrative use. **GD Minerals and Geology** To reduce disturbances from human activities and prevent the spread of disease, bat gates should be constructed and installed in cave and mine entrances used as shelter for bats within 3 years of discovery when there are no conflicts with cultural resources. **GD Minerals and Geology** Caves and abandoned mines that are used by bats should be managed to prevent disturbance to species and spread of disease (e.g., white-nose syndrome). **DC Natural Landscape** These areas contribute to ecosystem and species diversity and sustainability; serve as habitat for plants and animals; and offer wildlife corridors, reference areas, primitive and semi-primitive nonmotorized recreation opportunities, and places for people seeking natural scenery and solitude. **DC Cultural Resources** Significant cultural resources (i.e., archaeological, historic, traditional cultural properties (TCPs), known American Indian sacred sites) are preserved and protected for their cultural importance and are free from adverse impacts. **ST Cultural Resources** Human remains shall not intentionally be excavated for educational purposes (e.g., research, field schools). **ST Cultural Resources** Contracts, permits, or leases that have the potential to affect cultural resources shall include appropriate clauses specifying site protection responsibilities and liabilities for damage. **GD Cultural Resources** Activities that have the potential to adversely affect cultural resources should be discouraged in areas with a high concentration of significant archaeological sites or in areas of cultural or religious significance to American Indians. **GD Cultural Resources** Avoidance or protection measures should be the preferred method to prevent or minimize adverse effects to cultural	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		resources listed in, nominated to, eligible for, or unevaluated for the NRHP. **GD Cultural Resources** Historic facilities that are eligible for the NRHP should be managed to retain their integrity.	
Plan	Management Emphasis Section MA 1 P. 95 Emphasize a combination of multiple uses including a sustained yield of timber and firewood production, wildlife habitat, livestock grazing, watershed, and dispersed recreation. Manage for timber production using integrated resource management to achieve diverse stands protected from losses due to insects or diseases exceeding endemic levels. Visual quality levels are generally modification, partial retention and retention. Maximum modification is allowed to manage insect or disease outbreaks or to harvest fire-killed timber.	**DC Overall Ecosystem Health** Ecological components (e.g., soil, vegetation, water) are resilient to disturbances including human activities and natural ecological disturbances (e.g., fire, drought, wind, insects, disease, pathogens). **DC Overall Ecosystem Health** Ecological conditions for habitat quality, distribution, and abundance contribute to self-sustaining populations of native and desirable nonnative plants and animals that are healthy, well distributed, connected, and genetically diverse. Conditions provide for the life history, distribution, and natural population fluctuations of the species within the capability of the landscape. **DC All PNVTs** The vegetative conditions and functions are resilient to the frequency, extent, and severity of disturbances (e.g., fire, insects and disease, flood, climate change, management activities). The landscape is a functioning ecosystem that contains all its components and processes. **DC All PNVTs** Diverse vegetation structure, species composition, densities, and seral states provide quality habitat for native and desirable nonnative plant and animal species throughout their life cycle and at multiple spatial scales. Landscapes provide for the full range of ecosystem diversity at multiple scales, including habitats for those species associated with late seral states and old growth. **GD Woodlands: All Woodland PNVTs** Mechanical restoration of woodlands should emphasize individual tree removal to limit ground disturbance. **GD Landscape Scale Disturbance Events** Projects and activities should include both short and long term provisions for scenic integrity, especially in sensitive foreground areas (high and very high scenic integrity). **DC General Forest** Landscapes in the General Forest Management Area vary from moderately altered where human activities are evident (low scenic integrity) to natural where generally only ecological changes occur (very high scenic integrity). **DC All PNVTs** Insect and disease populations are at endemic levels with occasional outbreaks. A variety of seral states usually restricts the scale of	Multiple Use and Sustained Yield are carried forward, distributed throughout the new plan in various DCs and GDs. Management of visual quality is likewise carried forward.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		localized insect and disease outbreaks. **GD All PNVTs** Insect and disease infected trees should be removed to prevent spread beyond endemic levels.	
Plan	Section MA 3 P. 123 Priority 1 areas will be placed under proper management by 1992. Priority 2 areas will be placed under proper management by 1996. Proper management means that systems are in place and activities are scheduled that will put unsatisfactory areas on the road to recovery.	**DC Water Resources** Water quality, stream channel stability, and aquatic habitats retain their inherent resilience to natural and other disturbances. **DC Water Resources** Water resources maintain the capability to respond and adjust to disturbances without long term adverse changes. **DC Water Resources** Vegetation and soil conditions above the floodplain protect downstream water quality, quantity, and aquatic habitat. **DC Water Resources** Instream flows provide for channel and floodplain maintenance, recharge of riparian aquifers, water quality, and minimal temperature fluctuations. **DC Water Resources** Streamflows provide connectivity among fish populations and provide unobstructed routes critical for fulfilling needs of aquatic, riparian-dependent, and many upland species of plants and animals. **DC Water Resources** Water quantity meets the needs for forest administration and authorized activities (e.g., livestock grazing, recreation, firefighting, domestic use, road maintenance). **DC Water Resources** Stream channels and floodplains are dynamic and resilient to disturbances. The water and sediment balance between streams and their watersheds allow a natural frequency of low and high flows. **DC Water Resources** Stream condition is sufficient to withstand floods without disrupting normal stream characteristics (e.g., water transport, sediment, woody material) or uncharacteristically altering stream dimensions (e.g., bankfull width, depth, slope, sinuosity). **DC Water Resources** Floodplains are functioning and lessen the impacts of floods on human safety, health, and welfare. **DC Water Resources** Water quality meets or exceeds Arizona State standards or Environmental Protection Agency water quality standards for designated uses. **DC Water Resources** Water quality meets the needs of desirable aquatic species such as the California floater, northern and Chiricahua leopard frog, and invertebrates that support fish populations.	Proper management of riparian zones is carried forward in numerous places in the new plan. In addition to those listed here, see the section in this table labeled “Air, Soil, Water, & Riparian”

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		ST Water Resources Consistent with existing water rights, water diversions or obstructions shall at all times allow sufficient water to pass downstream to preserve minimum levels of water flow that maintain aquatic life and other purposes of national forest establishment. **GD Water Resources** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to water resources. Where disturbance cannot be avoided, project specific soil and water conservation practices and best management practices (BMPs) should be developed. **GD Water Resources** Streams, streambanks, shorelines, lakes, wetlands, seeps, springs and other bodies of water should be protected from detrimental changes in water temperature and sediment to protect water quality, aquatic species and riparian habitat. **GD Water Resources** Aquatic management zones should be in place between streams and disturbed areas and/or road locations to maintain water quality and suitable stream temperatures for aquatic species. **GD Water Resources** As State of Arizona water rights permits (e.g., water impoundments, diversions) are issued, the base level of instream flow should be retained by the Apache-Sitgreaves NFs. **GD Water Resources** Constraints (e.g., maximum limit to which water level can be drawn down or minimum distance from a connected river, stream, wetland, or groundwater-dependent ecosystem) should be established for new groundwater pumping sites permitted on NFS lands in order to protect the character and function of water resources. **GD Water Resources** Short term impacts in watersheds containing Outstanding Arizona Waters may be allowed when long term benefits to water quality, riparian areas, and aquatic resources would occur. **GD Water Resources** Treated wastewater may be used to provide wetland habitats. **GD Water Resources** To protect water quality and aquatic species, heavy equipment and vehicles driven into a water body to accomplish work should be completely clean of petroleum residue. Water levels should be below the gear boxes of the equipment in use. Lubricants and fuels should be sealed such that inundation by water should not result in leaks. **DC All PNVTs** Vegetation conditions allow for transition zones or	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		ecotones between riparian areas, forests, woodlands, shrublands, and grasslands. Transition zones may shift in time and space due to changing site conditions from disturbances (e.g., fire, climate change). **DC Riparian Areas** Natural ecological disturbances (e.g., flooding, scouring) promote a diverse plant structure consisting of herbaceous, shrub, and tree species of all ages and size classes necessary for the recruitment of riparian-dependent species. **DC Riparian Areas** Riparian-wetland conditions maintain water-related processes (e.g., hydrologic, hydraulic, geomorphic). They also maintain the physical and biological community characteristics, functions, and processes. **DC Riparian Areas** Stream (lotic) riparian-wetland areas have vegetation, landform, and/or large coarse woody debris to dissipate stream energy associated with high water flow. **DC Riparian Areas** Streams and their adjacent floodplains are capable of filtering, processing, and storing sediment; aiding floodplain development; improving floodwater retention; and increasing groundwater recharge. **DC Riparian Areas** Vegetation and root masses stabilize streambanks, islands, and shoreline features against the cutting action of water. **DC Riparian Areas** Ponding and channel characteristics provide habitat, water depth, water duration, and the temperatures necessary for maintaining populations of riparian-dependent species and for their dispersal. **DC Riparian Areas** Beavers occupy capable stream reaches and help promote the function and stability of riparian areas. **DC Riparian Areas** Lentic riparian areas (e.g., wet meadows, fens, bogs) have vegetation and landform present to dissipate wind action, wave action, and overland flow from uplands. **DC Riparian Areas** Wetland riparian areas are capable of filtering sediment and aiding floodplain development that contribute to water retention and groundwater recharge. **DC Riparian Areas** Willows (e.g., Bebb, Geyer, Arizona, Goodding's) are reproducing with all age classes present, where the potential exists. **DC Riparian Areas** The spatial extent of wetlands is maintained. **DC Riparian Areas** Sedimentation and soil compaction from forest	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		activities (e.g., vehicle use, recreation, livestock grazing) do not negatively impact riparian areas. **DC Riparian Areas** Riparian vegetation consists mostly of native species that support a wide range of vertebrate and invertebrate species and are free of invasive plant and animal species. **DC Riparian Areas** Riparian-obligate species within wet meadows, around springs and seeps, along streambanks, and active floodplains provide sufficient[10] vegetative ground cover (herbaceous vegetation, litter, and woody riparian species) to protect and enrich soils, trap sediment, mitigate flood energy, stabilize streambanks, and provide for wildlife and plant needs. **DC Riparian Areas** Diversity and density of riparian forest vegetation provides for breeding, escape, hiding, and resting cover for wildlife and provides travelways between other habitat areas and seasonal ranges. **DC Riparian Areas** The ecological function of riparian areas is resilient to animal and human use. **DC Riparian Areas** Riparian soil productivity is optimized as described by the specific TES map unit[10] under consideration as indicated by the vigor of the vegetation community. Based on species composition, ungrazed plant heights range from 10 inches to 36 inches. **DC Riparian Areas** Floodplains and adjacent upland areas provide diverse habitat components (e.g., vegetation, debris, logs) as necessary for migration, hibernation, and brumation (extended inactivity) specific to the needs of riparian-obligate species (e.g., New Mexico meadow jumping mouse, Arizona montane vole, narrow-headed gartersnake). **DC Riparian Areas** Large coarse woody debris provides stability to riparian areas and stream bottoms lacking geologic control (e.g., bedrock) or geomorphic features (e.g., functioning floodplains, stream sinuosity, width/depth ratio). **DC Riparian Areas** Vegetation is structurally diverse, often dense, providing for high bird species diversity and abundance, especially neotropical migratory birds. It includes large trees and snags in the cottonwood-willow and mixed broadleaf deciduous riparian forests to support species such as beaver, yellow-billed cuckoo, bald eagles, Arizona gray squirrel, and various bat species. **OBJ Riparian Areas** Annually, move 200 to 500 acres toward desired	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		composition, structure, and function of streams, floodplains, and riparian vegetation. **OBJ Riparian Areas** Within the planning period, relocate, repair, improve, or decommission a minimum of 4 miles of National Forest System roads or trails that add sediment to streams, damage riparian vegetation, erode streambanks, cause gullies, and/or compact floodplain soils. **OBJ Riparian Areas** Annually, remove an average of 2 miles of unauthorized roads or trails that add sediment to streams, damage riparian vegetation, erode streambanks, cause gullies, and/or compact floodplain soils. **OBJ Riparian Areas** Within the planning period, enhance or restore 5 to 25 wet meadows, springs, seeps, or cienegas to proper hydrologic function and native plant and animal species composition. **OBJ Riparian Areas** Annually, work with partners to reduce animal damage to native willows and other riparian species on an average of 5 miles of riparian habitat. **GD Riparian Areas** Ground-disturbing projects (including prescribed fire) which may degrade long term riparian conditions should be avoided. **GD Riparian Areas** Wet meadows, springs, seeps and cienegas should not be used for concentrated activities (e.g., equipment storage, forest product or mineral stockpiling, livestock handling facilities, special uses) that cause damage to soil and vegetation. **GD Riparian Areas** Active grazing allotments should be managed to maintain or improve to desired riparian conditions. **GD Riparian Areas** Storage of fuels and other toxicants should be located at least 100 feet outside of riparian areas to prevent spills that could impair water quality or harm aquatic species. **GD Riparian Areas** Equipment should be fueled or serviced at least 100 feet outside of riparian areas to prevent spills that could impair water quality or harm aquatic species. **GD Riparian Areas** Construction or maintenance equipment service areas should be located at least 100 feet from riparian areas, and treated to prevent gas, oil, or other contaminants from washing or leaching into streams. **DC Livestock Grazing** Livestock grazing and associated activities	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		contribute to healthy, diverse plant communities, satisfactory condition soils, and wildlife habitat. **DC Livestock Grazing** Livestock grazing is in balance with available forage (i.e., grazing and browsing by authorized livestock, wild horses, and wildlife do not exceed available forage production within established use levels). **GL Livestock Grazing** Critical areas should be managed to address the inherent or unique site factors, conditions, values, or potential conflicts associated with them. **GL Livestock Grazing** New livestock troughs, tanks, and holding facilities should be located out of riparian areas to reduce concentration of livestock in these areas. Existing facilities in riparian areas should be modified, relocated, or removed where their presence is determined to inhibit movement toward desired riparian or aquatic conditions. **GL Livestock Grazing** Forage, browse, and cover needs of wildlife, authorized livestock, and wild horses should be managed in balance with available forage so that providing for these needs remain at or move toward a healthy, persistent state. **GL Livestock Grazing** To minimize potential resource impacts from livestock, salt or nutritional supplements should not be placed within a quarter of a mile of any riparian area or water source. Salt or nutritional supplements should also be located to minimize herbivory impacts to aspen clones. **GL Livestock Grazing** To prevent resource damage (e.g., streambanks) and disturbance to federally listed and sensitive wildlife species, trailing of livestock should not occur along riparian areas. Where no alternative route is available, approval may be granted where effective mitigation measures are implemented (e.g., timing of trailing, number of livestock trailed at one time).	
Plan	Section MA 7 P. 138 Mount Baldy Wilderness Acres: 7,079 The Mount Baldy Wilderness was designated as part of the National Wilderness Preservation System in 1970. Its	**DC Air** Air quality related values, including high quality visual conditions, are maintained within the Class I airshed over Mount Baldy Wilderness. **DC Wilderness** Ecological conditions are affected primarily by natural ecological processes, with the appearance of little or no human intervention. **DC Wilderness** Fire functions as a natural ecological process.	Wilderness area management was carried forward in accordance with law, policy, and regulation.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	7,079 acres on the eastern slope of Mount Baldy lie entirely within the Springerville Ranger District of the Apache National Forest. Elevations range from 9,000 feet to 11,550 feet above sea level. Mount Baldy is an extinct volcano which has experienced three distinct periods of glaciation. The peak itself is on the Fort Apache Indian Reservation. Two developed trails pass through the wilderness to the top of Mount Baldy. The West Fork Trail begins near the Sheep Crossing parking lot and ascends along the West Fork of the Little Colorado River. The East Fork Trail begins near Phelps Cabin and ascends along the East Fork of the Little Colorado River. The 2 trails meet near the top and continue to the summit. Each trail is approximately seven miles in length. The average annual precipitation is about 45 inches. Half of this comes as snow. Severe thunderstorms and frequent showers are common during July and August. Range status data used in the development of this plan indicates that there are 600 acres of full capacity range,	**DC Wilderness** There is little evidence of human developments and little or no evidence of camping activity, unauthorized trails, trash, or other human impacts on the environment. **DC Wilderness** Visitor use does not affect wilderness characteristics. **DC Wilderness** Wilderness boundaries are posted and visible to visitors. **DC Wilderness** There are unconfined opportunities for exploration, solitude, risk, and challenge. The nonmotorized trail system enhances the wilderness character. Where there is public demand, outfitters and guides provide services to visitors seeking a wilderness experience. **DC Wilderness** Bear Wallow Wilderness provides outstanding opportunities for solitude and isolation. Encounters with small groups or individuals are infrequent. **DC Wilderness** Within Mount Baldy and Escudilla Wilderness areas, trails concentrate use and provide access to popular destinations. Encounters with other users may occur. **DC Wilderness** Wilderness areas maintain natural landscapes where generally only ecological changes occur (very high scenic integrity) and provide primitive and/or semi-primitive nonmotorized recreation opportunities. **DC Wilderness** Wilderness contributes to preserving natural behaviors and processes that sustain wildlife populations. **ST Wilderness** Party size of 12 persons and/or 12 head of stock for hiking and riding groups in Mount Baldy Wilderness shall not be exceeded. A party size of 6 persons for overnight camping shall not be exceeded. **ST Wilderness** Party size of 12 persons and/or 15 head of stock for hiking and riding groups in Escudilla and Bear Wallow Wilderness and the Blue Range Primitive Area shall not be exceeded. **ST Wilderness** Objective(s) and strategies for all wildfires shall be identified. **ST Wilderness** Fire management activities shall be conducted in a manner compatible with the overall wilderness management objectives (minimum impact suppression tactics). **ST Wilderness** Human-caused disturbed areas that do not complement wilderness characteristics will be rehabilitated to a natural appearance,	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	of which 600 acres are in satisfactory condition. As new inventories become available they will be utilized to make future adjustments to these management area range status descriptions.	using species or other materials native to the area. **GD Wilderness** New trail construction may be considered if the objective is enhancement of the wilderness character (e.g., increase solitude opportunities, restore naturalness). **GD Wilderness** Trail maintenance should be coordinated around anticipated visitor high use periods to minimize encounters. **GD Wilderness** Trails that have minimal use, detract from the wilderness character, or cannot practically be maintained or reconstructed should be obliterated. **GD Wilderness** Prescribed fire should be considered to reduce the risks and consequences of uncharacteristic wildfire within wilderness or escaping from wilderness by reducing unnatural fuel accumulations, if necessary to meet wilderness fire management objectives. Naturally occurring wildfires should be allowed to perform, as much as possible, their natural ecological role within wilderness. **GD Wilderness** Fire camps, helispots, and other temporary facilities should be located outside the wilderness boundary to protect wilderness character. **GD Wilderness** Firelines and spike camps (i.e., a remote camp usually near a fireline) should not be constructed adjacent to trails or camp areas to protect wilderness values. **GD Wilderness** Grazing of pack stock should not occur except as authorized by the district ranger when adequate forage is available.	
Plan	MA 8 P. 141 Blue Range Primitive Area and Additions The Blue Range was classified as a Primitive Area in 1933, to preserve its wilderness qualities. Its 187,410 acres include deep, rugged canyons separated by steep timbered ridges. The Mogollon Rim bisects the area and provides dramatic topographic features. Elevations	**DC Primitive Area** The Blue Range Primitive Area and presidential recommended additions maintain natural landscapes where generally only ecological changes occur (very high scenic integrity) and provide primitive recreation opportunities, except along the designated road (36 CFR § 293.17(a)). **All Wilderness DC** apply to the entire Blue Range Primitive Area and presidential recommended additions until congressional action has been taken. **All Wilderness ST and GD** apply to the entire Blue Range Primitive Area and presidential recommended additions until congressional action has	Management of the primitive area was carried forward in the new plan.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	range from 4,500 feet in the southern portion to 9100 feet along the Rim. This rapid change in elevation exposes several interesting and unique ecological and geological associations. Unusual and spectacular rock formations are common. Several perennial streams have population of trout. The abundant deer herds are hunted each fall, and the 150 miles of trails provide good access throughout the area. The best time to hike this area above the Rim is in the spring or fall, whereas winter hiking is encouraged in the lower elevations. This area is not as heavily visited as are other wildernesses, so solitude is a prize reward to the hardy hiker. Range status data used in the development of this plan indicated that there are 60,303 acres of full capacity range of which 48,242 are in satisfactory condition and 12,061 are in unsatisfactory condition. As new inventories become available they will be utilized to make future adjustments to these management area range status descriptions.	been taken.	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Plan	MA 10 P. 157 Management Emphasis: Emphasis protection of the natural ecosystem for research purposes.	**GD Minerals and Geology** Key cultural sites, research natural areas, and administrative and recreation sites with an investment in facilities should be withdrawn from mineral entry to protect resources and existing infrastructure. **GD Minerals and Geology** Oil and geothermal leases should contain the "no surface occupancy" restriction in designated or recommended special areas (e.g., recommended wilderness, primitive area, eligible or suitable wild and scenic rivers corridors, research natural areas, botanical area, and wild horse territory), sacred sites, American Indian TCPs, and properties on the National Register of Historic Places to protect the unique character of these areas. **GD Special Uses** Large group and recreation event special uses should not be authorized within wilderness, recommended wilderness, primitive area, wildlife quiet areas, eligible "wild" river corridors, riparian and wetland areas, cultural resource sites, Phelps Cabin Botanical Area, Phelps Cabin Research Natural Area, or recommended research natural areas to protect the unique character of these areas. **DC Research Natural Area** The Phelps Cabin RNA provides opportunities for research, study, observation, monitoring, and educational activities that maintain the natural conditions for which the area was established. **DC Research Natural Area** The Phelps Cabin RNA, outside of Mount Baldy Wilderness, exhibits landscapes that vary from natural appearing where human activities do not stand out (high scenic integrity) to natural where generally only ecological changes occur (very high scenic integrity). **DC Research Natural Area** Recreation opportunities, although not encouraged, are semi-primitive nonmotorized. **ST Research Natural Area** The Phelps Cabin RNA will be surveyed and posted with boundary signs within the planning period. **ST Research Natural Area** The Phelps Cabin RNA will be managed for nonmotorized access within the area; exceptions may be made for permitted research use. **GD Research Natural Area** Management measures should be used (e.g., fencing) to protect unique features. **GD Research Natural Area** To minimize impacts to unique and sensitive plant species, recreational activities (other than use on the designated	Additional direction added in new plan in response to identified needs for change from the 1987 plan, including specifically: • Incorporate direction for special areas that were not included in the 1987 plan, including recommended research natural areas, the Heber Wild Horse Territory, scenic byways, and national recreation trails. • Recommend additional special areas (i.e., research natural areas) where needed. The intent is to recommend these areas in the revised forest plan; subsequent analyses would determine whether they should become official designated areas.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		trail) should not be encouraged. **GD Research Natural Area** Research special use authorizations should limit impacts to sensitive resources, unique features, and species within the RNA. **DC Recommended Research Natural Area** The recommended RNAs provide opportunities for research, study, observation, monitoring, and educational activities that maintain the natural conditions for which the area was recommended. **DC Recommended Research Natural Area** The Three Forks Closure Area (30 acres) of the recommended Three Forks RNA is free from human trampling and other disturbances to protect very sensitive and unique species, such as the Three Forks springsnail, California floater, New Mexico meadow jumping mouse, Chiricahua leopard frog, and loach minnow. **DC Recommended Research Natural Area** The recommended Three Forks, Campbell Blue, Corduroy, and Sandrock RNAs, outside of any eligible or suitable wild and scenic river corridor, exhibit unaltered appearing landscapes where human activities do not stand out (high scenic integrity). **DC Recommended Research Natural Area** The recommended Thomas Creek RNA exhibits slightly altered landscapes where human activities may be seen but do not attract attention (moderate scenic integrity). **DC Recommended Research Natural Area** The recommended Phelps Cabin RNA addition (currently the Phelps Cabin Botanical Area), outside of any eligible or suitable wild and scenic river corridor, exhibits unaltered appearing landscapes where human activities do not stand out (high scenic integrity). **DC Recommended Research Natural Area** Natural conditions prevail in the recommended Phelps Cabin RNA addition while providing an opportunity for interpretation, education, and research. **DC Recommended Research Natural Area** Unique plant species, including willows, paintbrushes, and gentians, thrive in the recommended Phelps Cabin RNA addition. **GD Recommended Research Natural Area** To minimize impacts to unique and sensitive plant and animal species, recreational activities should not be encouraged.	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		GD Recommended Research Natural Area If necessary, recommended RNAs should be fenced to manage unique features. **GD Recommended Research Natural Area** Research special use authorizations should limit impacts to sensitive resources, unique features, and species within recommended RNAs. **GD Recommended Research Natural Area** Recommended RNAs should be managed for nonmotorized access within the area to minimize ground disturbances and protect the resources which make these areas unique.	
Plan	MA 12 Analysis Areas: 381-385 Acres: 11,080 Bear Wallow Wilderness Area. The newly established Bear Wallow Wilderness in eastern Arizona boasts a sizeable amount of virgin ponderosa pine for its size. Only a few trails provide access into and within this area, and only limited grazing of domestic livestock in the west half has kept this area pristine. Bear Wallow Creek flows throughout the year, providing suitable habitat for the threatened Apache trout. Wildlife is abundant throughout the area. A majestic view from atop the Mogollon Rim is available to the hiker from the Rim Tail on the southern boundary of the wilderness. Range status data use in the	All **DC**, **ST**, and **GD** for **Wilderness** listed above for Mount Baldy Wilderness apply to Bear Wallow Wilderness.	Wilderness area management was carried forward into the new plan.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	development of this plan indicates that there are 600 acres of full capacity range, of which 600 acres are in satisfactory condition. As new inventories become available they will be utilized to make future adjustments to these management area range status descriptions.		
Plan	MA 13 Analysis Areas: 91-94 Acres: 5,200 The Escudilla Wilderness, designated in 1984 and containing 5,200 acres, lies atop Arizona's third highest peak, Escudilla Mountain. Its 10,912 feet elevation provides marvelous vistas. It is home to several pristine, high elevation meadows which are comprised of relatively rare plant associations. Notable landmarks in or just outside the wilderness include Profanity Ridge, Terry Flat, Toolbox Draw, and the Punchbowl. A trail takes the visitor to Escudilla Lookout where he/she can absorb vistas many miles distant. Because of the relative scarcity of water and the small size of this wilderness, day use is encouraged. Range status data used in the development of	All **DC**, **ST**, and **GD** for **Wilderness** listed above for Mount Baldy Wilderness apply to Escudilla Wilderness.	Wilderness area management was carried forward into the new plan.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	this plan indicates that there are 1500 acres of full capacity range, of which 1500 acres are in satisfactory condition. As new inventories become available they will be utilized to make future adjustments to these management area range status descriptions.		
Plan	MA 14 Acres: 7,176 Black River (Mainstem) The 16 mile Black River is a major tributary of the Salt River and flows in a sometimes tortuous channel winding through conifer covered mountainous terrain. The river corridor provides important habitat to a wide range of animals; deer, elk, bear, and turkey to name a few. As well, the river provides nesting habitat for many bird species including, southern bald eagles and possible peregrine falcons. The Black River provides a highly scenic, water based, semi-primitive recreation opportunity for those hardy individuals willing to take the time, as access is not easy.	**DC Eligible and Suitable Wild and Scenic Rivers** Eligible and suitable wild river segments display unaltered landscapes where generally only ecological changes occur (very high scenic integrity) and provide primitive and/or semi-primitive nonmotorized recreation opportunities. **DC Eligible and Suitable Wild and Scenic Rivers** Eligible and suitable scenic river segments display landscapes which vary from slightly altered where human activities may be seen but do not attract attention (moderate scenic integrity) to natural appearing where human activities do not stand out (high scenic integrity) and provide semi-primitive nonmotorized, semi-primitive motorized, and/or roaded natural recreation opportunities. **DC Eligible and Suitable Wild and Scenic Rivers** Eligible and suitable recreational river segments display landscapes which vary from moderately altered where human activities are evident (low scenic integrity) to slightly altered where human activities may be seen but do not attract attention (moderate scenic integrity) and provide primitive, semi-primitive nonmotorized, semi-primitive motorized, and/or roaded natural recreation opportunities. **ST Eligible and Suitable Wild and Scenic Rivers** Each eligible river's free-flowing condition, outstandingly remarkable values, and classification shall be sustained until further study is conducted. **ST Eligible and Suitable Wild and Scenic Rivers** Each suitable river's free-flowing condition, outstandingly remarkable values, and classification shall be maintained until congressional action is completed.	Management of wild and scenic rivers was carried forward and modified to reflect law, policy, and regulation.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Plan	MA 15 Acres: 3,465 East and West Fork of the Black River This Management Area includes a 14 mile segment of the West Fork of the Black River from the confluence of the East and West Forks of the Black River near Buffalo Crossing upstream to the forest boundary just south of the Mt. Baldy Wilderness. With the main stem of the Black River, this segment forms a continuous 30 mile river segment from the headwaters to the forest boundary. The West Fork of the Black River not only provides highly scenic water based recreation opportunities, it also represents a valuable fishery as well as habitat for a wide range of wildlife.	**DC** and **ST** for **Eligible and Suitable Wild and Scenic Rivers** apply to East and West Forks of the Black River.	Process for identification of eligible and suitable Wild and Scenic River segments has been completed. Management of wild and scenic rivers was carried forward and modified to reflect law, policy, and regulation.
Plan	MA 16 Acres: 11,534 Chevelon Canyon This management area includes 29.9 miles of Chevelon Creek from the confluence of Willow Canyon and Woods Canyon downstream to the forest boundary. Except for Chevelon Canyon Lake, the area will be recommended for addition to the Wild and Scenic Rivers System.	**DC** and **ST** for **Eligible and Suitable Wild and Scenic Rivers** apply to Chevelon Creek	Process for identification of eligible and suitable Wild and Scenic River segments has been completed. Management of wild and scenic rivers was carried forward and modified to reflect law, policy, and regulation.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	The corridor is a major drainage of the Mogollon Rim. Chevelon Creek cuts a scenic, steep, and twisting canyon through terrain covered with a mosaic of vegetation. Chevelon Canyon provides a canyon ecosystem relatively undistributed by human intrusion. It is a unique aquatic habitat in a relatively arid region with high semi-primitive recreation and wildlife values. This management area is not assigned any grazing capacity.		
Plan	MA 17 Acres: 2,360 East and West Forks Little Colorado River The East and West Forks of the Little Colorado River possess a high quality semi-primitive non-motorized water based recreation opportunities adjacent to the popular resort community of Greer. In addition, within the corridor are several unique stands of willow deserving special protection.	**DC** and **ST** for **Eligible and Suitable Wild and Scenic Rivers** apply to East and West Forks of the Little Colorado River.	Management of wild and scenic rivers was carried forward and modified to reflect law, policy, and regulation.

Range

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Range	Emphasize maintenance and restoration of healthy riparian ecosystems through conformance with forest plan riparian standards and guidelines. Management strategies should restore degraded riparian areas to good condition as soon as possible. Damage to riparian vegetation, streambanks and channels should be prevented.	**GD Water Resources** Projects with ground-disturbing activities should be designed to minimize long and short-term impacts to water resources. Where disturbance cannot be avoided, project specific soil and water conservation practices and best management practices (BMPs) should be developed. **DC Riparian Areas Fine Scale** Riparian obligate species within wet meadows, around springs and seeps, along streambanks and active floodplains provide sufficient[5] vegetative ground cover (herbaceous vegetation, litter, and woody riparian species) to protect and enrich soils, trap sediment, mitigate flood energy, stabilize streambanks, and provide for wildlife and plant needs. **DC Riparian Areas Fine Scale** Riparian soil productivity is optimized as described by the specific TES map unit [5] as indicated by the vigor of the herbaceous vegetation community. Based on species composition, ungrazed plant heights [7] range from 10 inches to 36 inches **GD Riparian Areas** Wet meadows, springs, seeps and cienegas should not be used for concentrated activities (e.g., equipment storage, forest product or mineral stockpiling, livestock handling facilities, special uses) that cause damage to soil and vegetation. **GD Riparian Areas** Active grazing allotments should be managed to maintain or improve to desired riparian conditions. **GD Livestock Grazing** New livestock troughs, tanks, and holding facilities should be located out of riparian areas to reduce concentration of livestock in these areas. Existing facilities in riparian areas should be modified, relocated, or removed where their presence is determined to inhibit movement toward desired riparian or aquatic conditions. **GD Livestock Grazing** To minimize potential resource impacts from livestock, salt or nutritional supplements	Guidelines were modified to be more explicit. Desired Conditions provide aspirational direction for Guidelines.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		should not be placed within a quarter of a mile of any riparian area or water source. Salt or nutritional supplements should also be located to minimize herbivory impacts to aspen clones **GD Livestock Grazing** To prevent resource damage (e.g., streambanks) and disturbance to federally listed and sensitive wildlife species, trailing of livestock should not occur along riparian areas. Where no alternative route is available, approval may be granted where effective mitigation measures are implemented (e.g., timing of trailing, number of livestock trailed at one time).	
Range	To improve rangeland condition and resolve conflicts with other resource objectives, improved allotment management plans will be developed using the Integrated Resource Management process. Allotment management plans will implement Forest Plan objectives. Improved allotment management plans will give equal consideration of innovative practices and techniques, structural and non-structural range improvements, non-use agreements, and stocking rate adjustment to achieve integrated resource objectives.	**DC Aquatic Habitat and Species** Aquatic habitat conditions contribute to the recovery of federally listed species. **DC Aquatic Habitat and Species** Streamflows, habitat, and water quality support native aquatic and riparian-dependent species and habitat. **DC Aquatic Habitat and Species** Wetlands are hydrologically functioning and have sufficient (composing 50 percent of the wetland) emergent vegetation and macroinvertebrate populations to support resident and migratory wetland dependent species. **GD Aquatic Habitat and Species** Management and activities should not contribute to a trend toward the Federal listing of a species. **GD Aquatic Habitat and Species** Activities occurring within federally listed species habitat should apply habitat management direction and species protection measures from recovery plans. **DC Aquatic Habitat and Species** Vegetation characteristics (e.g., density, litter) provide favorable conditions for water flow and quality. **GD Aquatic Habitat and Species** Organic soil cover and herbaceous vegetation protect soil, facilitate moisture infiltration, and contribute to plant and animal diversity and ecosystem function.	Standards and Guidelines were modified to be more explicit. Desired Conditions provide aspirational direction for Standards and Guidelines.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		DC All PNVTs at Mid-Scale Vegetative ground cover (herbaceous vegetation and litter cover) is optimized [5] to protect and enrich soils and promote water infiltration. There is a diverse mix of cool and warm season grasses and desirable forbs species. **DC All PNVTs at Fine Scale** Herbaceous vegetation amount and structure (e.g., plant density, height, litter, seed heads) provides habitat to support wildlife and prey species. **ST All PNVTs** Within each PNVT, vegetation management activities shall be designed to maintain or move plant composition towards a moderate to high plant community similarity as compared to site potential. **DC Grasslands Fine Scale** During the critical pronghorn fawning period (May through June [12]), cool season grasses and forbs provide nutritional forage; while shrubs and standing grass growth from the previous year provide adequate hiding cover (10 to 18 inches) to protect fawns from predation. **DC Wildlife and Rare Plants Landscape Scale** Habitat conditions contribute to the recovery of federally listed species. **GD Wildlife and Rare Plants** Management and activities should not contribute to a trend toward the Federal listing of a species. GL 65 Activities occurring within federally listed species habitat should apply habitat management objectives and species protection measures from recovery plans. **GD Wildlife and Rare Plants** Modifications, mitigations, or other measures should be incorporated to reduce negative impacts to plants, animals, and their habitats and to help provide for species needs, consistent with project or activity objectives. **GD Wildlife and Rare Plants** Active raptor nests should be protected from treatments and disturbance during the nesting season to provide for successful reproduction. Specifically for northern goshawk nest areas, human	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		presence should be minimized during nesting season of March 1 through September 30. **GD Wildlife and Rare Plants** Rare and unique features (e.g., talus slopes, cliffs, canyon slopes, caves, fens, bogs, sinkholes) should be protected from damage or loss to retain their distinctive ecological functions and maintain viability of associated species. **GD Wildlife and Rare Plants** The needs of localized species (e.g., New Mexico meadow jumping mouse, Bebb willow, White Mountains paintbrush) should be considered and provided for during project activities to ensure their limited or specialized habitats are not lost or degraded. **GD Wildlife and Rare Plants** Constructed features should be maintained to standard or removed when no longer needed. **DC Cultural Resources** Significant cultural resources (i.e., archaeological, historic, traditional cultural properties (TCPs), and known American Indian sacred sites) are preserved and protected for their cultural importance and are free from adverse impacts. **GD Cultural Resources** Activities that have the potential to adversely affect cultural resources should be discouraged in areas with a high concentration of significant archaeological sites or in areas of cultural or religious significance [13] to American Indians. **GD Cultural Resources** Avoidance or protection measures should be the preferred method to prevent or minimize adverse effects to cultural resources listed in, nominated to, eligible for, or unevaluated for the NRHP. **DC Livestock Grazing** Livestock grazing and associated activities contribute to healthy, diverse plant communities, satisfactory condition soils, and wildlife habitat. **GD Livestock Grazing** As areas are mechanically treated or burned, timing of livestock grazing should be modified as needed, in order to move toward desired conditions and to accomplish the objectives for the treatment.	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		GD Research Natural Area Management measures should be used (e.g., fencing) to protect unique features. **GD Recommended Research Natural Area** If necessary, recommended RNAs should be fenced to manage unique features. **DC Wilderness and Primitive Area** There is little evidence of human developments and little or no evidence of camping activity, unauthorized trails, trash, or other human impacts on the environment.	
Range	Basic allotment analysis will evaluate grazing capability. Determine and map which lands are suitable and unsuitable for livestock grazing. Benchmark transects for range condition trends will be maintained. Amend the Forest Plan, as appropriate, to reflect changes as new data becomes available.	**DC All PNVTs at Landscape Scale** Herbivory is in balance with available forage (i.e., grazing and browsing by authorized livestock, wild horses, and wildlife do not exceed available forage production within established use levels). **DC Livestock Grazing** Livestock grazing is in balance with available forage (i.e., grazing and browsing by authorized livestock, wild horses, and wildlife do not exceed available forage production within established use levels. **GD Livestock Grazing** Forage, browse, and cover needs of wildlife, authorized livestock, and wild horses should be managed in balance with available forage so that providing for these needs remain at or move toward a healthy, persistent state.	Allotment management Plans would address forage and utilization (through NEPA process) on site specific basis.
Range	Reconstruct range structural improvements to original construction standards or better according to FSM 2244, and FSH 2209.22. Permittees will maintain range structural improvements operable condition according to FSM 2224, FSH 2209, and FSM 2320.	**GD Aspen** To preclude concentrated herbivore impacts, new surface water development should not be constructed within proximity to aspen stands (approximately a quarter of a mile). **GD Grasslands** New fence construction or reconstruction where pronghorn antelope may be present should have a barbless bottom wire which is 18 inches from the ground to facilitate movement between pastures and other fenced areas. Pole and other types of fences should also provide for pronghorn antelope passage where they are present. **GD Grasslands** Pronghorn antelope fence and other crossings should be installed along known movement corridors to prevent habitat	Additional standards and guidelines for wildlife, scenic resources, and the aspen PNVT.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		fragmentation. **GD Wildlife and Rare Plants** Constructed features should be maintained to standard or removed when no longer needed. **GD Scenic Resources** Constructed features and landscape alterations should be designed to complement the natural setting. **ST Livestock Grazing** New or reconstructed fencing shall allow for wildlife passage, except where specifically intended to exclude wildlife (e.g., elk fencing). **ST Livestock Grazing** New livestock watering facilities shall be designed to allow wildlife access and escape. **ST Livestock Grazing** During maintenance of existing watering facilities, escape ramps that are ineffective or missing should be replaced. **ST Livestock Grazing** Constructed features should be maintained to standard or removed when no longer needed. **ST Livestock Grazing** New range developments should be located to minimize impacts to scenic resources and reduce the potential for vandalism and livestock-vehicle conflicts. Range developments should be designed in consideration of public safety, especially in areas of concentrated recreation use.	
Range	Conserve soil and water resources; avoid permanent impairment of site productivity and ensure conservation of soil and water resources. The minimum soil and resource management requirement is to control surface water runoff and erosion at not less than tolerance conditions.	**DC Soil Landscape Scale** Ecological and hydrologic functions are not impaired by soil compaction. **DC Soil Mid-Scale** Soil condition rating is satisfactory [2]. **DC Soil Mid-Scale** Soils are stable within their natural capability. Vegetation and litter limit accelerated erosion (e.g., rills, gullies, root exposure, topsoil loss) and contribute to soil deposition and development. **DC Soil Mid-Scale** Soils provide for diverse native plant species [9]. Vegetative ground cover (herbaceous vegetation and litter) is distributed evenly across the soil surface to promote nutrient cycling, water infiltration, and to maintain natural fire regimes.	Guidelines were modified to be more explicit. Desired Conditions provide aspirational direction for Guidelines.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		DC Soil Mid-Scale Biological soil crusts (e.g., mosses, lichens, algae, liverworts) are present and reestablished if potential exists. **DC Soil Fine Scale** Soil loss rates do not exceed tolerance soil loss rates [3]. **DC Soil Fine Scale** Logs and other woody material are distributed across the surface to maintain soil productivity [14]. **DC Soil Fine Scale** Vegetation and litter are sufficient to maintain and improve water infiltration, nutrient cycling, and soil stability. **GD Soil** Projects with ground-disturbing activities should be designed to minimize long- and short term impacts to soil resources. Where disturbance cannot be avoided, project specific soil and water conservation practices should be developed. **DC Riparian Areas Mid-Scale** Soil compaction from forest activities (e.g., vehicle use, recreation, livestock grazing) does not negatively impact riparian areas. **DC Dry Mixed Conifer Landscape Scale** Grasses, forbs, shrubs, needles, leaves, and small trees support the natural fire regime. The larger proportion (60 percent or greater) of soil cover is composed of grasses and forbs as opposed to needles and leaves. **DC Madrean Pine-Oak Mid-Scale** Grasses, forbs, shrubs, leaves, needles, and small trees maintain the natural fire regime with a greater proportion of the soil cover as grasses and forbs as opposed to leaves and needles. **DC Piñon-Juniper-Savanna Landscape Scale** Grasses, forbs, shrubs, needles, leaves, and small trees support the natural fire regime. The larger proportion (60 percent or greater) of soil cover is composed of grasses and forbs as opposed to needles and leaves. **DC Piñon-Juniper-Persistent Woodland Mid-Scale** Grass and forb cover is maximized, based on site capability, to	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		protect and enrich soils. **DC Grasslands Landscape Scale** Perennial herbaceous species dominate and include native grasses, grass-like plants (sedges and rushes), and forbs, and in some locations, a diversity of shrubs. **DC Grasslands Landscape Scale** Vegetative ground cover (herbaceous vegetation and litter cover) is optimized (as defined by the TES map unit [5] under consideration) to prevent accelerated erosion, dissipate rainfall, facilitate the natural fire regimes, and provide wildlife and insect habitat. Ungrazed herbaceous vegetation heights [7] range from 7 to 32 inches [15] depending on grassland type. **DC Grasslands Fine Scale** Average herbaceous vegetation heights [15] vary by grassland PNVT and yearly weather conditions. Ungrazed herbaceous vegetation heights [7] range from 7 to 29 inches in Great Basin grasslands, 7 to 26 inches in montane/subalpine grasslands, and 10 to 32 inches in semi-desert grasslands.	
Range	**Forest wide ST for Grazing.** Forage use by grazing ungulates will be maintained at or above a condition which assures recovery and continued existence of threatened and endangered species. **Forest wide GDs for Grazing.** Identify key ungulate forage monitoring areas. These key areas will normally be 1/4 to 1 mile from water, located on productive soils on level to intermediate slopes, and be readily accessible for grazing. Size of the key forage monitoring areas could be 20 to 500 acres. In some situations such as high mountain meadows with perennial streams, key areas may be closer than 1/4 mile from water and less than 20 acres. Within key forage monitoring areas, select appropriate key species to monitor average allowable use.	**DC Livestock Grazing** Livestock grazing and associated activities contribute to healthy, diverse plant communities, satisfactory condition soils, and wildlife habitat. **DC Livestock Grazing** Range developments for livestock minimize impacts to wildlife and blend with the natural environment. **GD Livestock Grazing** Forage, browse, and cover needs of wildlife, authorized livestock, and wild horses should be managed in balance with available forage so that providing for these needs remain at or move toward a healthy, persistent state. **DC for Overall Ecosystem Health** Large blocks of habitat are interconnected, allowing for behavioral and predator-prey interactions, and the persistence of metapopulations and highly interactive wildlife species across the landscape. Ecological connectivity extends through all plant communities. **DC for All PNVTs** Herbaceous vegetation amount and	The new plan guidance meets the intent of the previous guidance.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		structure (e.g., plant density, height, litter, seed heads) provides habitat to support wildlife and prey species.	

Recreation

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Recreation	Manage to ensure the maintenance of the existing diversity of recreation opportunities, settings, and activities.	**DC Overall Recreation Opportunities** The Apache-Sitgreaves NFs offer a spectrum of recreation settings and opportunities varying from primitive to rural and dispersed to developed, with an emphasis on the natural appearing character of the forests. **DC Overall Recreation Opportunities** Recreation activities occur within the ability of the land to support them and with minimal user conflicts. **DC Overall Recreation Opportunities** Recreation enhances the quality of life for local residents (e.g., social interaction, physical activity, connection with nature), provides tourist destinations, and contributes monetarily to local economies. **DC Overall Recreation Opportunities** Recreation opportunities provide for a variety of skill levels, needs, and desires in partnership with recreation permit holders, private entities, volunteer groups, community groups, and State, Federal, and tribal governments.	Retained, expanded, and updated through numerous desired conditions
Recreation	Dispersed recreation in high-use areas is managed at a high intensity level, even though use will increase significantly. pp10, Issues	**DC Dispersed Recreation** Dispersed recreation opportunities (e.g., hunting, fishing, hiking, camping) are available and dispersed recreation sites (e.g., campsites, trailheads, vistas, parking areas) occur in a variety of ROS classes throughout the forests.	Retained and refined through desired condition
Recreation	Concentrated Undeveloped Use Sites 1. 14-day stay limits may be imposed in desirable locations (water, view, solitude, etc.) within a concentrated undeveloped area. These sites will be posted or users personally notified by a Forest Officer. 2. 14-day stay limits may be imposed for entire concentrated dispersed use areas. These areas will be posted. 3. Stay limits will be imposed for a concentrated	**DC Dispersed Recreation** Facilities for dispersed recreation activities are appropriate for the ROS class and scenic integrity objective of the location and are designed to the minimum necessary to protect natural and cultural resources. **DC Dispersed Recreation** Access, parking, regulations, orientation, and safety information are in place to provide safe and enjoyable dispersed recreation opportunities. **DC Dispersed Recreation** Winter nonmotorized areas provide a variety of nonmotorized recreation opportunities in a quiet, natural setting (including groomed and ungroomed ski trails). Noise from motorized use is uncommon in areas away from	Retained, expanded, and updated through numerous objectives, desired conditions and guidelines

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	use area when the District Ranger feels any 1 or more of the following conditions are likely to occur: a) A concentration of users because of their number, actions, or equipment would detract from the area's natural setting or significantly reduces the quality of the standard recreational experience expected for the area. b) Vegetation damage or soil compaction is a problem in the area and extended stay prevents even partial relief from these adverse effects. c) Users tend to construct certain improvements or bring in equipment that detracts from the area's setting and that normally doesn't occur when visits are of shorter duration. pp. 32 Standards and Guidelines **Undeveloped Portions of National Forest** The same criteria as for concentrated undeveloped use sites will be utilized to determine where stay limits are to be imposed. pp. 32 Standards and Guidelines	main road corridors. **DC Dispersed Recreation** Roads and trails provide a variety of opportunities to view natural landscapes and wildlife. **OBJ Dispersed Recreation** Annually, rehabilitate, stabilize, revegetate, or relocate an average of five dispersed campsites to improve recreation opportunities and/or protect the environment. **OBJ Dispersed Recreation** Within the planning period, work with the AZGFD, ADOT, and other partners to provide at least 10 new wildlife viewing opportunities. **ST Dispersed Recreation** Dispersed campsites shall not be designated in areas with sensitive soils or within 50 feet of streams, wetlands, or riparian areas to prevent vegetation and bank damage, soil compaction, additional sediment, or soil and water contamination. **GD Dispersed Recreation** In dispersed areas, the priority for facilities or minor developments should be access and protection of the environment, rather than the comfort or convenience of the visitors. **GD Dispersed Recreation** Timing restrictions on recreation uses should be considered to reduce conflicts with wildlife needs or soil moisture conditions. **GD Dispersed Recreation** Dispersed campsites should not be located on or adjacent to archaeological sites or sensitive wildlife areas.	
Recreation	**Outdoor Recreation** Manage the recreation resource to provide opportunities for a wide variety of developed and dispersed experiences. Provide for developed site and dispersed visitor use. pp14, Goal	**DC Overall Recreation Opportunities** The Apache-Sitgreaves NFs offer a spectrum of recreation settings and opportunities varying from primitive to rural and dispersed to developed, with an emphasis on the natural appearing character of the forests. **DC Overall Recreation Opportunities** Recreation activities occur within the ability of the land to support them and with minimal user conflicts. **DC Overall Recreation Opportunities** Recreation enhances the quality of life for local residents (e.g., social interaction,	Retained, expanded, and updated through numerous desired conditions and guidelines

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		physical activity, connection with nature), provides tourist destinations, and contributes monetarily to local economies. **DC Overall Recreation Opportunities** Recreation opportunities provide for a variety of skill levels, needs, and desires in partnership with recreation permit holders, private entities, volunteer groups, community groups, and State, Federal, and tribal governments.	
Recreation	Recreation use, including off-road vehicle use, will be prohibited or restricted and sites rehabilitated in areas in unsatisfactory condition, when recreation was a significant causative factor affecting condition. pp. 124 MA 3	**DC Overall Recreation Opportunities** Recreation activities occur within the ability of the land to support them and with minimal user conflicts. **ST Motorized Opportunities** Motorized vehicle travel shall be managed to occur only on the designated system of NFS roads and motorized trails [16] and designated motorized areas [17]. **ST Motorized Opportunities** Unless specifically authorized, motorized cross-country travel shall be managed to occur only in designated motorized areas.	Retained, expanded, and updated through desired conditions and standards
Recreation	Where concentrated dispersed recreation conflicts with wildlife or riparian objectives, consider alternative recreation strategies to meet demand. pp14, Goal	**DC Dispersed Recreation** Wildlife viewing areas are dispersed throughout the forests and provide opportunities to view waterfowl, migratory birds, elk, and other species. **DC Dispersed Recreation** Access, parking, regulations, orientation, and safety information are in place to provide safe and enjoyable dispersed recreation opportunities. **DC Dispersed Recreation** Water-based settings are available and the associated recreation opportunities (e.g., canoeing, fishing, waterfowl hunting) do not degrade aquatic resources. **DC Dispersed Recreation** Winter nonmotorized areas provide a variety of nonmotorized recreation opportunities in a quiet, natural setting (including groomed and ungroomed ski trails). Noise from motorized use is uncommon in areas away from main road corridors. **DC Dispersed Recreation** Winter motorized areas provide a variety of motorized recreation opportunities with a variety of challenges including areas open to cross-country, over-snow motorized use, some with groomed or ungroomed trails. **DC Dispersed Recreation** Roads and trails provide a variety	Retained, expanded, and updated through numerous objectives, desired conditions and guidelines

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		of opportunities to view natural landscapes and wildlife. **OBJ Dispersed Recreation** Annually, rehabilitate, stabilize, revegetate, or relocate an average of five dispersed campsites to improve recreation opportunities and/or protect the environment. **OBJ Dispersed Recreation** Within the planning period, work with the AZGFD, ADOT, and other partners to provide at least 10 new wildlife viewing opportunities. **ST Dispersed Recreation** Dispersed campsites shall not be designated in areas with sensitive soils or within 50 feet of streams, wetlands, or riparian areas to prevent vegetation and bank damage, soil compaction, additional sediment, or soil and water contamination. **GL Dispersed Recreation** In dispersed areas, the priority for facilities or minor developments should be access and protection of the environment, rather than the comfort or convenience of the visitors. **GL Dispersed Recreation** Timing restrictions on recreation uses should be considered to reduce conflicts with wildlife needs or soil moisture conditions. **GL Dispersed Recreation** Dispersed campsites should not be located on or adjacent to archaeological sites or sensitive wildlife areas. Within the planning period, accessible and wildlife-proof trash facilities should be provided in all developed sites where trash is collected. Where trash facilities are provided, they shall be bear resistant. **DC Motorized Opportunities** The location and design of roads and trails does not impede wildlife and fish movement. **GD Motorized Opportunities** New roads or motorized trails should be located to avoid Mexican spotted owl protected activity centers, northern goshawk post-fledging family areas, and other wildlife areas as identified; seasonal restrictions may be an option. **GD Motorized Opportunities** New roads, motorized trails, or designated motorized areas should be located to avoid meadows, wetlands, seeps, springs, riparian areas, stream	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		bottoms, sacred sites, and areas with high concentrations of significant archaeological sites. The number of stream crossings should be minimized or mitigated to reduce impacts to aquatic species. **GD Motorized Opportunities** As projects occur in riparian or wet meadow areas, unneeded roads or motorized trails should be closed or relocated, drainage restored, and native vegetation reestablished to move these areas toward their desired condition. **GD Motorized Opportunities** Roads and motorized trails removed from the transportation network should be treated in order to avoid future risk to hydrologic function and aquatic habitat. **GD Motorized Opportunities** Roads and motorized trails should be designed and located so as to not impede terrestrial and aquatic species movement and connectivity. **GD Motorized Opportunities** As projects occur, existing meadow crossings should be relocated or redesigned, as needed, to maintain or restore hydrologic function using appropriate tools such as French drains and elevated culverts.	
Recreation	**UNAUTHORIZED USE.** There is increased emphasis on law enforcement, especially for cultural resources, ORV use, fuelwood theft, and vandalism. pp12, Issues	**GD Motorized Opportunities** After management activities occur in areas with high potential for cross-country motorized vehicle use, methods (e.g., barriers, signing) should be used to control unauthorized motorized use.	Changed to emphasize engineering and education first, does not repeat relevant law, regulation, and policy
Recreation	Establish ORV use areas and closures as needed to meet demand and other resource objectives. Manage ORV use to provide ORV opportunities while protecting resources and minimizing conflicts with other users. pp15, Goal	**DC Motorized Opportunities** A maintained road and motorized trail system is in place and provides for safety and access for the use (e.g., recreation, minerals, vegetation treatment, fire protection) of the Apache-Sitgreaves NFs. **DC Motorized Opportunities** Users have opportunities for motorized access and travel on a system of designated NFS roads, motorized trails, and motorized areas. **DC Motorized Opportunities** The transportation system provides a variety of recreation opportunities including varying degrees of difficulty, from OHV trails to paved scenic byways, while limiting resource and/or user conflicts.	Retained, expanded, and updated through numerous objectives, desired conditions and guidelines

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		DC Motorized Opportunities NFS roads, motorized trails, and motorized areas are easily identified on the ground (e.g., well marked). **DC Motorized Opportunities** The road and trail system is accessible from local communities, State, county, and local public roads and trails. **DC Motorized Opportunities** Loop trails exist for motorized trail users. **DC Motorized Opportunities** Tread Lightly!® principles are commonly practiced. **DC Motorized Opportunities** The location and design of roads and trails does not impede wildlife and fish movement. **ST Motorized Opportunities** Unless specifically authorized, motorized cross-country travel shall be managed to occur only in designated motorized areas. **ST Motorized Opportunities** Motorized vehicle travel shall be managed to occur only on the designated system of NFS roads and motorized trails [16] and designated motorized areas [17]. **GD Motorized Opportunities** New motorized trails or additions to existing trails should include destinations and loops to provide for a variety of opportunities. **GD Motorized Opportunities** New roads or motorized trails should be located to avoid Mexican spotted owl protected activity centers, northern goshawk post-fledging family areas, and other wildlife areas as identified; seasonal restrictions may be an option. **GD Motorized Opportunities** New roads, motorized trails, or designated motorized areas should be located to avoid meadows, wetlands, seeps, springs, riparian areas, stream bottoms, sacred sites, and areas with high concentrations of significant archaeological sites. The number of stream crossings should be minimized or mitigated to reduce impacts to aquatic species. **GD Motorized Opportunities** As projects occur in riparian or wet meadow areas, unneeded roads or motorized trails should be closed or relocated, drainage restored, and native	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		vegetation reestablished to move these areas toward their desired condition. **GD Motorized Opportunities** As projects occur, roads or motorized trails that contribute to negative impacts on cultural resources should be closed or relocated. **GD Motorized Opportunities** As projects occur, redundant roads or motorized trails should be removed to reduce degradation of natural resources. **GD Motorized Opportunities** Roads and motorized trails removed from the transportation network should be treated in order to avoid future risk to hydrologic function and aquatic habitat. **GD Motorized Opportunities** Trail markings (e.g., signs) should be designed to complement the character of the surrounding lands. **GD Motorized Opportunities** Roads and motorized trails should be designed and located so as to not impede terrestrial and aquatic species movement and connectivity. **GD Motorized Opportunities** As projects occur, existing meadow crossings should be relocated or redesigned, as needed, to maintain or restore hydrologic function using appropriate tools such as French drains and elevated culverts. **GD Motorized Opportunities** After management activities occur in areas with high potential for cross-country motorized vehicle use, methods (e.g., barriers, signing) should be used to control unauthorized motorized use.	
Recreation	**Off-Road Vehicle Management** Off-Road Vehicle activities will be managed to minimize conflicts with other uses, to prevent interference with the management of other resources, to prevent general environmental degradation, while providing a range of ORV opportunities. The three wilderness areas and the Blue Range Primitive Area are closed to ORV use. pp 34 Standards and Guidelines	**DC Motorized Opportunities** A maintained road and motorized trail system is in place and provides for safety and access for the use (e.g., recreation, minerals, vegetation treatment, fire protection) of the Apache-Sitgreaves NFs. **DC Motorized Opportunities** Users have opportunities for motorized access and travel on a system of designated NFS roads, motorized trails, and motorized areas. **DC Motorized Opportunities** The transportation system provides a variety of recreation opportunities including varying	Retained, expanded, and updated through numerous objectives, desired conditions and guidelines

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		degrees of difficulty, from OHV trails to paved scenic byways, while limiting resource and/or user conflicts. **DC Motorized Opportunities** NFS roads, motorized trails, and motorized areas are easily identified on the ground (e.g., well marked). **DC Motorized Opportunities** The road and trail system is accessible from local communities, State, county, and local public roads and trails. **DC Motorized Opportunities** Loop trails exist for motorized trail users. **DC Motorized Opportunities** Tread Lightly!® principles are commonly practiced. **DC Motorized Opportunities** The location and design of roads and trails does not impede wildlife and fish movement. **ST Motorized Opportunities** Unless specifically authorized, motorized cross-country travel shall be managed to occur only in designated motorized areas. **ST Motorized Opportunities** Motorized vehicle travel shall be managed to occur only on the designated system of NFS roads and motorized trails [16] and designated motorized areas [17]. **GD Motorized Opportunities** New motorized trails or additions to existing trails should include destinations and loops to provide for a variety of opportunities. **GD Motorized Opportunities** New roads or motorized trails should be located to avoid Mexican spotted owl protected activity centers, northern goshawk post-fledging family areas, and other wildlife areas as identified; seasonal restrictions may be an option. **GD Motorized Opportunities** New roads, motorized trails, or designated motorized areas should be located to avoid meadows, wetlands, seeps, springs, riparian areas, stream bottoms, sacred sites, and areas with high concentrations of significant archaeological sites. The number of stream crossings should be minimized or mitigated to reduce impacts to aquatic species.	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		GD Motorized Opportunities As projects occur in riparian or wet meadow areas, unneeded roads or motorized trails should be closed or relocated, drainage restored, and native vegetation reestablished to move these areas toward their desired condition. **GD Motorized Opportunities** As projects occur, roads or motorized trails that contribute to negative impacts on cultural resources should be closed or relocated. **GD Motorized Opportunities** As projects occur, redundant roads or motorized trails should be removed to reduce degradation of natural resources. **GD Motorized Opportunities** Roads and motorized trails removed from the transportation network should be treated in order to avoid future risk to hydrologic function and aquatic habitat. **GD Motorized Opportunities** Trail markings (e.g., signs) should be designed to complement the character of the surrounding lands. **GD Motorized Opportunities** and located so as to not impede terrestrial and aquatic species movement and connectivity. **GD Motorized Opportunities** As projects occur, existing meadow crossings should be relocated or redesigned, as needed, to maintain or restore hydrologic function using appropriate tools such as French drains and elevated culverts. **GD Motorized Opportunities** After management activities occur in areas with high potential for cross-country motorized vehicle use, methods (e.g., barriers, signing) should be used to control unauthorized motorized use.	
Recreation	Maintain a variety of Forest trails, considering people's needs. Includes foot and motorized and challenge and adventure opportunities, as well as opportunities for the handicapped. pp15, Goal	**DC Motorized Opportunities** A maintained road and motorized trail system is in place and provides for safety and access for the use (e.g., recreation, minerals, vegetation treatment, fire protection) of the Apache-Sitgreaves NFs. **DC Motorized Opportunities** Users have opportunities for motorized access and travel on a system of designated NFS roads, motorized trails, and motorized areas.	Retained, expanded, and updated through numerous objectives, desired conditions and guidelines

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		DC Motorized Opportunities The transportation system provides a variety of recreation opportunities including varying degrees of difficulty, from OHV trails to paved scenic byways, while limiting resource and/or user conflicts. **DC Motorized Opportunities** NFS roads, motorized trails, and motorized areas are easily identified on the ground (e.g., well marked). **DC Motorized Opportunities** The road and trail system is accessible from local communities, State, county, and local public roads and trails. **DC Motorized Opportunities** Loop trails exist for motorized trail users. **DC Motorized Opportunities** Tread Lightly!® principles are commonly practiced. **GD Motorized Opportunities** New motorized trails or additions to existing trails should include destinations and loops to provide for a variety of opportunities. **GD Motorized Opportunities** New roads or motorized trails should be located to avoid Mexican spotted owl protected activity centers, northern goshawk post-fledging family areas, and other wildlife areas as identified; seasonal restrictions may be an option. **GD Motorized Opportunities** Trail markings (e.g., signs) should be designed to complement the character of the surrounding lands. **DC Nonmotorized Opportunities** Nonmotorized opportunities are available in a variety of settings that provide differing levels of challenge and seclusion. **DC Nonmotorized Opportunities** Blocks of forest land accessible from populated areas are available for nonmotorized opportunities. These areas are free from the sights and sounds of motorized recreation. **DC Nonmotorized Opportunities** Opportunities for primitive recreation are available. **DC Nonmotorized Opportunities** A maintained and	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		environmentally sound nonmotorized trail network is in place, providing for user safety and access to locations of interest for a variety of uses. **DC Nonmotorized Opportunities** Nonmotorized trails are defined and marked. **DC Nonmotorized Opportunities** Destination and loop trails exist for nonmotorized users. **OBJ Nonmotorized Opportunities** Annually, maintain at least 20 percent of nonmotorized trails. **GD Nonmotorized Opportunities** Trail markings (e.g., signs, blazes) should be designed to complement the character of the surrounding lands. **GD Nonmotorized Opportunities** To maintain nonmotorized user opportunities, nonmotorized trails should not be co-located on open motorized routes.	
Recreation	Maximum group size will be limited to 25 persons and/or 35 head of pack and saddle stock. The responsible District has the option to further restrict group size if it is felt wilderness experience levels or values would be adversely impacted. pp 42 Standards and Guidelines	**DC Wilderness** Visitor use does not affect wilderness characteristics. **DC Wilderness** There are unconfined opportunities for exploration, solitude, risk, and challenge. The nonmotorized trail system enhances the wilderness character. Where there is public demand, outfitters and guides provide services to visitors seeking a wilderness experience. **DC Wilderness** Bear Wallow Wilderness provides outstanding opportunities for solitude and isolation. Encounters with small groups or individuals are infrequent. **DC Wilderness** Within Mount Baldy and Escudilla Wilderness areas, trails concentrate use and provide access to popular destinations. Encounters with other users may occur. **ST Wilderness** Party size of 12 persons and/or 12 head of stock for hiking and riding groups in Mount Baldy Wilderness shall not be exceeded. A party size of 6 persons for overnight camping shall not be exceeded. **ST Wilderness** Party size of 12 persons and/or 15 head of stock for hiking and riding groups in Escudilla and Bear Wallow Wilderness and the Blue Range Primitive Area shall not be	Retained, expanded, and updated with emphasis on resource protection and with quantitative changes through numerous objectives, desired conditions and guidelines

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		exceeded. **GD Recommended Wilderness** The wilderness characteristics of each recommended wilderness should remain intact until a congressional decision on wilderness designation is made. Characteristics include naturalness, opportunities for solitude, opportunities for primitive recreation, and identified special features.	
Recreation	Provide a wilderness management program that achieves the intent of the Wilderness Act of 1964 and direction in FSM 2230. More specifically, the program must maintain enduring, high quality wilderness values while providing for quality wilderness recreation experiences. Allow wildfire to play a more natural role. Protect the current status of air quality related values (AQRV's) in the Mt. Baldy Class I Airshed and in other wildernesses. pp. 15, Goal	**DC Wilderness** Ecological conditions are affected primarily by natural ecological processes, with the appearance of little or no human intervention. **DC Wilderness** Fire functions as a natural ecological process. **DC Wilderness** There is little evidence of human developments and little or no evidence of camping activity, unauthorized trails, trash, or other human impacts on the environment. **DC Wilderness** Visitor use does not affect wilderness characteristics. **DC Wilderness** Wilderness boundaries are posted and visible to visitors. **DC Wilderness** There are unconfined opportunities for exploration, solitude, risk, and challenge. The nonmotorized trail system enhances the wilderness character. Where there is public demand, outfitters and guides provide services to visitors seeking a wilderness experience. **DC Wilderness** Bear Wallow Wilderness provides outstanding opportunities for solitude and isolation. Encounters with small groups or individuals are infrequent. **DC Wilderness** Within Mount Baldy and Escudilla Wilderness areas, trails concentrate use and provide access to popular destinations. Encounters with other users may occur. **DC Wilderness** Wilderness areas maintain natural landscapes where generally only ecological changes occur (very high scenic integrity) and provide primitive and/or semi-primitive nonmotorized recreation opportunities. **DC Wilderness** Wilderness contributes to preserving natural	Retained, expanded, and updated through numerous objectives, desired conditions and guidelines

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		behaviors and processes that sustain wildlife populations. **ST Wilderness** Party size of 12 persons and/or 12 head of stock for hiking and riding groups in Mount Baldy Wilderness shall not be exceeded. A party size of 6 persons for overnight camping shall not be exceeded. **ST Wilderness** Party size of 12 persons and/or 15 head of stock for hiking and riding groups in Escudilla and Bear Wallow Wilderness and the Blue Range Primitive Area shall not be exceeded. **ST Wilderness** Objective(s) and strategies for all wildfires shall be identified. **ST Wilderness** Fire management activities shall be conducted in a manner compatible with the overall wilderness management objectives (minimum impact suppression tactics). **ST Wilderness** Human-caused disturbed areas that do not complement wilderness characteristics will be rehabilitated to a natural appearance, using species or other materials native to the area. **GD Wilderness** New trail construction may be considered if the objective is enhancement of the wilderness character (e.g., increase solitude opportunities, restore naturalness). **GD Wilderness** Trail maintenance should be coordinated around anticipated visitor high-use periods to minimize encounters. **GD Wilderness** Trails that have minimal use, detract from the wilderness character, or cannot practically be maintained or reconstructed should be obliterated. **GD Wilderness** Prescribed fire should be considered to reduce the risks and consequences of uncharacteristic wildfire within wilderness or escaping from wilderness by reducing unnatural fuel accumulations, if necessary to meet wilderness fire management objectives. Naturally occurring wildfires should be allowed to perform, as much as possible, their natural ecological role within wilderness. **GD Wilderness** Fire camps, helispots, and other temporary facilities should be located outside the wilderness boundary to	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		protect wilderness character. **GD Wilderness** Firelines and spike camps (i.e., a remote camp usually near a fireline) should not be constructed adjacent to trails or camp areas to protect wilderness values. **GD Wilderness** Grazing of pack stock should not occur except as authorized by the district ranger when adequate forage is available.	
Recreation	Management emphasis: Emphasize wilderness recreation while maintaining wilderness resource values. pp. 138, MA7; pp. 141, MA 8; pp. 162 MA 11; pp. 165 MA 13	**DC Wilderness** There are unconfined opportunities for exploration, solitude, risk, and challenge. The nonmotorized trail system enhances the wilderness character. Where there is public demand, outfitters and guides provide services to visitors seeking a wilderness experience. **DC Wilderness** Bear Wallow Wilderness provides outstanding opportunities for solitude and isolation. Encounters with small groups or individuals are infrequent. **DC Wilderness** Within Mount Baldy and Escudilla Wilderness areas, trails concentrate use and provide access to popular destinations. Encounters with other users may occur. **DC Wilderness** Wilderness areas maintain natural landscapes where generally only ecological changes occur (very high scenic integrity) and provide primitive and/or semi-primitive nonmotorized recreation opportunities.	Retained, expanded, and updated through numerous objectives, desired conditions and guidelines
Recreation	Maximum camping group size is limited to 5 persons or the number of members of an immediate family. Hiking and riding groups are limited to 25 participants. pp. 139, MA 7	**ST Wilderness** Party size of 12 persons and/or 12 head of stock for hiking and riding groups in Mount Baldy Wilderness shall not be exceeded. A party size of 6 persons for overnight camping shall not be exceeded.	Retained, but updated with quantitative changes through new standard

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Recreation	Recommend Chevelon Creek for addition to the Wild and Scenic Rivers System as a Scenic River. The recommendation will include 29.9 miles of Chevelon Canyon from the confluence of Woods Canyon and Willow Canyon downstream to the forest boundary except for Chevelon Canyon Lake. Pp. 175, MA 16	Direction not carried forward into revised plan.	Process for identification of eligible and suitable Wild and Scenic River segments has been completed (see Eligibility Report for the National Wild and Scenic River System, Apache-Sitgreaves National Forests May 2009)
Recreation	Management Emphasis: Emphasize semi-primitive recreation opportunities while preserving the highly scenic qualities of the corridor. Manage for possible inclusion into the Wild and Scenic River System under a scenic classification. pp. 168, MA 14	**DC Eligible and Suitable Wild and Scenic Rivers** Eligible and suitable wild river segments display unaltered landscapes where generally only ecological changes occur (very high scenic integrity) and provide primitive and/or semi-primitive nonmotorized recreation opportunities. **DC Eligible and Suitable Wild and Scenic Rivers** Eligible and suitable scenic river segments display landscapes which vary from slightly altered where human activities may be seen but do not attract attention (moderate scenic integrity) to natural appearing where human activities do not stand out (high scenic integrity) and provide semi-primitive nonmotorized, semi-primitive motorized, and/or roaded natural recreation opportunities. **DC Eligible and Suitable Wild and Scenic Rivers** Eligible and suitable recreational river segments display landscapes which vary from moderately altered where human activities are evident (low scenic integrity) to slightly altered where human activities may be seen but do not attract attention (moderate scenic integrity) and provide primitive, semi-primitive nonmotorized, semi-primitive motorized, and/or roaded natural recreation opportunities. **ST Eligible and Suitable Wild and Scenic Rivers** Each eligible river's free-flowing condition, outstandingly remarkable values, and classification shall be sustained until further study is conducted. **ST Eligible and Suitable Wild and Scenic Rivers** Each	Retained, expanded, and updated through numerous desired conditions and standards

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		suitable river's free-flowing condition, outstandingly remarkable values, and classification shall be maintained until congressional action is completed.	
Recreation	Recommend the mainstem of the Black River (approximately 16 miles) from the Buffalo Crossing area to the reservation boundary (see Management Areas Index Map) be designated as part of the National Wild and Scenic River System as a scenic river. pp. 169, MA 14	Direction not carried forward into revised plan.	Process for identification of eligible and suitable Wild and Scenic River segments has been completed (see Eligibility Report for the National Wild and Scenic River System, Apache-Sitgreaves National Forests May 2009)
Recreation	Maintain at least the current semi-primitive recreation opportunities. pp. 169, MA 14 pp. 172, MA 15	**DC Eligible and Suitable Wild and Scenic Rivers** Eligible and suitable wild river segments display unaltered landscapes where generally only ecological changes occur (very high scenic integrity) and provide primitive and/or semi-primitive nonmotorized recreation opportunities. **DC Eligible and Suitable Wild and Scenic Rivers** Eligible and suitable scenic river segments display landscapes which vary from slightly altered where human activities may be seen but do not attract attention (moderate scenic integrity) to natural appearing where human activities do not stand out (high scenic integrity) and provide semi-primitive nonmotorized, semi-primitive motorized, and/or roaded natural recreation opportunities. **DC Eligible and Suitable Wild and Scenic Rivers** Eligible and suitable recreational river segments display landscapes which vary from moderately altered where human activities are evident (low scenic integrity) to slightly altered where human activities may be seen but do not attract attention (moderate scenic integrity) and provide primitive, semi-primitive nonmotorized, semi-primitive motorized, and/or roaded natural recreation opportunities.	Retained, expanded, and updated through numerous desired conditions
Recreation	Within the boundaries of the river corridor, allow management actions that would cause a shift from acres classification as Roaded Natural to a	**DC Eligible and Suitable Wild and Scenic Rivers** Eligible and suitable wild river segments display unaltered landscapes where generally only ecological changes occur (very high	Retained, expanded, and updated through numerous desired conditions and

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	classification of semi-primitive, motorized, or non-motorized. pp. 169, MA 14	scenic integrity) and provide primitive and/or semi-primitive nonmotorized recreation opportunities. **DC Eligible and Suitable Wild and Scenic Rivers** Eligible and suitable scenic river segments display landscapes which vary from slightly altered where human activities may be seen but do not attract attention (moderate scenic integrity) to natural appearing where human activities do not stand out (high scenic integrity) and provide semi-primitive nonmotorized, semi-primitive motorized, and/or roaded natural recreation opportunities. **DC Eligible and Suitable Wild and Scenic Rivers** Eligible and suitable recreational river segments display landscapes which vary from moderately altered where human activities are evident (low scenic integrity) to slightly altered where human activities may be seen but do not attract attention (moderate scenic integrity) and provide primitive, semi-primitive nonmotorized, semi-primitive motorized, and/or roaded natural recreation opportunities. **ST Eligible and Suitable Wild and Scenic Rivers** Each eligible river's free-flowing condition, outstandingly remarkable values, and classification shall be sustained until further study is conducted. **ST Eligible and Suitable Wild and Scenic Rivers** Each suitable river's free-flowing condition, outstandingly remarkable values, and classification shall be maintained until congressional action is completed.	standards
Recreation	Management Emphasis: Emphasize a wide spectrum of recreation opportunities similar to that which currently exists. Manage to maintain or enhance the scenic quality of the corridor. pp. 171, MA 15	**DC Eligible and Suitable Wild and Scenic Rivers** Eligible and suitable wild river segments display unaltered landscapes where generally only ecological changes occur (very high scenic integrity) and provide primitive and/or semi-primitive nonmotorized recreation opportunities. **DC Eligible and Suitable Wild and Scenic Rivers** Eligible and suitable scenic river segments display landscapes which vary from slightly altered where human activities may be seen but do not attract attention (moderate scenic integrity) to natural appearing where human activities do not stand out	Retained, expanded, and updated through numerous desired conditions

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		(high scenic integrity) and provide semi-primitive nonmotorized, semi-primitive motorized, and/or roaded natural recreation opportunities. **DC Eligible and Suitable Wild and Scenic Rivers** Eligible and suitable recreational river segments display landscapes which vary from moderately altered where human activities are evident (low scenic integrity) to slightly altered where human activities may be seen but do not attract attention (moderate scenic integrity) and provide primitive, semi-primitive nonmotorized, semi-primitive motorized, and/or roaded natural recreation opportunities.	
Recreation	Recommend 14 miles of the West Fork of the Black River for inclusion in the Wild and Scenic Rivers System. Recommend 7 miles for wild designation, 3 miles for scenic designation, and 4 miles for recreation designation. pp. 172, MA 15	Direction not carried forward into revised plan.	Process for identification of eligible and suitable Wild and Scenic River segments has been completed (see Eligibility Report for the National Wild and Scenic River System, Apache-Sitgreaves National Forests May 2009)
Recreation	Management Emphasis: Emphasize semi-primitive non-motorized recreation opportunities (except at Chevelon Crossing). Strive to maintain the current opportunities for solitude. Protect the high scenic values, and maintain the current wildlife habitat values. 174, MA 16	**DC Eligible and Suitable Wild and Scenic Rivers** Eligible and suitable wild river segments display unaltered landscapes where generally only ecological changes occur (very high scenic integrity) and provide primitive and/or semi-primitive nonmotorized recreation opportunities. **DC Eligible and Suitable Wild and Scenic Rivers** Eligible and suitable scenic river segments display landscapes which vary from slightly altered where human activities may be seen but do not attract attention (moderate scenic integrity) to natural appearing where human activities do not stand out (high scenic integrity) and provide semi-primitive nonmotorized, semi-primitive motorized, and/or roaded natural recreation opportunities. **DC Eligible and Suitable Wild and Scenic Rivers** Eligible and suitable recreational river segments display landscapes which vary from moderately altered where human activities are	Retained, expanded and updated through numerous desired conditions and standards

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		evident (low scenic integrity) to slightly altered where human activities may be seen but do not attract attention (moderate scenic integrity) and provide primitive, semi-primitive nonmotorized, semi-primitive motorized, and/or roaded natural recreation opportunities. **ST Eligible and Suitable Wild and Scenic Rivers** Each eligible river's free-flowing condition, outstandingly remarkable values, and classification shall be sustained until further study is conducted. **ST Eligible and Suitable Wild and Scenic Rivers** Each suitable river's free-flowing condition, outstandingly remarkable values, and classification shall be maintained until congressional action is completed.	
Recreation	Manage RNA's for scientific research or baseline studies. Protect potential RNA's pending implementation. pp. 17, Goal	**DC Research Natural Area** The Phelps Cabin RNA provides opportunities for research, study, observation, monitoring, and educational activities that maintain the natural conditions for which the area was established. **ST Research Natural Area** The Phelps Cabin RNA will be managed for nonmotorized access within the area; exceptions may be made for permitted research use. **GD Research Natural Area** Research special use authorizations should limit impacts to sensitive resources, unique features, and species within the RNA. **DC Recommended Research Natural Area** The recommended RNAs provide opportunities for research, study, observation, monitoring, and educational activities that maintain the natural conditions for which the area was recommended. **DC Recommended Research Natural Area** The Three Forks Closure Area (30 acres) of the recommended Three Forks RNA is free from human trampling and other disturbances to protect very sensitive and unique species, such as the Three Forks springsnail, California floater, New Mexico meadow jumping mouse, Chiricahua leopard frog, and loach minnow. **DC Recommended Research Natural Area** The recommended Three Forks, Campbell Blue, Corduroy, and	Retained, expanded, and updated through numerous desired conditions and guidelines

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		Sandrock RNAs, outside of any eligible or suitable wild and scenic river corridor, exhibit unaltered appearing landscapes where human activities do not stand out (high scenic integrity). **DC Recommended Research Natural Area** The recommended Thomas Creek RNA exhibits slightly altered landscapes where human activities may be seen but do not attract attention (moderate scenic integrity). **DC Recommended Research Natural Area** The recommended Phelps Cabin RNA addition (currently the Phelps Cabin Botanical Area), outside of any eligible or suitable wild and scenic river corridor, exhibit unaltered appearing landscapes where human activities do not stand out (high scenic integrity). **DC Recommended Research Natural Area** Natural conditions prevail in the recommended Phelps Cabin RNA addition while providing an opportunity for interpretation, education, and research. **DC Recommended Research Natural Area** Unique plant species, including willows, paintbrushes, and gentians, thrive in the recommended Phelps Cabin RNA addition. **GD Recommended Research Natural Area** To minimize impacts to unique and sensitive plant and animal species, recreational activities should not be encouraged. **GD Recommended Research Natural Area** If necessary recommended RNAs should be fenced to manage unique features. **GD Recommended Research Natural Area** Research special use authorizations should limit impacts to sensitive resources, unique features, and species within recommended RNAs. **GD Recommended Research Natural Area** Recommended RNAs should be managed for nonmotorized access within the area to minimize ground disturbances and protect the resources which make these areas unique.	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Recreation	Campsite reservations for Outfitter/Guides will not be made.	**GD Special Uses** Commercial outfitters and guides should not be authorized to use developed campgrounds so those sites remain available for noncommercial forest visitors.	Retained, expanded, and updated through guideline
Recreation	Region 3 operation and maintenance standards will be used for administration of developed sites, winter sports sites, and dispersed areas. Update operation and administration plans annually to reflect these standards. STs &GDs - Recreation Management, Pg. 31. Issue and administer dispersed recreation special use permits and agreement to minimize user conflicts and ensure public safety and resource protection. STs &GDs - Recreation Management, Pg. 31. Manage to ensure the maintenance of the existing diversity of recreation opportunities, settings, and activities. STs &GDs - Recreation Management, Pg. 31.	**GD Special Uses** Commercial outfitters and guides should not be authorized to use developed campgrounds so those sites remain available for noncommercial forest visitors.	The public commented due to competition for trailheads on a certain district with outfitter & guides. A guideline was added to reduce the competition with public recreationists. The interdisciplinary team discussed the proposed change and concluded parking at trailheads could be allowed by outfitters and guides to reduce parking along roads that could interfere with safe travel. Restrictions at trailheads could be imposed during the outfitter-guide permitting process or through site specific analysis.

Vegetation

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Vegetation	**Chapter 2 Issues -Timber And Fuelwood - Pg. 7, & Chapter 3 Summary of the Analysis of the Management Situation - pgs. 13 & 19:** **Timber Volume Offered (MMBF) - Decade 1 : 119** [2/] [2/] The 119 MMBF Allowable Sale Quantity (ASQ) is made up of 99 MMBF of sawtimber and 20 MMBF of products (roundwood). On May 15, 1990, a Settlement Agreement was signed in which the Parties agreed to an Interim Offering Schedule with a reduced rate of implementation, and to additional analysis to determine what the Offering Schedule should be for the remainder of the decade. The Interim Offering Schedule is documented in Table 3. If the Forest Supervisor determines that changes are needed to Table 3 prior to September 30, 1992, a meeting of the Parties to the Settlement Agreement will be convened to address the issues needing resolution. In the event that the Offering Schedule has not been revised to incorporate the recalculated ASQ prior to September 30, 1992, the Parties to the Settlement Agreement will reconvene to agree upon a revised interim Offering Schedule, with the harvest level not to exceed 83 MMBF of sawtimber per year. Long-Term Sustained Yield Capacity =	**Deleted. Replaced with:** **OBJ for Forest Products -** Annually, prepare and offer up to an average of 122,000 CCF from suitable timberlands resulting from sustainable harvest to provide wood products to businesses and individuals.	Obsolete ASQ, per NFMA it must be re-calculated upon re-assessment of suitable timberlands every decade. New assessment was done for revised plan with new ASQ. The existing plan's record documents show that plan amendment #4 (signed Feb. 1991 = prior to Sept. 30, 1992) was used to execute the May 1990 settlement agreement which reduced the forest ASQ to 99 MMBF. Apparently the "83 MMBF" level was never made official. Wood volume is no longer measured in units of board feet (MBF, thousand board feet, or MMBF, million board feet). Units of CCF (hundred cubic feet) are now used. For comparison: 99 MMBF = 99,000 MBF = 198,000 CCF. Long-term Sustained Yield Capacity (LTSYC) is not a required plan component. The ASNFs' LTSYC was re-evaluated and used in the calculation of the revised plan's ASQ as disclosed in the plan's EIS and supporting documentation.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	36,813 MCF		
Vegetation	**Riparian Goal**: Improve vegetation condition in riparian areas. This is an emphasis area for the plan. Improvements will be accomplished by reducing or, in some cases, eliminating adverse impacts from grazing, vehicles, and over-use by man. **Page 16.**	Identified as a "**Need for Change**" to describe the desired composition, structure, and cover of these vegetation communities that will result in resilient, functioning ecosystems… **DC**: Healthy ecosystems are diverse and self-sustaining, displaying a variety of conditions (e.g., composition, structure, function, processes) between and within them. **Management Approach for Riparian Area**: Treatments include those that restore and then maintain natural fire regimes, improve riparian condition, restore meadows or openings, repair gullies, and reduce erosion. **GD for Water Resources**: Streams, streambanks, shorelines, lakes, wetlands, and other bodies of water should be protected from detrimental changes in water temperature and sediment to protect aquatic species and riparian habitat. **4th Level (Subbasin) to 5th Level (Watershed) HUC Watershed Scale DC for Aquatic Habitat and Species**: Streamflows, habitat, and water quality support native aquatic and riparian-dependent species and habitat. **6th Level (Sub-watershed) HUC Watershed Scale DC for Aquatic Habitat and Species**: Habitat and ecological conditions are capable of providing for self-sustaining populations of native, riparian-dependent plant and animal species. **OBJ for Aquatic Habitat and Species**: Annually, enhance or restore 5 to 15 miles of stream and riparian habitat to restore structure, composition, and function of physical habitat for native fisheries and riparian-dependent species. **OBJ for Aquatic Habitat and Species**: During the planning period, complete at least five projects (e.g., remove barriers, restore dewatered stream segments, or	The intent of this riparian goal has been carried forward into revised Land Management Plan (LMP).

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		connect fragmented habitat) to provide for aquatic and riparian associated species and migratory species. **GD for Aquatic Habitat and Species**: To prevent degradation of native species habitat and the incidental or accidental introduction of diseases or nonnative species, aquatic species should not be transferred through management activities from one 6th level HUC watershed to another.	
Vegetation	**Chapter 4. Management Direction - GOALS - Timber, Pg. 16 :** On forested lands identified as suitable for commercial timber production, manage the timber resource to provide a sustained yield of forest products through integrated stand resource management. Timber management activities will be designed to integrate considerations for economic, water quality, soils, wildlife habitat, recreation opportunities, visual, and other values to meet forest plan objectives. Develop and implement a sustained yield program for firewood and other miscellaneous forest products including posts, poles, Christmas trees, and wildlings.	**Replaced with:** **DC for Overall Ecosystem Health -** Healthy ecosystems provide a wide range of ecosystem services. **DC for All PNVTs -** Vegetation provides products-such as wood fiber or forage-to help meet local and regional needs in a manner that is consistent with other desired conditions on a sustainable basis within the capacity of the land. **DC for All PNVTs** - Ecosystem services are available as forests, woodlands, grasslands, and riparian communities successfully adapt to a changing and variable climate. **OBJ for All Forested PNVTs –** Annually, treat 5,000 to 35,000 acres to reduce tree densities, restore natural fire regimes, promote species habitat and ecosystem health, reduce fire hazard, maintain desired conditions, initiate recovery from uncharacteristic disturbance, and provide forest products, leaving a desired mix of species with the range of desired densities that are resilient to changing climatic conditions. **STs for All Forested PNVTs -** •Regulated timber harvest activities shall occur only on those lands classified as suitable for timber production. •Harvesting systems shall be selected based on their ability to meet desired conditions and not strictly on their ability to provide the greatest dollar return. **OBJ for All Woodland PNVTs -** Annually, treat or maintain 5,000 to 15,000 acres to promote a highly	**Background for Overall Ecosystem Health** - The intent of this plan is to guide management efforts in the restoration and/or maintenance of ecosystems by maintaining or moving towards desired conditions. Treatment and product objectives are not cut volume-driven. Sustainable supplies of resources such as timber, recreation, and forage are byproducts of healthy, functioning ecosystems. PNVT acres restored toward the DCs should support more sustainable forests and woodlands resilient against losses to uncharacteristic disturbances like stand-replacement wildfire and severe insect outbreaks. Sustained yield of forest products is directed by the Natl. Forest Mgmt. Act of October 22, 1976, and the Multiple Use-Sustained Yield Act of June 12, 1960. The ASQ of 122,000 CCF was derived from cuts modeled to move each PNVT toward DCs while keeping the STs and GDs in mind, as

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		diverse structure. **OBJ for Grasslands -** Decrease or maintain the woody canopy cover at less than 10 percent by treating up to 25,000 acres annually. **DC for Landscape Scale Disturbance Events -** The Apache-Sitgreaves NFs landscapes retain the resiliency to survive landscape scale disturbance events**.** **DC for Forest Products -** The Apache-Sitgreaves NFs provide a sustainable supply of forest products (e.g., small roundwood, sawlogs, biomass, firewood, cones, Christmas trees, wildlings) to businesses and individuals within the capability of the land. **OBJ for Forest Products -** Annually, prepare and offer up to an average of 122,000 CCF from suitable timberlands resulting from sustainable harvest to provide wood products to businesses and individuals. **OBJ for Forest Products -** Annually, provide up to 94,000 CCF (119,380 cords) of firewood for personal and commercial use. **OBJ for Forest Products -** Annually, provide an average of 5,000 permits for Christmas trees.	well as incorporating the LTSYC of the suitable timberlands, plus local demands, realistic budgets/ ASNFs' workforce capacity, and industrial capabilities/ limitations. For example: The **forest product OBJs** in the revised plan include cut volumes reflecting the elimination of steep slopes and MSO PACs from the suitable timberland base. They also reflect reduced cuts modeled on suitable timberlands intended to simulate providing stand conditions for MSO replacement nesting/roosting habitat. These considerations during development of the cutting volume OBJs are intended to benefit soils, watershed, fisheries, wildlife, and timber program economic feasibility.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Vegetation	**Forest-wide STs & GDs, MA #1, MA #9, pgs. 68, 111, 153:** Slash created by timber harvest activities will be made available for fuelwood when feasible.	**Deleted. Replaced with:** **OBJ for Forest Products -** Annually, provide up to 94,000 CCF (119,380 cords) of firewood for personal and commercial use. **GD for Soil** - Coarse woody debris retention and/or creation should be used as needed to help retain long term soil productivity. **GD for Landscape Scale Disturbance Events** - An adequate number and size of snags and logs, appropriate for the affected PNVT, should be retained individually and in clumps to provide benefits for wildlife and coarse woody debris for soil and other resource benefits. **Chapter 5 Monitoring Strategy question:** Are outputs of goods and services being produced at a rate consistent with projections?	This has not been an issue, as an abundance of fuelwood has continued to be available for all demands. Some local concerns were shared during the revised plan's development regarding reducing fuel-loadings to minimize smoke from slash pile &/or broadcast prescribed burns, but this did not surface as a specific comment to the Draft Plan or DEIS. Volumes stated in the revised plan's wood products OBJs reflect an average reduction from model cutting projections of 5% total harvest volume to be left on-site for soils DCs. In some cases additional slash needs to be left on-site to meet DCs for stabilizing ground cover after disturbances like severe wildfire. Less activity-created slash is being left on site now than when the existing plan was written, as more diverse industries can now utilize woody debris created from restoration operations. Slash left unclaimed by a contractor usually does become available for public fuelwood gathering after contract termination.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Vegetation	**MA #1 – Wildlife, pg. 97:** Maintain structural diversity of vegetation within each diversity unit (10K) that are dominated by Forest or woodland ecosystems. a) Manage for minimum of 20% of the forested area within a diversity unit to provide vertical diversity except in areas where uneven-aged management is used. b) Manage for a minimum of 30% of the forested area within a diversity unit to provide horizontal diversity except in areas where uneven-aged management is used.	**Deleted. Replaced with:** numerous DCs, STs, GDs and monitoring strategy. See crosswalk sections on *old growth* in particular for detailed components that provide for *vertical* diversity and some *horizontal* diversity. Additional revised plan components for *horizontal* diversity include: **DC for Forests: PP -** The forest arrangement consists of individual trees, small clumps, and groups of trees with variably-sized interspaces of grasses, forbs, and shrubs. Vegetation associations are similar to reference conditions. The size, shape, and number of trees per group and the number of groups per area vary across the landscape. Tree density may be greater in some locations, such as north-facing slopes and canyon bottoms. **DC for Forests: PP** - Ponderosa pine forest is characterized by variation in the size and number of tree groups depending on elevation, soil type, aspect, and site productivity. The more biologically productive sites contain more trees per group and more groups per area, resulting in less space between groups. Interspaces typically range from 10 percent in more biologically productive sites to 70 percent in the less productive sites. Tree density within forested areas ranges from 20 to 80 square feet basal area per acre. **DC for Forests: PP -** Interspaces surrounding tree groups are variably shaped and composed of a grass, forb, and shrub mix. Some may contain individual trees or snags. **DC for Forests: PP** - Forest structure in the wildland-urban interface (WUI) may have smaller, more widely spaced groups of trees than in the non-WUI areas. **GD for Forests: PP -** Where consistent with project or activity objectives, canopy cover should be retained on the south and southwest sides of small, existing forest openings that are naturally cooler and moister. These	MA #1 in the existing plan covers all forested lands outside of wilderness and other designations. For similar revised plan uneven-aged/ even-aged components for woodlands, see the *old growth* items addressed elsewhere in this crosswalk. 10K (10,000 acre) diversity units are obsolete geographical delineations originally intended for use at the project level, but no longer useful because the “Landscape Scale” components in revised plan represent this size of analysis/management area. Vertical and horizontal structural diversity of forested and/or woodland ecosystems should be obtained by treating toward the revised plan’s components with a greater emphasis on uneven-aged management. Horizontal diversity should result from the revised plan’s restoration emphasis to permit characteristic disturbances to resume their natural role in the ecosystem, with management actions striving to mimic those natural processes. Also see revised plan Glossary definitions of *interspaces* and *openings*.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		small (generally one-tenth to one-quarter acre) shaded openings provide habitat conditions needed by small mammals, plants, and insects (e.g., Merriam's shrew, Mogollon clover, four-spotted skipperling butterfly). Where these openings naturally occur across a project area, these conditions should be maintained on an average of 2 or more such openings per 100 acres. **DC for Forests: DMC -** The forest arrangement consists of small clumps and groups of trees with variably-sized interspaces of grass, forb, and shrub vegetation associations similar to reference conditions. Size, shape, number of trees per group, and number of groups per area are variable across the landscape. Where they naturally occur, groups of Gambel oak are healthy and maintained or increased. Tree density may be greater in some locations, such as north-facing slopes and canyon bottoms. **DC for Forests: DMC –** The dry mixed conifer forest is characterized by a variety of size and number of tree groups depending on elevation, soil type, aspect, and site productivity. The more biologically productive sites contain more trees per group and more groups per area, resulting in less space between groups. Interspaces typically range from 10 percent in more biologically productive sites to 50 percent in less productive sites. Tree density within forested areas ranges from 30 to 100 square feet basal area per acre. **DC for Forests: DMC -** Forest structure in the wildland-urban interface (WUI) may have smaller, more widely spaced groups of trees than in the non-WUI areas. **DC for Forests: DMC** -Interspaces surrounding tree groups are composed of a grass, forb, and shrub mix. Some may contain individual trees or snags. **GD for Forests: DMC -** Where consistent with project or activity objectives, canopy cover should be retained on the south and southwest sides of small, existing forest openings that are naturally cooler and moister. These	Also see Desired Conditions for Use in Forest Planning in the Southwestern Region: Development and Science Basis (USDA, 2013).

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		small (generally one-tenth to one-quarter acre) shaded openings provide habitat conditions needed by small mammals, plants, and insects (e.g., Merriam's shrew, Mogollon clover, four-spotted skipperling butterfly). Where these openings naturally occur across a project area, these conditions should be maintained on an average of 2 or more such openings per 100 acres. **DC for Forests: WMC -** The size and number of groups and patches vary depending on disturbance, elevation, soil type, aspect, and site productivity. Patch sizes vary but are frequently hundreds of acres and rarely thousands of acres. Groups of tens of acres or less are relatively common. There is a mosaic of primarily even-aged groups and patches, which vary in size, species composition, and age. Grass, forb, and shrub openings created by disturbances may comprise 10 to 100 percent of the area depending on the type of disturbance. **DC for Forests: WMC -** Small openings are present as a result of disturbances (e.g., wind, disease). **DC for Forests: SF -** The size and number of groups and patches vary depending on disturbance, elevation, soil type, aspect, and site productivity. Patch sizes vary but are mostly hundreds of acres and rarely thousands of acres. There may be frequent small disturbances resulting in groups of tens of acres or less. A mosaic of primarily even-aged groups and patches, which vary in size, species composition, and age, is present. Grass, forb, and shrub openings created by disturbances may comprise 10 to 100 percent of the area depending on time since disturbances. Aspen is occasionally present in large patches. **DC for Forests: SF** - Small openings are present as a result of localized disturbances (e.g., wind, disease).	
Vegetation	**Forest-wide and MA #1 - Old Growth Standards, pgs. 97-99 (for PJ woodland, PP, Aspen, MC and SF**	**Modified with:** **DCs for All PNVTs Landscape Scale:** •Diverse vegetation structure, species composition, densities, and	Percentage allocations overly prescriptive and outdated as per revised forest plan. This is now

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	forest types) : Until the forest plan is revised allocate no less than 20% of each forested ecosystem management area *(EMA)* to old growth as depicted in the following table. In the long term, manage old growth in patterns that provide for a flow of functions and interactions at multiple scales across the landscape through time. Allocations will consist of landscape percentages meeting old growth conditions and not specific areas.	seral states provide quality habitat for native and desirable nonnative plant and animal species throughout their life cycle and at multiple spatial scales. Landscapes provide for the full range of ecosystem diversity at multiple scales, including habitats for those species associated with late seral states and old growth. •Old growth is dynamic in nature, well distributed, and spatially shifts across forest and woodland landscapes over time. **GDs for All Forested PNVTs:** •Where current forests are lacking proportional representation of late seral states and species composition on a landscape scale, old growth characteristics should be retained or encouraged to the greatest extent possible within the scope of meeting other desired conditions (e.g., reduce impacts from insects and disease, reduce the threat of uncharacteristic wildfire). **ALSO SEE revised plan content presented in this crosswalk table for existing plan - Old Growth Guidelines.**	captured by DCs, GDs, and Monitoring Strategy questions. EMAs are no longer a relevant designation under the revised plan. Under the new plan the forest is managed through a more holistic approach. Project specialists determine best methods to analyze and manage at multiple scales, keeping forest-wide DCs in mind. Also see Desired Conditions for Use in Forest Planning in the Southwestern Region: Development and Science Basis (USDA, 2013).
Vegetation	**MA1 Wildlife & Fish Habitat Improvement Guideline**: Old Growth All analyses should be at multiple scales – one scale above and one scale below the ecosystem management areas. The amount of old growth that can be provided and maintained will be evaluated at the ecosystem management area level and be based on forest type, site capability, and disturbance regimes. **Page 98**.	The ecological **DCs** are described at multiple scales and may only be achievable over a long timeframe (several hundred years). Descriptions at various scales are developed to provide detail and guidance for the design of future projects and activities that help achieve the desired conditions over time. Descriptions under the landscape scale provide the “big picture” desired conditions for terrestrial resources across the larger land area. Descriptions at the mid-scale and fine scale provide further details necessary for guiding future site specific projects and activities. A combination of fine scale units add up to the mid-scale and a combination of mid-scale units add up to the landscape scale. Conversely, desired conditions for aquatic resources are described using watershed scales to help provide their relative importance or niche. Conditions for larger land	Prescriptive: Project specialists determine scales of analyses keeping Forest-wide DCs in mind. The DCs in the revised forest plan are designed to account for scale (fine, mid, and landscape).

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		areas are described under the 4th level (subbasin) to 5th level (watershed) watershed scale. More detailed descriptions for site specific conditions are described at the 6th level (sub-watershed) HUC watershed scale. Not all resources require a description at each scale.	
Vegetation	**Forest-wide and MA #1 - Old Growth Guidelines (for PJ woodland, PP, Aspen, MC and SF forest types) :** Strive to create or sustain as much old growth compositional, structural, and functional flow as possible over time at multiple area scales. Seek to develop or retain old growth function on at least 20% of the naturally forested area by forest type in any landscape. Consider the effects of spatial arrangement on old growth function, from groups to landscapes, including de facto allocations to old growth such as goshawk nest sites, Mexican spotted owl protected activity centers, sites protected for species behavior associated with old growth, wilderness, research natural areas, and other forest structures managed for old growth function. In allocating old growth and making decisions about old growth management, use appropriate information about the relative risks to sustaining old growth function at the appropriate scales, due to natural and human-caused events.	**Modified/Replaced with:** **GD for All PNVTs:** Projects should include quantitative and/or qualitative objectives for implementation monitoring and effectiveness monitoring to assist in moving toward or maintaining desired conditions. **DC for Riparian Areas Landscape Scale:** Natural ecological disturbances (e.g., flooding, scouring) promote a diverse plant structure consisting of herbaceous, shrub, and tree species of all ages and size classes necessary for the recruitment of riparian-dependent species. **DC for Riparian Areas Fine Scale:** Vegetation is structurally diverse, often dense, providing for high bird species diversity and abundance, especially neotropical migratory birds. It includes large trees and snags in the cottonwood-willow and mixed broadleaf deciduous riparian forests to support species such as beaver, yellow-billed cuckoo, bald eagles, Arizona gray squirrel, and various bat species. **OBJ for Forests: All Forested PNVTs:** Annually, treat 5,000 to 35,000 acres to reduce tree densities, restore natural fire regimes, promote species habitat and ecosystem health, reduce fire hazard, maintain desired conditions, initiate recovery from uncharacteristic disturbance, and provide forest products, leaving a desired mix of species with the range of desired densities that are resilient to changing climatic conditions. **DCs for Forests: PP Landscape Scale:** •The ponderosa pine forest is a mosaic of structural states ranging from young to old trees. Forest structure is	Redundant with much of the revised plan's goshawk and MSO direction. Percentage allocations overly prescriptive and outdated as per revised forest plan. Also see Desired Conditions for Use in Forest Planning in the Southwestern Region: Development and Science Basis (USDA, 2013). DCs and GDs throughout the revised plan, and the plan's monitoring strategy, were needed to address distinct differences in old growth characteristics, structure, spatial arrangement, and function in a holistically integrated plan, at multiple scales, by each PNVT. The concept of "old growth" is further recognized in the revised plan as a late successional stage of forest or woodland development, which is not static at any scale. Specialists determine best methods to quantify appropriate percentage of old growth to manage at the project level. For the ASNFs revised plan, Mexican

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		variable but uneven-aged and open in appearance. Sporadic areas of even-aged structure may be present on 10 percent or less of the landscape to provide structural diversity. •Old growth occurs throughout the landscape, in small, discontinuous areas consisting of clumps of old trees, or occasionally individual old trees. Other old growth components are also present including dead trees (snags), downed wood (coarse woody debris), and/or structural diversity. The location of old growth shifts on the landscape over time as a result of succession and disturbance (tree growth and mortality). **DCs for Forests: PP Mid-Scale:** •The tree group mosaic comprises an uneven-aged forest with all age classes, size classes, and structural stages present. Occasionally, patches of even-aged forest structure are present (less than 50 acres). Disturbances sustain the overall age and structural distribution. •Northern goshawk post-fledging family areas (PFAs) may contain 10 to 20 percent higher basal area in mid-aged to old tree groups than northern goshawk foraging areas and the surrounding forest. •Northern goshawk nest areas have forest conditions that are multi-aged and dominated by large trees with relatively denser canopies than the surrounding forest. **DCs for Forests: PP Fine Scale:** •Trees typically occur in irregularly-shaped groups and are variably spaced with some tight clumps. Tree crowns in the mid- to old-aged groups are interlocking or nearly interlocking providing for species such as Abert's squirrel. •Trees within groups are of similar or variable ages and may contain species other than ponderosa pine. Tree groups are typically less than 1 acre and average ½ acre. Mid- to old-aged tree groups consist of approximately 2 to 40 trees with interlocking canopies. **DCs for Forests: DMC Landscape Scale:** •The dry mixed conifer forest is a mosaic of conditions composed of structural states ranging from young to old trees. Forest structure and density are similar to ponderosa pine forest. Forest appearance is variable but uneven-	spotted owl and northern goshawk are management indicator species (MIS) of forest density and structure. The forest and woodland treatment objectives listed in the revised plan would contribute to species viability and prevent loss of old growth acres due to natural and human-caused events.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		aged and open. Sporadic areas of even-aged structure may be present on 10 percent or less of the landscape to provide structural diversity. •Old growth occurs throughout the landscape, in small, discontinuous areas consisting of clumps of old trees, or occasionally individual old trees. Other old growth components are also present including dead trees (snags), downed wood (coarse woody debris), and/or structural diversity. The location of old growth shifts on the landscape over time as a result of succession and disturbance (tree growth and mortality). **DCs for Forests: DMC Mid-Scale:** •The dry mixed conifer forest is characterized by a variety of size and number of tree groups depending on elevation, soil type, aspect, and site productivity. The more biologically productive sites contain more trees per group and more groups per area, resulting in less space between groups. Interspaces typically range from 10 percent in more biologically productive sites to 50 percent in less productive sites. Tree density within forested areas ranges from 30 to 100 square feet basal area per acre. •The mosaic of tree groups is composed of uneven-aged forest. All age classes and structural stages are present. Occasionally, there are small patches (less than 50 acres) of even-aged forest present. Disturbances sustain the overall age and structural distribution. •Northern goshawk post-fledging family areas (PFAs) may contain 10 to 20 percent higher basal area in mid-aged to old tree groups than northern goshawk foraging areas and the surrounding forest. •Northern goshawk nest areas have forest conditions that are multi-aged but are dominated by large trees with relatively denser canopies than the surrounding forest. **DCs for Forests: DMC Fine Scale**: •Trees typically occur in irregularly-shaped groups and are variably spaced with some tight clumps. Tree crowns in the mid- to old-aged groups are interlocking or nearly interlocking providing for species such as red squirrel.	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		•Interspaces surrounding tree groups are composed of a grass, forb, and shrub mix. Some may contain individual trees or snags. •Trees within groups are of similar or variable ages and one or more species. Tree group sizes typically are less than 5 acres, but often less than 1 acre, and at the mature and old stages consist of approximately 2 to 50 trees**. DCs for Forests: WMC Landscape Scale:** •The wet mixed conifer forest is a mosaic of structural stages and seral states ranging from young to old trees. The landscape arrangement is an assemblage of variably-sized and aged groups and patches of trees and other vegetation associations similar to reference conditions. •Old growth occurs over large, continuous areas. Old growth components include old trees, dead trees (snags), downed wood (coarse woody debris), and/or structural diversity. The location of old growth shifts on the landscape over time as a result of succession and disturbance (tree growth and mortality). **DCs for Forests: WMC Mid-Scale:** •The size and number of groups and patches vary depending on disturbance, elevation, soil type, aspect, and site productivity. Patch sizes vary but are frequently hundreds of acres and rarely thousands of acres. Groups of tens of acres or less are relatively common. There is a mosaic of primarily even-aged groups and patches, which vary in size, species composition, and age. •Uneven-aged groups and patches, comprising about 20 percent of this PNVT, provide for species such as the black bear and red-faced warbler that need multistoried canopies with dense low- to mid-canopy layers. •Tree density ranges from 30 to 180 square feet basal area per acre depending upon time since disturbance and seral states of groups and patches. •Northern goshawk post-fledging family areas (PFAs) may contain 10 to 20 percent higher basal area in mid-aged to old tree groups than northern goshawk foraging areas and the surrounding forest. •Northern goshawk nest areas have forest conditions that are multi-aged but are dominated	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		by large trees with relatively denser canopies than the surrounding forest. **DCs for Forests: WMC Fine Scale:** •In mid-aged and older forests, trees are typically variably spaced with crowns interlocking (grouped and clumped trees) or nearly interlocking providing for species such as red squirrel. Trees within groups can be of similar or variable species and ages. **DCs for Forests: SF Landscape Scale** •The spruce-fir forest is a mosaic of structural stages and seral states ranging from young to old trees and is composed of multiple species. The landscape arrangement is an assemblage of variably-sized and aged groups and patches of trees and other vegetation similar to reference conditions. •Tree canopies in this forest are closed. An understory, consisting of native grass, forbs, and/or shrubs, is present in early seral states and is replaced by trees in later seral states. •Old growth occurs over large, continuous areas. Old growth components include old trees, dead trees (snags), downed wood (coarse woody debris), and/or structural diversity. The location of old growth shifts on the landscape over time as a result of succession and disturbance (tree growth and mortality**). DCs for Forests: SF Mid-Scale:** •The size and number of groups and patches vary depending on disturbance, elevation, soil type, aspect, and site productivity. Patch sizes vary but are mostly hundreds of acres and rarely thousands of acres. There may be frequent small disturbances resulting in groups of tens of acres or less. A mosaic of primarily even-aged groups and patches, which vary in size, species composition, and age, is present. •Uneven-aged groups and patches, comprising about 20 percent of this PNVT, provide for species such as the MacGillivray's warbler and Swainson's thrush that need multistoried canopies with dense low- to mid-canopy layers. • Tree density ranges from 30 to 250 square feet basal area per acre, depending upon disturbance and seral states of the groups and patches. •Northern goshawk post-fledging family areas (PFAs)	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		may contain 10 to 20 percent higher basal area in mid-aged to old tree groups than northern goshawk foraging areas and the surrounding forest. •Northern goshawk nest areas have forest conditions that are multi-aged but are dominated by large trees with relatively denser canopies than the surrounding forest. **DCs for Forests: SF Fine Scale** •Mid-aged to old trees grow tightly together with interlocking crowns. Trees are of the same size and/or age class in early group/patch development. In late development, they may be multilayered. **DCs for Forests: Aspen Landscape Scale:** Areas of aspen occur and shift across the forested landscape. They are successfully regenerating and being recruited into older and larger size classes. Size classes have a natural distribution, with the greatest number of stems in the smaller size classes. **OBJ for Forests: Aspen**: Aspen dominated and codominated acres within forested PNVTs, representing a range of age classes, are maintained on at least 50,000 acres during the planning period. **DC for Woodlands: MPO Landscape Scale:** •A mix of desired species[10], ages, heights, and groupings of trees create a mosaic across the landscape. **DC for Woodlands: MPO Mid-scale:** •Some large patches in the Madrean pine-oak woodland are closed canopy, have multiple age classes, large trees, and old growth-like characteristics (e.g., numerous snags, large coarse woody debris) in order to provide for wildlife such as Mexican spotted owl and black bear, that need denser habitat. •The size and number of groups and patches vary depending on disturbance, elevation, soil type, aspect, and site productivity. Patch sizes vary but are mostly tens of acres, with rare disturbances of hundreds of acres. There may be frequent small disturbances resulting in groups and patches of tens of acres or less. A mosaic of groups and patches of trees, primarily even-aged, that are variable in size, species composition, and age, is	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		present. **DC for Woodlands: PJ – Savanna Landscape Scale:** •Old growth occurs in isolated locations scattered throughout the landscape, as individual old trees or as clumps of old trees. Other old growth components may also be present including dead trees (snags), downed wood (coarse woody debris), and/or structural diversity. **DC for Woodlands: PJ - Persistent Woodland Landscape Scale:** •A mix of desired species[10], ages, heights, and groupings of trees create a mosaic across the landscape. •Tree canopy cover is closed (greater than 30 percent), shrubs are sparse to moderate, and herbaceous cover is patchy. •Old growth includes old trees, dead trees (snags), downed wood (coarse woody debris), and/or structural diversity. The location of old growth shifts on the landscape over time as a result of succession and disturbance (tree growth and mortality). **DCs for Interior Chaparral:** •In the early seral state, chaparral contains an herbaceous component in the understory. Later seral states are dense, nearly impenetrable thickets with considerable leaf litter. Standing dead material may accumulate in areas that have not burned for several decades. Chaparral is in a constant state of transition from early to late seral state and back again, with fire being the major ecological disturbance. **Chapter 5. Monitoring Strategy Table 12. questions:** -Are management activities moving vegetation communities and habitats closer to the desired condition identified at the appropriate scales? -How are management activities affecting late successional forest structure in relation to desired conditions?	
Vegetation	**MA1 Wildlife & Fish Habitat Improvement Guideline**: Old Growth Use quantitative models at the appropriate scales when considering the importance of various factors. These models may include, but are not limited	Direction not carried forward into revised plan.	Prescriptive: Project specialists determine scale(s) of analyses and what modeling methods and analytical procedures are most appropriate for the level(s) of project and resource analyses.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	to: Forest Vegetation Simulator, BEHAVE, and FARSITE. **Page 99**.		
Vegetation	**MA #1 - Old Growth Standards & Guidelines, pgs. 97-99:** **-**Forested sites should meet or exceed the structural attributes to be considered old growth in the 5 primary forest cover types in the southwest as depicted in the following table. The Minimum Criteria for the Structural Attributes Used to Determine Old-Growth = **TABLE on existing plan pg. 99 (for PJ woodland, PP, Aspen, MC and SF forest types).**	**REPLACED with:** **DC for All PNVTs Landscape scale:** •Old or large trees, multistoried canopies, large coarse woody debris, and snags provide the structure, function, and associated vegetation composition as appropriate for each forested and woodland PNVT. **DCs for Forests: PP Landscape Scale:** •The ponderosa pine forest is composed predominantly of vigorous trees, but declining, top-killed, lightning-scarred, and fire-scarred trees provide snags and coarse woody debris. Snags and coarse woody debris are well distributed throughout the landscape. Ponderosa pine snags are typically 18 inches or greater in diameter and average 1 to 2 per acre. •Coarse woody debris, including logs, ranges from 3 to 10 tons per acre. Logs average 3 per acre within the forested area of the landscape. **DCs for Forests: DMC Landscape Scale:** •The dry mixed conifer forest is composed predominantly of vigorous trees, but declining, top-killed, lightning-scarred, and fire-scarred trees provide snags and coarse woody debris. Snags and coarse woody debris are well distributed throughout the landscape. Snags are typically 18 inches in diameter or greater and average 3 per acre. •Coarse woody debris, including logs, ranges from 5 to 15 tons per acre. Logs average 3 per acre within the forested area of the landscape. **DCs for Forests: WMC Landscape Scale:** •The wet mixed conifer forest is composed predominantly of vigorous trees, but declining, top-killed, lightning-scarred, and fire-scarred trees provide snags and coarse woody debris. Snags and coarse woody debris are well distributed throughout the landscape. The number of snags and logs and amount of coarse woody debris varies by seral state ranging from 8 to more than 16 tons per acre. **DCs for Forests: WMC Mid-Scale:** •There are 20 or more snags greater than 8	Table in existing plan was unclear if criteria constituted STs or GDs. Some table criteria were left unclear as "not determined". Prescriptive and outdated table criteria not consistent with best available recent science. See revised plan Glossary for three definitions and Appendix B for description of southwestern old growth. Project specialists determine best methods to analyze and implement at the project level. Will be monitored through relevant plan monitoring strategy questions.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		inches in diameter per acre and 1 to 5 of those snags are 18 inches or greater in diameter. •Coarse woody debris, including logs, varies by seral state, ranging from 5 to 20 tons per acre for early-seral states; 20 to 40 tons per acre for mid-seral states; and may be as high as 35 tons per acre, or greater, for late-seral states. These conditions also provide an abundance of fungi including mushrooms and truffles used by small mammals. **DCs for Forests: SF Landscape Scale:** •The spruce-fir forest is composed predominantly of vigorous trees, but declining top-killed, lightning-scarred, and fire-scarred trees provide snags and coarse woody debris. Snags and coarse woody debris are well distributed throughout the landscape. **DCs for Forests: SF Mid-Scale:** •In general, there are 13 to 30 snags greater than 8 inches in diameter per acre and 1 to 3 of those snags are 18 inches or greater in diameter. •Coarse woody debris, including logs, varies by seral state, ranging from 5 to 30 tons per acre for early-seral states; 30 to 40 tons per acre for mid-seral states; and 40 tons per acre or greater for late-seral states. These conditions also provide an abundance of fungi including mushrooms and truffles used by small mammals. **DC for Woodlands: MPO Landscape scale:** Snags, averaging 1 to 2 per acre, and older trees are scattered across the landscape. Coarse woody debris averages 1 to 5 tons per acre. **DC for Woodlands: Piñon-Juniper – Savanna Landscape Scale:** Old growth occurs in isolated locations scattered throughout the landscape, as individual old trees or as clumps of old trees. Other old growth components may also be present including dead trees (snags), downed wood (coarse woody debris), and/or structural diversity. **DCs for Woodlands: PJ - Persistent Woodland Landscape Scale:** Snags, averaging one to two per acre, and older trees with dead limbs and tops are	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		scattered across the landscape. Coarse woody debris averages 2 to 5 tons per acre. **Chapter 5. Monitoring Strategy Table 12. questions:** -Are PNVTs and habitat needs being provided for and contributing to desired conditions? -How are management activities affecting late successional forest structure in relation to desired conditions? -Are the standards and guidelines prescribed being incorporated in NEPA documents and implemented in projects and activities? **ALSO SEE revised plan content presented in this crosswalk table for existing plan - Old Growth Standards.**	
Vegetation	**MA1 Wildlife & Fish Habitat Improvement Guideline**: In forested areas of a diversity unit, create or modify created openings so they have a Patton edge shape index of at least 1.4 and have at least a medium edge contrast. **Page 101**.	**GDs for PP and DMC Forests**: Where consistent with project or activity objectives, canopy cover should be retained on the south and southwest sides of small, existing forest openings that are naturally cooler and moister. These small (generally one-tenth to one-quarter acre) shaded openings provide habitat conditions needed by small mammals, plants, and insects (e.g., Merriam's shrew, Mogollon clover, four-spotted skipperling butterfly). Where these openings naturally occur across a project area, these conditions should be maintained on an average of 2 or more such openings per 100 acres. **Mid-Scale DCs for WMC and SF Forests**: The size and number of groups and patches vary depending on disturbance, elevation, soil type, aspect, and site productivity. Patch sizes vary but are frequently hundreds of acres and rarely thousands of acres. Groups of tens of acres or less are relatively common. There is a mosaic of primarily even-aged groups and patches, which vary in size, species composition, and age. Grass, forb, and shrub openings created by disturbances may	The term "**openings**" is included in the Glossary of Terms.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		comprise 10 to 100 percent of the area depending on the type of disturbance. **Fine Scale DCs for WMC and SF Forests**: Small openings are present as a result of disturbances (e.g., wind, disease). **Mid-Scale DC for MPO**: The size and number of groups and patches vary depending on disturbance, elevation, soil type, aspect, and site productivity. Patch sizes vary but are mostly tens of acres, with rare disturbances of hundreds of acres. There may be frequent small disturbances resulting in groups and patches of tens of acres or less. A mosaic of groups and patches of trees, primarily even-aged, that are variable in size, species composition, and age, is present. Grass, forb, and shrub openings created by disturbance may comprise 10 to 100 percent of the area depending on the disturbances. Included in the **Glossary of Terms:** Openings – Generally persistent treeless areas having a fairly distinct shape or size, occurring naturally due to differences in soil types as compared to sites that support forests or woodlands. Openings include meadows, grasslands, rock outcroppings, and wetlands. In contrast, created openings result from disturbances like severe fire or windthrow, or management activities to intentionally create space for new tree regeneration. Natural and created openings are not the same as interspaces found in the frequent-fire forests or woodlands.	
Vegetation	**MA1 Wildlife & Fish Habitat Improvement Guideline**: Manage to provide a variety of stand sizes, shapes, crown closure, edge contrast, age structure, and interspersion. **Page 101**.	**Landscape Scale DC for Overall Ecosystem Health**: Large blocks of habitat are interconnected, allowing for behavioral and predator-prey interactions, and the persistence of metapopulations and highly interactive wildlife species across the landscape. Ecological connectivity extends through all plant communities. **Landscape Scale DC for Overall Ecosystem Health**: Habitat configuration and availability allows wildlife populations to adjust their movements (e.g., seasonal	The intent of this guideline has been carried forward into revised LMP in numerous places because it encompasses more than wildlife and fish habitat.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		migration, foraging) in response to climate change and promote genetic flow between wildlife populations. **Landscape Scale DC for All PNVTs**: Diverse vegetation structure, species composition, densities, and seral states provide quality habitat for native and desirable nonnative plant and animal species throughout their life cycle and at multiple spatial scales. Landscapes provide for the full range of ecosystem diversity at multiple scales, including habitats for those species associated with late seral states and old growth. **Mid-Scale DC for all PNVTs**: Vegetation conditions provide hiding and thermal cover in contiguous blocks for wildlife. Native plant species are present in all age classes and are healthy, reproducing, and persisting. **Fine Scale DC for all PNVTs**: Herbaceous vegetation amount and structure (e.g., plant density, height, litter, seed heads) provides habitat to support wildlife and prey species. **Mid-Scale DC for Riparian Areas**: Diversity and density of riparian forest vegetation provides for breeding, escape, hiding, and resting cover for wildlife and provides travelways between other habitat areas and seasonal ranges. **GDs for all Forested and Woodland PNVTs**: Hiding cover, approach cover (by waters), and travel corridor cover should be provided where needed by wildlife. **Mid-Scale DC for MPO**: Some large patches in the Madrean pine-oak woodland are closed canopy, have multiple age classes, large trees, and old growth-like characteristics (e.g., numerous snags, large coarse woody debris) in order to provide for wildlife such as Mexican spotted owl and black bear, that need denser habitat. **OBJ for Wildlife and Rare Plants**: Annually, improve wildlife habitat connectivity by removing at least five unneeded structures (e.g., fence).	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		MA for Wildlife and Rare Plants: Large scale wildlife habitat restoration treatments benefit multiple species while small projects address the needs of localized species.	
Vegetation	**MA1 Wildlife & Fish Habitat Improvement Guideline**: Manage for interspersion of conifer groups when present. Limit conifer groups to 1 acre groups per 10 acres of aspen. **Page 101**.	**Landscape Scale DC for Aspen**: Areas of aspen occur and shift across the forested landscape. They are successfully regenerating and being recruited into older and larger size classes. Size classes have a natural distribution, with the greatest number of stems in the smaller size classes. **Mid-Scale DC for Aspen**: Aspen may comprise 10 to 100 percent of the area depending on disturbance (e.g., fire, insects, silvicultural treatments) in multistoried patches.	The intent of this guideline has been carried forward into revised LMP.
Vegetation	**MA1 Wildlife & Fish Habitat Improvement Guideline**: Where there has been manipulation to induce aspen regeneration, manage livestock to protect regeneration. **Page 101**.	**GD for Aspen**: To preclude concentrated herbivore impacts, new surface water development should not be constructed within proximity to aspen stands (approximately a quarter of a mile). **MA for Aspen**: Aspen restoration efforts may include providing/improving substitute forage away from aspen, removing conifer competition, fencing to exclude ungulates, and range management practices (e.g., salt locations; herding; timing, intensity, frequency, and duration of livestock use)	The intent of this guideline has been carried forward into revised LMP.
Vegetation	**MA1 Wildlife & Fish Habitat Improvement Guideline**: Meadows are natural openings greater than 1 acre. Each meadow greater than 1 acre will be managed toward or maintained with at least 40% of the perimeter in timber stands that provide cover. **Page 102**.	**GD for PP and DMC Forests**: Where consistent with project or activity objectives, canopy cover should be retained on the south and southwest sides of small, existing forest openings that are naturally cooler and moister. These small (generally one-tenth to one-quarter acre) shaded openings provide habitat conditions needed by small mammals, plants, and insects (e.g., Merriam's shrew, Mogollon clover, four-spotted skipperling butterfly). Where these openings naturally occur across a project area, these conditions should be maintained on an average of 2 or more such openings per 100 acres.	Meadows are now referred to as "**openings**" in the revised LMP and no size limitations are given.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		Mid-Scale DC for WMC and SF Forests: The size and number of groups and patches vary depending on disturbance, elevation, soil type, aspect, and site productivity. Patch sizes vary but are frequently hundreds of acres and rarely thousands of acres. Groups of tens of acres or less are relatively common. There is a mosaic of primarily even-aged groups and patches, which vary in size, species composition, and age. Grass, forb, and shrub openings created by disturbances may comprise 10 to 100 percent of the area depending on the type of disturbance. **Mid-Scale DC for SF**: The wildland-urban interface (WUI) is comprised primarily of grass/forb/shrub vegetation. Structures in the WUI are surrounded by grassy openings with very few or no trees. These conditions result in ground fires. **Fine Scale DC for SF**: Small openings are present as a result of localized disturbances (e.g., wind, disease). **Mid-Scale DC for MPO**: The size and number of groups and patches vary depending on disturbance, elevation, soil type, aspect, and site productivity. Patch sizes vary but are mostly tens of acres, with rare disturbances of hundreds of acres. There may be frequent small disturbances resulting in groups and patches of tens of acres or less. A mosaic of groups and patches of trees, primarily even-aged, that are variable in size, species composition, and age, is present. Grass, forb, and shrub openings created by disturbance may comprise 10 to 100 percent of the area depending on the disturbances.	
Vegetation	**MA1 Wildlife & Fish Habitat Improvement Guideline**: Evaluation of existing and potential cover considers open road densities, topography, and tree, shrub, and herbaceous species to determine effective cover. The presence of species, such as Gambel oak, New Mexico locust, juniper, aspen, and	**GD for all Woodland PNVTs**: Hiding cover, approach cover (by waters), and travel corridor cover should be provided where needed by wildlife. **Landscape Scale DC for MPO**: The majority of this woodland has an open canopy consisting of large trees and an herbaceous understory, with some groups of closed canopy. Overall, canopy cover is 10 to 50	Cover and BA/GSL are not discussed in the same context within the revised plan compared to the 1987 plan, however, there are numerous GD and DCs that deal with cover and BA in the revised plan

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	bigtooth maple, or topographic features, will require less BA/GSL to meet cover requirements. **Page 102**.	percent. **Landscape Scale DC for MPO**: Ground cover consists of perennial grasses and forbs that frequently carry fire through the landscape. **Landscape Scale DCs for MPO and PJ Woodlands**: Grasses, forbs, shrubs, needles, leaves, and small trees support the natural fire regime. The larger proportion (60 percent or greater) of soil cover is composed of grasses and forbs as opposed to needles and leaves. **Landscape Scale DC for PJ Savanna Woodland**: The piñon-juniper savanna is open in appearance with trees occurring as individuals or in small groups and ranging from young to old. Overall, tree canopy cover is 10 to 15 percent, but may range up to 30 percent. **Landscape Scale DC for PJ Persistent Woodland**: Tree canopy cover is closed (greater than 30 percent), shrubs are sparse to moderate, and herbaceous cover is patchy. **Mid-Scale DC for PJ Persistent Woodland**: Grass and forb cover is maximized, based on site capability, to protect and enrich soils. **Fine Scale DC for Grasslands**: During the critical pronghorn antelope fawning period (May through June), cool season grasses and forbs provide nutritional forage; while shrubs and standing grass growth from the previous year provide adequate hiding cover (10 to 18 inches) to protect fawns from predation. **DC for IC**: Ground cover consists primarily (85 to 95 percent) of shrub litter (e.g., small stems, leaves). **GD for Wildlife and Rare Plants**: Cool and/or dense vegetation cover should be provided for species needing these habitat components (e.g., Goodding's onion, black bear, White Mountains chipmunk, western yellow-billed cuckoo). **GD for Livestock Grazing**: Forage, browse, and cover needs of wildlife, authorized livestock, and wild horses	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		should be managed in balance with available forage so that plants providing for these needs remain at or move toward a healthy, persistent state. **DC for Wildland Fire Management**: For all PNVTs, the composition, cover, structure, and mosaic of vegetative conditions reduce uncharacteristic wildfire hazard to local communities and forest ecosystems. **DC for Wildlife Quiet Area**: Bear Springs and Cottonwood Seep WQAs provide quality travel, hiding, and thermal cover along the Mogollon Rim (Black Mesa and Lakeside Ranger Districts) for a wide variety of species ranging from turkeys to mountain lions. The WQAs provide an abundance of browse species important for deer and elk. **GD for Wildlife Quiet Area**: Hiding cover and travelways for wildlife should be maintained to provide for security and connectivity of habitat. **Landscape Scale DC for PP**: Where it naturally occurs, Gambel oak is present with all age classes represented. It is reproducing to maintain or expand its presence on capable sites across the landscape. Large Gambel oak snags are typically 10 inches or larger in diameter and are well distributed. **Fine Scale DC for PP and DMC Forests**: Where Gambel oak occurs, the majority are single trunk trees over 8 inches in diameter with full crowns. **GD for PP and DMC Forests**: Where Gambel oak or other native hardwood trees and shrubs are desirable to retain for diversity, treatments should improve vigor and growth of these species. **Landscape Scale DC for DMC**: The forest arrangement consists of small clumps and groups of trees with variably-sized interspaces of grass, forb, and shrub vegetation associations similar to reference conditions. Size, shape, number of trees per group, and number of groups per area are variable across the landscape.	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		Where they naturally occur, groups of Gambel oak are healthy and maintained or increased. Tree density may be greater in some locations, such as north-facing slopes and canyon bottoms. **Mid-Scale DC for PP, DMC, WMC and SF Forests**: Northern goshawk post-fledging family areas (PFAs) may contain 10 to 20 percent higher basal area in mid-aged to old tree groups than northern goshawk foraging areas and the surrounding forest. **Mid-Scale DC for PP**: Ponderosa pine forest is characterized by variation in the size and number of tree groups depending on elevation, soil type, aspect, and site productivity. The more biologically productive sites contain more trees per group and more groups per area, resulting in less space between groups. Interspaces typically range from 10 percent in more biologically productive sites to 70 percent in the less productive sites. Tree density within forested areas ranges from 20 to 80 square feet basal area per acre. **Mid-Scale DC for DMC**: The dry mixed conifer forest is characterized by a variety of size and number of tree groups depending on elevation, soil type, aspect, and site productivity. The more biologically productive sites contain more trees per group and more groups per area, resulting in less space between groups. Interspaces typically range from 10 percent in more biologically productive sites to 50 percent in less productive sites. Tree density within forested areas ranges from 30 to 100 square feet basal area per acre. **GD for Community-Forest Intermix**: Due to the greater values to be protected (e.g., homes, property), tree basal areas should be at the lower end of the desired range and openings should occur at the higher end of the desired range (as described in the applicable PNVT desired conditions).	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Vegetation	**MA #1, pgs. 100-102:** The following table lists basal area (BA) and growing stock levels (GSL) which experience has shown fully meet hiding and thermal cover requirements in even age ponderosa pine and mixed conifer when there are no cover effects from topographic features or other species. The presence of more than 1 size class may reduce the amount of BA/GSL required to provide effective cover. Before determining that cover must be obtained by managing stands in suitable lands for these BA/GSL's, conduct field examinations to evaluate cover distribution needs and to determine whether other factors contributing to effective cover are present.	**Table deleted. Replaced with:** **DC for All PNVTs –** Vegetation conditions provide hiding and thermal cover in contiguous blocks for wildlife. Native plant species are present in all age classes and are healthy, reproducing, and persisting. **GD for All PNVTs -**Projects should include quantitative and/or qualitative objectives for implementation monitoring and effectiveness monitoring to assist in moving toward or maintaining desired conditions. **DC for Riparian Areas -** Diversity and density of riparian forest vegetation provides for breeding, escape, hiding, and resting cover for wildlife and provides travelways between other habitat areas and seasonal ranges. **GD for Forests: All Forested PNVTs -** Hiding cover, approach cover (by waters), and travel corridor cover should be provided where needed by wildlife. **GD for Woodlands: All Woodland PNVTs -**Hiding cover, approach cover (by waters), and travel corridor cover should be provided where needed by wildlife. **DC for Grasslands Fine scale -** During the critical pronghorn antelope fawning period (May through June), cool season grasses and forbs provide nutritional forage; while shrubs and standing grass growth from the previous year provide adequate hiding cover (10 to 18 inches) to protect fawns from predation. **DC for Wildlife and Rare Plants –** Wildlife are free from harassment and disturbance at a scale that impacts vital functions (e.g., breeding, rearing young) that could affect persistence of the species. **GD for Wildlife and Rare Plants –** Modifications, mitigations, or other measures should be incorporated to reduce negative impacts to plants, animals, and their habitats and to help provide for species needs, consistent with project or activity objectives. **GD for Wildlife and Rare Plants –** Cool and/or dense vegetation cover should be provided for species needing	Unclear if the existing plan table is a ST or GD. Pertains to deer and elk cover, as defined on pg. 100 of existing plan. Growing stock level is no longer used as a measure of forest or timber stand density. Majority of pine and mixed conifer are now to be managed as uneven-aged. Too prescriptive for a strategic forest plan, with detailed cover criteria for large ungulate habitat. Revised plan strives to provide programmatic direction for cover needs of all wildlife species. By restoring PNVTs toward revised plan DCs, habitat conditions are expected to be similar to the forest and woodland structures that provided adequate cover for these species to become established with stable populations. Project specialists are to determine adequate density and structure of vegetation combined with topographic features on a site-specific basis using latest science and local data. Management approach is to provide a diversity of habitats, well distributed, with ecological conditions that support native and desired nonnative animal species over the long term. The forests also provide for wildlife and their needs consistent with recovery plans, biological opinions,

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		these habitat components (e.g., Goodding's onion, black bear, White Mountains chipmunk, western yellow-billed cuckoo). **GD for Wildlife Quiet Area -** Hiding cover and travelways for wildlife should be maintained to provide for security and connectivity of habitat. **GD for Wildlife Quiet Area -** Bear Springs and Cottonwood Seep WQAs provide quality travel, hiding, and thermal cover along the Mogollon Rim (Black Mesa and Lakeside Ranger Districts) for a wide variety of species ranging from turkeys to mountain lions. The WQAs provide an abundance of browse species important for deer and elk. **Chapter 5. Monitoring Strategy -** Are habitats for threatened, endangered, sensitive, and other species for the forests being maintained or enhanced; meeting recovery objectives; moving toward desired conditions; and contributing to species viability? **Chapter 5. Monitoring Strategy** -Are PNVTs and habitat needs being provided for and contributing to desired conditions?	conservation strategies, conservation assessments, management plans, memorandums of understanding (MOUs), and Forest Service direction. The forests work collaboratively with the AZGFD to plan and implement projects that make progress toward the forests' desired conditions and help achieve conservation actions specified in the Arizona State Wildlife Action Plan. Large scale wildlife habitat restoration treatments benefit multiple species while small projects address the needs of localized species.
Vegetation	3. Gambel oak is important for cover, and patches of oak near nesting areas are an important consideration when selecting areas for retaining slash. Other species such as New Mexico locust and current also can provide cover. Oak stands in the nesting areas should be evaluated for opportunities to manage for cover.	**DC Overall Ecosystem Health**: Ecological conditions for habitat quality, distribution, and abundance contribute to self-sustaining populations of native and desirable nonnative plants and animals that are healthy, well distributed, connected, and genetically diverse. Conditions provide for the life history, distribution, and natural population fluctuations of the species within the capability of the landscape. **DC Overall Ecosystem Health:** Habitat quality, distribution, and abundance exist to support the recovery of federally listed species and the continued existence of all native and desirable nonnative species.	The 1987 Plan direction was modified to ensure that Gambel oak (and other species) were recognized as an integral component of the landscape and of a functional forested system where it occurs naturally. The cover and tree species needs were made broader to ensure that the needs of more species than turkey were addressed.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		DC All PNVTs: Diverse vegetation structure, species composition, densities, and seral states provide quality habitat for native and desirable nonnative plant and animal species throughout their life cycle and at multiple spatial scales. Landscapes provide for the full range of ecosystem diversity at multiple scales, including habitats for those species associated with late seral states and old growth forests. Vegetation conditions allow for transition zones or ecotones between riparian areas, forests, woodlands, shrublands, and grasslands. Transition zones may shift in time and space due to changing site conditions from disturbances (e.g., fire, climate variability). Vegetation conditions provide hiding and thermal cover in contiguous blocks for wildlife. Native plant species are present in all age classes and are healthy, reproducing, and persisting. Herbaceous vegetation amount and structure (e.g., plant density, height, litter, seed heads) provides habitat to support wildlife and prey species. **OBJ All Forested PNVTs:** Annually, treat 5,000 to 35,000 acres to reduce tree densities, restore natural fire regimes, promote species habitat and ecosystem health, reduce fire hazard, maintain desired conditions, initiate recovery from uncharacteristic disturbance, and provide forest products, leaving a desired mix of species with the range	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		of desired densities that are resilient to changing climatic conditions. **GD All Forested PNVTs:** Hiding cover, approach cover (by waters), and travel corridor cover should be provided where needed by wildlife. **DC Ponderosa Pine:** Where it naturally occurs, Gambel oak is present with all age classes represented. It is reproducing to maintain or expand its presence on capable sites across the landscape. Large Gambel oak snags are typically 10 inches or larger in diameter and are well distributed. Where Gambel oak occurs, the majority are single trunk trees over 8 inches in diameter with full crowns. **GD Ponderosa Pine:** Where Gambel oak or other native hardwood trees and shrubs are desirable to retain for diversity, treatments should improve vigor and growth of these species. **DC Dry Mixed Conifer:** The forest arrangement consists of small clumps and groups of trees interspersed within variably-sized openings of grass, forb, and shrub vegetation associations similar to reference conditions. Size, shape, number of trees per group, and number of groups per area are variable across the landscape. Where they naturally occur, groups of Gambel oak are healthy and maintained or increased. Tree density may be greater in some locations, such as north-facing slopes and canyon bottoms.	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		Where Gambel oak occurs, the majority are single trunk trees over 8 inches in diameter with full crowns. **GD Dry Mixed Conifer:** Where Gambel oak or other native hardwood trees and shrubs are desirable to retain for diversity, treatments should improve vigor and growth of these species.	
Vegetation	**MA1 Range O&M Guideline**: Where open meadows and parks in the pine/mixed conifer type are to be maintained, eliminate invading overstory vegetation, stabilize gullies to raise the water table, scarify the soil, and seed with appropriate grass and forage species. Control grazing though management and/or fencing to establish the revegetation. **Page 106**.	**Management Approach for Overall Ecosystem Health**: Treatments include those that restore and then maintain natural fire regimes, improve riparian condition, restore meadows or openings, repair gullies, and reduce erosion. **Mid-Scale DC for Soil**: Soils are stable within their natural capability4. Vegetation and litter limit accelerated erosion (e.g., rills, gullies, root exposure, topsoil loss) and contribute to soil deposition and development. **Management Approach for Soil:** Restoration treatments may include seeding, mulching, stabilization of gullies, or obliteration of unauthorized routes. **OBJ for Riparian Areas**: Within the planning period, relocate, repair, improve, or decommission a minimum of 4 miles of National Forest System roads or trails that add sediment to streams, damage riparian vegetation, erode streambanks, cause gullies, and/or compact floodplain soils. **OBJ for Riparian Areas**: Annually, remove an average of 2 miles of unauthorized roads or trails that add sediment to streams, damage riparian vegetation, erode streambanks, cause gullies, and/or compact floodplain soils. **Management Approach for All Woodland PNVTs**: Treatment methods may include wildland fire, mechanized and hand thinning, leaving woody debris scattered across the ground, soil erosion control,	The intent of this Range O&M Guideline has been carried forward into the revised LMP in numerous places.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		stabilizing gullies to restore water tables, planting grass, and chemical treatments. The majority of treatments are focused in the Madrean pine-oak woodlands (primarily burning) with some treatments occurring in piñon-juniper. **Management Approach for Grasslands**: Management Approaches for Grasslands The management approach is to maintain and improve grasslands by eliminating competing conifers, leaving woody debris scattered across the ground, stabilizing gullies to restore water tables, and reseeding with native species. Treatments are located in restorable and treatable grasslands, primarily in the Great Basin and semi-desert grassland PNVTs. Obliteration and rehabilitation of unauthorized roads and trails may be needed. There is an emphasis to provide enough grass to reduce topsoil loss and allow fire to spread and resume its role in maintaining grasslands. Pronghorn antelope is a management indicator species (MIS) for grassland restoration. The treatment objective listed above would contribute to their viability. **Management Actions for Overall Ecosystem Health**: Restore watersheds through treatments to reestablish and then maintain natural fire regimes, improve riparian condition, restore meadows or openings, repair gullies, and reduce erosion. **Management Actions for Soil**: Restore areas by seeding, mulching, stabilization of gullies, and obliteration of unauthorized routes. **GD for RNA**: Management measures should be used (e.g., fencing) to protect unique features. **Possible Management Actions for Vegetation Management**: Work with the Arizona Game and Fish Department to address concerns about long term aspen reestablishment. Restore aspen by providing/improving substitute forage away from aspen, removing conifer competition, fencing to exclude ungulates, and range	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		management practices. **Possible Management Actions for Riparian Areas**: Improve riparian conditions by removing non-riparian species, planting or restoring native species, stabilizing or eliminating roads, encouraging beaver colonization, and constructing fencing. Treatments may include restoration of hardwood and cottonwood galleries, restoration of upland conditions by removing encroaching trees and/or reducing tree densities, and restoration of infrequent fire. **Management Actions for Riparian Areas**: Riparian conditions may be improved by such techniques as removing non-riparian species, planting or restoring native species, stabilizing or eliminating roads, encouraging beaver colonization, or constructing fencing. **Management Actions for Riparian Areas**: In high impact areas, partnerships may be formed to construct and maintain exclosure fencing. **Management Actions for Aspen**: Aspen restoration efforts may include providing/improving substitute forage away from aspen, removing conifer competition, fencing to exclude ungulates, and range management practices (e.g., salt locations; herding; timing, intensity, frequency, and duration of livestock use). **GD for Aspen**: To preclude concentrated herbivore impacts, new surface water development should not be constructed within proximity to aspen stands (approximately a quarter of a mile).	
Vegetation	**MA1 Non-Sale Reforestation Guideline**: In mixed conifer stands that contain aspen, encourage aspen regeneration as a minor stand component (less than 50% of total stocking) at the time of regeneration, through location of skid trails, landings, and temporary roads.	**Landscape Scale DC for Aspen**: Areas of aspen occur and shift across the forested landscape. They are successfully regenerating and being recruited into older and larger size classes. Size classes have a natural distribution, with the greatest number of stems in the smaller size classes. **Mid-Scale DC for Aspen**: Aspen may comprise 10 to 100 percent of the area depending on disturbance (e.g.,	The intent of this Non-Sale Reforestation Guideline has been carried forward into the revised LMP in numerous places.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	Page 106.	fire, insects, silvicultural treatments) in multistoried patches. **OBJ for Aspen**: Aspen dominated and codominated acres within forested PNVTs, representing a range of age classes, are maintained on at least 50,000 acres during the planning period. **GD for Aspen**: Restoration of aspen clones should occur where aspen is overmature or in decline to maintain a sustainable presence of this species at the landscape level. **GD for Aspen**: When managing for early seral states, competing conifers should be removed from aspen stands when needed to increase aspen longevity and increase diversity of aspen age classes. **GD for Aspen**: Aspen restoration and retention efforts should include measures to ensure viability of aspen on the landscape.	
Vegetation	**MA1 Timber Sale Guideline**: Maintain the existing total acreage of aspen stands on the Forest. This may be done by eliminating existing stands and creating new ones to replace them, maintaining existing stands, or a combination of both. **Page 108**.	**Landscape Scale DC for Aspen**: Areas of aspen occur and shift across the forested landscape. They are successfully regenerating and being recruited into older and larger size classes. Size classes have a natural distribution, with the greatest number of stems in the smaller size classes. **Mid-Scale DC for Aspen**: Aspen may comprise 10 to 100 percent of the area depending on disturbance (e.g., fire, insects, silvicultural treatments) in multistoried patches. **OBJ for Aspen**: Aspen dominated and codominated acres within forested PNVTs, representing a range of age classes, are maintained on at least 50,000 acres during the planning period. **GD for Aspen**: Restoration of aspen clones should occur where aspen is overmature or in decline to maintain a sustainable presence of this species at the landscape level. **GD for Aspen**: When managing for early seral states,	The intent of this Timber Sale Guideline has been carried forward into the revised LMP.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		competing conifers should be removed from aspen stands when needed to increase aspen longevity and increase diversity of aspen age classes. **GD for Aspen**: Aspen restoration and retention efforts should include measures to ensure viability of aspen on the landscape.	
Vegetation	**MA1 Timber Sale Guideline**: Manage aspen stands for a combination of timber, aesthetic and wildlife values. Aspen will be included in commercial timber sales to the extent needed to meet management objectives, including aspen regeneration. **Page 108**.	**Management Actions for Forest Products**: Timber production and tree cutting are used to help achieve vegetation desired conditions, as well as contribute to the local and regional economy. **Management Actions for Forest Products**: Tree cutting on lands not suitable for timber production may occur for such purposes as restoration, salvage, fuels management, insect and disease mitigation, protection or enhancement of biological diversity or wildlife habitat, research or administrative studies, or recreation consistent with other management direction. **Landscape Scale DC for Aspen**: Areas of aspen occur and shift across the forested landscape. They are successfully regenerating and being recruited into older and larger size classes. Size classes have a natural distribution, with the greatest number of stems in the smaller size classes. **Mid-Scale DC for Aspen**: Aspen may comprise 10 to 100 percent of the area depending on disturbance (e.g., fire, insects, silvicultural treatments) in multistoried patches. **OBJ for Aspen**: Aspen dominated and codominated acres within forested PNVTs, representing a range of age classes, are maintained on at least 50,000 acres during the planning period. **GD for Aspen**: Restoration of aspen clones should occur where aspen is overmature or in decline to maintain a sustainable presence of this species at the landscape level. **GD for Aspen**: When managing for early seral states,	The intent of the revised LMP is to guide management efforts in the restoration and/or maintenance of ecosystems by maintaining or moving towards DCs. Sustainable supplies of resources such as timber, recreation, and forage are byproducts of healthy, functioning ecosystems.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		competing conifers should be removed from aspen stands when needed to increase aspen longevity and increase diversity of aspen age classes. **GD for Aspen**: Aspen restoration and retention efforts should include measures to ensure viability of aspen on the landscape.	
Vegetation	**MA1 Timber Sale Guideline**: Clearcuts will be the preferred method of aspen regeneration. Conifers will be removed from regenerated aspen stands. **Page 108**.	**GD for Aspen**: Restoration of aspen clones should occur where aspen is overmature or in decline to maintain a sustainable presence of this species at the landscape level. **GD for Aspen**: When managing for early seral states, competing conifers should be removed from aspen stands when needed to increase aspen longevity and increase diversity of aspen age classes. **GD for Aspen**: Aspen restoration and retention efforts should include measures to ensure viability of aspen on the landscape.	The intent of this Timber Sale Guideline has been carried forward into the revised LMP.
Vegetation	**MA1 Timber Sale Guideline**: Natural regeneration with site preparation will be the only regeneration method for aspen. **Page 108**.	**ST for All Forested PNVTs**: On lands suitable for timber production, timber harvest and wildland fire intended to create openings for tree regeneration shall only be used when there is reasonable assurance of restocking within 5 years after final regeneration harvest. Restocking level is prescribed in a site-specific silviculture prescription for a project treatment unit and is determined to be adequate depending on the objectives and desired conditions for the plan area. In some instances, such as when lands are harvested or prescribed burned to create or maintain openings for firebreaks and vistas, it is appropriate not to restock. **GD for All PNVTs**: Wildland fires may be used to meet desired resource conditions, maintain or promote desired vegetation species, and enable natural fires to return to their historic role. **Management Actions for All Forested PNVTs**: The use of wildland fire to burn large areas is expected to be an important tool to manage some aspen and insect and	The intent of this Timber Sale Guideline has been expanded in the revised LMP to provide for more flexibility in the management of aspen.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		disease populations. Uneven-aged management techniques are used primarily, and some even-aged management is used especially when managing species such as aspen and spruce. **Management Actions for Aspen**: Where appropriate, aspen may be seeded, planted, or transplanted. Wildland fire, sometimes over large acreages, may be used for regeneration or maintenance of aspen. Management activities that kill or stress overstory trees (e.g., clearcutting, fire) may be used since they mimic natural disturbances and enhance aspen regeneration. **GD for Aspen**: Restoration of aspen clones should occur where aspen is overmature or in decline to maintain a sustainable presence of this species at the landscape level. **GD for Aspen**: When managing for early seral states, competing conifers should be removed from aspen stands when needed to increase aspen longevity and increase diversity of aspen age classes. **GD for Aspen**: Aspen restoration and retention efforts should include measures to ensure viability of aspen on the landscape. **GD for Landscape Scale Disturbance Events**: Where conifer seed sources are lost or poorly distributed and/or deciduous tree species are not adequately resprouting, artificial regeneration (e.g., planting, seeding) should be used to promote movement toward desired conditions, provided adequate site conditions exist.	
Vegetation	**MA1 Timber Sale Guideline**: The preferred site preparation method for aspen will be by prescribed broadcast burning. **Page 108**.	**Management Actions for All Forested PNVTs**: The use of wildland fire to burn large areas is expected to be an important tool to manage some aspen and insect and disease populations. Uneven-aged management techniques are used primarily, and some even-aged management is used especially when managing species such as aspen and spruce. **Management Actions for Aspen**: Where appropriate,	The intent of this Timber Sale Guideline has been expanded in the revised LMP to provide for more flexibility in the management of aspen.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		aspen may be seeded, planted, or transplanted. Wildland fire, sometimes over large acreages, may be used for regeneration or maintenance of aspen. Management activities that kill or stress overstory trees (e.g., clearcutting, fire) may be used since they mimic natural disturbances and enhance aspen regeneration. **Mid-Scale DC for Aspen**: As an early seral species, aspen reproduction and recruitment benefit from low severity surface fires in association with ponderosa pine and dry mixed conifer forested PNVTs, and mixed-severity fires in association with wet mixed conifer and spruce-fir forested PNVTs.	
Vegetation	**MA #1 STs and GDs, pg. 107:** Manage aspen stands under the even-aged system using the clearcut method. Aspen Regeneration TABLE.	**Table deleted**. **Replaced with:** **DCs for Forests: Aspen Landscape Scale:** •Areas of aspen occur and shift across the forested landscape. They are successfully regenerating and being recruited into older and larger size classes. Size classes have a natural distribution, with the greatest number of stems in the smaller size classes. **DCs for Forests: Aspen Mid-Scale:** •Aspen may comprise 10 to 100 percent of the area depending on disturbance (e.g., fire, insects, silvicultural treatments) in multistoried patches. •As an early seral species, aspen reproduction and recruitment benefit from low severity surface fires in association with ponderosa pine and dry mixed conifer forested PNVTs, and mixed-severity fires in association with wet mixed conifer and spruce-fir forested PNVTs. •Aspen may comprise 10 to 100 percent of the area depending on disturbance (e.g., fire, insects, silvicultural treatments) in multistoried patches. •As an early seral species, aspen reproduction and recruitment benefit from low severity surface fires in association with ponderosa pine and dry mixed conifer forested PNVTs, and mixed-severity fires in association with wet mixed conifer and spruce-fir forested PNVTs. **OBJ for Forests: Aspen:** •Aspen dominated and codominated acres within forested PNVTs, representing a range of age classes, are	Specific aspen regeneration acreages listed by ranger district in the existing plan's table are obsolete and too prescriptive for a programmatic forest plan. The revised plan directs maintaining a minimum of 50,000 aspen acres during the planning period, but provides flexibility for managers to decide where this OBJ is best met at the project level, which also may include restoration of younger age classes if needed. New science focuses on aspen *recruitment* which shows promise of reaching maturity, rather than on aspen *regeneration* which is too young or small to certify as established aspen that will reach maturity. New science also is showing that healthy aspen areas can develop into multiple-aged canopies (uneven-aged structure) when protected long-term from repeated ungulate browsing. Where appropriate, aspen may be seeded, planted, or transplanted. Wildland

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		maintained on at least 50,000 acres during the planning period. **GDs for Forests: Aspen:** •Restoration of aspen clones should occur where aspen is overmature or in decline to maintain a sustainable presence of this species at the landscape level. •Aspen restoration and retention efforts should include measures to ensure viability of aspen on the landscape.	fire, sometimes over large acreages, may be used for regeneration or maintenance of aspen. Even-aged management activities that kill or stress overstory trees (e.g., clearcutting, fire) may be used since they mimic natural disturbances and enhance aspen re-establishment.
Vegetation	**MA #1 STs & GDs, pg. 107:** Silvicultural prescriptions will emphasize uneven-age management where possible. Even-age management may be used in special circumstances as determined through the IRM process. Timber stands will generally be managed for timber production using uneven-aged systems. Shelterwood or clearcutting may be used for special purposes. **GDs for MSO Restricted Areas (MC and Pine- oak):** Emphasize uneven-aged management systems. However, both even-aged and uneven-aged systems may be used where appropriate to provide variation in existing stand structure and species diversity. Existing stand conditions will determine which system is appropriate.	**Modified and Replaced with:** **DCs for Overall Ecosystem Health Landscape Scale:** •Natural ecological cycles (i.e., hydrologic, energy, nutrient) facilitate shifting of plant communities, structure, and ages across the landscape. Ecotone shifts are influenced at both the landscape and watershed scale by ecological processes. The mosaic of plant communities and the variety within the communities are resilient to disturbances. **DCs for All PNVTs Landscape Scale:** •Each PNVT contains a mosaic of vegetative conditions, densities, and structures. This mosaic occurs at a variety of scales across landscapes and watersheds. The distribution of physical and biological conditions is appropriate to the natural disturbance regimes affecting the area. •Diverse vegetation structure, species composition, densities, and seral states provide quality habitat for native and desirable nonnative plant and animal species throughout their life cycle and at multiple spatial scales. Landscapes provide for the full range of ecosystem diversity at multiple scales, including habitats for those species associated with late seral states and old growth. **STs for Forests: All Forested PNVTs:** •Regulated timber harvest activities shall occur only on those lands classified as suitable for timber production. •On lands suitable for timber production, even-aged stands shall have reached or surpassed culmination of mean annual increment (95 percent of culmination of mean annual increment of growth, as measured by cubic volume) prior	MA #1 in the existing plan covers all forested lands outside of wilderness and other designations. For similar revised plan uneven-aged/ even-aged components for woodlands, see the MSO and NOGO items addressed elsewhere in this crosswalk, as well as those for old growth items. To meet revised plan's holistic DCs for diverse forest structure of multiple size classes and age classes, uneven-aged silviculture systems will be inherently required in most cases for frequent-fire forest/woodland PNVTs, except when responsible disease management, stand-replacement disturbance events, or insect outbreaks dictate otherwise, as directed in the revised plan. **Management Approach for all Forested PNVTs:** Uneven-aged management techniques are used primarily, and some even-aged management is used especially when managing species such as aspen and spruce

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		to regeneration harvest, unless the following conditions have been identified during project development: (1) when such harvesting would assist in reducing fire hazard within the wildland-urban interface, or (2) when harvesting of stands will trend landscapes toward vegetation desired conditions (e.g., uneven-aged structure). •Harvesting systems shall be selected based on their ability to meet desired conditions and not strictly on their ability to provide the greatest dollar return. •Clearcutting shall be used only where it is the optimum method for meeting desired conditions. •If individual harvest openings created by even-aged silvicultural practices are proposed that would exceed 40 acres, then National Forest Management Act (NFMA) direction regarding public notification and regional forester approval shall be followed. These requirements do not apply to the size of areas harvested because of natural catastrophic conditions such as, but not limited to, fire, insect and disease attacks, or windstorms. •On lands suitable for timber production, timber harvest activities shall only be used when there is reasonable assurance of restocking within 5 years after final regeneration harvest. This also applies where wildland fire is used to create openings for tree regeneration purposes on suitable timber lands. Restocking level is prescribed in a site specific silvicultural prescription for a project treatment unit and is determined to be adequate depending on the objectives and desired conditions for the plan area. In some instances, such as when lands are harvested or prescribed burned to create openings for firebreaks and vistas or to prevent encroaching trees, it is appropriate not to restock. **GDs for Forests: All Forested PNVTs** •On single species dominated sites, uneven-aged management may be used where less than 20 percent of the host tree species—or less than 25 percent of the area—is infected by dwarf mistletoe. Thinning and	(as is appropriate to these species' silvics). Even-aged treatments may also be applied in the short term for forest health concerns (e.g., heavy dwarf mistletoe infections) to facilitate a transition to uneven-aged management. **Management Approaches for Forest Products:** Timber production and tree cutting are used to help achieve vegetation desired conditions, as well as contribute to the local and regional economy. Uneven-aged silvicultural systems are emphasized and even-aged systems are used where appropriate. Tree cutting on lands not suitable for timber production may occur for such purposes as restoration, salvage, fuels management, insect and disease mitigation, protection or enhancement of biological diversity or wildlife habitat, research or administrative studies, or recreation consistent with other management direction. The concept of timber stands is retained in the revised plan, but is further modified to clarify that assemblages of uneven-aged tree groups at the fine to mid scales can comprise a stand. The IRM (Integrated Resource Management)

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		under-burning may be used to keep dwarf mistletoe levels from increasing. Even-aged management or deferral should be considered when greater than 20 percent of the host species, or 25 percent of the area, is infected with dwarf mistletoe. •On single species dominated sites, thinning should not be attempted where more than 80 percent of the host species—or 90 percent of the area—is infected with dwarf mistletoe. Regeneration and/or deferral may be used in these cases. However, in the Community-Forest Intermix Management Area additional treatment options may be used. •On mixed species dominated sites, even-aged management or deferral should be used instead of uneven-aged management where more than 50 percent of conifer trees (excluding white fir) are infected by dwarf mistletoe. •Where a seed cut treatment (even-aged method to promote natural seedling establishment) is applied for dwarf mistletoe control, it should be followed within 10 years of seedling establishment by a final removal treatment or other effective means to prevent further infection. **DC for Forests: PP Landscape Scale:** •The ponderosa pine forest is a mosaic of structural states ranging from young to old trees. Forest structure is variable but uneven-aged and open in appearance. Sporadic areas of even-aged structure may be present on 10 percent or less of the landscape to provide structural diversity. **DC for Forests: PP Mid-Scale:** •The tree group mosaic comprises an uneven-aged forest with all age classes, size classes, and structural stages present. Occasionally, patches of even-aged forest structure are present (less than 50 acres). Disturbances sustain the overall age and structural distribution. **DC for Forests: DMC Landscape Scale:** •The dry mixed conifer forest is a mosaic of conditions composed of structural states ranging from young to old trees. Forest structure and density are similar to ponderosa pine forest. Forest appearance is variable but uneven-aged and open. Sporadic areas of even-aged structure may be	process is obsolete terminology, but is still accomplished through the interdisciplinary NEPA process. Other terminology in the revised plan such as “multiple-stories” or “multiple canopy layers” also usually describes uneven-aged conditions, while “single-storied” can describe even-aged. See revised plan’s **Glossary** for definitions of “Even-aged” and “Uneven-aged”. Also see Desired Conditions for Use in Forest Planning in the Southwestern Region: Development and Science Basis (USDA, 2013).

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		present on 10 percent or less of the landscape to provide structural diversity. **DC for Forests: DMC Mid-Scale:** •The mosaic of tree groups is composed of uneven-aged forest. All age classes and structural stages are present. Occasionally, there are small patches (less than 50 acres) of even-aged forest present. Disturbances sustain the overall age and structural distribution. **DC for Forests: WMC Landscape Scale:** •The wet mixed conifer forest is a mosaic of structural stages and seral states ranging from young to old trees. The landscape arrangement is an assemblage of variably-sized and aged groups and patches of trees and other vegetation associations similar to reference conditions. **DC for Forests: WMC Mid-Scale:** •The size and number of groups and patches vary depending on disturbance, elevation, soil type, aspect, and site productivity. Patch sizes vary but are frequently hundreds of acres and rarely thousands of acres. Groups of tens of acres or less are relatively common. There is a mosaic of primarily even-aged groups and patches, which vary in size, species composition, and age. •Uneven-aged groups and patches, comprising about 20 percent of this PNVT, provide for species such as the black bear and red-faced warbler that need multistoried canopies with dense low- to mid-canopy layers. **DC for Forests: SF Mid- Scale:** •The size and number of groups and patches vary depending on disturbance, elevation, soil type, aspect, and site productivity. Patch sizes vary but are mostly hundreds of acres and rarely thousands of acres. There may be frequent small disturbances resulting in groups of tens of acres or less. A mosaic of primarily even-aged groups and patches, which vary in size, species composition, and age, is present. Grass, forb, and shrub openings created by disturbances may comprise 10 to 100 percent of the area depending on time since disturbances. Aspen is occasionally present in large	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		patches. •Uneven-aged groups and patches, comprising about 20 percent of this PNVT, provide for species such as the MacGillivray's warbler and Swainson's thrush that need multistoried canopies with dense low- to mid-canopy layers. **DC for Forests: Aspen - Landscape Scale -** •Areas of aspen occur and shift across the forested landscape. They are successfully regenerating and being recruited into older and larger size classes. Size classes have a natural distribution, with the greatest number of stems in the smaller size classes. **Plan Appendix B. Vegetation Conditions and Management Practices Table 14** displays silvicultural systems and management practices appropriate for meeting desired PNVT species composition, forest structure, and function.	
Vegetation	**Forest-wide STs & GDs + MA #1 STs & GDs, pgs. 68, 111, and 153:** Harvest of miscellaneous forest products, such as Christmas trees, posts, poles, etc., will be planned to meet integrated management goals.	**Replaced with:** **DC for All PNVTS Landscape Scale:** •Vegetation provides products—such as wood fiber or forage—to help meet local and regional needs in a manner that is consistent with other desired conditions on a sustainable basis within the capacity of the land. **OBJ for Forests: All Forested PNVTs:** •Annually, treat 5,000 to 35,000 acres to reduce tree densities, restore natural fire regimes, promote species habitat and ecosystem health, reduce fire hazard, maintain desired conditions, initiate recovery from uncharacteristic disturbance, and provide forest products, leaving a desired mix of species with the range of desired densities that are resilient to changing climatic conditions. **DCs for Forest Products:** •The Apache-Sitgreaves NFs provide a sustainable supply of forest products (e.g., small roundwood, sawlogs, biomass, firewood, cones, Christmas trees, wildlings) to businesses and individuals within the capability of the land. •The collection of live plants, mushrooms, and	Forest products include wood (timber, biomass, firewood) and special forest products. Special forest products include floral greenery, Christmas trees and boughs, mushrooms, wildlings (transplanted trees, shrubs, or herbaceous plants), cones, medicinal plants, cuttings, herbs, nuts, berries, and decorative wood. When cut on suitable timberlands, miscellaneous forest products like poles sold by permit are included in the total annual CCF wood volume objective in the revised plan. Wood products are viewed in the revised plan as a secondary benefit of treatments that are intended to restore the forests' ecological composition, structure, and function

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		other forest products does not impact species persistence onsite. **OBJ for Forest Products:** •Annually, prepare and offer up to an average of 122,000 CCF from suitable timberlands resulting from sustainable harvest to provide wood products to businesses and individuals. •Annually, provide up to 94,000 CCF (119,380 cords) of firewood for personal and commercial use. •Annually, provide an average of 5,000 permits for Christmas trees. **ST for Forest Products:** •Authorizations to cut, collect, or use forest products for any personal, commercial, or scientific purpose (i.e., permits, contracts, agreements) shall include provisions to ensure the needs of wildlife, which depend upon those forest products, will continue to be met (e.g., fungi and cone collection with respect to overwinter forage needs of squirrels). **GD for Forest Products:** •Permits issued for forest products should include stipulations to protect resources.	to a healthier, resilient condition. Timber production and tree cutting are used to help achieve vegetation desired conditions, as well as contribute to the local and regional economy. Tree cutting on lands not suitable for timber production may occur for such purposes as restoration, salvage, fuels management, insect and disease mitigation, protection or enhancement of biological diversity or wildlife habitat, research or administrative studies, or recreation consistent with other management direction. Other desired forest products, such as house logs, are available through permits or small sales. Areas may be identified for forest product removal (e.g., Christmas tree, firewood). Woody biomass not removed by project operations may be made available to meet public or industry needs. Plan direction and interdisciplinary input are used to develop additional project specific and/or resource specific conditions to be included in all forest product permits and contracts issued. A variety of partnerships and authorities are used for making forest products available to forest users (e.g., procurement contracts, stewardship contracts, forest products permits). The forests also use the Tribal Forest Protection Act to collaboratively work with adjacent

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
			tribal governments to carry out restoration projects. Tribes culturally affiliated with lands on the Apache-Sitgreaves NFs may gather trees, portions of trees, or forest products free of charge for noncommercial traditional and cultural purposes. The gathering of forest products or temporary closures of forest lands may occur for traditional and cultural purposes if requested by a tribe. These activities are authorized by USC Title 25 Indians, Chapter 32A Cultural and Heritage Cooperation Authority, Sections 3051-3057.
Vegetation	**MA #1 and MA #9, pgs. 112 & 153:** Forest Insect and Disease Management Reduce loss of timber production through the control of root rots. 1) In root rot centers, salvage dead and dying trees during scheduled harvests. 2) Remove susceptible trees within 1 to 2 chains of the border of the center. 3) Do not invest in the thinning or planting in an infection center.	**Replaced with:** **DC for Overall Ecosystem Health Landscape Scale:** •Ecological components (e.g., soil, vegetation, water) are resilient to disturbances including human activities and natural ecological disturbances (e.g., fire, drought, wind, insects, disease, pathogens). **DCs for All PNVTs** **Landscape Scale:** •The vegetative conditions and functions are resilient to the frequency, extent, and severity of disturbances (e.g., fire, insects and disease, flood, climate change, management activities). The landscape is a functioning ecosystem that contains all its components and processes. •Insect and disease populations are at endemic levels with occasional outbreaks. A variety of seral states usually restricts the scale of localized insect and disease outbreaks. **ST for All PNVTs:** •Vegetation treatments shall include measures to reduce the potential for introduction of invasive plants and animals and damage from nonnative insects and diseases. **GD for All PNVTs:** •Insect and disease infected trees should be removed to prevent spread beyond endemic levels. **GDs for Forests: All Forested PNVTs:** •Tree species	MA #9 was not carried forward in the revised plan, because is now included with wilderness. Science continues to evolve regarding detailed management prescriptions for root diseases, which thus have been deleted. Forest Pathologists provide the most current, best available science as treatment recommendations to Silviculturists at the project and activity level. The revised plan further defines *endemic* levels of native diseases and recognizes that in that status they perform a natural role in the ecosystem that may help meet some revised plan DCs. The PNVTs (see specific PNVTs and revised plan appendix B) are validated at the project or activity level for application of plan desired

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		that are less susceptible to root disease should be retained within areas of root disease infection to reduce spread of disease. **DC for Forests: WMC Fine-Scale and Spruce-Fir Fine Scale:** •Small openings are present as a result of disturbances (e.g., wind, disease). **GD for Woodlands: All Woodland PNVTs:** •Tree species that are less susceptible to root disease should be retained within areas of root disease infection to reduce spread of disease. **GD for Community-Forest Intermix:** •To reduce fire hazard and spread of insects and disease onto adjacent lands, slash should be treated (e.g., removal, pull back, relocation, burned) as soon as possible. **Chapter 5. Monitoring Strategy:** Are insect and disease populations within reference conditions? Are their population levels compatible with achieving vegetation desired conditions and management approaches? **Appendix A. Climate Change and Apache-Sitgreaves NFs Land Management Planning:** Numerous considerations listed for native and nonnative diseases and pathogens.	conditions. Timber production and tree cutting are used to help achieve vegetation desired conditions, as well as contribute to the local and regional economy. Tree cutting on lands not suitable for timber production may occur for such purposes as restoration, salvage, fuels management, insect and disease mitigation, protection or enhancement of biological diversity or wildlife habitat, research or administrative studies, or recreation consistent with other management direction. As treatments are planned, forest managers consider native species resiliency in order to avoid loss of genetic diversity, including the widespread elimination of a particular native woody species and/or certain genotypes/phenotypes of any species. Managers also consider the impacts of insects and disease. Appropriate cutting methods and/or fire are used to manage mistletoe and other insect and disease infestations. The use of wildland fire to burn large areas is expected to be an important tool to manage some aspen and insect and disease populations. Native tree and shrub planting follows plan guidelines for individual forested and woodland PNVTs. To ensure their persistence, there is a focus on reintroduction of fire, protection of

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
			tree regeneration, treatment of insects and disease, or adjustment of management actions as needed.
Vegetation	**MA #1 and MA #9, pgs.112 & 155:** Reduce loss of timber production to dwarf mistletoes through silvicultural controls. 1) No live trees will be left as potential snags if they are infected with dwarf mistletoe unless they are girdled or poisoned. 2) No live dwarf mistletoe infected overstory trees, including those used as seed sources will be left in areas with established regeneration	**Replaced with:** **DC for Overall Ecosystem Health Landscape Scale:** •Ecological components (e.g., soil, vegetation, water) are resilient to disturbances including human activities and natural ecological disturbances (e.g., fire, drought, wind, insects, disease, pathogens). **DCs for All PNVTs Landscape Scale:** •The vegetative conditions and functions are resilient to the frequency, extent, and severity of disturbances (e.g., fire, insects and disease, flood, climate change, management activities). The landscape is a functioning ecosystem that contains all its components and processes. •Insect and disease populations are at endemic levels with occasional outbreaks. A variety of seral states usually restricts the scale of localized insect and disease outbreaks. **ST for All PNVTs:** •Vegetation treatments shall include measures to reduce the potential for introduction of invasive plants and animals and damage from nonnative insects and diseases. **GD for All PNVTs:** •Insect and disease infected trees should be removed to prevent spread beyond endemic levels. **GDs for Forests: All Forested PNVTs:** •On single species dominated sites, uneven-aged management may be used where less than 20 percent of the host tree species—or less than 25 percent of the area—is infected by dwarf mistletoe. Thinning and under-burning may be used to keep dwarf mistletoe levels from increasing. Even-aged management or deferral should be considered when greater than 20 percent of the host species, or 25 percent of the area, is infected with dwarf mistletoe. •On single species dominated sites, thinning should not be attempted where more than 80 percent of the host species—or 90 percent of the area—is infected with dwarf mistletoe. Regeneration and/or deferral may be	MA #9 was not carried forward in the revised plan, because is now included with wilderness. Science has shown that dwarf mistletoe-diseased young trees (spread to them from other infected host trees above or near them) often do not live to reach maturity, and can be a forest or woodland sustainability issue, which is better addressed in the revised plan's direction using best, most recent science. Appropriate cutting methods, regeneration, and/or fire would be used to accomplish vegetation treatment objectives and to manage dwarf mistletoe and other insect and disease infestations. Possible vegetation management practices are identified in revised **Plan "Appendix B. Vegetation Management Practices."** From revised plan's **All Forested PNVTs Management Approach:** "Even-aged treatments may be applied in the short term for forest health concerns (e.g., heavy dwarf mistletoe infections) to facilitate a transition to uneven-aged management."

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		used in these cases. However, in the Community-Forest Intermix Management Area additional treatment options may be used. •On mixed species dominated sites, even-aged management or deferral should be used instead of uneven-aged management where more than 50 percent of conifer trees (excluding white fir) are infected by dwarf mistletoe. •When thinning dwarf mistletoe infected sites, as much mistletoe should be removed as possible without sacrificing the healthiest, most desirable trees for the particular site (in some situations, this may involve retaining some trees in the upper canopy that are lightly infected to meet multiple resource objectives). •Where a seed cut treatment (even-aged method to promote natural seedling establishment) is applied for dwarf mistletoe control, it should be followed within 10 years of seedling establishment by a final removal treatment or other effective means to prevent further infection. **GDs for Community-Forest Intermix:** •Where more than 80 percent of the host species or 90 percent of the area is infected with dwarf mistletoe (if regeneration or deferred treatment is not feasible), then thinning from below and/or prescribed fire should be used as needed for fire hazard reduction. •To reduce fire hazard and spread of insects and disease onto adjacent lands, slash should be treated (e.g., removal, pull back, relocation, burned) as soon as possible. **Chapter 5. Monitoring Strategy:** Are insect and disease populations within reference conditions? Are their population levels compatible with achieving vegetation desired conditions and management approaches? **Appendix A. Climate Change and Apache-Sitgreaves NFs Land Management Planning:** Numerous considerations listed for native and nonnative diseases and pathogens.	Also see Conklin and Fairweather, May 2010: Dwarf Mistletoes and their Management in the Southwest (especially Section 3a. - National Forest plans)
Vegetation	**MA #1 and MA #9: Bark Beetles, pgs. 112 & 155:** Reduce ponderosa pine stands' susceptibility to attack by IPS [sic]	**Replaced with:** **DC for Overall Ecosystem Health Landscape Scale:** •Ecological components (e.g., soil, vegetation, water) are resilient to disturbances including human activities and	Dozens more bark beetle species are now active across the ASNFs in addition to just the three listed in the existing plan. Prevention/control/

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	beetles. 1) Do not carry out slash creating activities on the same area for 2 or more consecutive years. 2) Maximize utilization of all trees cut during silvicultural treatments. 3) Treat slash in low elevation pine stands to make it unfavorable beetle habitat. 4) In precommercial thinning projects in low elevation pine, cut trees only during the period of July 1 through December 31.Reduce mixed conifer stands' susceptibility to attack by Douglas fir beetle. 1) Harvest over mature stands first consistent with other resource objectives. 2) Remove harvested logs within 1 year of felling. 3) Thin stands periodically to maintain vigor. Reduce susceptibility of Engelmann Spruce stands to Engelmann bark beetle. 1) Schedule over mature stands for harvest first, subject to other resource objectives. Remove defective, unsound, unhealthy trees during regeneration harvests. 2) Salvage wind-thrown trees as soon as possible. 3) Treat all green spruce slash over 6 inches DIB to make it unsuitable for bark beetle habitat.	natural ecological disturbances (e.g., fire, drought, wind, insects, disease, pathogens). **DCs for All PNVTs** **Landscape Scale:** •The vegetative conditions and functions are resilient to the frequency, extent, and severity of disturbances (e.g., fire, insects and disease, flood, climate change, management activities). The landscape is a functioning ecosystem that contains all its components and processes. •Insect and disease populations are at endemic levels with occasional outbreaks. A variety of seral states usually restricts the scale of localized insect and disease outbreaks. **ST for All PNVTs:** •Vegetation treatments shall include measures to reduce the potential for introduction of invasive plants and animals and damage from nonnative insects and diseases. **GD for All PNVTs:** •Insect and disease infected trees should be removed to prevent spread beyond endemic levels. •Green slash and decked logs should be managed, in a timely manner, to make them unfavorable bark beetle habitat. •Project implementation should include bark beetle monitoring within and adjacent to all active slash-creating projects to help prevent beetle outbreak. **GDs for Community-Forest Intermix:** •To reduce fire hazard and spread of insects and disease onto adjacent lands, slash should be treated (e.g., removal, pull back, relocation, burned) as soon as possible. **Chapter 5. Monitoring Strategy:** Are insect and disease populations within reference conditions? Are their population levels compatible with achieving vegetation desired conditions and management approaches? **Appendix A. Climate Change and Apache-Sitgreaves NFs Land Management Planning:** Numerous considerations listed for native and nonnative insects, including bark beetles.	management recommendations for each beetle species and host tree species are much too detailed to include in a programmatic forest plan. Site specific beetle population levels (endemic versus epidemic) are best addressed with actions at the project-level, as advised by forest Entomologists, which can vary from one year to the next. Only general beetle direction is included in the revised plan, with the caveat that all projects and actions should move the area toward plan DCs for forest and woodland sustainability and restored natural role of beetles in the ecosystem. Revised plan **Management Approach for All PNVTs:** Managers consider the impacts of insects and disease. Appropriate cutting methods and/or fire are used to manage mistletoe and other insect and disease infestations. Large project areas (generally larger than 500 to 1,000 acres) creating green slash for 2 or more consecutive years are generally spaced over 2 miles apart from each other to help prevent bark beetle population buildup. To further reduce bark beetle occurrence, managers attempt to effectively treat slash within approximately 30 days of slash creation.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Vegetation	**MA #1 and MA #9, pgs. 112 & 155:** Reduce the amount of wood volume lost to stem decays. 1) Remove infected, unsound and defective trees at the first opportunity. 2) Strictly enforce all contractual provisions that will minimize wounding of residual trees during logging.	**Replaced with:** **GD for All PNVTs:** •During project design and implementation, precautions should be taken to reduce the potential for damage to residual vegetation in order to prevent premature or excessive mortality. **GD for Forests: All Forested PNVTs:** •Where a site-specific analysis indicates the need to reduce fire-kill of desired residual trees, fuel continuity and/or loading should be reduced before use of prescribed fire. **GD for Forests: Aspen:** •Aspen restoration and retention efforts should include measures to ensure viability of aspen on the landscape. **GD for Forest Products:** •Permits issued for forest products should include stipulations to protect resources.	Although stem decays in some conifer species can be a concern, this plan content was modified in the revised plan for Aspen in particular, because this species is most susceptible to stem decays as a result of bark/bole wounding by any form of physical damage, including logging equipment and prescribed fire. Once introduced, stem decays often cause mature tree mortality, and/or prevent younger trees from reaching maturity. Loss of wood volume has become less a concern than loss of desired conditions that trees provide (i.e. not sustainable). Plan direction and interdisciplinary input are used to develop additional project specific and/or resource specific conditions to be included in all forest product permits and contracts issued.
Vegetation	**Forest-wide STs & GDs + MA #1 STs & GDs, pgs. 86 and 113:** Road Maintenance and Management, Timber Sale Preparation and Administration Road densities should be planned to economically balance road costs and skidding costs. Permanent road densities should average 3.5 miles/square mile or less, unless topography dictates higher densities to economically remove the timber. Also, open road densities after Timber sale activities cease should	**Deleted. Replaced with:** **DCs for Overall Ecosystem Health, Landscape Scale:** •Healthy ecosystems provide a wide range of ecosystem services. •Watersheds exhibit high geomorphic, hydrologic, and biotic integrity relative to their natural potential condition. **OBJ for Overall Ecosystem Health -** During the planning period, improve the condition class on at least 10 priority 6th level HUC watersheds by removing or mitigating degrading factors[2]. [2]Degrading factors include, but are not limited to, actions that cause or maintain high departure from historic vegetation conditions, unsatisfactory or impaired soil condition, nonfunctioning riparian areas, impaired species habitat, occurrence of invasive species, and unstable road and trail conditions. **GD for Soil -**Projects with ground-	Road and skidding cost considerations for timber operations were included in the final determination of Suitable Timberlands, as mapped in the plan revision EIS. The rigid and/or arbitrary road densities stated per square mile in the existing plan may not be appropriate forest-wide. They were intended as a de-facto measure to reduce road-related impacts to soils, waters, vegetation, recreation quality, and wildlife/fish habitat. The revised plan provides managers flexibility to

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	average 2.0 mi/sq. mi. or less.	disturbing activities should be designed to minimize long and short term impacts to soil resources. Where disturbance cannot be avoided, project specific soil and water conservation practices should be developed. **GD for Water Resources -** Projects with ground-disturbing activities should be designed to minimize long and short term impacts to water resources. Where disturbance cannot be avoided, project specific soil and water conservation practices and best management practices (BMPs) should be developed. **GD for Wildlife and Rare Plants** - Constructed features should be maintained to support the purpose(s) for which they were built. Constructed features should be removed when no longer needed. **GD for Landscape Scale Disturbance Events -** Erosion control mitigation features should be implemented to protect significant resource values and infrastructure such as stream channels, roads, structures, threatened and endangered species, and cultural resources. **DCs for Motorized Opportunities:** •A maintained road and motorized trail system is in place and provides for safety and access for the use (e.g., recreation, minerals, vegetation treatment, fire protection) of the Apache-Sitgreaves NFs. •Users have opportunities for motorized access and travel on a system of designated NFS roads, NFS motorized trails, and motorized areas[25]. [25]The Apache-Sitgreaves NFs will designate NFS roads, NFS motorized trails, and motorized areas through a separate travel management analysis. •The transportation system provides a variety of recreation opportunities including varying degrees of difficulty, from OHV trails to paved scenic byways, while limiting resource and/or user conflicts. •NFS roads, motorized trails, and motorized areas are easily identified on the ground (e.g., well-marked). •The road and trail system is accessible from local communities, State, county, and local public roads	determine site-specific road densities/management appropriate for the resource conditions and transportation needs within any project area. It provides for protection & management of healthy/ sustainable soils, watersheds, and wildlife connectivity, which are the primary resource concerns associated with national forest system roads and motorized trails. The revised plan also provides the framework to guide future changes to the transportation system. Once the final decision of this plan has been made, potential changes to the forests' transportation system will be evaluated under this framework and through implementation of the Travel Management Rule (36 CFR § 212) as required by Executive Order 11644. That analysis will consider potential resource impacts, access needs, public input, and alternative views rather than setting an arbitrary road density target. Site specific open road density and temporary road construction needed for timber/thinning operations should to be determined at the project level to meet revised plan's DCs, OBJs, STs, and Suitability direction for each revised plan MA and PNVT the project area occupies, per revised plan's definitions of system roads,

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		and trails. •The location and design of roads and trails does not impede wildlife and fish movement. **OBJ for Motorized Opportunities:** •Annually, maintain at least 20 percent of the passenger vehicle and 10 percent of the high-clearance vehicle NFS roads**. STs for Motorized Opportunities:** •Temporary road construction shall minimize the impacts to resource values and facilitate road rehabilitation. Temporary roads shall be rehabilitated following completion of the activities for which they were constructed. •Road maintenance and construction activities shall be designed to reduce sediment (e.g., water bars, sediment traps, grade dips) while first providing for user safety. **GDs for Motorized Opportunities:** •New roads or motorized trails should be located to avoid Mexican spotted owl protected activity centers, northern goshawk post-fledging family areas, and other wildlife areas as identified; seasonal restrictions may be an option. •New roads, motorized trails, or designated motorized areas should be located to avoid meadows, wetlands, seeps, springs, riparian areas, stream bottoms, sacred sites, and areas with high concentrations of significant archaeological sites. The number of stream crossings should be minimized or mitigated to reduce impacts to aquatic species. •As projects occur in riparian or wet meadow areas, unneeded roads or motorized trails should be closed or relocated, drainage restored, and native vegetation reestablished to move these areas toward their desired condition. •As projects occur, roads or motorized trails that contribute to negative impacts on cultural resources should be closed or relocated. •As projects occur, redundant roads or motorized trails should be removed to reduce degradation of natural resources. •Roads and motorized trails removed from the transportation network should be treated in order to avoid future risk to hydrologic function and aquatic habitat. •Roads and motorized trails should be designed	temporary roads, & unauthorized roads. Approval of temporary road construction is contingent on the completion of an environmental analysis that addresses road construction and road obliteration, including setting timelines. When routes are removed from the transportation system, follow-up treatments may include outsloping roadbeds, removing stream crossing structures, breaching drainage ditches, removing unstable fills, maintaining or restoring fish passage, and removing invasive weeds. Measures (e.g., education, signage, law enforcement, seasonal road closures) are used to discourage encroachment of motorized vehicles into nonmotorized areas and to protect wildlife, infrastructure, and other resources. Emphasis is placed on reducing user conflict and resource damage. Resource damage from vehicle use is rehabilitated as soon as possible.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		and located so as to not impede terrestrial and aquatic species movement and connectivity. •As projects occur, existing meadow crossings should be relocated or redesigned, as needed, to maintain or restore hydrologic function using appropriate tools such as French drains and elevated culverts. •After management activities occur in areas with high potential for cross-country motorized vehicle use, methods (e.g., barriers, signing) should be used to control unauthorized motorized use. **GDs for Natural Landscape MA:** •Limited cross-country motorized vehicle use may be authorized for administrative purposes. •Temporary road construction and motorized equipment may be used in order to achieve ecological desired conditions. **Chapter 4, Table 10. Suitability for new designated motorized areas, NFS roads, NFS motorized trails, and temporary road construction on the Apache-Sitgreaves NFs:** NFS roads and Temporary road construction is suitable for the following revised plan MAs: General Forest, Community-Forest Intermix, High Use Developed Recreation Area, Energy Corridor, Wild Horse Territory. Temporary road construction is also suitable for the following revised plan MAs: Wildlife Quiet Area, Natural Landscape. NFS Roads/Temp roads are also suitable in Eligible or suitable wild and scenic river corridor segments not classified as wild (FSH 1909.12 Chapter 82.51); and in Areas with high concentration of significant archaeological or historic sites, only where construction or rerouting of a NFS road or motorized trail will protect and/or reduce impacts to cultural resource values.	
Vegetation	**MA 2 Woodland Management Emphasis**: Emphasize fuelwood production, wildlife habitat, watershed condition, and livestock grazing. Other resources are managed in harmony with the	**Landscape Scale DC for Overall Ecosystem Health**: Ecological conditions for habitat quality, distribution, and abundance contribute to self-sustaining populations of native and desirable nonnative plants and animals that are healthy, well distributed, connected, and genetically diverse. Conditions provide for the life history,	The revised LMP provides direction for fuelwood harvest, wildlife habitat within the woodland PNVTs, and managed livestock grazing, and meets the intent of this provision.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	emphasized resources. **Page 116**.	distribution, and natural population fluctuations of the species within the capability of the landscape. **Landscape Scale DC for Overall Ecosystem Health**: Large blocks of habitat are interconnected, allowing for behavioral and predator-prey interactions, and the persistence of metapopulations and highly interactive wildlife species across the landscape. Ecological connectivity extends through all plant communities. **Landscape Scale DC for Overall Ecosystem Health**: Habitat configuration and availability allows wildlife populations to adjust their movements (e.g., seasonal migration, foraging) in response to climate change and promote genetic flow between wildlife populations. **Landscape Scale DC for All PNVTs**: Vegetation provides products—such as wood fiber or forage—to help meet local and regional needs in a manner that is consistent with other desired conditions on a sustainable basis within the capacity of the land. **Mid-Scale DC for All PNVTs**: Vegetative ground cover (herbaceous vegetation and litter) is optimized to protect and enrich soils and promote water infiltration. There is a diverse mix of cool and warm season grasses and desirable forbs species. **Fine Scale DC for All PNVTs**: Herbaceous vegetation amount and structure (e.g., plant density, height, litter, seed heads) provides habitat to support wildlife and prey species. **GD for All Woodlands**: Treatments should leave single or small groups of medium to large native trees that are widely spaced with expanses of herbaceous vegetation and coarse woody debris to provide for soil productivity, traditional uses (e.g., piñon nut gathering), and wildlife needs such as foraging habitat for migratory birds (e.g., black-throated gray warbler, piñon jay) and other birds. **GD for All Woodlands**: Hiding cover, approach cover (by waters), and travel corridor cover should be provided	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		where needed by wildlife. **Mid-scale DC for MPO**: Some large patches in the Madrean pine-oak woodland are closed canopy, have multiple age classes, large trees, and old growth-like characteristics (e.g., numerous snags, large coarse woody debris) in order to provide for wildlife such as Mexican spotted owl and black bear, that need denser habitat. **DC for Forest Products**: The Apache-Sitgreaves NFs provide a sustainable supply of forest products (e.g., small roundwood, sawlogs, biomass, firewood, cones, Christmas trees, wildlings) to businesses and individuals within the capability of the land. **OBJ for Forest Products**: Annually, provide up to 94,000 CCF (119,380 cords) of firewood for personal and commercial use. **ST for Forest Products**: Authorizations to cut, collect, or use forest products for any personal, commercial, or scientific purpose (i.e., permits, contracts, agreements) shall include provisions to ensure the needs of wildlife, which depend upon those forest products, will continue to be met (e.g., fungi and cone collection with respect to overwinter forage needs of squirrels). **DC for Livestock Grazing**: Livestock grazing and associated activities occur such that healthy, diverse plant communities, satisfactory condition soils, and wildlife habitat are maintained or improved. **DC for Livestock Grazing**: Livestock grazing is in balance with available forage (i.e., grazing and browsing by authorized livestock, wild horses, and wildlife do not exceed available forage production within established use levels). **GD for Livestock Grazing**: Forage, browse, and cover needs of wildlife, authorized livestock, and wild horses should be managed in balance with available forage so that plants providing for these needs remain at or move	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		toward a healthy, persistent state.	
Vegetation	**MA2 Wildlife & Fish Habitat Improvement**: Manage areas that are harvested for fuelwood. a) Emphasize openings on existing and potential big game range. Retain thermal and hiding cover on north and east exposures. **Page 117**.	**Mid-Scale DC for All PNVTs**: Vegetation conditions provide hiding and thermal cover in contiguous blocks for wildlife. Native plant species are present in all age classes and are healthy, reproducing, and persisting. **Fine Scale DC for All PNVTs**: Herbaceous vegetation amount and structure (e.g., plant density, height, litter, seed heads) provides habitat to support wildlife and prey species. **GD for Wildlife and Rare Plants**: Cool and/or dense vegetation cover should be provided for species needing these habitat components (e.g., Goodding's onion, black bear, White Mountains chipmunk, western yellow-billed cuckoo). **Mid-Scale DC for Grasslands**: Woody (tree and shrub) canopy cover is less than 10 percent. **Fine Scale DC for Grasslands**: During the critical pronghorn antelope fawning period (May through June), cool season grasses and forbs provide nutritional forage; while shrubs and standing grass growth from the previous year provide adequate hiding cover (10 to 18 inches) to protect fawns from predation. **OBJ for Grasslands**: Decrease or maintain the woody canopy cover at less than 10 percent by treating up to 25,000 acres annually. **GD for Grasslands**: Restoration treatment of grasslands should result in a woody canopy cover of less than 10 percent; more than one treatment may be required. **GD for Grasslands**: Mechanical restoration of grasslands should emphasize individual tree removal to limit soil disturbance. **Management Actions for Grasslands:** The management approach is to maintain and improve grasslands by eliminating competing conifers, leaving woody debris scattered across the ground, stabilizing gullies to restore water tables, and reseeding with native	The revised LMP provides direction for fuelwood harvest, wildlife habitat within the woodland PNVTs, and managed livestock grazing, and meets the intent of this provision.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		species.	
Vegetation	**MA2 Wildlife & Fish Habitat Improvement**: Manage areas that are harvested for fuelwood. b) Manage fuelwood sales to break up large areas of single-age classes. **Page 117**.	**GD for All Woodlands**: Treatments should leave single or small groups of medium to large native trees that are widely spaced with expanses of herbaceous vegetation and coarse woody debris to provide for soil productivity, traditional uses (e.g., piñon nut gathering), and wildlife needs such as foraging habitat for migratory birds (e.g., black-throated gray warbler, piñon jay) and other birds. **Landscape Scale DC for MPO**: A mix of desired species, ages, heights, and groupings of trees create a mosaic across the landscape. **Landscape Scale DC for MPO**: The majority of this woodland has an open canopy consisting of large trees and an herbaceous understory, with some groups of closed canopy. Overall, canopy cover is 10 to 50 percent. **Mid-Scale DC for MPO**: Some large patches in the Madrean pine-oak woodland are closed canopy, have multiple age classes, large trees, and old growth-like characteristics (e.g., numerous snags, large coarse woody debris) in order to provide for wildlife such as Mexican spotted owl and black bear, that need denser habitat. **Fine Scale DC for MPO**: Single large trees or small groups are widely spaced between large expanses of herbaceous vegetation and shrubs. **Landscape Scale DC for PJ**: The piñon-juniper savanna is open in appearance with trees occurring as individuals or in small groups and ranging from young to old. Overall, tree canopy cover is 10 to 15 percent, but may range up to 30 percent.	The revised LMP provides direction for fuelwood harvest and provides for a diversity of age classes, size classes and spatial arrangement, and meets the intent of this provision.
Vegetation	**MA2 Wildlife & Fish Habitat Improvement**: c) Leave cavity excavated trees, shrubs, and oak in openings created for wildlife	**Landscape Scale DC for PP:** Where it naturally occurs, Gambel oak is present with all age classes represented. It is reproducing to maintain or expand its presence on capable sites across the landscape. Large Gambel oak snags are typically 10 inches or larger in diameter and	The revised LMP provides direction for fuelwood harvest, wildlife habitat within the woodland PNVTs, and managed livestock grazing, and meets the intent of this provision.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	habitat. **Page 117**.	are well distributed. **Landscape Scale DC for DMC**: The forest arrangement consists of small clumps and groups of trees with variably-sized interspaces of grass, forb, and shrub vegetation associations similar to reference conditions. Size, shape, number of trees per group, and number of groups per area are variable across the landscape. Where they naturally occur, groups of Gambel oak are healthy and maintained or increased. Tree density may be greater in some locations, such as north-facing slopes and canyon bottoms. **Fine Scale DC for PP**: Where Gambel oak occurs, the majority are single trunk trees over 8 inches in diameter with full crowns. **GDs for PP and DMC Forests**: Where Gambel oak or other native hardwood trees and shrubs are desirable to retain for diversity, treatments should improve vigor and growth of these species. **Landscape Scale DC for MPO**: Understory vegetation includes evergreen oaks, mountain mahogany, grasses, and forbs. **GD for MPO**: Where Mexican spotted owls are found nesting in canyons or on north slopes within the Madrean pine-oak woodland, adjacent treatments should be modified to meet the needs of foraging owls. **DC for Community-Forest Intermix**: Where potential occurs, pure deciduous stands (e.g., aspen, Gambel oak) act as natural firebreaks and enhance scenery.	Incorporating management direction to guide future projects to provide habitat to maintain viable populations of existing native and desired nonnative vertebrate species in the planning area has been identified as one of the "**Needs for Change**."
Vegetation	**MA2 Wildlife & Fish Habitat Improvement Standard and Guideline (Pages 116-117)**: The alligator juniper component of the ponderosa pine is managed primarily for maintenance and enhancement of wildlife habitat by the following criteria: - In areas where alligator juniper	**Landscape Scale DC for All PNVTs**: Old or large trees, multistoried canopies, large coarse woody debris, and snags provide the structure, function, and associated vegetation composition as appropriate for each forested and woodland PNVT. **GD for All Woodlands**: Treatments should leave single or small groups of medium to large native trees that are widely spaced with expanses of herbaceous vegetation	The revised LMP provides DCs for the retention of large trees for the maintenance and enhancement of wildlife habitat within the forested and woodland PNVTs. The revised LMP defines "large" trees into two diameter groups: large trees in woodlands and large trees in forests. Large trees in

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	comprise less than 50 percent of the total basal area, retain live alligator juniper trees > 12 inches D.B.H. **Page 117**. - In areas where alligator juniper comprise more than 50 percent of the total basal area, live trees > 12 inches D.B.H. may be removed if < 25 percent of the crown is living. **Page 117**. - In both of the above cases, some live trees < 12 inches D.B.H. may be removed. Retain at least 40 percent of the trees. **Page 117**.	and coarse woody debris to provide for soil productivity, traditional uses (e.g., piñon nut gathering), and wildlife needs such as foraging habitat for migratory birds (e.g., black-throated gray warbler, piñon jay) and other birds. **Landscape Scale DC for MPO**: The majority of this woodland has an open canopy consisting of large trees and an herbaceous understory, with some groups of closed canopy. Overall, canopy cover is 10 to 50 percent. **Mid-Scale DC for MPO**: Some large patches in the Madrean pine-oak woodland are closed canopy, have multiple age classes, large trees, and old growth-like characteristics (e.g., numerous snags, large coarse woody debris) in order to provide for wildlife such as Mexican spotted owl and black bear, that need denser habitat. **Fine Scale DC for MPO**: Single large trees or small groups are widely spaced between large expanses of herbaceous vegetation and shrubs.	woodlands are approximately 10 inches and greater in diameter and consist of piñon, juniper, oak, and other "dwarf" tree species where diameter is measured at the root collar (DRC). Large trees in forests are approximately 20 inches and greater that dominate montane and subalpine zones, and they are measured at "breast height" (DBH). Large trees are valued for their longevity in providing old growth habitat and for their added ability to enhance structure diversity.
Vegetation	**MA2 Wildlife & Fish Habitat Improvement**: e) Retain Ponderosa pine stringers as inclusions. **Page 118**.	**Fine Scale DC for Riparian Areas**: Vegetation is structurally diverse, often dense, providing for high bird species diversity and abundance, especially neotropical migratory birds. It includes large trees and snags in the cottonwood-willow and mixed broadleaf deciduous riparian forests to support species such as beaver, yellow-billed cuckoo, bald eagles, Arizona gray squirrel, and various bat species. **ST for All Forested PNVTs**: Regulated timber harvest activities shall occur only on those lands classified as suitable for timber production.	The revised LMP defines grasslands, woodlands, interior chaparral, and riparian forested PNVTs as areas not suitable for timber product; however, tree cutting may be used to move toward the vegetation desired condition.
Vegetation	**MA2 Wildlife & Fish Habitat Improvement**: Manage for at least an average of 100 snags per 100 acres on 40 percent of the pinyon-juniper woodland acres in each diversity unit. Snags are at least 9"	**Landscape Scale DC for All PNVTs**: Old or large trees, multistoried canopies, large coarse woody debris, and snags provide the structure, function, and associated vegetation composition as appropriate for each forested and woodland PNVT. **Landscape Scale DC for MPO**: Snags, averaging 1 to 2	The revised LMP provides direction for number of snags per acre within the woodland PNVTs. Large trees in woodlands are approximately 10 inches and greater in diameter and consist of piñon, juniper, oak, and

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	diameter at the root collar and at least 10" high. **Page 118**.	per acre, and older trees are scattered across the landscape. Coarse woody debris averages 1 to 5 tons per acre. **Mid-Scale DC for MPO**: Some large patches in the Madrean pine-oak woodland are closed canopy, have multiple age classes, large trees, and old growth-like characteristics (e.g., numerous snags, large coarse woody debris) in order to provide for wildlife such as Mexican spotted owl and black bear, that need denser habitat. **Landscape Scale DC for PJ Savana Woodland**: Old growth occurs in isolated locations scattered throughout the landscape, as individual old trees or as clumps of old trees. Other old growth components may also be present including dead trees (snags), downed wood (coarse woody debris), and/or structural diversity. **Landscape Scale DC for PJ Persistent Woodland**: Snags, averaging one to two per acre, and older trees with dead limbs and tops are scattered across the landscape. Coarse woody debris averages 2 to 5 tons per acre. **Landscape Scale DC for PJ Persistent Woodland**: Old growth includes old trees, dead trees (snags), downed wood (coarse woody debris), and/or structural diversity. The location of old growth shifts on the landscape over time as a result of succession and disturbance (tree growth and mortality).	other "dwarf" tree species where diameter is measured at the root collar (DRC). The revised LMP meets the intent of this provision.
Vegetation	**MA2 Range Improvement, Range Forage Improvement Maintenance**: Where seral grasslands are maintained in the pinyon-juniper woodland, eliminate invading vegetation through mechanical, chemical, or planed fire treatments on a maintenance schedule averaging once approximately every 25 years. Stabilize gullies, scarify the soil, and seed	**Landscape Scale DC for All PNVTs**: Vegetation conditions allow for transition zones or ecotones between riparian areas, forests, woodlands, shrublands, and grasslands. Transition zones may shift in time and space due to changing site conditions from disturbances (e.g., fire, climate change). **Landscape Scale DC for Grasslands**: Perennial herbaceous species dominate and include native grasses, grass-like plants (sedges and rushes), and	Many of the areas that appear to woodland are actually grasslands that have been encroached by conifer species. Along with the mentioned reference from the revised LMP; the **Management Approaches for Grasslands** is to maintain and improve grasslands by eliminating competing conifers, leaving woody

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	disturbed soils with a mix tailored for the site. Seed suitable areas in all range condition classes. Control grazing through management and/or fencing to allow for adequate revegetation of treated areas. **Page 119**.	forbs, and in some locations, a diversity of shrubs. **Landscape Scale DC for Grasslands**: Herbaceous vegetation and litter provide for and maintain the natural fire regime (fire regime I and II). In semi-desert grasslands, the natural fire return interval is approximately every 2 to 10 years. In Great Basin grasslands the natural fire return interval is approximately every 10 to 30 years. In montane/subalpine grasslands it ranges from approximately 2 to 400 years, depending on the adjacent forested PNVT. **Mid-Scale DC for Grasslands**: Woody (tree and shrub) canopy cover is less than 10 percent. **Fine Scale DC for Grasslands**: Average herbaceous vegetation heights vary by grassland PNVT and yearly weather conditions. Ungrazed herbaceous vegetation heights20 range from 7 to 29 inches in Great Basin grasslands, 7 to 26 inches in montane/subalpine grasslands, and 10 to 32 inches in semi-desert grasslands. **OBJ for Grasslands**: Decrease or maintain the woody canopy cover at less than 10 percent by treating up to 25,000 acres annually. **GD for Grasslands**: Restoration treatment of grasslands should result in a woody canopy cover of less than 10 percent; more than one treatment may be required. **GD for Grasslands**: Mechanical restoration of grasslands should emphasize individual tree removal to limit soil disturbance. **DC for Livestock Grazing**: Livestock grazing and associated activities occur such that healthy, diverse plant communities, satisfactory condition soils, and wildlife habitat are maintained or improved. **DC for Livestock Grazing**: Livestock grazing is in balance with available forage (i.e., grazing and browsing by authorized livestock, wild horses, and wildlife do not	debris scattered across the ground, stabilizing gullies to restore water tables, and reseeding with native species. Treatments are located in restorable and treatable grasslands, primarily in the Great Basin and semi-desert grassland PNVTs. Obliteration and rehabilitation of unauthorized roads and trails may be needed. There is an emphasis to provide enough grass to reduce topsoil loss and allow fire to spread and resume its role in maintaining grasslands.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		exceed available forage production within established use levels). **DC for Livestock Grazing**: Critical areas should be managed to address the inherent or unique site factors, condition, values, or potential conflicts associated with them. **DC for Livestock Grazing**: As areas are mechanically treated or burned, or after large disturbances, timing of livestock grazing should be modified as needed, in order to move toward desired conditions and to accomplish the objectives for the treatment or disturbed area. **DC for Livestock Grazing**: Forage, browse, and cover needs of wildlife, authorized livestock, and wild horses should be managed in balance with available forage so that plants providing for these needs remain at or move toward a healthy, persistent state.	
Vegetation	**MA2 Range Improvement, Range Forage Improvement**: Small site conversions to a lower successional state occur only where the rating of soil potential for revegetation and the erosion potential (TESH, January 7, 1985) are determined to be suitable and where the forage production rating is moderate or high. **Page 119**.	**Landscape Scale DC for Overall Ecosystem Health**: Ecological components (e.g., soil, vegetation, water) are resilient to disturbances including human activities and natural ecological disturbances (e.g., fire, drought, wind, insects, disease, pathogens). **Management Approaches for Overall Ecosystem Health**: Highest priority treatments are those that remove risk factors that may threaten the integrity of the watershed, specifically those that cause low geomorphic, hydrologic, and biotic integrity relative to the watershed's natural potential condition and that lead to unstable drainage networks or to conditions which may not support beneficial uses of water. **Landscape Scale DC for Soil**: Ecological and hydrologic functions are not impaired by soil compaction. **Mid-Scale DC for Soil**: Soil condition rating is satisfactory (Satisfactory soil condition exists when indicators signify that soil function is being sustained and soil is functioning properly and normally. The ability of soil to maintain resource values and sustain outputs is	The intent of this Range Improvement, Range Forage Improvement item has been carried forward into revised LMP. Using Terrestrial Ecosystem Survey for the Apache-Sitgreaves National Forests" (Laing et al., 1987, as amended) as the primary reference for soil capability, soil loss, vegetation composition and cover, and litter cover has been cited several times throughout the revised LMP. The Terrestrial Ecosystem Survey (TES) for the Apache-Sitgreaves NFs was developed using local, regional, and southwestern U.S. research data collected prior to its publication in 1987. The forests use ground cover and vegetation canopy cover

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		high). **Mid-Scale DC for Soil**: Soils are stable within their natural capability4. Vegetation and litter limit accelerated erosion (e.g., rills, gullies, root exposure, topsoil loss) and contribute to soil deposition and development. **Fine Scale DC for Soil**: Soil loss rates do not exceed tolerance soil loss rates. **Fine Scale DC for Soil**: Logs and other woody material are distributed across the surface to maintain soil productivity **Fine Scale DC for Soil**: Vegetation and litter are sufficient to maintain and improve water infiltration, nutrient cycling, and soil stability. **OBJ for Soil**: Annually, enhance or restore an average of 350 acres within priority 6th level HUC watersheds, including treating the causes of State and federally designated impaired or threatened waters to improve watershed condition and water quality. **GD for Soil**: Projects with ground-disturbing activities should be designed to minimize long and short term impacts to soil resources. Where disturbance cannot be avoided, project specific soil and water conservation practices should be developed. **GD for Soil**: Severely disturbed sites should be revegetated with native plant species when loss of long term soil productivity is predicted. **GD for Soil**: Locally collected seed should be used where available and cost effective. Seeds should be tested to ensure they are free from noxious weeds and invasive nonnative plants at a State certified seed testing laboratory before acceptance and mixing. **GD for Soil**: Coarse woody debris retention and/or creation should be used as needed to help retain long term soil productivity. **Management Approach for Soil**: The forests emphasize restoration treatments in priority 6th level	provided for each mapping unit to establish resource value ratings for soil and plant health for many management activities, particularly in the analysis and monitoring of restoration treatments and for grazing allotment management. The TES will be updated as new information is available to reflect current conditions and concepts. Ecological site descriptions will be developed using the TES as a baseline for further refinement of resource value ratings. This is a **Management Approach for Soil**

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		HUC watersheds that have a high risk to ecologic sustainability. **Landscape Scale DC for All PNVTs**: Organic soil cover and herbaceous vegetation protect soil, facilitate moisture infiltration, and contribute to plant and animal diversity and ecosystem function. **Landscape Scale DC for All PNVTs**: Vegetation conditions within each PNVT should be similar to site potential (Similarity refers to a method of comparing the composition of the existing plant community to the potential natural plant community as described by the ecological unit in the "Terrestrial Ecosystem Survey for the Apache-Sitgreaves National Forests" (Laing et al., 1987, as amended)). **Mid-Scale DC for All PNVTs**: Vegetative ground cover (herbaceous vegetation and litter) is optimized (Based on site capability as defined by the specific ecological unit under consideration in the "Terrestrial Ecosystem Survey for the Apache-Sitgreaves National Forests" (Laing et al., 1987, as amended)) to protect and enrich soils and promote water infiltration. There is a diverse mix of cool and warm season grasses and desirable forbs species. **DC for Livestock Grazing**: Livestock grazing and associated activities occur such that healthy, diverse plant communities, satisfactory condition soils, and wildlife habitat are maintained or improved. **GD for Livestock Grazing**: Critical areas should be managed to address the inherent or unique site factors, condition, values, or potential conflicts associated with them.	
Vegetation	MA2 Range Improvement, Range Forage Improvement: When seeding is necessary, sites are seeded with a mix that emphasizes creating a balance between warm and cool season grasses. Control grazing through management	**GD for Soil:** Locally collected seed should be used where available and cost effective. Seeds should be tested to ensure they are free from noxious weeds and invasive nonnative plants at a State certified seed testing laboratory before acceptance and mixing. **Mid-Scale DC for All PNVTs**: Vegetative ground cover	This item is prescriptive: Project specialists determine project recovery activities and set of required mitigation measures to insure success of specific projects. However, principles for ecological

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	and/or fencing to allow for adequate revegetation protection of treated areas. Page 119	(herbaceous vegetation and litter) is optimized to protect and enrich soils and promote water infiltration. There is a diverse mix of cool and warm season grasses and desirable forbs species. **GD for Livestock Grazing**: As areas are mechanically treated or burned, or after large disturbances, timing of livestock grazing should be modified as needed, in order to move toward desired conditions and to accomplish the objectives for the treatment or disturbed area. **GD for Livestock Grazing**: Constructed features should be maintained to support the purpose(s) for which they were built. Constructed features should be removed when no longer needed.	restoration and resilience as outlined in FSM 2020 are the basis for ecological restoration projects and activities.
Vegetation	**MA3 Land Management Planning, Planning and Inventory**: Recovery activities such as fencing, vegetation projects, and special management prescriptions will be maintained until the affected area(s) are brought into satisfactory condition and as long thereafter as necessary to maintain the area(s) in satisfactory condition, or until they are replaced by more effective techniques. **Page 124**.	**GD for Soil**: Projects with ground-disturbing activities should be designed to minimize long and short term impacts to soil resources. Where disturbance cannot be avoided, project specific soil and water conservation practices (Soil and water conservation practices – Set of practices, which when applied during implementation of a project, protects soil and water quality to the level required by beneficial uses. These lead to the formation of site-specific BMPs during project planning.) should be developed. **GD for Water Resources**: Projects with ground-disturbing activities should be designed to minimize long and short term impacts to water resources. Where disturbance cannot be avoided, project specific soil and water conservation practices and best management practices (BMPs) should be developed. **GD for Aspen**: To preclude concentrated herbivore impacts, new surface water development should not be constructed within proximity to aspen stands (approximately a quarter of a mile). **GD for Aspen**: Aspen restoration and retention efforts should include measures to ensure viability of aspen on the landscape.	Overall direction within the revised LMP is geared more toward mitigation to prevent resource damage and to protect treatment activities. However, this item is prescriptive: Project specialists determine project recovery activities and set of required mitigation measures to insure success of specific projects.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		Management Approach for Aspen: Aspen restoration efforts may include providing/improving substitute forage away from aspen, removing conifer competition, fencing to exclude ungulates, and range management practices (e.g., salt locations; herding; timing, intensity, frequency, and duration of livestock use). **GD for Wildlife and Rare Plants**: Modifications, mitigations, or other measures should be incorporated to reduce negative impacts to plants, animals, and their habitats and to help provide for species needs, consistent with project or activity objectives. **GD for Wildlife and Rare Plants**: Constructed features should be maintained to support the purpose(s) for which they were built. Constructed features should be removed when no longer needed. **GD for Livestock Grazing**: As areas are mechanically treated or burned, or after large disturbances, timing of livestock grazing should be modified as needed, in order to move toward desired conditions and to accomplish the objectives for the treatment or disturbed area. **GD for Livestock Grazing**: Constructed features should be maintained to support the purpose(s) for which they were built. Constructed features should be removed when no longer needed.	
Vegetation	**MA3 Wildlife & Fish O&M, Wildlife Management:** b) Vegetation resource (where the site is capable of supporting woody plants): (1) Manage for and maintain at least 60 percent of the woody plant composition in three or more riparian species. (2) Manage for and maintain at least three age classes of riparian woody plants, with at least 10 percent of the woody plant cover in sprouts, seedlings, and saplings.	Identified as a "**Need for Change**" to describe the desired composition, structure, and cover of these vegetation communities that will result in resilient, functioning ecosystems. **DC for Maintenance and Improvement of Ecosystem Health**: Healthy ecosystems are diverse and self-sustaining, displaying a variety of conditions (e.g., composition, structure, function, processes) between and within them. **Landscape Scale DC for All PNVTs**: Each PNVT contains a mosaic of vegetative conditions, densities, and structures. This mosaic occurs at a variety of scales	The intent of this has been carried forward into revised LMP.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	(3) Manage for and maintain at least 60 percent near natural shrub and tree crown cover. (4) Determine need and rehabilitate riparian areas through seeding and planting woody species in areas that are in unsatisfactory condition. **Page 126**.	across landscapes and watersheds. The distribution of physical and biological conditions is appropriate to the natural disturbance regimes affecting the area. **Management Actions for Overall Ecosystem Health**: Treatments include those that restore and then maintain natural fire regimes, improve riparian condition, restore meadows or openings, repair gullies, and reduce erosion. **GD for Water Resources**: Streams, stream banks, shorelines, lakes, wetlands, and other bodies of water should be protected from detrimental changes in water temperature and sediment to protect aquatic species and riparian habitat. **4th Level (Subbasin) to 5th Level (Watershed) HUC Watershed Scale DC for Aquatic Habitat and Species**: Streamflows, habitat, and water quality support native aquatic and riparian-dependent species and habitat. **6th Level (Sub-watershed) HUC Watershed Scale DC for Aquatic Habitat and Species**: Habitat and ecological conditions are capable of providing for self-sustaining populations of native, riparian-dependent plant and animal species. **OBJ for Aquatic Habitat and Species**: Annually, enhance or restore 5 to 15 miles of stream and riparian habitat to restore structure, composition, and function of physical habitat for native fisheries and riparian-dependent species. **OBJ for Aquatic Habitat and Species**: During the planning period, complete at least five projects (e.g., remove barriers, restore dewatered stream segments, or connect fragmented habitat) to provide for aquatic and riparian associated species and migratory species. **Landscape Scale DC for Riparian Areas**: Natural ecological disturbances (e.g., flooding, scouring) promote a diverse plant structure consisting of	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		herbaceous, shrub, and tree species of all ages and size classes necessary for the recruitment of riparian-dependent species. **Mid-Scale DC for Riparian Areas**: Willows (e.g., Bebb, Geyer, Arizona, Goodding's) are reproducing with all age classes present, where the potential exists. **Mid-Scale DC for Riparian Areas**: Riparian-obligate species within wet meadows, around springs and seeps, along streambanks, and active floodplains provide sufficient[10] vegetative ground cover (herbaceous vegetation, litter, and woody riparian species) to protect and enrich soils, trap sediment, mitigate flood energy, stabilize streambanks, and provide for wildlife and plant needs. **Fine Scale DC for Riparian Areas**: Vegetation is structurally diverse, often dense, providing for high bird species diversity and abundance, especially neotropical migratory birds. It includes large trees and snags in the cottonwood-willow and mixed broadleaf deciduous riparian forests to support species such as beaver, yellow-billed cuckoo, bald eagles, Arizona gray squirrel, and various bat species.	
Vegetation	**MA3 Timber Sales, Timber Management**: Use vegetation manipulation, e.g. salvage, thinning, slash piling, planting, seeding, only where needed to enhance riparian objectives. **Page 128**.	**DC Riparian Areas** Sedimentation and soil compaction from forest activities (e.g., vehicle use, recreation, livestock grazing) do not negatively impact riparian areas. **GD Riparian Areas** Ground-disturbing projects (including prescribed fire) which may degrade long term riparian conditions should be avoided. **GD Riparian Areas** Wet meadows, springs, seeps and cienegas should not be used for concentrated activities (e.g., equipment storage, forest product or mineral stockpiling, livestock handling facilities, special uses) that cause damage to soil and vegetation.	This provision has been carried over to the revised plan where riparian forested PNVTs are not suitable for timber production; however, tree cutting may occur when consistent with movement toward DCs.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Vegetation	**MA5 Timber Sales, Timber Resource Management Planning & Inventory**: No timber activities are planned unless requested for maintenance of the desired setting, or hazard tree removal. If harvest is necessary, follow standards and guidelines found in management area. **Page 138**.	**GD for High Use Developed Recreation Area**: Management should focus on operation and maintenance, safety, aesthetics, and control of noxious weeds and nonnative invasive species. **Management Actions for High Use Developed Recreation Area**: Recreation site plans describe the detailed management for each high use developed recreation area, including vegetation management plans for campgrounds. In addition to recreation use, other uses (including livestock grazing, timber management, and wildlife management) may occur in combination with surrounding recreation and scenic desired conditions	This has been carried over to the revised plan where high use developed recreation areas and developed recreation sites are not suitable for timber production, however tree cutting may occur.
Vegetation	**MA10 Research Natural Areas, Management Emphasis**: No vegetative management practices are planned in this management area. **Page 139**.	**Background for Research Natural Area:** RNAs are physical or biological units in which current natural conditions are maintained insofar as possible. These conditions are ordinarily achieved by allowing natural physical and biological processes to prevail without human intervention. However, under unusual circumstances, deliberate manipulation may be utilized to maintain the unique feature that the RNA was established to protect. Research natural areas (RNAs) are considered special areas by the Forest Service. RNAs are part of a national network of natural areas designated in perpetuity for research and education and/or to maintain biological diversity on NFS lands. RNAs are principally for non-manipulative research, observation, and study. However, RNAs can be used for manipulative research to help quantify and understand ecosystem processes and to improve forest management practices.	Management direction for RNAs is provided in FSM 4063 – Research Natural Areas.
Vegetation	**MA15 Wildlife & Fish Habitat Improvement**: Timber harvesting and road building will not occur in the 7 mile wild segment of the West Fork of the Black River. **Page 173**.	Direction for timber cutting within eligible or suitable wild river corridors is found in FSH 1909.12, Chapter 82.53. Eligible or suitable wild (8.6 mi.) and scenic (3.0 mi.) river corridors associated with the West Fork of the Black River have not been classified as suitable for timber production, and tree cutting is not suitable in segments	Management direction for eligible or suitable wild and scenic rivers is provided in FSH 1909.12 – Land Management Planning Handbook Chapter 80 – Wild and Scenic River Evaluation

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		classified as wild (8.6 mi.) except where needed in association with a primitive recreation experience such as to clear trails. Direction for roads within eligible or suitable wild river corridors is found in FSH 1909.12 Chapter 82.3; "*No roads, railroads, or other provision for vehicular travel within the river area."* Direction for roads within eligible or suitable scenic river corridors is less restrictive.	
Vegetation	**MA #15, pg. 173:** Timber management including harvesting is an applicable activity within the scenic corridor. However, timber management objectives for all projects within the corridor must have the objective of maintaining or enhancing the recreation opportunities. Examples of a recreation objective would be: (1) removal of over-mature and other hazardous trees in concentrated use areas, (2) removal of diseased or insect infested, as well as other susceptible trees to stop the spread that threatens the natural appearances (as perceived by the recreation users) of the corridor, and (3) silvicultural prescriptions aimed at expanding the vegetation diversity to prevent insect and disease epidemics from threatening the area.	**Replaced with:** **Lands Suitable for Timber Production, Chapter 4, Table 8**: *Eligible or suitable wild and scenic river corridors* are not suitable for timber production, but tree cutting is generally suitable for uses such as safety, firewood, and trail clearing where needed in association with a primitive recreation experience (FSH 1909.12 Ch.82.51). *General Forest MA*: Timber production and tree cutting are suitable. *Recommended Research Natural Area MA*: not suitable for timber production, but tree cutting for research purposes is allowed. **GDs for Landscape Scale Disturbance Events:** •Felling of hazard trees (either dead or alive) should be limited to those which could hit a road, recreation site, building, or other infrastructure to protect places where humans, vehicles, or developments would most likely be present. •Projects and activities should include both short and long term provisions for scenic integrity, especially in sensitive foreground areas (high and very high scenic integrity). **DC for All PNVTs:** The vegetative conditions and functions are resilient to the frequency, extent, and severity of disturbances (e.g., fire, insects and disease, flood, climate change, management activities). **ST for All PNVTs:** Vegetation treatments shall include measures to reduce the potential for introduction of invasive plants and animals and damage from nonnative insects and diseases. **DCs for Eligible and Suitable Wild and Scenic Rivers:** •Eligible and suitable wild river segments display unaltered	MA15 mapped in 1987 plan = East & West Forks of the Black River above Buffalo Crossing. This MA does not exist in the revised plan because most segments of these corridors are now mapped as Eligible Wild and Scenic Rivers. Portions not classified as such are located within the revised plan new MAs "General Forest" and "Recommended Research Natural Area" = *Three Forks*. Hazard trees may be removed along roads to meet guidance in FSM 2330 (publicly managed recreation opportunities) and FSM 7700 (travel management). The revised plan lists the east fork and west fork of the Black River as having eligible wild and scenic river segments totaling: 24.6 miles classified as "wild," 5.2 mile as "scenic," and 8.2 miles as "recreational," and some segments have no such classifications.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		landscapes where generally only ecological changes occur (very high scenic integrity) and provide primitive and/or semi-primitive nonmotorized recreation opportunities. •Eligible and suitable scenic river segments display landscapes which vary from slightly altered where human activities may be seen but do not attract attention (moderate scenic integrity) to natural appearing where human activities do not stand out (high scenic integrity) and provide semi-primitive nonmotorized, semi-primitive motorized, and/or roaded natural recreation opportunities. **DCs for Developed Recreation:** •Forest vegetation in developed sites is healthy (species, size, and age) and complements recreational activities, scenery, and human safety. •Developed campgrounds are places where structures and human caused vegetation changes may be seen but they do not dominate the view or attract attention (low to moderate scenic integrity). Human activities in the areas visible from campgrounds (foreground to middle ground, 300 feet to 4 miles) should not attract attention or stand out, and the landscapes should appear natural (moderate to high scenic integrity). •Eligible and suitable recreational river segments display landscapes which vary from moderately altered where human activities are evident (low scenic integrity) to slightly altered where human activities may be seen but do not attract attention (moderate scenic integrity) and provide primitive, semi-primitive nonmotorized, semi-primitive motorized, and/or roaded natural recreation opportunities. **DC for Recommended Research Natural Area:** •The recommended *Three Forks,* Campbell Blue, Corduroy, and Sandrock RNAs, outside of any eligible or suitable wild and scenic river corridor, exhibit unaltered appearing landscapes where human activities do not stand out (high scenic integrity).	Developed campgrounds within the east fork include: Diamond Rock, Deer Creek, Aspen, Raccoon, Horse Spring, Buffalo Crossing; within the west fork is West Fork campground.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Vegetation	3. Gambel oak is important for cover, and patches of oak near nesting areas are an important consideration when selecting areas for retaining slash. Other species such as New Mexico locust and current also can provide cover. Oak stands in the nesting areas should be evaluated for opportunities to manage for cover.	**DC Overall Ecosystem Health** Ecological conditions for habitat quality, distribution, and abundance contribute to self-sustaining populations of native and desirable nonnative plants and animals that are healthy, well distributed, connected, and genetically diverse. Conditions provide for the life history, distribution, and natural population fluctuations of the species within the capability of the landscape. **DC Overall Ecosystem Health** Habitat quality, distribution, and abundance exist to support the recovery of federally listed species and the continued existence of all native and desirable nonnative species. **DC All PNVTs** Diverse vegetation structure, species composition, densities, and seral states provide quality habitat for native and desirable nonnative plant and animal species throughout their life cycle and at multiple spatial scales. **DC All PNVTs** Landscapes provide for the full range of ecosystem diversity at multiple scales, including habitats for those species associated with late seral states and old growth forests. **DC All PNVTs** Vegetation conditions allow for transition zones or ecotones between riparian areas, forests, woodlands, shrublands, and grasslands. **DC All PNVTs** Transition zones may shift in time and space due to changing site conditions from disturbances (e.g., fire, climate variability). **DC All PNVTs** Vegetation conditions provide hiding and thermal cover in contiguous blocks for wildlife. **DC All PNVTs** Native plant species are present in all age classes and are healthy, reproducing, and persisting. **DC All PNVTs** Herbaceous vegetation amount and structure (e.g., plant density, height, litter, seed heads) provides habitat to support wildlife and prey species. **OBJ All Forested PNVTs** Annually, treat 5,000 to	The 1987 Plan direction was modified to ensure that Gambel oak (and other species) were recognized as an integral component of the landscape and of a functional forested system where it occurs naturally. The cover and tree species needs were made broader to ensure that the needs of more species than turkey were addressed.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		35,000 acres to reduce tree densities, restore natural fire regimes, promote species habitat and ecosystem health, reduce fire hazard, maintain desired conditions, initiate recovery from uncharacteristic disturbance, and provide forest products, leaving a desired mix of species with the range of desired densities that are resilient to changing climatic conditions. **GD All Forested PNVTs** Hiding cover, approach cover (by waters), and travel corridor cover should be provided where needed by wildlife. **DC Ponderosa Pine** Where it naturally occurs, Gambel oak is present with all age classes represented. It is reproducing to maintain or expand its presence on capable sites across the landscape. Large Gambel oak snags are typically 10 inches or larger in diameter and are well distributed. **DC Ponderosa Pine** Where Gambel oak occurs, the majority are single trunk trees over 8 inches in diameter with full crowns. **GD Ponderosa Pine** Where Gambel oak or other native hardwood trees and shrubs are desirable to retain for diversity, treatments should improve vigor and growth of these species. **DC Dry Mixed Conifer** The forest arrangement consists of small clumps and groups of trees interspersed within variably-sized openings of grass, forb, and shrub vegetation associations similar to reference conditions. Size, shape, number of trees per group, and number of groups per area are variable across the landscape. Where they naturally occur, groups of Gambel oak are healthy and maintained or increased. Tree density may be greater in some locations, such as north-facing slopes and canyon bottoms. **DC Dry Mixed Conifer** Where Gambel oak occurs, the majority are single trunk trees over 8 inches in diameter with full crowns.	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		GD Dry Mixed Conifer Where Gambel oak or other native hardwood trees and shrubs are desirable to retain for diversity, treatments should improve vigor and growth of these species.	

Wildlife and Fisheries

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Wildlife & Fisheries	Maintain habitat to maintain viable populations of wildlife and fish species and improve habitat for selected species. This is accomplished “directly” through habitat management and “indirectly” through coordination of habitat management in conjunction with other resource activities.	**DC Overall Ecosystem Health** Ecological conditions for habitat quality, distribution, and abundance contribute to self-sustaining populations of native and desirable nonnative plants and animals that are healthy, well distributed, connected, and genetically diverse. Conditions provide for the life history, distribution, and natural population fluctuations of the species within the capability of the landscape. **DC Overall Ecosystem Health** Habitat quality, distribution, and abundance exist to support the recovery of federally listed species and the continued existence of all native and desirable nonnative species. **DC Water Resources** Vegetation and soil conditions above the floodplain protect downstream water quality, quantity, and aquatic habitat. **DC Water Resources** Streamflows provide connectivity among fish populations and provide unobstructed routes critical for fulfilling needs of aquatic, riparian dependent, and many upland species of plants and animals. **DC Water Resources** Water quality meets the needs of desirable aquatic species such as the California floater, northern and Chiricahua leopard frog, and invertebrates that support fish populations. **GD Water Resources** Streams, streambanks, shorelines, lakes, wetlands, seeps, springs and other bodies of water should be protected from detrimental changes [4] in water temperature and sediment to protect aquatic species and riparian habitat. **GD Water Resources** Aquatic management zones should be in place between streams and disturbed areas and/or road locations to maintain water quality and suitable stream temperatures for aquatic species. **GD Water Resources** To protect water quality and aquatic	The new plan language expands upon the language in the old plan. The new plan not only establishes desired conditions for wildlife and fish, it also specifies the conditions required for viability and what types of “direct” habitat management are necessary as well as the “indirect” types of coordination that are necessary. Where more general provisions are insufficient, the plan specifies the species to be considered during habitat management activities.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		species, heavy equipment and vehicles driven into a water body to accomplish work should be completely clean of petroleum residue. Water levels should be below the gear boxes of the equipment in use. Lubricants and fuels should be sealed such that inundation by water should not result in leaks. **DC Aquatic Habitat and Species** Habitat conditions contribute to the recovery of federally listed species. **DC Aquatic Habitat and Species** Streamflows, habitat, and water quality support native aquatic and riparian-dependent species and habitat. **DC Aquatic Habitat and Species** Habitat and ecological conditions are capable of providing for self-sustaining populations of native, riparian dependent plant and animal species. **DC Aquatic Habitat and Species** Native fish, reptile, amphibian, and invertebrate populations are free from or minimally impacted by nonnative plants and animals. **DC Aquatic Habitat and Species** Aquatic species habitat conditions provide the resiliency and redundancy necessary to maintain species diversity and metapopulations. **DC Aquatic Habitat and Species** Desirable nonnative fish species provide recreational fishing in waters where those opportunities are not in conflict with the recovery of native species. **DC Aquatic Habitat and Species** Wetlands are hydrologically functioning and have sufficient (composing 50 percent of the wetland) emergent vegetation and macroinvertebrate populations to support resident and migratory wetland dependent species. **OBJ Aquatic Habitat and Species** Annually, enhance or restore 5 to 15 miles of stream and riparian habitat to restore structure, composition, and function of physical habitat for native fisheries and riparian-dependent species. **OBJ Aquatic Habitat and Species** During the planning period, complete at least five projects (e.g., remove barriers,	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		restore dewatered stream segments, or connect fragmented habitat) to provide for aquatic and riparian associated species and migratory species. **ST Aquatic Habitat and Species** When drafting (withdrawing) water from streams or other water bodies, measures will be taken to prevent entrapment of fish and aquatic organisms and the spread of parasites or disease (e.g., Asian tapeworm, chytrid fungus, whirling disease). **GD Aquatic Habitat and Species** Management and activities should not contribute to a trend toward the Federal listing of a species. **GD Aquatic Habitat and Species** Activities occurring within federally listed species habitat should apply habitat management direction and species protection measures from recovery plans. **GD Aquatic Habitat and Species** To prevent degradation of native species habitat and the incidental or accidental introduction of diseases or nonnative species, aquatic species should not be transferred through management activities from one 6th level HUC watershed to another. **GD Aquatic Habitat and Species** Sufficient water should be left in streams to provide for aquatic species and riparian vegetation. **GD Aquatic Habitat and Species** Projects and activities should avoid damming or impounding free-flowing waters to provide streamflows needed for aquatic and riparian-dependent species. **GD Aquatic Habitat and Species** The needs of rare and unique species associated with wetlands, fens, bogs, and springs should be given priority consideration when developing these areas for waterfowl habitat and other uses. **GD Aquatic Habitat and Species** When new water diversions are created or existing water diversions are reanalyzed, measures should be taken to prevent entrapment of fish and aquatic organisms. **DC All PNVTs** Native plant communities dominate the	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		landscape. **DC All PNVTs** The range of species genetic diversity remains within native vegetation and animal populations, thus enabling species to adapt to changing environmental and climatic conditions. **DC All PNVTs** Vegetative connectivity provides for species dispersal, genetic exchange, and daily and seasonal movements across multiple spatial scales. **DC All PNVTs** Organic soil cover and herbaceous vegetation protect soil, facilitate moisture infiltration, and contribute to plant and animal diversity and ecosystem function. **DC All PNVTs** Diverse vegetation structure, species composition, densities, and seral states provide quality habitat for native and desirable nonnative plant and animal species throughout their life cycle and at multiple spatial scales. Landscapes provide for the full range of ecosystem diversity at multiple scales, including habitats for those species associated with late seral states and old growth forests. **DC All PNVTs** Herbivory is in balance with available forage (i.e., grazing and browsing by authorized livestock, wild horses, and wildlife do not exceed available forage production within established use levels). **DC All PNVTs** Shrub components contain a diverse array of native vegetation that is well distributed across the landscape to provide nutritional needs for browsers. **DC All PNVTs** Shrub components contain a diverse array of native vegetation that is well distributed across the landscape to provide nutritional needs for browsers. **DC All PNVTs** Rare or unique plant communities (e.g., agaves, Chihuahuan pine) are intact and persisting. **DC All PNVTs** Herbaceous vegetation amount and structure (e.g., plant density, height, litter, seed heads) provides habitat to support wildlife and prey species. **ST All PNVTs** Vegetation treatments shall include	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		measures to reduce the potential for introduction of invasive plants and animals and damage from nonnative insects and diseases. **GD All PNVTs** Restoration methods, such as thinning or prescribed fire, should leave a mosaic of untreated areas within the larger treated project area to allow recolonization of treated areas by plants, small mammals and insects (e.g., long-tailed voles, fritillary butterflies). **DC Wildlife and Rare Plants** Habitat conditions contribute to the recovery of federally listed species. **DC Wildlife and Rare Plants** Habitat is well distributed and connected. Wildlife are free from harassment and disturbance at a scale that impacts vital functions (e.g., breeding, rearing young) that could affect persistence of the species. **DC Wildlife and Rare Plants** Collection of animals and plants does not negatively impact species abundance. **DC Wildlife and Rare Plants** Localized rare plant and animal communities are intact and functioning. **GL Wildlife and Rare Plants** Management and activities should not contribute to a trend toward the Federal listing of a species. **GL Wildlife and Rare Plants** Activities occurring within federally listed species habitat should apply habitat management objectives and species protection measures from recovery plans. **GL Wildlife and Rare Plants** Modifications, mitigations, or other measures should be incorporated to reduce negative impacts to plants, animals, and their habitats and to help provide for species needs, consistent with project or activity objectives. **GL Wildlife and Rare Plants** Cool and/or dense vegetation cover should be provided for species needing these habitat components (e.g., Goodding's onion, black bear, White Mountains chipmunk, western yellow-billed cuckoo).	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		GL Wildlife and Rare Plants Active raptor nests should be protected from treatments and disturbance during the nesting season to provide for successful reproduction. Specifically for northern goshawk nest areas, human presence should be minimized during nesting season of March 1 through September 30. **GL Wildlife and Rare Plants** Any action likely to cause a disturbance and take to bald and golden eagles in nesting and young rearing areas should be avoided per the Bald and Golden Eagle Protection Act. **GL Wildlife and Rare Plants** Prairie dog controls [18] should not be authorized except when consistent with approved State of Arizona Gunnison's prairie dog conservation strategies. **GL Wildlife and Rare Plants** Rare and unique features (e.g., talus slopes, cliffs, canyon slopes, caves, fens, bogs, sinkholes) should be protected from damage or loss to retain their distinctive ecological functions and maintain viability of associated species. **GL Wildlife and Rare Plants** The needs of localized species (e.g., New Mexico meadow jumping mouse, Bebb willow, White Mountains paintbrush) should be considered and provided for during project activities to ensure their limited or specialized habitats are not lost or degraded.	
Wildlife & Fisheries	Increase opportunities for wildlife and fish oriented recreation opportunities.	**DC Dispersed Recreation** Dispersed recreation opportunities (e.g., hunting, fishing, hiking, camping) are available and dispersed recreation sites (e.g., campsites, trailheads, vistas, parking areas) occur in a variety of ROS classes throughout the forests. **DC Dispersed Recreation** Water-based settings are available and the associated recreation opportunities (e.g., canoeing, fishing, waterfowl hunting) do not degrade aquatic resources. **DC Wildlife Quiet Areas** WQAs provide undisturbed, nonmotorized hunting opportunities	The plan language has been modified but retains the same intent as the old plan.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Wildlife & Fisheries	Manage threatened and endangered animal, fish, and plant habitat to achieve declassifying in a manner consistent with the goals established by the U.S. Fish and Wildlife Service and the Arizona Game and Fish Department.	**DC Overall Ecosystem Health** Habitat quality, distribution, and abundance exist to support the recovery of federally listed species and the continued existence of all native and desirable nonnative species. **DC Aquatic Habitat and Species** Habitat conditions contribute to the recovery of federally listed species. **GD Aquatic Habitat and Species** Activities occurring within federally listed species habitat should apply habitat management direction and species protection measures from recovery plans. **DC Wildlife and Rare Plants** Habitat conditions contribute to the recovery of federally listed species. **GD Wildlife and Rare Plants** Activities occurring within federally listed species habitat should apply habitat management objectives and species protection measures from recovery plans. **GD Livestock Grazing** To prevent resource damage (e.g., streambanks) and disturbance to federally listed and sensitive wildlife species, trailing of livestock should not occur along riparian areas. Where no alternative route is available, approval may be granted where effective mitigation measures are implemented (e.g., timing of trailing, number of livestock trailed at one time).	The language in the new plan specifies “recovery” rather than “declassify.” This is more appropriate. The new plan language meets the same intent and provides more specificity for some resources.
Wildlife & Fisheries	Implement threatened and endangered species recovery plans.	**DC Aquatic Habitats and Species** Habitat conditions contribute to the recovery of federally listed species. **GD Aquatic Habitats and Species** Activities occurring within federally listed species habitat should apply habitat management direction and species protection measures from recovery plans. **DC Wildlife and Rare Plants** Habitat conditions contribute to the recovery of federally listed species. **GD Wildlife and Rare Plants** Activities occurring within federally listed species habitat should apply habitat management objectives and species protection measures from recovery plans.	The new plan language is different but provides the same direction as the old plan.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Wildlife & Fisheries	Develop structural wildlife improvements. a) Build all new fences in accordance with wildlife standards. (FSH 2609.11) b) Make livestock water available to wildlife.	**GD Grasslands** New fence construction or reconstruction where pronghorn antelope may be present should have a barbless bottom wire which is 18 inches from the ground to facilitate movement between pastures and other fenced areas. Pole and other types of fences should also provide for pronghorn antelope passage where they are present. **GD Grasslands** Pronghorn antelope fence and other crossings should be installed along known movement corridors to prevent habitat fragmentation. **ST Livestock Grazing** New or reconstructed fencing shall allow for wildlife passage, except where specifically intended to exclude wildlife (e.g., elk fencing). **ST Livestock Grazing** New livestock watering facilities shall be designed to allow wildlife access and escape. **GD Livestock Grazing** During maintenance of existing watering facilities, escape ramps that are ineffective or missing should be replaced. **GD Wildlife Quiet Areas** Fences surrounding and within WQAs should be inspected and improved to allow wildlife movement within and outside of the areas. Fences should be removed if no longer needed. **DC Water Uses** Water developments contribute to fish, wildlife, and riparian habitat as well as scenic and aesthetic values. **OBJ Water Uses** Annually, prepare at least one instream flow water rights application until water acquisition needs are complete to sustain riparian areas, fish, wildlife, and water-based recreation. **ST Water Uses** Special uses for water diversions shall maintain fish, wildlife, and aesthetic values and otherwise protect the environment.	The guidance in the new plan for both fences and livestock water meets the same intent and is also more specific.
Wildlife & Fisheries	Maintain habitat capability through direct treatments of vegetation, soil, and water. c) Retain vegetation screening at known game crossings.	Vegetation Screening: **DC All PNVTs** Vegetative connectivity provides for species dispersal, genetic exchange, and daily and seasonal movements across multiple spatial scales.	Direction in the new plan meets the same intent of previous direction for vegetation screening at game crossings and provides more

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	d) Avoid placement of roads in meadows whenever feasible and obliterate or relocate roads in key meadows presenting conflicts.	**DC All PNVTs** Vegetation conditions provide hiding and thermal cover in contiguous blocks for wildlife. Native plant species are present in all age classes and are healthy, reproducing, and persisting. **GD All Forested PNVTs** Hiding cover, approach cover (by waters), and travel corridor cover should be provided where needed by wildlife. **DC Wildlife and Rare Plants** Modifications, mitigations, or other measures should be incorporated to reduce negative impacts to plants, animals, and their habitats and to help provide for species needs, consistent with project or activity objectives. **GD Motorized Opportunities** New roads, motorized trails, or designated motorized areas should be located to avoid meadows, wetlands, seeps, springs, riparian areas, stream bottoms, sacred sites, and areas with high concentrations of significant archaeological sites. The number of stream crossings should be minimized or mitigated to reduce impacts to aquatic species. **GD Motorized Opportunities** As projects occur, redundant roads or motorized trails should be removed to reduce degradation of natural resources. **GD Motorized Opportunities** Roads and motorized trails should be designed and located so as to not impede terrestrial and aquatic species movement and connectivity. **GD Nonmotorized Opportunities** New trails and trail relocations should be designed and located so as to not impede terrestrial and aquatic species movement and connectivity. **DC Wildlife Quiet Areas** WQAs lack disturbance from motorized vehicles, resulting in less stress to wildlife. **GD Wildlife Quiet Areas** Hiding cover and travelways for wildlife should be maintained to provide for security and connectivity of habitat.	direction for roads in meadows.
Wildlife &	Special consideration will be given to critical big game winter ranges in areas	**DC All PNVTs** Herbivory is in balance with available forage (i.e., grazing and browsing by authorized livestock, wild	The new plan direction broadens previous direction to consider all

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
Fisheries	where big game winter range has been determined to be a limiting factor in achieving big game objectives. In those areas, no new year round grazing or new winter grazing by domestic livestock will be allowed unless their inclusion in a grazing system better meets big game objectives. New land acquisitions in these critical winter range areas will not be used for domestic livestock grazing unless their inclusion in a grazing system better meets big game objectives.	horses, and wildlife do not exceed available forage production within established use levels). **DC All PNVTs** Shrub components contain a diverse array of native vegetation that is well distributed across the landscape to provide nutritional needs for browsers. **DC All PNVTs** Vegetation provides products—such as wood fiber or forage—to help meet local and regional needs in a manner that is consistent with other desired conditions on a sustainable basis within the capacity of the land. **GD Livestock Grazing** Forage, browse, and cover needs of wildlife, authorized livestock, and wild horses should be managed in balance with available forage so that providing for these needs remain at or move toward a healthy, persistent state.	wildlife needs and habitat, not exclusively big game winter range. Big game winter range is to be considered under new plan direction; other potential wildlife and game needs are also to be considered.
Wildlife & Fisheries	Install antelope passes, let down fences, electric fences, or elk jumps wherever necessary to reduce wildlife/fence conflicts.	**GD Grasslands** New fence construction or reconstruction where pronghorn antelope may be present should have a barbless bottom wire which is 18 inches from the ground to facilitate movement between pastures and other fenced areas. Pole and other types of fences should also provide for pronghorn antelope passage where they are present. **GD Grasslands** Pronghorn antelope fence and other crossings should be installed along known movement corridors to prevent habitat fragmentation. **ST Livestock Grazing** New or reconstructed fencing shall allow for wildlife passage, except where specifically intended to exclude wildlife (e.g., elk fencing). **GD Wildlife Quiet Areas** Fences surrounding and within WQAs should be inspected and improved to allow wildlife movement within and outside of the areas. Fences should be removed if no longer needed.	New plan direction is more extensive and specific.
Wildlife & Fisheries	b) Implement the Forest snag policy. Provide at least 55% of a diversity unit with at least 180 snags per 100 acres. In high priority areas, including both edge habitats adjacent to meadows or water,	**DC All PNVTs** Old or large trees, multistoried canopies, large coarse woody debris, and snags provide the structure, function, and associated vegetation composition as appropriate for each forested and woodland PNVTs. **DC Riparian Areas** Vegetation is structurally diverse, often	New plan direction provides snag densities that are specific to vegetation types; average snag densities are to be applied to the entire vegetation type, not just 55%

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	manage for an average of 280 snags per 100 acres.	dense, providing for high bird species diversity and abundance, especially neotropical migratory birds. It includes large trees and snags in the cottonwood-willow and mixed broadleaf deciduous riparian forests to support species such as beaver, yellow-billed cuckoo, bald eagles, Arizona gray squirrel, and various bat species. **GD All Forested PNVTs** Trees, snags, and logs immediately adjacent to active red squirrel cone caches, Abert's squirrel nests, and raptor nests should be retained to maintain needed habitat components and provide tree groupings. **DC Ponderosa Pine** The ponderosa pine forest is composed predominantly of vigorous trees, but declining, top-killed, lightning-scarred, and fire-scarred trees provide snags and coarse woody debris. Snags and coarse woody debris are well distributed throughout the landscape. Ponderosa pine snags are typically 18 inches or greater in diameter and average 1 to 2 per acre. **DC Ponderosa Pine** Where it naturally occurs, Gambel oak is present with all age classes represented. It is reproducing to maintain or expand its presence on capable sites across the landscape. Large Gambel oak snags are typically 10 inches or larger in diameter and are well distributed. **DC Ponderosa Pine** Old growth occurs throughout the landscape, in small, discontinuous areas consisting of clumps of old trees, or occasionally individual old trees. Other old growth components are also present including dead trees (snags), downed wood (coarse woody debris), and/or structural diversity. The location of old growth shifts on the landscape over time as a result of succession and disturbance (tree growth and mortality). **DC Dry Mixed Conifer** The dry mixed conifer forest is composed predominantly of vigorous trees, but declining, top-killed, lightning-scarred, and fire-scarred trees provide snags and coarse woody debris. Snags and coarse woody debris are well distributed throughout the landscape. Snags are typically 18 inches in diameter or greater and average 3	of the area as under the previous plan. Snag densities under the new plan are therefore as high or higher than those required under the old plan.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		per acre. **DC Dry Mixed Conifer** Old growth occurs throughout the landscape, in small, discontinuous areas consisting of clumps of old trees, or occasionally individual old trees. Other old growth components are also present including dead trees (snags), downed wood (coarse woody debris), and/or structural diversity. The location of old growth shifts on the landscape over time as a result of succession and disturbance (tree growth and mortality). **DC Dry Mixed Conifer** Openings surrounding tree groups are composed of a grass, forb, and shrub mix. Some openings may contain individual trees or snags. **DC Wet Mixed conifer** The wet mixed conifer forest is composed predominantly of vigorous trees, but declining, top-killed, lightning-scarred, and fire-scarred trees provide snags and coarse woody debris. Snags and coarse woody debris are well distributed throughout the landscape. The number of snags and logs and amount of coarse woody debris varies by seral state ranging from 8 to more than 16 tons per acre. **DC Wet Mixed conifer** Old growth occurs over large, continuous areas. Old growth components include old trees, dead trees (snags), downed wood (coarse woody debris), and/or structural diversity. The location of old growth shifts on the landscape over time as a result of succession and disturbance (tree growth and mortality). **DC Wet Mixed conifer** There are 20 or more snags greater than 8 inches in diameter per acre and 1 to 5 of those snags are 18 inches or greater in diameter. **DC Spruce-Fir** The spruce-fir forest is composed predominantly of vigorous trees, but declining top-killed, lightning-scarred, and fire-scarred trees provide snags and coarse woody debris. Snags and coarse woody debris are well distributed throughout the landscape. **DC Spruce-Fir** Old growth occurs over large, continuous areas. Old growth components include old trees, dead trees	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		(snags), downed wood (coarse woody debris), and/or structural diversity. The location of old growth shifts on the landscape over time as a result of succession and disturbance (tree growth and mortality). **DC Spruce-Fir** In general, there are 13 to 30 snags greater than 8 inches in diameter per acre and 1 to 3 of those snags are 18 inches or greater in diameter. **DC Madrean Pine-Oak** Snags, averaging 1 to 2 per acre, and older trees are scattered across the landscape. Coarse woody debris averages 1 to 5 tons per acre. **DC Madrean Pine-Oak** Some large patches in the Madrean pine-oak woodland are closed canopy, have multiple age classes, large trees, and old growth-like characteristics (e.g., numerous snags, large coarse woody debris) in order to provide for wildlife such as Mexican spotted owl and black bear that need denser habitat. **DC Pinon-Juniper Savanna** Old growth occurs in isolated locations scattered throughout the landscape, as individual old trees or as clumps of old trees. Other old growth components may also be present including dead trees (snags), downed wood (coarse woody debris), and/or structural diversity. **DC Pinon-Juniper-Persistent Woodland** Snags, averaging one to two per acre, and older trees with dead limbs and tops are scattered across the landscape. Coarse woody debris averages 2 to 5 tons per acre. **DC Pinon-Juniper-Persistent Woodland** Old growth includes old trees, dead trees (snags), downed wood (coarse woody debris), and/or structural diversity. The location of old growth shifts on the landscape over time as a result of succession and disturbance (tree growth and mortality). **GD Wildlife and Rare Plants** During treatments, snags should be retained in the largest diameter classes available as needed to meet wildlife or other resource needs. **GD Landscape Scale Disturbance Events** An adequate	

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		number and size of snags and logs, appropriate for the affected PNVT, should be retained individually and in clumps to provide benefits for wildlife and coarse woody debris for soil and other resource benefits.	
Wildlife & Fisheries	Provide big game, non-game, and upland game habitat in aspen.	**DC Overall Ecosystem Health** Ecological conditions for habitat quality, distribution, and abundance contribute to self-sustaining populations of native and desirable nonnative plants and animals that are healthy, well distributed, connected, and genetically diverse. Conditions provide for the life history, distribution, and natural population fluctuations of the species within the capability of the landscape. **DC Overall Ecosystem Health** Habitat quality, distribution, and abundance exist to support the recovery of federally listed species and the continued existence of all native and desirable nonnative species. **DC All PNVTs** Diverse vegetation structure, species composition, densities, and seral states provide quality habitat for native and desirable nonnative plant and animal species throughout their life cycle and at multiple spatial scales. Landscapes provide for the full range of ecosystem diversity at multiple scales, including habitats for those species associated with late seral states and old growth forests. **DC All PNVTs** Vegetation conditions provide hiding and thermal cover in contiguous blocks for wildlife. Native plant species are present in all age classes and are healthy, reproducing, and persisting. **GD All Forested PNVTs** Hiding cover, approach cover (by waters), and travel corridor cover should be provided where needed by wildlife. **DC Aspen** Areas of aspen occur across the forested landscape and are successfully regenerating and being recruited into older and larger size classes. Size classes have a natural distribution, with the greatest number of stems in the smaller size classes.	The plan components for Aspen will provide for the desired conditions for wildlife species which use the Aspen vegetation type since this will provide a good distribution of Aspen across the landscape as well as a distribution of different stages of Aspen development across the forests. The new plan thus provides greater specificity as to how habitat for wildlife is provided in the Aspen vegetation type.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		DC Aspen Aspen may comprise 10 to 100 percent of the area depending on disturbance (e.g., fire, insects, silvicultural treatments) in multistoried patches. **DC Aspen** As an early seral species, aspen reproduction and recruitment benefit from low severity surface fires in association with ponderosa pine and dry mixed conifer PNVTs, and mixed-severity fires in association with wet mixed conifer and spruce-fir PNVTs. **OBJ Aspen** Aspen dominated and codominated acres within forested PNVTs, representing a range of age classes, are maintained on at least 50,000 acres during the planning period. **GD Aspen** To preclude concentrated herbivore impacts, new surface water development should not be constructed within proximity to aspen stands (approximately a quarter of a mile). Restoration of aspen clones should occur where aspen is over mature or in decline to maintain a sustainable presence of this species at the landscape level. **GD Aspen** When managing for early seral states, competing conifers should be removed from aspen stands when needed to increase aspen longevity and increase diversity of aspen age classes. **GD Aspen** Aspen restoration and retention efforts should include measures to ensure viability of the aspen stand.	
Wildlife & Fisheries	Protect active raptor nest tree groups and advise Wildlife biologist of location. Manage raptor nest tree groups as stands, if possible. Nest group consists of nest tree and adjacent trees and is maintained as follows: - Other raptors – An area extending to 200 feet from active nests is left uncut. - Protect bald eagle winter roosts with a 300 foot uncut buffer zone around the	**GD All Forested PNVTs** Trees, snags, and logs immediately adjacent to active red squirrel cone caches, Abert's squirrel nests, and raptor nests should be retained to maintain needed habitat components and provide tree groupings. **DC Ponderosa Pine** Northern goshawk nest areas have forest conditions that are multi-aged and dominated by large trees with relatively denser canopies than the surrounding forest. **DC Dry Mixed Conifer** Northern goshawk nest areas have forest conditions that are multi-aged but are dominated by	The new direction in the plan provides the same level of protection for raptor nests without specifying arbitrary buffers. The new direction provides protection from disturbance and provides guidance on the habitat elements needed to provide and maintain raptor habitat.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	roost. Prohibit road development in the roost and buffer zone.	large trees with relatively denser canopies than the surrounding forest. **DC Wet Mixed Conifer** Northern goshawk nest areas have forest conditions that are multi-aged but are dominated by large trees with relatively denser canopies than the surrounding forest. **DC Spruce-Fir** Northern goshawk nest areas have forest conditions that are multi-aged but are dominated by large trees with relatively denser canopies than the surrounding forest. **GD Wildlife and Rare Plants** A minimum of six nest areas (known and replacement) should be located per northern goshawk territory. Northern goshawk nest and replacement nest areas should be located around active nests, in drainages, at the base of slopes, and on northerly (northwest to northeast) aspects. Nest areas should be 25 to 30 acres each in size. **GD Wildlife and Rare Plants** Northern goshawk post-fledging family areas (PFAs) of approximately 420 acres in size should be designated around the nest sites. **GD Wildlife and Rare Plants** Active raptor nests should be protected from treatments and disturbance during the nesting season to provide for successful reproduction. Specifically for northern goshawk nest areas, human presence should be minimized during nesting season of March 1 through September 30. **GD Wildlife and Rare Plants** Any action likely to cause a disturbance and take to bald and golden eagles in nesting and young rearing areas should be avoided per the Bald and Golden Eagle Protection Act.	
Wildlife & Fisheries	Cover corridors are laid out to connect treated areas, or breaks in terrain to provide interconnecting cover corridors. Known or suspected routes of game travel are used to lay out cover corridors.	**DC Overall Ecosystem Health** Ecological conditions for habitat quality, distribution, and abundance contribute to self-sustaining populations of native and desirable nonnative plants and animals that are healthy, well distributed, connected, and genetically diverse. Conditions provide for the life history, distribution, and natural population	The new plan direction is both more extensive and provides for wildlife species other than game species.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		fluctuations of the species within the capability of the landscape. **DC Overall Ecosystem Health** Large blocks of habitat are interconnected, allowing for behavioral and predator-prey interactions, and the persistence of metapopulations and highly interactive wildlife species across the landscape. Ecological connectivity extends through all plant communities. **DC All PNVTs** Vegetative connectivity provides for species dispersal, genetic exchange, and daily and seasonal movements across multiple spatial scales **GD All Forested PNVTs** Hiding cover, approach cover (by waters), and travel corridor cover should be provided where needed by wildlife. **GD All Woodland PNVTs** Hiding cover, approach cover (by waters), and travel corridor cover should be provided where needed by wildlife. **DC Wildlife and Rare Plants** Habitat is well distributed and connected. **GD Wildlife Quiet Areas** Hiding cover and travelways for wildlife should be maintained to provide for security and connectivity of habitat. **DC Natural Landscape** These areas contribute to ecosystem and species diversity and sustainability; serve as habitat for plants and animals; and offer wildlife corridors, reference areas, primitive and semi-primitive nonmotorized recreation opportunities, and places for people seeking natural scenery and solitude.	
Wildlife & Fisheries	Wildlife use will be controlled in areas in unsatisfactory condition where wildlife use is a significant causative factor affecting condition.	**DC All PNVTs** Herbivory is in balance with available forage (i.e., grazing and browsing by authorized livestock, wild horses, and wildlife do not exceed available forage production within established use levels). **DC Riparian Areas:** The ecological function of riparian areas is resilient to animal and human use. **DC Livestock Grazing:** Livestock grazing is in balance with	The new plan direction meets the intent of the previous direction with out mandating wildlife control. Where resource concerns occur and wildlife is a contributing factor, control is not precluded (as demonstrated by the Standard in the Livestock Grazing section).

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		available forage (i.e., grazing and browsing by authorized livestock, wild horses, and wildlife do not exceed available forage production within established use levels). **ST Livestock Grazing** New or reconstructed fencing shall allow for wildlife passage, except where specifically intended to exclude wildlife (e.g., elk fencing). **GD Livestock Grazing** Critical areas should be managed to address the inherent or unique site factors, conditions, values, or potential conflicts associated with them. **GD Livestock Grazing** Forage, browse, and cover needs of wildlife, authorized livestock, and wild horses should be managed in balance with available forage so that providing for these needs remain at or move toward a healthy, persistent state.	
Wildlife & Fisheries	Evaluate need, maintain and improve meadows by eliminating competing conifers, stabilizing gullies to restore water tables, and reseeding with species desirable to wildlife.	**DC Soil** Soils are stable within their natural capability. Vegetation and litter limit accelerated erosion (e.g., rills, gullies, root exposure, topsoil loss) and contribute to soil deposition and development. **GD Soil** Severely disturbed sites should be revegetated with native plant species when loss of long term soil productivity is predicted. **GD Soil** Locally collected seed should be used where available and cost effective. Seeds should be tested to ensure they are free from noxious weeds and invasive nonnative plants at a State certified seed testing laboratory before acceptance and mixing. **DC Grasslands** Woody (tree and shrub) canopy cover is less than 10 percent. **OBJ Grasslands** Decrease or maintain the woody canopy cover at less than 10 percent by treating up to 25,000 acres annually. **GD Grasslands** Restoration treatment of grasslands should result in a woody canopy cover of less than 10 percent; more than one treatment may be required. **GD Grasslands** Mechanical restoration of grasslands	All aspects of the previous direction are retained under new plan direction. The new plan also sets desired conditions for when action is needed to remove encroaching conifers.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		should emphasize individual tree removal to limit soil disturbance.	
Wildlife & Fisheries	Evaluate need and construct fences where necessary to protect key meadows from grazing.	**DC All PNVTs** Herbivory is in balance with available forage (i.e., grazing and browsing by authorized livestock, wild horses, and wildlife do not exceed available forage production within established use levels). **DC Riparian Areas** The ecological function of riparian areas is resilient to animal and human use. **DC Livestock Grazing** Livestock grazing is in balance with available forage (i.e., grazing and browsing by authorized livestock, wild horses, and wildlife do not exceed available forage production within established use levels). **ST Livestock Grazing** New or reconstructed fencing shall allow for wildlife passage, except where specifically intended to exclude wildlife (e.g., elk fencing). **GD Livestock Grazing** Critical areas should be managed to address the inherent or unique site factors, conditions, values, or potential conflicts associated with them. **GD Livestock Grazing** Forage, browse, and cover needs of wildlife, authorized livestock, and wild horses should be managed in balance with available forage so that providing for these needs remain at or move toward a healthy, persistent state.	The new plan direction meets the intent of the previous direction with out mandating fencing. Where resource concerns occur fencing is not precluded (as demonstrated by the Standard in the Livestock Grazing section).
Wildlife & Fisheries	Maintain existing antelope range.	**DC Grasslands** During the critical pronghorn fawning period (May through June [12]), cool season grasses and forbs provide nutritional forage; while shrubs and standing grass growth from the previous year provide adequate hiding cover (10 to 18 inches) to protect fawns from predation. **OBJ Grasslands** Decrease or maintain the woody canopy cover at less than 10 percent by treating up to 25,000 acres annually. **GD Grasslands** Restoration treatment of grasslands should result in a woody canopy cover of less than 10 percent; more than one treatment may be required.	The new plan direction is more specific about requirements for maintaining existing antelope range.

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
		GD Grasslands New fence construction or reconstruction where pronghorn antelope may be present should have a barbless bottom wire which is 18 inches from the ground to facilitate movement between pastures and other fenced areas. Pole and other types of fences should also provide for pronghorn antelope passage where they are present. **GD Grasslands** Pronghorn antelope fence and other crossings should be installed along known movement corridors to prevent habitat fragmentation. **DC Wildlife Quiet Areas** Woolhouse WQA on the Lakeside Ranger District provides high quality winter range for pronghorn antelope and elk within a busy and heavily used wildland-urban interface.	
Wildlife & Fisheries	Manage waters capable of supporting fish to maintain a fishery.	**DC Aquatic Habitat and Species** Desirable nonnative fish species provide recreational fishing in waters where those opportunities are not in conflict with the recovery of native species. **DC Dispersed Recreation** Dispersed recreation opportunities (e.g., hunting, fishing, hiking, camping) are available and dispersed recreation sites (e.g., campsites, trailheads, vistas, parking areas) occur in a variety of ROS classes throughout the forests. **DC Dispersed Recreation** Water-based settings are available and the associated recreation opportunities (e.g., canoeing, fishing, waterfowl hunting) do not degrade aquatic resources.	New plan direction maintains the intent of the old plan direction while clarifying the need to balance desirable nonnative fish with native fish.
Wildlife & Fisheries	Manage waters to perpetuate Apache Trout in order that this species can be delisted from the endangered category.	**DC Aquatic Habitats and Species** Streams and aquatic habitats support native fish and/or other aquatic species providing the quantity and quality of aquatic habitat within reference conditions [8]. **DC Aquatic Habitats and Species** Native fish, reptile, amphibian, and invertebrate populations are free from or minimally impacted by nonnative plants and animals.	New plan direction is broadened to cover more than Apache Trout.
Wildlife & Fisheries	Manage for or maintain habitat capability for Arizona trout, rainbow trout, brook	**DC Aquatic Habitats and Species** Desirable nonnative fish species provide recreational fishing	New plan direction maintains the intent of the old plan direction while

Resource	1987 Plan Content (as amended). Page numbers refer to electronic version.	New Plan Direction (and or retained/modified direction)	Rationale for Deleting or Modifying 1987 Plan Direction
	trout, brown trout, loach minnow, and spinedace at least 60% of potential.	in waters where those opportunities are not in conflict with the recovery of native species.	clarifying the need to balance desirable nonnative fish with native fish.

Footnotes for Appendix I

[1] Degrading factors include, but are not limited to, actions that cause or maintain high departure from historic vegetation conditions, unsatisfactory or impaired soil condition, nonfunctioning riparian areas, impaired species habitat, occurrence of invasive species, and unstable road and trail conditions.

[2] Satisfactory soil condition exists when indicators signify that soil function is being sustained and soil is functioning properly and normally. The ability of soil to maintain resource values and sustain outputs is high.

[3] Tolerance soil loss rates are the maximum rates that soil can erode and not reduce long term soil productivity. These were established for each terrestrial ecosystem mapping unit component and are described in the "Terrestrial Ecosystem Survey for the Apache-Sitgreaves National Forests" (Laing et al., 1987, as amended).

[4] Detrimental changes are described in species-specific literature (e.g., recovery plans, listing and critical habitat designations, conservation strategies).

[5] Based on the site capability as defined by the specific map unit under consideration in the "Terrestrial Ecosystem Survey for the Apache-Sitgreaves National Forests" (Laing et al., 1987 as amended).

[6] The spatial extent of wetlands is delineated in the 2011 RMAP (Regional Riparian Mapping Project) found in the forests' GIS database.

[7] Plant height source material: Vine 1960; Hermann 1970, 1975; Hitchcock and Chase 1971; McDougall 1973; Correll and Correll 1975; Gould 1977; Martin and Hutchins 1980; Benson and Darrow 1981; Hickman 1993; Cronquist et al., 1997; Ruyle and Young 1997; Welsh et al., 1997; Hurd et al., 1998; Barkworth et al., 2003, 2007; Flora of North America 2008; and Springer et al., 2009.

[8] Reference conditions are described in species-specific literature and research.

[9] Species composition and cover amounts and the amount of vegetation and litter needed for soil protection are described by ecological unit in the "Terrestrial Ecosystem Survey for the Apache-Sitgreaves National Forests" (Laing et al., 1987, as amended).

[10] Based on site capability as defined by the specific ecological unit under consideration in the "Terrestrial Ecosystem Survey for the Apache-Sitgreaves National Forests" (Laing et al., 1987, as amended).

[11] See the Nationwide Aerial Application of Fire Retardant on National Forest System Land. Final Environmental Impact Statement. USDA Forest Service for species-specific information.

[12] Fawning may extend through mid-July in the high elevation montane/subalpine grasslands.

[13] Sacred sites as defined in E.O. 13007, traditional cultural properties as defined in National Register Bulletin 38, traditional cultural purposes as defined in the 2008 Farm Bill Section 8102, Subtitle B.

[14] The amount of woody material varies by PNVT; see vegetation desired conditions.

[15] Measured on ungrazed plants as an indicator of vigor.

[16] The system of NFS roads and motorized trails is identified in the I-WEB database.

[17] In 2012, there are no areas designated for motorized cross-country travel.

[18] Controls do not include State authorized hunting.

Literature Cited

Conklin, D.A., Fairweather, M.L. (2010). Dwarf mistletoes and their Management in the Southwest. USDA Forest Service, Southwestern Region, R3-FH-10-01. 23 pp. [http://www.fs.fed.us/r3/resources/health]

Forest Service, U.S. Department of Agriculture and U.S. Department of Interior Bureau of Land Management, Bureau of Indian Affairs, Fish and Wildlife Service, and National Park Service (Forest Service and DOI). (2009). Guidance for Implementation of Federal Wildland Fire Management Policy. [online] URL: http://www.nifc.gov/policies/policies_documents/GIFWFMP.pdf.

Reynolds, Richard T., A.J. Sanchez. Meador, J.A. Youtz, T. Nicolet, M.S. Matonis, P.L. Jackson, D.G. DeLorenzo, A.D. Graves. (2013). Restoring the composition and structure in southwestern frequent-fire forests: a science-based framework for improving ecosystem resiliency. Gen. Tech. Rep. RMRS-GTR-310. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 76 pp.

USDA, Forest Service - Southwestern Region. (2013). Desired Conditions for Use in Forest Planning in the Southwestern Region: Development and Science Basis. Final white paper by USFS Region-3 Planning Team members for use by the 1982-rule revision forests. Albuquerque, NM.

United States Department of Agriculture Forest Service. (1986). Terrestrial Ecosystem Survey Handbook. Southwestern Region (Region 3), Albuquerque, NM.