

CONSERVATION ALTERNATIVE

TABLE OF CONTENTS

Note: This alternative will be revised during the public comment period; a final Conservation Alternative will be submitted to the MLNF for inclusion in the Draft EIS by the end of the formal scoping period)

1. INTRODUCTION	2
2. FOREST-WIDE DIRECTION	3
2.1 Watershed and Aquatic Resources	3
1.1.1 Community Water Sources	8
1.1.2 Riparian Management Zones	11
1.1.3 Groundwater-Dependent Ecosystems and Wetlands	15
2.2 Air Quality	19
2.3 Soil Resources	22
2.4 Geologic and Paleontological Resources	24
2.5 Climate Adaptation	24
2.6 Vegetation Communities and Resources	26
2.6.1 Coniferous Forest	27
2.6.2 Deciduous Forest	30
2.6.3 Woodlands	33
2.6.4 Shrublands	38
2.6.5 Herblands	40
2.6.6 Alpine Communities	41
2.6.7 Sparse or Non-Vegetated	43
2.6.8 Native Plant Materials	44
2.6.9 Noxious Weeds and Invasive Species	46
2.6.10 Pollinators	48
2.6.11 At-Risk Plant Species	49
2.7 Wildlife	51
2.7.1 At-Risk Animal Species	56
2.8 Cultural and Heritage Resources	61
2.9 Areas of Tribal Interest	63
2.10 Recreation and Access	67
2.10.1 Recreation Opportunity Spectrum	73
2.10.2 Recreation Special Use Permits	75
2.10.3 Access	76
2.11 Scenery Management	81
2.12 Facilities Management	83
2.13 Land Ownership and Special Uses	84
2.13.1 Lands Special Uses	85
2.14 Minerals and Energy Resources	86

2.15 Fire and Fuels Management	89
2.16 Livestock Grazing and Range Management	95
2.17 Timber Management	103
2.18 Science (proposed new Forest-Wide Direction section)	105
 3. SPECIFIC AREA DIRECTION	 106
3.1 Designated Areas	106
3.1.1 Wilderness Areas	106
3.1.2 Bears Ears National Monument	110
3.1.3 Research Natural Areas	111
3.1.4 National Scenic Byways	113
3.1.5 National Recreation Trails	113
3.1.6 Mont E. Lewis Botanical Area	114
3.1.7 Great Basin Experimental Range	115
3.1.8 Grove of Aspen Giants	116
3.1.9 Inventoried Roadless Areas (IRAs)	117
3.1.10 Andy Mesa Red Towers Botanical Area (proposed)	121
3.1.11 Heliotrope Botanical Area (proposed)	123
3.2 National Register Sites	124
3.2.1 Great Basin Station Historic District	124
3.2.2 Pinhook Battleground National Register Site	125
3.3 Management Areas	126
3.3.1 Recommended Wilderness Management Areas	126
3.3.2 Eligible Wild and Scenic Rivers Management Area	128
3.3.3 Municipal Watershed Management Area	132
3.4 Geographic Areas	135
3.4.1 Elk Ridge Geographic Area	135
3.4.2 Horn Mountain and Wildcat Knolls Geographic Area	136
3.4.3 Maple Canyon Geographic Area	138
3.4.4 Moab Geographic Area	140
 4 MONITORING PROGRAM	 141

1. Introduction

Goals (GL): *Goals are broad statements of intent, other than desired conditions, usually related to process or interaction with the public.*

Desired Conditions (DC): *A desired condition describes specific social, economic, and/or ecological characteristics toward which management should be directed. Desired conditions must be described in terms that are specific enough to allow progress toward their achievement to be determined, but do not include completion dates.*

Objectives (OB): *An objective is a concise, measurable, and time-specific statement of a desired rate of progress toward DCs. Objectives should be based on reasonably foreseeable budgets.*

Standards (ST): *A standard is a mandatory constraint on project and activity decisionmaking, established to help achieve or maintain DCs, to avoid or mitigate undesirable effects, or to meet applicable legal requirements.*

Guidelines (GD): *A guideline is a constraint on project and activity decisionmaking that allows for departure from its terms, so long as the purpose of the guideline is met.*

Source: 2012 Forest planning rule: 36 CFR 219.7(e)(1)

2. Forest-wide Direction

2.1 Watershed and Aquatic Resources

Goals (FW-WATER-GL)

- 01 Work with partners, cooperators, and hydrologists to study and document trends of water quantity and timing at springs; in streams, lakes, ponds, and reservoirs; and in aquifers.
- 02 In light of frequent drought, rising temperatures, reduced snowpack, and earlier snowmelt, work with partners and cooperators to adapt use and conservation of aquatic ecosystems to support water quantity and timing of flows, water quality, and geomorphic processes associated with these features.
- 03 Obtain and maintain water rights on federal lands in compliance with state and federal water laws and protect change in use or water rights applications that have the potential to adversely impact watersheds, water quality, aquatic life and habitat, recreation and scenic values or other natural resources.
- 04 In collaboration with state and federal agencies and the public, bring all sixth-level watersheds to a proper functioning condition.
- 05 With state agencies, undertake water quality monitoring necessary to determine if surface waters are meeting applicable water quality standards and are fully supporting their designated beneficial uses.

Desired Conditions (FW-WATER-DC)

Watershed Condition

- 01 Restoration of any watersheds functioning at risk or as impaired to properly functioning condition is a management priority.
- 02 Water quality, instream flows and water levels are adequate to maintain and restore riparian resources, channel conditions, fish and aquatic habitat, recreation and scenic values and other natural resources.
- 03 Watersheds, including the rivers, streams, lakes, meadows, fens, wetlands, vernal pools, and springs they encompass and the ecosystems they support, function properly based on the features and processes that maintain the physical and biological integrity and resilience of watershed health, including water quality, in-stream flow regimes, physical and biological

connectivity, robust riparian and aquatic habitat, stream channel stability, and biotic community structure.

Water Quantity

- 04 Water quantity needs and trends (springs, streams, aquifers, wells) on MLNF are known to the MLNF and communicated to the public
- 05 Water quantity is being conserved to ensure favorable flows of water throughout the forest.

Water Quality

- 06 The water quality of all surface and ground waters meets or exceeds all state and federal water quality standards, including the narrative and numeric standards and anti-degradation policies; fully supports designated beneficial uses; and meets the ecological needs of native aquatic and riparian-associated plant and animal species.
- 07 There are no Forest lands or areas that are delivering water, sediment, nutrients, or chemical pollutants that would result in conditions that violate Utah or Colorado water quality standards, fail to comply with total maximum daily loads (TMDLs) or are repeatedly above natural or background levels.
- 08 Water quality for those waters listed as impaired or potentially impaired on the Utah or Colorado 303(d) lists attain meeting state water quality standards and fully supporting designated beneficial uses.
- 09 Road densities in each watershed do not exceed 1.5 miles per square mile and the existing road density does not increase over time in any given watershed. New roads are not constructed unless they are replacing less ecologically sound roads and there is no net increase in mileage.

Objectives (FW-WATER-OB)

Watershed Condition

- 01 Within two years of plan approval, identify and prioritize Class 2 and 3 watersheds for restoration.
- 02 Within three years of plan approval and every subsequent five years, develop five and ten-year action plans for watershed restoration that will return Priority Class 2 or 3 watersheds to proper functioning condition including by stabilizing, rehabilitating, and restoring wetlands, lakes, meadows, vernal pools, springs and fens.
- 03 Within seven years after plan approval and every five years thereafter, move at least two Priority Class 2 or 3 watersheds into a Class 1 watershed condition so that the restored watersheds are properly functioning.

Water Quality

- 04 Within three years of plan approval, identify and prioritize impaired surface waters for restoration.
- 05 Within four years of plan approval and every subsequent five years, develop five and ten-year action plans for restoration of impaired waters so that the waters meet or exceed all state and federal water quality standards, meet the ecological needs of native aquatic and riparian-associated plant and animal species, and fully support designated beneficial uses.
- 06 Within eight years of plan approval and every five years thereafter, restore three priority impaired waters so that the waters meet or exceed all state and federal water quality standards,

fully support designated beneficial uses and meet the ecological needs of native aquatic and riparian-associated plant and animal species.

Water Quantity

- 07 Within five years of plan approval, establish minimum instream flows and water levels needed to maintain and restore riparian resources, channel conditions, fish and aquatic habitat, recreation and scenic values and other natural resources.

Standards (FW-WATER-ST)

Watershed Condition

- 01 An activity that may adversely impact watershed condition cannot be authorized until sufficient data has been collected to represent and document baseline watershed condition and a monitoring plan is developed that will be capable of detecting threshold adverse impacts of the activity.

Water Quality

- 02 An activity that may adversely impact water quality cannot be authorized until sufficient data have been collected to establish and document baseline water quality and a monitoring plan is developed that will be capable of detecting threshold adverse impacts of the activity.

Water Quantity

- 03 To protect surface water flows and groundwater recharge, the construction of any new stock pond is prohibited except where an equal or greater number of stock ponds totaling equivalent quantity of water capture have been decommissioned and revegetated with native plants.

Guidelines (FW-WATER-GD)

- 01 Maintain existing high-quality water and prevent any degradation of water quality of any Forest waters, including rivers, streams, lakes, meadows, fens, wetlands, vernal pools, and springs. Any potential nonpoint or diffuse sources of pollution or waste shall be controlled to the extent feasible through implementation of best management practices or regulatory programs. Limited short term or site-scale effects from activities may be acceptable if they support water quality improvements.
- 02 Protect and restore minimum instream flows and water levels needed to maintain and restore riparian resources, channel conditions, fish and aquatic habitat, recreation and scenic values and other natural resources.
- 03 Take management actions to improve and maintain water quality such that all surface waters are meeting applicable water quality standards and are fully supporting their designated beneficial uses.
- 04 Prioritizing routes in Class 2 and 3 watersheds and watersheds with impaired waters, decommission roads and reclaim user-created routes, focusing on roads that cross or parallel streams and other surface waters so that road densities do not exceed 1.5 miles per square mile.
- 05 Acknowledging valid existing rights, condition access to state- granted water rights or authorizations located on MLNF as necessary to protect aquatic and aquatic-dependent

resources, including scenic and aesthetic values, and protect fish and wildlife habitat on the MLNF.

- 06 Manage activities so that they do not impact the proper function or classification of Class 1 watersheds. Where activities have the potential to impact watershed function in Class 2 or 3 watersheds, manage activities to restore watershed function and to move these watersheds to a properly functioning condition. Limited short term or site-scale effects from activities may be acceptable if they support watershed function improvements.

Monitoring (FW-WATER-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
Desired Condition 01: Restoration of any watersheds functioning at risk or as impaired to properly functioning condition is a management priority.	Are watersheds functioning at risk or impaired watersheds (Class 2 and Class 3) being restored to a properly functioning condition?	Watershed Condition Framework indices and trends; assessment of stream habitat and biota, connectivity; water quality monitoring data.	Each year assess the condition of two watersheds that have been targeted for restoration to measure the effectiveness of restoration efforts.	If monitoring shows that a watershed is not moving toward proper functioning condition, immediately revise and implement a plan to improve and accelerate progress toward restoration of watershed condition.
Desired Condition 02: Watersheds, including the rivers, streams, lakes, meadows, fens, wetlands, vernal pools, and springs they encompass and the ecosystems they support, function properly based on the features and processes that maintain the physical and biological integrity and	Are properly functioning watersheds (Class 1) being maintained?	Watershed Condition Framework indices and trends; assessment of stream habitat and biota, connectivity; water quality monitoring data.	Each year assess the condition of two watersheds classified as properly functioning watersheds, cycling through all watersheds.	If monitoring shows a watershed is not properly functioning, reclassify the watershed and immediately create and implement a plan to restore the watershed to a proper

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
resilience of watershed health, including water quality, in-stream flow regimes, physical and biological connectivity, robust riparian and aquatic habitat, stream channel stability, and biotic community structure.				functioning condition.
<p>Desired Condition 03:</p> <p>The water quality of all surface and ground waters meets or exceeds all state and federal water quality standards, including the narrative and numeric standards and anti-degradation policies; fully supports designated beneficial uses; and meets the ecological needs of native aquatic and riparian-associated plant and animal species.</p>	Is water quality in impaired waters being restored?	Robust water quality monitoring data	Each year monitor water quality in four impaired waters that have been targeted for restoration.	If water quality monitoring data shows that water quality in a priority water is not moving toward compliance with state water quality standards, immediately revise and implement a plan to accelerate progress toward restoring high quality to the water.
<p>Standard 01: An activity that may adversely impact watershed condition cannot be authorized until sufficient data has been collected to represent and document baseline watershed condition</p>	Are authorized actions degrading watershed condition or reducing water quality?	Robust water monitoring data	Authorizations/permits require monitoring at intervals necessary to determine impacts of the activity.	If monitoring reveals adverse impacts exceeding the authorized threshold, the activity must be modified to

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
<p>and a monitoring plan is developed that will be capable of detecting threshold adverse impacts of the activity.</p> <p>Standard 02: An activity that may adversely impact water quality cannot be authorized until sufficient data have been collected to establish and document baseline water quality and a monitoring plan is developed that will be capable of detecting threshold adverse impacts of the activity.</p>				restore baseline condition.

2.1.1 Community Water Sources

Goals (FW-WATERSOURCE-GL)

- 01 Delivery of water of the highest possible quality to communities occurs.
- 02 The MLNF coordinates with local governments, Public Water Systems, water providers and members of the public to protect and improve watershed health and the quality of the surface and ground water in any watershed that serves as a source of water for communities ("Community Water Source Areas").

Desired Conditions (FW-WATERSOURCE-DC)

- 01 Protection and restoration of watershed health in Community Water Source Areas and the quality of water that serves as a source of community supplies is a top management priority.
- 02 Quality of any ground and surface water that serves as a source for community supplies meets or exceeds state and federal water quality standards.
- 03 The boundaries of any Community Water Source Area are properly delineated and updated to include, at a minimum, any lands encompassing sources of surface and ground water contributing to community water supplies, as well as any additional lands over which or through which contaminants or pollutants may move toward or reach any source of drinking water supplying downstream communities.

- 04 Activities within any Community Water Source Area are managed to improve water quality and prevent any potential contamination of or decrease in the quality of surface or ground water.
- 05 To improve and protect water quality and reduce treatment costs, forest cover within Community Water Source Areas is maximized and surface disturbing activities are reclaimed, prohibited and minimized.

Objectives (FW-WATERSOURCE-OB)

- 01 Within three years of plan approval and in conjunction with local governments, Public Water Systems, water providers and members of the public, develop one or more management plans for the Community Water Source Areas that maximize forest cover; maintain and restore high water quality; reclaim, prohibit and minimize surface disturbances; and, ensure that no Forest activities, whether individually or cumulatively, have the potential to contaminate, pollute or adversely impact surface or ground water quality. Continue to initiate this planning process until a management plan is created and implemented for each Community Water Source Area on the MLNF.
- 02 Within four years of plan approval, establish baseline water quality and, with the relevant Public Water System, local government or water provider, determine targets for water quality that meet or exceed water quality standards and whether water quality is meeting these targets. Incorporate the targets into the plans for Community Water Source Areas.
- 03 In the year following the development of the management plan for a Community Water Source Area, implement the plan. At least every four years, evaluate and revise the plan to ensure that the plan is consistent with maximizing forest cover; maintaining and restoring high water quality; reclaiming, prohibiting and minimizing surface disturbances; and, ensuring that no Forest activities, whether individually or cumulatively, have the potential to contaminate, pollute or adversely impact surface or ground water quality and with meeting targets for water quality.

Standards (FW-WATERSOURCE-ST)

- 01 Define the Community Water Source Area to include, at a minimum, any lands encompassing sources of surface and ground water contributing to community water supplies, as well as any additional lands over which or through which contaminants or pollutants may move toward or reach any source of drinking water supplying downstream communities.
- 02 Close Community Water Source Areas to livestock grazing, construction or creation of roads or routes, mineral leasing, the sale of mineral materials and locatable mineral entry.
- 03 Close Community Water Source Areas to any new surface disturbing activity unless the MLNF can establish that the activity is necessary to protect or improve water quality and that any adverse impacts to water quality will last less than 4 months and have been avoided or minimized to the maximum extent practicable.
- 04 Prohibit the construction of any new roads or routes, including temporary roads and ORV routes in any Community Water Source Area and close and restore any user-created or unofficial roads or routes.

Guidelines (FW-WATERSOURCE-GD)

- 01 Comply with all provisions included in an applicable Community Water Source Area management plan
- 02 Manage activities that may impact the Community Water Source Area, including road use and maintenance, urban and wildland uses, recreation and other human activities, domesticated animal use,

fertilizer and pesticide use, air pollution, and utility corridors to maximize forest cover, improve water quality and prevent contamination of or adverse impact to ground or surface water quality.

Monitoring (FW-WATERSOURCE-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
<p>Objective 01: Within three years of plan approval and each subsequent year as necessary and in conjunction with the relevant local government, water provider or public drinking water supplier, develop a management plan for each Community Water Source Area (“CWSA”) to maintain and restore water quality and ensure that any Forest activities that have the potential to impact the CWSA will not cause or contribute to any contamination of surface or ground water.</p>	Are CWSA management plans maintaining and restoring the quality of community water supplies?	Robust water quality monitoring data	At least every four years	If monitoring data indicates a failure to improve water quality or any lowering of water quality, in conjunction with relevant local government, water provider or public drinking water supplier, immediately revise and implement a plan that will ensure that any CWSA is protected and restored.
<p>Objective 02: Within four years of plan approval, establish baseline water quality and, with the relevant Public Water System, local government or water provider, determine targets for water quality that meet or exceed water quality standards and whether water quality is meeting these targets. Incorporate the targets into the plans for Community Water Source Areas.</p>				
<p>Objective 03: In the year following the development of any CWSA plan,</p>				

implement the plan. At least every four years, evaluate and revise the plan to ensure that CWSA are protected and restored.**[original has longer text]				
---	--	--	--	--

2.1.2 Riparian Management Zones

Goals (FW-RMZ-GL)

- 01 Management of uses in riparian areas is highly protective in response to increasing temperature and aridity.

Desired Conditions (FW-RMZ-DC)

- 01 Riparian management zones are established and protected to maintain and restore water quality, native riparian vegetation, soils, bank stability and wildlife habitat.
- 02 The riparian management zones on MLNF:
 - 02.1 provide critical climate refugia in the face of increasing drought and rising temperatures;
 - 02.2 support native, biodiverse, structurally complex vegetation, which in turn supports all or particular life stages of most native wildlife that inhabit the plan area; protects and stabilizes stream banks; reduces erosion; and slows and spreads overbank flow; and provides continued source of culturally significant plants for Tribes;
 - 02.3 serve as important movement corridors for larger species and provide migratory and breeding habitat for birds, bats, and insects;
 - 02.4 provide woody food and dam construction material for beavers in potential beaver habitat; and
 - 02.5 provide critical underbank cover for fish, shade that lowers stream temperatures, and woody material for instream fish habitat.
- 03 **Riparian management zones** for perennial, intermittent and ephemeral streams consist of the stream and the area on either side of the stream extending from the edges of the active channel to the top of the inner gorge, or to the outer edges of riparian vegetation, or a minimum 150-foot slope distance (300 feet, including both sides of the stream channel), whichever is greatest.
- 04 **Riparian management zones** for ponds, lakes, reservoirs, wetlands, and fens/peatlands consist of Category 4a and Category 4b zones:
- 05 **Category 4a** Ponds, lakes, reservoirs, and wetlands greater than 0.5 acre and all sizes of fens/peatlands: Riparian management zones consist of the body of water or wetland and the area to the outer edges of the riparian vegetation; or to the extent of the seasonally saturated soil; or to the distance of the height of one site-potential tree; or 300 feet slope distance from the edge of the maximum pool elevation of constructed ponds and reservoirs or from the edge of the wetland, pond, or lake—whichever is greatest.

- 06 **Category 4b** Ponds, lakes, reservoirs, and wetlands less than 0.5 acre (except fens/peatlands; see category 4a): Riparian management zones consist of the body of water or wetland and the area to the outer edges of the riparian vegetation; or to the extent of the seasonally saturated soil; or to the distance of the height of one site-potential tree; or 100 feet slope distance from the edge of the maximum pool elevation of constructed ponds and reservoirs or from the edge of the wetland, pond, or lake—whichever is greatest.
- 07 The widths of riparian management zones are increased to provide for recovery around degraded or impaired waters or in watershed that are not properly functioning.
- 08 Within all categories of riparian management zones, livestock utilization will not exceed 30%;
- 09 Riparian management zones are expanded via beaver occupancy in potential beaver habitat.
- 10 Riparian vegetation throughout the forest is a diverse mix of native species and structural stages linked to both stream and upland conditions.
- 11 Riparian area woody vegetation includes but is not limited to all age-classes of native conifers, aspen, willows, box elder, maple, dogwood, birch, alder, and cottonwoods. Native riparian graminoids (sedges, rushes, and grasses) are abundant and maintaining streambank stability. Riparian vegetation composition, structure, canopy, bank and ground cover are similar to relevant riparian reference areas.
- 12 The riparian areas of perennial and intermittent streams, seeps, springs, and still water bodies are fully vegetated and stable; ground cover is within 15% of relevant, MLNF reference areas.
- 13 Shrubs and herbaceous plants overhang stream margins within 3' of the water surface, which provides shading and cover (for hiding) for in-stream organisms such as juvenile fish.
- 14 Woody vegetation provides a full range of size/age classes, habitats for aquatic- and riparian-associated wildlife, stream shading, snags and down logs.
- 15 Riparian areas are dynamic and resilient to disturbances in structure, composition, and processes.
- 16 Riparian associated vertebrate and invertebrate animal species are increasing in number of native species and the health (e.g., desirable structure, size) of their populations.
- 17 Native riparian plant communities adjacent to perennial, ephemeral, and intermittent streams are reproducing and exhibiting potential height.
- 18 Non-native plant species and "increaser" native plant species are decreasing.
- 19 Riparian vegetation has sufficient density, root depth, composition, and distribution along the bank and channel bars to develop and maintain, within capacity, stable streambanks and effectively trap fine sediment that is moving through the system.
- 20 Willows are reproducing and tall willows are rising above browse height of wild ungulates.
- 21 Cottonwood galleries are established on existing sand/gravel bars and maintained by floods.
- 22 Woody overstory vegetation provides a variety of wildlife habitats, stream shading, large wood recruitment, and aesthetic values.
- 23 Sufficient and appropriate riparian vegetation is present to support beaver occupancy in potential beaver habitat in order to increase surface and subsurface water storage, reduce the magnitude and erosive activity of floods, help mitigate drought, expand riparian vegetation area, and create diverse habitat for native wildlife.

- 24 Instream flows are sufficient to create and sustain riparian, aquatic and wetland habitats and to retain natural movement of sediment, nutrients and woody debris; composition, and structure of native vegetation are similar to or moving toward reference condition.
- 25 Streams are reconnected with natural floodplains where possible; beavers play an increasing role in expansion of riparian and wetland vegetation.

Objectives (FW-RMZ-OB)

- 01 Treat terrestrial invasive species and remove stressors favoring terrestrial invasive species on at least two stream reaches every year, with an objective of 15-50 miles treated every 5 years. If additional resources are available, additional miles and/or stream reaches may be treated.
- 02 Remove stressors identified as significantly contributing to poor functioning from a minimum of 2-5 acres of nonfunctioning and functioning at-risk riparian areas every year.
- 03 Every 5 years implement restoration activities (e.g., beaver dam analogues) on a minimum of 5 acres of nonfunctioning and functioning-at-risk riparian areas from which key stressors have been removed, across all stream gradients.
- 04 Complete 5-10 aquatic habitat restoration projects (e.g., increase pool quantity, manage ungulates for stream cover, improve fish passage) within the life of the plan (15 years) to benefit aquatic species.
- 05 Within three years of plan implementation, map riparian areas with aspen, willow, and cottonwoods that lack recruitment of young plants to mature height due to ungulate browsing.
- 06 Within one year following plan approval, map the potential for beaver occupancy on MLNF using the Beaver Restoration Assessment Tool (BRAT) and Riparian Condition Assessment Toolbox (R-CAT).
- 07 Within three years following plan approval, prioritize sites for relocation of beaver that must be removed from sites where beaver-human conflicts cannot be mitigated. In coordination with UDWR, transplant beaver from nuisance locations to three prioritized sites on the Forest every five years.
- 08 Reintroduce beaver and their water engineering skills in one-quarter of their suitable habitat within ten years.
- 09 Manage domestic and wild ungulates to restore aspen, willow, and/or cottonwood recruitment where it is lacking on 2-5 riparian acres every year.

Standards (FW-RMZ-ST)

- 01 Activities associated with adverse riparian impacts (e.g., livestock, mining, motorized routes) may not be newly permitted within 200 feet of streams and wetlands without recording site-specific:
 - a. desired conditions for native and non-native riparian vegetation composition and cover;
 - b. predicted trends on vegetation composition, cover, and riparian condition
 - c. a monitoring schedule capable of noting riparian vegetation trends toward or away from desired conditions.
- 02 Beaver dams are not removed unless no reasonable means of managing pond depth or area are feasible to prevent culvert, road, or other problems.

- 03 Instream structures other than addition of woody debris or construction of beaver dam analogues will not be used as a means of restoring stream function. If large woody debris is added, it should provide natural amounts, types, sizes, and spatial distributions of wood both in and along stream channels. The addition of woody debris can be considered only in conjunction with recovery of off channel habitat and cessation of off channel activities that have led to a deficiency of in channel woody debris.
- 04 Salt blocks are not allowed within ¼ mile of water.
- 05 When bank trampling due to human activities or developments (e.g., livestock, roads, routes, trails) exceeds 15 percent for any 200 feet of stream length (i.e., this equals 400 feet by counting both stream sides), one or more of the activities must be altered or eliminated to reduce the bank trampling to 15% or lower.
- 06 New or replacement spring and seep livestock developments shall not allow livestock to trample the spring or seep riparian vegetation within 50 feet of the water; the springs and seeps must be fenced.
- 07 No seep or spring can be newly developed without the removal of development from a greater number of seeps and springs on the Forest.
- 08 New or replacement spring and seep livestock developments cannot allow livestock to trample the spring or seep riparian vegetation within 100 feet of the water; the springs and seeps must be fenced.
- 09 All water development structures must be in proper functioning condition prior to permitted cattle entry into a pasture
- 10 In every case in which it has legal authority, the Forest will maintain streamflows to sustain aquatic biota during all seasons and including drought.
- 11 Livestock impacts to riparian areas are limited through 30% utilization limits

Guidelines (FW-RMZ-GD)

- 01 Manage riparian areas of all fish-bearing streams to 90 percent their potential for late-seral, native vegetation and all other streams to at least 75 percent of their potential for late-seral, native vegetation.
- 02 Manage use near seeps, springs and riparian areas or other water sources to maintain water quality and quantity.

Monitoring (FW-RMZ-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
Desired Condition (partial 02): MLNF conditions support expansion and	Are native fish populations allowed to move freely, mate, reproduce, and spawn in a manner	•Quality, salinity, and turbidity of waterways;	A report every three years	Reports indicate plans for restoring beaver and fish.

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
restoration of beaver and native fish populations to their historic range.	unaffected by the management of the MLNF?	<ul style="list-style-type: none"> •Increases in use of traditional spawning areas; •increases in populations of native fish species; •Minimal or no conflicts between native and nonnative fish species. 		

2.1.3 Groundwater-Dependent Ecosystems and Wetlands

Goals (FW-WETLAND-GL)

- 01 Amid rising temperatures and frequent droughts, uses of the MLNF are managed adaptively under the priority to retain groundwater levels in all groundwater-dependent ecosystems (GDEs), including peatlands, marshes, fens, wetlands, seeps, springs, riparian areas, and groundwater-fed streams and lakes.
- 02 Collaborate with Tribes when rehabilitating or developing springs.

Desired Conditions (FW-WETLAND-DC)

- 01 Groundwater-dependent ecosystems persist in size and seasonal and annual timing and exhibit water table elevations within the natural range of variation. Surface and groundwater flows are connected, provide late-season stream flows and cold water temperatures, and sustain the function of surface and subsurface aquatic ecosystems.
- 02 Upland areas surrounding wetlands that have the most direct influence on wetland characteristics, as well as stream segments that flow directly into wetlands, sustain the characteristics and diversity of those wetlands. Non-forested areas in and surrounding wetlands are composed of native plant and animal communities that support and contribute to wetland ecological and habitat diversity.
- 03 Habitats and native assemblages of aquatic and riparian-associated plants and animals are free of persistent non-native species such as zebra mussels, New Zealand mud snails, quagga mussels, Eurasian milfoil, and brown trout. Non-native species (e.g., non-native bullfrogs, Chytrid fungus, yellow flag iris, or reed canary grass) are not expanding into waterbodies.

- 04 Peatlands, including fens, have the necessary soil, hydrologic, water chemistry, and vegetative conditions to provide for continued fen development and resilience to changes in climate and other stressors. Peatlands support unique plant and animal species that are characteristic of historical conditions.
- 05 Trees exist on drier hummocks within and on the edge of peatlands but do not retard development.

Objectives (FW-WETLAND-OB)

- 01 Two degraded GDEs (including fens, wetlands, wet meadows, seeps, springs, riparian areas, groundwater-fed streams and lakes) are restored each year. The cause of degradation is identified and removed as feasible, and measures are taken to prevent future degradation post-restoration.
- 02 Within two years of plan approval develop a proposal for a network of GDE reference areas. Begin implementation of reference area protection within the following two years (within four years of plan approval).
- 03 Restore native vegetation and natural water flow patterns on at least 6 acres of wetlands within five years of plan approval.
- 04 Implement restoration activities to improve hydrologic and ecological function on 1–5 acres of GDEs to provide ecological conditions suitable for at-risk species every 5 years of the plan cycle for the duration of the plan.
- 05 Conduct field validation on the Forest Fen report within three years. Conduct field validation on the *Fen Mapping for the Manti-La Sal National Forest* report within three years
- 06 Within five years of plan approval, have established relationships with Tribal natural and cultural resource specialists to identify culturally significant springs. Tribal interests and advice of experts will be considered with equal weight to agency staff in management decisions.

Standards (FW-WETLAND-ST)

- 01 Ground-disturbing vegetation treatments in the riparian management zones for peatlands, and fens shall only occur in order to restore or enhance aquatic and riparian-associated resources.
- 02 No new wells will be drilled for the extraction of water for livestock so as not to jeopardize the persistence of GDEs and their current water quantity and water table elevation.
- 03 **(Category 4a, inner RMZ)** Vegetation management shall only occur in the *inner* riparian management zone in order to restore or enhance native aquatic and riparian-associated resources. Exceptions may occur as long as native aquatic and riparian-associated resources are maintained. Exceptions shall be limited to (1) non-mechanical treatments such as prescribed fire, sapling thinning, or hand fuel reduction treatments; (2) mechanical fuel reduction treatments in the wildland-urban interface within 300 feet of private property boundaries; or (3) treatments that address human safety hazards (e.g., hazard trees adjacent to infrastructure or within administrative or developed recreation sites).
- 04 Comply with or exceed state water quality standards. If water quality standards are not met, immediately modify the contributing action until water quality complies with state standards.
- 05 In the case of drought affecting GDE water quantity and size, modify management of water-intensive land uses to ensure GDEs persist in size.

- 06 New or reconstructed water developments or impoundments will retain water at the source and allow some natural overland flow to maintain spring function
- 07 Livestock water is returned to overland flow when livestock are not in the pasture.
- 08 Salt blocks are not allowed within ¼ mile of springs and seeps.
- 09 No well may be drilled at a spring or stream experiencing a decline in water quantity
- 10 No seep or spring can be newly developed without the removal of development from an equal or greater number of seeps and springs of equivalent water quantity.
- 11 New or replacement spring and seep livestock developments shall not allow livestock to trample the spring or seep riparian vegetation within 50 feet of the water; the springs and seeps must be fenced if accessible to livestock.

Guidelines (FW-WETLAND-GD)

- 01 Consult with Tribes regarding cultural significance of particular springs, and prepare in collaboration with Tribes, management plans for protection and management of culturally significant springs.
- 02 **Inner riparian management zone for categories 4a and 4b except fens/peatlands)** To reduce the risk of sediment input and to protect the integrity of aquatic and riparian ecosystems, new landings and new roads (including temporary roads) should not be constructed. Exceptions for temporary roads and landings may be considered only where site-specific analysis and implementation of mitigation measures are determined to be appropriate by a Forest aquatics specialist to protect native aquatic and riparian species.
- 03 To prevent incidental mortality of at-risk species and to minimize the spread of aquatic nuisance species and aquatic pathogens, aircraft dip sites and drafting locations should be located away from known occurrences of at-risk species (e.g., cutthroat trout, boreal toad, etc.) and in areas free of aquatic nuisance species and aquatic pathogens.
- 04 Manage all GDEs known to be utilized by Forest sensitive, candidate, threatened or endangered species so as to ensure the continued local viability of such species

Monitoring (FW-WETLAND-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
Objective 01: Two degraded GDEs (including fens, wetlands, wet meadows, seeps, springs, riparian areas, groundwater-fed streams and lakes) are restored each	Are improvements and restoration activities achieving stated goals?	Objective, georeferenced measures appropriate to stated goals of the improvement or restoration activities, accompanied by a monitoring report that will be	1 st , 3 rd , and 5 th year after restoration activity completed	Modify the original activity to achieve the original restoration goals. Resume a 1 st , 3 rd , and 5 th year of monitoring following the modified activity if it is significantly different than the original activity.

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
<p>year. The cause of degradation is identified and removed as feasible, and measures are taken to prevent future degradation post-restoration.</p> <p>Objective 03: Restore native vegetation and natural water flow patterns on at least 6 acres of wetlands within five years of plan approval.</p> <p>Objective 04: Implement restoration activities to improve hydrologic and ecological function on 1–5 acres of GDEs to provide ecological conditions suitable for at-risk species every 5 years of the plan cycle for the duration of the plan.</p>		updated at each monitoring event.		

2.2 Air Quality

Goals (FW-AIR-GL)

- 01 Federal, state, and tribal partners help protect air quality within the MLNF
- 02 Emissions of air pollutants, including fugitive dust and greenhouse gases are minimized and noise pollution is avoided or minimized by all users.
- 03 Class II areas on the MLNF, including Dark Canyon Wilderness Area, are designated and monitored for their WAQVs or AQRVs , and their air quality values are protected or restored, in partnership with external governments, non-governmental entities and the public.

Desired Conditions (FW-AIR-DC)

Air quality

- 01 Emissions of air pollutants from Forest activities do not cause or contribute to exceedances of state or federal air quality standards, regulations or requirements; are in compliance and conformance with state and federal implementation plans; protect and do not consume Class I and Class II increments; and do not adversely impact air quality related values (AQRVs) or wilderness air quality values (WAQVs), both on the MLNF and in nearby Class I and Class II areas; or visibility, watersheds, water quality, human and ecosystem health, and high quality recreation.
- 02 Air quality in Forest Class II airsheds fully support AQRVs, WAQVs, visibility, flora, fauna, soils and aquatic resources; and air pollution, including ozone, particulate matter, and deposition of nutrients, acids and toxics, do not harm Forest ecosystem resources.
- 03 A minimal system of unpaved roads and 30% utilization by livestock minimize generation of dust.

Soundscape

- 04 Natural ambient sound dominates and noise pollution is eliminated or minimized to the greatest extent possible.

Objectives (FW-AIR-OB)

Air quality

- 01 Within two years of plan approval, designate WAQVs and corresponding sensitive receptors for Dark Canyon Wilderness Area, design and implement a protocol for monitoring the WAQV sensitive receptors and establish baseline conditions of the sensitive receptors.
- 02 Within four years of plan approval, designate AQRVs and corresponding sensitive receptors for two additional representative Class II Forest areas, design and implement a protocol for monitoring the AQRVs sensitive receptors and establish baseline conditions of the sensitive receptors.
- 03 Within two years of identifying an adverse impact on an AQRV or WAQV, design and implement a plan to remediate the impairment and to restore the structure or function of an ecosystem value or the quality of the visitor experience.

Soundscape

- 04 Within four years of plan approval, collaborate with Tribes and interested parties to develop best management practices for preserving and restoring natural soundscapes, including within culturally significant places.

Guidelines (FW-AIR-GD)

Air quality

- 01 Manage activities, actions and projects on the Forest to eliminate or minimize to the greatest extent possible emissions of air pollution, including fugitive emissions and greenhouse gases, including by requiring appropriate design features and best available mitigation and control measures and technology.
- 02 Participate in Prevention of Significant Deterioration (PSD) permitting and NEPA review processes for any proposal that may impact air quality on the Forest and work with state and federal agencies and other stakeholders to ensure the proposed project does not adversely impact air quality or AQRVs and WAQVs on the Forest.
- 03 Maintain a minimal system of unpaved roads and 30% utilization by livestock to minimize generation of dust.
- 04 Require dust abatement during construction and road projects where dust is a potential effect.
- 05 When Forest wildfire smoke has the potential to affect public health or safety, coordinate with federal, state, and tribal partners to monitor and communicate possible smoke impacts on public health, particularly for sensitive populations.

Soundscape

- 06 Implement best management practices and policies to preserve and restore natural soundscapes.

Monitoring (FW-AIR-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
----------------------------	---------------------	-------------------------	----------	-----------------------------

<p>Desired Condition 01: Emissions of air pollutants from Forest activities do not cause or contribute to exceedances of state or federal air quality standards, regulations or requirements; are in compliance and conformance with state and federal implementation plans; protect and do not consume Class I and Class II increments; and do not adversely impact air quality related values (AQRVs) or wilderness air quality values (WAQVs), both on the MLNF and in nearby Class I and Class II areas; or visibility, watersheds, water quality, human and ecosystem health, and high quality recreation.</p>	<p>Is air quality on the Forest fully supporting and not impairing AQRVs and WAQVs, visibility, flora, fauna, soils and aquatic resources?</p>	<ul style="list-style-type: none"> • Sensitive receptors and the condition of AQRVs and WAQVs • water quality • deposition of nutrients, acids and toxics, • the clarity of visibility. 	<p>The Forest will annually monitor sensitive receptors to determine if AQRVs or WAQVs are being protected, rotating each year among the Dark Canyon Wilderness Area or two or more representative Class II areas.</p>	<p>Within two years of identifying an adverse impact on an AQRV or WAQV, the Forest will design and implement a plan to remediate the impairment and to restore the structure or function of an ecosystem value or the quality of the visitor experience.</p>
	<p>Are emissions of air pollution from Forest activities, actions and projects adversely impacting air quality on the Forest or in neighboring airsheds?</p>	<ul style="list-style-type: none"> • Emissions inventories • near and far field air quality modeling • ambient air quality • condition of AQRVs and WAQVs • clarity of visibility, including in nearby Class I and Class II airsheds. 	<p>In addition to monitoring AQRVs and WAQVs, each year the Forest will review regional air quality monitoring data and consult with state and federal air quality agencies and federal land managers, including the National Park Service, to determine if activities on the Forest are adversely impacting neighboring airsheds.</p>	<p>Upon identifying an adverse impact air quality in a neighboring airshed, in consultation with one or more relevant agencies, the Forest will design and implement a plan to reduce emissions of air pollutants from the Forest sufficient to eliminate or minimize any adverse impact.</p>

2.3 Soil Resources

Goals (FW-SOIL-GL)

- 01 All forest users practice minimization of ground disturbance and management activities are engineered so as to minimize ground disturbance to the degree possible.

Desired Conditions (FW-SOIL-DC)

- 01 Upland watershed, soil, and vegetation conditions contribute to healthy, resilient riparian areas, wetlands, and stream channels.
- 02 Areas with sensitive and highly erodible soils or land types with mass failure potential are not detrimentally affected or destabilized as a result of uses or management activities.
- 03 Where natural site conditions allow, biological soil crusts are present or encouraged to reestablish to improve nutrient cycling and stabilize soils (including areas of desert-shrub, grasslands, sagebrush, and alpine ecosystems).

Standards (FW-SOIL-ST)

- 01 Ground-based equipment for vegetation management will only operate on slopes less than 30 percent in order to avoid detrimental soil disturbance. Exceptions will be considered only with a site-specific analysis and documentation that the equipment will maintain soil functions and prevent soil erosion.
- 02 Ground-disturbing management activities will not occur on landslide-prone areas will be avoided. If activities cannot be avoided, a site-specific plan to maintain soil and slope stability will be prepared and retained.
- 03 Vegetation management activities shall not create detrimental soil conditions, including loss of ground cover, severely burned soils, detrimental soil displacement, erosion or compaction, on more than 15 percent of an area on which an activity is undertaken. In activity areas where less than 15 percent detrimental soil conditions exist from prior activities, the cumulative detrimental effect of the current condition and proposed activity must not exceed 15 percent following project implementation and restoration. In areas where more than 15 percent detrimental soil conditions exist from prior activities, the effects from project implementation and restoration must address currently impaired soil functions to improve the long-term soil condition in comparison to pre-treatment condition.
- 04 When decommissioning roads, temporary roads, skid trails, landings, burn pile scars, and non-system roads, use treatment methods that have been demonstrated to improve soil productivity and quality.

Guidelines (FW-SOIL-GD)

- 01 Management activities that result in linear features will be located in areas to avoid excessive soil displacement and compaction.
- 02 Priority will be placed on opportunities for voluntary grazing permit retirement and long-term conservation non-use on soils capable of significant biological soil crust development.

- 03 Wildfire management techniques will minimize ground disturbance impacts, including considerations of placement and size of firelines.
- 04 To provide nutrients and reduce soil erosion, project activities should provide sufficient effective, native ground cover in reference to site potential. Coarse woody debris is retained following management activities at levels supportive of site potential ground cover.
- 05 Provide forest users with information on the values of protecting soil from disturbance.

Monitoring (FW-SOIL-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
<p>Standard 01: Ground-based equipment for vegetation management will only operate on slopes less than 30 percent in order to avoid detrimental soil disturbance. Exceptions will be considered only with a site-specific analysis and documentation that the equipment will maintain soil functions and prevent soil erosion.</p> <p>Standard 02: Ground-disturbing management activities on landslide-prone areas will be avoided. If activities cannot be avoided, a site-specific plan to maintain soil and slope stability will be prepared and retained.</p>	Have ground-disturbing management activities prevented erosion?	<p>MM Vol. 2 Chap. 14; Photo monitoring IIRHv4</p> <p>Indicators 1, 3, 5; PFC1 Item 4; GSSR</p> <p>Preliminary Field Assessment; Photos</p>	First and third year after ground-disturbing projects; repeat after adaptive management actions implemented	<p>Options:</p> <p>1) Alter the site-specific plan to halt erosion4** [typo?]</p> <p>2) Inform similar projects in similar soils</p>

2.4 Geologic and Paleontological Resources

Goals (FW-GEOLOGY-GL)

- 01 Knowledge of and research about the geology and paleontology of the Forest is effectively communicated with the public.

Desired Conditions (FW-GEOLOGY-DC)

- 01 Geological research continually adds to the world's knowledge of our solid Earth, the rocks of which it is composed, and the processes by which they change.
- 02 Geological hazards such as landslides, floods, and sinkholes and associated risks to public health, safety, facilities, and infrastructure are identified through the Forest through landslide mapping.
- 03 Paleontological research continually adds to our knowledge of the plants and animals that have existed prior to the present and their interactions with each other and their environments.
- 04 Paleontological resources (fossil animals and plants) are a world legacy that are protected to the extent possible

Objectives (FW-GEOLOGY-OB)

- 01 The Forest Landslide Risk Model is updated every year.
- 02 Mitigate geological hazards that pose a threat to public safety as soon as feasible, with prioritization based on the immediacy, potential to be averted, and severity of the risk.

Standards (FW-GEOLOGY-ST)

- 01 Protect scientifically important paleontological resource locations and manage using scientific principles and expertise.

Guidelines (FW-GEOLOGY-GD)

- 01 Projects or uses of the land will be analyzed for effects on paleontological resources, including effective mitigation strategies.

2.5 Climate Adaptation

Goals (FW-CLIMATE-GL)

- 01 Climate change – specifically rising air, soil, and water temperatures -- combined with frequent drought, soil aridification, earlier snowmelt, increased probability of wildfire, and increasingly favorable conditions for invasive species, forest pests, and fires – drives management of forest activities and uses that is informed by science-based sensitivity to limits of MLNF species, ecosystems, and water.

Desired Conditions (FW-CLIMATE-DC)

- 01 Forest uses and practices are being modified in response to climate change.

- 02 Natural processes that create and maintain ecosystem conditions maximally resilient to the effects of climate change are supported.
- 03 Ecosystems and species are supported so that they can respond naturally to climate change.
- 04 Forecasts of changing climate, vegetation, and wildlife populations are informing project planning.

Objectives (FW-CLIMATE-OB)

- 01 Within one year of plan implementation, identify the MLNF biological and hydrological elements and processes most vulnerable to increased heat, decreased water availability, and/or increased fire, with annual updates in light of new information.
- 02 Within one year of plan implementation, estimate observed and predicted vegetation production reduction on MLNF using standard models (e.g., Normalized Difference Vegetation Index, [NDVI](#); Evaporative Demand Drought Index, [EDDI](#)).

Standards (FW-CLIMATE-ST)

- 01 All analyses for proposed MLNF projects shall discuss the projected impact of climate change (incl. drought, increased heat, and/or declining water availability) on the resources affected by the activity or project.
- 02 Drought impact mitigation strategies are specified in all relevant permits, uses, and contracts and are implemented when drought triggers (FW-CLIMATE-ST 03) have been exceeded. [compare to monitoring item language] Relevant permits (and livestock Annual Operating Instructions), uses, and contracts that must have drought impact mitigation strategies include, but are not limited to:
 - 01.1 livestock grazing
 - 01.2 food gathering
 - 01.3 seed and other vegetation collection
 - 01.4 fuel wood cutting
 - 01.5 recreational fire and firearms use
- 03 Mitigation strategies with the potential to impact traditional Tribal activities, whether subsistence or ceremonial, may be different than specified in other relevant permits, uses, and contracts, and shall be determined in collaboration and consultation with Tribes, with a shared goal of minimal to no impact on cultural continuity.
- 04 When, on March 15 of each year, the Evaporative Demand Drought Index (EDDI, which estimates atmospheric demand on available soil moisture), indicates moderate drought (D02) in its [3-month index](#), specified mitigation measures (FW-CL-ST 02) will be triggered. A mid-July review may reduce or expand the measures.
- 05 Permits, uses, and contracts shall be temporarily paused or cancelled during threshold drought conditions if:
 - 01.1 drought mitigation measures are not in place;
 - 01.2 drought mitigation measures are not followed; or
 - 01.3 threshold resource conditions triggering non-use are exceeded

Guidelines (FW-CLIMATE-GD)

- 01 MLNF continually reduces generation of greenhouse gases and increases carbon storage.

Monitoring (FW-CLIMATE-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
<p>Standard 02: Specified drought impact mitigation strategies are incorporated into all relevant permits, uses, and contracts to adjust levels of use when drought triggers (FW-CLIMATE-ST 03) have been exceeded. [compare to language in Standard 02, above]</p>	What drought impact mitigation strategies have been implemented?	MLNF notices of implementation of drought impact mitigation strategies.	Semi-annual (March 15 and mid-July)	Institute drought impact mitigation strategies with a notice.
<p>Standard 04: When, on March 15 of each year, the Evaporative Demand Drought Index (EDDI, which estimates atmospheric demand on available soil moisture), indicates moderate drought (D02) in its 3-month index, specified mitigation measures (FW-CLIMATE-ST 02) will be triggered. A mid-July review may reduce or expand the measures.</p>	Is the annual water year precipitation less than 70% of the 30-year average water year?	Evaporative Demand Drought Index (EDDI) 3-month index ,	Annually on March 15 or first working day following, when the EDDI 3-month index indicates moderate drought – March 15 or mid-July	Institute drought impact mitigation strategies identified for relevant permits)

2.6 Vegetation Communities and Resources

Goals (FW-VEGETATION-GL)

- 01 Collaborate with Rocky Mountain Research Station, university researchers, and other scientific entities to incorporate climate change data into conceptions of natural range of variability, productivity, plant migrations, and mortality risks.

- 02 Support existing and future plant material operations, particularly in southern and central Utah, through purchasing available and desirable native plant material products for ecological restoration.
- 03 Collaborate with Tribes to preserve or enhance the biological components of areas of tribal importance.
- 04 Work with partners such as the Utah Watershed Restoration Initiative to undertake and monitor vegetation projects to improve native habitat and fuels management objectives.
- 05 Support and accommodate research by Federal, State, and private entities that improve native plant seed genetics as well as increase native and locally sourced plant material selection, production, and distribution for ecological restoration.

Desired Conditions (FW-VEGETATION-DC)

- 01 Vegetation is a mosaic across the landscape as a result of natural processes and disturbances, including but not limited to mixed severity fires and patches of insect-induced mortality.
- 02 Native vegetation composition, structure, distribution and management provide the life and natural history requirements, including breeding, nesting, foraging, seasonal movements, migration, dispersal, hiding cover, of native terrestrial and aquatic plant and wildlife species.
- 03 Native ground cover, including basal vegetation, litter, moss, lichen, and rock is maintained at levels that contribute to conservation of hydrologic function, soil stability, and biotic integrity, while providing habitat, food, and cover for wildlife species including At-Risk Animals.
- 04 Native vegetation communities with fire histories maintain resiliency and self-perpetuation. Fire disturbance regimes move toward their natural frequency and magnitude.

2.6.1 Coniferous Forest

Goals (FW-CONIFER-GL)

- 01 Climate stresses to coniferous forests throughout MLNF lead to increased reliance on scientific partners and recent science information about management for resilience in the face of disturbance from insects, wildfire, and drought.

Desired Conditions (FW-CONIFER-DC)

- 01 Forested stands retain the tree age and diameter classes that mimic the historical range of variability.
- 02 Forest mosaics are supporting viable populations of native species in increasingly natural patterns of distribution and abundance.
- 03 There is a continuous presence of snags, large logs, and down woody debris, especially snags that are ≥18 inches in diameter and in various stages of decay throughout the landscape.
- 04 Large and old fire adapted trees, such as Douglas fir and ponderosa pine, dominate on drier sites. On cooler, wetter, and higher elevation sites, mosaics of denser, multi-layered forests in varying stages of recovery from disturbance are dominated by fir, spruce, and aspen.
- 05 Old growth stands are well distributed throughout the landscape. Old-growth components include old trees, dead trees (snags), down wood (logs), structural diversity, and appropriate native understory.

- 06 Insect and disease populations are endemic and of natural extent.
- 07 Non-native plants and animals are either not present, or their numbers are declining as they are replaced by native species.
- 08 Periodic fires, including infrequent crown fires, along with windthrow and insect epidemics, are maintaining the high-elevation conifer forest mosaic, and creating abundant habitat for wildlife in the form of snags, downed logs, injured trees, and in some locations, new aspen stands.
- 09 Suitable Mexican spotted owl habitat generally contains habitat heterogeneity and varying structure in patches with interlocking tree crowns, a high percentage of canopy cover, and mature forest components such as large trees, snags, and down woody debris.

Ponderosa pine

- 10 Ponderosa pine forests are dominated by large and old trees.
- 11 Structural stages reflect uneven aged management, with older trees typically being retained to create open, park-like stands. Spatial composition is an arrangement of individual trees, small clumps, and groups of trees, interspersed with variably sized openings of grass or forb vegetation.
- 12 Old growth seral ponderosa pine forests are defined as having a minimum of fourteen trees per acre that are greater than 20 inches in diameter and over 150 years old, have a minimum of two standing snags per acre greater than 15 inches in diameter, and have a minimum of two downed pieces per acre greater than 15 inches in diameter and at least 15 feet in length.
- 13 The area is managed to retain and promote mid-aged, mature, and old ponderosa pine trees in groups with interlocking crowns, with a minimum 22 patches per hectare of over five interlocking canopy trees. The density of mature trees should be greater than 20 trees per hectare, with a basal area over 35 square meters per hectare.
- 14 Young ponderosa pine are maintained at low levels and in patchy configurations among mature and old ponderosa pine.
- 15 Ladder fuels, including young trees and dense brush are cleared two driplines from old-growth ponderosa pine.
- 16 The fire regime is generally low severity with fires replacing less than 25 percent of the upper canopy, with a frequent fire return interval (i.e., 10 to 35 years). Periodic surface fires are thinning seedlings and small trees, recycling nutrients, promoting understory growth, and creating and maintaining habitat for wildlife as snags, downed logs, and burned out root holes.
- 17 Grassy understories dominate beneath ponderosa pine and support a frequent low severity fire regime.

Spruce-fir

- 18 Spruce-fir forests form a mosaic of stands in varying stages of recovery from natural disturbances. Where present, aspen is regenerating and recruiting successfully after disturbance where eventually spruce-fir regenerate in the understory.
- 19 Spruce-fir ground cover is dominated by native vegetation.
- 20 In spruce-fir, principal natural disturbances including infrequent, high-severity fires; insect population eruptions; and windthrow are occurring at intensities, extents, and frequencies characteristic of spruce-fir forests.

Objectives (FW-CONIFER-OB)

- 01 Within three years of plan adoption, identify and map old growth stands of all conifer types.
- 02 Treat a minimum of 5,000 acres of ponderosa pine every 5 years over the life of the plan in order to maintain young ponderosa pine at low levels and in patchy configuration among old growth.

Standards (FW-CONIFER-ST)

- 01 When felling dead conifer trees for aspen recruitment:
 - 01.1 felled trees shall not be removed from site
 - 01.2 not more than 30% of standing snags per acre will be felled;
 - 01.3 the largest 30% of standing snags will not be felled
 - 01.4 protection from browse will be afforded aspen until the majority of aspen exceed 6' in height
- 02 Felling and replanting activities shall not result in the construction of new or reconstruction of old roads.
- 03 Surveys for the following groups of species shall be conducted prior to implementation of any tree cutting activities:
 - 03.1 Federally listed and candidate species
 - 03.2 Species of Conservation Concern
 - 03.3 Sensitive species
 - 03.4 Management Indicator Species
 - 03.5 Other species of concern
 - 03.6 Old growth trees

Guidelines (FW-CONIFER-GD)

- 01 In permitting, planning, design, and administration of activities and uses in conifer forests, maximize the preservation and protection of large and old trees.
- 02 In permitting, planning, design, and administration of activities and uses in conifer forests, preserve, protect, and avoid disturbance of important habitat elements such as large snags, logs, springs, and deciduous trees where they occur.
- 03 Protect old growth stands from harvest and any other uses that threaten their integrity and the viability of native species who occupy them
- 04 Outside the WUI, fuels reduction priorities in mixed conifer include drier mixed conifer forests located at lower elevations, along south- and west- exposures previously dominated by Douglas fir and/or ponderosa pine woodlands.
- 05 Allow natural recovery from recent insect epidemics by retaining snags, down logs, and remaining live trees in affected areas outside the wildland urban interface threat and defense zones and where dead trees do not qualify as hazard trees, as specified in the tree cutting section.
- 06 Re-planting activities shall:

- 07.1 use trees grown from local or regional genotypes;
 - 07.2 use a mix of species that are appropriate to the site and expected natural regeneration patterns;
 - 07.3 include physical closures of open non-system routes within the activity area.
- 07 Maintain ecological heterogeneity at multiple scales by designing treatments and projects to reflect natural variability in the landscape, such as leaving denser forests along north slopes and other areas where there is higher soil moisture.
 - 08 Identify and georeference areas where aspen suckering is occurring within recently burned or beetle-affected areas. If browsing of the top 6" of leaders exceeds 30%, protect the sprouts from livestock and wild ungulates by fencing or felling, and leaving on the ground, dead trees within and along the perimeter of areas where aspen suckering is occurring. Undertake suckering protection projects within one year of the burning or beetle kill.
 - 09 Avoid slash piles and log decks in ponderosa pine habitat. If they are necessary, remove them within two years to discourage habitat for Abert's squirrel competitors and predators.

Monitoring (FW-CONIFER-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
Desired Condition 10 : Ponderosa pine forests are dominated by large and old trees.	Are ponderosa pine forests being managed to increase old growth dominance?	<ul style="list-style-type: none"> • Ponderosa pine stands that are vulnerable to crown fire • Ponderosa pine stands lacking old and large trees 	Ongoing, as the forests are assessed and projects are planned	Define and implement objectives for old growth in treatment prescriptions.

2.6.2 Deciduous Forest

Goals (FW-DECIDUOUS-GL)

- 01 The high value forest users place on aspen provides the MLNF with a unique opportunity to provide information and management direction that supports the long-term retention of aspen on the forest.
- 02 Because the decline of persistent aspen stands at the landscape level, particularly on sites of shallow slope, is often related to excessive ungulate herbivory, management is focused on coordination with the Utah Division of Wildlife Resources and permittees to appropriately reduce herbivory by both wild and domestic ungulates

Desired Conditions (FW-DECIDUOUS-DC)

- 01 Most seral aspen (aspen historically growing with a conifer component) and persistent aspen (i.e., aspen with no significant conifer component) sprouts are successfully recruiting above 6 feet.
- 02 A diversity of robust native grasses, forbs, shrubs, and aspen sprouts are comprising the understory.
- 03 The structure, function, and distribution of aspen are within the natural range of variation; there is a wide age and size distribution of aspen that is contributing to habitat and biodiversity.
- 04 The spatial extent of both persistent and seral aspen forests of diverse heights is increasing.
- 05 Periodic fires of size and severity sufficient to stimulate regeneration are converting seral aspen that is overtopped by conifers to aspen.
- 06 Old aspen, including snags, are conserved and are providing unique and valuable habitat to a diversity of characteristic wildlife.

Objectives (FW-DECIDUOUS-OB)

- 01 Treat 5,000-11,500 acres of seral aspen stands for aspen regeneration and recruitment every 10 years; if additional opportunities and resources are available, more acres may be restored.
- 02 Within one year of plan implementation, map the extent of seral and persistent aspen stands located on slopes of less than 10%.
- 03 Every year sample at least 10% of all aspen located on slopes of less than 10% for (a) recruitment above 6' of young stems; (b) browse intensity of the tallest 6" of leaders; and (c) utilization of understory palatable native grasses, forbs, and shrubs
- 04 Within two years of plan implementation, identify and georeference persistent aspen stands that have lacked significant recruitment associated with browsing for at least 20 years. Provide protection from ungulates for 10% of these stands each year.

Standards (FW-DECIDUOUS-ST)

- 01 Aspen stands are not subject to commercial harvest.
- 02 Where aspen suckers are present following fires and other disturbances that leave few or no overstory aspen, livestock grazing shall be suspended until at least 50% of suckers reach a height of at least 6'.
- 03 Density reduction of small conifers within aspen shall not occur without corresponding alterations of livestock grazing necessary to ensure successful aspen recruitment.
- 04 Conifers felled to impede ungulate browsing shall not be removed until 50% of suckers reach a height of 6 feet, and only in circumstances unlikely to damage suckers.

Guidelines (FW-DECIDUOUS-GD)

- 01 Coordinate with the Utah Division of Wildlife Resources and permittees to appropriately reduce excessive browsing by both wild and domestic ungulates.
- 02 Prepare measurable desired aspen community conditions (including understory) for any restoration activity ("treatment") prior to the activity so (1) the public can understand the

expected outcome of the treatment; (2) whether the treatment was a success can be determined objectively; and (3) triggers will be available for adaptive management at the site or in other treatments.

- 03 Limit livestock grazing in stands where suckers are not reaching 6 feet in height due to browsing or where understory vegetation is of low native species diversity or structural complexity due to grazing.
- 04 Prioritize aspen stands reduced to less than 7 mature trees for temporary high fencing (until sprouts reach above 6' by wrapping wire around outside trees. Fencing is removed when aspen stems are able to survive browsing pressure.
- 05 Managers may use fire to regulate the relative importance or dominance of aspen and conifers at the landscape level, creating complex vegetation mosaics.
- 06 Removal of any aspen (e.g., by mechanical treatment or fire) must be accompanied by a plan for protection of post-treatment aspen sprouts.

Monitoring (FW-DECIDUOUS-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
<p>Standard 03: Density reduction of small conifers within aspen shall not occur without corresponding alterations of livestock grazing necessary to ensure successful aspen recruitment.</p> <p>Standard 04: Conifers felled to impede ungulate browsing shall not be removed until 50% of suckers reach a height of 6 feet, and only in circumstances unlikely to damage suckers.</p> <p>Guideline 06: Removal of any aspen (e.g., by mechanical treatment or fire) must be accompanied by a plan for protection of post-treatment sprouts.</p>	Is aspen recruiting following any vegetation treatment for aspen restoration?	<ul style="list-style-type: none"> • Percent browse of top 6" of leaders • Height (1' or 0.5m increments) 	Annually post-treatment until majority of sprouts exceeds 6'	<p>Select among options that are necessary to insure recruitment:</p> <ul style="list-style-type: none"> • Fencing • Pasture rest from sheep or cattle grazing • Targeted hunt arranged by UDWR • Other option expected to result in recruitment

<p>Guideline 02: Prepare measurable desired aspen community conditions (including understory) for any restoration activity (“treatment”) prior to the activity so (1) the public can understand the expected outcome of the treatment; (2) whether the treatment was a success can be determined objectively; and (3) triggers will be available for adaptive management at the site or in other treatments.</p>	<p>Are understory native grasses, forbs, and shrubs completing flowering and seeding?</p>	<ul style="list-style-type: none"> • Measurements according to the plan prepared prior to the activity. Often the relative presence/absence of seedheads and leaders of palatable shrubs, forbs, and grasses can be recorded with simple transects. 	<p>First and third years after a treatment for aspen restoration .</p>	<p>Select among options that are necessary to insure understory desired conditions:</p> <ul style="list-style-type: none"> • Pasture rest from livestock grazing • Reduced livestock grazing • Exclosures separating livestock from wild ungulate grazing/browsing • Other options expected to result in attainment of aspen community desired conditions.
---	---	--	--	--

2.6.3 Woodlands

Goals (FW-WOODLAND-GL)

- 01 Shifting distributions of woodlands, die-offs, fire regimes, and vulnerability to insects and disease amid climate change lead to adaptive management that closely examines the results of woodlands management projects (“treatments”) and uses.
- 02 The connections of pinyon-juniper woodlands with Indigenous cultural uses, both past and present (e.g., ceremony), are recognized and preserved.
- 03 Coordination with UDWR is ongoing to avoid excessive wild and domestic ungulate browsing and assure recruitment of mountain mahogany.

Desired Conditions (FW-WOODLAND-DC)

- 01 Pinyon and juniper are forming extensive woodlands in lower and mid elevations throughout the MLNF where historically present , and support native wildlife
- 02 Mountain mahogany woodlands and shrublands are forming relatively stable vegetation along ridges, rim rock slopes, rocky outcrops and canyon escarpments, and support native wildlife.
- 03 Populations of native species that are declining and are significantly dependent on woodland communities are conserved.
- 04 Palatable native shrubs, forbs, and grass communities forming woodlands understory provide ground cover equal to or greater than 85% of potential.

- 05 Large and contiguous patches of Gambel oak and shrubs are adequate to meet the needs of diverse native wildlife species.
- 06 Sites with old-growth characteristics such as older trees or shallow or rocky soils are maintained to provide valuable wildlife habitat and migration cover, or to protect stands with cultural or historical values.
- 07 Invasive species neither disrupt ecological processes nor diminish community resilience. Each vegetation type is characterized by numerous successional or structural stages.
- 08 The composition, structure, and function of vegetative conditions are resilient to the frequency, extent, and severity of disturbances, such as insects, disease, fire, and climate variability, and are maintaining viable populations of native species in natural patterns of distribution and abundance.
- 09 In general, fire return intervals mirror historical fire regimes, modified by best available climate change science. The fire regime in pinyon-juniper is generally mixed-severity, including some high-severity fires. The fire regime in Gambel oak and mountain shrub woodlands is generally mixed-severity fires, including some low-severity fires, occurring every 35–200 years.

Objectives (FW-WOODLAND-OB)

- 01 Selectively thin or remove juniper and/or pinyon on up to 1,000 acres of pinyon-juniper every 10 years with priority removal of young juniper and/or pinyon expanding into sagebrush communities historically occupied by Greater Sage Grouse or areas immediately adjacent to occupied Sage Grouse habitat.
- 02 Construct at least one livestock enclosure ($\geq 31' \times 31'$) within each pinyon-juniper project of 100 or more acres, with at least one enclosure established within every 250 acres in order to determine that 85% of potential ground cover is being retained.
- 03 Within 2 two years of plan implementation, map priority areas for pinyon-juniper removal in areas where conflicting resources, such as archaeological resources, are low.
- 04 Within five years of plan implementation, map mountain mahogany woodlands lacking recruitment during the past ten years.

Standards (FW-WOODLAND-ST)

- 01 Pinyon-juniper stands will not be chained.
- 02 Only native species are used in seedings, locally sourced whenever possible. Non-native plant species that are short-lived may be seeded within a woodland community if unavoidable and imminent erosion is likely without such seeding.
- 03 Prepare measurable objectives (including for understory vegetation) for any pinyon-juniper restoration activity (“treatment”) prior to the activity so (1) the public can understand the expected outcome of the treatment; and (2) treatment success or failure can be determined objectively. Include triggers for adaptive management at the site or in other treatments in the pre-treatment plan.
- 04 Livestock will not be present on post-treatment sites until native grasses and forbs have seeded.
- 05 Tree cutting, including fuel wood collection, is prohibited in mountain mahogany woodlands and shrublands.

Guidelines (FW-WOODLAND-GD)

- 01 Do not remove pinyon and/or juniper in drought-stressed areas experiencing die-offs or significant insect infestation of either or both species.
- 02 Design projects to mimic natural conditions for openings, patch size, and spatial distribution.
- 03 Reduce browsing levels where mountain mahogany communities lack recruitment due to browsing, including coordinating with UDWR for maintenance of mountain mahogany habitat.
- 04 Use non-ground-disturbing methods whenever possible when seeding in order to protect cultural and biological resources.
- 05 Avoid pinyon-juniper removal on sites where cheatgrass is present or adjacent and the native understory has been depleted. If a site with cheatgrass potential is treated, prioritize manual methods, prioritize retention of existing biocrusts and native grasses present, seed or plant only native perennial grasses and forbs on the site, and exclude livestock grazing until native vegetation is seeding and dominates the understory.
- 06 Handcutting will be the preferred method of tree removal whenever possible. Prescribed fire may be used to mimic natural fire disturbance, but should be avoided in areas where cheatgrass is present.
- 07 Do not remove pinyon or juniper in areas of high cultural site density, and in areas of moderate density, all work near sites will be performed by hand crews. Trees within sites will be selectively removed as well as those without, so that "site islands" are not created.
- 08 Avoid mechanical treatments in areas with well-developed soil crusts.
- 09 Consider making material resulting from vegetation management actions available to provide a source of fuel and post material to local communities, including tribal members.
- 10 Herbicides will not be used except in targeted applications on individual, non-native plants that pose a severe invasive risk; only selective herbicides will be used.
- 11 Projects should be designed to mimic natural conditions for openings, patch size, spatial distribution, and boundaries.
- 12 Design of management activities should include insurance that adequate levels of residual perennial herbs and ecological site characteristics including soil texture, depth, moisture and temperature regimes, and nutrient cycling can be maintained.
- 13 During vegetation management projects in stands of mature, acorn-producing Gambel oak, retain Gambel oak at least six inches diameter at root collar, but remove Gambel oak within two driplines of Old Growth ponderosa pines.

Monitoring (FW-WOODLAND-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
Desired Condition 03 : Populations of native species that are declining and	Are Species of Conservation Concern or other declining	• Woodland-associated plant species of	• Every five years at all known sites of woodland-	Depending on species and stressors, devise an action plan for sites experiencing a decline

are significantly dependent on woodland communities are conserved.	species associated with woodlands being maintained or restored?	conservation concern acreage, cover, and mortality •Populations of bird species significantly dependent on woodlands	associated plant species of conservation concern • Surveys of woodland dependent, declining bird species every two years	in the number or cover of plant Species of Conservation Concern or a decline in population of woodland dependent birds.
Desired Condition 04: Palatable native shrubs, forbs, and grass communities forming woodlands understory provide ground cover equal to or greater than 85% of potential.	Are desired conditions for native understory species being met after vegetation removal projects?	Diversity and cover of native understory species	Second and fourth years after vegetation removal	<ul style="list-style-type: none"> • Seed native species • Rest from livestock grazing until native species have seeded • Reduce livestock utilization • Alter similar future vegetation removal projects
Desired Condition 09: In general fire return intervals mirror historical fire regimes, modified by best available climate change science. The fire regime in pinyon-juniper is generally mixed-severity, including some high-severity fires. The fire regime in Gambel oak and mountain shrub woodlands is generally mixed-severity fires, including some low-severity fires, occurring every 35–200 years.	What is the current fire occurrence/return interval in woodlands, including in pinyon-juniper persistent woodland, wooded shrubland, and savanna compared to historical regime?	Site, acreage, severity of prescribed and wild fires in woodlands throughout the Forest	Ongoing updates	<ul style="list-style-type: none"> • Wildfires are managed, and prescribed fires planned, in order to approximate historical disturbance in the various woodland types.

<p><u>Objective 02:</u> Construct at least one livestock exclosure ($\geq 31'$ X $31'$) within each pinyon-juniper project of 100 or more acres, with at least one exclosure established within every 250 acres in order to determine that 85% of potential ground cover is being retained.</p>	<p>Is ground cover outside an exclosure less than 85% of ground cover inside?</p>	<p>Ground cover measurement along fixed transects inside and outside each exclosure</p>	<p>Every three years after completion of a pinyon or juniper project</p>	<ul style="list-style-type: none"> • Reduce grazing utilization if ground cover is reduced relative to inside the exclosure. • Reduce other stressors that are contributing to reduced ground cover relative to inside the exclosure.
<p><u>Guideline 01:</u> Do not remove pinyon and/or juniper in drought-stressed areas experiencing die-offs or significant insect infestation of either or both species.</p>	<p>What is the location and extent of pinyon or juniper mortality?</p>	<p>Acreage of heightened pinyon or juniper mortality and establishment areas;</p>	<p>Ongoing observations; and prior to each new pinyon or juniper project.</p>	<ul style="list-style-type: none"> • Consult with Forest Service Research Station and other resources to identify cause(s) of pinyon and juniper mortality, and PJ removal plans are altered in light of die-offs. • Management practices encourage pinyon regeneration on sites that have experienced increased pinyon mortality, and on sites favorable for pinyon establishment, for example by intentionally excluding such areas from ground-disturbing mechanical treatment

2.6.4 Shrublands

Goals (FW-SHRUB-GL)

- 01 As rising temperatures and soil aridification promote invasion of sagebrush communities by non-native annual plant species (particularly cheatgrass), expansion of pinyon and juniper in some locations, and shortened fire return intervals, management of uses within sagebrush communities focuses on support for sagebrush resilience through native bunchgrass restoration, native understory diversity, and biological soil crusts.
- 02 Work with partners to model predictive habitat distribution models for At-Risk plant and animal species in shrubland ecosystems.

Desired Conditions (FW-SHRUB-DC)

- 01 Sagebrush ecosystems support the habitat needs of all sagebrush obligate species.
- 02 A diversity of sagebrush species are thriving on the Forest as unfragmented and diverse plant and wildlife associations, existing on sites of differing moisture, soils, and disturbance.
- 03 Native perennial grasses, forbs, and biological soil crusts are increasing, with native composition and cover moving toward reference area conditions.
- 04 In general, fire return intervals mirror historical fire regimes (including differential fire regimes for different sagebrush communities) modified by best available climate change science.
- 05 In all sage grouse breeding and early brood-rearing habitats, sagebrush communities remain undisturbed by mechanical removal or prescribed fire, and wildfires are suppressed.
- 06 Fragmentation of sagebrush habitat with powerlines, roads, oil and gas development, water developments, fences and other developments is minimized for protection of sagebrush-dependent wildlife.
- 07 Residual grass height is >18 cm (7 inches) unless undisturbed (reference) native vegetation is shorter.
- 08 The composition, structure, and function of vegetative conditions are resilient to the frequency, extent, and severity of disturbances, such as insects, disease, fire, and climate variability, and are maintaining viable populations of native species in natural patterns of distribution and abundance.

Objectives (FW-SHRUB-OB)

- 01 Within two years of plan approval, map and date past sagebrush treatments (e.g., seedings, vegetation removal, native plant reintroduction).
- 02 Undertake passive and/or active restoration on 3,000-5,000 acres of sagebrush habitat every 10 years to restore biocrusts and native grasses and forbs; if additional opportunities and resources are available more acres may be restored.

Standards (FW-SHRUB-ST)

- 01 Measurable desired conditions and adaptive management triggers for any restoration activity ("treatment") will be written prior to the activity so that (1) the public can understand the

desired outcome of the treatment; (2) whether the treatment was a success can be determined objectively; and (3) adaptive management activities are triggered objectively.

- 02 No active conversion of sagebrush and its associated native understory to another vegetation community is permitted.
- 03 Only native grasses and forbs may be seeded in sagebrush communities.

Guidelines (FW-SHRUB-GD)

- 01 If a vegetation project is being undertaken to restore depleted understory of native grasses and forbs, a livestock exclosure at least 31' x 31' will be constructed for every 300 acres of treatment in order to separate post-treatment outcomes due to climate (e.g., drought, increasing temperature) from outcomes due to climate plus grazing.
- 02 After a sagebrush treatment, livestock grazing will be excluded until ≥50% of desired native vegetation species have exhibited reproduction.
- 03 Fire is not used and is suppressed in potential sage grouse breeding habitats dominated by Wyoming big sagebrush and fire is not used in xeric habitats dominated by mountain big sagebrush or other sites susceptible to cheatgrass/exotic invasion post-fire.
- 04 Protection of developed biocrusts is prioritized for any sagebrush treatments by avoiding mechanical disturbance.
- 05 Only manual treatments are permitted in areas with significant invasive plant presence (e.g., cheatgrass) due to the risk of increased invasion post-treatment.
- 06 If soil-disturbing activities are being undertaken in a site with cheatgrass potential, existing biocrusts and native grasses will be prioritized for retention, native perennial grasses and forbs will be planted on the site, and livestock grazing excluded until ≥50% of desired native species have reproduced.
- 07 Seeding will be performed by hand whenever possible to avoid impacts to both cultural and natural resources.
- 08 In Greater Sage Grouse potential nesting and early brood-rearing habitat, pre and post-treatment livestock grazing will be managed to ensure sufficient height and cover of native forbs and grasses for food for Sage Grouse, attraction by forbs of insects, hiding cover, and moisture.
- 09 Herbicide use will be eliminated except in targeted applications on individual, non-native plants that pose a severe invasive risk.

Monitoring (FW-SHRUB-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
Standard 01: Measurable desired conditions and adaptive management triggers for any restoration activity ("treatment") will be	Are desired post-treatment conditions being achieved?	Objective methods for measuring specific post-treatment conditions.	1, 3, and 5 years after a treatment	If triggers are exceeded indicating failure to achieve desired conditions, pre-determined adaptive management

written prior to the activity so that (1) the public can understand the desired outcome of the treatment; (2) whether the treatment was a success can be determined objectively; and (3) adaptive management activities are triggered objectively.				activities will be employed, and future similar treatments will be modified so as to better achieve desired conditions.
--	--	--	--	---

2.6.5 Herblands

Goals (FW-HERB-GL)

- 01 As meadows are frequently intensively used by recreationists, livestock, and wild ungulates, management of meadow vegetation will focus primarily on retention and restoration of native species.

Desired Conditions (FW-HERB-DC)

- 01 The ecological status of meadow vegetation is late seral.
- 02 Fifty percent or more of the relative cover of grasslands is native graminoids.
- 03 Tall forbs with seedheads intact are forming an important part of the subalpine mosaic with spruce-fir forests, aspen, and mixed conifer.
- 04 The mosaic of forests, meadows, and grasslands is providing viable populations of native wildlife in natural patterns of distribution and abundance.
- 05 Bare ground is decreasing, and the proportion of a diversity of native forbs is increasing.

Objectives (FW-HERB-OB)

- 01 Within three years of plan approval identify meadow patches larger than 5 acres where the cover of non-native herbaceous species and/or species unpalatable to ungulates (i.e., "increasers") is greater than 40% cover.
- 02 Annually undertake one project (including as necessary, protection from ungulates) in one mesic meadow to increase the native species diversity (i.e., species richness and evenness) where species unpalatable to ungulates have increased to more than 40% cover.
- 03 Restore the native composition and structure of 100-300 acres of impaired meadows every 10 years.
- 04 Within ten years of plan approval, increase the cover of native herbaceous vegetation within tall forb meadows to at least 60%.

Standards (FW-HERB-ST)

- 01 Livestock grazing shall be excluded from pastures containing two or more patches of tall forb communities of >1 acre exhibiting <50% of tall forbs with seedheads or ≥50% bare ground

Guidelines (FW-HERB-GD)

- 01 Prioritize relocation of non-motorized trails and closure or relocation of motorized routes within tall forb meadows.
- 02 Protect talus, scree, and colluvium habitat elements that provide refugia for high-elevation, herbaceous, habitat-dependent plant and wildlife species; avoid gravel pits and transportation routes in such habitats.

2.6.6 Alpine Communities

Goals (FW-ALPINE-GL)

- 01 As alpine vegetation is one of the most vulnerable habitats for alpine plants and alpine-dependent wildlife due to increasing temperature and forest migration, ungulate and recreation management become priorities in support of the rare alpine vegetation communities on MLNF.
- 02 Partnerships are extensively utilized for mapping recreational and ungulate impacts and removing mountain goats.

Desired Conditions (FW-ALPINE-DC)

- 01 Non-native ungulates and artificial populations of native ungulates and their impacts are absent above 11,000'.
- 02 Alpine habitat and communities above 11,000' are exhibiting minimal impacts from human uses.
- 03 Maximum alpine native biological diversity is retained.
- 04 Contractions in species' ranges and populations in response to climate change are not exacerbated by human or ungulate uses.

Objectives (FW-ALPINE-OB)

- 01 Within one year of plan approval, establish partnerships to accomplish removal of non-native mountain goats from the alpine area of La Sal Mountains.
- 02 Within two years of plan implementation, initiate the removal of mountain goats from the alpine area of La Sal Mountains.
- 03 Within two years of plan implementation, install one informational kiosk, or interpretive sign, at each trailhead for key alpine access areas; if additional resources become available, more installations may occur. Consult Tribes regarding information presentation in the informational kiosk or interpretive signs.
- 04 Within two years of plan implementation, identify and map the location of recreational ground disturbance in the alpine areas.

- 05 Within three years of plan adoption, develop and initiate a plan for minimizing recreational impacts.

Standards (FW-ALPINE-ST)

- 01 Non-native wildlife and plant species will be removed from the Mount Peale Research Natural Area to the extent possible.
- 02 Domestic livestock grazing and horse travel are prohibited above 11,000 feet elevation
- 03 All forms of motorized route, or cross-country travel are prohibited above 11,000 feet.
- 04 Maintain the largest 50% of alpine patches above 11,000' without trails. Within remaining patches, the aggregate of trail density shall not exceed 0.1 mile / square mile.
- 05 Overnight camping is prohibited within the Mount Peale Research Natural Area
- 06 Outfitter-guided groups will be limited to 5 people within the Mount Peale Research Natural Area.

Guidelines (FW-ALPINE-GD)

- 01 Prioritize for rehabilitation those alpine sites most disturbed by mountain goats and unmanaged recreational use.
- 02 Trail construction and maintenance in alpine habitat will avoid at-risk plants and disturbance to important habitat features such as cliffs, talus toe slopes, and seasonally wet areas.

Monitoring (FW-ALPINE-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
Desired Condition 01 : Non-native ungulates and artificial populations of native ungulates and their impacts are absent above 11,000'.	Are cattle, elk, and/or deer and/or their impacts present?	<ul style="list-style-type: none"> Scat counts in vicinity of vegetation patches and on ridges and saddles Motion-activated cameras away from established hiking trails 	<ul style="list-style-type: none"> Annual sample (with scat removed) within georeferenced sites of cattle, elk, and/or deer use Public report every three years of cattle, elk, deer scat trends 	<ul style="list-style-type: none"> Fencing or other cattle management changes Targeted elk/deer hunting
Desired Condition 02 : Alpine habitat and	What alpine areas are being disturbed	Trends downward of the following at an established set	<ul style="list-style-type: none"> Annual sample of 30% of established 	<ul style="list-style-type: none"> Direct recreational use toward

communities above 11,000' are exhibiting minimal impacts from human uses.	by recreational uses and non-native species?	of georeferenced monitoring sites where recreational uses and/or non-native wildlife use are occurring: <ul style="list-style-type: none"> • Dominant vegetation or physical cover type. • Soil • Species of conservation concern • Other plant species (e.g., lichen, moss, cushion plants) 	monitoring sites <ul style="list-style-type: none"> • Public report every three years of alpine area trends 	designated trails <ul style="list-style-type: none"> • Increase signage regarding fragility of alpine communities, and least-impact recreational use
---	--	--	--	---

2.6.7 Sparse or Non-Vegetated

Goals (FW-SPARSE-GL)

- 01 Public appreciation of wildlife (e.g., raptor) use of habitats naturally bare or characterized by sparse vegetation provides support for protecting wildlife and plant species dependent on such habitats.

Desired Conditions (FW-SPARSE-DC)

- 01 Habitat elements (e.g., rocky outcrops, cliffs, undeveloped springs, and alcoves) provide high-quality habitat for associated wildlife (e.g., golden eagles and bat species) and botanical species.
- 02 Alpine talus, rockslide, scree, and colluvium habitat elements provide refugia for high-elevation, alpine/bare rock-dependent plant and wildlife species.
- 03 Human activities, including recreation, occur in conjunction with soil preservation and key wildlife life cycle activities (i.e., nesting, brood raising)

Objectives (FW-SPARSE-OB)

- 01 Within two years of plan implementation, signage at alpine trail headings inform visitors of alpine wildlife needs.

Standards (FW-SPARSE-ST)

- 01 Forest Service activities that would disturb cliff-nesting habitat during the breeding/nesting season are not permitted, except in emergencies.
- 02 Activities that may disturb/destroy talus habitats occupied by American pika are not permitted

2.6.8 Native Plant Materials

Goals (FW-NPM-GL)

- 01 Cooperate and coordinate within the Forest Service and with other federal agencies, Tribes, state, public groups, and commercial growers in the development of native plant materials and supplies.

Desired Conditions (FW-NPM-DC)

- 01 Native plant materials are available and routinely used in revegetation, rehabilitation, and restoration of both aquatic and terrestrial ecosystems.

Objectives (FW-NPM-OB)

- 01 Within two years of plan implementation, and in partnership with federal, state, and public organizations; commercial growers; and Tribes, develop core lists of native plants and short-lived non-native species and menu-based seed mixes by community type, planting guidelines, plant material sources and seed caches and seed storage facilities. Revise every two years.

Standards (FW-NPM-ST)

- 01 Utilize native seeds or seedlings only (but see Standard 02) of local genetic stock whenever possible
- 02 Non-native seeds/plants are used only in limited, emergency situations (i.e., a situation that, if action is not taken, would result in the immediate, severe degradation of soil, hydrology, or biotic conditions).
- 03 If sufficient native seeds/plants are not available, revegetation projects will rarely be undertaken until native plant seed or plants become available, except as an intermediate step to achieve native restoration. Non-native plants selected will be short-lived nurse crop species that are not competitive with natives, will not persist longer than two years, and do not have the potential to spread from the project site. They will be combined with native species to facilitate the ultimate establishment of native communities. Species that are prohibited for seeding include, but are not limited to, crested wheatgrass (*Agropyron cristatum*), smooth brome (*Bromus inermis*), intermediate wheatgrass (*Thinopyrum intermedium*), timothy (*Phleum pratense*), orchard grass (*Dactylis glomerata*), Kentucky bluegrass (*Poa pratensis*), wild oat (*Avena fatua*), Russian wildrye (*Psathyrostachys juncea*), and forage kochia (*Kochia prostrata*).
- 04 Maintenance of past non-native seedings with non-native seeds is prohibited.

Guidelines (FW-NPM-GD)

- 01 To ensure the re-establishment of native vegetation and limit the spread of invasive plants following vegetation, road, or other management activities which disturb or expose soil, reseeding with native plants should occur promptly, ideally within the same growing season.
- 02 Seeding should occur during optimal seeding windows for germination and survival and should utilize weed-free native seed.
- 03 Seed mixes should be approved by a botanist and should include, among other native species, species that have proven capability to compete with invasive plants.

- 04 Revegetation techniques which promote establishment of native species should be incorporated into revegetation planning.
- 05 Use a variety of measures to protect planted and naturally regenerated seedlings from the effects of trampling, browsing, grazing, and girdling by livestock and wildlife. Such measures will typically include temporary suspension of grazing, and may include fencing, tubing, netting, and/or animal repellants.

Monitoring (FW-NPM-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
<p>Standard 03: If sufficient native seeds/plants are not available, revegetation projects will rarely be undertaken until native plant seed or plants become available, except as an intermediate step to achieve native restoration. Non-native plants selected will be short-lived nurse crop species that are not competitive with natives, will not persist longer than a few years, and are unlikely to spread from the project site. They will be combined with native species to facilitate the ultimate establishment of native communities. Species that are prohibited for seeding include, but are not limited to crested wheatgrass (<i>Agropyron cristatum</i>), smooth brome (<i>Bromus inermis</i>), intermediate wheatgrass (<i>Thinopyrum intermedium</i>), timothy (<i>Phleum pretense</i>), orchard grass (<i>Dactylis glomerata</i>), Kentucky bluegrass (<i>Poa pratensis</i>), wild oat (<i>Avena fatua</i>),</p>	Where non-native seedlings have occurred, what is the cover of native and non-native herbaceous plants?	Comparative cover of native and non-native herbaceous plant species within the seeding area	Three and five years after every seeding of non-native seeds	If non-native seeded species are persisting and accounting for more than 20% of the cover after three years, do not seed that non-native seed in other projects.

Russian wildrye (<i>Psathyrostachys juncea</i>), and forage kochia (<i>Kochia prostrata</i>).				
---	--	--	--	--

2.6.9 Noxious Weeds and Invasive Species

Goals (FW-WEEDS-GL)

- 01 As vulnerability to invasive plant species increases with vegetation community stress due to increasing temperatures and frequent droughts, all forest uses are managed in light of their potential for promotion of noxious weeds and invasive plants.
- 02 Forest users participate in providing information to the MLNF regarding noxious weed species.

Desired Conditions (FW-WEEDS-DC)

- 01 The area in which invasive plant species are present is decreasing on MLNF.
- 02 Some persistent and/or invasive non-native plants earlier introduced and/or seeded by the MLNF or users of the Forest (e.g., cheatgrass, Kentucky bluegrass, smooth brome, crested and intermediate wheat grasses) continue to persist, but are declining in area on the Forest relative to native species.
- 03 Invasive/noxious plants comprise less than 10 percent within each non-forest vegetation type or the understory of forest vegetation.
- 04 Stressors favoring the introduction, establishment, and spread of invasive species are being reduced wherever possible.

Objectives (FW-WEEDS-OB)

- 01 Annually treat non-native or invasive plants on 900-2,000 acres/year and 60-70 percent of identified noxious weed sites forest-wide.

Standards (FW-WEEDS-ST)

- 01 Areas of invasive and noxious plant species are mapped before and within two years after each vegetation or transportation project.
- 02 Herbicide use must be linked with stated measures, including reduction of stressors, that will be taken to prevent return of the invasive species.
- 03 Feed for pack stock, and straw and mulch for all projects conducted or authorized by the Forest cannot be brought onto the Forest if it is not state-certified as weed-free.
- 04 Chemical treatments cannot be used unless non-chemical methods have been determined to be ineffective or infeasible.

Guidelines (FW-WEEDS-GD)

- 01 Forest users who report noxious weed species according to Forest guidelines on reporting will be provided with a response acknowledging the report and indicating what action, if any, is being taken by the Forest.

Monitoring (FW-WEEDS-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
<p>Desired Condition 01: The area in which invasive plant species are present is decreasing on the Forest.</p> <p>Standard 01: Areas of invasive and noxious plant species are mapped before and in the second and fifth years after each vegetation or transportation project.</p>	Are invasive species decreasing in area on the MLNF?	Areas of invasive and noxious plant species are mapped before and after each vegetation or transportation project.	The second and fifth year after the vegetation project has been implemented.	If invasive or noxious species have increased after the vegetation or transportation project has been completed, an assessment will be filed with the project case file, along with a plan for reduction of the invasive or noxious species, and recommendations for avoiding invasive species in similar projects on the MLNF.
Objective 01: Annually treat non-native or invasive plants on 900-2,000 acres/year and 60-70 percent of active noxious weed sites forest-wide.	Is forest management or permitted uses contributing to the introduction, establishment, or spread of non-native or invasive plants?	Observation of disturbances that favor the introduction, establishment, or spread of non-native or invasive species, e.g., vegetation treatments, vehicles, recreational use, livestock grazing, or other activities that can be altered.	Ongoing	Alter management to promote the presence, resilience, and/or restoration of native vegetation.

2.6.10 Pollinators

Goals (FW--POLLINATOR-GL)

- 01 MLNF partners with scientists and forest users to identify pollinators and the plant species and habitats they use.
- 02 Public knowledge of the presence and values of native pollinators on MLNF garners effective support for these native pollinators will increase throughout the life of the plan.
- 03 Knowledge of native pollinator species diversity, locations, and trends throughout the MLNF is extensive.

Desired Conditions (FW-POLLINATOR-DC)

- 01 Vegetation communities include significant proportions of native forbs and flowering shrubs to support diverse and self-sustaining native pollinator populations.
- 02 Native pollinators are not adversely affected by honeybee populations, including their diseases or competition.
- 03 Native pollinators are supported with forbs throughout the MLNF, including throughout the livestock growing season.

Objectives (FW-POLLINATOR-OB)

- 01 Within one year following plan approval, a species list of native pollinators known to be present on MLNF is prepared and published on the website, and additional species are added as observed and documented.
- 02 Within three years of plan adoption, assemble habitat and location descriptions important for support of pollinators and pollinator groups (e.g., bumblebees) known to be in decline
- 03 Within one year following plan approval, best management practices for maintenance and support of diverse native pollinators are developed for the MLNF.

Standards (FW-POLLINATOR-ST)

- 01 Permits for honey bee apiaries will not be granted or renewed.

Guidelines (FW-POLLINATOR-GD)

- 01 Support the growth of native forbs to ensure their ability to reproduce and to provide nectar and pollen throughout the growing season for pollinators by setting grazing levels that allow forbs to flower and set seed.
- 02 Phase out existing honey bee apiary permits as opportunities arise.
- 03 Work with partners to assess current pollinator and wildflower populations on MLNF.
- 04 In each livestock grazing permit renewal, state management practices that will support native forbs for native bees, butterflies, moths, and hummingbirds.
- 05 During restoration activities, use native pollinator-friendly, native seed mixes.
- 06 Create pollinator-friendly, signed landscaping on federal facilities during planned improvements.

Monitoring (FW-POLLINATOR-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
Standard 01: Permits for honey bee apiaries will not be granted or renewed. Guideline 02: Phase out existing honey bee apiary permits as opportunities arise.	Are honey bee apiaries present on the MLNF?	Number of honey bee apiaries by permit and site	Every year	If honey bee apiaries have been permitted in the past, examine opportunities for permit retirement.

2.6.11 At-Risk Plant Species

Goals (FW-RISKPLANT-GL)

- 01 Scientists and citizens with expertise in rare plants contribute to MLNF knowledge of locations and threats to at-risk plant species.
- 02 The MLNF and researchers contribute to knowledge of the pollinator needs of at-risk plant species.

Desired Conditions (FW-RISKPLANT-DC)

- 01 At-risk plants are protected to the degree possible on the Forest as unique contributions to native biodiversity.
- 02 At-risk plant populations are, if possible, increased. If increase is not possible, the populations are sustained.
- 03 The habitat for each at-risk plant species supports self-sustaining populations within the inherent biotic and abiotic capabilities of the habitat.
- 04 Public education materials highlight the characteristics and habitat of at-risk plants and their plant associations, and the importance of their protection.
- 05 Numerous reference areas and other protected areas provide potential for insight into the causes of rarity.

Objectives (FW-RISKPLANT-OB)

- 01 Within two years of plan approval, and every 5 years after, identify gaps in knowledge of each at-risk-species' location(s) on the MLNF, range, status, pollinators, and threats, partnering with the Utah Native Plant Society.

- 02 Within one year of plan approval and every 3 years after, review available information on at-risk plant species for updated information that may change species status or current forest management for the species' habitat.
- 03 The Forest has a monitoring plan in the file of each identified at-risk species for its locations, population trends, and threats.
- 04 Improve protection of one (or more) vulnerable sites of rare and relict vegetation associations each year.
- 05 Initiate projects to remove invasive or noxious weed species from at least one area with rare and relict vegetation associations each year.
- 06 Establish at least two new research natural areas (RNAs) with rare and relict vegetation associations within ten years. This could include converting an existing "botanical area" to RNA designation.

Standards (FW-RISKPLANT-ST)

- 01 If an at-risk plant species is accessible to livestock trampling or consumption, livestock grazing does not occur in its occupied habitat, or formerly occupied habitat.
- 02 If a permit to place honeybee apiaries has been issued prior to plan implementation, no hives may be placed during the remaining life of the permit within five miles of any rare or at-risk plant species that could be animal-pollinated.
- 03 Removal of noxious weed species is the only vegetation treatment allowed in rare and relict vegetation associations.
- 04 Ground-disturbing treatments will not occur within 200 feet of occupied habitat for at-risk plant species.
- 05 To maintain viable populations of at-risk and rare plant species, ground-disturbing or other activities with negative impacts, including construction of new roads, should not occur within 600 feet of known locations of at-risk plant species populations. For at-risk plant species populations already located within 600 feet of roadsides: map locations to share with road crews prior to maintenance work, use water only for dust abatement; do not seed, spray or mow; avoid covering plants if grading road; and consider plant location during snow and ice control measures.

Guidelines (FW-RISKPLANT-GD)

- 01 Where evidence indicates that current management is contributing to stress on an at-risk plant species, removal of stressors and restoration are undertaken as possible.
- 02 To minimize or eliminate the risk of damage to non-target plant populations, personnel involved in invasive plant treatments shall be trained to identify at-risk plant species.
- 03 To maintain viable populations of at-risk plant species, particularly in alpine habitats, the Forests will limit use (motorized or nonmotorized, foot or stock traffic) to designated routes (seasonally or in limited areas); implement seasonal closures on recreational use over limited areas; limit

activities that require special use permits; and/or implement other such temporary or limited-area measures as needed to reduce impacts of recreation and forest use.

- 04 Public education materials highlight the nature of at-risk plants and their plant associations, and the importance of their protection.
- 05 Activities or actions will be undertaken consistent with guidance for such activities or actions within signed Conservation Agreement

Monitoring (FW-RISKPLANT-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
Objective 03 : The Forest has a monitoring plan in the file of each identified at-risk species for its locations, population trends, and threats.	What is the population trend and threats of each at-risk plant species?	Specification(s) in each species' monitoring plan.	Interval is identified in each at-risk species' monitoring plan	If the trend is downward, describe management plan for reversing the trend.
Objective 05 : Initiate projects to remove invasive or noxious weed species from at least one area with rare and relict vegetation associations each year.	Are invasive or noxious weeds species being removed from the area of at-risk plant populations?	Percent cover of invasive or noxious weeds within the immediate area of at-risk plant species.	Baseline, when a removal project is initiated, and every 2 years following removal project.	If invasive or exotic weed removal is not succeeding, consider whether management of stressors contributing to the persistence or return of the invasive or noxious weeds is required.

2.7 Wildlife

Goals (FW-WILDLIFE-GL)

- 01 The MLNF collaborates with the Utah Division of Wildlife Resources and forest users to manage wildlife populations on behalf of all native wildlife and plant species.

Desired Conditions (FW-WILDLIFE-DC)

- 01 Habitat conditions contribute to keeping common native species common, contributing to the recovery of threatened and endangered species, conserving species that are candidates and proposed for federal listing, and maintaining viable populations of species of conservation concern; and of cultural significance to Tribes.
- 02 Habitat conditions allow for repatriation of extirpated species, preclude the need for listing new species, and improve conditions for species of conservation concern; and of cultural significance to Tribes.
- 03 The resource uses of wild ungulate populations are balanced with the habitat needs of non-game wildlife and native plant species.
- 04 MLNF conditions support expansion and restoration of beaver and native fish populations to their historic range.
- 05 Annual production of native flowers support native vertebrate and invertebrate pollinators at natural patterns of distribution and abundance..
- 06 Landscape patterns provide habitat connectivity for all native species, especially for strongly interacting species and species of declining populations.
- 07 Roadless areas facilitate the maintenance and restoration of wildlife and fisheries.
- 08 Habitat conditions provide the resiliency, redundancy, and representation necessary to maintain native wildlife species connectivity and metapopulations.
- 09 Habitats necessary to support native fish and wildlife are restored and maintained at natural patterns of abundance and distribution.
- 10 Streambanks are undercut and support overhanging canopy (e.g., grasses, willows, trees) for aquatic habitat cover.
- 11 Species are able to access adjoining habitat, disperse, migrate, meet their life history requirements, and adjust their movements in response to climate change.

Connectivity

- 12 The movement, dispersal, and genetic exchange of native plants and pollinators, aquatic organisms, black bear, strongly interactive species (e.g., cougars, beavers, wolves, etc.), deer, elk, bighorn sheep, and other wildlife populations are supported by native habitat.
- 13 Wildlife species are able to access adjoining habitat, disperse, migrate, meet their life history requirements, and adjust their movements in response to climate change.

Predators

- 14 Habitat that is secure for carnivores contributes to natural species diversity.
- 15 A prey base for native carnivores is maintained to enable the sustained viability of populations of carnivore species within the MLNF.
- 16 Road density remains below 1.5 miles per square mile in all transportation decisions.
- 17 Interconnected terrestrial, riparian, and aquatic habitats promote wildlife, fish, and plant species movements and genetic exchange, allow for movement of wide-ranging species, and promote natural predator-prey relationships, particularly for strongly interactive species such as mountain lions and other carnivores.

- 18 Human conflict-caused carnivore mortality is reduced to zero per year.
- 19 Caves, mines, and other underground habitats provide undisturbed habitat for native bat species.

Objectives (FW-WILDLIFE-OB)

- 01 Within one year following plan approval, the known presence of whirling disease is mapped from existing data for each stream on MLNF, and is updated annually

Standards (FW-WILDLIFE-ST)

- 01 Proposed management activities shall explicitly describe the potential and documented presence of all populations of conservation agreement species within the area proposed for management.
- 02 Non-native fish are not introduced into streams where native fish species occur.
- 03 All existing MLNF roadless areas remain roadless.
- 04 Beaver dams will not be removed unless techniques that sustain beavers (e.g., piping through dams to reduce water levels ("pond levelers"), fencing culverts ("beaver deceivers")) cannot feasibly support functionality of infrastructure or other features in conflict with beaver presence.
- 05 Beaver families are live-trapped and moved to appropriate habitat when being removed from a site in which beaver cannot feasibly remain.
- 06 Mexican spotted owl canyon nesting and roosting habitat, based on the most recent habitat models, shall be protected from disturbance during the breeding season, March 1 to August 30.
- 07 Camping and overnight use associated with commercial outfitter and guide permits shall be prohibited in designated Mexican spotted owl territories during the breeding season, March 1 to August 30.
- 08 The use of hounds for the recreational pursuit or hunting of black bears or bobcats is prohibited; the use of a bait for the recreational hunting of black bears is prohibited.

Guidelines (FW-WILDLIFE-GD)

- 01 Work with UDWR to ensure that wild ungulate populations do not degrade vegetation and habitat for non-game, native wildlife species.
- 02 Use the Utah Wildlife Action Plan and focus management on habitat maintenance for the species listed in it.
- 03 To maintain or restore habitat connectivity for wildlife, management actions should not create movement barriers to wide-ranging species such as medium to large carnivores and wild ungulates, except where necessary to provide for human or wildlife safety.
- 04 Vegetation management activities in a key linkage area should include design features to restore, maintain or enhance habitat connectivity for long distance range shifts of wide ranging wildlife species.
- 05 New permanent facilities or structures for administrative or public use should not be constructed within key linkage areas unless needed to address on-going or imminent resource concerns within the key linkage area, including but not limited to, degradation of wildlife habitat connectivity. Any new permanent facilities or structures and relocation of existing facilities within key linkage areas should be designed and located so that wildlife movement patterns are not significantly or permanently disrupted.

- 06 To maintain habitat quality and limit disturbance effects on wildlife movement patterns, a key linkage area should be free of sustained substantial disturbance for at least four years out of every 10-year period, including at least two consecutive years of no sustained substantial disturbance. Sustained substantial disturbance is the use of heavy equipment or low-level helicopter flights for vegetation management actions for a total of more than 30 days throughout an entire key linkage area in a calendar year.
- 07 Identify, prevent, and address human-carnivore conflicts and reduce human conflict-caused carnivore mortality toward the target of zero per year.
- 08 Existing and/or designated roads and/or trails may be subject to closures if conflicts with native wildlife cannot be mitigated.
- 09 Use wildlife-friendly design and materials with all fencing installation or reconstruction.
- 10 Monitor and survey abandoned mines prior to reclamation to identify bat use. If bats are present, bat gates shall be installed.
- 11 Locate and design wind energy structures to minimize or prevent wildlife mortality.
- 12 Monitor and track predators to avoid or minimize predator encounters with humans and

Monitoring (FW-WILDLIFE-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s)/Measure(s)	Interval	Adaptive Management Actions
<p>Desired Condition 01: Habitat conditions contribute to keeping common native species common, contributint to the recovery of threatened and endangered species, conserve species that are candidates and proposed for federal listing, and maintain viable populations of species of conservation concern; and of cultural significance to Tribes.</p> <p>Desired Condition 02: Habitat conditions allow for repatriation of extirpated species, preclude the need for</p>	Is the management of the MLNF fostering healthy habitats in which native wildlife species—endangered, threatened, or common —are allowed to flourish?	<ul style="list-style-type: none"> • Growth (or decline) of wildlife species populations; • Amount of human disturbance in the habitat area; • Return of species that were either extirpated or otherwise removed from their natural habitat; • Number of delistings under the ESA. 	A report every three years	<ul style="list-style-type: none"> • Be flexible and willing to close areas to hunting and/or other recreational or commercial pursuits if the activity is depleting populations of native fish or wildlife • Improve degraded habitat conditions when found and monitor results of improvements • Introduce and support beaver

listing new species, improve conditions for for species of conservation concern; and of cultural significance to Tribes.				populations in potential habitat.
<u>Desired Condition 11:</u> Species are able to access adjoining habitat, disperse, migrate, meet their life history requirements, and adjust their movements in response to climate change.	Are species able to access adjoining habitat and migrate?	Data on use of corridors by native species	A report every five years	Identify where data are lacking for species known to require corridors or access to habitat to which potential barriers exist.
<u>Guideline 01:</u> Work with UDWR to ensure that wild ungulate populations do not degrade vegetation and habitat for non-game, native wildlife species.	Do native wildlife species have access to the forage necessary for their sustenance and are there conflicts occurring between game and nongame wildlife species?	<ul style="list-style-type: none"> • Decline of non-game wildlife species that may compete with wild ungulate populations • Spread of diseases from ungulates to other nongame species • Improvements for game habitat at the expense of nongame habitat. 	Every 5 years	<ul style="list-style-type: none"> • Meet with conservation biologists, UDWR biologists, relevant Resource Advisory Committees, Wildlife Board • Implement projects to achieve appropriate wild ungulate population changes
<u>Guideline 09:</u> Use wildlife-friendly design and materials with all fencing installation or reconstruction	Are wildlife species inhibited, harmed, or otherwise negatively affected by fencing on the MLNF?	<ul style="list-style-type: none"> • Instances where wildlife was reported to be entangled or otherwise caught in fencing • Habitat fragmentation caused by fencing 	Every 5 years	<ul style="list-style-type: none"> • Map and prioritize for fencing removal or reconstruction

		<ul style="list-style-type: none"> • Reported instances of herds being split up at fence lines. 		
--	--	--	--	--

2.7.1 At-Risk Animal Species

Goals (FW-RISKANIMAL-GL)

- 01 Partnerships with academic, independent, NGO, and state agency specialists with experience in supporting particular at-risk-species are essential and ongoing.
- 02 Partnerships with adjacent landowners and managers, relevant land management agencies, users of MLNF lands, and interested parties (including NGOs) supplement MLNF efforts to support at-risk species.

Desired Conditions (FW-RISKANIMAL-DC)

- 01 Climate change science with respect to at-risk animal species informs MLNF adaptive management.
- 02 Habitats for all species support self-sustaining populations within the inherent capabilities of the plan area; and ecological conditions, both biotic and abiotic, contribute to the recovery, conservation, and viability of at-risk species known to occur in the plan area.
- 03 The population trends and distribution and habitat stressors, including climate change, for all at-risk animal species are known and monitored and appropriate management adaptations are made when monitoring reveals adverse trends.
- 04 Management for recovery and maintenance of at-risk species relies on the most recent scientific information on population and distribution trends, climate change-related stresses, and management recommendations of specialists familiar with the species.
- 05 Priority over commercial and recreational uses is afforded at-risk species.

Bats

- 06 Bat habitat, including maternity roosts, swarming areas, and wintering hibernacula, is available and protected from human disturbance across the forest for species such as the Townsend's big-eared bat, fringed myotis, and others.
- 07 Caves, mines, and other roosting areas provide undisturbed habitat.
- 08 Large live trees and snags are retained across forested ecosystems (See FW-CONIFER-DCs).
- 09 Precautions are taken to prevent white-nose syndrome and other pathogens from affecting the forest's bat populations.

Mexican Spotted Owl (*Strix occidentalis*)

- 10 Ecological conditions on the MLNF contribute to Mexican spotted owl recovery. In accordance with the [Mexican Spotted Owl Recovery Plan, First Revision \(*Strix occidentalis lucida*\)](#), the designation of protected activity centers (PACs) and core areas within PACs sustain and enhance areas presently, recently, or historically occupied by breeding Mexican spotted owls; and the designation of forested and riparian Recovery Habitat maintains and develops present and future nesting and roosting habitat. PACs

and recovery habitat provide the ecological conditions in forest, woodland, canyon, and/or riparian ecosystems as characterized in the Mexican Spotted Owl Recovery Plan. Suitable Mexican spotted owl habitat generally contains habitat heterogeneity and varying structure in patches with interlocking tree crowns, a high percentage of canopy cover, and mature forest components such as large trees, snags, and down woody debris

Southwestern Willow Flycatcher (*Empidonax traillii extimus*)

- 11 Ecological conditions contribute to the recovery of the southwestern willow flycatcher. These include dense riparian tree and shrub communities associated with rivers, swamps, and other wetlands, including lakes (e.g., reservoirs) that exist within forested wetlands or scrub-shrub wetlands. Wintering habitat that includes brushy savanna edges, second growth, shrubby clearings and pastures, and woodlands near water. (adapted from [Final Recovery Plan Southwestern Willow Flycatcher \(*Empidonax traillii extimus*\)](#).)
- 12 Destruction and degradation of riparian habitats is reduced and eliminated due to restrictions on surface and subsurface water for diversion and groundwater pumping; restored flood and fire regimes, restrictions on clearing and controlling riparian vegetation, limits on livestock grazing in riparian areas; restoration and maintenance of natural hydrologic cycles; restored beaver occupancy and activity in occupied and potential recovery habitat; and programs to address invasive non-native plants. (adapted from the [Final Recovery Plan Southwestern Willow Flycatcher \(*Empidonax traillii extimus*\)](#) and from the revised yellow-billed cuckoo critical habitat rule, 85 Fed. Reg. 11458).

Yellow-billed Cuckoo (*Coccyzus americanus*)

- 13 Ecological conditions contribute to the recovery of the Yellow-billed Cuckoo. These include riparian woodlands along perennial rivers or intermittent or ephemeral drainages containing vegetative structure, canopy cover, and appropriate environmental conditions that provide suitable nesting habitat and adjacent foraging habitat with adequate food resources on a consistent basis to successfully produce and fledge young. During low flow or drought periods, when the amount of breeding habitat along rivers is diminished, smaller tributaries assist in supporting breeding western yellow-billed cuckoos. Adapted from the revised critical habitat rule, 85 Fed. Reg. 11458).

Greater Sage-grouse (*Centrocercus urophasianus*)

- 14 Sagebrush communities on the MLNF provide ecological conditions and sufficient habitat quality and quantity to increase the populations of greater sage-grouse and other sagebrush-associated wildlife and plants; promote genetic diversity; and allow unhindered movement between lekking and breeding, brood-rearing, and wintering habitats.
- 15 Potential and occupied sage-grouse habitats are sufficiently quiet to enable males and females to find each other during mating season and to not disturb birds during lekking, breeding, and brood-rearing season

Objectives (FW-RISKANIMAL-OB)

- 01 Within one year of plan adoption and every two years, review population and distribution trends of wildlife species that occur on the MLNF to determine if any species' status and management prescriptions should change, based on monitoring data and new best available scientific information.
- 02 Within four years of plan adoption and every five years after, assess the condition of the habitat of the Utah sallfly (*Swertsia cristata*), and recommend any needed adaptive management.

Standards (FW-RISKANIMAL-ST)

- 01 Implement threatened and endangered species recovery plan actions as mandatory plan direction. (Recovery plans, as of 2020, include the [Mexican Spotted Owl Recovery Plan, First Revision \(*Strix occidentalis lucida*\)](#) and the [Final Recovery Plan Southwestern Willow Flycatcher \(*Empidonax traillii extimus*\)](#)).

Bats

- 02 Mine closures shall allow for bat access when it has been determined the mine supports or has the potential to support a bat colony. The best available scientific information is used to identify bat-compatible gates.
- 03 Seasonal restrictions on maternity sites and winter hibernacula and restrictions that protect swarming sites 30 minutes before sunset and 30 minutes after sunrise shall be applied where known bat use and concentrations of bats occur (e.g., maternity colonies, hibernacula, or seasonal roosts).
- 04 The US Fish and Wildlife Service [national decontamination protocol](#) shall be followed to prevent the introduction of white-nose syndrome.

Mexican Spotted Owl

- 05 In addition to implementing recovery plan activities, no new road construction shall occur in PACs and core areas within PACs.

Greater Sage-grouse

- 06 Noise levels (LA50) will be ≤ 10 dBA above background ambient sound levels in breeding, nesting and foraging habitats. Background sound levels shall be determined using the LA90 metric, measured in undeveloped areas (Ambrose, et al. 2021; Nevada 2018; Wyoming 2019). The 10 dBA limit on noise-generating activities will be applied within a 3.1 mi buffer of active and pending leks (i.e., those with known breeding bird activities). Ambrose, et al. have documented the background sound level (LA90) in undeveloped sagebrush is 14 dBA, and negative impacts to grouse occur ~ 10 dBA over that.
- 07 Limit surface disturbance, in sections where this is still feasible, to no more than one acre per section and less than 3% per section in potential and occupied habitat. Where this limit has already been exceeded, restrict further surface disturbance in such sections.
- 08 Close and withdraw lands from surface occupancy in sage-grouse occupied and potential habitat under federal mineral laws for the maximum period allowed under law.
- 09 Establish 4-mile no-surface-occupancy buffers around leks and close travel routes within four miles of leks between March 1-June 30.
- 10 Prohibit renewable energy development in potential¹ and occupied areas.
- 11 Exclude new rights-of-way in potential and occupied areas.
- 12 Prohibit herbicide application within one mile of occupied and opportunity sage-grouse areas during season of use; prohibit use of insecticides.

Boreal Toad (*Anaxyrus boreas*)

- 13 To prevent incidental mortality and protect winter hibernacula (overwintering habitat such as small animal burrows), operating heavy equipment within a 1.6-mile radius of documented boreal toad

¹ The definition, "potential habitat," accepted by the Forest Service, is "an area that is currently unoccupied but has the potential for occupancy in the foreseeable future (<100 years) through succession or restoration" ([Sage-grouse Habitat Assessment Framework](#), p. 48) areas

breeding ponds will only take place when there is at least 1 foot of packed snow or 2 inches of frozen soil.

- 14 Tree removal within 2.5 km of known boreal toad breeding sites shall be limited during and immediately following the breeding season.

Guidelines (FW-RISKANIMAL-GD)

- 01 Provide best management practices to all MLNF commercial users who use habitat of at-risk species that could be impacted by their activities.
- 02 Maintain riparian habitat features and functions recommended by specialists of aquatic at-risk species.
- 03 Utilize buffers and/or timing restrictions to minimize habitat impacts and direct disturbance of raptors and migratory birds during nesting and winter periods, based upon best available scientific information. Effective site-specific topographic barriers may be used to modify these buffers.

Bats

- 04 Maintain a mosaic of mature forest canopy that can be perpetuated through time during tree-cutting, prescribed burns, and other vegetation management actions.
- 05 Eliminate the use of toxins, including pesticides to the extent possible and reduced to prevent direct exposure to bats of harmful chemicals and to limit the reduction of prey from spraying or runoff.

Mexican Spotted Owl

- 06 Undertake necessary road or trail maintenance in PACs during the non-breeding season.

Greater Sage-grouse

- 07 Use sound measurement protocols for sage-grouse described in Nevada Division of Wildlife and Wyoming Department of Game and Fish guidelines (NDOW 2018; WY 2019)
- 08 Maintain perennial grass heights at >18 cm (7 in) in potential or occupied habitat. Restrict or prohibit grazing in occupied habitat until the completion of sage-grouse breeding and nesting period (April – June), and seasonally (July – August) remove livestock from late brood-rearing habitat to ensure >18 cm (7 in) residual height during the breeding and nesting period.
- 09 Install anti-perching devices on transmission poles and towers and dismantle unnecessary infrastructure that can serve as perching sites for sage-grouse predators.
- 10 Mark new or existing fences within potential Greater Sage-grouse habitat with plastic fence markers to reduce sage-grouse strikes.
- 11 Reduce, over time, all unnecessary vertical infrastructure that presents collision hazards and attracts perching predators in sagebrush habitats.

Boreal Toad

- 12 No ground disturbing activities will occur in identified Boreal Toad breeding sites, unless the activity is designed to improve habitat.

Monitoring (FW-RISKANIMAL-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
Desired Condition 03 : The population trends and distribution and habitat stressors, including climate change, for all at-risk animal species are known and monitored and appropriate management adaptations are made when monitoring reveals adverse trends.	Are the population trends and habitats of all at-risk animal species monitored?	<ul style="list-style-type: none"> Measures appropriate to the habitat features most limiting to the at-risk species. Survey protocols appropriate to monitoring population trend 	Varies with species	<ul style="list-style-type: none"> Monitoring results are accompanied by management recommendations. Adaptive management methods vary according to species.
Desired Condition 10 : Ecological conditions contribute to the recovery of the Mexican spotted owl.	<p>What is the trend in MSO occupancy rates on the MLNF?</p> <p>What is the trend in habitat quality and quantity on the MLNF?</p>	Follow protocols described in Appendix E of the MSO Recovery Plan	annual	If negative occupancy and/or habitat trends, seek advice from the U.S. Fish and Wildlife Service regarding the implementation of additional conservation measures.
Desired Condition 11 : Ecological conditions contribute to the recovery of the southwestern willow flycatcher.	<p>What is the trend in occupancy rates on the Forest?</p> <p>What is the trend in habitat quality and quantity on the Forest?</p>	Follow the protocols outlined in: A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher (USGS 2010)	2 years	If detected, implement recovery plan actions.
Desired Condition 13 : Ecological conditions contribute to the recovery of the western yellow-billed cuckoo.	<p>What is the trend in occupancy rates on the Forest?</p> <p>What is the trend in habitat quality</p>	Follow the protocols outlined in: A Natural History Summary and Survey Protocol for the Western	annual	If negative occupancy and/or habitat trends, seek advice from the U.S. Fish and Wildlife Service

	and quantity on the Forest?	Distinct Population Segment of the Yellow-billed Cuckoo (USFWS 2015)		regarding the implementation of additional conservation measures.
--	-----------------------------	--	--	---

2.8 Cultural and Heritage Resources

Goals (FW-CULTURAL-GL)

- 01 The MLNF recognizes and management accounts for the fact that cultural and historic resources are non-renewable and depending on the nature of the resource, can be particularly sensitive to management practices and natural and human-induced environmental degradation.
- 02 The MLNF recognizes that cultural and historic resources offer cultural ecosystem services as an intrinsic component of their historical nature. Cultural and historic sites support ongoing traditional practices and continuing ancestral ties to the land. Cultural and historic sites also support interpretive heritage tourism, which should be utilized where appropriate and after consultation with interested parties.
- 03 The MLNF actively consults with Native American tribes and Indigenous communities on the disposition and treatment of sites and resources of interest.

Desired Conditions (FW-CULTURAL-DC)

- 01 Cultural and historic resources remain intact and offer opportunities for research, education, recreation, and other uses as appropriate and after consultation with interested parties.
- 02 Cultural and heritage resources are recognized by the Forest Service as fragile and irreplaceable, and actions approved in the MLNF do no harm to and allow for the long-term sustainability of cultural and historic resources.
- 03 Culturally significant natural resources, such as important plants and spring sites, are free of excessive trampling and invasive species.
- 04 Cultural site management utilizes the reality that interpretation of cultural resources is best done, and in some cases can only be done, by Native American Tribes.
- 05 The condition of cultural and historic sites and the intensity of disturbance to sites are known, documented, and monitored. Illegal disturbances are rare.
- 06 Ethical and culturally-appropriate site stewardship awareness is widespread among visitors, and visitors take responsibility for the preservation of cultural and historic resources on public lands.
- 07 Partnerships enable the Forest Service to have a firm understanding of the cultural resources that exist within their jurisdiction, and acknowledge that Native American sites, places, and resources are a living part of Native American tradition and culture, not static pieces of the past; and that Native American sites may involve landscape features beyond a specific human artifact.
- 08 Sacred sites are revered and protected in keeping with the Native American world view that while all elements of the landscape are endowed with spirit and meaning, certain sites hold particular significance.

Objectives (FW-CULTURAL-OB)

- 01 At a minimum, 100 acres of intensive surveying will take place on the MLNF annually, preferably first in areas with little or no previous surveying.
- 02 Within one year of plan implementation, create and institute a public information sharing system whereby visitors to the MLNF can privately share information with the Forest Service about cultural resources or sacred sites that they have discovered or that they have witnessed being treated harmfully.
- 03 Within three years of plan approval and in close coordination with Tribal Historic Preservation Officers and Cultural Preservation Offices, identify sites that may be appropriately maintained, interpreted, and managed for public visitation with minimal impact. Said plan will also identify other cultural sites receiving potentially impactful visitation that need regular monitoring, visitor impact mitigation and other protective measures, due to their susceptibility to damage or cultural sensitivity.
- 04 Within one year of plan approval, in close coordination with Tribes, Tribal Historic Preservation Officers and Cultural Preservation Offices, or tribally-recognized equivalent, and Native American archaeologists, create a timeline for the completion of priority cultural and historic resource inventories.
- 05 Within two years of plan approval, a robust site steward monitoring program is established, with tribal coordination and input, on the MLNF for National Register and priority cultural resources.
- 06 Within two years of plan approval, "Visit with Respect" brochures, including tribal guidance on visitation practices, are widely available at Forest Service and community tourism offices, and visitor contact and education on appropriate visitation protocols is increasing. "Visit with Respect" signage is posted at trailheads and other relevant locations near areas of high cultural resource values.
- 07 Within one year of plan approval, Forest Law Enforcement Officers and Forest Protection Officers are trained in the rights of Native American gathering of plant, mineral, and other ceremonial and food materials.
- 08 Develop with Tribal input, stipulations about respectful, and low-to-no impact ways to visit cultural sites and add the stipulations to all outfitter and guide permits with operations on the MLNF within three years of plan approval.

Standards (FW-CULTURAL-ST)

- 01 Research, commercial, and recreational activities cannot be permitted to alter a historical or cultural resource.
- 02 A permit or project involving new disturbances cannot be issued without completion of an intensive historical and cultural resource survey and explicit request for information from associated Tribes.
- 03 Dispersed camping is prohibited within cultural sites.
- 04 Construction of new roads and motorized routes to cultural sites is prohibited.
- 05 Remote, backcountry sites cannot be chosen for interpretive programs or activities.

- 06 All sensitive information about cultural resources will remain confidential and be prohibited from public disclosure without prior approval from impacted Tribes. This includes, among other things, information about locations, uses, tribal affiliations, and ceremonies.

Guidelines (FW-CULTURAL-GD)

- 01 Issue citations in response to verifiable partnership and citizen monitoring reports, or based on other evidence, of resource damage.
- 02 Prohibit public access to areas where irresponsible behavior or willful disobedience is not being successfully mediated. If prohibiting access cannot be done, closely monitor the area to prevent further irresponsible behavior or willful disobedience.
- 03 Contracts, permits, or leases that have the potential to affect cultural resources shall include appropriate provisions specifying site protection responsibilities and liabilities for damage and be promptly revoked if those provisions are violated.
- 04 Protect sacred sites and cultural resources known to have high potential for vandalism, destruction, or degradation by means of fences, enclosures, or other protective measures deemed appropriate by Tribes.
- 05 Avoidance or protection measures will be the priority method to prevent or minimize adverse effects to cultural resources listed in, nominated to, eligible for, or unevaluated for the National Register of Historic Places.
- 06 Tribal requests for temporary closures for cultural and traditional purposes will be accommodated as much as possible.
- 07 Plaques or signposts are displayed near or around sacred sites and/or cultural resources that have been subject to vandalism or degradation in the past reminding visitors to treat the resource or site with great care and respect.
- 08 Tribes will be involved in every stage of a cultural resource inventory process and as early as possible, in any case no later than determining the area of potential effects,, so that an indigenous perspective can inform the process and proper mitigation can be recommended proactively.
- 09 The effects of natural disturbance, such as wildfire, erosion, and freeze-thaw cycles, that might be accelerated by climate change, should be proactively managed, to protect cultural resources.

2.9 Areas of Tribal Interest

Goals (FW-TRIBAL-GL)

- 01 MLNF leadership and staff recognize that the entirety of the Forest falls within an area of mutual tribal interest for multiple regional Tribes. This area includes but is not necessarily limited to: lands ceded by treaty; traditional homelands; and traditional hunting, gathering, and ceremonial lands.
- 02 The federal trust responsibility is maintained through consultation and collaboration between the Tribes and the MLNF. This is critical when proposed activities have a potential to affect tribal interests, including natural or cultural resources of importance. In planning, Forest staff identify and avoid conflict with tribal land use plans, policies, and traditional uses.

- 03 Decision making on the Forest uses consultation and collaboration to integrate Indigenous Traditional Knowledge and Indigenous Science while placing an emphasis on tribal community well-being and socioeconomic advancement.

Desired Conditions (FW-TRIBAL-DC)

- 01 As Sovereigns, Native American Tribes are engaged by the MLNF to the same or a greater degree than the State of Utah.
- 02 Solid working relationships exist between the MLNF and Tribal Elected Officials, as well as Tribal Natural Resource, Cultural, and Historic Preservation Offices or the tribally-recognized equivalent.
- 03 The MLNF meets with tribes at times requested by tribes, and the tribes meet with the MLNF at times requested by MLNF.
- 04 The sacred roles of certain geologic features, trails, springs and streams, plants, and wildlife are facilitated and protected within the MLNF. Access to sacred places and traditional resources should not be denied or made more difficult.
- 05 Cultural continuity, and ultimately, tribal community well-being, are promoted by preserving and restoring land, wildlife, and natural resources as a sanctuary for spiritual and cultural renewal.

Objectives (FW-TRIBAL-OB)

- 01 Within one year of plan approval, and in close coordination with Tribal Historic Preservation Officers and Cultural Preservation Offices, or tribally-recognized equivalent, MLNF staff members are trained in cultural sensitivity protocols, tribal legal rights and treaty obligations, and the elevated position of Native American Tribes as sovereigns.
- 02 Within three years of plan approval, interested Tribes and the MLNF have established meaningful government-to-government relationships, are meeting regularly (at least twice annually), and tribal perspectives are integral to the management of the MLNF.
- 03 Within five years of plan approval, Tribes are engaged in management of areas of tribal interest.
- 04 Within one year of plan approval, the MLNF, with meaningful input from potentially affected Native American Tribes, will develop a communication plan that establishes mandatory coordination and cooperation goals between the MLNF and Native American Tribes.
- 05 Within five years of plan approval, work with Tribes to identify which springs are considered culturally significant resources, the criteria by which to protect them, and how to partner and collaborate with Tribes to maintain and restore these resources.

Standards (FW-TRIBAL-ST)

- 01 Timber removal, large-scale vegetation treatments, and other destructive commercial uses of the MLNF are prohibited within a buffer zone appropriate for the protection of archaeological sites, burial grounds, and traditional use areas, as determined with input from potentially affected Tribes.
- 02 All sensitive information about the area of tribal interest will remain confidential and be prohibited from public disclosure without prior approval from impacted Tribes. This includes locations of cultural resource sites, traditional beliefs, Light Detection and Ranging or LiDAR data, and cultural and traditional activities.

- 03 The Forest shall consult with Tribes early in the project planning process to provide sufficient time for meaningful consultation.

Guidelines (FW-TRIBAL-GD)

- 01 Activities and uses within the MLNF shall be administered in a manner that is sensitive to traditional Native American beliefs and cultural practices, as determined by Tribal Historic Preservation Officers and Cultural Preservation Offices, or tribally-recognized equivalent.
- 02 The MLNF must fully consider the values and concerns of Native American Tribes in a timely manner so that those concerns and values are fully taken into account in planning proposed actions in the MLNF and explain departures from these values and concerns.
- 03 Archaeological and sacred sites should be monitored and evaluated, in close coordination with Tribal Historic Preservation Officers and Cultural Preservation Offices, or tribally-recognized equivalent, to determine whether those areas are being adequately protected and, if not, to develop solutions to adequately protect those areas.
- 04 The MLNF must ensure that major actions undertaken within the MLNF will not jeopardize the treaty rights of Native American Tribes.
- 05 Tribal gathering and harvesting of the MLNF's resources such as wood, food, and medicinal plants and herbs will be sustained and satisfied before commercial uses of those same resources are permitted.
- 06 More than mere briefings or information delivery, meetings with affected Tribes actively solicit management guidance in accordance with applicable principles and goals.
- 07 The MLNF must close or adjust visitation to archaeological sites and areas with high densities of cultural resources in the MLNF where irresponsible behavior or willful disobedience is not being successfully mediated.
- 08 Tribes or tribal representatives can request and should be granted temporary area closures in order to conduct ceremonial activities in private.

Monitoring (FW-TRIBAL-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s)/Measure(s)	Interval	Adaptive Management Actions
-----------------------------------	----------------------------	--------------------------------	-----------------	------------------------------------

<p>Desired Condition 01: As Sovereigns, Native American Tribes are engaged by the MLNF to the same or a greater degree than the State of Utah.</p> <p>Guideline 06: More than mere briefings or information delivery, meetings with affected Tribes actively solicit management guidance in accordance with applicable principles and goals.</p>	<p>What consultations have occurred with Native American Tribes to aid in the protection and management of areas of tribal interest?</p>	<ul style="list-style-type: none"> • Number of consultations that have occurred with Tribes; level of input and cooperation allowed throughout consultation process; responsive of Tribes and willingness to consult when invited to do so; instances where tribal recommendations have been implemented. • Compare number of tribal consultations undertaken with number of projects or actions approved within the MLNF and with the number of consultations undertaken with the State of Utah, its agencies, or other representatives. 	<p>Every 2 years</p>	<ul style="list-style-type: none"> • Consult with Tribes and actively solicit tribal input at the earliest possible time. • Retain the flexibility to close access to sites entirely, make visitation to sites by permit only, or institute a quota limit. • Retain authority to completely deny any surface-disturbing activities that could potentially affect areas of tribal interest. • Implement a plan for cultural resource sites that directs visitation to sites that are appropriate and stable and curbs visitation at unsuitable sites.
<p>Guideline 03: Archaeological and sacred sites should be monitored and evaluated, in close coordination with Tribal Historic Preservation Officers and Cultural Preservation Offices, or tribally-recognized equivalent, to determine whether those areas are being adequately protected and, if not, to develop solutions to adequately protect those areas.</p>	<p>How does the MLNF plan to adequately protect and manage cultural and ecological sites?</p>	<p>Number of reports of visitor-caused damage, including looting and vandalism; types of damages caused by visitors; number of instances where visitors were ticketed or otherwise reprimanded for their irresponsible behavior or willful disobedience; number of times a site has been closed for maintenance or repairs.</p>	<p>Every 3 years</p>	<ul style="list-style-type: none"> • Teach visitors how to visit sites with respect and have literature available for visitors to take. • Consult with Tribes on what areas of the MLNF are typically used for harvesting and gathering. • Implement a protocol for addressing situations where gathering and

				harvesting has been effectively prohibited or made more difficult.
Guideline 05: Tribal gathering and harvesting of the MLNF's resources such as wood, food, and medicinal plants and herbs will be sustained and satisfied before commercial uses of those same resources are permitted.	Have there been any obstacles or barriers that have prevented cultural gathering and harvesting of resources or made doing so more difficult?	Number of reports or known instances when a tribal member was not allowed access to gather or harvest, or access was made more difficult; instances where tribal consultation indicated that a proposed project or action would cause interference; areas of the MLNF where Tribes have indicated that gathering and harvesting is difficult or effectively inaccessible.	Every 3 years	
Guideline 07: The MLNF must close or adjust visitation to archaeological sites and areas with high densities of cultural resources in the MLNF where irresponsible behavior or willful disobedience is not being successfully mediated.	How has the MLNF responded to incidents where cultural or archaeological sites have been negatively impacted due to irresponsible or willful visitor behavior?			

2.10 Recreation and Access

Goals (FW-REC-GL)

- 01 The Forest provides much-needed open space, solitude, and a wide variety of recreation opportunities.
- 02 Recreation participation, activities, and services contribute to visitors' physical and mental well-being and relationship with the Forest.
- 03 Recreation amid cultural features provides historical context to the natural scenery, adding to the richness of the experience and sense of place. Forest landscapes, resources, and programs offer opportunities for education and engagement combined with recreation, facilitating an understanding of and participation in resource conservation and promoting knowledge and appreciation of the natural world and its inseparable relationship to human communities.

Desired Conditions (FW-REC-DC)

- 01 Retain the semi-primitive, non-motorized character and wildlands atmosphere that defines the Forest allows for timely and appropriate responses to environmental impacts, misuse, and/or recreational equipment developments and trends not now anticipated.
- 02 Recreation is managed in a holistic manner using least-impactful principles (including sound and light) in order to protect natural, cultural and historical heritage, and to minimize conflicts.
- 03 High use areas are managed within ecological capacities in order to maintain the quality of experiences and the natural ecology.
- 04 Motorized recreation is managed to minimize natural resource damage, harassment of wildlife and significant disruption of wildlife habitat, and conflicts among other recreational uses. Motorized recreation is managed to minimize natural resource damage, harassment of wildlife and significant disruption of wildlife habitat, and conflicts among other recreational uses.
- 05 The design, management and maintenance of the designated motorized system of roads, trails and areas provides ecologically sustainable access, is climate resilient and able to withstand variable storm events and changes in precipitation, including snowfall, and provides landscape and aquatic connectivity necessary for the recovery and viability of fish and wildlife species.
- 06 The system of roads, routes, trails and designated undeveloped dispersed campsites, is affordable to manage.
- 07 Semi-Primitive Non-Motorized settings (winter) provide backcountry skiing, snowboarding, and snowshoeing opportunities.
- 08 Dispersed camping along high-use segments of roaded natural ROS corridors occurs in designated sites.

Objectives (FW-REC-OB)

- 01 Within three years of plan approval, develop a recreation inventory framework.
- 02 Obliterate or naturalize a minimum of 100 miles of non-system routes within the ten-year period following plan approval.
- 03 Utilize Travel Management Planning to issue an Over Snow Vehicle Use Map (OSVUM) within five years of issuing the Revised Forest Plan. Initiate the travel management planning process to develop the OSVUM within one year of Forest Plan approval.
- 04 National Visitor Use Monitoring (NVUM) surveys are conducted every five years.
- 05 The MVUM is updated annually and maps are widely available to the recreating public.
- 06 Each developed recreation site receives a condition assessment every five years.
- 07 Hazard tree evaluation and removal are conducted annually within all developed sites.
- 08 High use dispersed sites are identified and inventoried on a five year rotation to quantify changes in resource conditions and recommend management alternatives.
- 09 Annually inventory ten percent or more of motorized route markers and replace as needed to ensure that signing is functional and consistent with the MVUM.
- 10 Annually monitor the Whole Enchilada trail system and other high use trails to determine the level of conflict arising from multiple use and to recommend management alternatives.

- 11 Inspect a minimum of 10 percent of Recreation Special Use Permits annually.
- 12 Cherry-stem roads extending into semi-primitive nonmotorized ROS areas are analyzed for closure or conversion to nonmotorized routes within the ten-year period following plan approval.
- 13 A minimum of 100 miles of non-motorized trail and 80 miles of motorized trail are maintained annually.
- 14 Debris basins and other structures constructed to mitigate post-wildfire flooding are removed or naturalized within the ten-year period following the fire.
- 15 Designate dispersed camping sites along the La Sal Loop Road, Harts Draw Road, Johnson/North (Indian) Creek Road, Lake Fork Canyon Road, and Cottonwood Canyon Road within seven years following plan approval (understanding that if BENM is restored to its 2016 boundaries, areas within those boundaries would be governed by a Bears Ears Monument Management Plan, not the Forest Plan).
- 16 Designate dispersed camping sites within the Moab Watershed MA and the Elk Ridge MA (understanding that if BENM is restored to its 2016 boundaries, Elk Ridge MA would be governed by a Bears Ears Monument Management Plan, not the Forest Plan) within seven years following plan approval.

Standards (FW-REC-ST)

- 01 All area and trail designations made through implementation-level travel planning will be located to minimize resource impacts, wildlife harassment and significant disruption of wildlife habitat and conflicts with other recreational uses.
- 02 Designated camping sites shall be located away from identified wildlife corridors and cultural resources.
- 03 Designated OSV areas may only open to cross-country motorized use when snow depth measurements at established, representative locations reach at least 18 inches.
- 04 Recreation Opportunity Spectrum settings are enforceable and uses inconsistent with the Spectrum's classifications are prohibited.
- 05 Within winter semi-primitive non-motorized settings, trails are not machine groomed and often not marked. Rustic facilities, such as historic cabins and yurts may exist but are rare. These settings are free of motorized recreation travel
- 06 Any construction, reconstruction, or improvement of trails must take into consideration the trails' accessibility in all seasons, after heavy rain or snow, and for whatever the expected usage is.
- 07 Semi-primitive nonmotorized or primitive ROS classes are not suitable for motorized use.
- 08 Closed roads are not used by the general public and not available for off-road vehicle designations. Gates or other barriers are installed and road surfaces are revegetated actively or passively.
- 09 If use of roads or trails are needed for an administrative purpose outside the system designated for public use, such use is authorized by permit. Unauthorized roads and trails are not available for administrative or public motorized use.

- 10 Issue only one special use recreation event per year in high-use areas such as the Whole Enchilada Trail Corridor or Maple Canyon Climbing Area.
- 11 Developed recreation sites will be fenced to exclude livestock grazing.
- 12 Roads and motorized trails shall be rerouted or closed when impacts on cultural resources are identified and cannot be minimized.
- 13 New roads or motorized trails shall only be designated if they do not create direct or indirect impacts on cultural resources.

Guidelines (FW-REC-GD)

- 01 Clearly identify a season for off-road vehicle use based on wildlife needs, water quality considerations, average snow depth figures, and other relevant information.
- 02 ROS allocations do not equate to motorized designations, and implementation-level travel planning is necessary to designate summer and winter motorized use in areas with motorized settings.
- 03 Unauthorized motorized use is rare and quickly addressed through law enforcement actions, road or trail closures, or removal of unauthorized routes.
- 04 The MLNF will strive to allow equitable access for all non-motorized recreation including, but not limited to, hiking, biking, and horse riding, to the extent possible while maintaining protection of the Forest's other resources.
- 05 Dispersed camping along high-use segments of roaded natural ROS corridors occurs in designated sites.
- 06 Reduce or eliminate dead-end motorized routes that invite unauthorized route creation are reduced or eliminated.
- 07 Roads and trails in each semi primitive motorized ROS polygon should not exceed a density of 1 mile per square mile.
- 08 In semi-primitive nonmotorized ROS classes, resource management activities such as timber harvest, livestock grazing, wildlife habitat improvement, vegetation treatments, mineral exploration and development, and special uses may occur as long as they meet scenery integrity objectives (SIO) and maintain a high-quality recreation opportunity
- 09 Avoid issuing permits for special recreation events on the opening of the primary hunting seasons, such as general deer and elk and during summer holiday weekends, including but not limited to Memorial Day, July 4th, Pioneer Day (July 24th), and Labor Day.
- 10 Developed recreation sites planning should avoid summer and winter range habitats.
- 11 Camping near lakes, streams, springs, and wetlands should be minimized where possible, and managed to protect riparian and aquatic ecosystems while maintaining the quality of the recreation experience.
- 12 Dispersed sites, land areas, or travel routes may be closed either permanently or seasonally to prevent resource damage and user conflicts, and provide for user health and safety.
- 13 Close key winter range areas to motorized travel during the time when big game are using them.
- 14 Mitigation measures or other protective measures should be implemented if impacts to Mexican spotted owl breeding and roosting canyon habitat develop from recreation use.

Monitoring (FW-REC-MO)

Recreation Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
<p>Desired Condition 02: Recreation is managed in a holistic manner using least-impactful principles (including sound and light) in order to protect natural, cultural and historical heritage, and to minimize conflicts.</p>	What impacts does recreation typically have on other Forest resources and where are these impacts most likely to occur?	<ul style="list-style-type: none"> • Loss of wildlife biodiversity near roads and trails • Destruction of flora and biological soil crust • Vandalism and looting of cultural resources and sites • Reports or complaints by visitors or staff about degraded soundscapes, viewsheds, and/or night skies. 	Every 5 years	<ul style="list-style-type: none"> • Be proactive when deciding on recreational use sites by considering how the allowable recreational uses will interact with each other, how the uses will impact the environment, and how the uses will disturb wildlife or fragment their habitat • Remain flexible to adjusting or closing recreational access if impacts are occurring that cannot be stopped or mitigated • Institute sound policies that reflect the capacity of the recreational sites such as permits, quotas, and group sizes.
<p>Desired Condition 04: Motorized recreation is managed to minimize natural resource damage, harassment of wildlife and significant disruption of wildlife habitat, and conflicts among other recreational uses.</p>				

<p>Standard 06: Any construction, reconstruction, or improvement of trails must take into consideration the trails' accessibility in all seasons, after heavy rain or snow, and for whatever the expected usage is.</p>	<p>Is the trail withstanding impacts from use, weather, and other seasonal factors and remaining accessible to users?</p>	<ul style="list-style-type: none"> • Use of the trail remains consistent or is increasing over time • Visitor or Forest Service employee reports indicate the trail has minimal impacts after severe weather • How often the trail has to be reconstructed or improved. 	<p>Every 5 years</p>	
<p>Guideline 04: The MLNF will strive to allow equitable access for all non-motorized recreation including, but not limited to, hiking, biking, and horse riding, to the extent possible while maintaining protection of the Forest's other resources.</p>	<p>Does the Forest Service allow for fairly equal access to the myriad of recreational opportunities available on MLNF?</p>	<ul style="list-style-type: none"> • Trail use designations cover all allowable recreational uses of the Forest • Trail use designations only overlap when appropriate (e.g., no OHV use on hiking trails) • Reports by Forest Service employees or complaints by visitors regarding inadequate multiple use trail management or not enough opportunities for a type of recreational use. 	<p>Every 3 years</p>	
	<p>Where are unmanaged human wastes accumulating?</p>	<p>Human wastes posing a human health or water quality risk.</p>	<p>Ongoing and in response to visitor reports</p>	<p>Choose among options for managing wastes based on context, e.g.: Build bathroom facilities Designate camping sites Require campsites to be 100' from water.</p>

2.10.1 Recreation Opportunity Spectrum

Goals (FW-ROS-GL)

- 01 Because ROS subdivisions act as constraints on recreational activities, recreational activities and uses must be compatible with each ROS class in which they occur.
- 02 Forest users recognize the physical and ecological limits of the MLNF to absorb unlimited uses, including recreational uses.

Desired Conditions (FW-ROS-DC)

- 01 Recreation opportunities are available across all ROS settings that foster high quality experiences including motorized and nonmotorized opportunities as described by the desired recreation opportunity spectrum.
- 02 ROS settings reflect the integration of resource values in a manner that sustains the natural environment and ecosystem resilience.
- 03 Developed recreation sites and facilities occur only within the Roaded Natural setting.
- 04 Dispersed camping along high-use segments of Roaded Natural ROS corridors occurs in designated sites, and these sites are sustainable.
- 05 Road and motorized trail density in the Semi-Primitive Motorized classes averages 1 mile per square mile or less to provide for wildlife security.
- 06 Dead-end roads and motorized trails extending into Semi-Primitive Nonmotorized areas are inconsistent with this desired recreation opportunity spectrum setting.
- 07 Inventoried Roadless Areas are generally managed as Primitive or Semi-Primitive Nonmotorized ROS classes.

Objectives (FW-ROS-OB)

- 01 Dispersed campsites along Roaded Natural corridors that exhibit high resource impacts are inventoried and identified throughout the life of the plan.
- 02 High impact dispersed campsites are either mitigated or closed and re-vegetated on an ongoing basis throughout the life of the plan.
- 03 Dead-end routes extending into Semi-Primitive Nonmotorized areas that serve no identifiable destination are closed and revegetated within ten years.

Standards (FW-ROS-ST)

- 01 The motorized transportation system shall only be located in the roaded natural and Semi-Primitive motorized ROS classes.
- 02 The motorized transportation system will not be located in the Semi-Primitive Nonmotorized and Primitive ROS classes.
- 03 New motorized roads and trails shall not be located within the Semi Primitive Nonmotorized and Primitive classes. Existing motorized routes in these classes shall be considered for closure in Travel Management Planning.

Guidelines (FW-ROS-GD)

- 01 Recreation management activities at both developed and dispersed recreation sites should generally be consistent with desired recreation opportunity spectrum classes in which they are located.
- 02 Signage and interpretive materials should be located in the Roaded Natural ROS class unless required to mitigate damage from recreational use in other ROS classes.
- 03 High impact resource management activities, including timber harvest, mechanical vegetation treatment projects, mineral exploration and developments, and special uses should not occur in Semi-Primitive Nonmotorized ROS class areas.
- 04 Resource management activities, like livestock grazing, wildlife habitat improvements, , and special uses should only occur in Semi-Primitive Nonmotorized ROS class areas if they both meet the location's scenery integrity objective and maintain a high-quality nonmotorized recreation experience.
- 05 Dispersed campsites in any ROS class where high-impact sites are identified should be mitigated to reduce resource damage if possible, or closed and revegetated if necessary.

Monitoring (FW-ROS-MO)

Recreation Opportunity Spectrum Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
Desired Condition 06: Dead-end motorized routes extending into Semi-Primitive Nonmotorized areas are inconsistent with this desired recreation opportunity spectrum setting and Standard 02: The motorized transportation system will not be located in the Semi-Primitive Nonmotorized and Primitive ROS classes	Are dead-end routes located within Semi-Primitive Nonmotorized or Primitive ROS class areas?	Motorized routes exist with Semi-Primitive Nonmotorized and Primitive ROS class areas.	Within five years, and every ten years thereafter.	Where unauthorized motorized routes exist within Semi-Primitive Nonmotorized and Primitive ROS classes, the routes will be closed and revegetated. Authorized motorized routes within these ROS classes will be prioritized for analysis and closure in Travel Management Planning.
Objective 01: Dispersed campsites along Roaded Natural corridors that exhibit high resource impacts are inventoried and identified throughout the life of the plan, and Objective 02: High impact dispersed campsites are either	<ul style="list-style-type: none"> Where are dispersed campsites located in the Roaded Natural ROS class? Which of these sites have a high 	Dispersed campsite location and inventory.	On a rolling basis throughout the life of the plan.	Inventory and mitigate or close and revegetate high resource impact campsites

mitigated or closed and re-vegetated on an ongoing basis throughout the life of the plan	impact on resources?			
--	----------------------	--	--	--

2.10.2 Recreation Special Use Permits

Goals (FW-RECSUP-GL)

- 01 Special Recreation permittees, including outfitters and guides, are partners in responsible recreation and ecosystem stewardship on the Forest. They incorporate minimum impact practices in all activities and serve as responsible use ambassadors and educators for their clients and guests.

Desired Conditions (FW-RECUSP-DC)

- 01 Recreation Special Use Permits are issued and administered consistent with permitting process requirements, and permittees are held to the standards found within their permits.
- 02 The Recreation Special Use Permitting process supports coordination between local governments, Native American Tribes, research institutions, and other organized Forest users.
- 03 Special Recreation permittees, including outfitters and guides, model and enforce appropriate Tread Lightly and/or Leave No Trace principles (as appropriate to their mode of recreation) with clients and guests, and they incorporate awareness for ecosystem protection and protection of resource values and cultural resources in their interaction with clients and other Forest users.

Objectives (FW-RECSUP-OB)

- 01 A minimum of twenty five percent of special recreation use permits are inspected annually.

Standards (FW-RECSUP-ST)

- 01 Special Recreation Use Permits are not issued and outfitter/guide use is not permitted in Research Natural Areas.
- 02 Alpine areas will include special stipulations for Recreation Special Use Permits including no overnight use, campfires, packing out all solid human waste, urination on rocks and not on vegetation, and exclusive travel on authorized trails or bare rock.
- 03 A permit for only one Special Use Recreation event per year will be issued in high-use areas. Examples include the Whole Enchilada Trail Corridor or Maple Canyon Climbing Area.
- 04 Special Recreation Use Permits that have the potential to affect cultural and historic resources must include appropriate clauses specifying site-protection responsibilities and liabilities for damage.
- 05 Special Recreation Use Permits shall be revoked if the conditions of the respective permits have been violated with respect to cultural sites.

Guidelines (FW-RECSUP -GD)

- 01 Where user conflicts are identified, all permitted recreation special uses should impose stipulations to minimize conflict to the maximum extent practicable.
- 02 Special recreational event permits should not be issued during peak use periods such as Memorial Day, July 4th and July 4th weekend, Pioneer Day and Pioneer Day weekend, Labor Day, and during the opening of the general archery, muzzleloader, and rifle hunting seasons.
- 03 Special Recreation Use Permits that affect popular and relatively pristine attractions should include scenery management best practices.
- 04 Where Forest or permittee objectives can be met outside of designated wilderness, special recreation use permits should not be issued in wilderness.
- 05 Special Recreation Use Permits, including outfitter and guide operations, should be issued and implemented in harmony with non-guided visitors.

Monitoring ((FW-RECSUP -MO)

Recreation Opportunity Spectrum Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
Objective 01: A minimum of twenty five percent of special recreation use permits are inspected annually.	Are Special Recreation Use Permittees complying their permits?	<ul style="list-style-type: none">• Terms and stipulations of permits.• Registered guest/client complaints.• Complaints from other Forest users	Twenty five Percent of permits inspected annually	If permittees are violating the terms and stipulations of their permits and fail to take corrective actions after violations are noticed, permits may be revoked.

2.10.3 Access

Goals (FW-ACCESS-GL)

- 01 The transportation system provides safe access for appropriate forest uses while minimizing adverse environmental effects, and maximizing landscape connectivity and natural ecosystem functions.
- 02 The road system allows people to gain access to the MLNF for provisioning ecosystem services such as food, water, recreation, and fuelwood. Many of these provisioning ecosystem services are recognized as traditional uses and cultural ecosystem services.

- 03 The transportation system supports the ability of the MLNF to provide regulating ecosystem services through improving access to and ease of implementation of project work that promotes ecosystem health and ecological restoration.

Desired Conditions (FW-ACCESS-DC)

- 01 The transportation system incorporates the following 4 elements:
- a. Sustainable Access: The design, management and maintenance of the road and trail system provides for safe and consistent access for the appropriate utilization and protection of ecosystem functions and forest resources.
 - b. Fiscal Sustainability: The transportation system provides a well-maintained system of needed roads that is fiscally sustainable and represents long-term funding expectations.
 - c. Climate Resilience: The design, management and maintenance of roads and trails provides for a climate resilient transportation system able to withstand variable storm events and wide fluctuations in precipitation.
 - d. Connectivity: The design, management and maintenance of the transportation system provides landscape and aquatic connectivity necessary for the recovery of at-risk species, and viability of fish and wildlife.
- 02 Travel management planning identifies and implements a road and trail system that provides appropriate access to public lands and contributes as needed to the regional transportation system while also ensuring that biodiversity, wildlife habitat condition, and overall landscape condition and function are maintained or improved. A comprehensive and responsible travel management plan considers a full range of cumulative factors at the local and landscape scale.
- 03 The “minimum road system” necessary to meet the need for safe and efficient travel and for administration, utilization, and protection of Forest lands and resources is achieved.
- 04 The system accommodates a range of experience in high-quality settings and is managed to minimize conflicts while providing opportunities for partnerships, learning, stewardship and mental and physical renewal for a diverse visitor population.
- 05 Human impacts from roads and other motorized access are minimal or non-existent. Biological strongholds are increased because natural disturbance regimes are minimally impeded, and key habitats are unfragmented by roads.
- 06 Motorized travel occurs only on a designated system of roads, trails and areas.

Objectives (FW-ACCESS-OB)

- 01 Complete 60% of level 3 road maintenance and improvements every five years with continued ongoing funding and support by county partners; if additional resources (e.g. funding, partnerships) are available, additional miles of backlogged level 3 road maintenance may be completed.
- 02 Each year, starting within the first year of plan approval, ten percent of road miles determined to be “likely not needed” by the 2015 MLNF Travel Analysis Report are decommissioned.
- 03 Within ten years of plan approval, roads and trails posing ecological harm have been mitigated or relocated to minimize damage to water sources, natural resources, and key habitats.

- 04 Over the life of the plan, all roads identified as likely not needed for future use in the travel analysis reports are decommissioned, with 10% of unneeded road miles decommissioned each year prioritizing those yielding the most benefit in achieving an ecologically and fiscally sustainable transportation network
- 05 Over the life of the plan, all temporary roads have a project-specific plan or are otherwise decommissioned.
- 06 Within ten years of plan approval, unneeded roads are decommissioned, prioritizing those yielding the most benefit in achieving an ecologically and fiscally sustainable transportation network.
- 07 Over the life of the plan, all temporary roads without a project-specific plan are decommissioned.
- 08 Agreements for shared maintenance and monitoring of transportation routes in collaboration with user groups, partners, and volunteers are reviewed and updated annually. County road maintenance coordination meetings occur annually.

Standards (FW-ACCESS-ST)

- 01 There will be no increase to the combined baseline total road and motorized trail density of the Forest Transportation System at the time of plan implementation in order to protect important watersheds, RMZs, migratory corridors, wildlife habitat, endangered or threatened species, and general forest matrix.
- 02 If loss or hindered recovery of sensitive species adversely affected by system roads or trails is not successfully mitigated within three years, motorized travel shall cease on those routes until successful mitigation has been achieved.
- 03 Temporary roads shall be located and constructed to facilitate removal and restoration following the needed use. All temporary roads shall be closed and rehabilitated within a reasonably short time (not to exceed three years) following completion of the use of the road.
- 04 Road and trail construction or reconstruction will use new technologies to enhance functionality, improve efficiency, reduce costs, and must comply with applicable and identified Forest Service BMPs for water management (includes temporary roads).
- 05 Avoid all wetlands and unstable areas when reconstructing existing roads or constructing new roads and landings. Minimize and mitigate impacts where avoidance is not possible.
- 06 Roads or routes that climb steeply up or unnecessarily traverse erodible hillsides shall be closed.
- 07 Construction, reconstruction, or replacement of stream crossings shall provide and maintain passage for all life stages of native aquatic organisms, unless barriers are necessary to prevent spread or invasion of nonnative species and allow for passage of other riparian-dependent species through the establishment of banks inside and beneath the crossing feature.
- 08 During dust abatement applications on roads, chemicals shall not be applied to roads within or adjacent to Riparian Management Zones, and shall not be applied directly to watercourses, water bodies (e.g., ponds and lakes), nor wetlands.

Guidelines (FW-ACCESS-GD)

- 01 Use the most up-to-date Travel Analysis Report to inform travel management decisions, if it is more than 5 years old, update the report or develop a new one for projects with road management actions.
- 02 Roads and trails identified as unneeded through the travel analysis report or other processes should be decommissioned as soon as practicable. To enhance landscape connectivity and ecological integrity, prioritize road decommissioning based on:
 - 02.1. Effectiveness in reducing fragmentation, connecting un-roaded and lightly-roaded areas, and improving water quality in stream segments;
 - 02.2. Benefit to species and habitats;
 - 02.3. Addressing impaired or at-risk watersheds;
 - 02.4. Achieving combined road and motorized trail density standards; and
 - 02.5. Enhancing visitor experiences.
- 03 To enhance public safety and efficiency of the transportation system, prioritize maintenance of needed routes based on:
 - 03.1. Storm-proofing needs and opportunities (e.g., relocating roads away from water bodies, resizing or removing culverts, etc.);
 - 03.2. Restoring aquatic and terrestrial habitats and habitat connections by, in part, reducing or upgrading stream crossings.
- 04 Design road construction, reconstruction, decommissioning, and maintenance activities to minimize adverse environmental impacts, such as sediment delivery to streams.

Monitoring (FW-ACCESS-MO)

Transportation Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
Desired Condition 03: The “minimum road system” necessary to meet the need for safe and efficient travel and for administration, utilization, and protection of Forest lands and resources is achieved.	Are there roads or travel routes that are unnecessary, infrequently traveled, or that provide access to the same locations as other roads?	<ul style="list-style-type: none"> • Reports by Forest Service employees or visitors of inaccessibility to areas where accessibility is needed or desired • presence of illegal routes leading to areas not otherwise accessible • infrequently traveled roads 	Every 5 years	<ul style="list-style-type: none"> • Remain flexible to closing or rerouting transportation routes and roads • be proactive when reconstructing or improving travel roads and routes to take into account the erosion rate of soils, effects of habitat fragmentation, amount of biological soil crusts in the area, the presence of

<p>Desired Condition 05: Human impacts from roads and other motorized access are minimal or non-existent. Biological strongholds are increased because natural disturbance regimes are minimally impeded, and key habitats are unfragmented by roads.</p>	<p>Have roads and other motorized travel routes negatively impacted, by fragmentation or otherwise, key habitats or ecosystems within the Forest?</p>	<ul style="list-style-type: none"> • Presence of invasive species • waterbodies were drained or waterways diverted • loss of animal and plant life • crashes or other conflicts between traveling visitors and wildlife • change in wildlife foraging and hunting behaviors or locations. 	<p>Every 5 years</p>	<p>rare or key species of vegetation, etc.</p> <ul style="list-style-type: none"> • take proactive steps to minimize and mitigate impacts from road or travel routes that are expected to be most likely to cause negative impacts.
<p>Standard 06: Roads or routes that climb steeply up or unnecessarily traverse erodible hillsides shall be closed.</p>	<p>Are there roads or travel routes (or portions thereof) that are need of closure and possibly rerouting due to their effect on increasing erosion?</p>	<ul style="list-style-type: none"> • Rill networks and dust • loss of vegetation and topsoil • increase runoff after rainfall 	<p>Every 3 years</p>	
<p>Standard 07: Construction, reconstruction, or replacement of stream crossings shall provide and maintain passage for all life stages of native aquatic organisms, unless barriers are necessary to prevent spread or invasion of nonnative species, and allow for passage of other riparian-dependent species through the establishment of banks inside and beneath the crossing feature.</p>	<p>Are stream crossings negatively impacting the life cycles of native aquatic species or other riparian-dependent species?</p>	<ul style="list-style-type: none"> • Reports of visitors or Forest Service employees noting the stream crossing not being utilized effectively • wood and other debris becoming clogged at the crossing • increased flooding or erosion near the stream crossing 	<p>Every 5 years</p>	

		•		
--	--	---	--	--

2.11 Scenery Management

Goals (FW-SCENERY-GL)

- 01 The Forest’s scenery provides for public enjoyment of the landscape’s varied ecological regions and important Indigenous Cultural Landscapes, in relation to viewing contexts and expectations for highly valued viewsheds, across its broad geographic expanse from the high country and canyons of the Wasatch Plateau to the stunning peaks of the La Sal and Abajo Mountains, to abundant ponderosa pine plateaus and deep and culturally rich benches and canyons found across the Forest.

Desired Conditions (FW-SCENERY DC)

- 01 The condition of the Forest scenery, as directed by the Scenic Integrity Objectives (SIO), reflects a range that trends toward the Very High classification balancing social and cultural values, ecosystem health, sustainability and diversity, and contributes to the quality of life for culturally descended communities and other and Forest visitors.
- 02 The forest appears predominantly natural and includes cultural landscapes valued by forest users and local communities for their scenic and traditional values.
- 03 Outdoor lighting is energy efficient and protects forest ecology, wildlife, dark night skies and star gazing and promotes public safety.
- 04 New recreation facilities are visually consistent with the latest version of the Facilities and Site Management Indicators, which is the design guidance of the assigned recreation opportunity spectrum class.

Objectives (FW-SCENERY -OB)

- 01 Considering scenery, and through project-level planning, advance all but extremely limited highly developed and altered areas of the Forest toward Very High quality SIO classification. These SIO classes are met within ten years of the plan decision.
- 02 Within three years of plan approval, collaborate with interested parties such as the International Dark Sky Association to develop best management practices for protecting and restoring dark night skies on the Forest.
- 03 Within four years of plan implementation, each facility will be reviewed for maximizing dark night skies and assigned a timeline for any identified improvement need.
- 04 Vegetation management components of new projects must achieve the assigned SIO within five years after completion of all activities associated with the project (including activities such as regrading landings or temporary roads, broadcast burning or burning slash piles, or reseeding and planting).
- 05 Management activities that result in short-term impacts that do not meet scenic integrity objectives will achieve the scenic integrity objectives within ten years of the plan’s Record of Decision.

Standards (FW-SCENERY ST)

- 01 Recognize the importance and connectedness of the SIO class to the Forest's globally significant Indigenous Cultural Landscapes. Integrate a holistic approach to preserving important Indigenous Cultural Landscapes when employing and planning with the Scenery Management System measured through close partnerships with Tribes.
- 02 All projects and facilities will maximize dark night skies.
- 03 All projects state mitigation measures to address impacts to scenic resources.
- 04 Short-term and long-term timeframes affecting SIO will be defined during site specific project planning.

Guidelines (FW-SCENERY GD)

- 01 Recognize the importance and connectedness of the SIO class to the Forest's globally significant Indigenous Cultural Landscapes. Integrate a holistic approach to preserving important Indigenous Cultural Landscapes when employing and planning with the Scenery Management System measured through close partnerships with Tribes.
- 02 New landscape modifications such as vegetation projects or construction of facilities, will meet or exceed the mapped scenic integrity objectives (SIOs) as seen from anywhere areas assigned an SIO of very high or high, and as seen from mapped concern level 1 and 2 travel ways and viewpoints.
- 03 The Forest should implement best management practices to protect and restore dark night skies throughout the MLNF.
- 04 Where national forest land adjacent to a new project currently does not meet high or very high SIO, new actions should not be allowed if they would have an overall cumulative effect of lowering the scenery condition for that viewshed.

Monitoring (FW-SCENERY-MO)

Scenery Management Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
Desired Condition 01 : The condition of the Forest scenery, as directed by the Scenic Integrity Objectives (SIO), reflects a range that trends toward the Very High classification balancing social and cultural values, ecosystem health, sustainability and diversity, and contributes to the quality of life for	What is the progress on moving towards scenic integrity objectives?	Scenic Integrity Objectives (SIO): Number of decisions that move towards Very High quality SIO. Number of decisions that did not meet SIO, and number of	Every 10 years.	Retain flexibility on project planning in order to meet the necessary Scenic Integrity Objectives to advance the vast majority of the Forest toward Very High quality SIO class.

culturally descended communities and other and Forest visitors.		decisions that lead to modification of an area's SIO.		
Objective 04: Vegetation management components of new projects must achieve the assigned SIO within five years after completion of all activities associated with the project (including activities such as regrading landings or temporary roads, broadcast burning or burning slash piles, or reseeded and planting).	Have the vegetation components of projects achieved the assigned SIO?	Objective criteria for achieving the SIO.	Third and fifth year after project completion	Describe what aspect is preventing achievement of the SIO and create a plan for achieving the SIO, including new timelines.
Standard 01: Recognize the importance and connectedness of the SIO class to the Forest's globally significant Indigenous Cultural Landscapes. Integrate a holistic approach to preserving important Indigenous Cultural Landscapes when employing and planning with the Scenery Management System measured through close partnerships with Tribes.	Are Tribes satisfied with the application of SIO with regard to important Cultural Landscapes?	Tribal consultation Number of NEPA decisions that move towards Very High quality SIO.	Every 5 years	Retain flexibility to alter projects in the planning and implementation stages in order to meet with the satisfaction of consulting Tribes and SIO.

2.12 Facilities Management

Goals (FW-FACILITY-GL)

- 01 Facility infrastructure is safe, efficient, durable, and environmentally sensitive, emphasizing protection of natural and cultural and historic resources.

Desired Conditions (FW-FACILITY-DC)

- 01 Facility infrastructure is in current use and maintained in operational condition.
- 02 Water extraction or diversion facilities are located as close to the boundary of the forest as possible in order to avoid long-term adverse impacts to forest water and riparian resources.

Objectives (FW-FACILITY-OB)

- 01 Within one year of plan approval, identify facilities no longer needed or abandoned, and prepare a timeline for their removal and restoration of the sites to natural conditions.
- 02 Within one year of plan approval, identify site utilities that need upgrading or reconstruction for efficient operation.
- 03 Debris basins and other structures constructed to mitigate post-Seeley wildfire flooding along Huntington Canyon are removed or naturalized within the ten-year period following plan approval.

Standards (FW-FACILITY-ST)

- 01 Facilities cannot remain open if they are causing considerable adverse effects on soil, plants, wildlife, habitat, or cultural/historic resources.
- 02 Prohibit proposed new facilities if they have the potential to affect the eligibility or potential classification of qualifying areas for Wilderness or Wild and Scenic River designation.
- 03 Where loss or hindered recovery of sensitive species is not successfully mitigated within three years, use of facilities must be suspended until successful mitigation has been achieved.

Guidelines (FW-FACILITY-GD)

- 01 Priorities for removal and upgrading of facilities will be based on watershed protection, health and safety, and accessibility compliance.

Monitoring (FW-FACILITY-MO)

Facilities Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
Standard 01 : Facilities cannot remain open if they are causing considerable adverse effects on soil, plants, wildlife, habitat, or cultural/historic resources.	Are facilities negatively impacting soil, plants, wildlife, habitat, or cultural/historic resources within the Forest?	Presence of erosive soils, invasive plant species critical wildlife habitat and cultural and historic resources in and/or in the zone of influence of facilities.	Every 5 years	Remain flexible to closing or reconstructing facilities that are causing considerable adverse effects; take proactive steps to minimize and mitigate impacts from facilities that are causing negative impacts.

2.13 Land Ownership and Special Uses

Goals (FW-LAND-GL)

- 01 Landownership adjustments within the MLNF boundary enhance natural ecosystems, increase crucial habitat for native plant and animal communities, and improve ecosystem services.

Desired Conditions (FW-LAND-DC)

- 01 A consolidated MLNF with minimal in-holdings offers few wildlife-human conflicts, healthy ecological networks and connectivity corridors for fish and wildlife, and adequate public access.
- 02 A sufficient number of maintained road and trail easements allow access to and across MLNF.
- 03 There is occupancy trespass on MLNF.
- 04 Wild and scenic river values and ecological networks and connectivity corridors for fish and wildlife on MLNF are protected.
- 05 MLNF property lines adjacent to private land and boundaries of special areas such as designated wilderness lands are clearly marked where inadvertent trespass and encroachment are most likely.

Objectives (FW-LAND-OB)

- 01 Conservation easements that maintain and protect wild and scenic river values and enhance ecological networks and connectivity corridors for wildlife are purchased when opportunities arise.
- 02 Private in-holdings are purchased from willing sellers through use of Land & Water Conservation Fund when opportunities arise.

Standards (FW-LAND-ST)

- 01 To ensure and enhance forest, fish, and wildlife health, public interest determinations for land exchanges shall prioritize securing protection of fish and wildlife habitat and wilderness values over other public interest factors.
- 02 Requests for rights of way across MLNF are granted only after completing public NEPA analyses to determine which routes are most effective in reducing wildlife-human conflicts.

Guidelines (FW-LAND-GD)

- 01 Identify, prioritize, and acquire new road and trail easements that are needed to access MLNF.
- 02 Priorities for removal and upgrading of facilities and sites will be based on watershed protection, health and safety, and accessibility compliance.
- 03 Implement land adjustments that consolidate ownership patterns in service of improving forest health and fish and wildlife habitat while increasing efficiency of national forest management.

2.13.1 Lands Special Uses

Goals (FW-LANDSUP-GL)

- 01 Ecological impacts of facilities, sites, and utility corridors are minimized.

Desired Conditions (FW-LANDSUP-DC)

- 01 Utility corridor infrastructure throughout the planning area provides efficient and effective delivery of electricity, oil, and gas and enhances the electric transmission grid by improving reliability, reducing congestion, and contributing to the national electrical grid.
- 02 All service roads accessing permitted infrastructure are gated to reduce likelihood of vandalism.
- 03 Unauthorized private improvements are not present on the Forest.

Objectives (FW-LANDSUP-OB)

- 01 Obsolete and unused permitted infrastructure and no-longer-authorized infrastructure are identified and removed from the landscape.
- 02 All communication sites have approved communication site plans.

Standards (FW-LANDSUP-ST)

- 01 Proposals for new utility corridor and communication facilities outside of designated communication sites or utility corridors shall not be authorized unless
 - 01.1 a location off MLNF lands cannot adequately meet the needs of the proposed activity and improvement of existing facilities to accommodate expanded use is determined to be infeasible; or
 - 01.2 replacement of an existing corridor/facility would eliminate significant negative impacts on wildlife or fish.
- 02 To reduce long-term surface disturbance and impacts to scenic resources, new distribution lines and communication lines shall be located underground unless
 - 02.1 location underground has been found to be infeasible after analysis; or
 - 02.2 where installing the line overhead would reduce resource impacts.
- 03 Private easements or rights-of-way are granted only when no other reasonable access to private property exists.
- 04 Only one access route shall be authorized to each private property inholding regardless of the number of property owners.
- 05 No new access points to private property will be authorized when a parcel is subdivided.
- 06 Proposals for isolated private cabins shall not be authorized. Proposals for development on new summer home tracts and existing vacant lots shall not be authorized.
- 07 Authorizations for new infrastructure shall include bonding.

Guidelines ((FW-LANDSUP-GD)

- 01 Use existing communication sites to provide communication for the MLNF and other government entities and to meet various public needs.

2.14 Minerals and Energy Resources

Goals (FW-MINERALS-GL)

- 01 Manage exploration, development, and production of mineral and energy resources in a manner that protects natural resources, public health, safety and welfare, and is consistent with National Forest System land and resource management plans.
- 02 Avoid adverse effects to aquatic and other riparian dependent resources from mineral operations and do not allow activities that retard or prevent attainment of aquatic conservation objectives in the short or long term.
- 03 Evaluate any proposed authorized use to occupy and use National Forest System lands and only approve only that determined to be in the public interest.

Desired Conditions (FW-MINERALS-DC)

- 01 Congressionally designated wilderness, recommended wilderness, wild rivers, municipal watersheds and sole source aquifers are closed to mineral leasing and the sale of mineral materials and withdrawn from locatable mineral entry, subject to valid existing rights.
- 02 The objectives of Special Interest Areas, Research Natural Areas, corridors connecting core wildlife areas, areas needed to provide species protection, and areas managed to preserve scenic values are not compromised by mineral leasing, the sale of mineral materials, or locatable mineral entry.
- 03 On open lands and consistent with valid existing rights on withdrawn lands, exploration, development, and production of mineral and energy resources are conducted in an environmentally and culturally sensitive manner to avoid, wherever possible, and otherwise minimize adverse effects on public health safety and welfare, wildlife and wildlife habitat, watersheds, soils and air and water quality.
- 04 Reclamation of energy, mining, and mineral activity sites protects native wildlife and wildlife habitat, ecosystem health, soils and air and water quality and achieves native species succession appropriate to the reclaimed landform in order to establish native forest vegetative communities and natural habitats.
- 05 Abandoned mines are reclaimed to restore aesthetic values, native plant communities and natural habitats and to protect public health and safety, soils and water quality.
- 06 Geological hazards (landslides, floods, sinkholes, etc.) and associated risks to public health and safety, facilities and infrastructure are identified throughout the Forest through Forest Landslide mapping and management activities are conducted to avoid them.

Objectives (FW-MINERALS-OB)

- 01 Each year, evaluate and prioritize three to five abandoned mines and reclaim one or two abandoned mines that pose a risk to public health and safety or degrade ecosystem health.
- 02 Within five years of plan approval, identify and prioritize mineral and energy resource operations and sites and associated roads that are no longer in use. Within 15 years, reclaim operations and sites and decommission roads no longer in use.
- 03 Within five years of plan approval, identify and prioritize mineral and energy resource operations and sites and associated roads that are unapproved or noncompliant. Within 15 years, eliminate mineral and energy resource operations that are unapproved or noncompliant.
- 04 Within five years of plan approval, review and update existing reclamation plans and bonding requirements to ensure the reclamation plans and bonding conform to this revised Forest Plan.
- 05 When the locations of geologic hazards are identified, prioritize mitigation based on safety and mitigate within one year if they pose a threat to public safety.

Standards (FW-MINERALS-ST)

- 01 Prevent the construction of infrastructure associated with mineral or energy resource activities, including roads, within a zone that consists of a wetland or riparian area and the uplands within 325 feet of the margin of a wetland or riparian area.

- 02 Prevent the construction of infrastructure associated with mineral or energy resource activities, including roads, within a zone that consists of an intermittent or ephemeral stream and the uplands within 50 feet of the top of the stream bank.
- 03 Require that reclamation be carried out concurrently with mineral and energy resource activities and that restoration of the environment take place at the earliest opportunity for each area on site.
- 04 For all proposed surface-disturbing activities, require the development and timeline-defined implementation of reclamation plans that return the land to native conditions consistent with the ecological capability of the area.
- 05 Ensure that plans of operation, reclamation plans, and reclamation bonds cover the costs of:
 - 05.1 removing toxic or potentially toxic materials and remediating contaminated soils and waters;
 - 05.2 salvaging and replacing topsoil;
 - 05.3 removing facilities, equipment, and materials; and,
 - 05.4 preparing the seed bed and revegetating with native plants to meet the expected natural vegetation in which the operation is located.
- 06 Limit new and upgraded roads to those necessary for mineral and energy development on valid existing claims and require that they be designed and located to protect surface resources, including but not limited to slope stability, soil stability, and water quality.
- 07 Limit the clearing of trees and other vegetation to the minimum necessary and allow clearing of vegetation only where pertinent to the approved phase of mineral exploration or development.
- 08 Locate, design, and maintain facilities and other management activities to avoid their susceptibility to, or causal effects on, geologic hazards and to protect public safety and health, and the health and biological diversity of native ecosystems.
- 09 Locate, design, and maintain mineral and energy operations, including mining-induced subsidence, so that there is no impact on or loss of groundwater or surface water flow in drainages, wetlands, springs, or associated riparian vegetation, and aquatic ecosystems.
- 10 Prohibit mineral and energy operations in unstable areas. Mineral and energy operations must be designed and constructed to avoid release of sediment and pollutants to the adjacent environment and aquatic systems.
- 11 Impose use and occupancy stipulations on mineral and energy leases that protect native surface resources on NFS lands.

Guidelines (FW-MINERALS-GD)

- 01 Close management areas, including Special Interest Areas, Research Natural Areas, corridors connecting core wildlife areas, areas needed to provide species protection, areas managed to preserve scenic values, and Limited Use Areas to mineral leasing, the sale of mineral materials and locatable mineral entry where warranted to meet the objectives for which the area was proposed or established.
- 02 To the maximum extent possible, ensure mineral and energy resource development does not prevent or retard attaining aquatic or riparian desired conditions or aquatic conservation objectives in the short or long term.

- 03 Eliminate and prevent surface occupancy in the Forest that is not required for the mineral operation.

Monitoring (FW-MINERALS-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
<u>Minerals and Energy Resources</u> [Not specifically connected to text]	Are mineral and energy resource operations adversely impacting wildlife or ecosystem health or recreation or scenic values?	Monitor water quality, noise, emissions of fugitive dust, soil stability, wildlife, habitat and the experiences of Forest users.	A minimum of every other year or more frequently based the frequency of inspections and monitoring on the potential severity of mining activity-related impacts.	Where monitoring shows a violation of state water quality standards, soil erosion or unacceptable emissions of fugitive dust or impacts on wildlife or users, impose conditions necessary to ensure immediate progress toward compliance with water quality standards, restore soil stability, control fugitive emissions and reduce adverse impacts on wildlife, habitat and forest users.
	Are mineral and energy resource operations in compliance with plans of operation, surface use plans of operations or other applicable conditions or stipulations?	Inspect and monitor mineral and energy resource related activities on a regular basis to ensure compliance with laws, stipulations, regulations, and operating plans.	A minimum of every other year or more frequently based the frequency of inspections and monitoring on the potential severity of mining activity-related impacts.	Where inspections or monitoring shows a failure to comply with the law, regulations, stipulations or operating plans or other conditions impose conditions necessary to ensure immediate progress toward compliance with the relevant requirement(s).

2.15 Fire and Fuels Management

Goals (FW-FIRE-GL)

- 01 Fire management engages internal and external groups to acknowledge that with climate change, fire season length is increasing, fire behavior is being altered;, and wildland fire is a necessary ecological process essential to sustaining the Forest's fire-adapted ecosystems.
- 02 Engagement with communities, Tribes, and stakeholders identifies factors that can reduce wildland fire risk, and maintain fire-safe homes, fire-adapted communities, and fire-resilient landscapes that are less reliant on aggressive wildfire suppression.

- 03 Engagement with communities adjacent to MLNF encourages land use planning that minimizes the need for aggressive wildfire suppression on the MLNF.
- 04 Engagement with communities, Tribes and stakeholders during planning prescribed fire and fuels management supplements MLNF information on sensitive areas and wildlife.
- 05 Treatments for fire-resilient landscapes prioritize support of healthy native vegetation communities and wildlife habitat over commercial and recreational uses of the plan area.
- 06 A coordinated risk management approach between MLNF, adjacent land managers, and forest users promotes native landscapes that are resilient in species-specific ways to fire-related disturbances and results in safe responses to fire.
- 07 Collaborations with private industry increase the percentage of fire-resilient, native landscapes, emphasizing wildland urban interfaces and areas with high values (e.g., Old Growth ponderosa pine) at risk.

Desired Conditions (FW-FIRE-DC)

- 01 Fuels are at levels that maintain historic, pre-colonial fire regimes, support ecological resilience, and minimize uncharacteristic wildfire
- 02 Wildland fire occurs within a range of frequencies, severities, and extents that, to the degree practicable, approximates the historic, pre-colonial, natural variability and patchiness of each ecosystem, while responding to climate change (see Table X).

Table X Dominant Fire Regime Groups and Fire Behavior **LIKELY TO BE MODIFIED BY OCT 25)**

Vegetation Types	Dominant Fire Regime Groups (FRGs)	Total Acres	Fire Frequency	Percentage of Fires in Each Severity Class		
				Low	Mixed	High
Ponderosa Pine	FRG I	95,466	15	38%	29%	33%
Spruce-fir	FRG V	102,424	212	0%	2%	98%
Conifer Mixed	FRG I, III	118,433	15	67%	16%	17%
Deciduous	FRG I	239,657	30	0%	54%	46%
Alpine	FRG V	793	232	0%	0%	100%
Herbland	FRG II	110,358	32	0%	20%	80%
Shrubland	FRG III, IV, V	180,647	60	1%	16%	83%
Pinyon-Juniper	FRG III	325,770	100	10%	60%	30%
Woodland	FRG III	197,346	40	10%	60%	30%
Riparian	FRG I, III	9,124	40	10%	30%	60%

Source: Based on Utah Fire Groups, LANDFIRE BpS/MFRI, and Manti-La Sal Terrestrial Condition Report.

- 03 Wildland fire is helping to regulate the structure, pattern, and diversity of ecosystems and to maintain old growth ponderosa pine.
- 04 Wildland fire management activities are used to achieve ecosystem sustainability and ecological resilience.
- 05 The need for alteration of natural fire regimes is minimized through management of roads and recreation; support of fire-wise communities and infrastructure; fire-wise land use planning in adjacent communities; and support of healthy plant communities.
- 06 Fires are managed to achieve MLNF Desired Conditions and where possible, help achieve objectives of adjacent land managers that support MLNF Desired Conditions.
- 07 Wildland fire does not result in the loss of human life, and is facilitated by a landscape context characterized by prepared at-risk communities that are defensible to the degree possible.
- 08 Wildland fire management activities effectively minimize the risk of loss of life, and damage to ecosystem function or property.
- 09 Wildland fire management minimizes negative impacts to imperiled and sensitive species and habitats.
- 10 Fire management engages with both internal and external groups to define wildland fire as a necessary ecological process essential to the sustainability of the Forest's fire-adapted ecosystems, so that there is support for fire management activities.

Objectives (FW-FIRE-OB)

- 01 Through a minimum of 15 public contacts per year, provide education and outreach opportunities to local communities about local and state land use planning implications for the Wildland Urban Interface, the ignition zone around homes, firewise management of private property landscapes, the role of fire amid climate change, and of short- and long-term impacts of fire.
- 02 Use prescribed fire and other vegetation treatments to improve or maintain desired forest vegetation conditions, including Old Growth shrubs and trees, on up to 30,000 acres per year over the life of the plan, with the number of acres per year dependent on availability of forest resources to engage with communities during planning, protect sensitive areas and habitats, achieve patchiness of treated areas, monitor for post-treatment outcomes, and use adaptive management based on post-treatment monitoring.
- 03 Close fire lines susceptible to post-fire motorized vehicle use within one year post-fire.
- 04 Within two years after each prescribed fire project, document the post-fire patch distribution and condition of refugia mapped prior to the burn.
- 05 Annually provide the public with proposed prescribed burn plans and provide 30 days for review and comment.

Standards (FW-FIRE-ST)

- 01 Firefighter and public safety shall be prioritized in every fire management activity.
- 02 Within archaeological sites, fuel reduction treatments shall be limited to manual treatments, and fuels will be scattered or burned off-site.

- 03 No more than 20% of any watershed will be burned in a year (including any wildfire that has occurred in that watershed in the previous or current year), unless low-intensity maintenance fire only (e.g., of ponderosa pine).
- 04 Prescribed fire is not used in the following:
 - a. spruce-fir forests that lack an aspen component
 - b. persistent aspen (i.e., aspen with no or insignificant conifer component)
 - c. drought-stressed pinyon-juniper areas experiencing die-offs or significant insect infestation of either or both species.
 - d. Northern goshawk Post Fledgling Areas (PFAs) and Nest Areas (NAs).
- 05 In all sage grouse breeding and early brood-rearing habitats, sagebrush communities remain undisturbed by prescribed fire, and wildfires are suppressed.
- 06 Prescribed burning will only occur when 60 percent of mapped goshawk Foraging Area is expected to burn, in order to leave 40 percent of the area with interlocking crowns intact.
- 07 Only use prescribed fire in IRAs where doing so can occur without the construction of artificial firebreaks or firelines.
- 08 Off-road motor vehicles are not used for prescribed fire projects in IRAs.
- 09 Minimum suppression tactics will be used within sensitive areas such as wilderness, wildland fire management tactics will include
- 10 Launching or landing of private unmanned aircraft, such as drones, is prohibited during fire activities.

Pre-Burn Standards

- 11 Pre-burn cultural resource surveys must be conducted to identify potential protective actions and to collect site information in known and suspected high site density or culturally important areas.
- 12 Hand-based fuels reduction shall occur ahead of all prescribed burning projects in fire-vulnerable cultural sites and areas of tribal interest.

Post-fire standards

- 13 Only native species are used in seedings, locally sourced whenever possible. Non-native plant species that are short-lived may be seeded within a woodland community if unavoidable and imminent erosion is likely without such seeding.
- 14 Fence persistent aspen sites post-fire if number of unbrowsed sprouts after one post-fire season is insufficient to provide adequate recruitment (e.g., Appendix C, *Final EIS for Monroe Mountain Aspen Ecosystems Restoration Project*²).
- 15 Fence livestock-accessible riparian areas with potential beaver habitat post-fire for potential beaver reintroduction³

² Appendix C - Browsing Thresholds and Adaptive Management Pursuant to Aspen Restoration on Monroe Mountain 15 January 2014. In: U.S. Forest Service, Fishlake National Forest, Richfield Ranger District. 2015. [*Final Environmental Impact Statement for Monroe Mountain Aspen Ecosystems Restoration Project*](#).

³ Fairfax, E, and Whittle. 2021. [Smokey the Beaver: beaver-dammed riparian corridors stay green during wildfire throughout the western United States](#) *Ecological Applications* 30(8) e02225
<https://esajournals.onlinelibrary.wiley.com/doi/10.1002/eap.2225>

Guidelines (FW-FIRE-GD)

- 01 Outside of the Protection Fire Management Area (PFMA), use fire to achieve management objectives for native ecosystems when conditions permit and are within acceptable risk limits. Fires within the PFMA can be used to achieve management objectives if assurances can be made for firefighter and public safety.
- 02 Allow natural recovery from recent insect epidemics by retaining snags, down logs, and remaining live trees in affected areas outside the wildland urban interface threat and defense zones and where dead trees do not qualify as hazard trees.
- 03 Implement hazard tree removal during vegetation treatments, mitigate 80% of hazard trees one tree length from primary travel corridors and other values at risk throughout the life of the plan.
- 04 Limit removal of woody vegetation within 2.5 km of known boreal toad breeding sites during and immediately following the breeding season.
- 05 In cultural landscapes, fire suppression, including use of mechanical equipment to build fire lines, should minimize ground-disturbance, while ensuring firefighter safety.
- 06 Handcutting will be the preferred method of tree removal within persistent pinyon and juniper woodlands whenever possible.
- 07 Avoid slash piles and log decks in ponderosa pine habitat. If they are necessary, they should be removed within two years to discourage habitat for Abert's squirrel competitors and predators.
- 08 To prevent subsequent use of motorized vehicles off existing travel corridors, do not locate fire lines near public access points to the greatest extent possible.

Pre-prescribed burn guidelines

- 09 Describe within all burn project plans the desired post-fire patch distribution of burned/unburned forests and protection of refugia.
- 10 Prepare measurable objectives (including for understory vegetation) for prescribed fire projects in pinyon, juniper, aspen-mixed conifer, and ponderosa pine communities prior to prescribed fire so post-fire success or failure can be determined objectively. Include triggers for post-fire adaptive management in all pre-burn plans.
- 11 Map refugia that will be retained for the following vegetation types, and incorporate protection of these sites into burn plans.
 1. persistent pinyon-juniper
 2. old growth ponderosa⁴
 3. persistent aspen that lack recruitment due to browsing
 4. late-succession Gambel oak-only sites
 5. potential boreal toad forest hibernacula
 6. goshawk Nest Areas, Post-Fledgling Areas, and Foraging areas [capitals??]

⁴ Old Growth Climax Ponderosa Pine Forests are defined as having a minimum of seven trees per acre that are greater than 16 inches in diameter and over 200 years old and have a minimum of at least one standing snag per acre greater than 15 inches in diameter. Old growth seral ponderosa pine forests are defined as having a minimum of fourteen trees per acre that are greater than 20 inches in diameter and over 150 years old, have a minimum of two standing snags per acre greater than 15 inches in diameter, and have a minimum of two downed pieces per acre greater than 15 inches in diameter and at least 15 feet in length.

7. current and past pinyon jay nesting areas
 8. archaeological sites,
 9. other uncommon or sensitive sites .
- 12 Where there is at least a moderate risk of post-fire cheatgrass or other invasive species expansion, develop mitigation measures. If adequate mitigation is not feasible, minimize the burned area.
 - 13 Clear ladder fuels, including young trees and dense brush two driplines from old-growth ponderosa pine prior to a prescribed fire project that may reach old-growth ponderosa pine.
 - 14 Design treatments within any Inventoried Roadless Area to *minimize* the impacts to roadless area characteristics.
 - 15 Establish a specific diameter limit within IRAs to ensure that only small-diameter trees are removed.
 - 16 Evaluate the risk of cheatgrass or other exotic species invasion prior to prescribed fire operations,. When there is a moderate to high risk of these types of invasion, mitigation measures should be developed. If adequate mitigation measures are not available, have not been documented to be successful, or if they are cost-prohibitive, develop objectives to minimize the burned area.

Post- wildland and prescribed fire management guidelines

- 17 The priority for post-fire management and erosion control is maximum feasible removal of ground-disturbing stressors from vulnerable areas until native vegetation has established.
- 18 Establish livestock excluses in size and number that are sufficient to compare “burned/livestock” with “burned only” conditions.
- 19 Identify and georeference those areas where aspen suckering is occurring within recent fires or insect outbreaks.
- 20 Within recently burned or beetle-affected areas where aspen suckering and browsing are occurring, fell and leave dead trees in place within and along the perimeter of areas
- 21 Focus fuels treatments on reducing fuel loadings that deviate from natural vegetation community conditionFos.
- 22 Fuel reduction treatments should maintain vegetation mosaics across the landscape to avoid drawing attention to cultural sites and to provide wildlife habitat.
- 23 Fuels reduction treatments should use prescribed fire and wildfire rather than mechanical means in areas with dense concentrations of cultural sites

Monitoring (FW-FIRE-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management fireActions
----------------------------	---------------------	-------------------------	----------	------------------------------------

Desired Condition 02 : Wildland fire occurs within a range of frequencies, severities, and extents that, to the degree practicable, approximates the historic, pre-colonial, natural variability and patchiness of each ecosystem, including responses to climate change.	What is the extent and severity of wildfire burned areas?	Acres burned by wildfire and by severity class (low, moderate, high)	Annual	Prescribed fire plans consider extent and severity of wildfire
Standard 13 : Only native species are used in seedings, locally sourced whenever possible. Non-native plant species that are short-lived may be seeded within a woodland community if unavoidable and imminent erosion is likely without such seeding.	Where are native seedings taking place; and where and why are any non-native seedings implemented?	Native and non-native species cover	3 years post fire	<ul style="list-style-type: none"> • If was seeded, document native and non-native cover. • Apply results to subsequent fire management sites.
Guideline 12 : Where there is at least a moderate risk of post-fire cheatgrass or other invasive species expansion, develop mitigation measures. If adequate mitigation is not feasible, minimize the burned area.	Are invasive species increasing post-fire?	Invasive species percent cover	3 years post-fire	Document success or failure of prevention or mitigation measures; apply to subsequent fire management sites
Guideline 17 : The priority for post-fire management and erosion control is maximum feasible removal of ground-disturbing stressors from vulnerable areas until native vegetation has established.	Is erosion occurring post-fire?	<ul style="list-style-type: none"> • Degree of erosion • Stressors contributing to erosion 	3 years post-fire	<ul style="list-style-type: none"> • Document degree of success/failure of erosion control. • Apply results to subsequent fire management sites.

2.16 Livestock Grazing and Range Management

Goals (FW-RANGE-GL)

- 01 Permitted livestock stocking rates will become more conservative throughout the Forest in light of climate trends, especially increased temperatures, earlier snowmelt, soil aridification, and reduced effective precipitation (i.e., the difference between total precipitation and actual evapotranspiration).

- 02 A balance of MLNF areas grazed by livestock and not grazed by livestock will be made achievable through voluntary grazing permit retirement.
- 03 Public participation in livestock grazing decisions will be encouraged.

Desired Conditions (FW-RANGE-DC)

- 01 Livestock grazing continues to be permitted as a commercial activity on portions of MLNF and with practices that are monitored and demonstrated to not impair native productivity of upland, riparian, and aquatic ecosystems.
- 02 Livestock grazing is being adaptively managed in light of climate change: increasing heat, rain-to-snow ratios, drought, and fires; and earlier snowmelt.
- 03 Animal Unit Months authorized for a given season are altered as needed to protect native resources and conditions in response to predicted and developing resource limitations (e.g., fire, heat, and drought).
- 04 Pollinator resources (i.e., native forbs and shrubs) are present throughout the growing season for support of the Forest's native bees, bumblebees, and hummingbirds.
- 05 Some areas of the Forest are not grazed by livestock, e.g., erodible slopes, reference areas, wetlands and springs, Research Natural Areas, some Special Interest Areas, and portions of vegetation types poorly represented in livestock-free condition on the Forest (e.g., sagebrush communities).
- 06 All livestock grazing permits will be analyzed under NEPA prior to permit expiration and will be permitted and managed within (1) capability for livestock grazing using criteria established by USFS Region 4, including slope limitations, current forage production, distance to water, and erodibility of soils; (2) capacity given the increased weight of livestock since capacity was last estimated; (3) capacity given rising temperatures during the past 30 years, predicted temperature increases, and reduced vegetation production during the coming 30 years; (4) current condition of native vegetation and wildlife; and (5) suitability by considering conflicts with other social and ecological values of the Forest.
- 07 Livestock grazing is managed to restore, where lacking, such Forest values as native plant community structure and function, native wildlife habitat, appropriate infiltration and water storage of soils, and soil stability.
- 08 Streambanks within a given reach retain overhanging banks and vegetation cover suitable to stream and soil type and remain 85% free of combined bank trampling and vehicle impacts.
- 09 Shrubs and saplings palatable to ungulates retain reproductive capacity and recruitment into multi-storied stands.
- 10 Riparian woody vegetation provides support for beaver in potential beaver habitat (Beaver Restoration Assessment Tool).

Objectives (FW-RANGE-OB)

- 01 Within one year of plan approval, publish a list of processes available for public participation in livestock management decisions, and how concerns raised by the public will be processed.

- 02 Within one year of plan approval, a list of options is distributed to permittees and the public for adaptive livestock management in response to between- and within-year predicted and developing drought and/or above-normal heat.
- 03 All livestock permit renewals will be completed with NEPA Environmental Assessments or Environmental Impact Statements and Allotment Management Plan (AMP) revisions if no NEPA EA, EIS or AMP has been undertaken for livestock management throughout the allotment within the previous 10 years.
- 04 Within eight years of plan implementation, revisions of all Allotment Management Plans (AMPs) that are older than 10 years will be complete
- 05 Within two years of plan approval, develop processes by which permittees may apply for (a) reduced use for conservation and restoration purposes (while retaining existing permit numbers); and/or (b) voluntary closure of all or part of an allotment based on capability, suitability, ecological values, location within wilderness, conflicts with other forest uses, and/or lack of sufficient production for economic sustainability.
- 06 Within two years of plan implementation, update maps of all allotments for:
 - 06.1 Fences and other livestock developments
 - 06.2 Functional exclosures
 - 06.3 Long-term trend monitoring locations
 - 06.4 Areas $\leq 10\%$ in slope
 - 06.5 Springs and wetlands
 - 06.6 Perennial and ephemeral waterways
- 07 Within three years of plan approval, establish and implement a Programmatic Agreement with the Utah State Historic Preservation Office to faithfully conform to NHPA Section 106 process and implementing regulations at 36 CFR part 800 for all new and renewing grazing permits.

Standards (FW-RANGE-ST)

- 01 Permits will be based on available forage. The utilization limit of available forage is 30% (25% during drought) of palatable, native riparian and upland herbaceous species,
- 02 Infrastructure to create additional pastures for distribution of livestock will not be permitted if 30% utilization has not been maintained on the allotment for three years prior to the proposal.
- 03 No new drilling, spring development, water trough, or excavation of additional stock ponds will be permitted for livestock watering without an equal decrease by documented volume of water extraction elsewhere at the time of the proposed development.
- 04 Seeding of perennial, non-native species for forage is prohibited.
- 05 Livestock Annual Operating Instructions must recommend non-lethal methods of avoiding predator depredations (e.g., guard dogs, portable electric fencing and fladry, herders, range riders, etc.), especially during high-risk time periods (e.g., calving/lambing).
- 06 Predator control to protect livestock cannot be undertaken without documentation of the failure of predator avoidance efforts by livestock operators.
- 07 A written response must be provided, within 10 business days, to Forest user/visitors who have documented evidence that a livestock grazing term and condition, standard or AMP requirement is being violated and/or natural resources are being significantly compromised. The response will

(a) indicate mitigation or responsive action that will be taken; or (b) explain why the comment does not warrant further agency response.

- 08 No more than 15% of the length of any 200 feet of streambanks may be trampled within areas grazed by livestock.
- 09 Stubble height limits for an allotment must be altered if either of the following are not being achieved due to ungulate use: (a) multi-height and multi-age palatable, native, woody composition; or (b) bank trampling of less than 15% within any 200 feet.
- 10 Livestock cannot enter a pasture for the season of use until permittee-maintained fences, water developments, and other livestock developments are maintained to standard.
- 11 All livestock water developments must provide access and escape to and from water for all types of wildlife.
- 12 Proposals for treatments to restore native vegetation communities or riparian areas in locations grazed by livestock must describe post-treatment native vegetation goals and livestock management that will achieve those goals.
- 13 Grazing systems must be designed in a manner to provide rest at least once every 3 years to forage and forb species during the growing season in order to promote pollinator pollen and nectar, ground cover, species diversity, reproduction, and productivity.
- 14 No salting or mineral supplementation shall occur on or within 500 feet of known populations and/or habitat of at-risk plant species, highly erosive soils, biological soil crusts; within 0.25 mile of a water body or riparian management zone; nor in known archeological sites and other historic properties.
- 15 Within watershed improvement/protection areas (contour trenched or furrowed areas), research natural areas (RNAs), botanical areas, developed campgrounds that are not fenced, and areas containing highly erodible soils:
 - 15.1 No new livestock water developments will be allowed and where feasible, existing water developments will be removed;
 - 15.2 No salt or supplemental nutrients and no sheep bedding may be placed.
 - 15.3 The permittee will not intentionally move livestock into these areas; incidental use will be mitigated and prevented.
- 16 Rest burn areas from livestock grazing for at least three years after a fire.⁵
- 17 Livestock grazing will not be authorized post-fire in pinyon-juniper or sagebrush communities until the majority of native grasses have seeded and the Forest Service determines that production will support grazing without exceedance of 30% utilization.
- 18 Livestock grazing will not be allowed in post-fire aspen until aspen are meeting the abundance and height delineated in Appendix C of the 2015 *Final Environmental Impact Statement for Monroe Mountain Aspen Ecosystems Restoration Project*).

⁵ This is important due to (a) reduced productivity on MLNF (Hoglander, C. 2016. *Change in Vegetation Productivity for Three National Forests in Utah, 1986-2011: Dixie, Fishlake, and Manti-La Sal National Forests*. Unpublished document. Grand Canyon Trust. Available at <https://www.grandcanyontrust.org/vegetation-productivity-analysis-three-utah-national-forests>); and (b) ongoing drought (Williams et al. 2020. Large contribution from anthropogenic warming to an emerging North American megadrought. *Science* 368, 314–318); and (c) risk of establishing or increasing cheatgrass, which will reduce the fire interval).

- 19 Livestock will not be returned for the first time to an area that has burned if, on March 15, the Evaporative Demand Drought Index (EDDI, which estimates atmospheric demand on available soil moisture), indicates at least moderate drought (D02) in its [3-month index](#).
- 20 To minimize soil compaction and impacts to subalpine, alpine, and riparian areas; and at-risk species, bed grounds for sheep may be used 1-2 days. Bed grounds must be located on rocky or otherwise hardened sites, and be located at least 0.25 mile away from riparian management zones, at-risk or rare plant species, or known at-risk native pollinator habitat.
- 21 Infrastructure for additional pastures for distribution of livestock will not be permitted if 30% utilization has not been maintained on the allotment for three years prior to the proposal.

Guidelines (FW-RANGE-GD)

- 01 Allow livestock permittees to voluntarily relinquish or retire all or portions of allotments for the purpose of removing livestock grazing where absence of livestock would contribute to watershed resilience; reduction of soil erosion; or restoration of native species and/or water quality or water quantity.
- 02 Term permit renewal shall be open and responsive to public input.
- 03 Any proposed increases in permitted AUMs will be noticed to the public for comment, including documentation of current natural resource conditions, and a field tour will be offered for interested parties.
- 04 When an AMP being revised is more than 20 years old, describe changes since the last AMP in:
 - 04.1 average weights of cattle
 - 04.2 native vegetation production (e.g., with NDVI)
- 05 Focus monitoring, using replicable methods, on (a) riparian areas; (b) in herbaceous/shrub uplands and meadows with $\leq 10\%$ slope; (c) aspen stands with $\leq 15\%$ slope; and (d) between 500' and $\frac{1}{2}$ mile of water developments.
- 06 Where livestock-related infrastructure is the responsibility of the MLNF and is not functional, the permittee will notify the MLNF.
- 07 Permittee access for permit administration that differs from access available to the general public under travel management plans, wilderness and recommended wilderness will be specified and authorized in the Annual Operating Instructions or Allotment Management Plan or included in Part 3 of the Grazing Permit.
- 08 Establish a number and variety of sizes of livestock-free areas to:
 - 08.1 demonstrate the ecological potential of MLNF ecosystems and plant communities absent livestock or other ungulates;
 - 08.2 understand impacts of livestock management practices;
 - 08.3 understand the potential rate of recovery where native species diversity or ecosystem functions have been depleted or degraded;
 - 08.4 distinguish climate impacts (e.g., rising temperatures, droughts) from livestock grazing impacts;
 - 08.5 distinguish vegetation treatment outcomes with and without post-treatment livestock grazing;
 - 08.6 protect particular native species or habitats that are adversely affected by or incompatible with livestock grazing; and/or

08.7 allow for possible restoration of species diversity and/or ecological processes that have been compromised by livestock grazing.

- 09 Use engineering tools to minimize recreation and livestock grazing conflicts. Tools could include, but are not limited to, trail design that avoids stock tanks, incorporation of self-closing gates, use of all-terrain vehicle cattle guards, and gates around cattle guards for horseback riders.
- 10 Mitigation measures or other protective measures should be implemented when adverse effects from livestock grazing and concentrated livestock use are noted in cultural resource sites or tribally sensitive areas.
- 11 Areas below 50% of HCPC, mid-seral or fair condition will not be authorized for livestock use until recovery objectives have been met.

Monitoring (FW-RANGE-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
Desired Condition 09 : Shrubs and saplings palatable to ungulates retain reproductive capacity and recruitment into multi-storied stands.	Are palatable shrubs and saplings exhibiting reproduction and recruitment?	Rapid visual and, where necessary, quantified confirmation of reproduction and recruitment.	When a large area (e.g., >1 acre) of palatable shrub or tree saplings is observed to be lacking in recruitment due to browsing of leaders, documentation will be placed in the allotment file. Sapling heights will subsequently be documented annually until recruitment is restored.	Consultation and collaboration with the UDWR may be required if wild ungulates are contributing to excessive browsing.
Standard 01 : Permits will be based on available forage. The utilization limit of available forage is 30% (25% during drought) of palatable native herbaceous species.	Is a majority of palatable native herbaceous species in areas grazed by livestock retaining the season's potential height and reproductive structures?	21-40%: The key species [must include at least one native, palatable species] may be topped, skimmed, or grazed in patches. 60 to 80 percent of current seedstalks remain intact. Most	Each key area is rated, with documentation, at least once every two years at the end of seasonal use.	A pasture that has one or more key areas that exceeded the indicator measure will be re-measured annually, with documentation as to what management change has been made, until the

		young plants are undamaged. ⁶		indicator is not exceeded.
<p><u>Standard 04:</u> Predator control to protect livestock cannot be undertaken without documentation of the failure of predator avoidance efforts by livestock operators.</p> <p>Non-lethal methods are preferred with lethal methods used only as a last resort.</p> <p>[Not in original.]</p>	Are conflicts between predators and humans/livestock being minimized to the lowest level possible and mitigated where occurring?	Number of encounters between predators and humans/livestock; Areas where encounters are occurring more frequently; Type and amount of avoidance measures implemented in areas where predators frequent.	Every 5 years	Standard 04: Predator control shall not be undertaken without documentation of the failure of predator avoidance efforts by livestock operators. Non-lethal methods are preferred with lethal methods used only as a last resort.
Standard 05: No more than 15% of the length of any 200 feet of streambanks may be trampled within areas grazed by livestock.	Are streambank reaches that are accessible to livestock remaining 80% intact?	Rapid visual and, where necessary, quantified confirmation of streambank vegetation cover and structural integrity.	Annual reporting of locations/lengths of streambanks that have been observed/ documented to exceed the standard.	If more than 20% of a streambank of at least 200 feet is trampled, a written memo indicating how management will change will be placed in the allotment file, and the reach will receive annual, documented observations of adaptive management until the indicator is met.
<p><u>Standard 07:</u> A written response must be provided, within 10 business days, to Forest user/visitors who have documented evidence that a livestock grazing term and condition, standard or AMP</p>	Is MLNF responsive to concerns raised by forest users/visitors regarding livestock management?	Number of user/visitor reports of grazing standard violations or significant natural resource concerns. Nature of response provided to each person submitting a report of a	Biennial public report	The MLNF is responsive to public comment on the biennial public report.

⁶ This is adapted from *Interagency Rangeland Monitoring Guide for Utilization Studies' Herbaceous Utilization Classes* by adding "must include at least one native species."

requirement is being violated and/or natural resources are being significantly compromised. The response will (a) indicate mitigation or responsive action that will be taken; or (b) explain why the comment does not warrant further agency response.		grazing standard violation or significant natural resource concern.		
<u>Standard 10:</u> Livestock cannot enter a pasture for the season of use until permittee-maintained fences, water developments, and other livestock developments are maintained to standard.	Are developments being maintained in functioning condition?	A signed form submitted annually by the permittee prior to entry of each pasture confirming that livestock infrastructure is in functional condition; including any non-functioning development that is the responsibility of the MLNF.	Annual, by permittee	If the submitted form is not accurate, the pasture will not be used the following year.
Standard 08: Are annual bank alteration limits being exceeded [Doesn't match any of the standards.		<ul style="list-style-type: none"> 15% annual alteration 	Sensitive riparian systems in each pasture will be monitored every other year, or more often if needed based on observations	Reduce season of use in pastures exceeding limit in following years until limit is not exceeded
Guideline 02: Term permit renewal shall be open and responsive to public input.	Are term permit renewals public?	<ul style="list-style-type: none"> Number of term permit renewals issued Number of proposed term permit renewals available to public for review 	Yearly	Adjust management so that proposed term permit renewals are posted as available to public for review.

2.17 Timber Management

Note: This section will be completed when we gain information from MLNF that will allow us to estimate the basis for estimating wood volume to meet Desired Conditions 01-07.

Land Classification Category	Acres
Total National Forest lands in the plan area	1,339,389
Lands not suited for timber production due to legal or technical reasons (Available)	501,189
Lands that may be suited for timber production	157,976
Total lands suited for timber production because timber production is compatible with the desired conditions and objectives established by the plan	To be determined
Lands not suited for timber production because timber production is not compatible with the desired conditions and objectives established by the plan	To be determined
Total lands not suited for timber production	To be determined

Goals (FW-TIMBER-GL)

- 01 The timber program is focused on conservation and restoration of native forest communities in light of climate trends and increased recreational uses, especially increased temperatures, earlier snowmelt, soil aridification, reduced effective precipitation (i.e., the difference between total precipitation and actual evapotranspiration), and increased fire.

Desired Conditions (FW-TIMBER-DC)

- 01 Tree removal, including commercial tree removal, will focus on stands where vegetation management would most effectively move species composition and stand structure closer to its native condition.
- 02 The amount of timber that may be sold from forest trees meeting timber product utilization standards is calculated from science-based expectations of forest conservation and restoration needs; losses to insect, fire and drought; and reforestation success under warmer climate conditions and drier soils.
- 03 A variety of forest products of social and/or economic value such as fuelwood; posts, poles, and logs; Christmas trees; native seed; and ornamentals are available.

- 04 Salvage of dead and dying trees is undertaken only when the salvage will move the stand towards a more ecologically resilient condition; and in a manner such that soils and native understory shrubs, grasses and forbs are protected.
- 05 Removal of trees to mitigate or prevent disease or insect infestations is undertaken only when tree removal has been demonstrated to effectively mitigate or prevent the disease or insect infestation.
- 06 Timber data assemblage and modeling are undertaken for the purpose of identifying needs of native forest types, including protection of Old Growth trees.
- 07 Modeling of MLNF forest growth includes anticipated levels of disturbances and regeneration success during warming/drying climate conditions
- 08 Stand data and modeling are undertaken for the purpose of identifying needs of native forest types.

Objectives (FW-TIMBER-OB)

- 01 Annually offer timber for sale at an average projected allowable sale quantity on a 10-year basis.
- 02 Annually offer wood products (including fuelwood) for sale at an average annual projected allowable wood sale quantity, measured on a 10-year basis.

Standards (FW-TIMBER-ST)

- 01 Tree removal activities shall be selected based solely on their ability to meet desired, self-sustaining forest conditions, including native understory shrubs, grasses and forbs, and not the economic return to the government or its agents.
- 02 Timber harvest solely for the purposes of timber production shall not occur.
- 03 Block openings surrounded by forest will be limited to 2 acres unless best scientific information indicates that the forest type is associated naturally with larger openings that will move the stand towards a more ecologically resilient condition.
- 04 Clearcutting will be allowed only for retention of historically occupied sage grouse habitat.
- 05 Management actions other than prescribed fire will not be taken if they will create even-aged stands.
- 06 When salvage logging is undertaken for the ecological benefit of a forest type, selective tree harvest only will be used, and the size classes of remaining snags will represent the historical sizes and distribution of a forest of that type.
- 07 On slopes less than 30 percent, allow conventional logging equipment where soil surveys or soil data are available to prevent erosion and compaction.
- 08 Management activities shall leave a minimum of 2 snags greater in size than 18 inches diameter at breast height, per acre when these components exist on the landscape before treatment.
- 09 Firewood cutting areas shall be designated to protect wildlife habitat and cultural resources.

Guidelines (FW-TIMBER-GD)

- 01 The availability of forest products is subject to the constraints of conservation and restoration of native plant and wildlife species.

02 Forest treatments, including thinning, planting, and regeneration protection, may be undertaken for the following purposes, subject to the goals of conservation and restoration of all native forest communities:

- 02.1 To address issues of public safety and health
- 02.2 salvage of dead or dying trees
- 02.3 hazardous fuels reduction
- 02.4 forest insect or disease mitigation
- 02.5 maintenance or enhancement of non-game wildlife habitat
- 02.6 maintenance or enhancement of habitat for game wildlife subject to simultaneous conservation of non-game wildlife habitat
- 02.7 to perform research

03 Timber should be harvested only when consistent with protective measures for soil, native fish and wildlife, recreation opportunities, and scenery.

2.18 Science (proposed new Forest-Wide Direction section)

Goals (FW-SCIENCE-GL)

01 The MLNF encourages all interested parties to undertake scientific research on MLNF and provide scientific information that expands the understanding of MLNF climatic, physical, biological, ecological, social, and economic conditions.

Desired Conditions (FW-SCIENCE-DC)

- 01 Research is a valid use of the MLNF.
- 02 Research that could have adverse impacts on MLNF natural or physical resources is subject to an intensity of agency and public review proportionate to the potential for negative impacts on native species, habitat, or ecosystems.
- 03 New scientific information and research, including on climate change impacts, informs management of MLNF resources and uses on an ongoing basis.
- 04 All scientific research provided to the MLNF is judged solely by its methodological transparency, objective methods and analysis, and capability of being replicated.
- 05 Nonfederal partners, the scientific community and the general public are encouraged to provide the MLNF with scientific information relevant to management of uses and resources.
- 06 All scientific information provided to the MLNF is considered public information, unless restrictions on public access is necessary to protect candidate, threatened or endangered species; or tribal cultural resources.
- 07 MLNF staff strive to consider objective information that may challenge MLNF assumptions, policies, or practices.

Objectives (FW-SCIENCE-OB)

01 Within one year of plan implementation, provide the public with a process by which objective, MLNF-based assessments, monitoring, measurements, and other information submitted by non-

agency entities will be acknowledged, responded to, and retained in files relevant to particular resources, projects, and/or concerns.

- 02 Within one year of plan implementation, provide the public with a process by which Objective and repeatable data demonstrating a natural resource or management concern on the forest will be acknowledged, with an opportunity for the concerned entity to discuss potential responses with the MLNF.
- 03 Research permit reports will be submitted annually by the researcher, and the MLNF will retain a website list of and link to all reports of research on MLNF except when necessary to protect candidate, threatened or endangered species or tribal cultural resources.

Standards (FW-SCIENCE-ST)

- 01 All requests for a permit to undertake scientific research on MLNF will be granted unless any potential for adverse impacts on a species, ecological process, or natural or physical resource cannot be fully mitigated.
- 02 No request for a permit to undertake non-invasive scientific research can be denied on the basis of social disagreement or controversy.
- 03 No permit is required for photographing, measuring, or otherwise recording information with non-invasive methods on MLNF.

Guidelines (FW-SCIENCE-GD)

- 01 Accept and respond to scientific information submitted during a public comment period as a public comment.
- 02 Seek collaboration with nonfederal partners, the scientific community and the general public to assess and monitor natural resources and processes, uses, and management outcomes.

3. Specific Area Direction

3.1 Designated Areas

3.1.1 Wilderness Areas

Goals (DA-WILD-GL)

- 01 Collaborate with nonfederal partners, the scientific community, and the public on inventorying, monitoring, and preserving wilderness areas.
- 02 Work with volunteers and nongovernmental organizations to plan and conduct monitoring and service projects that help to preserve wilderness values and protect wilderness areas from degradation.

Desired Conditions (DA-WILD-DC)

- 01 Management activities within designated wilderness areas shall preserve and protect wilderness character as required by the Wilderness Act.
- 02 Natural ecological processes and disturbances such as succession, wildfire, avalanches, insects, and disease, are the primary forces affecting the composition, structure, and pattern of vegetation. Wilderness areas provide opportunities for visitors to experience natural ecological processes and disturbances with a limited amount of human influence.
- 03 These areas contribute significantly to ecosystem and species diversity and sustainability, serve as habitat for fauna and flora, and offer wildlife corridors, reference areas, primitive recreation opportunities, self-reliance, and places for people seeking natural scenery and solitude.
- 04 Fire plays its natural role in the ecosystem, consistent with safety of persons, property, and other resources. Fire maintains a wide variety of plant communities and perpetuates the natural ecosystem and wilderness character.
- 05 Overnight use does not affect water quality, wildlife, vegetation, cultural resources, or wilderness character.
- 06 The Forest-wide Class II air shed meets AQRVs criteria designed to protect plants from injury caused by ozone and harmful acidic deposition (nitrogen and sulfur).
- 07 There is little contact with individuals or groups when traveling cross-country. When on trails, encounters with large groups are infrequent, with some encounters with small groups or individuals.
- 08 Water quality and quantity of seeps, springs, or riparian areas are not affected by human activities, and are trending toward meeting desired conditions for these resources in wilderness areas.
- 09 Outfitter and guides model appropriate wilderness practices and incorporate awareness for wilderness values in their interaction with clients and others.
- 10 The wilderness is free of noxious weeds.
- 11 Use within the Peavine Corridor in Dark Canyon Wilderness has a minimal effect on adjacent wilderness resources.

Objectives (DA-WILD-OB)

- 01 Within five years, manage the Dark Canyon and Nelson Mountain Wildernesses to standard based on the agency's performance accountability measure for wilderness.
- 02 All wilderness campsites are inventoried at least once every 5 years, and the campsite inventory data are used to make management decisions.
- 03 A capacity study, needs assessment, and extent necessary determination for commercial use in Dark Canyon Wilderness is conducted within ten years plan approval.
- 04 Treat noxious weeds in wilderness areas annually using methods approved and appropriate for designated wilderness areas.
- 05 A solitude monitoring plan is prepared within five years of the completion of the plan for Dark Canyon and Nelson Mountain.

- 06 Within one year of plan implementation, Dark Canyon Wilderness is reviewed with the “Wilderness Grazing Checklist.” Within two years of plan implementation, a three-year timeline for correcting any checklist features that are not met is released for public review.

Standards (DA-WILD-ST)

- 01 Prohibitions on all activities incompatible with wilderness designation shall be implemented and effectively enforced.
- 02 Management activities shall be limited to those deemed necessary to maintain or enhance the wilderness character of the area and evaluated through a minimum requirement analysis.
- 03 A “Minimum Necessary/ Minimum Tool” Analysis is required for all management actions proposed within the Dark Canyon and Nelson Mountain wilderness areas.
- 04 Interpretive facilities shall not be developed at cultural, historic, or paleontological sites, unless required to mitigate damage to wilderness character or these resources.
- 05 Wilderness and recommended wilderness areas are closed to motorized and mechanized travel (summer and winter), with the exception of access related to valid existing rights.
- 06 Wilderness and recommended wilderness areas are closed to minerals leasing and mineral materials sales, and extractive commercial uses are prohibited.
- 07 Wilderness and recommended wilderness areas are not available for location of new rights-of-way. Modification of existing authorizations that would add new disturbance outside the boundary of the existing right-of-way is prohibited; adjustments to existing rights-of ways or other authorizations may be allowed only if impacts to wilderness characteristics are reduced or eliminated.
- 08 Wilderness and recommended wilderness areas must be retained in federal ownership.
- 09 Competitive events will not be permitted in wilderness areas or in recommended wilderness areas.
- 10 A Wilderness Resource Advisor or other resource specialist with knowledge of wilderness management shall be consulted or assigned to all wilderness fires.
- 11 If fire management actions are required within wilderness, the Forest Service shall apply minimum impact strategies and tactics to manage wildland fire that protect wilderness character, unless more direct attack is needed to protect life or adjacent property or mitigate risks to responders.
- 12 Operating plans for all permitted outfitters must have wilderness-specific conditions.
- 13 Overnight use permits for outfitting and guiding shall specify where camping may occur.
- 14 Group sizes shall be limited to 15 people.
- 15 Campsites with unacceptable impacts shall be closed and rehabilitated.
- 16 The *Wilderness Grazing Checklist* shall be used when managing livestock grazing in the wilderness areas.

Guidelines (DA-WILD-GD)

- 01 Wilderness characteristics and values shall take precedence over other uses where conflicts occur.

- 02 Wilderness areas are prioritized for voluntary permit retirement
- 03 Encroachment of inappropriate activities on designated wilderness areas and/or roadless areas that are recommended for wilderness designation will be recorded and mitigated whenever noted by MLNF staff and/or reported by MLNF users.
- 04 Outfitter and guide operations are managed in harmony with non-guided visitors.
- 05 Where agency or applicant objectives can be met outside of designated wilderness, special use permits will not be issued in wilderness.
- 06 Wilderness boundary posting will be maintained in areas where nonconforming use is likely to occur.
- 07 Where active intervention is warranted to preserve wilderness character, corrective activities will be initiated for areas that become degraded as a result of human activities.
- 08 Facilities at wilderness trailheads will be consistent with the level of use and recreation.
- 09 Helispots, spike camps, and water source locations outside of wilderness will be considered over locations within designated wilderness.
- 10 Decisions for the appropriate suppression tool or tactic in the wilderness will receive the same considerations for firefighter and public safety and the protection of values at risk as they would outside of wilderness. If such considerations are not urgent, the use of retardant in wilderness will be avoided if possible.
- 11 Trail markers should only be present at trail intersections. These markers should indicate routes but no destinations or distances.
- 12 Management actions along the motorized Peavine Corridor should minimize user conflict and reduce impacts on soil, watershed, vegetation, and other resources.

Monitoring (DA-WILD-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
Desired Condition 01: Wilderness Areas are managed for a primitive and unconfined recreation experience, with a high degree of solitude. Wilderness character is preserved and, when possible, enhanced. [related but substantially	Are management activities improving wilderness character in Designated Wilderness Areas?	Indicators and measures of wilderness character (five qualities: untrammelled, natural, undeveloped, solitude and/or primitive and unconfined recreation, and other features of value), and wilderness characteristics in	Every 5 years	Evidence of declining trends in wilderness character or wilderness characteristics will trigger actions to improve or restore conditions. For example, if monitoring shows evidence of declining trends in naturalness or primitive and unconfined

different than the original DC 01]		any recommended wilderness areas (social and ecological characteristics that provide the basis for wilderness recommendation).		recreation due to impacts from dispersed camping, the following actions could be triggered: Designate dispersed campsites, temporarily close and rehabilitate the sites, or establish stay limits and/or a permit, fee, or reservation system.
Desired Condition 10 : The wilderness is free of noxious weeds.	Are noxious weeds present in the wilderness?	Observation, surveys by MLNF staff and reports by MLNF users.	Annual	Annual treatments using chemical herbicides as a last resort occur for noxious weeds in the wilderness area.
Standard 05 : Wilderness and recommended wilderness areas are closed to motorized and mechanized travel (summer and winter), with the exception of access related to valid existing rights.	Are illegal routes or trails being created or utilized within designated wilderness?	Observation and reports from the public, Tribes, and MLNF staff.	Annual	Evidence of new user-created motorized and mechanized travel routes will trigger actions to remove and reclaim on-the-ground impacts from these uses. Close and rehabilitate the areas, using volunteer and public support, if available.

3.1.2 Bears Ears National Monument

Bears Ears National Monument shall be governed by the **forthcoming** Monument Management Plan **ordered by Proclamation 10285 of October 8, 2021** (developed jointly with the Bureau of Land Management and affected Native American Tribes), not by the Manti-La Sal National Forest Land and Resources Management Plan. Our alternative endorses a plan currently under development by the Bears Ears Inter-Tribal Coalition, not the unlawful plans developed for the unlawfully designated Indian Creek and Shash Jaa' units of the shrunken Bears Ears National Monument.

3.1.3 Research Natural Areas

Table X. Established Research Natural Areas on MLNF

Research Natural Area	Ranger District	Key Features	Acres
Mount Peale	Moab	Alpine turf and boulder-field communities; rare plants; subalpine fir and Engelmann spruce forest and krummholz; cirque basins, rock glaciers and talus	2,380
Mill Creek Gorge	Moab	Deep gorge containing the steep-gradient Mill Creek; south exposures support pinyon-juniper woodlands; north exposures support mesic mountain brush communities with Gambel oak, Utah serviceberry and birchleaf mountain mahogany; Douglas-fir is associated with moist microsites; and riparian areas.	680
Nelson Mountain	Ferron	Unique vegetation communities with curl-leaf mountain mahogany, white fir.	490
Hideout Mesa	Moab	Two-needle pinyon and Utah juniper woodlands at upper elevational limits, burned by wildfire in 2002; patches of mountain brush and grassland; limited areas of ponderosa pine and big sagebrush.	360
Cliff Dwellers Pasture	Monticello	Water birch and Gambel oak-bigtooth maple bottomland communities; pinyon-juniper woodlands; Navajo sandstone cliffs; sandstone arch; packrat middens; rare plants	264
Elk Knoll	Tab	Relatively level bench supporting subalpine tall forb vegetation; forests on adjacent slopes of subalpine fir and Engelmann spruce	40

Source: Establishment records for each Research Natural Area.

Table X. Proposed Research Natural Areas on MLNF

Research Natural Area	Ranger District	Key Features	Acres
Left Fork Huntington Canyon	Ferron-Price	Multiple streams, riparian areas, wet meadows, aspen forest, mixed conifer forest, and mountain big sagebrush/grassland	222
Sinbad Ridge	Moab-Monticello	Ponderosa pine forests, Aspen forests, mountain brush shrublands, and piñon-juniper woodlands.	5,057

Goals (DA-RNA-GL)

- 01 MLNF visitors assist the MLNF with conserving the Research Natural Areas as reference areas, including minimizing recreational impacts.
- 02 The MLNF will coordinate and consult with Rocky Mountain Research Station to protect and manage the ecological features and values for which each research natural area was established in accordance with the establishment records.

Desired Conditions (DA-RNA-DC)

- 01 The RNAs are remaining in their natural condition, unmodified by human activities within the RNA.
- 02 MLNF Research Natural Areas (RNAs) are contributing to the preservation and maintenance of key elements of ecological processes and biological diversity at the genetic, species, population, community, and landscape levels.
- 03 Exotic animals and plants are not present in the RNAs.

Objectives (DA-RNA-OB)

- 01 Within one year of plan implementation, the presence and extent of exotic species and other modifications are estimated within all MLNF RNAs.

Mount Peale RNA

- 02 Within two years following plan implementation, exotic mountain goats are removed from the Mount Peale RNA due to habitat alteration.

Standards (DA-RNA-ST)

- 01 Exotic animals are not present in any RNA; incursions are halted and prevented.
- 02 Exotic species are removed from the RNAs to the extent practicable.
- 03 Recreational use shall be restricted or prohibited through special order (36 CFR 261.53) if such use is not compatible with the values and objectives for which the research natural area was designated.
- 04 Special use permits within the RNAs are limited to nondestructive research opportunities; special recreation permits are not issued.
- 05 Recreation facilities, roads, trails (except for research or study purposes, or to mitigate recreation impacts), water impoundment structures, surface occupancy, or administrative structures will not be authorized.
- 06 Timber harvest, fuelwood gathering, and woodland product harvest (including Christmas trees) are prohibited.
- 07 Do not consent to mineral leasing within the RNAs.

Guidelines (DA-RNA-GD)

- 01 Fire management simulates natural fire processes and is compatible with ongoing research.
- 02 Any management activities within the RNAs will be directed at maintaining the natural conditions of the area; these human-caused changes to the ecosystem will not be readily evident.

Proposed RNAs (DA-RNA-proposed)

- 01 **Left Fork Huntington Creek, proposed Research Natural Area** This proposed RNA is located at 7,600-9,300 feet in the mountains of the Wasatch Plateau on the Ferron/Price District, near Miller Flat Road. This 2,456-acre site includes significant area of robust native riparian and wetland vegetation along the Left Fork Huntington Creek, and tributaries and springs. These montane wetland plant communities are

not represented in existing RNAs of the Manti-La Sal National Forest. The site also includes healthy upland communities of sagebrush/grassland and aspen and conifer forest, which combined with the riparian areas, provide valuable wildlife habitat. About half of this site is in a grass bank allotment (Candland) that has not been grazed regularly for the past 20 years. The other part is in steep portions of the Horse Creek Allotment that are not utilized by livestock (according to the range management specialist). Designating this RNA would also maintain the natural character of most of the Left Fork of Huntington National Recreation Trail (see Appendix X)

- 02 **Sinbad Ridge, proposed Research Natural Area** This proposed RNA is about 27 miles east of Moab, on the eastern flank of the La Sal Mountains at 6,400 to 9,200 feet, straddling the Utah-Colorado border. The 5,057-acre area includes substantial aspen forest and ponderosa pine forest, which are poorly represented in existing RNAs of the Manti-La Sal National Forest. The area is thought to be the best available natural representation of aspen and ponderosa pine in the Northern Canyonlands Section (see Appendix XX)

3.1.4 National Scenic Byways

Desired Conditions (DA-BYWAY-DC)

- 01 The Huntington and Eccles Canyons National Scenic Byway provides natural-appearing landscapes and recreation opportunities.

Objectives (DA-BYWAY-OB)

- 01 Hazardous dead trees along the byway in Huntington Canyon are removed, noxious weed infestations are controlled, and the fisheries resource in Huntington Creek is restored within the 10-year period following plan approval.
- 02 Livestock grazing along the National Scenic Byway in lower Huntington Canyon is phased out within five years of plan implementation to provide for user safety and prevention of introduction or spread of invasive and noxious weeds.

Guidelines (DA-BYWAY-GD)

- 01 Scenic integrity levels within a half-mile corridor surrounding the National Scenic Byway will be maintained or restored to a high level.

3.1.5 National Recreation Trails

Goals (DA-TRAIL-GL)

- 01 Develop partnerships with private landowners along Mill Canyon Trail number 5063, and Gooseberry Creek Trail number 5354, to improve connectivity and access respectively for Left Fork of Huntington Creek National Recreation Trail and Fish Creek National Recreation Trail.
- 02 Develop partnerships with private landowners along Mill Canyon Trail number 5063, and Gooseberry Creek Trail number 5354, to improve National Recreation Trail connectivity and access.

Desired Conditions (DA-TRAIL-DC)

- 01 The physical natural features comprising the surrounding landscape preserve the visual, auditory, and aesthetic settings of each National Recreation Trail.
- 02 Nonnative, invasive plant species adjacent to the trail corridor are in low abundance or nonexistent.

Objectives (DA-TRAIL-OB)

- 01 Implement at least one project every other year that provides opportunities for volunteer trail maintenance on each NRT.
- 02 Update and install new informational or interpretive signage on each NRT within five years of plan approval.
- 03 In case of temporary closures resulting from natural events such as flooding or landslides, alternate reroutes are constructed within two years.
- 04 Within ten years of plan approval, develop partnerships with private landowners along the Mill Canyon (National Forest Service Trail 5063) and Gooseberry Creek (National Forest Service Trail 5354) trails to establish reliable NRT connectivity.

Standards (DA-TRAIL-ST)

- 01 Do not consent to mineral leasing within the half-mile corridor surrounding each NRT.

Guidelines (DA-TRAIL-GD)

- 01 High scenic integrity levels should be maintained within a half-mile corridor surrounding each NRT.

3.1.6 Mont E. Lewis Botanical Area

Goals (DA-LEWIS-GL)

- 01 The MLNF provides education programs and engages partners to assess and protect the diverse native plant species composition while enhancing the occupied habitat of the more unique plant species found during the 1995 assessment, including a proposed Species of Conservation Concern.

Desired Conditions (DA-LEWIS-DC)

- 01 Native riparian and wetland communities dominate this area and are healthy, vigorous, and self-perpetuating. Willows (*Salix* species) are the dominant canopy (shrub) vegetation while native obligate wetland sedges, grasses and forbs dominate the understory.
- 02 The native vegetation is a diverse composition with a mix of age and height classes.
- 03 The Botanical Area designation is expanded by 80 acres as shown on the map in Figure X.
- 04 Upland watershed, soil, and vegetation conditions contribute to healthy, resilient riparian areas and wetlands associated with the Botanical Area and do not contribute to degradation.

- 05 Riparian and wetland areas are dominated by deep-rooted, native, hydric species that protect banks and dissipate energy during high flows.

Objectives (DA-LEWIS-OB)

- 01 Annual visits to the site confirm that there is no livestock or motorized vehicle entry.
- 02 Within one year of plan adoption, evaluate current plant composition and compare with data collected from the 1995 designation and 2000 assessment. Evaluate every five years.

Standards (DA-LEWIS-ST)

- 01 Motorized use shall not occur within the Botanical Area.
- 02 Livestock grazing and associated management practices will not occur within the Botanical Area. No new structures, salting, trailing, or bedding will occur within or within one-quarter mile of the Botanical Area.

Guidelines (DA-LEWIS-GD)

- 01 No activities would alter the hydrology that supports this wetland ecosystem.
- 02 No ground-disturbing activities would take place within the Mont E. Lewis Botanical Area.

Monitoring (DA-LEWIS-MO)

Plan Component	Monitoring Question	Indicator(s) Measure(s)	Monitoring Interval	Adaptive Management Options
Objective 02: Within one year of plan adoption, evaluate current plant composition and compare with data collected from the 1995 designation and 2000 assessment. Evaluate every five years.	Is the native wetland vegetation being maintained?	Percent cover of plant species.	Every 5 years	If there are declines in native wetland species, investigate the probable cause(s) and develop management plans or reversing the trend.

3.1.7 Great Basin Experimental Range

Goals (DA-GBER-GL)

- 01 The Rocky Mountain Research Station is an active partner in the management of this area.
- 02 Interpretation for the public to learn about the experimental range's history and significance is available.

Desired Conditions (DA-GBER-DC)

- 01 The Great Basin Experimental Range is uniquely suited for future watershed, climate change, and land use research by Forest Service and non-Forest Service researchers and is protected from activities that would degrade its value for research.
- 02 Visitors learn about the history and significance of the Great Basin Experimental Range through a variety of interpretive opportunities.

Standards (DA-GBER-ST)

- 01 All land management actions that have the potential to affect future research activities on the experimental range, including vegetation treatment projects, road construction, timber harvest, and any proposed alteration of livestock grazing permits must be approved by the RMRS Station Director.

Guidelines (DA-GBER-GD)

- 01 All activities or uses on the Great Basin Experimental Range that might cause significant damage to the ecosystem and watershed and its research potential will be modified to prevent or reverse damage or will be prohibited.

3.1.8 Grove of Aspen Giants

The Grove of Aspen Giants special interest area was established about 1951, although the precise date is not known. It was established to protect the very large aspen trees growing at this site. The largest aspens are no longer present but it is still an aspen forest with mature trees. As there is something about this area that has the ability to produce very large aspen, it should be retained as a special interest area and maintain the ecological processes that produced the large trees in the recent past.

Goals (DA-GAG-GL)

- 01 The Rocky Mountain Research Station is an active partner in research and management of this aspen forest.
- 02 Interpretation for the public to learn about aspen forests and the unique characteristics of this site, both past and present.

Desired Conditions (DA-GAG-DC)

- 01 This area provides opportunity to study aspen ecology, especially in relation to climate change and land management, by Forest Service and non-Forest Service researchers.
- 02 The site is protected from activities that would degrade its value for research. This could include the possible construction of a fence to protect young aspen from browsing by ungulates, since there are very few young aspen on the site.
- 03 Visitors learn about the history and significance of this aspen forest, and aspen ecology in general, through a variety of interpretive opportunities.
- 04 The processes are maintained that produced the very large aspen trees in the past, with the hope that large aspen trees will continue to grow here in the future.

Standards (DA-GAG-ST)

01 No land management actions occur that would damage this site, including vegetation treatment projects or road construction.

Guidelines (DA-GAG-GD)

01 Modify all activities or uses that might cause significant damage to this aspen forest and the ecosystem in order to prevent or reverse damage or will be prohibited.

3.1.9 Inventoried Roadless Areas (IRAs)

Table X. Existing Inventoried Roadless Areas on the MLNF

Inventoried Roadless Area	Location	Acres
Dark-Woodenshoe Canyon	South Zone	59,392
Muddy Creek-Nelson Mountain	North Zone	59,113
East Mountain	North Zone	34,012
Sanpitch	North Zone	30,940
Dairy Fork	North Zone	30,494
White Mountain	North Zone	29,620
Big Bear Creek	North Zone	28,424
Price River	North Zone	25,532
Levan Peak	North Zone	23,383
Boulger-Black Canyon	North Zone	23,267
Cedar Knoll	North Zone	22,483
Horse Mountain-Manns Peak	South Zone	22,394
Blue Mountain	South Zone	21,364
Oak Creek	North Zone	19,341
Biddlecome-Rock Canyon	North Zone	18,728
Big Horseshoe	North Zone	17,542
Hammond-Notch Canyon	South Zone	16,559
South Mountain	South Zone	14,970
Allen Canyon-Dry Wash	South Zone	13,988
White Knoll	North Zone	13,766
Shay Mountain	South Zone	13,025
Roc Creek	South Zone	12,809
Arch Canyon	South Zone	12,773
Nuck Woodward	North Zone	12,168
Musinia Peak	North Zone	11,994
Bennion Creek	North Zone	11,572
Twelve Mile Creek	North Zone	10,227
Mt. Peale	South Zone	9,620
North Horn	North Zone	8,300
Ruin Canyon	South Zone	8,232
Birch Creek	North Zone	7,998
Rolfson-Staker	North Zone	7,317
Gentry Mountain	North Zone	6,436
Musinia Peak	North Zone	11,994
Bennion Creek	North Zone	11,572
Twelve Mile Creek	North Zone	10,227
Mt. Peale	South Zone	9,620

North Horn	North Zone	8,300
Ruin Canyon	South Zone	8,232
Birch Creek	North Zone	7,998
Rolfson-Staker	North Zone	7,317
Gentry Mountain	North Zone	6,436
Black Mountain	North Zone	6,385
Coal Hollow	North Zone	6,352
Straight Canyon	North Zone	6,012
Wildcat Knolls	North Zone	5,726
Heliotrope	North Zone	4,522
TOTAL	Forestwide	686,780

Source: Manti-La Sal GIS data

Goals (DA-IRA-GL)

- 01 Forest users assist the MLNF in maintaining the nonmotorized status and values of Inventoried Roadless Areas

Desired Conditions (DA-IRA-DC)

- 01 Roadless Areas are providing:

- 01.1 undeveloped lands;
- 01.2 biological strongholds for many species, from wide-ranging large carnivores down to tiny invertebrates and endemic species with narrow and specific habitat requirements;
- 01.3 large, remote areas where vital natural disturbance regimes (fire, insect infestation, etc) are less impeded;
- 01.4 important plant and animal habitat unfragmented by roads;
- 01.5 movement corridors for wildlife;
- 01.6 reduced harassment of wildlife;
- 01.7 reduced vandalism and unintentional degradation of cultural resources;
- 01.8 near-elimination of creation of user-created routes and roads impacts;
- 01.9 connections with roadless or protected areas in adjacent BLM, USFWS, UDWR, NPS and other public lands;
- 01.10 a heightened chance for sustaining biodiversity within historical range of variability;
- 01.11 a reference comparison to roaded areas;
- 01.12 reduced introduction of exotic and invasive species;
- 01.13 heightened protection of Forest watersheds, including culinary watersheds;
- 01.14 opportunities for solitude and primitive types of recreation;
- 01.15 undeveloped and natural or natural appearing landscapes;
- 01.16 undeveloped buffers for the primitive outdoor laboratories of Research Natural Areas; and
- 01.17 reduced construction, maintenance, and management costs.

- 02 Inventoried roadless areas are actively managed to protect their roadless character.

- 03 Inventoried Roadless Areas are managed as primitive or semi-primitive nonmotorized ROS classes.

- 04 Inventoried Roadless Areas maintain the roadless characteristics as described in the 2001 Roadless Rule or the Colorado Roadless Rule.

- 05 Inventoried Roadless Areas provide recreational opportunities for nonmotorized users all year long. This is reflected in recreation opportunity spectrum classes Primitive and Semi-primitive Nonmotorized.
- 06 Inventoried Roadless Areas contribute habitats for wide ranging species and connectivity for movement of wildlife. These areas also provide foraging, security, denning, and nesting habitat for wildlife.

Objectives (DA-IRA-OB)

- 01 Within five years of plan adoption, prioritize the closure and decommissioning or naturalization of non-system roads and motorized trails within Inventoried Roadless Areas.
- 02 Close and decommission or naturalize at least five miles of unauthorized roads and motorized trails within Inventoried Roadless Areas annually.
- 03 Inventoried Roadless Areas will be annually monitored for encroachment of unauthorized activities and/or impacts and effectiveness of road and route closures.

Standards (DA-IRA-ST)

- 01 Inventoried Roadless Areas shall be managed pursuant to the Roadless Area Conservation Rule of 2001.
- 02 New mines and mineral material pits shall not be authorized in Inventoried Roadless Areas.
- 03 Motorized vehicle use is restricted to designated system of roads and trails as identified on the official motor vehicle use map (MVUM).

Guidelines (DA-IRA-GD)

- 01 Inventoried Roadless Areas, regardless of size, shall be managed for the protection of wildland characteristics, and the ecological and social benefits deriving from their roadless condition.
- 02 Coordinate the management of all Forest roadless areas to link populations of native species occurring in large areas and provide habitat linkage for ecologically sound populations of wild native ungulates and associated predators.
- 03 Recreation-related project level decisions and implementation activities in Inventoried Roadless Areas shall be consistent with the recreation opportunity spectrum (ROS).
- 04 Roads and trails in Inventoried Roadless Areas shall be maintained to the minimum standard necessary to meet the objective maintenance level.
- 05 Unneeded mineral material (gravel) pits in Inventoried Roadless Areas shall be closed, recontoured, and revegetated.

Monitoring (DA-IRA-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
<u>Desired Condition</u> 02: Inventoried roadless areas are	Are management activities rehabilitating	Annual decrease in the number of known non-	Every year	<ul style="list-style-type: none"> Prioritize rehabilitation of non-system

actively managed to protect their roadless character.	non-system routes?	system routes in IRAs.		<p>routes in fiscal planning, contractor agreements, and volunteer work.</p> <ul style="list-style-type: none"> • Work with cooperating agencies and non-profit partners to expediently complete groundwork to rehabilitate non-system routes, understanding that the longer a route-like impact exists on the ground, the more likely it is to become established and cause further splintering of IRAs with fragmented routes.
	Is management maintaining and/or enhancing the roadless character of the IRAs?	<ul style="list-style-type: none"> • Evidence of new recreational use • Number of unauthorized routes in the IRA 	Every year	<ul style="list-style-type: none"> • Evidence of new off-road vehicle travel or other recreational use establishing non-system motorized routes within IRAs will trigger immediate attention from appropriate line officers, who will take action to expediently rehabilitate and naturalize these priority roadless areas.

3.1.10 Andy Mesa Red Towers Botanical Area (proposed)

In the foothills of the northern edge of the La Sal Mountains at 8,300 feet, is a forest of towering ancient ponderosa pine trees. The site is along the Castleton Gateway Road, just west of the Bull Canyon Dinosaur Tracks Overlook, on Andy Mesa which is about 260 acres. Some of these majestic trees are estimated to be over 500 years old. Designating this ancient ponderosa pine forest as a Botanical Area will highlight it for the public, land managers and scientists, which will help with efforts to manage and maintain these living red towers [Map and proposal under development]

Do you want a hard break here for the map and proposal pages??

Goals (BA-AMRT-GL)

- 01 This Andy Mesa old-growth ponderosa forest is maintained in reference ecological conditions for education and research.
- 02 Management of this ponderosa forest demonstrates to researchers and the public how to reduce fuel loads to maintain an old-growth forest.
- 03 The public is provided opportunity to visit and learn about old-growth ponderosa forests and the native understory vegetation
- 04 Adding a nature trail is considered.

Desired Conditions (BA-AMRT-DC)

- 01 Old (over 200 years) ponderosa pine trees are maintained across Andy Mesa.
- 02 Standing dead and down trees are maintained, which provide habitat for birds and other wildlife.
- 03 Fire regimes move toward the natural low-severity, frequent fire return interval that will maintain this old-growth forest.
- 04 Excessive woody vegetation is removed around the base of old trees to prevent fires from accessing the branches and crowns of the old trees.
- 05 Native vegetation continues to dominate the understory, with relatively little cover of non-native species and no invasive species.

Objectives (BA-AMRT-OB)

- 01 Within two years of plan approval survey and map this old-growth ponderosa pine forest.
- 02 Within three years of plan approval, develop options for building an interpretive trail through this ponderosa forest that highlights the old-growth characteristics and the beauty of this setting and the vistas of redrock areas below.
- 03 Within five years of plan approval, reduce fuel loads and remove ladder fuels around old ponderosa, to a distance of two drip lines for each old tree.

Standards (BA-AMRT-ST)

- 01 No trees older than 200 years are cut or damaged.
- 02 Large or old standing dead trees are retained (not cut or removed).
- 03 Invasive plants are manually removed if observed.

Guidelines (BA-RT-GD)

- 01 Patches of biological soil crust areas are retained. Fuels reduction, trail construction or any other ground disturbing action avoid areas of biological soil crust.

3.1.11 Heliotrope Botanical Area (proposed)

Goals (BA-HEL-GL)

- 01 Collaboration occurs between the Forest Service, other agencies, scientists, and other interested parties in support of management plan development, research, conservation and education.
- 02 Educational materials, e.g., maps and brochures, are available at Forest Service offices and online. The Forest Service collaborates with partners, such as NGOs, to develop these materials.

Desired Conditions (BA-HEL-DC)

- 01 Natural ecosystem processes function and sustain, recover and enhance the population of Heliotrope milkvetch (*Astragalus montii*) in support of the 1995 USFWS Recovery Plan.
- 02 Populations and habitat of the SCC plants-- Indian Canyon fleabane (*Erigeron untermannii* Syn. *E. carringtoniae*) and Musinea ragwort (*Packera musiniensis* Syn. *Senecio musiniensis*) -- are maintained or improved.
- 03 Habitat is maintained or improved for the SCC animals American pika (*Ochotona princeps*) and black rosy-finch (*Leucosticte atrata*) and other naturally occurring wildlife of this area.
- 04 Invasive and noxious weeds are absent, or very minimal.

Objectives (BA-HEL-OB)

- 01 Within four years of forest plan implementation a management plan is developed for the Botanical Area with specific direction for each Unit that includes:
 - a. A baseline set of data for the area including current vegetation and species viability status,
 - b. Management practices designed to meet and enhance the target features of the Botanical Area.
 - c. A monitoring plan for target species and key resources in the area.
 - d. A process to review, at five-year intervals, the monitoring data and revise, as needed, the management plan to ensure that the Botanical Area values are being maintained.
- 02 Conduct biennial surveys and treatments for invasive and noxious plant species.
- 03 Within two years of forest plan implementation, evaluate roads across White Mountain for their impacts on habitat of SCC plants and animals and consider for decommissioning.

Standards (BA_HEL_ST)

Ground and Vegetation Disturbance

- 01 New structures or facilities shall not be installed.
- 02 Prohibit ground disturbing activities in habitat occupied by SCC species.
- 03 Infrastructure for livestock, including water developments, shall not be allowed. Salt or supplemental nutrients shall not be placed within the area. Bedding of sheep is not allowed.
- 04 If livestock are determined to be trampling or consuming rare or SSC plants livestock shall be removed and prevented from entering the botanical area in the future.

Travel

- 05 Motorized travel is not allowed except on roads/trails that are already designated.
- 06 New roads, trails, fences, or signs shall not be constructed, unless specifically designed to restore or enhance the terrestrial resources associated with the at-risk plant and animal species.
- 07 Unauthorized travel routes shall be closed and rehabilitated.

Extraction and Harvest

- 08 Timber harvesting shall not be allowed. Vegetation management activities (such as prescribed fire, mechanical or other treatments) may occur if specifically designed to restore or enhance the terrestrial resources associated with at-risk plant and animal species.
- 09 New mineral leasing shall not be permitted.
- 10 Harvesting of native plant materials (including seed collection) is prohibited unless part of approved research/monitoring or specifically designed to restore or enhance the terrestrial resources associated with the at-risk plant and animal species.

Fire

- 11 Natural ignition fires shall not be suppressed unless posing a threat to life or property.

Non-Native Species

- 12 Restoration or wildlife enhancement projects that include use of non-native and/or non-local species mixes will not be utilized within the Botanical Area
- 13 Mountain goats will not be introduced in the area.

Guidelines (BA-HEL-GD)

- 01 Prevent livestock from entering and using the Heliotrope Botanical Area. Utilize Annual Operating Instructions (AOIs) for grazing allotments to ensure herders route domestic animals (sheep and cattle) to avoid entry or impact into occupied rare species habitat.
- 02 Remove non-native invasive weeds, mechanically if possible.
- 03 If fire suppression occurs, use minimum impact suppression techniques to reduce impacts to the area.

3.2 National Register Sites

3.2.1 Great Basin Station Historic District

Goals (DA-GBS-GL)

- 01 The facility is available for permitted use by educational or community institutions.
- 02 Permit holders use the facility in ways that contribute to the economic and social well-being of local communities.
- 03 Partner with permitted organizations to conduct maintenance activities at the station.

Desired Conditions (DA-GBS-DC)

- 01 The Great Basin Station is managed to balance its status as a listed National Register property with the need to sustainably contribute to other permitted educational or community organization mission and programs.
- 02 The Great Basin Station is in good condition and available for public use; it is also a place where visitors can learn about its role in local history and its contribution to the development of watershed science.

Objectives (DA-GBS-OB)

- 01 The Forest conducts biennial maintenance activities at the station in partnership with permitted organizations following Standards for the Treatment of Historic Properties (36 CFR Part 68).

Standards (DA-GBS-ST)

- 01 The historic integrity of its buildings and landscapes is protected and maintained through adherence to the Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR 68).

Guidelines (DA-GBS-GD)

- 02 Partner with local community groups to do maintenance work using techniques that meet the Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR 68).

3.2.2 Pinhook Battleground National Register Site

Desired Conditions (DA-PINHOOK-DC)

- 01 The setting of the Pinhook Battleground is maintained, and the European American cemetery is protected against both human and natural damage. The surrounding landscape, which might contain the graves of Ute and Paiute fighters, is protected against disturbance.
- 02 Partners such as local historical societies help to maintain the cemetery in good condition and interpret the historic battle.
- 03 The visual and auditory setting of the Pinhook Battleground is maintained, and this European American cemetery is protected against both human and natural damage. The surrounding landscape, which might contain the graves of Ute and Paiute fighters, is protected against disturbance.
- 04 Partners such as local historical societies help maintain the cemetery in good condition and interpret the historic battle.

Objectives (DA-PINHOOK-OB)

- 01 Monitor the condition of the walled cemetery every other year for the life of the plan.

3.3 Management Areas

3.3.1 Recommended Wilderness Management Areas

Goals (DA-RECWILD-GL)

- 01 Forest users experience natural ecosystems and wild areas and opportunities for solitude and primitive recreation.

Desired Conditions (DA-RECWILD-DC)

- 01 Areas inventoried for their wilderness characteristics and found to be moderate or high in MLNF wilderness evaluation are being managed for preservation of their wilderness character.
- 02 New motorized and mechanized travel routes and developed recreation sites are not present in areas identified by MLNF as possessing high and moderate wilderness character.

Objectives (DA-RECWILD-OB)

- 01 Within one year of plan adoption, all roadless areas recommended for wilderness designation by Congress are being managed to preserve their wilderness character. All non-conforming uses are excluded from the areas.
- 02 All wilderness and roadless areas recommended for wilderness designation are monitored annually.

Standards (DA-RECWILD-ST)

- 01 Commercial filming shall be prohibited in these areas.
- 02 Launching or landing of unmanned aircraft, such as drones, shall be prohibited in these areas.
- 03 Mineral or energy-related geophysical activity shall not be authorized.
- 04 Recreation opportunities shall be consistent with the recreation opportunity spectrum classification of Primitive.
- 05 Commercial timber harvest shall not occur.

Guidelines (DA-RECWILD-GD)

- 01 Activities within recommended wilderness areas will maintain or improve the wilderness character until such time as Congress acts on the recommended area, either making it designated wilderness or releasing it for other management.
- 02 If fire management actions are required within recommended wilderness, the Forest Service shall apply minimum impact strategies and tactics to manage wildland fire that protect wilderness characteristics. Higher impact practices may be utilized where failure to do so could result in loss of human life.
- 03 Nonnative, invasive species will be treated within recommended wilderness areas in order to allow natural processes to predominate.

Monitoring (DA-RECWILD-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
<u>Desired Condition 01:</u> Areas inventoried for their wilderness characteristics and found to be moderate or high in MLNF wilderness evaluation are being managed for preservation of their wilderness character.	Is wilderness character in existing and recommended wilderness being maintained?	Indicators and measures of wilderness character (five qualities: untrammeled, natural, undeveloped, solitude and/or primitive and unconfined recreation, and other features of value), and wilderness characteristics in any recommended wilderness areas (social and ecological characteristics that provide the basis for wilderness recommendation).	Every 5 years	Evidence of declining trends in wilderness character or wilderness characteristics will trigger actions to improve or restore conditions. For example, if monitoring shows evidence of declining trends in naturalness or primitive and unconfined recreation due to impacts from dispersed camping, the following actions could be triggered: Designate dispersed campsites, temporarily close and rehabilitate the sites, or establish stay limits and/or a permit, fee, or reservation system.
<u>Desired Condition 02:</u> New motorized and mechanized travel routes and developed recreation sites are not present in areas identified by MLNF as possessing high and moderate wilderness character.	To what extent are management activities meeting or trending toward desired conditions for the preservation of wilderness characteristics in areas identified by FS as possessing high and moderate wilderness character?	Facilities, dispersed campsite and transportation system/vehicle use off system routes monitoring.	Every 5 years	temporarily close and rehabilitate the sites, or establish stay limits and/or a permit, fee, or reservation system.

3.3.2 Eligible Wild and Scenic Rivers Management Area

Table X. *Eligible Wild and Scenic Rivers, preliminary outstandingly remarkable values, and classifications*

River Segment	Preliminary Outstandingly Remarkable Values	Preliminary Classification
Lower Left Fork of Huntington Creek (found eligible by MLSNF in 2003) – 4.49 miles	Scenery	Scenic
Huntington Creek (found eligible by MLSNF in 2003) – 19 miles	Scenery Recreation Fish (Blue Ribbon fishery) Changed conditions: Emery County no longer opposes WSRs as they did in 2004.	Recreational
Fish Creek, including Lower Gooseberry Creek (found eligible by MLSNF in 2003) – 20.65 miles	Wildlife (willow flycatchers), Ecology (“outstanding” example of riparian habitat) Recreation (fly fishing, hunting, backpacking)	Scenic (Fish Creek) Recreational (Gooseberry Creek)
North Fork of Whiskers – 5 miles, including Whiskers Draw (found eligible by MLSNF in 2003) - 2.5 miles		
Hammond Canyon (found eligible by MLSNF in 2003) – 10.4 miles	Geology Scenery Cultural Recreation (backpacking, arch viewing), wildlife (Mexican spotted owl)	Scenic
Notch Canyon (found eligible by MLSNF in 2003) – 4.8 miles		
Posey Canyon (found eligible by MLSNF in 2003) – 3 miles		
Chippean – 2.6 miles, and Allen Canyons – 18.7 miles (found eligible by MLSNF in 2003)	Cultural Recreation (solitude, backpacking, night sky)	Recreational (Chippean Canyon) Scenic (Allen Canyon)
Butts Canyon – 4 miles, Arch Canyon – 18 miles, and Texas Canyon – 6 miles (found eligible by MLSNF in 2003)		
Upper Dark Canyon, including Drift Canyon, Horse Pasture Canyon, Rig Canyon, and Peavine and Kigalia Canyon	Geologic Cultural Recreation (backpacking, big game hunting, arch sites)	Recreational (though parts should be classified as Wild or Scenic as well)

(found eligible by MLSNF in 2003) – 26.2 miles		
Lower Dark Canyon, including Poison Canyon, Deadman Canyon, Trail Canyon, Warren Canyon, and Woodenshoe and Cherry Canyons (found eligible by MLSNF in 2003) – 41.4 miles,	Cultural Recreation (arch viewing, backpacking)	Wild
Mill Creek Gorge (found eligible by MLSNF in 2003) – 2.57 miles	Scenic Geologic/hydrologic Botany (RNA) (Recreation (climbing and fishing)	Wild
Roc Creek (found eligible by MLSNF in 2003) – 9.4 miles	Scenery Geologic/hydrologic	Wild
Miners Basin (found eligible by MLSNF in 2003) – 1.74 miles	Historic	Recreational
Duck Fork (found eligible by MLSNF in 2017) - 1.2 miles	Fish (Colorado River cutthroat trout breeding ground)	Scenic

Goals (DA-EWSR-GL)

- 01 Through partnerships with other agencies, organizations, and volunteers, eligible wild and scenic rivers' outstandingly remarkable values, free-flowing character, and water quality are monitored, maintained and enhanced.
- 02 Consultation with Native American Tribes, traditional cultural practitioners, consulting parties, adjacent land managers, and project designers aid the Forest in protecting and enhancing traditional cultural properties, cultural landscapes, sacred sites, and other culturally significant areas that provide tangible links to historically rooted beliefs, customs, and practices in Wild and Scenic eligible river corridors, particularly in the Bears Ears region
- 03 Collaborate with neighboring forests, agencies and tribal governments on the management and monitoring of conditions within the stream corridors of eligible wild and scenic rivers.

Desired Conditions (DA-EWSR-DC)

- 01 Suitable wild, scenic, and recreational rivers retain their free-flowing condition, preliminary classification, and the outstandingly remarkable values that provide the basis for their inclusion in the system.
- 02 The outstandingly remarkable values of designated wild and scenic rivers are protected and enhanced.
- 03 Designated or eligible wild rivers are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted.
- 04 Designated or eligible scenic rivers are free of impoundments, with shorelines or watersheds still largely primitive and undeveloped but accessible in places by roads.
- 05 Federal lands within the wild and scenic river corridor are retained in public ownership.

- 06 Public information contributes to the understanding and appreciation of the Manti-La Sal's eligible wild and scenic rivers.

Standards (DA-EWSR-ST)

- 01 Do not authorize or construct roads outside of the corridor that would adversely affect the wild classification of the river.
- 02 The Responsible Official may authorize site-specific projects and activities only where the project and activities maintain or enhance the free-flowing character, water quality and ORVs identified.
- 03 Extraction of saleable mineral materials shall not be allowed (includes sand, stone, gravel, cinders, clay, pumice, and pumicite).
- 04 No roads are permitted within eligible wild river corridors. A few inconspicuous roads leading to the boundary of the river area at the time of study will not disqualify wild river classification.
- 05 Eligible wild river corridors are not suitable for timber production or for commercial use of non-timber forest products; timber harvest is not allowed.
- 06 Eligible scenic and recreational river corridors are not suitable for commercial and non-commercial tree removal for multiple-use purposes such as fuels reduction, restoration, wildlife habitat, and to achieve desired native vegetation conditions so long as it maintains or enhances water quality, preliminary classifications and ORVs.
- 07 Eligible scenic and recreational river segments are suitable for commercial and non-commercial (personal) use of non-timber forest products.

Guidelines (DA-EWSR-GD)

- 01 Consider opportunities for enhancing outstandingly remarkable values in all project management activities within and adjacent to eligible wild and scenic river corridors.
- 02 Maintain scenic integrity objectives consistent with the river's outstandingly remarkable values in all management activities.
- 03 Maintain the outstandingly remarkable values, free-flowing character, and water quality of eligible scenic and recreational river corridors with all new road, trail, and airfield construction.
- 04 Construction of minor habitat structures and vegetation management to protect and enhance wildlife and fish habitat are allowed. They shall be designed to protect the outstanding remarkable values.
- 05 Develop education and interpretation materials of eligible wild and scenic rivers that encourage widespread and common understanding of the values, philosophy, resources, and benefits of wild and scenic rivers
- 06 Manage tree removal outside the corridor but within the visual area in a manner to provide special emphasis to visual and water quality
- 07 Mechanized and motorized travel may be allowed in eligible scenic and recreational river corridors providing that it does not adversely impact water quality, preliminary classification or ORVs.
- 08 To protect the status and preliminary classification of an eligible or suitable river, fish barriers may be constructed only if access and shoreline development of the barrier would not lower the classification, negatively impact ORVs, or change the free-flowing status of the stream.

Monitoring (DA-EWSR-MO)

Monitoring, Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
Desired Condition 01 : Suitable wild, scenic, and recreational rivers retain their free-flowing condition, preliminary classification, and the outstandingly remarkable values that provide the basis for their inclusion in the system.	Have baseline water quality measurements been made? Is water quality being maintained or enhanced for eligible rivers? Free-flowing character retained?	Water quality measurements and trends: Baseline water quality is measured within three years of a stream being inventoried as Wild and Scenic eligible, and annually thereafter. Water quality trends must be improving from baseline.	Ongoing, annually.	Evidence of declining trends in ORVs or water quality will trigger actions to improve or restore conditions, including but not limited to the implementation of education programs, enforcement actions, setting limits on recreation, implementing restoration and rehabilitation projects, or temporary closures.
Desired Condition 02 : The outstandingly remarkable values of designated wild and scenic rivers are protected and enhanced.	Are eligible rivers being managed such that ORVs are maintained or enhanced?	Outstandingly Remarkable Values maintained or enhanced from baseline. <ul style="list-style-type: none"> • Scenic – Scenic integrity objectives (SIOs) status within river corridors identified with a scenery ORV • Fish – Specific species' population and habitat status within river corridors identified with a fish ORV • Wildlife - Specific species' population and status of habitat quality within river 	Ongoing, annually.	Evidence of declining trends in ORVs or water quality will trigger actions to improve or restore conditions, including but not limited to the implementation of education programs, enforcement actions, setting limits on recreation, implementing restoration and rehabilitation projects, or temporary closures.

		<p>corridors identified with a wildlife ORV</p> <ul style="list-style-type: none"> • Recreation- Recreation capacity, thresholds, triggers and status of river corridors managed with a recreation ORV • Cultural – Status of cultural sites within river corridors identified with a cultural ORV • Historic - Educational and interpretation activities, as well as status of sites with historic ORV • Water quality measured, maintained or enhanced against a baseline and previous year. 		
--	--	--	--	--

3.3.3 Municipal Watershed Management Area

Goals (MA-MWS-GL)

- 01 Delivery of water of the highest possible water quality to communities occurs.
- 02 The MLNF coordinates with local governments, Public Water Systems and members of the public to protect and improve the quality of the surface and ground water of any municipal watershed.

Desired Conditions (MA-MWS-DC)

- 01 Protection and restoration of the quality of municipal water supplies is a top management priority.
- 02 Quality of the ground and surface water of the Municipal Watershed Management Area meets or exceeds state and federal water quality standards.

- 03 The boundaries of the Municipal Watershed Management Area are properly delineated and updated to include, at a minimum, any lands on the MLNF encompassed by Drinking Water Source Protection Zones and any additional lands over which or through which contaminants or pollutants may move toward or reach any source of drinking water supplying a public water system.
- 04 Activities in the Municipal Watershed Management Area are managed to improve water quality and avoid any potential contamination of or decrease in the quality of surface or ground water.
- 05 Forest cover on the Municipal Watershed Management Area is maximized to improve and protect water quality and reduce treatment costs.

Objectives (MA-MWS-OB)

- 01 Within one year of plan approval and in conjunction with local governments, Public Water Systems and members of the public, develop one or more management plans for the Municipal Watershed Management Area that maximize forest cover, maintain and restore high water quality and ensure that no Forest activities, whether individually or cumulatively, have the potential to contaminate, pollute or adversely impact surface or ground water quality.
- 02 Within two years of plan approval, establish baseline water quality and, with the relevant Public Water System, determine targets for water quality that meet or exceed water quality standards and whether water quality is meeting these targets. Incorporate the targets into the plans for the Municipal Watershed Management Area.
- 03 In the year following the development of the management plan for the Municipal Watershed Management Area, implement the plan. At least every four years, evaluate and revise the plan to ensure that the plan is consistent with maximizing forest cover, maintaining and restoring high water quality and ensuring that no Forest activities, whether individually or cumulatively, have the potential to contaminate, pollute or adversely impact surface or ground water quality and with meeting targets for water quality..

Standards (MA-MWS-ST)

- 01 Define the Municipal Watershed Management Area, at a minimum, as encompassing any lands on the MLNF encompassed by Drinking Water Source Protection Zones and any additional lands surrounding a source of drinking water over which or through which contaminants or pollutants may move toward or reach the source.
- 02 Close the Municipal Watershed Management Area to livestock grazing, construction or creation of roads or routes, mineral leasing, the sale of mineral materials and locatable mineral entry.
- 03 To reduce possible contamination of the water supply, overnight use within the management area boundary shall not occur.
- 04 Close the Municipal Watershed Management Area to any new surface disturbing activity unless the MLNF can establish that the activity is necessary to protect or improve water quality and that any adverse impacts to water quality will last less than 4 months and have been avoided or minimized to the maximum extent practicable.
- 05 Manage activities that may impact the Municipal Watershed Management Area, including road use and maintenance, urban and wildland uses, recreation and other human activities,

domesticated animal use, fertilizer and pesticide use, air pollution, and utility corridors to maximize forest cover, improve water quality and prevent contamination of oradverse impact to ground or surface water quality.

- 06 Prohibit the construction of any new roads or routes, including temporary roads and ORV routes in the, Municipal Watershed Management Area and close and restore any user-created or unofficial roads or routes.
- 07 Comply with all provisions included in an applicable Drinking Water Source Protection Plan.

Monitoring (MA-MWS-MO)

Monitoring Plan Components	Monitoring Question	Indicator(s) Measure(s)	Interval	Adaptive Management Actions
<u>Desired Condition</u> 02: Quality of the ground and surface water of the Municipal Watershed Management Area meets or exceeds state and federal water quality standards.	Is the quality of the surface and ground water of the Municipal Watershed Management Area meeting or exceeding water quality standards?	Meaningful water quality monitoring data.	Every year	If water quality monitoring shows water has been degraded, immediately create and implement a plan to prevent degradation and to restore high water quality.
<u>Standard 05:</u> Manage activities that may impact the Municipal Watershed Management Area, including road use and maintenance, urban and wildland uses, recreation and other human activities, domesticated animal use, fertilizer and pesticide use, air pollution, and utility corridors to maximize forest cover, improve	Are activities within the Municipal Watershed Management Area threatening contamination or degradation of municipal water supplies?	Quantitative assessment of any contamination or threat of contamination or pollution posed by existing activities individually or cumulatively.	Every other year. If water quality monitoring data shows any degradation of water quality, increase frequency to every year.	If assessment shows any degradation, contamination or threat of contamination or pollution posed by existing activities, immediately create and implement a plan to manage activities so that they no longer pose any threat to

water quality and prevent contamination of or adverse impact to ground or surface water quality.				drinking water quality.
--	--	--	--	-------------------------

3.4 Geographic Areas

3.4.1 Elk Ridge Geographic Area

The Conservation Alternative does not propose a special Tribal management area for Elk Ridge because areas of Tribal interest are not limited to Elk Ridge. Rather, the entirety of the Forest should be managed in close consultation with affected Tribes with careful attention given to the presence of cultural resources and cultural landscapes, as well as Native American hunting, gathering, ceremony performance, and collecting of firewood for both ceremonial use and fuel. Thus, nearly all of the cultural resource management proposed by the the MLNF for the Elk Ridge Geographic Area is proposed in the Conservation Alternative for the entire Forest.

Similarly, nearly all of the recreational and natural resource management (e.g., for fire, Gambel oak, ponderosa pine, springs, Mexican Spotted Owl) proposed by the MLNF for the Elk Ridge Geographic Area is proposed in the Conservation Alternative throughout the entire Forest.

Goals (GA-ELK-GL)

- 01 All uses within the Elk Ridge Geographic Area are undertaken and managed in light of the vulnerability of cultural resources, cultural landscapes, native vegetation, and wildlife.

Desired Conditions (GA-ELK-DC)

- 01 The primarily undeveloped character of the area remains intact and undeveloped.
- 02 Recreation management in the geographic area recognizes and focuses backcountry and cultural tourism uses in ways that respect Tribal values.

Objectives (GA-ELK-OB)

- 01 Assign temporal and functional categories to all previously documented cultural sites within five years of plan approval.
- 02 Identify both the known sites associated with specific cultural landscapes as well as the data and management needs for each cultural landscape within five years of plan approval.

- 03 Define, document and nominate a South Cottonwood Wash archaeological district or multiple property listings for listing on the National Register of Historic Places over the life of the plan.
- 04 Update Dry Wash Caves interpretive signs and add the existing trail to the Forest trail system within ten years of plan approval.
- 05 Designate and harden dispersed camping sites throughout the geographic area within ten years.
- 06 In consultation with Tribes, within three years of plan approval develop guidelines to determine when and where to issue recreational special use permits
- 07 Inventory and identify necessary restoration activities for thirty springs, wetlands, and riparian within five years of plan adoption.

Standards (GA-ELK-ST)

- 01 Road density shall be maintained or decreased.
- 02 Road corridor dispersed camping shall occur in designated sites only.
- 03 Game cameras shall not be used unless authorized for management or research.
- 04 Launching or landing of unmanned aircraft, such as drones, shall be prohibited, unless for the purpose of protecting resources and authorized for this purpose.
- 05 Permits for commercial filming, unless stipulated and authorized in an outfitting and guiding permit, shall not be issued.

Guidelines (GA-ELK-GD)

- 01 Recreational developments and opportunities will be designed to meet the Primitive or Semi-primitive Nonmotorized recreation opportunity class.

3.4.2 Horn Mountain and Wildcat Knolls Geographic Area

Goals (GA-HORN-GL)

- 01 In light of drought, heat, and sage-grouse population trends, coordinate with interagency partners and sage-grouse researchers to exceed as necessary standards in the September 2015 Sage Grouse Management Plan Record of Decision, or the most recent interagency sage-grouse management plan
- 02 Continue to work with the most recent science information and partners, including Emery County, Utah Watershed Restoration Initiative, Southern Utah Fuel Company, Utah Division of Wildlife Resources, Rocky Mountain Elk Foundation, Utah State University and other researchers and organizations, to protect, restore, and enhance habitat for greater sage grouse, other sagebrush obligate species, and native ungulates at population levels that support sagebrush, mountain mahogany, and serviceberry communities.

Desired Conditions (GA-HORN-DC)

- 01 All sagebrush-obligate species populations are increasing.

- 02 Sagebrush understory of native grasses and forbs are present at heights and cover sufficient to support and increase the year-round greater sage grouse population.
- 03 Sufficient herbaceous vegetation structure and height provide overhead and lateral concealment for nesting and early brood rearing life stages within and adjacent to occupied habitat. Within brood rearing habitat, wet meadows and riparian areas sustain a rich diversity of native perennial grass and native forb species relative to site potential. Within winter habitat, sagebrush height and density provide food and cover for the greater sage grouse.
- 04 Habitat conditions provide the quality and spatial arrangement of forage, security, and cover for wintering Rocky Mountain elk and mule deer on mapped winter range, at population levels that support recruitment of curl-leaf mountain mahogany and serviceberry.
- 05 Greater sage grouse are managed to meet or exceed the desired conditions stated in the September 2015 Sage Grouse Management Plan Record of Decision, or the most recent interagency sage-grouse management plan.

Objectives (GA-HORN-OB)

- 01 Manually remove pinyon or juniper <100 years old from historically- or currently-occupied greater sage grouse habitat on 50-200 acres every 10 years.
- 02 Objectives described within the September 2015 Sage Grouse Management Plan Record of Decision or the most recent interagency sage-grouse management plan are implemented within the timeframes articulated in that document.

Standards (GA-HORN-ST)

- 01 Do not authorize new surface-disturbing and disruptive activities that create noise levels (L_{A50}) greater than 10 decibels above ambient sound levels in breeding, nesting and foraging habitats. Background ambient sound levels shall be determined using the L_{A90} metric, measured in undeveloped areas. Use sound measurement protocols for sage-grouse described in Ambrose, et al.⁷ Nevada Department of Wildlife⁸ and Wyoming Department of Game and Fish⁹ guidelines. The 10 decibels above ambient limit on noise-generating activities will be applied within a 3.1 mi buffer of active and pending leks (i.e., those with known breeding bird activities).
- 02 Authorize grazing in pastures within the Management Area no more frequently than once every other year, at 30% utilization, and only after forbs have seeded.
- 03 Development of tall structures is prohibited within two miles of the perimeter of occupied leks.
- 04 Chemical treatments and chaining of pinyon-juniper are prohibited.

⁷ Ambrose, s, C Florian, J Olnes, J MacDonald, and T Hartman. 2021. Sagebrush soundscapes and the effects of gas-field sounds on Greater Sage-Grouse. *Western Birds* 52:23–46, 2021;

⁸ [NDOW] Nevada Department of Wildlife. 2018. Acoustic Impacts and Greater Sage-grouse: A Review of Current Science, Sound Measurement Protocols, and Management Recommendations.

⁹ [WGFD] Wyoming Game and Fish Department. 2019. [Protocols for Measuring and Reporting Sound Levels at Greater Sage-grouse Leks](https://wgfd.wyo.gov/WGFD/media/content/PDF/Habitat/Sage%20Grouse/WGFD-Protocols-for-Measuring-and-Reporting-Sound-Levels-20190716.pdf). <https://wgfd.wyo.gov/WGFD/media/content/PDF/Habitat/Sage%20Grouse/WGFD-Protocols-for-Measuring-and-Reporting-Sound-Levels-20190716.pdf> (Accessed 11/01/2020)

- 05 The geographic area shall be managed to meet, or as necessary exceed the standards and guidelines in the September 2015 Sage Grouse Management Plan Record of Decision or the most recent interagency sage-grouse management plan.

Guidelines (GA-HORN-GD)

- 01 Avoid surface-disturbing and disruptive activities to nesting birds during breeding and nesting (from March 1 to June 15).
- 02 Thinning of pinyon or juniper from woodlands will retain all ages of woodland species and will conserve pinyon jay habitat.
- 03 Management actions and permitted uses will avoid disturbance at known active raptor nests and fledging areas. Timing restrictions, distance buffers, or other means of avoiding disturbance will be based on the best available science, as well as on site-specific factors (for example, topography and available habitat).
- 04 Development of tall structures is prohibited within 2 miles of the perimeter of occupied leks.
- 05 New livestock facilities (e.g., ponds, water tanks, and corrals) will not be constructed within 1.2 miles of the perimeter of occupied leks.
- 06 Management activities should avoid disturbance to big game on winter range during the winter closure period of January 1 through April 15.

3.4.3 Maple Canyon Geographic Area

Goals (GA-MAPLE-GL)

- 01 The Forest Service, Hawkwatch, Salt Lake Climbers Alliance, and other interested partners communicate and develop public outreach strategies to promote minimization of ecosystem impacts, including avoidance of areas occupied by breeding eagles
- 02 Stewardship is shared with the climbing community to facilitate maintenance and monitoring of concentrated use areas, climbing access trails, and fixed anchors.

Desired Conditions (GA-MAPLE-DC)

- 01 Golden eagle breeding and fledging continues to occur within the canyon.
- 02 Maple Canyon continues to provide world class sport-climbing opportunities while also preserving golden eagle habitat.
- 03 Moderate development scale camping and parking with simple amenities are provided for small group camping and day-use.
- 04 The physical environment, scenic composition, and ecological values reflect a naturally functioning system where quiet, reflective and focused experiences dominate.

Standards (GA-MAPLE-ST)

- 01 Only one recreation event special use permit may be issued per year.

Objectives (GA-MAPLE-OB)

- 01 User-created trails to climbing areas are identified annually and closed and rehabilitated within one year or incorporated into the designated trail system with public review and comment once sustainable location and design are proposed.
- 02 Develop additional camping and parking capacity above and below Maple Canyon Campground, with public comment and review within ten years of plan approval.
- 03 Update existing interpretive signage and provide additional education and information opportunities to climbers and other visitors within five years of plan approval.

Guidelines (GA-MAPLE-DA-MCMA-GD)

- 01 Establish restrictions on human disturbance during the periods nesting and rearing sites are active.
- 02 Climbers will not climb on the walls within 400 meters and within view of golden eagle nest sites during the early season (before April 1). If surveys confirm that a golden eagle nest is in use, the avoidance area around that nest will continue until surveys confirm that the nestling has fledged and left the nest.
- 04 Issue outfitter and guide climbing permits only during fall, winter and spring, between September 15 and May 15 to avoid conflict with public use.
- 05 Place signs at climbing access points and the walls themselves when nests are active.
- 06 Close campsites within view of active nests until the nest is no longer occupied.

Monitoring (GA-MAPLE-MO)

Plan Component	Monitoring Question	Indicator(s) Measure(s)	Monitoring Interval	Adaptive Management Options
Objective 01 : User-created trails to climbing areas are identified annually and closed and rehabilitated within one year or incorporated into the designated trail system with public review and comment once sustainable location and design are proposed.	Have new trails been created by users?	A user-created trail is identified.	At least twice each climbing season.	Sign user-created trails upon identification and close within one year of identification, or initiate a public comment and review of intent to incorporate the trail into designated trail system.

--	--	--	--	--

3.4.4 Moab Geographic Area

Goals (GA-MOAB-GL)

- 01 Forest users understand the physical and ecological limits of the Moab Geographic Area to provide water and remain resilient amid multiple uses and increasing drought and heat.
- 02 Work with Castle Valley and Moab municipal watershed stakeholders to evaluate and maintain the sole-source aquifer.
- 03 Educational and interpretive information about the impacts, hazards, and associated mitigations of human and pet waste disposal within municipal water supply areas are provided to forest users.
- 04 Work with existing recreation partners and the communities of Moab and Castle Valley to insure sustainable recreation opportunities.

Desired Conditions (GA-MOAB-DC)

- 01 The Moab Geographic Area is providing clean water for the Castle Valley and Moab communities
- 02 Surface occupancy which could potentially cause groundwater pollution is absent.
- 03 The geographic area is free of oil and gas extraction and use of synthetic pesticides.
- 04 The area is free of all new mining claims.
- 05 Springs and other surface water areas are undisturbed and retain potential native vegetation.
- 06 Water quantity is protected from depletion
- 07 Local communities understand how the Forest provides drinking water.

Objectives (GA-MOAB-OB)

- 01 Within one year of plan approval, map all springs, surface water, and estimated groundwater aquifers within the Moab Geographic Area; and associate these with existing information regarding condition, water quality, and water quantity trends.
- 02 Unauthorized roads are closed, when they are found, on an annual basis
- 03 Within one year of plan approval, publish trends of temperature, precipitation, and snowmelt for the past 30 years within the area.
- 04 Every two years, update climate change trends within the Moab Geographic Area.
- 05 All springs accessible to human or ungulate trampling will be fenced within five years, including their wetted area.
- 06 Within two years of plan approval, provide educational materials to the public regarding the value of the Moab Geographic Area and how multiple use and resource conflicts are being managed for protection of water quality and quantity.

Standards (GA-MOAB-ST)

- 01 Drilling for oil and gas, including horizontal drilling or fracking, is prohibited.
- 02 The transfer of water from one hydrologic unit to another is prohibited.
- 03 No new mining claims are permitted.
- 04 All authorized motorized routes, including the Loop Road are limited to their 2018 footprint and width.
- 05 Commercial logging is prohibited and vegetation removal is limited to what is essential to preventing catastrophic fires.
- 06 Chaining and harrowing are not allowed.
- 07 When conflicts with economic or recreational activities occur, the watershed and water supply are given priority.
- 08 Designated campsites within 150 feet of open water are prohibited unless the site can be hardened.

Guidelines (GA-MOAB-GD)

- 01 Utilize and prioritize opportunities to reduce livestock grazing through voluntarily relinquishment or retirement of all or portions of allotments within the watersheds of Moab and Castle Valley.
- 02 Dispersed camping is limited to designated low-impact areas to prevent erosion, soil compaction, and fecal contamination and to prevent human caused wildfires.
- 03 Development of new motorized and non-motorized trails is subject to NEPA processes with public input.
- 04 Vegetation is managed to limit erosion and retain/restore native species.
- 05 Respond to public reports of grazing resource concerns with discussion of the conditions and potential resolution.

4 Monitoring Program

[Currently, all monitoring direction with adaptive management direction is located within the relevant section.]