



Chapter 2 • Proposed RMPs & Plan Amendment

Chapter 2: Proposed RMPs & Plan Amendment

2.0 INTRODUCTION

As described in Chapter 1, the purpose and need for this land use planning process is to fulfill Congressional mandates from OPLMA that directed BLM to prepare comprehensive (Resource) Management Plans for the Beaver Dam Wash NCA and Red Cliffs NCA.

This legislation also required BLM to take actions and make land use allocations on public lands in Washington County that require the SGFO RMP to be amended. The Amendment is limited in scope to two issues: 1) identification of areas of public land in Washington County where biological conservation is a priority and the development of appropriate management to conserve and restore plant and animal species and natural communities within these areas; and 2) modification of certain existing OHV area designations (open, limited, or closed), to be in compliance with federal regulations, BLM's *Travel and Transportation Management Manual M-1626* and related agency policies.

This chapter contains the Proposed NCA RMPs and Proposed Amendment.

The BLM's land use planning process (described in the Code of Federal Regulations at 43 CFR 1600) provides the discretion to develop the proposed plans by combining components of the four alternatives that were presented in the Draft NCA RMPs or Draft Amendment and associated Draft EIS, released for public review on July 17, 2015. These alternatives contained goals, objectives, and management decisions for the two NCAs that were designed to address the long-term management of public land resources and land uses, while fulfilling the conservation purpose for which the public lands received Congressional designation, through OPLMA, in 2009. The alternatives identified in the Draft Amendment were developed to satisfy: the legislative mandates from OPLMA related to biological conservation and travel management; and to comply with FLPMA and other relevant Federal laws, regulations, and agency policies.

The Proposed NCA RMPs and Proposed Amendment are based primarily on the management goals, objectives, and actions identified in the draft plans as

Great Basin Collared Lizard

Crotaphytus bicinctores has two black neck bands with a white band in between, giving the appearance of a collar. Females are not as brightly colored as males, except during the breeding season. Collared lizards are very tolerant of heat and are often seen basking on the top of rocks during the day.

Photo 2-1 Great Basin Collared Lizards, Red Cliffs NCA



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"The cactus of the high desert is a small, grubby, obscure and humble vegetable associated with cattle dung and overgrazing, interesting only when you tangle with it in the wrong way. Yet from this nest of thorns, this snare of hooks and fiery spines, is born once each year a splendid flower. It is unpluckable and except to an insect almost unapproachable..."

—Edward Abbey,
Author, 1927 – 1989

BLM's Preferred Alternative, Alternative B. However, in response to public comments and input from the Cooperating Agencies, other federal and state agencies, and local governmental entities, components of the other alternatives that were analyzed in the draft plans were also selected to comprise management decisions in the proposed plans. The resulting Proposed NCA RMPS and Proposed Amendment represent a compilation of planning decisions that address the widest range of public and agency concerns over resource management and land uses, while fulfilling the legislative purposes of the Beaver Dam Wash NCA and the Red Cliffs NCAs and other Congressional mandates from OPLMA for public lands in Washington County.

In some cases, minor edits or clarifications were required and these are shown in italicized text surrounded by brackets in the proposed plans. Language from the Draft EIS that is not being carried forward in the proposed plans is shown with a strikeout. None of the minor edits or clarifications required modifications to the analysis of the environmental consequences presented in Chapter 4 of the Draft EIS. The BLM has, therefore, prepared an abbreviated Final EIS to support

the Proposed NCA RMPs and Proposed Amendment, consistent with federal regulations at 40 CFR 1503.4 (c). The abbreviated Final EIS includes a summary of the comments received on the Draft EIS, responses to substantive comments, and an errata section which shows the specific edits and clarifications that were made in response to comments (40 CFR 1503.4). Appendix E includes a table that shows how the Proposed NCA RMPs and Proposed Amendment vary from Alternative B, BLM's preferred alternative, of the draft plans and also includes the errata. The summary of comments received during the public comment period and responses to substantive comments are provided in Appendix J.

To facilitate a comparison of the draft and proposed plans, the Draft NCA RMPs/Draft Amendment and Draft EIS will continue to be available as PDF files on BLM ePlanning website at <http://bit.ly/2av3Q1i>. Copies of the draft plans on CDs can also be requested by contacting Keith Rigrup, BLM-Utah Planning Coordinator, Bureau of Land Management, Color Country District Office, 176 East DL Sargent Drive, Cedar City, Utah 84721-9337, (435) 865-3063, krigrup@blm.gov. Hard copies of the

Photo 2-2 Beaver Dam National Conservation Area



draft plans are available for review in the Public Lands Information Center, 345 East Riverside Drive, St. George, Utah 84790 and in the Public Room at the BLM-Utah State Office, 440 West 200 South, Salt Lake City, Utah, during normal business hours.

2.1 MANAGEMENT COMMON TO ALL PUBLIC LANDS IN THE PLANNING AREAS

2.1.1 Land Health Standards

One important management consideration that is common to all resource programs and the three planning areas is the integration of land health standards described in the Utah Standards and Guides (Appendix D). These standards identify the characteristics of healthy ecosystems on public lands, while the guidelines include management actions that promote them. After approval in 1997, the land health standards became BLM-Utah policy, guiding the planning for and administration of public lands. They have been incorporated into all relevant management decisions proposed for the Beaver Dam Wash and Red Cliffs NCAs and the Amendment to the SGFO RMP.

2.1.2 Best Management Practices

Best management practices (BMPs) are shown in Appendix F and have been developed by BLM, other federal and state agencies, industry, scientific, and/or working groups as methods for mitigating environmental impacts associated with certain activities or land uses. They would be implemented on a project-specific basis, whenever appropriate, based on the specific environmental characteristics of the area and the type of disturbances or environmental impacts that proposed.

2.1.3 Monitoring

The BLM planning regulations (at 43 CFR 1610.4-9) call for the continual monitoring of the effectiveness of the goals, objectives, and management decisions of RMPs and require more formal evaluations at periodic intervals, generally on five year intervals. Management actions arising from implementation plan decisions would also be monitored to evaluate their effectiveness in achieving the goals and objectives of the land use plans.

"Harmony with land is like harmony with a friend; you cannot cherish his right hand and chop off his left."

—Aldo Leopold,
Conservationist,
1887-1948

Photo 2-3 Red Cliffs National Conservation Area



2.2 ADAPTIVE MANAGEMENT

Adaptive management is a formal, systematic, and rigorous approach to learning from the results of management actions, accommodating change, and improving management. It involves synthesizing existing knowledge, exploring alternative actions, and making explicit forecasts about their results. Management actions and monitoring programs are carefully designed to generate reliable feedback and clarify the reasons underlying results. Actions and objectives are then adjusted based on this feedback and improved understanding to continue to try to achieve the desired future conditions. In addition, decisions, actions, and results are carefully documented and communicated to others, so that knowledge gained through experience is passed on, rather than lost when individuals move or leave the organization.

Secretary of the Interior Order Number 3270 calls for BLM and other Department of the Interior bureaus to incorporate adaptive management principles into management plans and programs. The Department of the Interior Adaptive Management Policy (522 DM1, USDO1 2008) serves as a guide for implementing adaptive management programs. The Secretarial Order also directs that *Adaptive Management: The U.S. Department of the Interior Technical Guide* (USDO1 2007) serve as the technical basis for implementing adaptive management programs.

Adaptive management recognizes that ecosystems are very complex and understanding of their processes and responses to management actions is limited. Thus, the greatest hurdle to overcome in implementing effective restoration and other management actions is uncertainty regarding their effectiveness. Adaptive management acknowledges that there are incomplete data when dealing with natural resources and that through continued research and monitoring of management

practices, new information will be collected (Photo 2-4 and Photo 2-5). This new information is evaluated, and a determination is made whether to adjust the strategy accordingly to improve success in meeting plan objectives.

Adaptive management is only warranted when all of the following criteria can be met:

- ▶ There is a need to take action in the face of uncertainty;
- ▶ There is an opportunity to apply learning;
- ▶ The objectives of management are clear;
- ▶ The value of reducing uncertainty is high;
- ▶ Uncertainty can be expressed in a set of competing testable models;
- ▶ A monitoring program design can be put in place with a reasonable expectation of reducing uncertainty.

The ecosystems of both NCAs meet all of the above-listed criteria, as they are complex and highly variable systems whose natural conditions have been altered by past land uses. Although some research has been conducted, and monitoring of resource values is ongoing, there is still a relatively high level of uncertainty about the effects of various management treatments for increasing native plant cover or restoring at risk species habitats, as examples. In this chapter, the objectives or “desired future conditions” for various natural resource values are identified, as well as management actions intended to conserve, protect, enhance, and restore ecosystems to meet those objectives. Monitoring (Photo 2-6) is an important component of RMP implementation and will be used to gauge the effectiveness of actions at achieving the objectives. The RMPs also call for continued support of scientific research that furthers the understanding of natural processes and complex ecosystems.

Management goals and objectives, including administrative designations, from the approved RMPs or approved Amendment would not be subject to adaptive management. Plan amendments would be required to change any of these land use planning level decisions. Rather, adaptive management principles could be applied to modify management actions (plan maintenance), so long as the actions remain consistent with the goals and objectives of the RMPs or Amendment. Similarly, actions proposed in implementation-level plans that could also be adaptively managed, as new information or technologies become available.

2.3 PROPOSED NCA RMPS/ PROPOSED AMENDMENT AND FINAL EIS

2.3.1 Format of the Proposed Plans

The Proposed RMPs and Proposed Amendment present goals, objectives, and management actions to achieve desired future conditions for public land resources and land uses. Because RMPs are broad in scale, site-specific implementation-level decisions are typically made after the RMP is adopted.

Photo 2-4 Measuring Townsend's Big-eared Bat During Cave Research



Photo 2-5 New Species of Cave Beetle Discovered During Cave Research



Cave Beetle

Residing at a depth of approximately 150 feet is the *Rhadine* sp. This new species, yet to be named, lives in deep loose soil or silt, where it digs holes to feed on cave cricket eggs.

Photo 2-6 BLM Staff Performing Cave Monitoring Activities



Townsend's Big-eared Bat

Corynorhinus townsendii

emerge an hour after sunset to feed through the night.

They will hunt alone or in small groups, preying on a variety of insects.

Accomplished fliers, they can be swift and agile or slow and hovering.

Joshua Tree

Yucca brevifolia is endemic to the Mojave Desert. It's spectacular flowers appear infrequently, only in years when moisture and temperatures are favorable. Flowers are pollinated by a single species of yucca moth, which feeds exclusively on the Joshua tree.

For some resource values or land uses, implementation-level decisions are included in the Proposed RMPs or Proposed Amendment and are identified as such in the plans.

For the purposes of this planning effort, goals, objectives, and management actions are defined as follows:

Goals—describe broad direction and desired conditions for each resource or resource use. The goals stay the same for all alternatives. Goals are derived from OPLMA, FLPMA, other federal laws, regulations, and policy guidance, as well as input from public scoping.

Objectives—describe more detailed outcomes or “desired future conditions” for different components of the resource or resource use that meet the overall goals.

Management Actions—describe efforts that BLM managers anticipate taking to achieve the objectives, relying on the best available science.

Some of the management actions and decisions identified in the RMPs for the two NCAs and Amendment to the SGFO RMP would be put into effect as soon as the Records of Decision are signed; others may require several years to fully implement. Following approval of the

NCA RMPs, an implementation strategy will be developed to establish priorities, timelines, and funding needs.

2.3.2 Land Use Plan-Level Decisions and Implementation-Level Decisions

The Proposed RMPs and Proposed Amendment and Final EIS contain land use plan level (or RMP) decisions and implementation-level decisions. Land use plan-level decisions include desired outcomes and the actions needed to achieve them. Administrative designations of ACECs and land use allocations, such as OHV area designations and ROWs Avoidance and Exclusion area designation, are also examples of land use plan-level decisions that are made through the RMP process. When presented to the public as proposed decisions, land use plan decisions can be protested to the BLM Director; however, they are not appealable to the Interior Board of Land Appeals (IBLA).

Implementation or activity-level decisions include more site-specific objectives and on-the-ground actions. These types of decisions require appropriate site-specific planning and NEPA analysis. They may be incorporated into

Photo 2-7 Relevance and Importance Value for Beaver Dam Slope ACEC: Desert Ecosystem



implementation plans (activity or project plans) or may exist as stand-alone decisions. Unlike land use plan decisions, implementation decisions cannot be protested to the BLM Director under the planning regulations. Instead, implementation decisions are subject to various administrative remedies, particularly appeals to IBLA, under 43 CFR 4.410. Where implementation decisions are made as part of the land use planning process, they are still subject to the appeals process or other administrative review as prescribed by the specific resource program regulations.

2.4 ADMINISTRATIVE DESIGNATIONS IN THE BEAVER DAM WASH AND RED CLIFFS NCAS

Table 2-27 and Table 2-61 of the Draft NCA RMPs and Draft EIS presented alternatives to retain or revoke the ACEC designations for the Beaver Dam Slope ACEC (49,269 acres), which overlaps the Beaver Dam Wash NCA, and the Red Mountain ACEC (4,854 acres), located within the Red Cliffs NCA and the Red Mountain Wilderness. The two ACECs were administratively designated through the 1999 SGFO RMP.

Photo 2-8 Relevance and Importance Value for Red Mountain ACEC: Scenic Quality



The relevance and importance values identified for the Beaver Dam Slope ACEC are the threatened Mojave desert tortoise (Photo 2-7), other Special Status wildlife, and the desert ecosystem that provides habitat for these species. Management prescriptions for livestock grazing, recreation, mining, fluid mineral leasing, new ROWs, and other land uses were included in the RMP to protect the relevance and importance values of this ACEC.

The Red Mountain ACEC was administratively designated through the 1999 RMP to protect the scenic qualities and naturalness of Red Mountain (Photo 2-8). Management prescriptions restricting motorized OHV travel, commercial activities, and fluid mineral leasing were put in place to prevent damage to the cliff faces and native vegetation communities of the ACEC.

Agency policy acknowledges that ACEC designation may not be necessary or appropriate when a Congressional designation provides sufficient protection for the relevance and importance values (BLM ACEC Manual 1613.51). The ACEC designations are no longer needed within the NCAs, as these are now Congressionally-designated units of BLM's National

Banana Yucca

The fruit of the *Yucca baccata* is shaped like a small banana. However, you'll only see fruit if the banana yucca's specific pollinator, the yucca pronuba moth, makes an appearance. Pack rats and rabbits eat and spread the seeds. (Van Buren 2011)

Conservation Lands System. The BLM is legislatively mandated by OPLMA to manage the public lands of the NCAs to “conserve, protect, and enhance their ecological, scenic, wildlife, recreational, cultural, historical, natural, educational, and scientific values” (Photo 2-9 and Photo 2-10). OPLMA, at sections 1974 and 1975, withdrew both NCAs from: (A) all forms of entry, appropriation, and disposal under the public land laws; (B) location, entry, and patenting under the mining laws; and (C) operation of the mineral leasing, mineral materials, and geothermal leasing laws.

The Red Mountain ACEC is also within the boundaries of the Red Mountain Wilderness, included by Congress through OPLMA in 2009 to the National Wilderness Preservation System. The management of the public lands in the Red Mountain Wilderness must protect and preserve their wilderness character, consistent with the requirements of the Wilderness Act (P.L. 88-577). No projects or activities could be authorized by the BLM within the Red Mountain Wilderness that impair its undeveloped and natural character, thereby protecting its scenic qualities.

In concert with the Congressionally-defined purposes for the NCAs, the legislative withdrawals made by OPLMA, and wilderness designation for Red Mountain, the goals, objectives, and management decisions in the Proposed RMPs for the two NCAs would provide higher levels of protection for the relevance and importance values of each ACEC than those included in the 1999 RMP. Therefore, the administrative designations for the Beaver Dam Slope ACEC and the Red Mountain ACEC are not included in the Proposed RMPs and will not be discussed further in this document.

Although approximately 3,447 acres of the Beaver Dam Slope ACEC are outside of the Beaver Dam Wash NCA, desert

tortoise populations and the constituent elements of its designated critical habitat would continue to be protected by the ESA. Requirements under the ESA, including consultation under Section 7 with the USFWS, would continue to address mitigation/compensation for the adverse modification of critical habitat and “take” of tortoise. The legal requirements for compliance under the ESA related to BLM-authorized or implemented land uses and activities would continue to be in force on public lands.

2.5 ADMINISTRATIVE DESIGNATIONS IN THE ST. GEORGE FIELD OFFICE

The Draft Amendment and Draft EIS evaluated retaining or revoking the area designation that was made for mountain biking in 1999 RMP (refer to Table 2-72). This administrative designation identified areas of the public lands as “open,” “limited” or “closed” to mountain biking. That decision is not in conformance with current federal regulations and BLM travel and transportation management guidelines, as area designations are not required for non-motorized travel. This administrative designation is not

Photo 2-9 Beaver Dam Wash NCA: Cultural Values, Projectile Preform



included in the Proposed Amendment and Final EIS.

2.6 DECISIONS ANALYZED IN THE DRAFT NCA RMPs BUT NOT CARRIED FORWARD IN THE PROPOSED NCA RMPs AND FINAL EIS

In the Draft NCA RMPs, the BLM analyzed a range of alternatives for managing some lands within each NCA specifically to protect wilderness characteristics (refer to Tables 2-30 and 2-64). Based on the analysis in the Draft EIS and public comments, no areas are included to be managed to protect wilderness characteristics in either NCA in the Proposed RMPs, for the following reasons.

Congressional designation of the two NCAs included the mandate from OPLMA that the public lands be managed to “conserve, protect, and enhance their ecological, scenic, wildlife, recreational, cultural, historical, natural, educational, and scientific values”. OPLMA, at sections 1974 and 1975, withdrew both NCAs from: (A) all forms of entry, appropriation, and disposal under the public land laws; (B) location, entry, and patenting under the mining laws; and (C) operation of the mineral leasing, mineral

Photo 2-10 Red Cliffs NCA: Recreational Values, Hiking



materials, and geothermal leasing laws. In the Beaver Dam Wash NCA, three large Designated Road Areas were shown on the legislative map and all public motorized vehicle travel within those areas limited to the small number of routes identified by Congress.

In concert with the OPLMA-mandated management of the NCAs, the goals, objectives, and management decisions in the Proposed RMPs for other resources and land uses provide high levels of protection for lands with wilderness characteristics within the two NCAs. For these reasons, decisions to manage lands for wilderness characteristics in the NCAs are not needed and are not included in the Proposed NCA RMPs and Final EIS.

2.7 DECISIONS ANALYZED IN THE DRAFT AMENDMENT AND DRAFT EIS BUT NOT CARRIED FORWARD IN THE PROPOSED AMENDMENT AND FINAL EIS

In the Draft Amendment and Draft EIS, the BLM considered and analyzed a range of alternatives to manage an approximately 87,031 acre area of public lands, identified as the Bull Valley Mountains Multi-Species Management Area (refer to Table 2-71 of the Draft EIS), as a priority biological conservation area, as mandated by OPLMA at section 1979. Following a review of the public comments on the Draft EIS further coordination with the Cooperating Agencies, and further review of the potential threats to the biological values, the BLM has determined that no new goals, objectives, or management actions are needed to protect migration corridors for mule deer, predators, and other wildlife on the public lands in this area. In the Proposed Amendment and Final EIS, the Bull Valley Mountains Multi-Species Management Area will not be identified as a priority biological conservation area for special management.

“Leave all the afternoon for exercise and recreation, which are as necessary as reading. I will rather say more necessary because health is worth more than learning.”
 –Thomas Jefferson, 3rd President of the United States, 1743-1826

2.8 PROPOSED BEAVER DAM WASH NCA RESOURCE MANAGEMENT PLAN

2.8.1 Air Quality

Goals

Federal and state air quality standards are met in the NCA.

Objective

Air quality is improved by reducing windblown dust levels from motorized vehicle travel on unpaved roads and from the loss of vegetative cover to wildfires.

Short-term air quality impacts (e.g., smoke, haze, wind-blown dust) that result from wildfires are minimized through appropriate fire suppression responses and through proactive management to minimize the potential for future wildfires.

Research that increases the understanding of ecosystem processes, cycles, and anthropogenic factors that affect air resources and climate change is supported.

Management Actions - General

Apply BMPs and other site-specific mitigation measures to maintain soil stability, protect physical and biological (cryptogamic) soil crusts, and minimize wind erosion of soils (refer to Appendix F for BMPs for all programs and resources).

Reclaim closed routes that are not required for administrative purposes, non-motorized recreational uses, or as fire breaks. Use appropriate methods on reclaimed routes (e.g., soil binders, vertical mulching) to minimize wind-blown dust until vegetative cover has been restored.

Use aggregate, gravel base, or other environmentally-acceptable soil binders, as needed, at major trailheads, waysides, and high-use recreation sites, and on BLM-maintained roads to minimize windblown dust.

Coordinate with Washington County Public Works Department to post speed limits on unpaved roads, as needed, to lessen windblown dust created by motorized vehicle travel.

Implement post-wildfire Emergency Stabilization and Rehabilitation (ES&R) actions that will stabilize soils and re-establish vegetative cover to minimize windblown dust levels.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about appropriate public land use etiquette to

minimize new surface disturbances that would contribute to increased soil erosion and windblown dust.

Management Actions - Scientific Research

Pursue opportunities to install air quality monitoring equipment and collect data on ozone levels, visibility (haze) and other appropriate air quality indicators through federal and non-federal grants; partnerships with other federal agencies, state, tribal and local governmental entities, academic institutions, and private entities; and through cooperative agreements or other appropriate methods.

Management Actions - Climate Change Monitoring

Pursue opportunities to install one or more solar-powered weather stations in the NCA to collect data on temperature, precipitation, wind speed, humidity, soil moisture, solar radiation, and other variables that could signal changing climatic conditions.

Pursue opportunities for scientific studies to determine the carbon sequestration value of intact desert shrublands and the potential of degraded desert shrubland restoration to mitigate increasing atmospheric carbon dioxide levels that are contributing to global warming.

2.8.2 Water Quality

Goals

Water resources are conserved and protected to fulfill the purposes of the NCA and sustain ecosystem resiliency under changing climatic conditions.

Objectives

Surface water quality is suitable for appropriate beneficial uses, complies with approved federal and state standards, and meets or exceeds the applicable Utah Standards and Guides (Appendix D).

Salinity and sediment loads in the Beaver Dam Wash do not increase as a result of land uses and authorized activities on public lands in the NCA.

Research is supported that increases the understanding of ecosystem processes, cycles, and anthropogenic factors that affect water resources (e.g., fire cycles, vegetation succession) and that may influence climate change.

Management Actions - General

Apply BMPs and other site-specific mitigation measures to maintain soil stability, minimize wind and water erosion, and ensure that surface disturbances do not cause accelerated sedimentation in surface water sources.

Inspect construction-related equipment and vehicles for

~~petroleum and other chemical leaks when they arrive on-site.~~

Implement post-fire ES&R actions to restore riparian vegetation and minimize soil erosion that could impair water quality in springs, seeps, and in Beaver Dam Wash. In planning re-vegetation projects for disturbed or fire-damaged riparian areas, identify specific resource and management objectives, desired plant communities, and methods that are ecologically sustainable, likely to achieve desired outcomes, and that minimize new surface disturbances and impacts on other resource values of the NCA.

Establish monitoring plots and use desired plant species frequency, density, and distribution data to evaluate the effectiveness of the treatments in meeting management objectives. Conduct monitoring, as determined by the project-specific monitoring plans, to evaluate effectiveness of re-vegetation and ES&R actions.

Monitor water quality in Beaver Dam Wash to determine if the designation standard for beneficial uses established by the Utah Division of Water Quality (UDWQ) is being met.

Pursue acquisition of non-federal lands from willing sellers within the NCA that would benefit the conservation and protection of surface and groundwater resources.

~~Pursue acquisition of surface and groundwater rights from willing sellers to benefit the conservation and protection of wildlife and improve aquatic habitats and riparian resources.~~

~~Do not authorize land uses that would export water from the NCA.~~

~~Work through the State of Utah's water rights system to ensure that BLM obtains water rights on all inventoried point water sources (springs, seeps, wells, reservoirs, etc.) for authorized beneficial uses of water within the NCA, including wildlife, recreation, domestic use within visitor facilities, and the improvement of aquatic habitats and riparian resources.~~

[Pursue acquisition of surface and/or groundwater rights from willing sellers for use in campgrounds, visitor facilities, and for other administrative uses, where consistent with Utah State law.]

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about appropriate public land use etiquette to protect

water quality in streams , springs, seeps, and associated riparian areas.

Management Actions - Scientific Research

Inventory the NCA to locate all springs and seeps, map the areal extent of associated riparian vegetation, evaluate water quality and flow rates, and document all spring developments.

Management Actions - Climate Change Monitoring

Pursue opportunities to develop a conceptual groundwater model of quantity recharge of springs, seeps, and surface flows within and adjacent to the NCA.

Pursue opportunities to collect data and monitor changes in precipitation patterns (e.g., timing, frequency, intensity of events) that are predicted to alter surface and ground water quantity and availability.

2.8.3 Geologic and Paleontological Resources

Goals

Paleontological resources, unique geologic features, and examples of geologic processes are conserved and protected for the benefit and enjoyment of present and future generations, consistent with the mandates of OPLMA and the legislative purposes for which the Beaver Dam Wash NCA was Congressionally-designated.

Objectives

Scientifically important paleontological and geological resources are identified, managed, and allocated to appropriate uses that increase knowledge about geological processes and the history of life on Earth.

Designate paleontological resources currently documented or projected to occur in the NCA to Use Allocations (as defined by BLM Manual Section 8110.42 and Land Use Planning Handbook H-1601-1). Focus on the Use Allocations that are consistent with the legislative mandate from OPLMA for the NCA: Scientific Use, Conservation for Future Use, and Public Use. Do not allocate resources of scientific interest to Traditional Use, Experimental Use, or Discharged from Management, as these would not be consistent. See Table 2-1 for descriptions of each Use Allocation category.

Management Actions - General

Regular monitoring patrols and condition assessments are conducted at fossil localities in the NCA by BLM staff and trained volunteer Site Stewards.

No commercial sale or use of petrified wood is permitted in the NCA.

Conduct paleontological surveys in areas with high potential for scientifically important fossil localities (Potential Fossil Yield Classifications 3, 4, and 5).

Allocate and manage 100% of vertebrate and paleobotanical sites for Scientific Use, Conservation for Future Use, and [or] Public Use.

Allocate and manage 100% of invertebrate fossil localities for Scientific Use, Conservation for Future Use, and [or] Public Use.

Authorize the use of hand tools by researchers holding valid NCA Scientific Research Permits and BLM Paleontological Resource Use Permits to conduct site-specific paleontological field studies and specimen collections at localities allocated to Scientific Use and Conservation for Future Use.

Authorize the use of mechanized equipment on a case-by-case basis by researchers holding valid NCA Scientific Research Permits or BLM Paleontological Resource Use Permits.

Require Resources Excavation Permits to conduct site-specific paleontological field studies and specimen collections at localities allocated to Scientific Use and Conservation for Future Use.

Prohibit the collection of common invertebrate fossils for commercial or personal use.

Prohibit the collection of petrified wood for personal use (as defined by federal regulations in 43 CFR 3622).

Monitor high significance (scientific or interpretive) sites with fossil resources that are not feasible or desirable to excavate or collect to document their condition. The frequency of monitoring action for identified sites would be determined by the physical nature of the resource and potential threats. When monitoring indicates the need, management actions would be taken to conserve and

protect these resources through physical measures and land use restrictions.

Scientific Use

Authorize surface collection and excavation of unique and scientifically important fossil specimens by researchers holding valid NCA Scientific Research Permits and BLM Paleontological Resource Use Permits

Conservation for Future Use

Only authorize surface collection of unique and scientifically important fossil specimens by researchers holding valid NCA Scientific Research Permits and BLM Paleontological Resource Use Permits if specimens are at risk of theft, vandalism, or loss to natural erosion and if feasible methods for in-situ protection are not available.

Monitor localities allocated to Conservation for Future Use on a regular basis, with monitoring frequency to be determined by the nature of the resource and potential threats.

Public Use

Prior to developing a locality for public use ensure the paleontological resources at the site and in the surrounding area have been fully documented.

Install informational signing and kiosks on site etiquette and the Paleontological Resource Preservation Act (PRPA) at Public Use sites (e.g., trails, trailheads) where appropriate.

Management Actions - Public Education and Interpretation

Develop on and off-site interpretation for significant paleontological sites and specimens, and geological features to foster an appreciation for the unique nature of these resources.

Table 2-1 Use Allocation Categories

Table 2-1 Use Allocation Categories		
Use Allocation Categories	Management Action	Desired Management Outcome
Scientific Use	Permit appropriate research	Resource preserved until research potential or data recovery potential realized
Conservation for Future Use	Protective measures; special administrative designations	Resource preserved until conditions for use are met
Public Use	Determine appropriate public uses	Resource preserved long term, with on-site interpretation
Traditional Use	Determine limitations on uses, in consultation with culturally affiliated American Indian Tribes	Resource preserved long term

Develop on and off-site interpretation for areas within the NCA where the geologic history of southwestern Utah can be observed and appreciated.

Support education outreach programs, activities, and volunteer opportunities that focus on paleontological resources and the geologic history of Earth.

Promote opportunities for volunteer involvement in Site Stewardship that increase public awareness of the need to conserve and protect at-risk fossil resources.

Promote opportunities for volunteer involvement in inventory and data recovery projects that enhance public understanding of the geologic and paleo-environmental history of the NCA.

Management Actions - Scientific Research

Pursue opportunities to conduct field inventories and increase the fossil locality database for the NCA in partnership with the Utah Geological Survey, natural history museums, academic institutions, avocational groups, and trained volunteers.

Recruit and train youth and veteran groups, citizen stewards, and other volunteers to participate in inventory and data recovery projects that enhance public understanding of the earth history of the NCA.

Management Actions - Climate Change Monitoring

Pursue opportunities for scientific research studies at sites allocated to Scientific Use that collect paleo-environmental data that could serve as a baseline for comparison with modern climate trends.

2.8.4 Cave and Karst Resources

Goals

Cave and karst resources are conserved and protected for the benefit of present and future generations.

Objectives

Caves and karst resources are evaluated for significance, pursuant to the Federal Cave Resources Protection Act, and managed for appropriate uses such as conservation, scientific, recreational, and educational uses.

Management Actions - General

As needed, implement National White Nose Syndrome Decontamination Protocol and BLM IM 2010-181 in the management of cave resources.

Initiate systematic inventories in areas of the NCA with high potential for cave and karst resources.

Evaluate newly identified cave and karst resources for significance under the criteria defined in the Federal

Cave Resources Protection Act and 43 CFR Part 37. Propose significant caves and karst resources for inclusion in the National Cave System.

Manage cave and karst resources evaluated as significant for Conservation for Future Use, Scientific Use, and Public Use.

Develop implementation-level Cave Management Plans for significant cave and karst resources that are identified for Public Use to identify appropriate management objectives and actions needed to protect resource values.

Management Actions - Public Education and Interpretation

Develop on-site interpretation for significant cave and karst resources that are managed for Public Use.

Management Actions - Scientific Research

Authorize scientific research in cave and karst resources that do not contain cultural or paleontological resources through NCA Scientific Research Permits. Where cultural or paleontological resources are present, authorize scientific research through permits issued under the legal authorities of PRPA and the Archeological Resources Protection Act (ARPA).

Management Actions - Climate Change Monitoring

Pursue opportunities for scientific research studies to collect data on cave biota and geologic processes that could serve as a baseline for comparison with modern climate trends.

2.8.5 Soil Resources

Goals

Soil resources function to sustain the ecological health, species biodiversity, and resilience of native vegetation communities and watersheds.

Objectives

Native vegetation communities provide sufficient plant cover and litter accumulation to protect soils from wind and water erosion.

Soils exhibit infiltration and permeability rates that are appropriate to specific soil types, land forms, and climatic variables.

Soil crusts are conserved, protected, and restored to perform vital functions such as enhancing infiltration, maintaining soil stability, and facilitating plant growth or re-establishment.

Salinity and sediment contributions from public lands into the Colorado River system, via Beaver Dam Wash to

the Virgin River, are minimized through appropriate land use management.

Research is supported that increases the understanding of ecosystem processes, cycles, and anthropogenic factors that affect soil and vegetation resources (e.g., fire return, nutrient cycles) and that may influence climate change.

Management Actions - General

Apply BMPs and other site-specific mitigation measures to maintain soil stability, minimize wind and water erosion, and ensure that surface disturbances do not cause accelerated wind or water erosion.

Implement post-fire ES&R actions designed to minimize soil erosion and facilitate re-vegetation of desired native plant communities.

Minimize damage to or loss of top soil and soil crusts through project design, permit stipulations, and public education.

Locate new trails, trailheads, or other facilities on soils suitable for development, such as areas less prone to wind and water erosion and previously disturbed areas.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about appropriate public land use etiquette to protect soils and soil crusts.

Management Actions - Scientific Research

Pursue opportunities to complete detailed soil surveys and ecological site inventories in the NCA.

Pursue opportunities for scientific studies relating to soil crust function and regeneration in disturbed and fire-altered desert ecosystems.

Pursue opportunities for scientific studies that focus on developing cost-effective methods to restore biological (cryptogamic) soil crusts in disturbed and fire-altered desert ecosystems.

Management Actions - Climate Change Monitoring

Pursue opportunities to collect data and monitor changes in the timing, frequency, and intensity of storms, flood events, and droughts and the effects of these climatic changes on soil crust function and regeneration.

2.8.6 Native Vegetation Communities

2.4.8.1 Conservation and Protection of Native Vegetation Communities

Goals

Biodiversity, ecological integrity, and ecosystem resilience are conserved, protected, and restored in the unique native vegetation communities created by the convergence of the Mojave Desert and Great Basin ecoregions.

Objectives

Native perennial and annual communities exhibit species diversity, suitable canopy cover, plant density, and age class diversification appropriate to each ecological site type.

Desired plant communities provide sufficient plant cover and litter accumulation to protect soils from wind and water erosion and to enhance nutrient cycling.

Loss of late-successional desert shrublands (e.g., creosote-bursage, blackbrush communities), perennial understory vegetation, and soil crusts to wildfires is minimized through management actions to prevent wildfires, suppress wildfires, and control or eradicate non-native invasive annual grass species (*Bromus* spp.).

Resilience of native plant communities to climate change is maintained by re-introducing native species that have been lost or by introducing other appropriate native species.

Connectivity of native plant communities is maintained by restoring closed roads and other linear features that interrupt species dispersal.

Genetic integrity of native communities is protected by using source-identified seed and other plant materials for restoration and re-vegetation projects.

Research is supported that increases the understanding of ecosystem processes (e.g., vegetation succession), cycles (e.g., fire return, nutrient cycles), and anthropogenic factors (e.g., livestock grazing, recreation) that affect vegetation communities and that may influence climate change.

Management Actions - General

Manage land uses and authorized activities to ensure that ecological systems meet or exceed management objectives identified in the Utah Standards and Guides (Appendix D).

Apply BMPs and other management techniques designed to minimize impacts on native vegetation communities for all land uses and authorized activities.

Native Vegetation Communities Conservation

Implement a program to strategically collect, store, and increase native seeds, cuttings, biological soil crust communities and species for conservation and for use in future restoration projects. Seed collection will follow the Seeds of Success Protocol, in partnership with the Great Basin and Mojave Desert Native Plant Programs. Collection of cuttings and biological soil crust communities will follow the best available protocols.

Develop partnerships with appropriate BLM Seed Warehouses for storage and management of seed collections and with other federal and non-federal entities for propagation of seedlings and cuttings.

Native Vegetation Communities Protection

Implement landscape-level fuel breaks and hazard fuel reduction projects on the Beaver Dam Slope in partnership with adjacent federal and state land managing agencies in Utah, Arizona, and Nevada.

Design fuel breaks and hazard fuel reduction projects to conserve and protect unburned native vegetation communities, evaluating factors such as vegetation types, seasonal wind direction, and expected fire behavior in project planning.

Design fuel breaks to incorporate topographic features, water courses, major ephemeral drainages, road networks, and utility corridors, to minimize new surface disturbances and the loss of native vegetation.

Design fuel breaks and hazard fuel reduction projects to utilize those methods that are environmentally sensitive and minimize new surface disturbances.

Employ appropriate wildfire suppression tactics to minimize loss of unburned and once-burned native vegetation communities, particularly late-successional desert shrublands.

Authorize the use of biological controls, flaming, targeted grazing, hand removal, herbicides, mechanical methods, or a combination of methods to develop fuel breaks and hazard fuel reduction projects (see Table 2-2 for descriptions of each method).

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about appropriate public land use etiquette to protect native vegetation communities and prevent wildfires.

Management Actions - Scientific Research

Pursue opportunities to scientifically assess (i.e., through rigorous and statistically valid study design) the short and long-term effectiveness of seed/seedlings/cuttings by source in areas to be re-vegetated. Incorporate local ecotypes (locally collected and increased seed) into vegetation studies where plant materials are used for vegetation restoration.

Pursue opportunities to collaborate with researchers and other federal and non-federal partners to assess the variability in the genetic diversity of plant species to assist in the development of species' Seed Transfer Zones and inform the development of plant materials and seed purchase for large scale restoration and re-vegetation projects.

Pursue opportunities to conduct inventories for unique or rare plants and "hanging gardens" in the limestone formations of the Beaver Dam Mountains.

Pursue opportunities for scientific studies that evaluate the long term effectiveness of herbicidal treatments for exotic invasive annual grasses in arid ecosystems.

Pursue opportunities for scientific studies to develop ecologically sustainable and cost-effective biological treatments to control and eradicate noxious weeds and non-native invasive annual grasses in arid ecosystems.

Management Actions - Climate Change Monitoring

Monitor the timing, frequency, and intensity of fall precipitation events in the NCA, as these events can be used to predict high invasive annual grass production in the following spring that will fuel catastrophic wildfires during the summer months.

Resample vegetation study plots and monitoring transects established in the 1970s to determine if native plant species are shifting their elevational distribution in response to climate change.

2.8.6.2 Riparian Vegetation

Goals

Riparian areas sustain productive and diverse ecosystems and properly functioning watersheds.

Table 2-2 Vegetation Management Toolbox

Table 2-2 Vegetation Management Toolbox		
Tool	Methodology/Rationale	Possible Uses
Hand Removal	Hand pulling, hoeing, and digging out targeted individuals or groups of plants.	Hand treatment to eliminate small weed populations, to control specific weed species, and to promote restoration.
Mechanical	Mowing, weed-whipping, cutting (chainsaw), and brush removal. Good for small to medium-scale targets, possible negative impacts to habitat by equipment (such as soil compaction, creation of disturbed soils, burrow collapse).	Treatment of hazard fuels for fire control. Removal of invasive species as pretreatment before restoration seeding. Cutting to remove exotic tree species.
Flaming	Use of small, hand-held torches or flame-emitting devices to burn individual noxious weed plants or small weed infestations.	Flaming specific weed targets, as a general weed treatment.
Targeted Grazing	Use of contracted grazing animals in specific settings, such as along roadways, at trailheads, to reduce hazardous fuels and weed infestations. Variables include type of livestock, timing and duration of treatment, stocking rates, and frequency. Applicable for small to medium target areas, can be targeted on specific weed species, and is relatively cost-effective. Possible negative impacts to native species, biological soil crusts, and to habitat (such as soil compaction, creation of disturbed soils, burrow collapse). Contracted domestic sheep and goats herds would not be used for targeted grazing projects where appropriate separation distances from desert bighorn herds could not be maintained. Domestic sheep and goat herds would be contained within the target area, through temporary fencing, herding, etc., and removed immediately upon completion of the contracted work. <i>[Targeted grazing in critical habitat for the Mojave desert tortoise would be experimental and require consultations with the USFWS under Section 7 of the ESA.]</i>	As a hazard fuel reduction method, specific weed treatments, and pretreatment for restoration seeding.
Herbicides	Spraying individual plants or populations, sometimes in conjunction with stump-cutting. Spraying specific project areas. Good for small to large scale projects, cost-effective weed control, essential for eradication of some problematical species. Negative impacts related to potential human and ecological exposures to chemicals.	Target spraying to eradicate or control exotic annuals for hazard fuel reduction or as a means to prepare areas for restoration seeding and/or outplantings with native species.
Seeding/Outplanting	Hand-seeding, seeding by aerial applications and small seed drills, hand planting of plugs or individual plants, inoculation with cryptogamic crust species or mycorrhizae. Good for small to large-scale projects.	Hand-seeding and outplantings for small restoration projects or to introduce seed source islands within partially restored native habitat. Aerial seed applications and seeding with small drills for larger scale projects. Inoculation to restore cryptogamic crusts or help plant establishment.
Watering	Supplemental water, artificial water.	Supply water to increase success of restoration efforts, to enhance seed production and outplanting survival.
Biological Control	Release of specific organisms on target populations. Good for large-scale targets. Possible impacts if organism shifts to new host.	Release of biological control organisms to control widespread and relatively common non-native species.

Objectives

Healthy riparian areas are conserved and protected through land use restrictions, protective measures, and other management actions.

Healthy riparian areas exhibit appropriate species composition and structural diversity to provide suitable forage, nesting or breeding habitats, and cover for diverse terrestrial and aquatic wildlife.

Degraded riparian areas are restored to proper functioning condition or better, ensuring that stream channel morphology and functions are appropriate to the local soil type, climate, and landform.

Employ the best available science relating to natural recovery patterns of riparian communities in arid lands.

Research is supported that increases the understanding of ecosystem processes (e.g., vegetation succession), cycles (e.g., fire return, nutrient cycles), and anthropogenic factors (e.g., livestock grazing, recreation) that affect riparian vegetation communities and that may influence climate change.

Management Actions - General

Manage land uses and authorized activities to ensure that riparian areas meet or exceed management objectives identified in the Utah Standards and Guides (Appendix D).

Employ appropriate wildfire suppression tactics to minimize impacts on riparian areas, while protecting firefighter and public safety and private property as first priorities.

Apply BMPs and other management techniques designed to minimize impacts on riparian areas that may result from land uses and authorized activities.

Riparian Vegetation Conservation

Inventory riparian areas to establish baseline data on functioning conditions, trends in native plant composition, and infestations of noxious weeds and invasive species.

Pursue acquisition of non-federal lands within the NCA that would benefit the conservation, protection, and restoration of riparian areas.

Implement a program to strategically collect, store, and increase native seeds, cuttings, biological soil crust communities and species for conservation and for use in future restoration projects. Seed collection will follow the Seeds of Success Protocol, in partnership with the Great Basin and Mojave Desert Native

Plant Programs. Collection of cuttings and biological soil crust communities will follow the best available protocols.

Develop partnerships with appropriate BLM Seed Warehouses for storage and management of seed collections and with other federal and non-federal entities for propagation of seedlings and cuttings.

Develop and implement re-vegetation plans for damaged riparian areas to minimize soil erosion and re-establish desired plant communities. Plans will specify seed/plant sources, seed/plant mixes, and soil preparation. Utilize salvage vegetation from the project area to the extent possible.

Establish monitoring plots and use desired plant species frequency, density, and distribution data to evaluate the effectiveness of the treatments in meeting management objectives.

Conduct monitoring, as determined by project-specific monitoring plan, to evaluate effectiveness of restoration and ES&R treatments.

Riparian Vegetation Protection

Treat non-native woody species (e.g., tamarisk, Russian olive) in a phased approach using biological controls, flaming, targeted grazing, hand removal, herbicides, mechanical methods, or a combination of methods, depending on target species, infestation level, site characteristics, and project size (see for Table 2-2 descriptions of each method).

Allow adequate time between treatments for native woody species to establish in a treated area before treating adjacent patches.

Prohibit new surface disturbing projects or activities within 500 feet [100 meters (330 feet)] of the edge of the riparian zone, except when the project would improve riparian resource conditions. This restriction does not apply to the maintenance of existing spring developments and conveyance systems.

Exclude livestock from areas where riparian restoration has been implemented through rest/rotation systems, fencing, water management, temporary closure of portions or all of the allotment, or other methods that will achieve the goal of protecting the project or treatment areas from grazing impacts until identified resource goals and objectives have been met.

Temporarily close riparian restoration project areas to those land uses and authorized activities that have the potential to impact the success of the treatments

until monitoring indicates that identified resource goals and objectives for these treatments have been met.

Prohibit placement of livestock salt blocks and other nutritional supplements within 1500 feet of the edge of the riparian zone.

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about the ecological values of riparian areas and appropriate public land use etiquette to protect these areas.

Management Actions - Public Education and Interpretation

Involve volunteers, schools, youth groups, veterans, and partner organizations in riparian resource monitoring and restoration projects to increase public awareness and foster citizen stewardship of NCA resources.

Management Actions - Scientific Research

Pursue opportunities to scientifically assess (i.e., through rigorous and statistically valid study design) the short and long-term effectiveness of seed/seedlings/cuttings by source in riparian areas to be re-vegetated. Incorporate local ecotypes (locally collected and increased seed) into vegetation studies where plant materials are used for vegetation restoration.

Pursue opportunities to collaborate with researchers and other federal and non-federal partners to assess the variability in the genetic diversity of plant species to assist in the development of species' Seed Transfer Zones and inform the development of plant materials and seed purchase for large scale restoration and re-vegetation projects.

Collect and maintain baseline data on riparian vegetation species composition, noxious weeds, and non-native species infestations.

Pursue opportunities to develop and maintain baseline data on the terrestrial, avian, and aquatic wildlife that utilize these areas.

Pursue opportunities to develop baseline data on taxa found in the riparian areas that are not well studied, such as amphibians, insects, other invertebrates, fungi, and lichens.

Management Actions - Climate Change Monitoring

Pursue opportunities to monitor the areal extent and species composition of riparian vegetation communities as a

possible predictor of decreased precipitation and changes in seasonal precipitation patterns in the Mojave Desert.

Pursue opportunities to identify key riparian features within and adjacent to the NCA that must be protected to allow multi-species habitat connectivity and wildlife migration corridors under changing climate conditions.

2.8.7 Fire and Fuels Management**2.8.7.1 Fire Suppression****Goals**

Wildfire suppression activities support the conservation and protection of NCA resource values and comply with legal, regulatory, and agency policy requirements.

Objectives

Suppression activities prioritize firefighter and public safety, protect private property, conserve and protect NCA resource values, and minimize overall suppression costs through planning and efficient management of tactical and human resources.

[Suppression efforts are coordinated to the extent possible with other federal, Tribal, and state agencies, and local governmental entities.]

Research is supported that increases the understanding of ecosystem processes, natural cycles, and anthropogenic factors that affect the fire return intervals that influence climate change.

Management Actions - General

Employ rapid and appropriate suppression responses to minimize fire size and duration in the NCA.

Conserve and protect unburned areas through appropriate fire suppression responses, while prioritizing firefighter and public safety and the protection of private property.

Utilize Resource Advisors to guide suppression actions for all fires to help ensure that ecological systems and resource values are conserved and protected to the maximum extent possible.

Evaluate the use of "backfiring" as a fire suppression tactic in late successional shrublands, including Joshua tree woodlands and blackbrush communities, on a case-by-case basis. Require NCA Manager approval prior to employing this tactic.

Do not authorize wildfire use in the NCA; *[Naturally ignited wildfires are not authorized to accomplish a resource objective in the NCA]* as there are no fire-adapted vegetative communities present in which fire has historically played an important role in ecosystem function.

Do not authorize the use of management-ignited (prescriptive) fire in any of the ecological systems of the NCA for hazard fuel reduction or vegetation type conversions, as these are not fire-adapted communities in which fire has historically played an important role in ecosystem function.

Prescriptive fire could be authorized as part of scientific studies, as described below under Scientific Research.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about fire prevention and reporting wildfires.

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about native vegetation communities and why fire did not historically play an important role in ecosystem function for these communities.

Management Actions - Scientific Research

Pursue opportunities for scientific studies that will develop reliable methods to forecast catastrophic wildfire seasons using the timing of fall and winter precipitation events.

Only authorize the use of prescriptive fire for research purposes as part of scientific studies authorized under an NCA Research Permit and other required permits.

Do not authorize prescriptive fires for research purposes within designated critical habitat for the Mojave desert tortoise or other federally-listed species.

Do not authorize prescriptive fires for research purposes in unburned late successional shrublands, including mesic and thermic blackbrush communities and Joshua tree woodlands.

Limit the size of prescriptive fires for research purposes to no more than one acre for all studies proposed under an NCA Research Permit.

Management Actions - Climate Change Monitoring

Pursue opportunities to install one or more solar-powered weather stations in the NCA to collect data on temperature, precipitation, wind speed, humidity, soil moisture, solar radiation, and other variables that could signal changing climatic conditions that influence wildfire frequency and severity.

2.8.7.2 ES&R Actions and Other Native Vegetation Community Restoration

Goals

Biodiversity, ecological integrity, and ecosystem resilience are restored in disturbed and fire-damaged native vegetation communities.

Objectives

Species richness and landscape heterogeneity are re-established in disturbed and fire-damaged vegetation communities through restoration projects and post-fire ES&R actions.

Genetic integrity of native communities is protected by using source-identified seeds and other plant materials for restoration and re-vegetation projects.

Progress is made toward restoration of late successional shrublands, including Joshua trees and blackbrush.

Restoration methods employ the best available science relating to natural recovery patterns of native vegetation communities.

Research is supported that increases the understanding of ecosystem processes (e.g., role of soil crusts, gramnivores, herbivores), cycles (e.g., fire return, nutrient cycles), and anthropogenic factors (e.g., livestock grazing, recreation) that affect the re-establishment of native vegetation communities and that may influence climate change.

Management Actions - General

Apply BMPs and other management techniques designed to minimize loss of top soil and soil crusts during restoration projects and ES&R actions.

In planning re-vegetation projects for disturbed and fire-damaged areas, identify desired plant communities and use ecologically sustainable methods that minimize new surface disturbances and impacts on other resource values of the NCA.

Establish monitoring plots and use desired plant species frequency, density, and distribution data to evaluate the effectiveness of the treatments.

Conduct monitoring to evaluate effectiveness of re-vegetation and ES&R actions, as determined by the project-specific monitoring plans.

Implement a program to strategically collect, store, and increase native seeds, cuttings, biological soil crust communities and species for conservation and for use in future restoration projects. Seed collection will follow the Seeds of Success Protocol, in partnership with the

Great Basin and Mojave Desert Native Plant Programs. Collection of cuttings and biological soil crust communities will follow the best available protocols.

Develop partnerships with appropriate BLM Seed Warehouses for storage and management of seed collections and with other federal and non-federal entities for propagation of seedlings and cuttings.

Maximize the use of microsites of fertile soils (“fertile islands”) and areas where biological soil crusts are regenerating.

Authorize the use of artificial water, carbon sequestration soil treatments, or other methods that have been shown to increase success of restoration efforts in desert ecosystems.

Authorize the inoculation of cryptogamic soil crust species or mycorrhizae to restore biological soil crusts and assist plant establishment.

Authorize the use of native seeds, plant materials, and native plant cultivars for re-vegetation efforts, in the following order of preference:

1. Locally derived sources;
2. Regionally derived sources.

Only authorize use of non-native plant species when all the following criteria are met:

- a) Desired native species are not available;
- b) The natural biological diversity of the treatment area would not be diminished;
- c) Exotic and naturalized species can be confined within the treatment area;
- d) Restoration of native vegetation species would be facilitated by use of the non-native species;
- e) Use of non-native species would benefit threatened and endangered species, including the desert tortoise.

Include a high proportion of early colonizing (early successional) annual and perennial species in seed mixes or plantings to quickly re-establish soil cover, minimize invasive species establishment, and facilitate the re-establishment of late successional species.

Include species in seed mixes or plantings that will function as “nurse” plants to facilitate the re-establishment of species (e.g., Joshua trees) that require shade during initial growth stages.

To implement seeding restoration, authorize the use of non-invasive (e.g., aerial applications, hand scattering,

surface distribution of encapsulated seeds, mulching) and minimally invasive seeding (e.g., small seed drills, hand raking) methods, as well as plug plants, containerized plants, and other plant materials.

To protect seeds from rodents, birds, and other gramnivores, authorize the use of non-invasive (e.g., seed encapsulation, mulching) and minimally invasive (e.g., small seed drills, hand raking) seed protection methods.

Evaluate the use of invasive seed protection methods (e.g., harrowing, chaining) outside of designated critical habitats on a case-by-case basis.

Authorize the use of such methods only when scientific research demonstrates that the benefits would clearly outweigh the negative effects on listed species, habitats, and other resource values.

Authorize hand planting of plugs, other plant materials, and containerized plants for vegetation restoration and ES&R treatments.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, exhibits, demonstration treatment areas, websites) that inform visitors about vegetation/habitat restoration projects and ES&R actions.

Involve volunteers, school, youth and veterans groups, academic institutions, and partner organizations in restoration projects whenever feasible to increase public awareness and foster increased citizen stewardship of NCA lands and resources.

Management Actions - Scientific Research

Pursue opportunities to scientifically assess (i.e., through rigorous and statistically valid study design) the short and long-term effectiveness of seed/seedlings/cuttings by source in areas to be re-vegetated. Incorporate local ecotypes (locally collected and increased seed) into vegetation studies where plant materials are used for vegetation restoration.

Pursue opportunities to collaborate with researchers and other federal and non-federal partners to assess the variability in the genetic diversity of plant species to assist in the development of species’ Seed Transfer Zones and inform the development of plant materials and seed purchase for large scale restoration and re-vegetation projects.

Pursue opportunities for scientific studies of the insect and avian pollinators that occur in the NCA and their role in the persistence and/or recovery of native species.

Pursue opportunities for scientific studies designed to better understand the role of grammivores (e.g., ants, birds, rodents, other small mammals) and herbivores in the persistence and/or recovery of native species.

Pursue opportunities for scientific studies designed to improve the success of re-vegetation techniques for late successional species in disturbed and fire-damaged vegetation communities.

Pursue opportunities for scientific studies to develop native plant materials and native plant cultivars that can quickly re-establish in fire-damaged arid lands and prevent infestations of noxious weeds and non-native invasive species.

Pursue opportunities for scientific studies to develop cost effective and ecologically sustainable biological methods to control or eradicate noxious weeds and invasive species.

Management Actions - Climate Change Monitoring

Monitor the timing, frequency, and intensity of fall precipitation events in the NCA, as these events can be used to predict high invasive annual grass production in the following spring that will fuel catastrophic wildfires during the summer months.

Pursue opportunities for scientific studies to determine the carbon sequestration value of intact desert shrublands and the potential for restoration of degraded desert shrublands to be used to mitigate increasing atmospheric carbon dioxide levels.

2.8.8 Noxious Weeds and Invasive Species

Goals

Ecological integrity of native vegetation communities is conserved, protected, and restored.

Objectives

Infestations of noxious weeds and exotic invasive species are controlled and ultimately eradicated using Integrated Weed Management (IWM), [in cooperation with other federal and state agencies, local governmental entities, and adjacent private landowners.]

New infestations of noxious weeds and exotic invasive species are prevented through management actions and project design.

Ecologically sustainable and cost effective methods are employed for all IWM treatments.

Research is supported that increases the understanding of ecosystem processes, natural cycles (e.g., seasonal precipitation), and anthropogenic factors (e.g., livestock

grazing, recreation) that affect the establishment and proliferation of noxious weeds and invasive species, and alter the historic fire regime.

Management Actions - General

Employ weed prevention BMPs (Appendix F) as appropriate for surface-disturbing projects and activities.

Require the use of certified weed-free hay or other feed for livestock or recreational stock.

Require the use of certified weed-free mulch and seed for reclamation, restoration, and re-vegetation projects.

Complete a systematic inventory of noxious weeds on public lands in the NCA.

Develop and maintain a Geographic Information System (GIS) database of all noxious weed and invasive species treatment projects conducted in the NCA.

Authorize the use of biological controls, flaming, targeted grazing, hand removal, herbicide, mechanical methods, or a combination of methods for weed treatments, depending on target species, infestation level, site characteristics, and project scale (see Table 2-2 for descriptions of each method).

Conduct monitoring and treat all weed infestations for a minimum of 5 years or until target species is eradicated.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about appropriate public land use etiquette to prevent the introduction and spread of noxious weeds and non-native invasive species.

Involve volunteers, youth and veterans groups, and diverse partner organizations in the identification and mapping of noxious weed and exotic invasive species infestations and in weed treatment projects that employ hand removal and hand tool methods.

Management Actions - Scientific Research

Pursue opportunities for scientific studies to develop ecologically sustainable and cost-effective biological controls for noxious weeds and non-native invasive species.

Pursue opportunities for scientific studies to test the effectiveness of herbicides approved for use on public lands in the reduction of exotic invasive annual grasses in Mojave Desert communities.

Management Actions - Climate Change Monitoring

Pursue opportunities for scientific studies that evaluate the effects of changing precipitation patterns and increased atmospheric carbon dioxide levels on the spread and dominance of non-native invasive annual grasses in the Mojave Desert.

2.8.9 Vegetation Resource Uses: Livestock Grazing

Goals

Livestock grazing is managed in conformance with the mandates of OPLMA Section 1975 (e) (4) and in a manner that conserves, protects, and enhances the ecological, scenic, wildlife, recreational, cultural, historical, natural, educational, and scientific resources of the NCA.

Objectives

Manage livestock grazing to ensure the long-term sustainability of Mojave Desert and Great Basin ecosystems and to promote the resilience and survival of native vegetation communities under predicted climate change scenarios.

Manage livestock grazing to achieve Utah Standards and Guides (Appendix D) for upland and riparian vegetation communities, by adjusting use levels, timing and intensity of grazing, and by developing improvement and restoration projects.

Management Actions - General

The Woodbury Desert Study Area (approximately 1,063 acres in the Castle Cliffs Allotment) would remain unavailable for livestock grazing over the life of the RMP.

Conversions of types of livestock from cattle to sheep or other kind of livestock will not be authorized.

Continue to make 61,995 acres of the following allotments available for livestock grazing within the NCA:

- a) Beaver Dam Slope;
- b) Castle Cliffs;
- c) Cedar Pocket;
- d) Scarecrow Peak.

Provide 3,099 initial Animal Unit Months (AUMs) of livestock forage within the NCA. AUM numbers may be adjusted depending on the results of ongoing rangeland monitoring. (Map 2-1)

Manage these allotments with the following seasons of use:

- a) Beaver Dam Slope:

22,363 acres: November 1—March 15

8,112 acres: November 1—May 31

b) Castle Cliffs

3,209 acres: November 1—March 15

5,100 acres: November 1—May 31

c) Cedar Pocket

2,079 acres: October 16—May 31

d) Scarecrow Peak

6,334 acres: November 1—March 15

14,795 acres: November 1—May 31

Temporarily exclude livestock grazing from all vegetation restoration and ES&R project areas until monitoring indicates that identified resource goals and objectives have been met.

Use fencing, closures (e.g., of pastures, portions of the allotment, or the entire allotment), grazing rest/rotation systems, or other methods that will achieve the goal of protecting the project areas from grazing impacts.

[When a grazing permit or a portion of the grazing preference is voluntarily relinquished, the allotment or portion of the allotment associated with the permits within the NCA would remain available. However, upon relinquishment, the BLM may determine through a site-specific evaluation and associated NEPA analysis that the public lands within a grazing allotment are better used for other purposes.]

Implementation Decisions

Complete new Allotment Management Plans for the Beaver Dam Slope, Castle Cliffs, and Scarecrow Peak Allotments within 5 years of approval of the NCA Record of Decision and RMP.

Range Developments

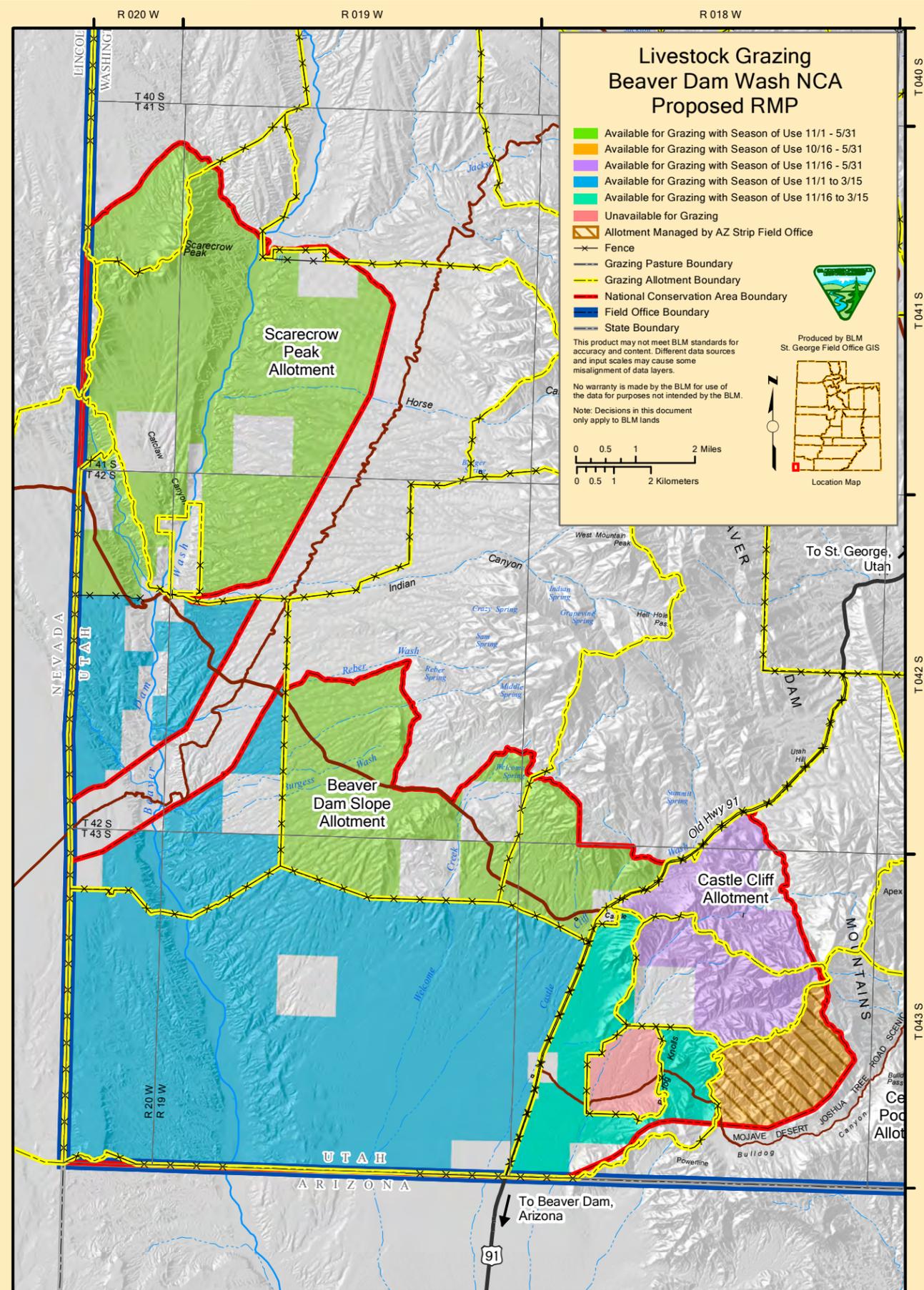
Only authorize the development of new range developments when these would further the purposes of the NCA and benefit diverse resource values (e.g., wildlife, recreational use).

Recreation Facilities

Exclude trailheads, developed campgrounds, and other recreation and visitor facilities from permitted grazing use.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites, educational programs, school curriculum) focused on increasing



public understanding of the history of livestock grazing in the NCA.

Management Actions - Scientific Research

Pursue opportunities for scientific studies developed to understand the effects of livestock grazing on native vegetation community recovery after wildfires.

[Pursue opportunities to conduct scientific evaluations of the effects of livestock grazing on tortoise behavior and survival, particularly juvenile tortoise behavior, growth, and survival.]

2.8.10 Vegetation Resource Uses: Plant Materials

Goals

A biologically diverse landscape is conserved, protected, and restored to support a variety of habitats and native plant and animal species.

Objectives

Manage harvesting and use of woodland products, native plants, and plant materials to conserve biological diversity and further restoration goals for native vegetation communities and species habitats.

Management Actions - General

Fees or permits would not be required for the collection of small quantities of pinyon pine seeds (pine nuts) for non-commercial personal use.

Fuelwood and Post Harvesting for Commercial and Non-Commercial Purposes

Do not authorize commercial or non-commercial fuelwood or post harvesting in the NCA.

Christmas Tree Harvesting for Commercial or Non-Commercial Purposes

Do not authorize commercial or non-commercial Christmas tree harvesting in the NCA.

Campfire Materials

Do not allow on-site use of dead and down materials for campfires.

Require that visitors provide fuelwood for use in campfires.

Native Seed Harvesting for Commercial or Non-Commercial Purposes

Do not authorize native seed harvesting for commercial or non-commercial purposes in the NCA.

Authorize native seed collection for scientific research through an NCA Scientific Research Permit.

Authorize hand method seed collection for scientific research and for restoration projects on public lands within the NCA and adjacent areas within the northeast Mojave Desert of southwestern Utah, Arizona, and Nevada.

Native Desert Vegetation Harvesting for Commercial and Non-Commercial Purposes

Do not authorize the commercial harvesting, removal, salvage, and/or sale of native desert vegetation (e.g., cacti, succulents, other native species) in the NCA.

Authorize the individual collection of native plant materials (excluding all federally-listed native plant species) by Native Americans for religious, ceremonial, and traditional purposes.

Native Seed, Plants, and Plant Material Collection for Research, Conservation, and Restoration

Authorize collection of native seeds, plants, seedlings, cuttings, biological soil crust communities and species for scientific research through an NCA Scientific Research Permit and a Utah BLM Specimen Collection permit, where required.

Authorize the collection of native seeds, seedlings, plants, cuttings, biological soil crust communities and species for conservation and future use in restoration projects. Seed collection will follow the Seeds for Success Protocol, in partnership with the Great Basin and Mojave Desert Native Plant Programs. Collection of cuttings and biological soil crust communities will follow the best available protocols.

Develop partnerships with appropriate BLM Seed Warehouses for storage and management of seed collections and with other federal and non-federal entities for propagation of seedlings and cuttings.

Authorize hand method seed collection for scientific research and for restoration projects on public lands within the NCA and adjacent areas within the northeast Mojave Desert of southwestern Utah, Arizona, and Nevada.

Authorize the collection of native seedlings, plants, cuttings, and biological soil crust restoration projects on public lands within the NCA and adjacent areas within the northeast Mojave Desert of southwestern Utah, Arizona, and Nevada.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites, educational programs, school curriculum) that focus on increasing public understanding of research related to the development of improved plant materials and restoration techniques for arid lands.

Management Actions - Scientific Research

Pursue opportunities for scientific studies designed to improve the success of re-vegetation techniques for late successional species in disturbed and fire damaged vegetation communities.

Pursue opportunities for scientific studies to develop native plant materials and native plant cultivars that can quickly re-establish in fire-damaged arid lands and prevent infestations of noxious weeds and non-native invasive species.

2.8.11 Special Status Wildlife Species-Including Threatened, Endangered, Candidate, and Species Proposed for Listing under ESA

Goals

Habitats for listed species are conserved, protected, and restored to support viable populations that no longer require listing protection under the ESA.

Habitats for species proposed, petitioned, or candidates for listing under the ESA are managed, conserved, protected, and restored to support viable populations, precluding the need to list species.

Objectives

Upland vegetation communities provide high quality forage or a high quality prey base, as well as cover, shade, and breeding areas that will sustain viable populations of biologically diverse terrestrial and aquatic species.

Riparian areas and natural water sources provide high quality habitat, thereby sustaining viable populations of biologically diverse terrestrial and aquatic species.

Habitat connectivity, migration routes, and movement corridors are conserved, protected, and restored to support species persistence, adaptation, and overall biodiversity under changing climate conditions.

Management of discretionary activities does not contribute to the need to list candidate or proposed species under the ESA.

Public awareness of special status species is enhanced through education, interpretation, and volunteer

opportunities that further species conservation and habitat restoration.

Research is supported that increases the knowledge of threatened and endangered species that inhabit the NCA and the understanding of ecosystem processes, natural cycles, and anthropogenic factors that may influence predicted climate change scenarios.

Management Actions - General

Implement the goals, objectives, and management recommendations that apply to public lands from USFWS-approved Recovery Plans, and any Biological Opinions issued under Section 7 of the ESA. Evaluate the effectiveness of management actions through monitoring and scientific research studies.

Continue active management programs to inventory, monitor, protect, and restore habitats for special status species, to control detrimental non-native species, and to re-establish extirpated populations, as necessary, to maintain the unique ecosystem biodiversity of NCA.

Apply BMPs and other management techniques designed to minimize impacts on critical habitats and listed species populations that may result from land uses and authorized activities.

Population Management

Authorize [Allow] the reintroduction, translocation, and population augmentation of special status species populations into current or historic habitats in the NCA, in coordination with USFWS, and Utah Department of Wildlife Resources (UDWR), [and local governments, subject to guidance provided by BLM's 6840 policy and by existing or future memoranda of understanding (MOUs),] to assist recovery and delisting of threatened or endangered species and preclude the need to list other at-risk species.

Monitor the long term success of population management actions and use Adaptive Management Strategies to improve desired outcomes.

Collaborate with USFWS, UDWR, and appropriate United States Department of Agriculture (USDA) agencies on predator control, if other management actions have not been successful in reducing documented predation levels that have been shown to be measurably impacting the recovery of viable populations of listed species. Require the development of target species-specific predator control plans supported by NEPA analyses that identify the purpose of and need for action, designate specific goals to be

met, and evaluate the least invasive and most ecologically sensitive methods to accomplish those goals.

Habitat Management

Suppress wildfires in special status species habitats using tactics that minimize fire size, impacts on species populations, native vegetation communities, and other ecosystem components, while ensuring that firefighter safety and private property are given highest priority.

Prioritize habitat restoration projects and post-fire ES&R treatments as follows:

1. Designated critical habitats for federally-listed threatened and endangered species;
2. Habitats for candidate and proposed species for listing under ESA.

Manage livestock grazing to avoid impacts on special status species through season-of-use restrictions or other modifications to livestock grazing systems.

Do not authorize recreational activities or uses in areas where special status species habitats may be degraded by these authorizations.

Only authorize new land uses in special status species habitats if reasonable alternative locations outside of these habitats do not exist and impacts to habitats can be avoided or appropriately mitigated.

Maintain habitat connectivity, migration routes, and movement corridors through project placement, design, and permit stipulations to support special status species persistence, adaptation, and overall biodiversity under changing climate conditions.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about appropriate land use etiquette and the need to protect populations and habitats for terrestrial and aquatic species that are listed or proposed for listing under the protection of the ESA.

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that educate visitors about terrestrial and aquatic special status species, their evolutionary adaptations to an arid landscape where surface water is limited, and the factors that have contributed to the need to list these species under the ESA.

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that educate

visitors about the rich biodiversity created by the convergence of the Mojave Desert and Great Basin ecosystems that can be experienced in the NCA.

Management Actions - Scientific Research

Pursue opportunities for scientific studies to determine the habitat value of native vegetation communities of different successional stages for diverse wildlife species to improve habitat protection and restoration project planning for special status species.

2.8.12 Special Status Bird Species: Southwestern Willow Flycatcher, Western Yellow-Billed Cuckoo, and Other Riparian-Dependent Special Status Species

Goals

Southwestern willow flycatcher (*Empidonax traillii extimus*) and, western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), [and other riparian dependent special status bird species] populations that utilize habitats in the NCA would be stable or increasing, helping to meet recovery and delisting goals for each species.

Objectives

Riparian habitats along Beaver Dam Wash and elsewhere in the NCA would include the vegetative species diversity, density, and canopy cover required to provide suitable habitat for southwestern willow flycatchers.

Cottonwood gallery forests [Riparian habitats] along Beaver Dam Wash [and elsewhere in the NCA] would provide suitable habitat for western yellow-billed cuckoos.

Riparian areas would be in proper functioning condition and provide adequate foraging, roosting, and nesting sites for riparian-obligate special status avian species.

Research is supported that increases baseline data related to riparian-obligate avian species that utilize the NCA.

Research is supported that increases the understanding of ecosystem processes, natural cycles, and anthropogenic factors that may influence predicted climate change scenarios.

Management Actions - General

Management of riparian habitat would be consistent with the *Final Recovery Plan: Southwestern Willow Flycatcher (Empidonax traillii extimus)* (USFWS 2002) and the *Biological Opinion issued by USFWS for the Beaver Dam Wash NCA Proposed RMP [and future final recovery plans for the western yellow-billed cuckoos]*.

Maintain a database of observations of southwestern willow flycatchers and western yellow-billed cuckoos.

Develop maps of potential habitats for southwestern willow flycatcher and western yellow-billed cuckoo that include location, size, shape, spacing, and condition of habitat areas.

Manage potential habitat for southwestern willow flycatcher and western yellow-billed cuckoos to allow natural regeneration into suitable habitat as rapidly as natural conditions allow.

Manage suitable habitat for southwestern willow flycatcher and western yellow-billed cuckoos to conserve and protect its suitability for nesting, foraging, and occupancy.

Monitor changes in the relative abundance, health, reproductive success, and distribution of populations, in partnership with USFWS and UDWR.

~~Authorize the translocation, and population augmentation of southwestern willow flycatcher and western yellow-billed cuckoos, in consultation with USFWS and UDWR.~~

[Allow the reintroduction, translocation, and population augmentation of southwestern willow flycatcher and western yellow-billed cuckoos into current or historic habitats in the NCA, in coordination with USFWS, UDWR, and local governments, subject to guidance provided by BLM's 6840 policy and by existing or future MOUs.]

Suitable habitat for western yellow-billed cuckoo will be identified according to Guidelines for the Identification of Suitable Habitat for WYBCU in Utah (USFWS 2015a).

Surveys for western yellow-billed cuckoo will be conducted according to A Natural History Summary and Survey Protocol for the Western Distinct Population Segment of the Yellow-billed Cuckoo: U.S. Fish and Wildlife Techniques and Methods (Halterman, Johnson, Holmes, and Laymon 2015).]

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about the riparian areas and the diverse avian species that depend upon this habitat.

Management Actions - Scientific Research

Develop new volunteer opportunities for partners, youth groups, and citizen scientists to assist with collecting observations of southwestern willow flycatcher, western

yellow-billed cuckoo, and other riparian-obligate avian species in the NCA along Beaver Dam Wash.

2.8.13 Special Status Species: California Condor

Goals

*[Designated nonessential experimental populations of] California condor (*Gymnogyps californianus*) populations that may utilize habitats in the NCA would be stable or increasing, helping to meet recovery and delisting goals for this species.*

Objectives

~~Native vegetation communities and riparian areas sustain potential roosting sites and a high quality prey base for California condors.~~

Environmental hazards that may affect California condors are reduced or eliminated.

Management Actions - General

Management of habitat would be consistent with the Recovery Plan for the California Condor (USFWS 1996) and Biological Opinions issued by USFWS.

~~Authorize the reintroduction, translocation, and supplemental releases of California condors into historic habitats in coordination with USFWS.~~

[Allow the reintroduction, translocation, and population augmentation of California condors into current or historic habitats in the NCA, in coordination with USFWS, UDWR, Southwest Condor Working Group, American Indian Tribes and local governments, subject to guidance provided by BLM's 6840 policy and by the current Memorandum of Understanding between the USFWS (Regions 2, 6, 8) and Cooperators (USFWS 2015b) or future MOUs.]

Maintain a database of observations of California condors and their prey, should they be observed using the NCA.

Coordinate with partners (e.g., UDWR, National Audubon Society, National Wildlife Federation, [*The Peregrine Fund*]) to promote the use of non-lead ammunition in the NCA.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that educate visitors about California condors and the captive breeding and release programs ongoing on public lands on the Arizona Strip.

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform hunters about the need to use non-lead ammunition to minimize impacts on California condors and other predators and scavengers.

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about the need to pack out food wastes and litter that may cause choking and death when consumed by condors.

Management Actions - Scientific Research

Develop new volunteer opportunities for partners, youth groups, and citizen scientists to assist with collecting observations of California condors in the NCA.

Management Actions - Climate Change Monitoring

Pursue opportunities for research that increases the understanding of ecosystem processes, natural cycles, and anthropogenic factors that may influence the prey base of condors under predicted climate change scenarios.

2.8.14 Special Status Species: Desert Tortoise

Goals

Desert tortoise (*Gopherus agassizii*) populations in the NCA have made measurable progress toward meeting the recovery goals, objectives, and identified criteria for viable populations established by *Recovery Plan for the Mojave Desert Tortoise (USFWS 1994) and the Revised Recovery Plan for the Mojave Desert Tortoise (USFWS 2011)*.

Objectives

Land uses and authorized activities are managed to conserve, protect, and restore habitats to meet the nutritional, metabolic (shade/cover), reproductive, and home range requirements of viable desert tortoise populations.

Ecologically intact core areas of designated critical habitat are conserved and protected from fragmentation and loss of native vegetation communities through appropriate land use allocations and management actions across BLM programs.

Ecological integrity of damaged native vegetation communities is restored through appropriate re-vegetation methods and the control and eradication of noxious weeds and non-native invasive species.

Land uses and authorized activities are managed so that habitats provide ecological diversity and connectivity to create genetic resilience for desert tortoise populations under changing climatic conditions.

Research is supported that increases the knowledge of Mojave desert tortoise life histories and population dynamics in the NCA.

Research is supported that increases the understanding of ecosystem processes, natural cycles, and anthropogenic factors that may influence predicted climate change scenarios.

Management Actions - General

Implement the goals, objectives, and management recommendations identified in the Revised Recovery Plan for the Mojave Desert Tortoise (USFWS 2011) [*or future revisions*], as well as the terms and conditions from the Biological Opinion [*for the approved RMP*] for Beaver Dam Wash NCA to assist recovery and delisting of the desert tortoise. Evaluate the effectiveness of management actions through monitoring and scientific research studies.

Install tortoise barrier fencing along U.S. Highway 91 or other heavily traveled public use roadways in the NCA to minimize tortoise injuries and mortalities caused by motorized vehicles.

Coordinate with Washington County Public Works Department to post speed limits on heavily traveled public roads where tortoise barrier fencing has not been installed to minimize tortoise injuries and mortalities caused by motorized vehicles.

Population Management

~~Authorize the translocation and population augmentation of desert tortoises in consultation with USFWS and UDWR.~~

[Allow the reintroduction, translocation, and population augmentation of desert tortoises into current or historic habitats in the NCA, in coordination with USFWS, UDWR, and local governments, subject to guidance provided by BLM's 6840 policy and by existing or future memoranda of understanding.]

Monitor changes in the relative abundance, health, reproductive success, and distribution of tortoise populations, in partnership with USFWS and UDWR.

Collaborate with USFWS, UDWR, and appropriate USDA agencies on predator control if other management actions have not been successful in reducing documented predation levels that have been shown to be measurably impacting the recovery of viable desert tortoise populations. Require the development of target species-specific predator control

plans supported by NEPA analyses that identify the purpose of and need for action, designate specific goals to be met, and evaluate the least invasive and most ecologically sensitive methods to accomplish those goals.

Habitat Conservation, Protection, and Restoration

Prioritize the acquisition of non-federal lands or interests in critical tortoise habitat within the NCA boundaries from willing land owners through purchase, *[exchange of public lands identified for disposal outside of the NCA boundaries]*, or donation, *[or conservation easement]*.

Whenever possible, acquire both surface and subsurface rights to avoid the creation of split estates.

Acquire conservation easements when such interest would further the goals of recovery and delisting of the desert tortoise or other at-risk species.

Prioritize conservation and protection of critical habitat through firebreaks, appropriate wildfire suppression responses, and control or eradication of noxious weeds and invasive species.

Establish monitoring plots and conduct long-term monitoring using desired plant species frequency, density, and distribution data to evaluate the effectiveness of the vegetation restoration projects.

Require reclamation for activities that result in the loss or degradation of tortoise habitat. Good quality habitat would be restored to as close to pre-disturbance conditions as practicable. Damaged habitats would be improved to good quality through restoration, wherever practicable. Additional mitigation measures may be included in decision documents to offset the loss of quality and quantity of tortoise habitat.

Authorized actions that may result in adverse effects (“incidental take”) of desert tortoises would require implementation of project stipulations including personnel education programs, pre-construction clearances, operational restrictions, and procedures for moving tortoise out of harm’s way.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that educate visitors about Mojave Desert species, their evolutionary adaptations to an arid landscape where surface water is

limited, and the factors that have contributed to the need to list these species under the ESA.

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about appropriate land use etiquette and the need to protect populations and habitats for desert tortoises and other Mojave Desert wildlife. Encourage public land users to pack out food scraps and litter that will attract predators that prey on tortoises, particularly juveniles.

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that educate visitors about the rich biodiversity of the NCA created by the convergence of the Mojave Desert and Great Basin ecosystems.

Management Actions - Scientific Research

Pursue opportunities for scientific studies to determine the level and effects of predation on desert tortoise populations in the NCA.

Pursue opportunities for scientific studies to determine the effects of intensive non-motorized recreation on desert tortoise populations in the NCA.

Pursue opportunities for scientific studies to determine the relative abundance of desert tortoise populations in the NCA.

Pursue opportunities for scientific studies to determine age classes, gender ratios, and the health of desert tortoise populations in the NCA.

Pursue opportunities for scientific studies to determine the effects of livestock grazing on tortoise populations and post-fire native vegetation community recovery.

Management Actions - Climate Change Monitoring

Pursue opportunities for scientific studies to determine the effects of predicted higher winter temperatures on desert tortoise hibernation patterns, using observed changes as an indicator to monitor climate change.

2.8.15 Sensitive Species

Goals

Habitats for aquatic and terrestrial BLM sensitive species support viable, self-sustaining populations that do not require listing under the ESA.

Objectives

Land uses and authorized activities on public lands are managed to conserve, protect, and restore habitats to meet the nutritional, metabolic (shade/cover), reproductive, and home range requirements of sensitive species populations in the NCA.

Ecologically intact core areas of sensitive species habitats are conserved and protected from fragmentation and loss of native vegetation communities through appropriate management actions across all BLM programs.

Ecological integrity of damaged native vegetation communities is restored, through appropriate re-vegetation methods and control and eradication of noxious weeds and invasive non-native species.

Land uses and authorized activities on public lands are managed so that habitats provide ecological diversity and connectivity to create resiliency for sensitive species populations under changing climate conditions.

Research is supported that increases the amount of baseline data related to sensitive species that occupy and/or utilize the NCA.

Research is encouraged that informs the management of habitats for at-risk species under predicted climate change scenarios.

Management Actions - General

Implement the goals, objectives, and management recommendations that apply to public lands from Executive Orders, Conservation Agreements and Strategies, and BLM policies. Evaluate the effectiveness of management actions through monitoring and scientific research studies.

Continue active management programs to inventory, monitor, protect, and restore habitats for sensitive species, control detrimental non-native species, and re-establish extirpated populations, as necessary, to maintain biodiversity.

Apply BMPs and other management techniques designed to minimize impacts on critical habitats as a result of land uses, authorized activities, and habitat restoration actions.

Population Management

Authorize *[Allow]* the reintroduction, translocation, and population augmentation of native sensitive species into historical and current habitats, in consultation with UDWR, to restore populations and enhance or maintain current populations, distributions, and genetic diversity.

Monitor the long term success of the population actions and use Adaptive Management Strategies to improve desired outcomes.

Monitor changes in relative abundance and distribution of sensitive species populations in the NCA, in partnership with UDWR.

Collaborate with UDWR and appropriate USDA agencies on predator control, if other management actions have not been successful in reducing documented predation levels that have been shown to be measurably impacting the recovery of viable populations of sensitive species. Require the development of target species-specific predator control plans, supported by NEPA analyses that identify the purpose of and need for action, designate specific goals to be met, and evaluate the least invasive and most ecologically sensitive methods to accomplish those goals.

Habitat Conservation, Protection, and Restoration

Only authorize new land uses in sensitive species habitats if reasonable alternative locations outside of these habitats do not exist and impacts to species populations and habitats can be mitigated.

Maintain habitat connectivity, migration routes, and movement corridors through project placement, design, and permit stipulations to support sensitive species persistence, adaptation, and overall biodiversity under changing climate conditions.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that educate visitors about sensitive species, their evolutionary adaptations, and the factors that have contributed to declining populations.

Management Actions - Scientific Research

Pursue opportunities for scientific studies to determine the relative abundance of sensitive species populations in the NCA.

Pursue opportunities for scientific studies to determine age classes, gender ratios, and the health of sensitive species populations in the NCA.

Pursue opportunities for scientific studies to determine the level and effects of predation on sensitive species populations in the NCA.

Management Actions - Climate Change Monitoring

Pursue opportunities to establish a long-term monitoring program to detect changes in seasonal migrations patterns (arrival and departure dates) of selected migratory bird species as potential indicators of climate change.

2.8.16 Sensitive Native Fish Species

Goals

Aquatic habitats in Beaver Dam Wash support stable or increasing populations of BLM sensitive fish species including Virgin spinedace (*Lepidomeda mollispinis*) and desert sucker (*Catostomus clarki*), helping to ensure that neither of these species requires listing under the ESA.

Objectives

Aquatic habitat in the Beaver Dam Wash on public lands provides interspersed pools, runs, and riffles of clear, cool water of sufficient quality and quantity to support viable populations of Virgin spinedace and desert sucker.

Non-native invasive fish species are eradicated in Beaver Dam Wash.

Research is supported that increases baseline data related to Virgin River native fish in the NCA.

Research is encouraged that informs the management of aquatic habitats for at-risk species under predicted climate change scenarios.

Management Actions - General

Management actions will be guided by the *Virgin River Fishes Recovery Plan* (USFWS 1995), *Virgin River Resource Management Plan and Recovery Program* (USFWS 2000) and *Fish and Wildlife 2000: Special Status Fish Habitat Management* (BLM 1991), *the 1995 Virgin River Fishes Recovery Plan*, and *the 1995 Virgin Spinedace Conservation Agreement and Strategy*.

[BLM will provide appropriate support to active partners in the *Virgin River Fishes Recovery Team*.]

Assist with monitoring efforts for Virgin spinedace and desert sucker populations in cooperation with UDWR and the partners of the Virgin River Recovery Program.

Authorize [Allow] the reintroduction, translocation, and population augmentation of Virgin spinedace and desert sucker into suitable habitats in the NCA.

Assist with eradication of non-native invasive fish species in cooperation with UDWR and the partners of the Virgin River Recovery Program.

Pursue acquisition of non-federal lands within the NCA that would benefit the conservation, protection, and restoration of aquatic habitats.

Monitor land uses and authorized activities in Beaver Dam Wash, such as livestock grazing, recreation, and casual prospecting, that have the potential to degrade water quality, damage riparian vegetation, and collapse stream banks that provide shade and cover for aquatic species.

Restrict, modify, or eliminate any land uses and authorized activities that are shown to degrade aquatic habitat in the Beaver Dam Wash.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues both off-site and along Beaver Dam Wash within the NCA (e.g., trailhead kiosks) that educate visitors about Virgin spinedace and desert sucker, their evolutionary adaptations, and the factors that are contributing to declining populations.

Management Actions - Scientific Research

Pursue opportunities to increase the amount of baseline data and scientific knowledge related to the specific habitat requirements of native fish of Beaver Dam Wash.

Management Actions - Climate Change Monitoring

Pursue opportunities to collect data on changing precipitation patterns in the Beaver Dam Wash watershed that have the potential to impact aquatic habitats under predicted climate change scenarios.

2.8.17 BLM Sensitive Raptor Species

Goals

Diverse raptor populations that utilize the NCA are viable or increasing and do not require listing under the ESA. BLM sensitive raptor species present in the NCA include: bald eagle (*Haliaeetus leucocephalus*), burrowing owl (*Athene cunicularia*), ferruginous hawk (*Buteo regalis*), northern goshawk (*Accipiter gentilis*), and short eared owl (*Asio flammeus*).

Objectives

Land uses and authorized activities on public lands are managed to conserve, protect, and restore habitats to meet the nutritional, metabolic (shade/cover/perching), reproductive, and home range requirements of diverse species of raptors.

Habitats for raptors provide high quality roosting and nesting sites and diverse prey base, thereby sustaining viable populations of these species.

Environmental hazards that could impact raptors are minimized.

Research is supported that increases the amount of baseline data related to all species of raptors and the prey base that they utilize in the NCA.

Management Actions - General

Monitor potential habitat for raptors and maintain a database of raptor observations.

Authorize [Allow] the reintroduction, transplantation, and population augmentation of bald eagles, ferruginous hawks, northern goshawks, and short eared owls where doing so would not be detrimental to the viability of other native species.

[Actions that may adversely impact breeding, nesting, and roosting raptors will be subject to seasonal restrictions and spatial buffers, based on guidance found in *Utah Field Office Guidance for Raptor Protection from Human and Land Use Disturbances* (Romin and Muck 2002).]

Authorize [Allow] the population augmentation of burrowing owls and the installation of artificial nest burrows where doing so would not be detrimental to the viability of other native species.

Maintain a geospatially linked database of observations of diverse raptors and their prey.

Coordinate with partners (e.g., UDWR, National Audubon Society, National Wildlife Federation) to promote the use of non-lead ammunition in the NCA.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that educate the public about raptors and their role in the ecosystems of the NCA.

Management Actions - Scientific Research

Pursue opportunities to collect baseline observational data on raptor species that occur in the NCA and develop location maps of nesting and roosting sites, as well as information on the prey base for each species.

Pursue opportunities for scientific studies related to the diversity, abundance, and distribution of small mammals that comprise the prey base for raptors, carnivores, and other predatory species, including rodents, desert cottontails (*Sylvilagus audubonii*), and black-tailed jackrabbits (*Lepus californicus*).

Develop new volunteer opportunities for partners, special interest groups, birding enthusiasts, and citizen scientists to assist with observational data collection and habitat mapping for eagles, hawks, falcons, and owls that utilize the NCA.

Management Actions - Climate Change Monitoring

Pursue opportunities for monitoring and research that increases the understanding of ecosystem processes, natural cycles, and anthropogenic factors that may influence the prey base of raptors under predicted climate change scenarios.

2.8.18 Migratory Birds and Birds of Conservation Concern

Goals

Migratory bird species and Birds of Conservation Concern that utilize the NCA do not require listing under the protection of the ESA (see Appendix G for species list).

Objectives

Biologically diverse habitats that provide essential breeding, nesting and roosting sites, space, cover, and food for migratory birds would be conserved, protected, and restored.

Research is supported that increases the amount of baseline data related to all species of migratory birds and their diverse habitat requirements.

Research is encouraged that identifies changes in migration patterns as a potential indicator of climate change.

Management Actions - General

Only authorize actions that would [not] adversely impact nesting migratory birds if they are subject to seasonal restrictions or mitigation requirements.

Minimize disturbances or adverse effects on breeding bird populations that might result from authorized activities through seasonal restrictions, special permit stipulations, or other appropriate mitigation measures.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and at on-site venues along Beaver Dam Wash that educate the public about migratory bird species, the causes for declining populations, and the need to protect riparian habitats and seasonal migration routes.

Promote opportunities for viewing and photographing diverse species of migratory birds through interpretive materials, recreation trails, and special outreach activities such as guided birding hikes along Beaver Dam Wash.

In partnership with the National Audubon Society and others, recruit and train youth groups, citizen stewards, and other volunteers to participate in annual migratory

bird counts in Beaver Dam Wash and elsewhere in the NCA.

Management Actions - Scientific Research

Pursue opportunities to conduct field inventories of riparian areas along the Beaver Dam Wash and Welcome Creek to identify avian species that utilize the NCA.

Pursue opportunities to collect baseline observational data on migratory birds and other avian species and develop location maps of occupied habitats and nesting sites.

Pursue opportunities to conduct systematic inventories of migratory birds that utilize the NCA and evaluate the condition of the preferred habitats for each species.

Develop new volunteer opportunities for partners, special interest groups, birding enthusiasts, and citizen scientists to assist with observational data collection and habitat mapping for migratory birds, Birds of Conservation Concern and Partners in Flight species.

Management Actions - Climate Change Monitoring

Pursue research opportunities that focus on changes in the seasonal migration patterns of selected migratory bird species as potential indicators of climate change.

2.8.19 BLM Sensitive Mammal Species

Goals

Habitats for BLM Sensitive mammal species support viable populations that do not require listing under the ESA. Sensitive mammals present in the NCA include: kit fox (*Vulpes macrotis*), Allen's big-eared bat (*Idionycteris phyllotis*), big free-tailed bat (*Nyctinomops macrotis*), fringed myotis (*Myotis thysanodes*), spotted bat (*Euderma maculatum*), Townsend's big-eared bat (*Corynorhinus townsendii*), and western red bat (*Lasiurus blossevillii*).

Objectives

Habitats for the kit fox provide for a diverse and healthy prey base, as well as sufficient reproductive and home range requirements.

Habitats for sensitive bat species provide high quality maternity and roosting sites, winter hibernacula, and a diverse prey base, thereby sustaining viable populations of these species.

Caves, karst resources, and abandoned mines allow for unimpeded ingress and egress by diverse bat species.

Research is supported that increases the baseline data related to sensitive mammal species and the habitats that they utilize in the NCA.

Management Actions - General

As needed, implement National White Nose Syndrome Decontamination Protocol and BLM IM 2010-181 in the management of habitats for sensitive species bats.

Authorize [Allow] the reintroduction, transplantation, and population augmentation of sensitive mammal species where doing so would not be detrimental to the viability of other native species.

Do not authorize the use of herbicides, pesticides, or poisons that are injurious or toxic to sensitive mammal species, will damage native vegetation communities, or will reduce the quality and quantity of species that comprise their prey base.

Manage caves, karst resources, and abandoned mines to protect bat habitat (e.g., foraging, roosting, maternity sites, winter hibernacula) and reduce the potential spread of contagious diseases, such as White Nose syndrome, in bat populations.

Require the installation of bat-friendly gates in caves and karst features that require access restrictions or closure.

Where appropriate, limit abandoned mine closure methods to the installation of bat-friendly gates for those abandoned mines that provide habitat (e.g., foraging, roosting, maternity sites, winter hibernacula) for bats.

Install bat friendly escape ramps in troughs or other artificial water sources.

[Do not authorize activities that have the potential to disturb bats within a 0.25 mile radius of maternity roost sites and winter hibernacula, including all entrances to caves, karst features, and abandoned mines as recommended by Bat Conservation International (Clawson 2000).

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues both off-site and on, such as at abandoned mines in the Beaver Dam Mountains, to inform visitors about the many sensitive mammal species found in the NCA, as well as their diverse habitats and prey.

Management Actions - Scientific Research

Pursue opportunities for scientific studies to collect population and life history data on the kit fox in the NCA.

Pursue opportunities for scientific studies related to the diversity, abundance, and distribution of small mammals that comprise the prey base for the kit fox.

Pursue opportunities to conduct field inventories of caves, abandoned mines, cliffs, and other suitable habitats to identify all of the bat species that utilize the NCA.

Pursue opportunities to collect baseline observational data on bat species and develop location maps of occupied habitats, hibernacula, and maternity roost sites.

Develop new volunteer opportunities for partners, special interest groups, cave enthusiasts, and citizen scientists to assist with observational data collection and habitat mapping for sensitive mammal species.

2.8.20 BLM Sensitive Reptile and Amphibian Species

Goals

Reptiles and amphibians identified as BLM sensitive species do not require listing under the ESA. Sensitive reptiles and amphibians present in the NCA include the common chuckwalla (*Sauromalus ater*), desert iguana (*Dipsaurus dorsalis*), desert night lizard (*Xantusia vigilis*), Gila monster (*Heloderma suspectum*), Mojave rattlesnake (*Crotalus scutulatus*), sidewinder (*Crotalus cerastes*), speckled rattlesnake (*Crotalus mitchellii*), western banded gecko (*Coleonyx variegatus*), western thread-snake (*Leptotyphlops humilis*), zebra-tailed lizard (*Callisaurus draconoides*), and Arizona toad (*Bufo microscaphus*).

Objectives

Introduced populations would increase to the point of being viable, self-sustaining populations of native endemic reptile and amphibian species.

Biologically suitable habitats would be conserved and protected.

Research is supported that increases the baseline data related to reptiles and amphibians in the NCA.

Research is encouraged that informs the management of reptile and amphibian habitats under predicted climate change scenarios.

Management Actions - General

Authorize [Allow] the reintroduction, transplantation, and population augmentation of Arizona toad, northern leopard frog (*Rana pipiens*), lowland leopard frogs (*Rana yavapaiensis*), and relict leopard frogs (*Rana onca*) to suitable habitat locations, where doing so would not be detrimental to the viability of other native species.

Authorize [Allow] the reintroduction, transplantation, and population augmentation of sensitive reptile species, where doing so would not be detrimental to the viability of other native species.

Do not authorize the use of herbicides, pesticides, or poisons that are injurious or toxic to sensitive reptile or amphibian species, will damage native vegetation communities, or will reduce the quality and quantity of species that comprise their prey base.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues both off-site and along Beaver Dam Wash to inform visitors about the diverse species that occupy these habitats.

Management Actions - Scientific Research

Pursue opportunities to conduct field inventories to identify amphibians and reptiles that are found in springs/seeps, and along Beaver Dam Wash.

Pursue opportunities to increase the amount of baseline data and scientific knowledge related to the life histories, population trends, habitat requirements, and threats to amphibians and reptiles in the NCA to inform the management of aquatic habitats.

2.8.21 Other Fish and Wildlife Habitat Management

Goals

Aquatic and terrestrial habitats support viable populations of diverse native wildlife species and provide for biological diversity, ecological resilience, and species persistence under predicted climate change scenarios.

Objectives

Crucial and substantial habitats for diverse native wildlife species on public lands provide high quality forage or a high quality prey base, as well as water, space, cover, and breeding areas, thereby sustaining viable populations and overall ecosystem biodiversity and resilience.

Multi-species habitat connectivity, migration routes, and movement corridors are conserved and protected between ecological zones to facilitate species persistence, adaptation, and overall biodiversity under predicted climate change scenarios.

Research is supported that increases the amount of baseline data related to all species of wildlife and their diverse habitat requirements.

Research is encouraged that increases general understanding of ecosystem processes and anthropogenic influences on changing climatic conditions.

Management Actions - General

Develop new wildlife waters in collaboration with UDWR in areas where field studies reveal the need for such to maintain healthy, viable populations of mule deer or other game and nongame species. Such waters will be developed in accordance with the objectives and guidelines of applicable game, nongame, and habitat management plans.

Ensure that all existing and proposed artificial wildlife waters include escape ladders or are designed to allow safe access by ~~game birds~~ [wildlife].

Ensure that all new or replacement range-type fencing conforms to BLM specifications that allow safe passage for game and nongame wildlife species.

Authorize [Allow] the reintroduction, translocation, and augmentation of priority native wildlife species populations (as defined in *BLM Manual 1745* or subsequent guidance) into current or historic habitats in the NCA, in coordination with USFWS and UDWR in order to (a) maintain current population numbers, distributions, and genetic diversity, and (b) restore or enhance native species populations.

Desert Bighorn Sheep (*Ovis canadensis nelsoni*)

Manage desert bighorn sheep habitat in the NCA portion of the Beaver Dam Mountains to assist UDWR in achieving long-term herd population goals and objectives.

Implement seasonal restrictions on recreational uses such as climbing or rappelling when monitoring indicates that these are impacting bighorn sheep populations during lambing (March 1 through May 31) and breeding seasons (July 1 through August 31).

Mule Deer (*Odocoileus hemionus*)

Manage mule deer habitat to assist UDWR in achieving long-term herd population goals and objectives.

Restrict dispersed camping to designated sites that do not impede wildlife access to water sources.

Remove unnecessary range-type fencing within the NCA to lessen potential for injuries and entanglement by mule deer, particularly fawns.

Include native vegetation species that benefit mule deer in upland habitat restoration and ES&R projects.

Gambel's Quail (*Callipepla gambelii*), Mourning Dove (*Zenaida macroura*), and Other Game Birds

Include native vegetation species that provide forage, cover, and nesting opportunities for quail and other game birds in habitat restoration and ES&R projects.

Ensure that all existing and proposed livestock water troughs include escape ladders for game birds.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that educate visitors about the diverse fish and wildlife species of the NCA.

Enhance opportunities for public viewing and photographing of bighorn sheep, mule deer, game birds, and other wildlife through special outreach activities such as guided wildlife photography hikes.

Authorize documentary and educational filming of wildlife through film permits, consistent with the Congressionally-defined purposes of conservation, protection, and restoration of resource values on public lands in the NCA.

Management Actions - Scientific Research

Pursue opportunities for scientific studies to collect population and life history data on carnivore species, such as mountain lion (*Puma concolor*) and bobcat (*Lynx rufus*), in the NCA.

Pursue opportunities for scientific studies related to the diversity, abundance, and distribution of small mammals that comprise the prey base for raptors, carnivores, and other predatory species, including rodents, desert cottontails, and black-tailed jackrabbits.

Management Actions - Climate Change Monitoring

Pursue opportunities to identify key riparian connectivity zones within and outside the NCA that will facilitate wildlife movement under predicted changes in seasonal precipitation patterns and increased ambient temperatures.

2.8.22 Heritage Resources**Goals**

Heritage resources are conserved, protected, and restored for the benefit of present and future generations, consistent with the mandates from OPLMA.

Objectives

Heritage resources currently documented or [*that may be documented*] ~~projected to occur~~ in the NCA are

allocated and managed to the Use Allocations (as defined by BLM Manual Section 8110.42 and Land Use Planning Handbook H-1601-1) that are consistent with the legislative mandates from OPLMA for the NCA: Scientific Use, Conservation for Future Use, Public Use, and Traditional Use.

Heritage resources of scientific interest currently documented or [*that may be documented*] ~~projected to occur~~ in the NCA are not allocated to Experimental Use or Discharged from Management, as these would not be consistent with the Congressionally-designated purposes for the NCA, as they relate to cultural and historical resources. See Table 2-1 for descriptions of each Use Allocation category.

Public awareness and appreciation of heritage resources is enhanced through education and volunteer stewardship opportunities.

Appropriate heritage resource sites or groups of sites are nominated for inclusion in the National Register of Historic Places (NRHP), whenever warranted.

The integrity of setting is conserved, protected, and restored in areas where natural and cultural resources combine to form an important heritage landscape.

Management Actions - General

As required by federal historic preservation laws, continue consultations with [*among the*] BLM, [*the Advisory Council on Historic Preservation (ACHP)*], the Utah State Historic Preservation Officer (SHPO), American Indian Tribes, [*applicants for federal assistance, permits, licenses or other approvals, representatives of local governments,*] and other interested parties to inform ~~and direct~~ management decisions related to heritage resources.

Manage properties recommended as “potentially eligible” for inclusion in the NRHP as “eligible properties” until evaluative testing determines the status of that resource.

Complete implementation-level Cultural Resource Project Plans whenever warranted, in consultation with Utah SHPO, American Indian Tribes, and other interested parties.

Conduct regular site monitoring and site condition assessments utilizing BLM staff and trained volunteer Site Stewards.

Prehistoric Habitation Sites, Campsites, or Specialized Activity Areas

Allocate and manage 100% of these NRHP-eligible site types for Scientific Use, Conservation for Future Use, Public Use, and/[or] Traditional Use.

General Management Actions:

Protect sites from impacts related to authorized uses and unauthorized activities (e.g., vandalism) through installations of physical barriers (e.g., fencing, plantings) or other management actions.

Stabilize sites where erosion and/or vandalism threaten loss of site integrity and data.

Install informational signing on site etiquette and ARPA where evidence of public use exists.

Evaluate risks at fire-susceptible sites and remove hazardous fuels where threat of site damage or loss to wildfire exists.

Prohibit geocaching in prehistoric habitation sites, campsites, or specialized activity areas.

Scientific Use

Authorize data recovery excavations under appropriate research designs that emphasize conservation of site resources for future use, as well as Native American and public involvement in the research.

Conservation for Future Use

Do not authorize activities or research studies that will directly impact the integrity and information potential of sites.

Public Use

Complete implementation-level plans (e.g., Cultural Resource Project Plans, Recreation Management Plans, Interpretation Plans) to direct management of Public Use sites that may contain one or more of the actions listed below:

- Develop on and off-site interpretation for intensively visited Public Use sites;
- Install visitor registers at intensively visited Public Use sites;
- Install on-site informational signing on site etiquette and ARPA;
- Perform surface collection of artifacts on all sites allocated to Public Use;
- Prioritize Class III inventory in areas adjacent to Public Use sites.

Complete implementation-level Cultural Resource Project Plans, in consultation with culturally-affiliated American Indian Tribes to direct management of Traditional Use sites.

Rock Shelters, Alcoves, and Caves with Cultural Materials

Allocate and manage 100% of these NRHP-eligible sites for Scientific Use, Conservation for Future Use, and Traditional Use.

Allocate and manage 100% of rock shelters, alcoves, and caves identified as Sacred Sites for Conservation for Future Use and [or] Traditional Use.

Allocate and manage identified Traditional Cultural Properties for Traditional Use.

General Management Actions:

Prioritize Class III inventory in areas with high potential for this site type to occur.

Conduct regular site monitoring, utilizing BLM staff and trained volunteer Site Stewards.

Protect sites from impacts related to authorized uses and unauthorized activities (e.g., vandalism) through installations of physical barriers (e.g., fencing, plantings) or other management actions.

Stabilize sites where erosion and/or vandalism threaten loss of site integrity and data.

Install informational signing on site etiquette and ARPA where evidence of public use exists.

Prohibit geocaching in all Rock Shelters, Alcoves, and Caves with Cultural Materials.

Scientific Use

Authorize data recovery excavation with appropriate research design which maximizes conservation of the site resources for future use and Native American and public involvement in the research.

Complete NRHP nominations for Scientific Use sites on a priority basis as identified in Cultural Resource Project Plans.

Conservation for Future Use

Do not authorize activities or research studies that will directly impact the integrity and information potential of sites.

Traditional Use

Complete implementation-level Cultural Resource Project Plans, in consultation with culturally-affiliated American Indian Tribes.

Toolstone Sources or Quarries

Allocate and manage 100% of these NRHP-eligible sites for Scientific Use, Conservation for Future Use, and [or] Public Use.

General Management Actions:

Install informational signing on site etiquette and ARPA where evidence of public use exists.

Prioritize Class III inventory in areas with high potential for this type of site to occur.

Develop Cultural Resource Project Plans that include management direction related to the collection of non-artifact geologic materials from source/quarry locations.

Scientific Use

Authorize data recovery excavations under appropriate research designs that emphasize conservation of site resources for future use, as well as Native American and public involvement in the research.

Conservation for Future Use

Do not authorize activities or research studies that will directly impact the integrity and information potential of sites.

Public Use

Complete implementation-level plans (e.g., Cultural Resource Project Plans, Recreation Management Plans, Interpretation Plans) to direct management of Public Use sites that may contain one or more of the actions listed below:

- Develop on and off-site interpretation for intensively visited Public Use sites;
- Install visitor registers at intensively visited Public Use sites;
- Install on-site informational signing on site etiquette and ARPA;
- Perform surface collection of artifacts on all sites allocated to Public Use;
- Prioritize Class III inventory in areas adjacent to Public Use sites.

Rock Art Sites

Allocate and manage 100% of NRHP-eligible sites for Scientific Use, Conservation for Future Use, Public Use, and [or] Traditional Use.

Allocate and manage rock art sites with evidence of public visitation for Scientific Use, Public Use, and [or] Traditional Use.

Allocate and manage rock art sites with no evidence of public visitation for Conservation for Future Use and [or] Traditional Use.

Allocate and manage rock art sites identified as Sacred Sites for Conservation for Future Use and [or] Traditional Use.

General Management Actions:

Prioritize Class III inventory in areas with high potential for this site type to occur.

Conduct regular site monitoring, utilizing BLM staff and trained volunteer Site Stewards.

Professionally document all rock art sites by photographing, mapping, and developing detailed measured drawings of all elements and cultural materials using the best available technology.

Manage all rock art sites as “eligible properties” for inclusion in the NRHP.

Protect sites from impacts related to authorized uses and unauthorized activities (e.g., vandalism) through installations of physical barriers (e.g., fencing, plantings) or other management actions.

Stabilize sites where erosion and/or vandalism threaten loss of site integrity and data.

Install informational signing on site etiquette and ARPA where evidence of public use exists.

Evaluate risks at fire-susceptible sites and remove hazardous fuels where threat of site damage or loss to wildfire exists.

Prohibit geocaching in all Rock Art Sites.

Scientific Use

Authorize data recovery excavations under appropriate research designs that emphasize conservation of site resources for future use, as well as Native American and public involvement in the research.

Authorize surface collection of artifacts under the authority of ARPA if warranted by threats of loss or destruction.

Conservation for Future Use

Do not authorize activities or research studies that will directly impact the integrity and information potential of sites.

Public Use

Complete implementation-level plans (e.g., Cultural Resource Project Plans, Recreation Management Plans, Interpretation Plans) to direct management of Public Use sites that may contain one or more of actions listed below:

a) Develop on and off-site interpretation for intensively visited Public Use sites;

b) Install visitor registers at intensively visited Public Use sites;

c) Install on-site informational signing on site etiquette and ARPA;

d) Perform surface collection of artifacts on all sites allocated to Public Use;

e) Prioritize Class III inventory in areas adjacent to Public Use sites;

f) Develop trails, viewing platforms, passive barriers, or other facilities to manage visitor uses and protect resource values at intensively visited Public Use sites.

Traditional Use

Complete implementation-level Cultural Resource Project Plans, in consultation with culturally-affiliated American Indian Tribes.

Ethno-historic Sites, Sacred Sites, Traditional Cultural Properties, Traditional Use Areas

Allocate and manage 100% of NRHP-eligible ethno-historic sites for Scientific Use, Conservation for Future Use, Public Use, and/or Traditional Use.

Allocate and manage 100% of Traditional Cultural Properties and Traditional Use Areas [identified by the Agency Official] for Conservation for Future Use and [or] Traditional Use.

Allocate and manage 100% of sites identified as Sacred Sites for Conservation for Future Use and/or Traditional Use.

General Management Actions:

Develop detailed site records of all identified ethno-historic sites, Sacred Sites, Traditional Cultural Properties, and Traditional Use Areas.

Protect sites from impacts related to authorized uses and unauthorized activities (e.g., vandalism) through installations of physical barriers (e.g., fencing, plantings) or other management actions.

Conduct regular site monitoring, utilizing BLM staff and trained volunteer Site Stewards.

Stabilize sites where erosion and/or vandalism threaten loss of site integrity and data.

Install informational signing on site etiquette and ARPA where evidence of public use exists.

Evaluate risks at fire-susceptible sites and remove hazardous fuels where threat of site damage or loss to wildfire exists.

Prohibit geocaching in all Ethno-historic Sites, Sacred Sites, Traditional Cultural Properties, and Traditional Use Areas.

Scientific Use

Authorize data recovery excavations under appropriate research designs that emphasize conservation of site resources for future use, as well as Native American and public involvement in the research.

Authorize surface collection of artifacts under the authority of ARPA if warranted by threats of loss or destruction.

Conservation for Future Use

Do not authorize activities or research studies that will directly impact the integrity and traditional heritage values of sites.

Traditional Use

Complete implementation-level Cultural Resource Project Plans, in consultation with culturally-affiliated American Indian Tribes.

Historic Roads, Trails, Highways, and Associated Travel-related Sites and Features

Allocate and manage 100% of these NRHP-eligible properties for Scientific Use, Conservation for Future Use, and [or] Public Use.

General Management Actions:

Complete Class III level inventory of the travel corridor for each site to establish baseline data on linear heritage resources and associated travel-related sites and features.

Protect sites from impacts related to authorized uses and unauthorized activities (e.g., vandalism) through installations of physical barriers (e.g., fencing, plantings) or other management actions.

Conduct regular site monitoring, utilizing BLM staff and trained volunteer Trail Stewards.

Stabilize sites where erosion and/or vandalism threaten loss of site integrity and data.

Prohibit geocaching in all Associated Travel-related Sites and Features.

Scientific Use

Authorize surface collection of artifacts under the authority of ARPA if warranted by threats of loss or destruction.

Prepare an historic context for each resource as prioritized by Cultural Resource Project Plans.

Conservation for Future Use

Do not authorize activities or research studies that will directly impact the integrity and information potential of sites.

Emphasize conservation of setting in management actions identified in Cultural Resource Project Plans.

Public Use

Complete implementation-level plans (e.g., Cultural Resource Project Plans, Recreation Management Plans, Interpretation Plans) to direct management of Public Use sites that may contain one or more of the actions listed below:

- Develop on and off-site interpretation for intensively visited Public Use sites;
- Install visitor registers at intensively visited Public Use sites;
- Install on-site informational signing on site etiquette and ARPA;
- Install roadside markers and directional signing;
- Prepare visitor use maps and driving, biking, and hiking guides;
- Construct pullouts and wayside exhibits with visitor amenities (e.g., restrooms, information kiosks), where appropriate.

Historic Mining, Ranching/Farming/Livestock Grazing Sites, Buildings, Standing Structures, and Landscapes

Allocate and manage 100% of NRHP-eligible sites for Scientific Use, Conservation for Future Use, and [or] Public Use.

General Management Actions:

Complete appropriate scale Class III level inventory to identify all associated sites, features, and structures.

Protect sites from impacts related to authorized uses and unauthorized activities (e.g., vandalism) through

installations of physical barriers (e.g., fencing, plantings) or other management actions.

Stabilize sites where erosion and/or vandalism threaten loss of site integrity and data.

Conduct regular site monitoring, utilizing BLM staff and trained volunteer Trail Stewards.

Evaluate risks at fire-susceptible sites and remove hazardous fuels where threat of site damage or loss to wildfire exists.

Scientific Use

Authorize surface collection of artifacts under the authority of ARPA if warranted by threats of loss or destruction.

As prioritized by Cultural Resource Project Plans:

- Complete an intensive archaeological inventory of the resources to collect baseline data;
- Collect oral histories;
- Prepare an historic context for each site;
- Develop photo documentation of historic buildings, structures, features, and landscapes;
- Complete Level 1 Historic American Building Survey (HABS) documentation, including elevations, plans, measured drawings, photos;
- Complete appropriate level Historic American Landscape Survey (HALS) documentation, where warranted.

Conservation for Future Use

Emphasize conservation of setting in management actions identified in Cultural Resource Project Plans.

Perform stabilization and/or rehabilitation of buildings or standing structures as prioritized by Cultural Resource Project Plans.

Public Use

Complete implementation-level plans (e.g., Cultural Resource Project Plans, Recreation Management Plans, Interpretation Plans) to direct management of Public Use sites that may contain one or more of actions listed below:

- Develop on and off-site interpretation for intensively visited Public Use sites to increase public awareness and appreciation of historic period mining, ranching and agricultural activities in the NCA;

b) Install visitor registers at intensively visited Public Use sites;

c) Install on-site informational signing on site etiquette and ARPA;

d) Perform surface collection of artifacts on all sites allocated to Public Use;

e) Prioritize Class III inventory in areas adjacent to Public Use sites.

Management Actions - Public Education and Interpretation

Develop heritage tourism sites focusing on appropriate types of sites that have been identified for Public Use.

Sponsor educational programs for school groups, civic organizations, elected officials, and public land user groups that increase public appreciation for the unique and irreplaceable heritage resources of the NCA.

Sponsor trainings and information dissemination to youth and scout groups, recreational user groups, and the general public about programs like Tread Lightly and Leave No Trace that help to protect heritage resources.

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites, educational programs, school curriculum) focused on heritage resources and appropriate site etiquette when visiting Public Use sites.

Promote opportunities for volunteer involvement in Site Stewardship and Docent programs that increase public awareness of the need to conserve and protect heritage resources.

Recruit and train youth and veteran groups, citizen stewards, and other volunteers to participate in site clean-up and restoration, as well as archaeological inventory and data recovery projects that enhance public understanding of regional cultural history and the heritage values of the NCA.

Management Actions - Scientific Research

Scientific research is encouraged that improves baseline knowledge and general understanding of cultural and historical resources of the NCA.

Research will be authorized at sites allocated to Scientific Use, as described above by the specific type of site.

Management Actions - Climate Change Monitoring

Pursue opportunities for scientific research studies at sites allocated to Scientific Use to collect paleo-environmental data that can serve as a baseline for comparison with modern climate trends.

2.8.23 National Historic Trails (Old Spanish National Historic Trail)

Goals

Fulfill the conservation and public purposes for which Congress designated the OST to the National Trails System through Public Law 107-325 in 2002.

Objectives

Establish an OST National Historic Trail Management Corridor that provides diverse opportunities for the public to connect with and experience trail history and resources.

Manage the OST National Historic Trail Management Corridor to identify, conserve, and protect the historic trail and historic remnants and artifacts for their historic, scientific, educational, interpretive, and recreational values.

Manage the OST National Historic Trail Management Corridor to conserve and protect the associated visual setting and natural landscape elements that are evocative of the period of trail significance and contribute to resource protection.

Manage the OST National Historic Trail Management Corridor to restore altered natural landscape elements of the associated setting to trail-era condition.

Enhance opportunities for shared OST stewardship through partnerships with the Old Spanish Trail Association, American Indian Tribes, state, county, and municipal governments, private landowners, and other groups and organizations.

Management Actions - General

“Subject to valid existing rights, all Federal land located in the NCA, including any land subsequently acquired by the United States, is withdrawn from all forms of entry, appropriation, and disposal under the public land laws and entry and patenting under the mining laws” (OPLMA Section 1975).

“Any land or interest in land that is located in the National Conservation Area that is acquired by the United States shall (1) become part of the National Conservation Area; and be (2) managed in accordance with the Federal Land Policy and Management Act of 1976 (U.S.C. 1701 et seq.; OPLMA Section 1975; and any other applicable laws (including regulations)” (OPLMA Section 1975 (f)).

Public lands within a National Trail Management Corridor will be retained in federal ownership, in

accordance with Section 203 of FLPMA, as classified in accordance with 43 CFR 2420.

Do not authorize commercial renewable energy (e.g., wind, solar) leases or ROWs in the NCA.

Existing ROWs will be maintained in accordance with the respective ROW grant or other applicable authorization.

As funding and staffing permit, conduct inventories in the NCA to identify the historic trail and historic remnants and artifacts and the associated visual setting and natural landscape elements that are evocative of the period of trail significance and contribute to resource protection.

Management Actions - Specific

Establish the OST National Historic Trail Management Corridor, comprised of approximately 12,506 acres of public land in the NCA (Map 2-2).

Designate the OST National Historic Trail Management Corridor (12,506 acres) as VRM Class II.

Prior to completion of the TMP, OHV area designations for the OST National Historic Trail Management Corridor would be as follows:

Open to Cross Country OHV use: 0 acres

Limited to Existing Routes: 0 acres

Limited to Designated Routes: 12,506 acres

Closed to OHV use: 0 acres

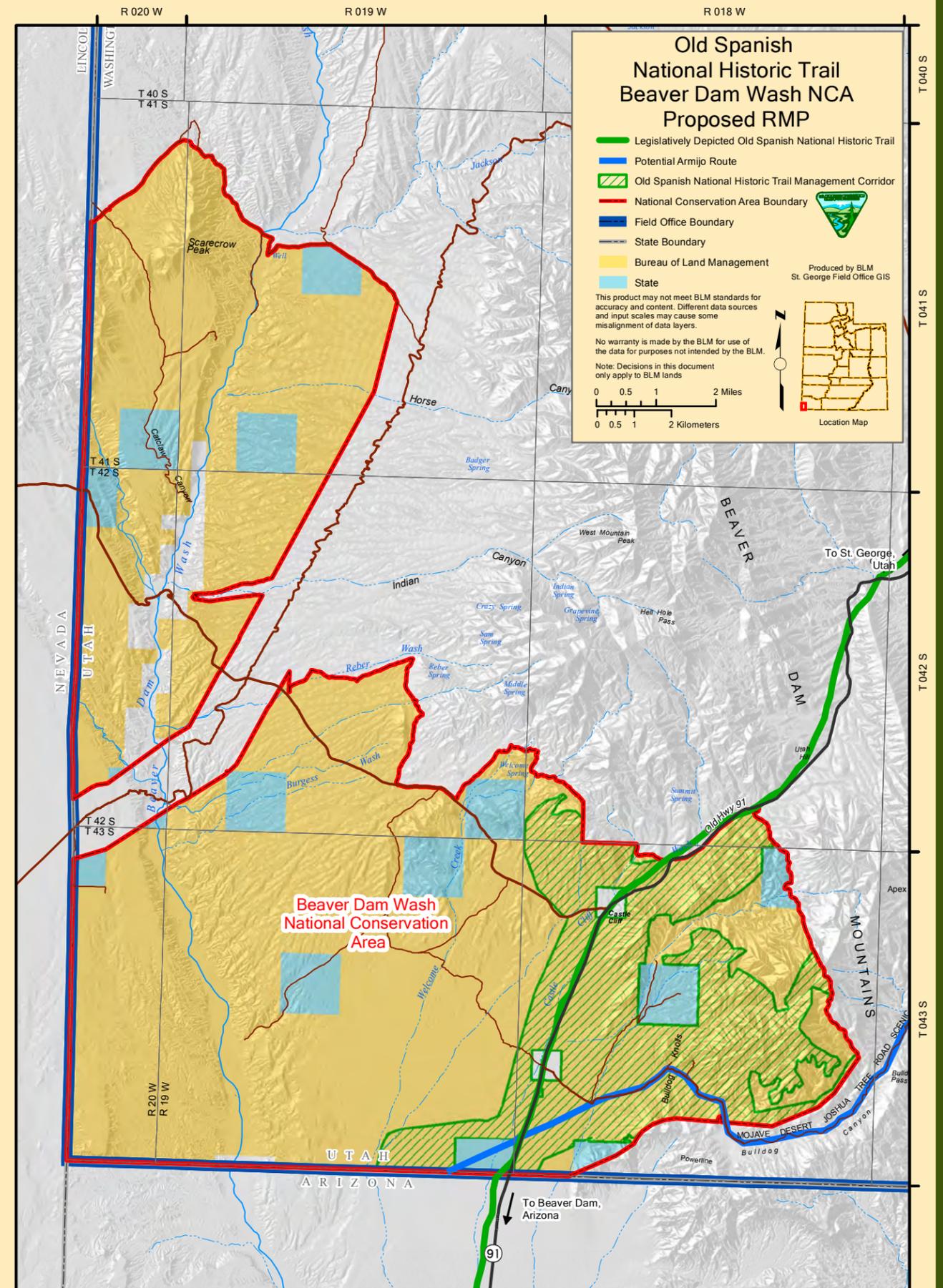
Following completion of the TMP, manage the 12,506 acre OST National Historic Trail Management Corridor as Limited to Designated Routes for OHV use.

Manage for heritage tourism and auto touring along Old Highway 91 and along the Mojave Desert—Joshua Tree Scenic By-way, providing interpretation at Welcome or Orientation pullouts and/or wayside exhibits.

With partners (e.g., user groups, trail organizations), design and construct a non-motorized trail to provide retracement opportunities within the OST National Historic Trail Management Corridor along Old Highway 91 and the Mojave Desert-Joshua Tree Scenic By-Way.

To improve the naturalness of the setting and the visitor experience of the landscape, all identified social trails and redundant routes within [the] OST National Historic Trail Management Corridor would be closed and rehabilitated with native vegetation to trail-era conditions.

To improve the naturalness of the setting and the visitor experience of the landscape, restore fire-damaged



landscapes within [the] OST National Historic Trail Management Corridor with native vegetation to trail-era conditions.

Utilize [Use] objectives, processes, and guidance from the Comprehensive Administration [Administrative] Strategy for the Old Spanish National Historic Trail to direct future studies and associated site and route segment-specific management plans.

2.8.24 Joshua Tree National Natural Landmark

Goals

Fulfill the conservation and public purposes for which National Park Service (NPS) registered the Joshua Tree National Natural Landmark (NNL) to the national system in 1966.

Objectives

Native perennial and annual communities exhibit species diversity, suitable canopy cover, plant density, and age class diversification appropriate to each ecological site type.

Minimize loss to wildfire of late-successional desert shrublands (e.g., Joshua tree woodlands, blackbrush communities), perennial understory vegetation, and soil crusts through management actions to prevent wildfires, appropriately wildfire suppression, and control or eradication of non-native invasive annual grass species.

Research is supported that increases the understanding of ecosystem processes (e.g., vegetation succession), cycles (e.g., fire return, nutrient cycles), and anthropogenic factors (e.g., livestock grazing, recreation) that affect vegetation communities and that may influence climate change.

Public awareness, appreciation, and stewardship of Joshua trees and other native vegetation are enhanced through education, interpretation, and volunteer stewardship opportunities.

Management Actions - General

Continue to monitor the Joshua tree community and other native vegetation in the NNL in partnership with NPS.

Coordinate with NPS to revoke the NNL registration at its current location (Map 2-3) and identify an area within the NCA that better exemplifies an undamaged mature Joshua tree community for registration by NPS to the NNL System.

Designate the NNL as VRM Class II. Allow construction of facilities that support interpretive opportunities.

Manage the NNL as an Exclusion area for all types of ROWs.

Manage the NNL for public visitation targeting [emphasizing] nature photography, hiking, and horseback riding.

Close and rehabilitate social trails within NNL to improve the naturalness of the setting and the visitor experience of the Mojave Desert landscape.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about the resource values of the NNL and appropriate public land use etiquette to protect native vegetation communities and prevent wildfires.

Management Actions - Scientific Research

Pursue opportunities for studies of post-fire recruitment of Joshua trees in the NNL.

Pursue opportunities for studies of the distribution and abundance of yucca moths, native bees, and other pollinators in the NNL.

2.8.25 Visual Resource Management (VRM)

Goals

The open spaces, natural aesthetics, and scenic vistas of the NCA are protected for social, economic, and environmental benefits.

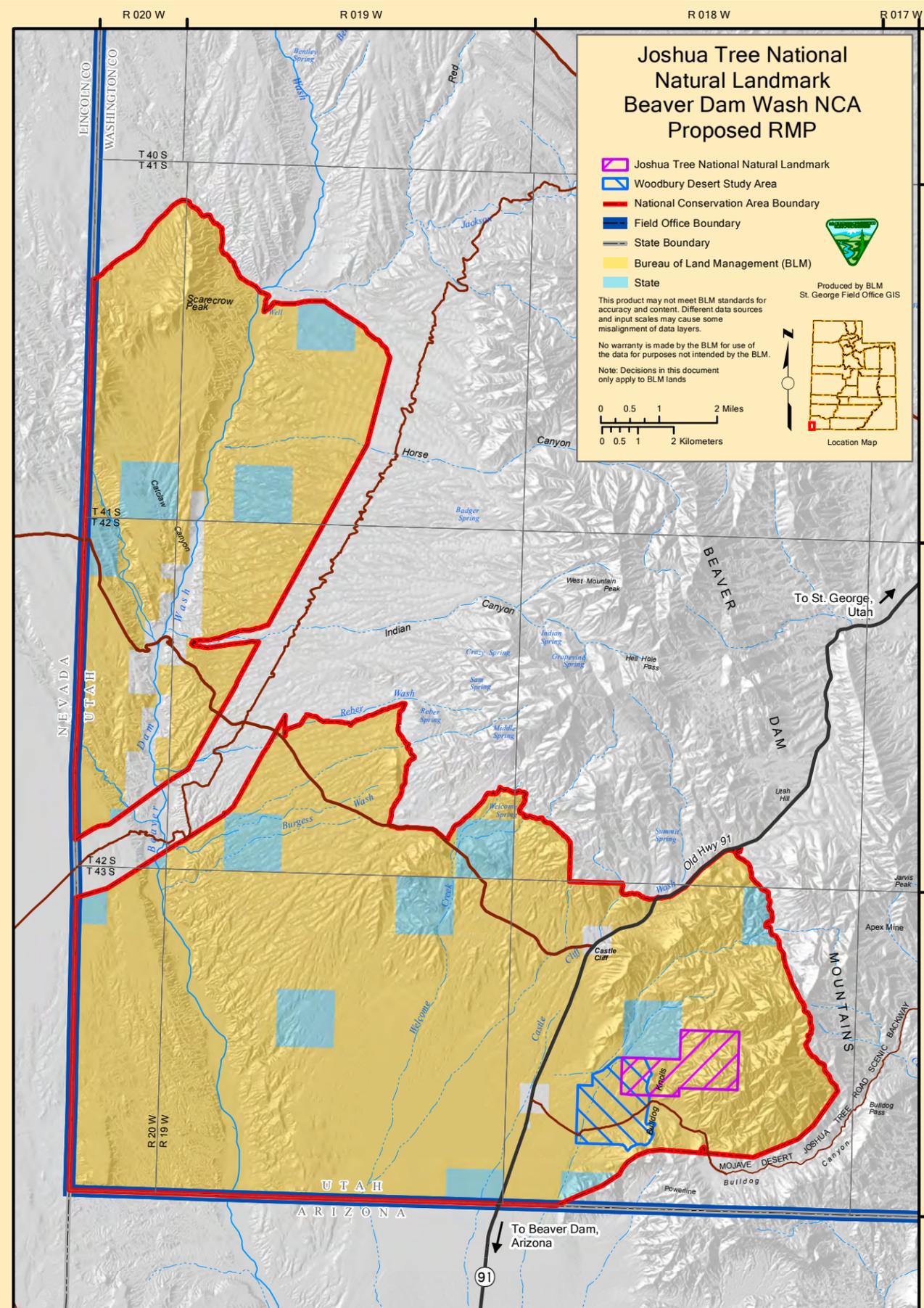
Objectives

Visual quality and integrity are maintained in accordance with established VRM Class criteria:

Class I Objective: The existing character of the landscape is preserved. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

Class II Objective: The existing character of the landscape is retained. The level of change to the characteristic landscape should be low. Changes can be seen but should not attract the attention of the casual viewer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Class III Objective: The existing character of the landscape is partially retained. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer.



Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Class IV Objective: *Not applicable to the NCA. [To provide for management activities that require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements found in the predominant natural features of the characteristic landscape.]*

Management Actions - General

Use architectural design standards that create a unique and recognizable identity for the NCA. The standards would include, but are not limited to: fencing design, signage requirements, vegetative screening, siting requirements, and the height, shape, and color of proposed structures.

Incorporate visual and architectural design considerations during the project design phase for all new surface disturbing projects or activities, regardless of size or potential impact.

Use the best available technology to minimize light emissions from all authorized facilities.

Reduce or prevent impacts to night skies through the application of specific mitigation measures. These measures could include, but are not limited to: directing all light emissions downward, using shielded light sources, using only the minimum illumination necessary, using light sources less prone to atmospheric scattering, and using circuit timers or motion sensors.

Manage the NCA as follows:

- VRM Class I: 0 acres
 - VRM Class II: 63,480 acres
 - VRM Class III: 0 acres
 - VRM Class IV: 0 acres
- (Map 2-4)

2.4.26 Natural Soundscapes

Goals

Public land users can experience natural soundscapes in the NCA.

Objectives

Land uses and authorized activities are managed to conserve and protect natural soundscapes.

Management Actions - General

Identify and provide opportunities for visitors to enjoy the atmosphere of peace and tranquility afforded by the natural soundscapes of the NCA.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites, educational programs, school curriculum) focused on increasing public awareness of natural quiet and the benefits of protecting natural soundscapes where they are present in the NCA.

Management Actions - Scientific Research

Identify appropriate acoustic monitoring locations in the NCA using established protocols.

Install sound level meters and supporting hardware to collect, analyze, and determine the levels and types of natural sounds in the NCA and to identify potential anthropogenic sources of soundscape impacts.

2.8.27 Recreation and Visitor Services

Goals

High quality sustainable recreation opportunities and visitor services are provided. Those opportunities support the quality of life of NCA visitors as well as local communities, regional economies and the resource values of the NCA.

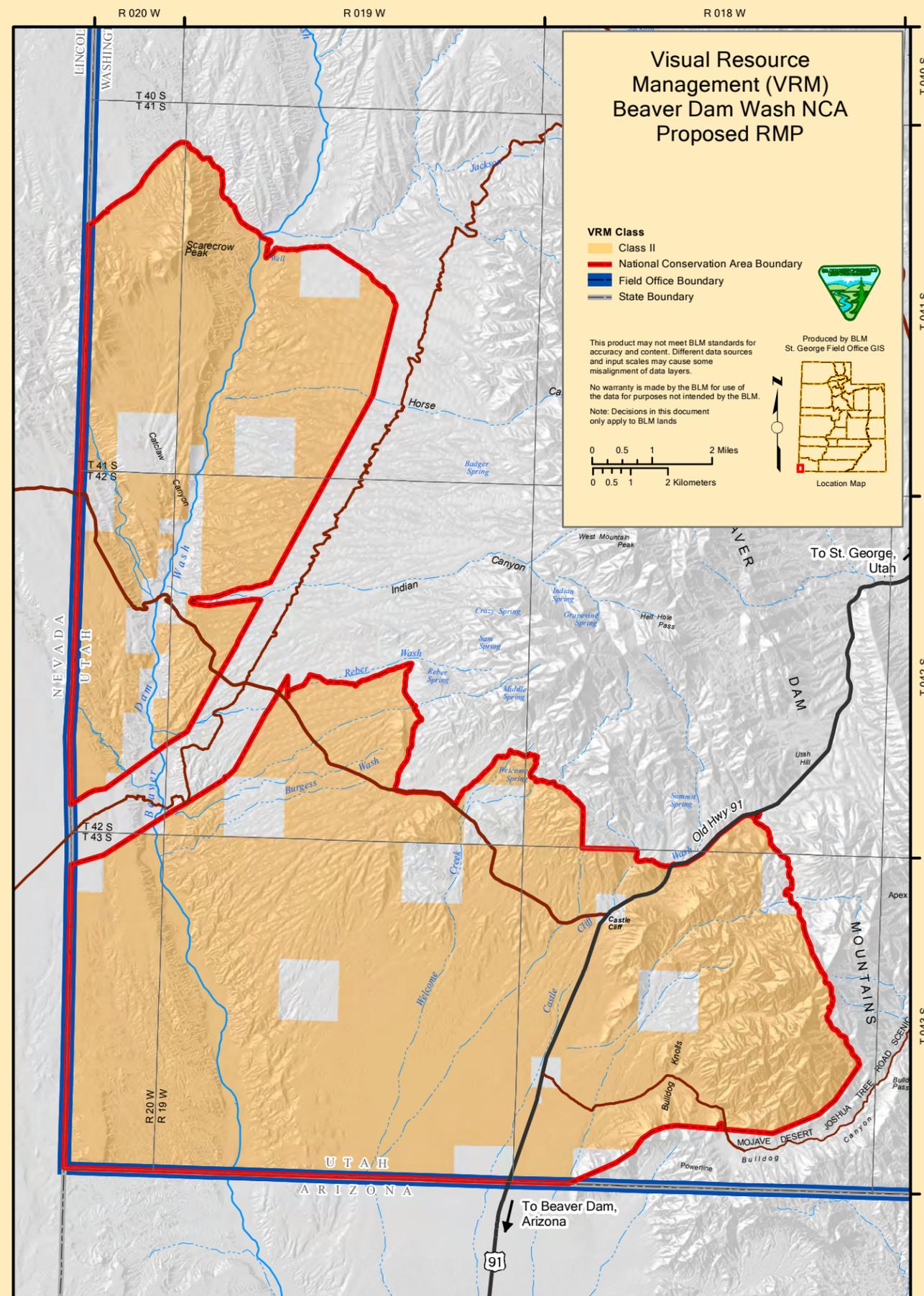
Objectives

Protect NCA resource and recreation values using the following:

- a) Trail and facility design;
- b) Directional, informational, regulatory, traffic control, boundary, and trail signs;
- c) Maps and associated digital technology;
- d) Appropriate law enforcement;
- e) Interpretive materials and educational programs;
- f) Citizen stewardship.

Management Actions - Recreation Management Areas

Remove the Extensive Recreation Management Area (ERMA) [identification] administrative designation that [where it] overlaps the NCA.



Establish the Beaver Dam Wash Special Recreation Management Area (SRMA), as shown on Map 2-5.

Beaver Dam Wash SRMA, Recreation and Visitor Services Objectives:

Foster a sense of awareness and stewardship in recreational participants and local community partners to maintain recreation values in the NCA.

Provide opportunities for public land users to develop an understanding and appreciation of the NCA through on and off-site educational and interpretive materials.

Develop a nationally recognized non-motorized trail system that provides high quality opportunities for a wide range of recreational activities

Develop trailheads and waysides that share a signature design emblematic of the NCA.

Establish three Recreation Management Zones (RMZs) within the Beaver Dam Wash SRMA as management tools to assist in setting priorities for facilities development, maintenance, and law enforcement. Each RMZ would have consistent management objectives across Alternative but would vary in size. See Table 2-3 for information about each zone and Appendix H for detailed RMZ descriptions and objectives.

Manage the RMZs as follows:

- Frontcountry Zone: 17,030 acres
- Backcountry Zone: 30,179 acres
- Primitive Zone: 16,271 acres

(Map 2-5)

Allowable uses for other resources and programs within the SRMA are defined by the NCA legislation. Allowable recreation uses are defined by RMZ and can be found in Table 2-3 and Appendix H.

Coordinate management of recreational activities and uses with adjacent federal agencies, tribal governments, and state, county, and municipal governments.

Develop an implementation-level Recreation Area Management Plan (RAMP) to identify specific management actions for recreational activities and visitor services within the SRMA. The RAMP would include, but is not limited to:

- a) Non-motorized trail system development and management;
- b) Motorized route system management;
- c) Rock climbing management;

- d) Campground development and management;
- e) Dispersed camping management;
- f) Architectural design standards;
- g) Recreational impact monitoring standards and procedures.
- h) Commercial, competitive, and group use management.

Develop [commercial leases for recreation-related businesses] concessionaire contracts, if necessary, to protect resource values, as well as provide for appropriate and sustainable recreation opportunities and visitor services.

Manage any non-federal lands that may be acquired within the NCA in conformance with RMZ decisions for adjacent public lands.

Special Recreation Permits (SRPs)

Prohibit [Do not authorize] SRPs for competitive equestrian events in the NCA.

Prohibit [Do not authorize] SRPs for competitive motorized events in the NCA.

Limit SRPs for motorized [commercial and organized group] recreation activities to roads and primitive roads authorized for use by the public.

Discharge of Firearms

Authorize the discharge of firearms in the NCA.

Except in the act of licensed hunting, all firearms must be discharged toward a proper backstop sufficient to stop the projectile's forward progress.

Targets must be constructed of wood, cardboard, paper or similar unbreakable materials. All targets, clays, and shells are considered litter after use and must be removed and disposed of properly.

Management Actions - Public Education and Interpretation

Develop an implementation-level Interpretive Master Plan that creates a long-range vision to guide interpretive services that emphasize the values and significance of the NCA and addresses a long-term strategy for name recognition and branding. The plan will include the following:

- a) Interpretive goals, objectives, and associated management actions necessary for interpreting themes to key user groups/audiences;
- b) Identification of a full range of interpretive services including facilities, programs, activities, exhibits, publications/printed materials, electronic media, and audiovisuals to enhance knowledge and appreciation

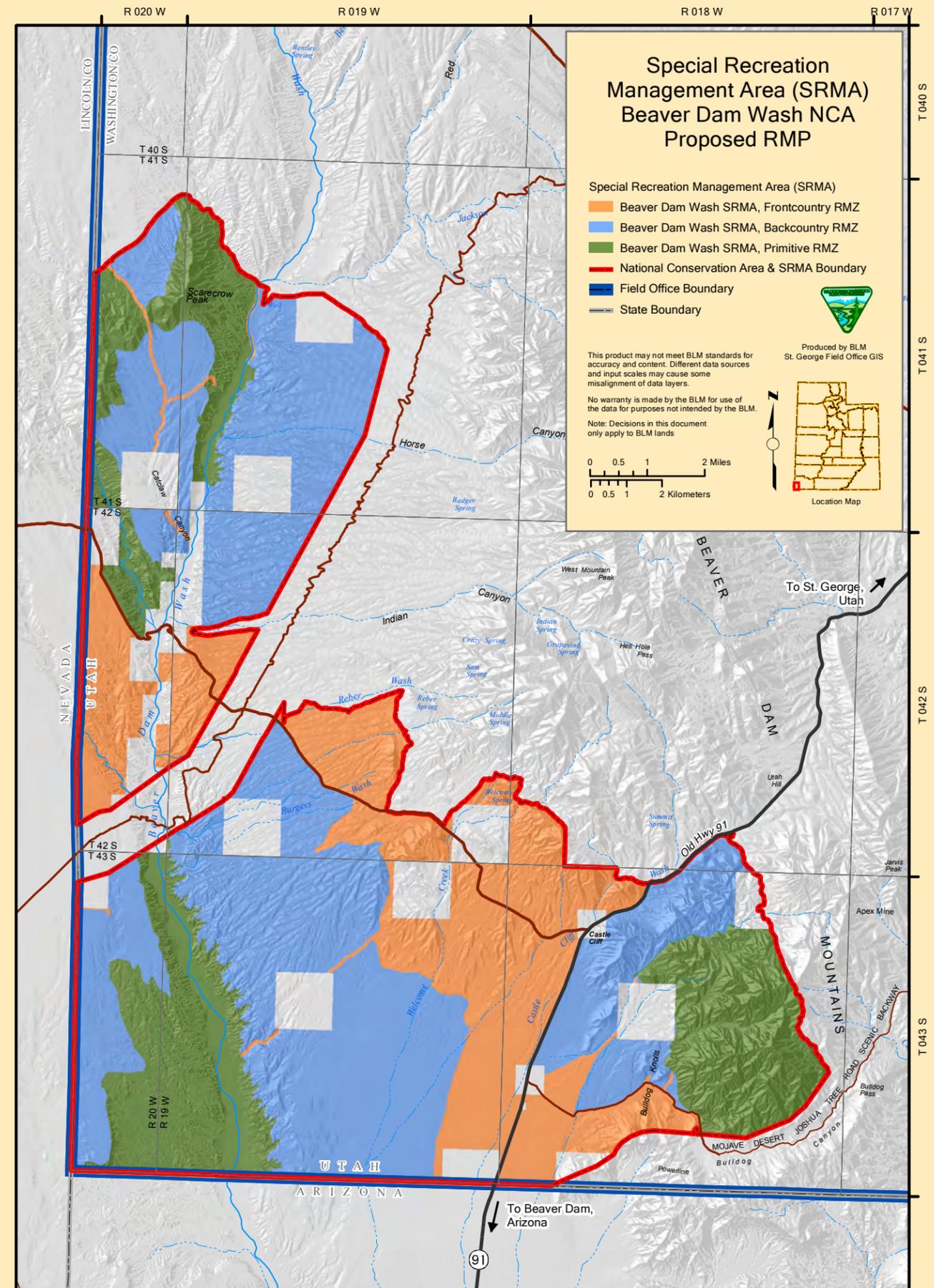


Table 2-3 Beaver Dam Wash NCA Recreation Management Zone Descriptions

Table 2-3 Beaver Dam Wash NCA Recreation Management Zone Descriptions
FRONTCOUNTRY ZONE
<ul style="list-style-type: none"> • Accessed from Old Highway 91 and County roads. • Accommodates a large number of visitors. • Large number of management controls consisting primarily of directional, educational, and regulatory signs. • BLM staff presence is consistent. • Law enforcement patrols are irregular and often based on incident or emergency response. • Significant amount of infrastructure; includes all roads, parking, and future trailheads. • Motorized use is restricted to designated roads and trails. • Mechanized use is restricted to designated roads and trails. • Majority of zone is within critical tortoise habitat. • Outside of Congressionally designated road areas.
BACKCOUNTRY ZONE
<ul style="list-style-type: none"> • Accessed from the Rural Zone trailheads or Frontcountry Zone trails. • Less recreational use than the Frontcountry Zone, but still accommodates a significant number of visitors. • Fewer management controls consisting primarily of directional and regulatory signs. • BLM staff presence is infrequent and generally based on project-specific need. • Law enforcement patrols generally limited to incident and emergency response. • Motorized use is restricted to administrative purposes and emergency response. • Mechanized use is restricted to designated trails. • Portions of zone are within critical desert tortoise habitat. • Corresponds with Congressionally designated road areas.
PRIMITIVE ZONE
<ul style="list-style-type: none"> • Accessed from the Frontcountry or Backcountry Zones. • Accommodates the fewest number of visitors. • Limited management controls consisting primarily of directional and regulatory signs. • BLM staff presence is very low. • Law enforcement presence limited to emergency response. • Motorized use prohibited except for emergency response. • Cross-country travel is allowed. All visitors must be on foot or horseback. • No constructed or maintained trails. • Portions of zone are within critical tortoise habitat. • Corresponds with Congressionally designated road areas.

of natural and cultural resources, and to promote stewardship;

c) Identification of opportunities for outreach programs with user groups, local schools, universities, and special interest groups;

d) Identification of opportunities to enrich interpretation through partnerships with municipal, county, state, and national parks, educational institutions, and other organizations;

e) Identification of desired visitor experiences consistent with the RAMP and RMZs;

f) Identification of themes and sub-themes to communicate the story of place (e.g., those narratives that express the unique and compelling character of the NCA);

g) Consistency with NCA architectural design standards (e.g., color, shape, themes) that will apply to all site improvements, recreational facilities, site fixtures, structures, and associated spaces;

h) Integration of graphic elements such as logos, logo placements, color schemes, quality, and voice across all media to ensure effective recognition and branding for the NCA;

i) Training goals and objectives for staff and volunteers to ensure consistency in interpretive themes and professionalism.

Management Actions - Scientific Research

Pursue opportunities for scientific studies that evaluate the effects of diverse recreation activities on the desert environment.

Implementation Decisions: Beaver Dam Wash SRMA

The remaining Recreation Management decisions in Table 2-31 are not land-use plan decisions; they are implementation decisions. They address issues that were raised during the planning process and have been included to expose the reader to the general management direction being proposed for the NCA. These decisions provide the framework for the RAMP.

Recreation Facilities

Develop uniform architectural design standards for all site improvements, recreational facilities, site fixtures, structures, and associated spaces developed in the NCA. These standards include construction materials, styles, colors, textures, and interpretive themes.

Construct site improvements, recreational facilities, site fixtures, structures, and associated spaces in the Frontcountry Zones to protect resource values, respond to recreational use demand, and enhance visitor experiences. Developments could include standard and/or expanded amenity fee sites.

Issue Recreation Use Permits (RUPs) through the collection of standard or expanded amenity fees for the short-term recreational use of specialized sites or facilities (such as campgrounds and day use sites) which meet fee collection guidelines as provided for in the Federal Lands Recreation Enhancement Act of 2004 or subsequent similar authority.

Dispersed Camping

Limit dispersed camping in the Frontcountry and Backcountry Zones to designated undeveloped campsites located in previously disturbed areas and at appropriate distances from sensitive natural and cultural resources. Each designated campsite will include, but is not limited to:

(a) A visible marker that clearly delineates the location as a designated campsite;

(b) A metal campfire container. Designate 38 [46] sites for dispersed camping in the Frontcountry and Backcountry Zones (Map 2-6).

Designated undeveloped campsites may be added or removed as needed to minimize resource impacts or meet recreation needs.

Allow dispersed camping in the Primitive Zone.

Provide public education on minimum impact camping through a variety of on- and off-site media.

Campfires are allowed, restricted, or prohibited in accordance with applicable fire management policies and restrictions.

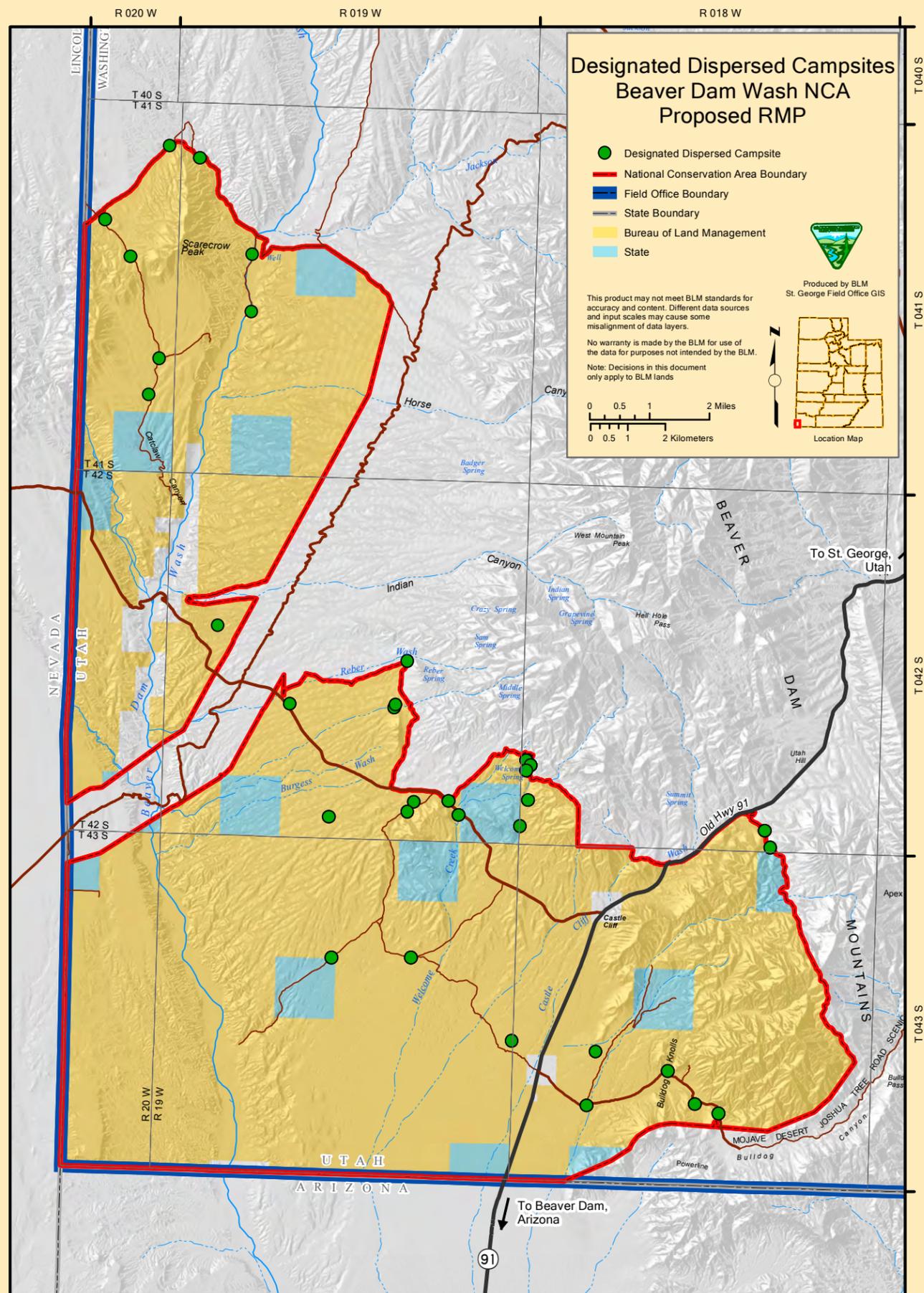
Non-Motorized Trails

Design and construct the non-motorized trail system to the professional standards outlined in Appendix I to ensure that trail design:

a) Addresses the needs of equestrians, hikers, climbers, and mountain bikers;

b) Protects diverse NCA resource values from direct or indirect recreation impacts by promoting compliance with regulatory requirements and visitor use restrictions;

c) Results in sustainable systems;



- d) Provides high quality experiences;
- e) Serves the abilities of non-motorized recreational users;
- f) Offers opportunities for looping, varying distances, linking between geographic areas and trailheads, and connecting to heritage and other educational resources.
- g) Minimizes user conflicts by separating user groups whenever feasible;
- h) Limits the desire to venture off-trail.

New trails could be constructed in the Primitive Zone if monitoring shows negative impacts to natural and/or cultural resource values from off-trail uses. Trail construction would be accompanied by the requirement for visitors to stay on trails. Monitoring parameters, trail alignments, and potential off-trail restrictions would be developed as part of the RAMP.

Authorize the development of new non-motorized trails in the Frontcountry or Backcountry Zones.

Commercial Special Recreation Permits

Limit SRPs for recreation activities to 10% of overall visitation (overall visitation is defined as the total number of all visits: commercial and non-commercial, motorized and non-motorized).

Set group size limits for SRPs on a case-by-case basis. Factors for the determination of limits would include, but are not limited to: type of activity, type of transportation, length of stay, potential for resource impacts, potential for impacts to other visitors, and compatibility with RMZs.

Competitive SRPs

SRPs for competitive running, [or] bicycling, or equestrian events could be authorized on roads in the NCA if they meet the following criteria:

- a) Event staging takes place outside the NCA or takes place on designated roads and/or at trailheads inside the NCA;
- b) The event causes no new surface disturbance;
- c) Event scheduling complies with seasonal restrictions to protect wildlife and habitats, (e.g., restrictions on events during desert tortoise active season, generally between March 15 and October 15).

Group size limits for competitive non-motorized events would be set on a case-by-case basis. Factors for the determination of limits could include, but are

not limited to: type of event, length of event, number of participants, potential for resource impacts, potential for impacts to other visitors, and compatibility with RMZs.

[d] *The event highlights NCA resource values and promotes their protection.*]

Organized Group SRPs

Authorize SRPs for organized groups (e.g., scouting events, church events, school classes, historical reenactments) on a case-by-case basis, if the proposed event conforms to an implementation-level Interpretive Master Plan, when developed (see Public Education and Interpretation below).

Group size for organized groups would be set on a case-by-case basis. Factors for the determination of limits could include, but are not limited to: type of activity, type of transportation, length of stay, potential for resource impacts, potential for impacts to other visitors, and compatibility with RMZs.

Handcarts, buggies, wagons, or other animal-drawn vehicles would be limited to travel on roads and primitive roads designated through the approved TMP. All proposed activities (e.g., historical reenactments) would require an SRP or a letter of [authorization] authorization from the NCA Manager.

Rock Climbing

Develop a Climbing Management Plan as part of the RAMP. The plan would:

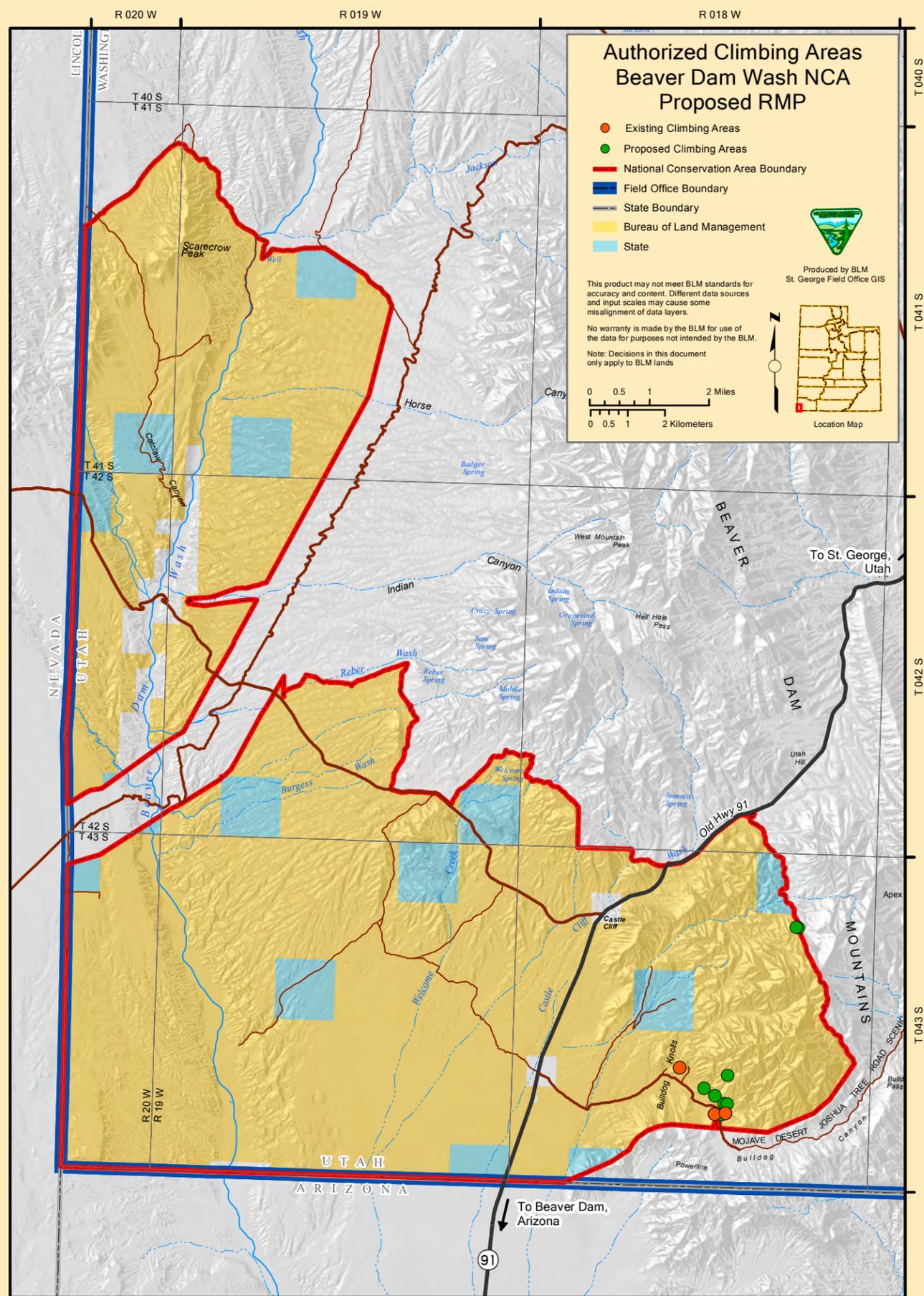
- a) Identify areas where climbing would be authorized;
- b) Identify potential climbing restrictions such as group size limits or seasonal closures;
- c) Establish monitoring protocols to identify resource impacts;
- d) Establish procedures for authorizing new climbing areas.

All existing climbing areas would remain open until the Climbing Management Plan is complete.

Authorize six new climbing areas in the Woodbury Road area. Authorize two new climbing areas in the Utah Hills area. (Map 2-7)

Other Recreation Uses

Only permit physical geocaches in the Frontcountry and Backcountry Zones.



Allow virtual geocaches in all RMZs provided they are compliant with other zone restrictions.

Approval from authorized NCA staff [Written approval from the NCA Manager] would be required prior to any physical geocache placement.

Approval from authorized NCA staff [Written approval from the NCA Manager] would be required prior to the public posting of any virtual geocache placement. [Unauthorized geocaches are subject to immediate removal.]

Prohibit the take-off and landing of powered parachutes in the NCA.

Prohibit the take-off and landing of remote-controlled aircraft in the NCA.

Casual rock collection, including the gathering of mineral specimens and rock hounding, would be allowed under the following criteria:

- a) Collect using hand tools;
- b) Only collect specimens for personal use.

Prohibit all recreational metal detecting activities.

Recreational prospecting or mining, defined in 43 CFR 3809.5 and BLM Handbook H-3809-1 as “casual use,” would be limited to the following activities:

- a) Collection of geochemical, rock, soil, or mineral specimens using non-motorized hand tools;
- b) Hand-panning;
- c) Non-motorized sluicing.

Do not allow motorized, mechanized, electronic, or battery-operated prospecting or mining (e.g., portable suction dredges, gold spears, metal detectors, small dry washers).

Before engaging in “casual use” prospecting or mining activities, the following must occur:

- a) A written request must be submitted to the NCA Manager at least 15 calendar days in advance;
- b) Written notification from the NCA manager must be received verifying that requested activities are “casual use” and not prohibited in the NCA.

Monitoring

Develop a comprehensive program for monitoring recreational impacts in the NCA as part of the RAMP. The program would focus primarily on the identification of illegal trails and would include a progression of appropriate management actions.

2.8.28 Comprehensive Travel and Transportation Management

Goals

Compatible traditional, current, and future use of the land is sustained by establishing a transportation system that contributes to protection of sensitive resources, promotes dispersed recreation, and minimizes user conflicts.

A high quality, sustainable transportation system that provides appropriate public and administrative access is developed and maintained to conserve, protect, and enhance the resource values of the NCA.

Objectives

Provide a well-maintained and functional motorized transportation system that provides public access to recreational opportunities and is consistent with goals, objectives, and recommendations of the Revised Recovery Plan for the Mojave Desert Tortoise (USFWS 2011).

Provide a functional motorized administrative transportation system that is consistent with goals, objectives, and recommendations of the Revised Recovery Plan for the Mojave Desert Tortoise (USFWS 2011) and provides the minimum access necessary to authorized infrastructure and valid ROWs.

Provide a nationally recognized, professionally designed, non-motorized trail system that provides access to a wide range of recreational opportunities and is consistent with the goals, objectives, and recommendations of the Revised Recovery Plan for the Mojave Desert Tortoise (USFWS 2011).

[The BLM shall comply with OPLMA Sec. 1977 (b)(2) which states the following:

(2) SCOPE; CONTENTS.—In developing the travel management plan, the Secretary shall—

(A) in consultation with appropriate Federal agencies, State, tribal, and local governmental entities (including the County and St. George City, Utah), and the public, identify 1 or more alternatives for a northern transportation route in the County;

(B) ensure that the travel management plan contains a map that depicts the trail; and

(C) designate a system of areas, roads, and trails for mechanical and motorized use.]

Management Actions - General

BLM would coordinate transportation management with adjacent federal agencies, [tribal governments], state and local governments, and authorized users.

The three areas identified by Congress on Beaver Dam Wash National Conservation Area Map as “Designated Road Areas” will be managed in accordance with mandates from OPLMA. Within these areas, roads identified on that map as open to the public will remain open. Except in cases where motorized vehicles are needed for administrative purposes, or to respond to an emergency, all other roads in the Designated Road Areas are closed to motorized vehicle travel by the public. Roads required for motorized vehicle access to valid existing rights will be open to authorized users only.

Outside of the three “Designated Road Areas”, except in cases where motorized vehicles are needed for administrative purposes, or to respond to an emergency, the use of motorized vehicles in the National Conservation Area shall be permitted only on roads designated through the TMP.

(For Non-motorized Transportation Management Actions, see 4.4.26 Recreation and Visitor Services.)

OHV Area Designations

- Open to Cross Country OHV use: 0 acres
- Limited to Designated Routes: 63,480 acres
- Closed to OHV use: 0 acres

A map of the existing transportation system can be found at the BLM ePlanning website <http://bit.ly/2av3Q1i>.

(Map 2-8)

Other Motorized Transportation

All routes located outside of the Designated Road Areas will be evaluated and designated through the TMP with impacts analyzed in an EA.

Roads that were closed by Congress in the Designated Road Areas (29 miles), identified through OPLMA, and that are not required for administrative access or for use as non-motorized trails, fuel breaks, or other management purposes would be reclaimed and restored.

Use of non-motorized, wheeled game carriers to retrieve game kills or collect antlers would be allowed in all areas except designated wilderness. Motorized game retrieval or antler collection would be prohibited. [The use of motorized vehicles to retrieve game kills or collect antlers would be prohibited in the NCA.]

Non-Motorized Trails

Design and construct the non-motorized trail system to professional standards as described in Appendix I, to ensure that trail design:

- a) Addresses the needs of equestrians, hikers, climbers, and mountain bikers;
- b) Protects diverse NCA resource values from direct or indirect recreation impacts by promoting compliance with regulatory requirements and visitor use restrictions;
- c) Results in sustainable systems;
- d) Provides high quality experiences;
- e) Serves the abilities of non-motorized recreational users;
- f) Offers opportunities for looping, varying distances, linking between geographic areas and trailheads, and connecting to heritage and other educational resources.
- g) Minimizes user conflicts by separating user groups whenever feasible;
- h) Limits the desire to venture off-trail.

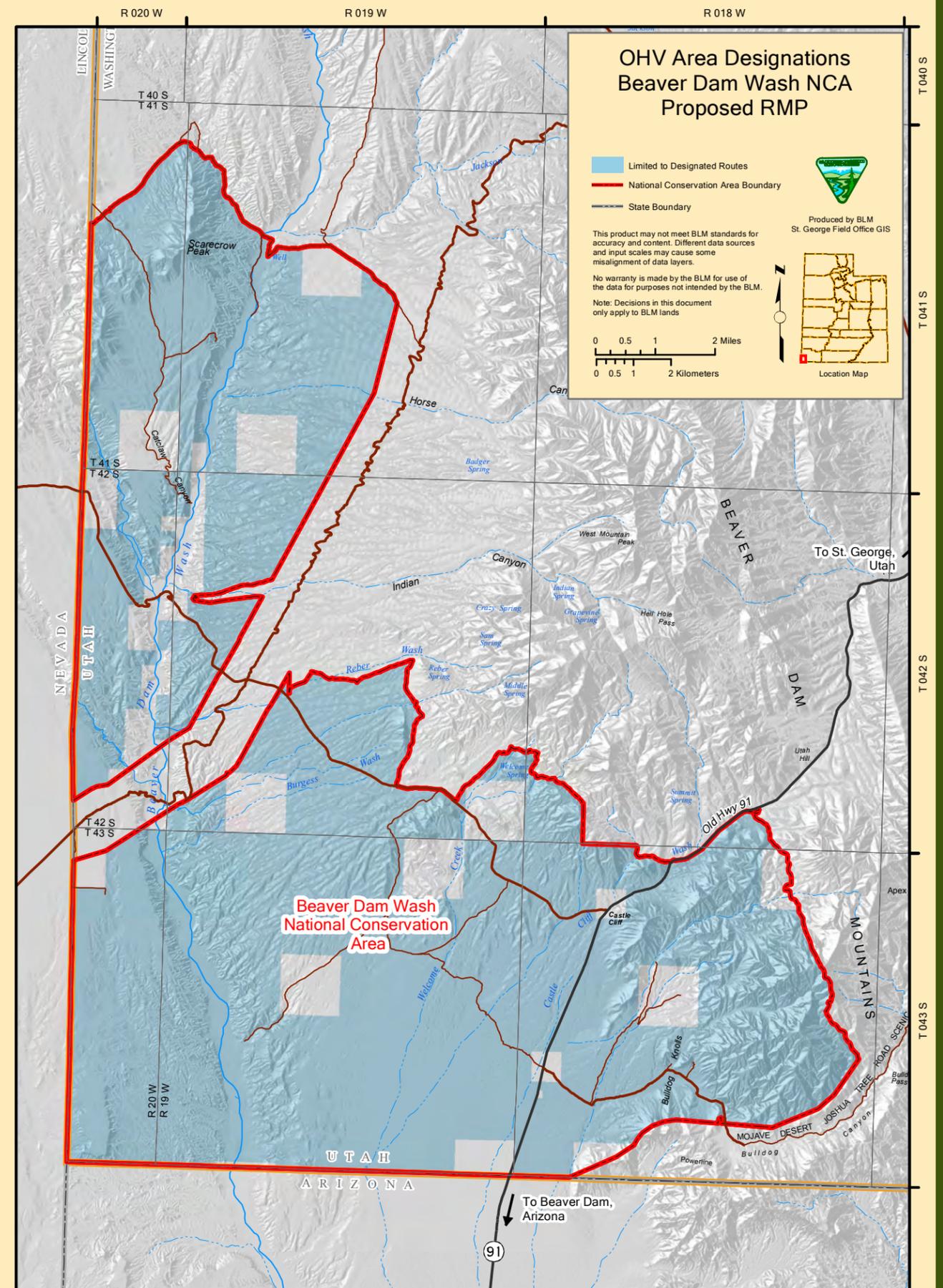
New trails could be constructed in the Primitive Zone if monitoring shows negative impacts to natural and/or cultural resource values from off-trail uses. Trail construction would be accompanied by the requirement for visitors to stay on trails. Monitoring parameters, trail alignments, and potential off-trail restrictions would be developed as part of the RAMP.

Where new trail development would result in a modification of the primary constituent elements of designated critical habitats [for Mojave desert tortoise], restore an equivalent acreage of damaged habitat in the NCA through reclamation and revegetation (with approved species) of user-created trails, closed roads, fire-damaged lands, or other disturbed areas [in consultation with USFWS and UDWR].

Authorize the development of new non-motorized trails in the Frontcountry or Backcountry Zones.

Design and construct the non-motorized trail system to professional standards to ensure that trail design:

- a) Addresses the needs of equestrians, hikers, climbers, and mountain bikers;
- b) Protects diverse NCA resource values from direct or indirect recreation impacts by promoting compliance with regulatory requirements and visitor use restrictions;



- c) Results in sustainable systems;
- d) Provides high quality experiences;
- e) Serves the abilities of non-motorized recreational users;
- f) Offers opportunities for looping, varying distances, linking between geographic areas and trailheads, and connecting to heritage and other educational resources.
- g) Minimizes user conflicts by separating user groups whenever feasible;
- h) Limits the desire to venture off-trail.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about appropriate public lands etiquette, including OHV etiquette.

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that encourage motorized users to use existing disturbed areas for parking and camping.

2.8.29 Lands and Realty

Goals

Land tenure adjustments are made to assist the conservation, protection, and enhancement of NCA resource values, facilitate management, and reduce administrative costs.

Land use authorizations further the purposes of conservation, protection, and enhancement of resource values in the NCA.

Objectives

Non-federal lands are acquired from willing land owners through purchase, exchange [of public lands identified for disposal outside the boundaries of the NCA] or donation[, or conservation easement].

Surface and subsurface rights would be acquired whenever possible to avoid creating split estates.

Conservation easements may be acquired where such interest would further the management objectives of the NCA.

Land tenure adjustments would be prioritized based on manageability, the feasibility of successful acquisition, and the ecological, cultural, recreational, and scenic values of the tract to be acquired.

Ensure that long and short term land use authorizations are consistent with the NCA purposes of resource conservation, protection, and enhancement.

Management Actions - General

“(1) In General.—Subject to valid existing rights, all Federal land located in the National Conservation Area is withdrawn from—(A) all forms of entry, appropriation, and disposal under the public land laws; (B) location, entry, and patenting under the mining laws; (C) operation of the mineral leasing, mineral materials, and geothermal leasing laws. (2) Additional Land.—If the Secretary acquires additional land that is located in the National Conservation Area after the date of enactment of this Act, the land is withdrawn from operation of the laws referred to in paragraph (1) on the date of acquisition of the land” (OPLMA Section 1975 (g)).

Public lands within a National Trail Management Corridor will be retained in federal ownership, in accordance with Section 203 of FLPMA, as classified in accordance with 43 CFR 2420.

“Any land or interest in land that is located in the National Conservation Area that is acquired by the United States shall—(1) become part of the National Conservation Area; and (2) be managed in accordance with—(A) the Federal Land Policy and Management Act of 1976 (U.S.C. 1701 et seq.); (B) this section; and (C) any other applicable law (including regulations)” (OPLMA Section 1975 (f)).

~~Manage public lands in accordance with applicable city and county zoning restrictions and municipal ordinances (to the extent that such restrictions and ordinances are consistent with the purposes for which the NCA was Congressionally-designated), as well as other federal laws, regulations, and policies, and with goals, objectives, and management decisions from the approved RMP for the NCA.~~

Do not authorize commercial renewable energy (e.g., wind, solar) leases or ROWs in the NCA.

[Any new proposed actions must be consistent with the established purpose of the NCA as identified in OPLMA, and must be consistent with all other federal law, regulation, and policy.

Consider allowing realty authorizations, such as rights-of-way and permits, outside of ROW exclusion areas, only when required for local, essential community services and when no siting alternatives exist outside the NCA.]

Existing ROWs will be maintained in accordance with the respective ROW grant or other applicable authorization. [While processing ROW renewals, in accordance with all applicable law and policy, BLM will work with holders of existing ROWs to consider new, additional, or modified terms and conditions to minimize impacts to the NCA's values. Consideration will also be given to relocating ROWs and any related infrastructure to areas outside the NCA.]

Land Tenure Adjustments

Work with willing land owners or administrators to acquire in-holdings and edge-holdings that are in the public interest through purchase, exchange of public lands targeted for disposal outside of the NCA boundaries, donation, or conservation easement.

Acquire both surface and subsurface rights whenever possible to avoid the creation of split estates. Prioritize acquisition of non-federal inholdings and parcels that adjoin the NCA boundaries that meet one or more of the following criteria:

- a) Further the purposes of the NCA relating to the conservation, protection, and enhancement of its ecological, scenic, wildlife, cultural, historical, recreational, natural, educational, and scientific resources;
- b) Enhance public recreation experiences and benefits;
- c) Provide additional access to other public lands.

[Manage acquired lands in conformance with RMP decisions for Lands and Realty Management.]

Linear ROWs

[Designate ROW Exclusion and Avoidance areas as follows (Map 2-9):

Exclusion areas: (areas that are not available for location of ROWs under any conditions) 63,352 acres

Avoidance areas: 128 acres

- ▶ Establish the width of the avoidance area which parallels Old Highway 91 through the NCA as 200 feet in total width, 100 feet from either side of the centerline of the highway, and limit new ROWs to subsurface installations.
- ▶ While considering a new proposed ROW application the BLM will:
 - a) consider options for routing or siting the ROW outside of the NCA;

b) ensure consistency of the ROW with the established purpose of the NCA, as identified in OPLMA;

c) ensure that new ROWs share, parallel, or adjoin existing ROWs;

d) apply special stipulations and mitigation measures within avoidance areas consistent with VRM objectives and the purpose of the NCA;

e) authorize new ROWs only when the project-specific NEPA analysis indicates that the construction and operation of the facility would not result in the take of federally-listed species; the adverse modification of designated critical habitats; or adverse effects to NRHP-listed or eligible properties, and the following criteria are met:

- 1) construction could be accomplished through methods that minimize new surface disturbances and resource impacts;
- 2) new ROW access roads would not be required for construction, operation, and maintenance;
- 3) existing ROW access roads would not be permanently widened or upgraded for construction, operation, and maintenance; temporary enlargements or modifications to existing access routes needed during construction would be rehabilitated immediately after construction is completed; and
- 4) construction, operations, and maintenance would not require off-road travel by motorized vehicles.

Designated ROW Corridor: 0 acres]

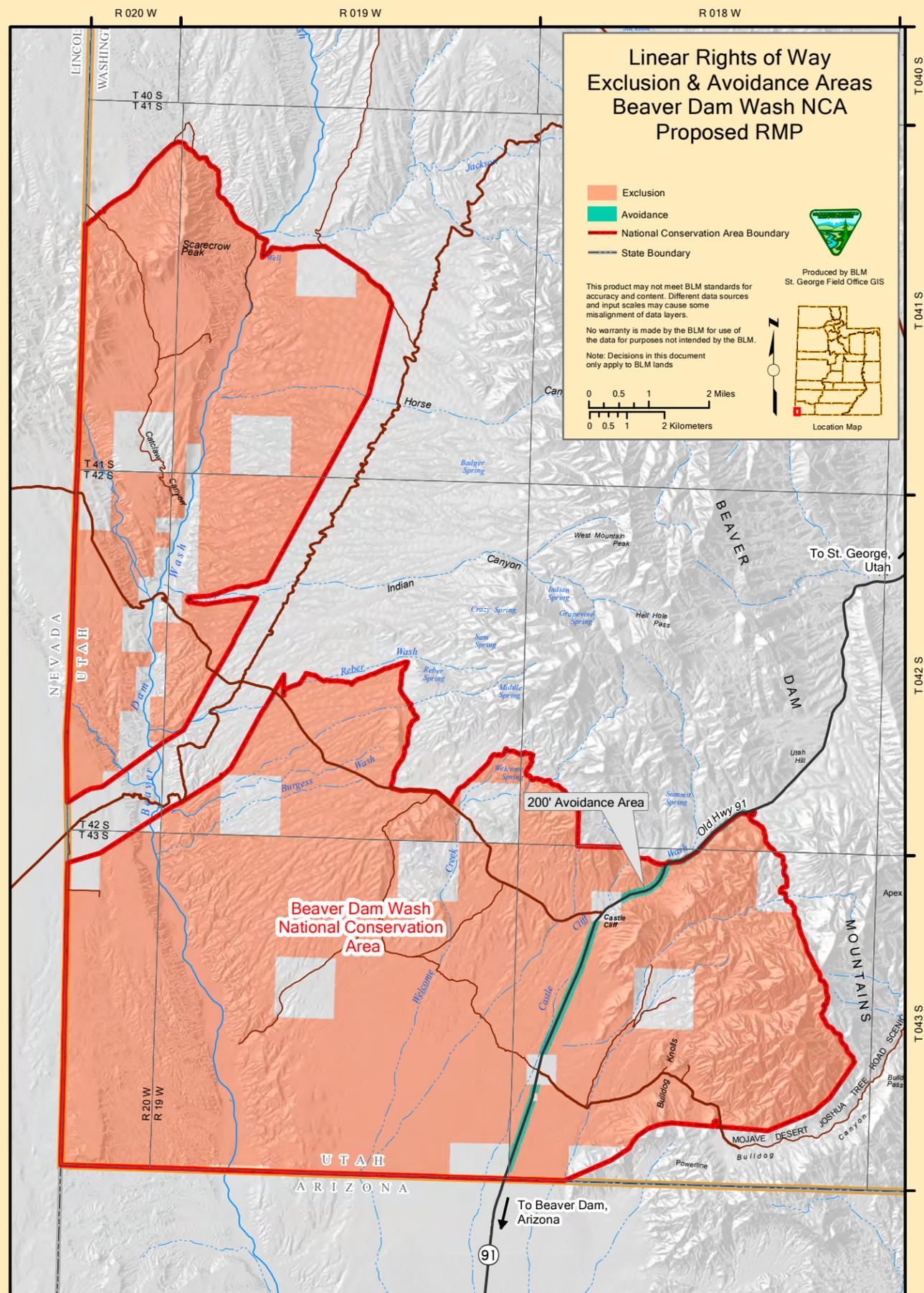
Site-type Leases and ROWs

[Designate the NCA as an Exclusion area for site-type leases and ROWs.]

Designate the NCA as an Avoidance area for site-type leases and ROWs.

New site-type leases and ROWs could only be authorized if the following criteria are met:

- a) Locations outside the NCA are not feasible to serve the purpose of the lease or ROW;
- b) Co-location within an existing site facility is not feasible to serve the purpose of the lease or ROW;
- c) Proposal would be in conformance with VRM Class II;
- d) Proposal would not result in adverse impacts to NCA resource values.



Other Land Use Authorizations

Do not authorize leases under the authority of the Recreation and Public Purposes Act within the NCA.

Only authorize commercial film permits if they further public understanding and appreciation of the NCA and its purposes. Permits may be subject to surface use and seasonal restrictions and will only be granted after applicable environmental compliance legal requirements have been satisfied, including site-specific NEPA analyses.

2.9 PROPOSED RED CLIFFS NCA RESOURCE MANAGEMENT PLAN

2.9.1 Air Quality

Goals

Federal and state air quality standards are met in the NCA.

Objectives

Air quality is improved by reducing windblown dust levels from motorized vehicle travel on unpaved roads and from the loss of vegetative cover to wildfires.

Short-term air quality impacts (e.g., smoke, haze, wind-blown dust) that result from wildfires are minimized through appropriate fire suppression responses and through proactive management to minimize the potential for future wildfires.

Research that increases the understanding of ecosystem processes, cycles, and anthropogenic factors that affect air resources and climate change is supported.

Management Actions - General

Apply BMPs and other site-specific mitigation measures to maintain soil stability, protect physical and biological (cryptogamic) soil crusts, and minimize wind erosion of soils (refer to Appendix F for a complete list of BMPs for all programs and resources).

Reclaim closed routes that are not required for administrative purposes, non-motorized recreational uses, or as fire breaks. Use appropriate methods on reclaimed routes (e.g., soil binders, vertical mulching) to minimize wind-blown dust until vegetative cover has been restored.

Use aggregate, gravel base, or other environmentally-acceptable soil binders, as needed, at major trailheads, waysides, and high-use recreation sites, and on BLM-maintained roads to minimize windblown dust.

Coordinate with Washington County Public Works Department to post speed limits on unpaved roads, as needed, to lessen windblown dust created by motorized vehicle travel.

Implement post-wildfire ES&R actions that will stabilize soils and re-establish vegetative cover to minimize wind-blown dust levels.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about appropriate public land use etiquette to

minimize new surface disturbances that would contribute to increased soil erosion and windblown dust.

Management Actions - Scientific Research

Pursue opportunities to install air quality monitoring equipment and collect data on ozone levels, visibility (haze) and other appropriate air quality indicators through federal and non-federal grants; partnerships with other federal agencies, state, tribal and local governmental entities, academic institutions, and private entities; and through cooperative agreements or other appropriate methods).

Management Actions - Climate Change Monitoring

Pursue opportunities to install one or more solar-powered weather stations in the NCA to collect data on temperature, precipitation, wind speed, humidity, soil moisture, solar radiation, and other variables that could signal changing climatic conditions.

Pursue opportunities for scientific studies to determine the carbon sequestration value of intact desert shrublands and the potential of degraded desert shrubland restoration to mitigate increasing atmospheric carbon dioxide levels that are contributing to global warming.

2.9.2 Water Resources

Goals

Water resources are conserved and protected to fulfill the purposes of the NCA and sustain ecosystem resiliency under changing climatic conditions.

Objectives

Surface water quality is suitable for appropriate beneficial uses, complies with approved federal and state standards, and meets or exceeds the applicable Utah Standards and Guides (Appendix D).

Salinity and sediment loads in the Virgin River do not increase as a result of land uses and authorized activities on public lands in the NCA.

Research is supported that increases the understanding of ecosystem processes, cycles, and anthropogenic factors that affect water resources (e.g., fire cycles, vegetation succession) and that may influence climate change.

Management Actions - General

Apply BMPs and other site-specific mitigation measures to maintain soil stability, minimize wind and water erosion, and ensure that surface disturbances do not cause accelerated sedimentation in surface water sources. Inspect construction-related equipment and vehicles for

~~petroleum and other chemical leaks when they arrive on-site.~~

Implement post-fire ES&R actions to restore riparian vegetation and minimize soil erosion that could impair water quality in springs, seeps, Leeds Creek, Quail Creek, and the Virgin River.

In planning re-vegetation projects for disturbed or fire-damaged riparian areas, identify specific resource and management objectives, desired plant communities, and methods that are ecologically sustainable, likely to achieve desired outcomes, and that minimize new surface disturbances and impacts on other resource values of the NCA.

Establish monitoring plots and use desired plant species frequency, density, and distribution data to evaluate the effectiveness of the treatments in meeting management objectives. Conduct monitoring, as determined by the project-specific monitoring plans, to evaluate effectiveness of re-vegetation and ES&R actions.

Monitor water quality in Leeds Creek to determine if the designation standard for beneficial uses established by the UDWQ is being met.

Monitor fecal coliform levels in natural water catchments along the Red Reef Trail during high visitor use periods.

Pursue acquisition of non-federal lands from willing sellers within the NCA that would benefit the conservation and protection of surface and groundwater resources.

~~Pursue acquisition of surface and groundwater rights from willing sellers to benefit the conservation and protection of wildlife and improve aquatic habitats and riparian resources.~~

~~Do not authorize land uses that would export water from the NCA.~~

~~Work through the State of Utah's water rights system to ensure that BLM obtains water rights on all inventoried point water sources (springs, seeps, wells, reservoirs, etc.) for authorized beneficial uses of water within the NCA, including wildlife, recreation, domestic use within visitor facilities, and the improvement of aquatic habitats and riparian resources.~~

[Pursue acquisition of surface and/or groundwater rights from willing sellers for use in campgrounds, visitor facilities, and for other administrative uses where, consistent with Utah State law.]

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about appropriate public land use etiquette to protect water quality in streams, springs, seeps, and associated riparian areas.

Management Actions - Scientific Research

Inventory the NCA to locate all springs and seeps, map the areal extent of associated riparian vegetation, evaluate water quality and flow rates, and document all spring developments.

Management Actions - Climate Change Monitoring

Pursue opportunities to develop a conceptual groundwater model of quantity recharge of springs, seeps, and surface flows within and adjacent to the NCA.

Pursue opportunities to collect data and monitor changes in precipitation patterns (e.g., timing, frequency, intensity of events) that are predicted to alter surface and ground water quantity and availability.

2.9.3 Geologic and Paleontological Resources

Goals

Paleontological resources, unique geologic features, and examples of geologic processes are conserved and protected for the benefit and enjoyment of present and future generations, consistent with the mandates of OPLMA and the legislative purposes for which the Red Cliffs NCA was Congressionally-designated.

Objectives

Scientifically important paleontological and geological resources are identified, managed, and allocated to appropriate uses that increase knowledge about geological processes and the history of life on Earth.

Designate paleontological resources currently documented or projected to occur in the NCA to Use Allocations (as defined by BLM Manual Section 8110.42 and Land Use Planning Handbook H-1601-1). Focus on the Use Allocations that are consistent with the legislative mandate from OPLMA for the NCA: Scientific Use, Conservation for Future Use, and Public Use. Do not allocate resources of scientific interest to Traditional Use, Experimental Use, or Discharged from Management, as these would not be consistent. See Table 2-1 for descriptions of each Use Allocation category.

Management Actions - General

Regular monitoring patrols and condition assessments are conducted at fossil localities in the NCA by BLM staff and trained volunteer Site Stewards.

No commercial sale or use of petrified wood is permitted in the NCA.

Conduct paleontological surveys in areas with high potential for scientifically important fossil localities (Potential Fossil Yield Classifications 3, 4, and 5).

Allocate and manage 100% of trackways, vertebrate, and paleo-botanical fossil localities for Scientific Use, Conservation for Future Use, and Public Use.

Allocate and manage 100% of invertebrate fossil localities for Scientific Use, Conservation for Future Use, and Public Use.

Authorize the use of hand tools by researchers holding valid NCA Scientific Research Permits and BLM Paleontological Resource Use Permits to conduct site-specific paleontological field studies and specimen collections at localities allocated to Scientific Use and Conservation for Future Use.

Authorize the use of mechanized equipment on a case-by-case basis by researchers holding valid NCA Scientific Research Permits or BLM Paleontological Resources Excavation Permits to conduct site-specific paleontological field studies and specimen collections at localities allocated to Scientific Use and Conservation For Future Use.

Prohibit the collection of common invertebrate fossils for commercial or personal use.

Prohibit the collection of petrified wood for personal use (as defined by federal regulations in 43 CFR 3622).

Monitor high significance (scientific or interpretive) sites with fossil resources that are not feasible or desirable to excavate or collect to document their condition. The frequency of monitoring action for identified sites would be determined by the physical nature of the resource and potential threats. When monitoring indicates the need, management actions would be taken to conserve and protect these resources through physical measures and land use restrictions.

Scientific Use

Authorize surface collection and excavation of unique and scientifically important fossil specimens by researchers holding valid NCA Scientific Research

Permits and BLM Paleontological Resource Use Permits.

Conservation for Future Use

Only authorize surface collection of unique and scientifically important fossil specimens by researchers holding valid NCA Scientific Research Permits and BLM Paleontological Resource Use Permits if specimens are at risk of theft, vandalism, or loss to natural erosion and if feasible methods for in-situ protection are not available.

Monitor localities allocated to Conservation for Future Use on a regular basis, with monitoring frequency to be determined by the nature of the resource and potential threats.

Public Use

Prior to developing a locality for public use ensure the paleontological resources at the site and in the surrounding area have been fully documented.

Install informational signing and kiosks on site etiquette and PRPA at Public Use sites (e.g., trails, trailheads) where appropriate.

Management Actions - Public Education and Interpretation

Develop on and off-site interpretation for significant paleontological sites and specimens, and geological features to foster an appreciation for the unique nature of these resources.

Develop on and off-site interpretation for areas within the NCA where the geologic history of southwestern Utah can be observed and appreciated.

Support education outreach programs, activities, and volunteer opportunities that focus on paleontological resources and the geologic history of Earth.

Promote opportunities for volunteer involvement in Site Stewardship that increase public awareness of the need to conserve and protect at-risk fossil resources.

Promote opportunities for volunteer involvement in inventory and data recovery projects that enhance public understanding of the geologic and paleo-environmental history of the NCA.

Management Actions - Scientific Research

Pursue opportunities to conduct field inventories and increase the fossil locality database for the NCA in partnership with the Utah Geological Survey, natural history museums, academic institutions, avocational groups, and trained volunteers.

Recruit and train youth and veteran groups, citizen stewards, and other volunteers to participate in inventory and data recovery projects that enhance public understanding of the earth history of the NCA.

Management Actions - Climate Change Monitoring

Pursue opportunities for scientific research studies at sites allocated to Scientific Use that collect paleo-environmental data that could serve as a baseline for comparison with modern climate trends.

2.9.4 Cave and Karst Resources

Goals

Cave and karst resources are conserved and protected for the benefit of present and future generations.

Objectives

Caves and karst resources are evaluated for significance, pursuant to the Federal Cave Resources Protection Act, and managed for appropriate uses such as conservation, scientific, recreational, and educational uses.

Management Actions - General

As needed, implement National White Nose Syndrome Decontamination Protocol and BLM IM 2010-18 in the management of cave resources that support bat populations.

Initiate systematic inventories in areas of the NCA with high potential for cave and karst resources.

Evaluate newly identified cave and karst resources for significance under the criteria defined in the Federal Cave Resources Protection Act and 43 CFR Part 37.

Propose significant caves and karst resources for inclusion in the National Cave System.

Manage cave and karst resources evaluated as significant for Conservation for Future Use, Scientific Use, and Public Use.

Develop implementation-level Cave Management Plans for significant cave and karst resources that are identified for Public Use, to identify appropriate management objectives and actions needed to protect resource values.

Management Actions - Public Education and Interpretation

Develop on-site interpretation for significant cave and karst resources that are managed for Public Use.

Management Actions - Scientific Research

Authorize scientific research in cave and karst resources that do not contain cultural or paleontological resources through NCA Scientific Research Permits. Where

cultural or paleontological resources are present, authorize scientific research through permits issued under the legal authorities of ARPA and PRPA.

Management Actions - Climate Change Monitoring

Pursue opportunities for scientific research studies to collect data on cave biota and geologic processes that could serve as a baseline for comparison with modern climate trends.

2.9.5 Soil Resources

Goals

Soil resources function to sustain the ecological health, species biodiversity, and resilience of native vegetation communities and watersheds.

Objectives

Native vegetation communities provide sufficient plant cover and litter accumulation to protect soils from wind and water erosion.

Soils exhibit infiltration and permeability rates that are appropriate to specific soil types, land forms, and climatic variables.

Soil crusts are conserved, protected, and restored to perform vital functions such as enhancing infiltration, maintaining soil stability, and facilitating plant growth or re-establishment.

Salinity and sediment contributions from public lands into the Colorado River system, via Quail Creek, Leeds Creek, and the Virgin River, are minimized through appropriate land use management.

Research is supported that increases the understanding of ecosystem processes, cycles, and anthropogenic factors that affect soil and vegetation resources (e.g., fire return, nutrient cycles) and that may influence climate change.

Management Actions - General

Apply BMPs and other site-specific mitigation measures to maintain soil stability, minimize wind and water erosion, and ensure that surface disturbances do not cause accelerated wind or water erosion.

Implement post-fire ES&R actions designed to minimize soil erosion and facilitate re-vegetation of desired native plant communities.

Minimize damage to or loss of top soil and soil crusts through project design, permit stipulations, and public education.

Locate new trails, trailheads, or other facilities on soils suitable for development, such as areas less prone to wind and water erosion and previously disturbed areas.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about appropriate public land use etiquette to protect soils and soil crusts.

Management Actions - Scientific Research

Pursue opportunities to complete detailed soil surveys and ecological site inventories in the NCA.

Pursue opportunities for scientific studies relating to soil crust function and regeneration in disturbed and fire-altered desert ecosystems.

Pursue opportunities for scientific studies that focus on developing cost-effective methods to restore biological (cryptogamic) soil crusts in disturbed and fire-altered desert ecosystems.

Management Actions - Climate Change Monitoring

Pursue opportunities to collect data and monitor changes in the timing, frequency, and intensity of storms, flood events, and droughts and the effects of these climatic changes on soil crust function and regeneration.

2.9.6 Native Vegetation Communities

2.9.6.1 Conservation and Protection of Native Vegetation and Communities

Goals

Biodiversity, ecological integrity, and ecosystem resilience are conserved, protected, and restored in the unique native vegetation communities created by the convergence of the Mojave Desert, Great Basin, and Colorado Plateau ecoregions.

Objectives

Native perennial and annual communities exhibit species diversity, suitable canopy cover, plant density, and age class diversification appropriate to each specific ecological site type.

Desired plant communities provide sufficient plant cover and litter accumulation to protect soils from wind and water erosion and to enhance nutrient cycling.

Loss of late-successional desert shrublands (e.g., creosote-bursage, blackbrush communities), perennial understory vegetation, and soil crusts to wildfires is minimized through management actions to prevent and

suppress wildfires, and control or eradicate non-native invasive annual grass species (*Bromus* spp.).

Resilience of native plant communities to climate change is maintained by re-introducing native species that have been lost or by introducing other appropriate native species.

Connectivity of native plant communities is maintained by restoring closed roads and other linear features that interrupt species dispersal.

Genetic integrity of native communities is protected by using source-identified seed and other plant materials for restoration and re-vegetation projects.

Research is supported that increases the understanding of ecosystem processes (e.g., vegetation succession), cycles (e.g., fire return, nutrient cycles), and anthropogenic factors (e.g., recreation) that affect vegetation communities and that may influence climate change.

Management Actions - General

Manage land uses and authorized activities to ensure that ecological systems meet or exceed management objectives identified in the Utah Standards and Guides (Appendix D).

Apply BMPs and other management techniques designed to minimize impacts on native vegetation communities for all land uses and authorized activities.

Native Vegetation Communities Conservation

Implement a program to strategically collect, store, and increase native seeds, cuttings, biological soil crust communities and species for conservation and for use in future restoration projects. Seed collection will follow the Seeds of Success Protocol, in partnership with the Great Basin and Mojave Desert Native Plant Programs. Collection of cuttings and biological soil crust communities will follow the best available protocols.

Develop partnerships with appropriate BLM Seed Warehouses for storage and management of seed collections and with other federal and non-federal entities for propagation of seedlings and cuttings.

Native Vegetation Communities Protection

Authorize the use of biological controls, targeted grazing, flaming, hand removal, herbicides, mechanical methods, or a combination of methods to develop fuel breaks and hazard fuel reduction projects (see Table 2-2 for descriptions of each method).

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about appropriate public land use etiquette to protect native vegetation communities and prevent wildfires.

Management Actions - Scientific Research

Pursue opportunities to scientifically assess (i.e., through rigorous and statistically valid study design) the short and long-term effectiveness of seed/seedlings/cuttings by source in areas to be re-vegetated. Incorporate local ecotypes (locally collected and increased seed) into vegetation studies where plant materials are used for vegetation restoration.

Pursue opportunities to collaborate with researchers and other federal and non-federal partners to assess the variability in the genetic diversity of plant species to assist in the development of species' Seed Transfer Zones and inform the development of plant materials and seed purchase for large scale restoration and re-vegetation projects.

Pursue opportunities for scientific studies that evaluate the long term effectiveness of herbicidal treatments for exotic invasive annual grasses in arid ecosystems.

Pursue opportunities for scientific studies to develop ecologically sustainable and cost-effective biological treatments to control and eradicate noxious weeds and non-native invasive annual grasses in arid ecosystems.

Management Actions - Climate Change Monitoring

Monitor the timing, frequency, and intensity of fall precipitation events in the NCA, as these events can be used to predict high invasive annual grass production in the following spring that will fuel catastrophic wildfires during the summer months.

Resample vegetation study plots and monitoring transects established in the 1970s to determine if native plant species are shifting their elevational distribution in response to climate change

2.9.6.2 Riparian Vegetation

Goals

Riparian areas sustain productive and diverse ecosystems and properly functioning watersheds.

Objectives

Healthy riparian areas are conserved and protected through land use restrictions, protective measures, and other management actions.

Healthy riparian areas exhibit appropriate species composition and structural diversity to provide suitable forage, nesting or breeding habitats, and cover for diverse terrestrial and aquatic wildlife.

Degraded riparian areas are restored to proper functioning condition or better, ensuring that stream channel morphology and functions are appropriate to the local soil type, climate, and landform.

Employ the best available science relating to natural recovery patterns of riparian communities in arid lands.

Research is supported that increases the understanding of ecosystem processes (e.g., vegetation succession), cycles (e.g., fire return, nutrient cycles), and anthropogenic factors (e.g., recreation) that affect riparian vegetation communities and that may influence climate change.

Management Actions - General

Manage land uses and authorized activities to ensure that riparian areas meet or exceed management objectives identified in the Utah Standards and Guides (Appendix D).

Employ appropriate wildfire suppression tactics to minimize impacts on riparian areas, while protecting firefighter and public safety and private property as first priorities.

Apply BMPs and other management techniques designed to minimize impacts on riparian areas that may result from land uses and authorized activities.

Riparian Vegetation Conservation

Inventory riparian areas to establish baseline data on functioning conditions, trends in native plant composition, and infestations of noxious weeds and invasive species.

Pursue acquisition of non-federal lands within the NCA that would benefit the conservation, protection, and restoration of riparian areas.

Implement a program to strategically collect, store, and increase native seeds, cuttings, biological soil crust communities and species for conservation and for use in future restoration projects. Seed collection will follow the Seeds of Success Protocol, in partnership with the Great Basin and Mojave Desert Native Plant Programs. Collection of cuttings and biological soil crust communities will follow the best available protocols.

Develop partnerships with appropriate BLM Seed Warehouses for storage and management of seed

collections and with other federal and non-federal entities for propagation of seedlings and cuttings.

Develop and implement re-vegetation plans for damaged riparian areas to minimize soil erosion and re-establish desired plant communities. Plans will specify seed/plant sources, seed/plant mixes, and soil preparation. Utilize salvage vegetation from the project area to the extent possible.

Establish monitoring plots and use desired plant species frequency, density, and distribution data to evaluate the effectiveness of the treatments in meeting management objectives.

Conduct monitoring, as determined by project-specific monitoring plan, to evaluate effectiveness of restoration and ES&R treatments.

Riparian Vegetation Protection

Treat non-native woody species (e.g., tamarisk, Russian olive) in a phased approach using biological controls, flaming, hand removal, herbicides, mechanical methods, or a combination of methods, depending on target species, infestation level, site characteristics, and project size (see Table 2-2 for descriptions of each method).

Allow adequate time between treatments for native woody species to establish in a treated area before treating adjacent patches.

Prohibit new surface disturbing projects or activities within 500 feet [100 meters (330 feet)] of the edge of the riparian zone, except when the project would improve riparian resource conditions.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about the ecological values of riparian areas and appropriate public land use etiquette to protect these areas.

Involve volunteers, schools, youth groups, veterans, and partner organizations in riparian resource monitoring and restoration projects to increase public awareness and foster citizen stewardship of NCA resources.

Management Actions - Scientific Research

Pursue opportunities to scientifically assess (i.e., through rigorous and statistically valid study design) the short and long-term effectiveness of seed/seedlings/cuttings by source in areas to be re-vegetated. Incorporate local

ecotypes (locally collected and increased seed) into vegetation studies where plant materials are used for vegetation restoration.

Pursue opportunities to collaborate with researchers and other federal and non-federal partners to assess the variability in the genetic diversity of plant species to assist in the development of species' Seed Transfer Zones and inform the development of plant materials and seed purchase for large scale restoration and re-vegetation projects.

Collect and maintain baseline data on riparian vegetation species composition, noxious weeds, and non-native species infestations.

Pursue opportunities to develop and maintain baseline data on the terrestrial, avian, and aquatic wildlife that utilize these areas.

Pursue opportunities to develop baseline data on taxa found in the riparian areas that are not well studied, such as amphibians, insects, other invertebrates, fungi, and lichens.

Management Actions - Climate Change Monitoring

Pursue opportunities to monitor the areal extent and species composition of riparian vegetation communities as a possible predictor of decreased precipitation and changes in seasonal precipitation patterns in the Mojave Desert.

Pursue opportunities to identify key riparian features within and adjacent to the NCA that must be protected to allow multi-species habitat connectivity and wildlife migration corridors under changing climate conditions.

2.9.7 Fire and Fuels Management

2.9.7.1 Fire Suppression

Goals

Wildfire suppression activities support the conservation and protection of NCA resource values and comply with legal, regulatory, and agency policy requirements.

Objectives

Suppression activities prioritize firefighter and public safety, protect private property, conserve and protect NCA resource values, and minimize overall suppression costs through planning and efficient management of tactical and human resources.

[Suppression efforts are coordinated to the extent possible with other federal, Tribal, and state agencies, and local governmental entities.]

Research is supported that increases the understanding of ecosystem processes, natural cycles, and

anthropogenic factors that affect the fire return intervals that influence climate change.

Management Actions - General

Employ rapid and appropriate suppression responses to minimize fire size and duration in the NCA.

Conserve and protect unburned areas through appropriate fire suppression responses, while prioritizing firefighter and public safety and the protection of private property.

Utilize Resource Advisors to guide suppression actions for all fires to help ensure that ecological systems and resource values are conserved and protected to the maximum extent possible.

Evaluate the use of “backfiring” as a fire suppression tactic in late successional shrublands on a case-by-case basis. Require NCA Manager approval prior to employing this tactic.

~~Do not authorize wildfire use in the NCA, [Naturally ignited wildfires are not authorized to accomplish a resource objective in the NCA]~~ as there are no fire-adapted vegetative communities present in which fire has historically played an important role in ecosystem function.

Do not authorize the use of management-ignited (prescriptive) fire in any of the ecological systems of the NCA for hazard fuel reduction or vegetation type conversions, as these are not fire-adapted communities in which fire has historically played an important role in ecosystem function.

Prescriptive fire could be authorized as part of scientific studies, as described below under Scientific Research.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about fire prevention and reporting wildfires.

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about native vegetation communities and why fire did not historically play an important role in ecosystem function for these communities.

Management Actions - Scientific Research

Pursue opportunities for scientific studies that will develop reliable methods to forecast catastrophic wildfire seasons using the timing of fall and winter precipitation events.

Only authorize the use of prescriptive fire for research purposes as part of scientific studies authorized under an NCA Research Permit and other required permits.

Do not authorize prescriptive fires for research purposes within designated critical habitat for the Mojave desert tortoise or other federally-listed species.

Do not authorize prescriptive fires for research purposes in unburned late successional shrublands, including blackbrush or other communities.

Limit the size of prescriptive fires for research purposes to no more than one acre for all studies proposed under an NCA Research Permit.

Management Actions - Climate Change Monitoring

Pursue opportunities to install one or more solar-powered weather stations in the NCA to collect data on temperature, precipitation, wind speed, humidity, soil moisture, solar radiation, and other variables that could signal changing climatic conditions that influence wildfire frequency and severity.

2.9.7.2 ES&R and Other Native Vegetation Community Restoration

Goals

Biodiversity, ecological integrity, and ecosystem resilience are restored in disturbed and fire-damaged native vegetation communities.

Objectives

Species richness and landscape heterogeneity are re-established in disturbed and fire-damaged vegetation communities through restoration projects and post-fire ES&R actions.

Progress is made toward restoration of late successional shrublands.

Genetic integrity of native communities is protected by using source-identified seeds and other plant materials for restoration and re-vegetation projects.

Restoration methods employ the best available science relating to natural recovery patterns of native vegetation communities.

Research is supported that increases the understanding of ecosystem processes (e.g., role of soil crusts, gramnivores, herbivores), cycles (e.g., fire return, nutrient cycles), and anthropogenic factors (e.g., recreation) that affect the re-establishment of native vegetation communities and that may influence climate change.

Management Actions - General

Apply BMPs and other management techniques designed to minimize loss of top soil and soil crusts during restoration projects and ES&R actions.

In planning re-vegetation projects for disturbed and fire-damaged areas, identify desired plant communities and use ecologically sustainable methods that minimize new surface disturbances and impacts on other resource values of the NCA.

Establish monitoring plots and use desired plant species frequency, density, and distribution data to evaluate the effectiveness of the treatments.

Conduct monitoring to evaluate effectiveness of re-vegetation and ES&R actions, as determined by the project-specific monitoring plans.

Implement a program to strategically collect, store, and increase native seeds, cuttings, biological soil crust communities and species for conservation and for use in future restoration projects. Seed collection will follow the Seeds of Success Protocol, in partnership with the Great Basin and Mojave Desert Native Plant Programs. Collection of cuttings and biological soil crust communities will follow the best available protocols.

Develop partnerships with appropriate BLM Seed Warehouses for storage and management of seed collections and with other federal and non-federal entities for propagation of seedlings and cuttings.

Maximize the use of microsites of fertile soils (“fertile islands”) and areas where biological soil crusts are regenerating.

Authorize the use of artificial water, carbon sequestration soil treatments, or other methods that have been shown to increase success of restoration efforts in desert ecosystems.

Authorize the inoculation of cryptogamic soil crust species or mycorrhizae to restore biological soil crusts and assist plant establishment.

Authorize use of native seeds, plant materials, and native plant cultivars for re-vegetation efforts, in the following order of preference:

1. Locally derived sources;
2. Regionally derived sources.

Only authorize use of non-native plant species when all the following criteria are met:

- a) Desired native species are not available;

b) The natural biological diversity of the treatment area would not be diminished;

c) Exotic and naturalized species can be confined within the treatment area;

d) Restoration of native vegetation species would be facilitated by use of the non-native species;

e) Use of non-native species would benefit threatened and endangered species, including the desert tortoise.

Include a high proportion of early colonizing (early successional) native annual and perennial species in seed mixes or plantings to quickly re-establish soil cover, minimize invasive species establishment, and facilitate the re-establishment of late successional species.

Include native species in seed mixes or plantings that will function as “nurse” plants to facilitate the re-establishment of species (e.g., Joshua trees) that require shade during initial growth stages.

To implement seeding restoration, authorize the use of non-invasive (e.g., aerial applications, hand scattering, surface distribution of encapsulated seeds, mulching) and minimally invasive seeding (e.g., small seed drills, hand raking) methods, as well as plug plants, containerized plants, and other plant materials.

To protect seeds from rodents, birds, and other gramnivores, authorize the use of non-invasive (e.g., seed encapsulation, mulching) and minimally invasive (e.g., small seed drills, hand raking) seed protection methods.

Evaluate the use of invasive seed protection methods (e.g., harrowing, chaining) outside of designated critical habitats on a case-by-case basis.

Authorize the use of such methods only when scientific research demonstrates that the benefits would clearly outweigh the negative effects on listed species, habitats, and other resource values.

Authorize hand planting of plugs, other plant materials, and containerized plants for vegetation restoration and ES&R treatments.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, exhibits, demonstration treatment areas, websites) that inform visitors about vegetation/habitat restoration projects and ES&R actions.

Involve volunteers, school, youth and veterans groups, academic institutions, and partner organizations in

restoration projects whenever feasible to increase public awareness and foster increased citizen stewardship of NCA lands and resources.

Management Actions - Scientific Research

Pursue opportunities to scientifically assess (i.e., through rigorous and statistically valid study design) the short and long-term effectiveness of seed/seedlings/cuttings by source in areas to be re-vegetated. Incorporate local ecotypes (locally collected and increased seed) into vegetation studies where plant materials are used for vegetation restoration.

Pursue opportunities to collaborate with researchers and other federal and non-federal partners to assess the variability in the genetic diversity of plant species to assist in the development of species' Seed Transfer Zones and inform the development of plant materials and seed purchase for large scale restoration and re-vegetation projects.

Pursue opportunities for scientific studies of the insect and avian pollinators that occur in the NCA and their role in the persistence and/or recovery of native species.

Pursue opportunities for scientific studies designed to better understand the role of gramnivores (e.g., ants, birds, rodents, other small mammals) and herbivores in the persistence and/or recovery of native species.

Pursue opportunities for scientific studies designed to improve the success of re-vegetation techniques for late successional species in disturbed and fire-damaged vegetation communities.

Pursue opportunities for scientific studies to develop native plant materials and native plant cultivars that can quickly re-establish in fire-damaged arid lands and prevent infestations of noxious weeds and non-native invasive species.

Pursue opportunities for scientific studies to develop cost effective and ecologically sustainable biological methods to control or eradicate noxious weeds and invasive species.

Management Actions - Climate Change Monitoring

Monitor the timing, frequency, and intensity of fall precipitation events in the NCA, as these events can be used to predict high invasive annual grass production in the following spring that will fuel catastrophic wildfires during the summer months.

Pursue opportunities for scientific studies to determine the carbon sequestration value of intact desert shrublands and the potential for restoration of degraded desert

shrublands to be used to mitigate increasing atmospheric carbon dioxide levels.

2.9.8 Noxious Weeds and Invasive Species

Goals

Ecological integrity of the native vegetation communities is conserved, protected, and restored.

Objectives

Infestations of noxious weeds and exotic invasive species are controlled and ultimately eradicated using IWM, [in cooperation with other tribal, federal and state agencies, local governmental entities, and adjacent private landowners.]

New infestations of noxious weeds and exotic invasive species are prevented through management actions and project design.

Ecologically sustainable and cost effective methods are employed for all IWM treatments.

Research is supported that increases the understanding of ecosystem processes, natural cycles (e.g., seasonal precipitation), and anthropogenic factors (e.g., recreation) that affect the establishment and proliferation of noxious weeds and invasive species, and alter the historic fire regime.

Management Actions - General

Employ weed prevention BMPs (Appendix F) as appropriate for surface-disturbing projects and activities.

Require the use of certified weed-free hay or other feed for recreational pack stock.

Require the use of certified weed-free mulch and seed for reclamation, restoration, and re-vegetation projects.

Complete a systematic inventory of noxious weeds on public lands in the NCA.

Develop and maintain a GIS database of all noxious weed and invasive species treatment projects conducted in the NCA.

Conduct monitoring and treat all weed infestations for a minimum of 5 years or until target species is eradicated.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about appropriate public land use etiquette to prevent the introduction and spread of noxious weeds and non-native invasive species.

Involve volunteers, youth and veterans groups, and diverse partner organizations in the identification and mapping of noxious weed and exotic invasive species infestations and in weed treatment projects that employ hand removal and hand tool methods.

Management Actions - Scientific Research

Pursue opportunities for scientific studies to develop ecologically sustainable and cost-effective biological controls for noxious weeds and non-native invasive species.

Pursue opportunities for scientific studies to test the effectiveness of herbicides approved for use on public lands in the reduction of exotic invasive annual grasses in Mojave Desert and transitional communities.

Management Actions - Climate Change Monitoring

Pursue opportunities for scientific studies that evaluate the effects of changing precipitation patterns and increased atmospheric carbon dioxide levels on the spread and dominance of non-native invasive annual grasses in Mojave Desert and transitional communities.

2.9.9 Vegetation Resource Uses: Livestock Grazing

Goals

Livestock grazing is managed in conformance with the mandates of OPLMA Section 1974 (e) 4 and in a manner that conserves, protects, and enhances the ecological, scenic, wildlife, recreational, cultural, historical, natural, educational, and scientific resources of the NCA.

Objectives

Manage livestock grazing to ensure the long-term sustainability of Mojave Desert and Great Basin ecosystems and to promote the resilience and survival of native vegetation communities under predicted climate change scenarios.

Manage livestock grazing to achieve Utah Standards and Guides (Appendix D) for upland and riparian vegetation communities, by adjusting use levels, timing and intensity of grazing, and by developing improvement and restoration projects.

Management Actions - General

Conversions of types of livestock from cattle to sheep or other kind of livestock will not be authorized.

Continue to make public lands within the following allotments unavailable to livestock grazing over the life of the RMP:

- a) Alger Hollow;

- b) Red Cliffs;
- c) Yellow Knolls;
- d) Washington;
- e) Leeds;
- f) Sandstone Mountain;
- g) Sand Hill.

Make public lands within the Diamond Valley allotment unavailable to livestock grazing over the life of the RMP (1,780 acres and 80 AUMs).

Continue to make public lands within the Sand Wash and Veyo allotments available for grazing over the life of the RMP. (Map 2-10)

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites, educational programs, school curriculum) focused on increasing public understanding of the history of livestock grazing in the NCA.

Management Actions - Scientific Research

Pursue opportunities for scientific studies to determine changes in species composition and vigor of native vegetation communities in areas of the NCA where domestic livestock grazing was discontinued in the 1990s, when compared to historically collected baseline data.

2.9.10 Vegetation Resource Uses: Plant Materials

Goals

A biologically diverse landscape is conserved, protected, and restored to support a variety of habitats and native plant and animal species.

Objectives

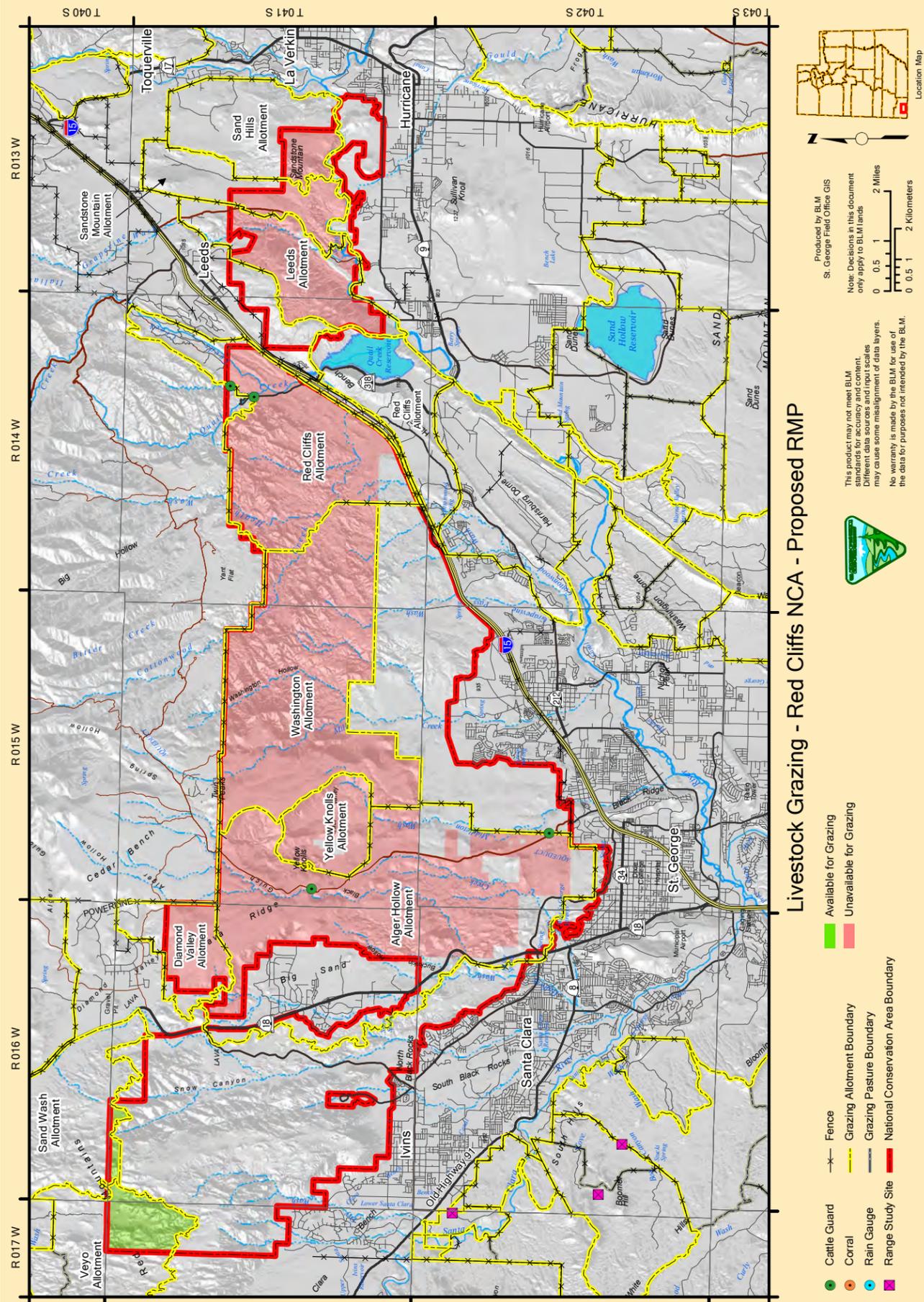
Manage harvesting and use of woodland products, native plants, and plant materials to conserve biological diversity and further restoration goals for native vegetation communities and species habitats.

Management Actions - General

Fees or permits would not be required for the collection of small quantities of pinyon pine seeds (pine nuts) for non-commercial personal use.

Fuelwood and Post Harvesting for Commercial and Non-Commercial Purposes

Do not authorize commercial and non-commercial fuelwood or post harvesting in the NCA.



Christmas Tree Harvesting for Commercial and Non-Commercial Purposes

Do not authorize commercial or non-commercial Christmas tree harvesting in the NCA.

Campfire Materials

Do not allow on-site use of dead and down materials for campfires.

[Require that visitors provide fuelwood for use in campfires.]

The collection of dead and down materials for campfires is not authorized in the Red Cliffs Recreation Area; visitors must provide firewood for use in campfires in the campground and day use area.

Native Seed Harvesting for Commercial and Non-Commercial Purposes

Do not authorize native seed harvesting for commercial or non-commercial purposes in the NCA.

Native Desert Vegetation Harvesting for Commercial and Non-Commercial Purposes

Do not authorize the commercial or non-commercial harvesting, removal, salvage, and/or sale of native desert vegetation (e.g., cacti, succulents, other native species) in the NCA.

Authorize the individual collection of native plant materials (excluding all federally-listed native plant species) by Native Americans for religious, ceremonial, and traditional purposes.

Native Seed, Plants, and Plant Materials Collection for Research, Conservation, and Restoration

Authorize collection of native seeds, seedlings, plants, cuttings, biological soil crusts and species for scientific research through an NCA Scientific Research Permit and Utah BLM Specimen Collection Permit, where required.

Authorize the collection of native seeds, seedlings, cuttings, biological soil crust communities and species for conservation and future use in restoration projects. Seed collection will follow the Seeds for Success Protocol, in partnership with the Great Basin and Mojave Desert Native Plant Programs. Collection of cuttings and biological soil crust communities will follow the best available protocols.

Develop partnerships with appropriate BLM Seed Warehouses for storage and management of seed

collections and with other federal and non-federal entities for propagation of seedlings and cuttings.

Authorize hand method seed collection for scientific research and for restoration projects on public lands within the NCA and adjacent areas within the northeast Mojave Desert of southwestern Utah, Arizona, and Nevada.

Authorize the collection of native seedlings, plants, cuttings, and biological soil crust restoration projects on public lands within the NCA and adjacent areas within the northeast Mojave Desert of southwestern Utah, Arizona, and Nevada.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites, educational programs, school curriculum) that focus on increasing public understanding of research related to the development of improved plant materials and restoration techniques for arid lands.

Management Actions - Scientific Research

Pursue opportunities for scientific studies designed to improve the success of re-vegetation techniques for late successional species in disturbed and fire damaged vegetation communities.

Pursue opportunities for scientific studies to develop native plant materials and native plant cultivars that can quickly re-establish in fire-damaged arid lands and prevent infestations of noxious weeds and non-native invasive species.

2.9.11 Special Status Species-Including Threatened, Endangered, Candidate, and Species Proposed for Listing under ESA

Goals

Shivwits milkvetch (*Astragalus ampullarioides*) populations in the NCA are stable or increasing, helping to assist the recovery and delisting of this endemic Washington County native plant species.

[Critical habitat and suitable habitat are conserved, protected, and restored to support species expansion and persistence that will sustain viable populations.]

Objectives

Implement management actions to conserve, protect, and restore habitat for the Shivwits milkvetch.

[Protect, and restore habitats for Shivwits milkvetch, to control detrimental non-native species, and to re-establish

extirpated populations or augment declining populations, as necessary, to sustain viable populations in the NCA.]

Management Actions - General

Implement the goals, objectives, and management recommendations identified in the approved Recovery Plan for *Astragalus holmgreniorum* (Holmgren milk-vetch) and *Astragalus ampullarioides* (Shivwits milk-vetch) (USFWS 2006).

Monitor identified populations of Shivwits milkvetch populations within the NCA in coordination with USFWS.

[Evaluate the effectiveness of management actions through monitoring and scientific research studies.]

Conduct botanical inventories of areas within the NCA where appropriate soil types are present that comprise suitable Shivwits milkvetch habitat.

Use protective measures such as natural barriers, fencing, signing, and trail designation to protect populations of and habitat for Shivwits milkvetch.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, brochures, websites) that inform visitors about the endemic and at-risk native plants that grow in the NCA and appropriate public land etiquette to protect these species.

Management Actions - Scientific Research

Pursue opportunities to complete detailed soil surveys in the NCA to assist in the identification of areas that could support populations of Shivwits milkvetch.

Pursue opportunities to collect data on the timing, frequency, and duration of precipitation events and how these influence persistence and expansion of Shivwits milkvetch populations.

Pursue opportunities for scientific research that focuses on the species of native bees or other pollinators that help to ensure reproduction within Shivwits milkvetch populations and gene flow between populations.

[Research is supported that increases the knowledge of this species and the understanding of ecosystem processes, natural cycles, and anthropogenic factors that may influence population trends and predicted climate change scenarios.]

2.9.12 Special Status Wildlife Species-Including Threatened, Endangered, Candidate, and Species Proposed for Listing under ESA

Goals

Habitats for listed species are conserved, protected, and restored to support viable populations that no longer require listing protection under the ESA.

Habitats for species proposed for listing under the ESA are conserved, protected, and restored to support viable populations, precluding the need to list species that are candidates or proposed for listing under the protection of the ESA.

Objectives

Upland vegetation communities provide high quality forage or a high quality prey base, as well as cover, shade, and breeding areas that will sustain viable populations of biologically diverse terrestrial and aquatic species.

Riparian areas and natural water sources provide high quality habitat, thereby sustaining viable populations of biologically diverse terrestrial and aquatic species.

Habitat connectivity, migration routes, and movement corridors are conserved, protected, and restored to support species persistence, adaptation, and overall biodiversity under changing climate conditions.

Management of discretionary activities does not contribute to the need to list candidate or proposed species under the ESA.

Public awareness of special status species is enhanced through education, interpretation, and volunteer opportunities that further species conservation and habitat restoration.

Research is supported that increases the knowledge of threatened and endangered species that inhabit the NCA and the understanding of ecosystem processes, natural cycles, and anthropogenic factors that may influence predicted climate change scenarios.

Management Actions - General

Implement the goals, objectives, and management recommendations that apply to public lands from USFWS-approved Recovery Plans and Biological Opinions issued under Section 7 of the ESA. Evaluate the effectiveness of management actions through monitoring and scientific research studies.

Continue active management programs to inventory, monitor, protect, and restore habitats for special status species, to control detrimental non-native species, and

to re-establish extirpated populations, as necessary, to maintain the unique ecosystem biodiversity of the NCA.

Apply BMPs and other management techniques designed to minimize impacts on critical habitats and listed species populations that may result from land uses and authorized activities.

Population Management

Authorize [*Allow*] the reintroduction, translocation, and population augmentation of special status species populations into current or historic habitats in the NCA, in coordination with USFWS, and UDWR, [*and local governments, subject to guidance provided by BLM's 6840 policy and by existing or future MOU,*] to assist recovery and delisting of threatened or endangered species and preclude the need to list other at-risk species.

Monitor the long term success of population management actions and use Adaptive Management Strategies to improve desired outcomes.

Collaborate with USFWS, UDWR, and appropriate USDA agencies on predator control, if other management actions have not been successful in reducing documented predation levels that have been shown to be measurably impacting the recovery of viable populations of listed species. Require the development of target species-specific predator control plans supported by NEPA analyses that identify the purpose of and need for action, designate specific goals to be met, and evaluate the least invasive and most ecologically sensitive methods to accomplish those goals.

Habitat Management

Suppress wildfires in special status species' habitats using tactics that minimize fire size and impacts on species' populations, native vegetation communities, and other ecosystem components, while ensuring that firefighter safety and private property are given highest priority.

Prioritize habitat restoration projects and post-fire ES&R treatments as follows:

1. Designated critical habitats for federally-listed threatened and endangered species;
2. Habitats for candidate and proposed species for listing under ESA.

Do not authorize recreational activities or uses in areas where special status species habitats may be degraded by these authorizations.

Only authorize new land uses in special status species habitats if reasonable alternative locations outside of these habitats do not exist and impacts to habitats can be avoided or appropriately mitigated.

Maintain habitat connectivity, migration routes, and movement corridors through project placement, design, and permit stipulations to support special status species persistence, adaptation, and overall biodiversity under changing climate conditions.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about appropriate land use etiquette and the need to protect populations and habitats for terrestrial and aquatic species that are listed or proposed for listing under the protection of the ESA.

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that educate visitors about terrestrial and aquatic special status species, their evolutionary adaptations to an arid landscape where surface water is limited, and the factors that have contributed to the need to list these species under the ESA.

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that educate visitors about the rich biodiversity created by the convergence of the Mojave Desert, Great Basin, and Colorado Plateau ecosystems that can be experienced in the NCA.

Management Actions - Scientific Research

Pursue opportunities for scientific studies to determine the habitat value of native vegetation communities of different successional stages for diverse wildlife species to improve habitat protection and restoration project planning for special status species.

2.9.13 Special Status Bird Species: Southwestern Willow Flycatcher, Western Yellow-Billed Cuckoo, and Other Riparian-Dependent Special Status Species

Goals

Southwestern willow flycatcher, [*and western yellow-billed cuckoo, and other riparian dependent special status bird species*] populations that utilize habitats in the NCA would be stable or increasing, helping to meet recovery and delisting goals for each species.

Objectives

Riparian habitats along Leeds Creek, the Virgin River, and elsewhere in the NCA would include the vegetative species diversity, density, and canopy cover required to provide suitable habitat for southwestern willow flycatchers.

~~Cottonwood gallery forests along Quail Creek would provide~~ [Potentially] suitable [habitat in the NCA would be improved to provide suitable habitat for] western yellow-billed cuckoos.

Riparian areas would be in proper functioning condition and provide adequate foraging, roosting, and nesting sites for riparian-obligate special status avian species.

Research is supported that increases baseline data related to riparian-obligate avian species that utilize the NCA.

Research is supported that increases the understanding of ecosystem processes, natural cycles, and anthropogenic factors that may influence predicted climate change scenarios.

Management Actions - General

Management of riparian habitat would be consistent with the Final Recovery Plan: Southwestern Willow Flycatcher (*Empidonax traillii extimus*) (USFWS 2002) ~~and Biological Opinions issued by USFWS.~~ [and future final recovery plans for the western yellow-billed cuckoos.]

Maintain a database of observations of southwestern willow flycatchers and western yellow-billed cuckoos.

Develop maps of potential habitats for southwestern willow flycatcher and western yellow-billed cuckoo that include location, size, shape, spacing, and condition of habitat areas.

Manage potential habitat for southwestern willow flycatcher and western yellow-billed cuckoos to allow natural regeneration into suitable habitat as rapidly as natural conditions allow.

Manage suitable habitat for southwestern willow flycatcher and western yellow-billed cuckoos to conserve and protect its suitability for nesting, foraging, and occupancy.

Monitor changes in the relative abundance, health, reproductive success, and distribution of populations, in partnership with USFWS and UDWR.

~~Authorize the translocation and population augmentation of southwestern willow flycatcher and western yellow-billed cuckoos in consultation with USFWS and UDWR.~~

[Allow the reintroduction, translocation, and population augmentation of southwestern willow flycatcher and western yellow-billed cuckoos into current or historic habitats in the NCA, in coordination with USFWS, UDWR, and local governments, subject to guidance provided by BLM's 6840 policy and by existing or future memoranda of understanding.]

Suitable habitat for western yellow-billed cuckoo will be identified according to Guidelines for the identification of suitable habitat for WYBCU in Utah (USFWS 2015a).

Surveys for western yellow-billed cuckoo will be conducted according to A Natural History Summary and Survey Protocol for the Western Distinct Population Segment of the Yellow-billed Cuckoo: U.S. Fish and Wildlife Techniques and Methods (Halterman, Johnson, Holmes, and Laymon 2015).]

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about the riparian areas and the diverse avian species that depend upon this habitat.

Management Actions - Scientific Research

Develop new volunteer opportunities for partners, youth groups, and citizen scientists to assist with collecting observations of southwestern willow flycatcher, western yellow-billed cuckoo, and other riparian-obligate avian species in the NCA along Quail Creek, Leeds Creeks, and the Virgin River.

2.9.14 Special Status Bird Species: California Condor**Goals**

[Designated nonessential experimental populations of] California condor ~~populations~~ that may utilize habitats in the NCA would be stable or increasing, helping to meet recovery and delisting goals for this species.

Objectives

~~Native vegetation communities and riparian areas sustain potential roosting sites and a high quality prey base for California condors.~~

Environmental hazards that may affect California condors are reduced or eliminated.

Management Actions - General

Management of habitat would be consistent with the Recovery Plan for the California Condor (USFWS 1996) and Biological Opinions issued by USFWS.

~~Authorize the reintroduction, translocation, and supplemental releases of California condors into historic habitats in coordination with USFWS.~~

[Allow the reintroduction, translocation, and population augmentation of California condors into current or historic habitats in the NCA, in coordination with USFWS, UDWR, Southwest Condor Working Group, American Indian Tribes and local governments, subject to guidance provided by BLM's 6840 policy and current Memorandum of Understanding among the USFWS (Regions 2, 6, 8) and Cooperators (USFWS 2015b) or future MOUs.]

Maintain a database of observations of California condors and their prey, should they be observed using the NCA.

Coordinate with partners (e.g., UDWR, National Audubon Society, National Wildlife Federation, [*The Peregrine Fund*]) to promote the use of non-lead ammunition in the NCA.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that educate visitors about California condors and the captive breeding and release programs ongoing on public lands on the Arizona Strip.

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform hunters about the need to use non-lead ammunition to minimize impacts on California condors and other predators and scavengers.

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about the need to pack out food wastes and litter that may cause choking and death when consumed by condors.

Management Actions - Scientific Research

Develop new volunteer opportunities for partners, youth groups, and citizen scientists to assist with collecting observations of California condors in the NCA.

Management Actions - Climate Change Monitoring

Pursue opportunities for research that increases the understanding of ecosystem processes, natural cycles, and anthropogenic factors that may influence the prey base of condors under predicted climate change scenarios.

2.5.15 Special Status Species: Desert Tortoise**Goals**

Desert tortoise populations in the NCA have made measurable progress toward meeting the recovery goals, objectives, and identified criteria for viable populations established by *Recovery Plan for the Mojave Desert Tortoise* (USFWS 1994) and the *Revised Recovery Plan for the Mojave Desert Tortoise* (USFWS 2011).

Objectives

Land uses and authorized activities are managed to conserve, protect, and restore habitats to meet the nutritional, metabolic (shade/cover), reproductive, and home range requirements of viable desert tortoise populations.

Ecologically intact core areas of designated critical habitat are conserved and protected from fragmentation and loss of native vegetation communities, through appropriate land use allocations and management actions across BLM programs.

Ecological integrity of damage native vegetation communities is restored through appropriate re-vegetation methods and the control and eradication of noxious weeds and non-native invasive species.

Land uses and authorized activities are managed so that habitats provide ecological diversity and connectivity to create genetic resilience for desert tortoise populations under changing climatic conditions.

Research is supported that increases the knowledge of Mojave desert tortoise life histories and population dynamics in the NCA.

Research is supported that increases the understanding of ecosystem processes, natural cycles, and anthropogenic factors that may influence predicted climate change scenarios.

[BLM will work collaboratively with local, state, and federal partners to accomplish the goals and the objectives of the Washington County HCP and its implementation agreement.]

Management Actions - General

Implement the goals, objectives, and management recommendations identified in the Revised Recovery Plan for the Mojave Desert Tortoise (USFWS 2011) [or future revisions], as well as the terms and conditions from relevant Biological Opinions issued by USFWS to assist recovery and delisting of the desert tortoise in the Upper Virgin River Recovery Unit. Evaluate the effectiveness of

management actions through monitoring and scientific research studies.

Install tortoise barrier fencing along heavily traveled public use roadways in the NCA to minimize tortoise injuries and mortalities caused by motorized vehicles.

Coordinate with Washington County Public Works Department to post speed limits on heavily traveled public use roads where tortoise barrier fencing has not been installed to minimize tortoise injuries and mortalities caused by motorized vehicles.

Population Management

~~Authorize the translocation and population augmentation of desert tortoises in consultation with USFWS and UDWR.~~

~~[Allow the reintroduction, translocation, and population augmentation of desert tortoises into current or historic habitats in the NCA, in coordination with USFWS, UDWR, and local governments, subject to guidance provided by BLM's 6840 policy and by existing or future MOU.]~~

Monitor changes in the relative abundance, health, reproductive success, and distribution of tortoise populations, in partnership with USFWS and UDWR.

Collaborate with USFWS, UDWR, and appropriate USDA agencies on predator control, if other management actions have not been successful in reducing documented predation levels that have been shown to be measurably impacting the recovery of viable desert tortoise populations. Require the development of target species-specific predator control plans supported by NEPA analyses that identify the purpose of and need for action, designate specific goals to be met, and evaluate the least invasive and most ecologically sensitive methods to accomplish those goals.

Habitat Conservation, Protection, and Restoration

Prioritize the acquisition of non-federal lands or interests in critical tortoise habitat within the NCA boundaries from willing land owners through purchase, [exchange of public lands identified for disposal outside of the NCA boundaries], or donation[, or conservation easement].

Whenever possible, acquire both surface and subsurface rights to avoid the creation of split estates.

Acquire conservation easements when such interest would further the goals of recovery and delisting of the desert tortoise or other at-risk species.

Prioritize conservation and protection of critical habitat through firebreaks, appropriate wildfire suppression responses, and control or eradication of noxious weeds and invasive species.

Establish monitoring plots and conduct long-term monitoring using desired plant species frequency, density, and distribution data to evaluate the effectiveness of the vegetation restoration projects.

~~Require reclamation for activities that result in the loss or degradation of tortoise habitat. Good quality habitat would be restored to as close to pre-disturbance conditions as practicable. Damaged habitats would be improved to good quality through restoration, wherever practicable. Additional mitigation measures may be included in decision documents to offset the loss of quality and quantity of tortoise habitat.~~

~~Authorized actions that may result in adverse effects ("incidental take") of desert tortoises would require implementation of project stipulations including personnel education programs, pre-construction clearances, operational restrictions, and procedures for moving tortoise out of harm's way.~~

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that educate visitors about Mojave Desert species, their evolutionary adaptations to an arid landscape where surface water is limited, and the factors that have contributed to the need to list these species under the ESA.

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about appropriate land use etiquette and the need to protect populations and habitats for desert tortoises and other Mojave Desert wildlife. Encourage public land users to pack out food scraps and litter that will attract predators that prey on tortoises, particularly juveniles.

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that educate visitors about the rich biodiversity of the NCA created by the convergence of the Mojave Desert, Great Basin, and Colorado Plateau ecosystems.

Management Actions - Scientific Research

Pursue opportunities for scientific studies to determine the level and effects of predation on desert tortoise populations in the NCA.

Pursue opportunities for scientific studies to determine the effects of intensive non-motorized recreation on desert tortoise populations in the NCA.

Pursue opportunities for scientific studies to determine the relative abundance of desert tortoise populations in the NCA.

Pursue opportunities for scientific studies to determine age classes, gender ratios, and the health of desert tortoise populations in the NCA.

Pursue opportunities for scientific studies to determine changes in species composition and vigor of native vegetation communities in areas of the NCA where domestic livestock grazing was discontinued in the 1990s, when compared to historically collected baseline data.

Management Actions - Climate Change Monitoring

Pursue opportunities for scientific studies to determine the effects of predicted higher winter temperatures on desert tortoise hibernation patterns, using observed changes as an indicator to monitor climate change.

2.9.16 Special Status Fish Species: Woundfin Minnow and Virgin River Chub

Goals

Woundfin minnow (*Plagopterus argentissimus*) and Virgin River chub (*Gila seminuda*) populations that utilize the Virgin River through the NCA would be stable or increasing, helping to assist the recovery and delisting of these species across their range.

Objectives

Suitable aquatic habitats for woundfin minnow and Virgin River chub in the NCA would be managed to support viable populations.

Research is supported that increases baseline data related to Virgin River native fish in the NCA.

Research is encouraged that informs the management of aquatic habitats for at-risk species under predicted climate change scenarios.

Management Actions - General

Management actions will be guided by the *Virgin River Fishes Recovery Plan* (USFWS 1995), *Virgin River Resource Management Plan and Recovery Program*

(USFWS 2000), and *Fish and Wildlife 2000: Special Status Fish Habitat Management* (BLM 1991).

Assist with monitoring efforts for woundfin minnow and Virgin River chub in cooperation with USFWS, UDWR, and the partners of the Virgin River Program.

~~Authorize the reintroduction, translocation, and population augmentation of woundfin minnow and Virgin River chub into suitable habitats in the NCA.~~

~~[Allow the reintroduction, translocation, and population augmentation of woundfin minnow and Virgin River chub into current or historic habitats in the NCA, in coordination with USFWS and UDWR, subject to guidance provided by BLM's 6840 policy and by existing or future MOUs.]~~

Monitor land uses and authorized activities that have the potential to degrade water quality, damage riparian vegetation, and collapse stream banks that provide shade and cover for aquatic species.

Restrict, modify, or eliminate land uses and authorized activities that are shown to degrade aquatic habitats that support native Virgin River fish species.

Prioritize the acquisition of non-federal inholdings within the NCA that would benefit the conservation, protection, and restoration of the Virgin River and its tributaries.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about the Virgin River, its tributaries, and the unique native fish and aquatic species that evolved in this system.

Involve partners and volunteers in clean-up and restoration projects that improve aquatic habitat conditions along the Virgin River through the NCA.

Management Actions - Scientific Research

Pursue opportunities to increase baseline data and the general understanding of population dynamics and habitat needs of native Virgin River fish through scientific research.

2.9.17 BLM Sensitive Species

Goals

Habitats for aquatic and terrestrial BLM sensitive species support viable, self-sustaining populations that do not require listing under the ESA.

Objectives

Land uses and authorized activities on public lands are managed to conserve, protect, and restore habitats to meet the nutritional, metabolic (shade/cover), reproductive, and home range requirements of sensitive species populations in the NCA.

Ecologically intact core areas of sensitive species habitats are conserved and protected from fragmentation and loss of native vegetation communities, through appropriate management actions across all BLM programs.

Ecological integrity of damaged native vegetation communities is restored, through appropriate re-vegetation methods and control and eradication of noxious weeds and invasive non-native species.

Land uses and authorized activities on public lands are managed so that habitats provide ecological diversity and connectivity to create resiliency for sensitive species populations under changing climate conditions.

Research is supported that increases the amount of baseline data related to sensitive species that occupy and/or utilize the NCA.

Research is encouraged that informs the management of habitats for at-risk species under predicted climate change scenarios.

Management Actions - General

Implement the goals, objectives, and management recommendations that apply to public lands from Executive Orders, Conservation Agreements and Strategies, and BLM policies. Evaluate the effectiveness of management actions through monitoring and scientific research studies.

Continue active management programs to inventory, monitor, protect, and restore habitats for sensitive species, control detrimental non-native species, and re-establish extirpated populations, as necessary, to maintain biodiversity.

Apply BMPs and other management techniques designed to minimize impacts on critical habitats as a result of land uses, authorized activities, and habitat restoration actions.

Population Management

Authorize [*Allow*] the reintroduction, translocation, and population augmentation of native sensitive species into historical and current habitats, in consultation with UDWR, to restore populations and

enhance or maintain current populations, distributions, and genetic diversity.

Monitor the long term success of the population actions and use Adaptive Management Strategies to improve desired outcomes.

Monitor changes in relative abundance and distribution of sensitive species populations in the NCA, in partnership with UDWR.

Collaborate with UDWR and appropriate USDA agencies on predator control, if other management actions have not been successful in reducing documented predation levels that have been shown to be measurably impacting the recovery of viable populations of sensitive species. Require the development of target species-specific predator control plans, supported by NEPA analyses that identify the purpose of and need for action, designate specific goals to be met, and evaluate the least invasive and most ecologically sensitive methods to accomplish those goals.

Habitat Conservation, Protection, and Restoration

Only authorize new land uses in sensitive species' habitats if reasonable alternative locations outside of these habitats do not exist and impacts to species populations and habitats can be mitigated.

Maintain habitat connectivity, migration routes, and movement corridors through project placement, design, and permit stipulations to support sensitive species persistence, adaptation, and overall biodiversity under changing climate conditions.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that educate visitors about sensitive species, their evolutionary adaptations, and the factors that have contributed to declining populations.

Management Actions - Scientific Research

Pursue opportunities for scientific studies to determine the relative abundance of sensitive species populations in the NCA.

Pursue opportunities for scientific studies to determine age classes, gender ratios, and the health of sensitive species populations in the NCA.

Pursue opportunities for scientific studies to determine the level and effects of predation on sensitive species populations in the NCA.

Management Actions - Climate Change Monitoring

Pursue opportunities to establish a long-term monitoring program to detect changes in seasonal migration patterns (arrival and departure dates) of selected migratory bird species as potential indicators of climate change.

2.9.18 BLM Sensitive Native Fish Species**Goals**

Aquatic habitats in Leeds Creek and the Virgin River support stable or increasing populations of BLM sensitive fish species including Virgin spinedace, desert sucker, and flannelmouth sucker (*Catostomus latipinnis*), helping to ensure that none of these species requires listing under the ESA.

Objectives

Aquatic habitat in the Virgin River on public lands provides interspersed pools, runs, and riffles of clear, cool water of sufficient quality and quantity to support viable populations of Virgin spinedace, desert sucker, and flannelmouth sucker.

Non-native invasive fish species are eradicated in the reach of the Virgin River through the NCA.

Research is supported that increases baseline data related to Virgin River native fish in the NCA.

Research is encouraged that informs the management of aquatic habitats for at-risk species under predicted climate change scenarios.

Management Actions - General

Management actions will be guided by the *Virgin River Fishes Recovery Plan* (USFWS 1995), *Virgin River Resource Management Plan and Recovery Program* (USFWS 2000) and *Fish and Wildlife 2000: Special Status Fish Habitat Management* (BLM 1991), the 1995 Virgin River Fishes Recovery Plan, and the 1995 Virgin Spinedace Conservation Agreement and Strategy.

[BLM will provide appropriate support to active partners in the Virgin River Fishes Recovery Team.]

Assist with monitoring efforts for Virgin spinedace, desert sucker, and flannelmouth sucker populations in cooperation with UDWR and the partners of the Virgin River Recovery Program.

Authorize [*Allow*] the reintroduction, translocation, and population augmentation of Virgin spinedace, desert sucker, and flannelmouth sucker into suitable habitats in the NCA.

Assist with eradication of non-native invasive fish species in cooperation with UDWR and the partners of the Virgin River Recovery Program.

Pursue acquisition of non-federal lands within the NCA that would benefit the conservation, protection, and restoration of aquatic habitats.

Monitor land uses and authorized activities along the Virgin River in the NCA that have the potential to degrade water quality, damage riparian vegetation, and collapse stream banks that provide shade and cover for aquatic species.

Restrict, modify, or eliminate any land uses and authorized activities [*in the NCA*] that are shown to degrade aquatic habitat in the Virgin River or its tributaries, Quail and Leeds Creeks.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues both off-site and along Leeds Creek and the Virgin River within the NCA (e.g., trailhead kiosks) that educate visitors about Virgin spinedace, desert sucker, and flannelmouth sucker, their evolutionary adaptations, and the factors that are contributing to declining populations.

Management Actions - Scientific Research

Pursue opportunities to increase the amount of baseline data and scientific knowledge related to the specific habitat requirements of native fish of the Virgin River system.

Management Actions - Climate Change Monitoring

Pursue opportunities to collect data on changing precipitation patterns in the Virgin River watershed that have the potential to impact aquatic habitats under predicted climate change scenarios.

2.9.19 BLM Sensitive Raptor Species**Goals**

Diverse raptor populations that utilize the NCA are viable or increasing and do not require listing under the ESA. BLM sensitive raptor species present in the NCA include: bald eagle, [*golden eagle*,] burrowing owl, ferruginous hawk, northern goshawk, and short eared owl.

Objectives

Land uses and authorized activities on public lands are managed to conserve, protect, and restore habitats to meet the nutritional, metabolic (shade/cover/perching), reproductive, and home range requirements of diverse species of raptors.

Habitats for raptors provide high quality roosting and nesting sites and diverse prey base, thereby sustaining viable populations of these species.

Environmental hazards that could impact raptors are minimized.

Research is supported that increases the amount of baseline data related to all species of raptors and the prey base that they utilize in the NCA.

Management Actions - General

Authorize [Allow] the reintroduction, translocation, and population augmentation of bald eagles, ferruginous hawks, northern goshawks, and short eared owls where doing so would not be detrimental to the viability of other native species.

[Actions that may adversely impact breeding, nesting, and roosting raptors will be subject to seasonal restrictions and spatial buffers, based on guidance found in Utah Field Office Guidance for Raptor Protection from Human and Land Use Disturbances (Romin and Muck 2002).]

Authorize [Allow] the population augmentation of burrowing owls and the installation of artificial nest burrows where doing so would not be detrimental to the viability of other native species.

Maintain a geospatially linked database of observations of diverse raptors and their prey.

Coordinate with partners (e.g., UDWR, National Audubon Society, National Wildlife Federation) to promote the use of non-lead ammunition in the NCA.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that educate the public about raptors and their role in the ecosystems of the NCA.

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform hunters about the need to use non-lead ammunition to minimize impacts on raptors.

Management Actions - Scientific Research

Pursue opportunities to collect baseline observational data on raptor species that occur in the NCA and develop location maps of nesting and roosting sites, as well as information on the prey base for each species.

Pursue opportunities for scientific studies related to the diversity, abundance, and distribution of small mammals that comprise the prey base for raptors, carnivores, and

other predatory species, including rodents, desert cottontail rabbits, and jackrabbits.

Develop new volunteer opportunities for partners, special interest groups, birding enthusiasts, and citizen scientists to assist with observational data collection and habitat mapping for eagles, hawks, falcons, and owls that utilize the NCA.

Management Actions - Climate Change Monitoring

Pursue opportunities for monitoring and research that increases the understanding of ecosystem processes, natural cycles, and anthropogenic factors that may influence the prey base of raptors under predicted climate change scenarios.

2.9.20 Migratory Birds and Birds of Conservation Concern

Goals

Migratory bird species and Birds of Conservation Concern that utilize the NCA do not require listing under the protection of the ESA (see Appendix G for species list).

Objectives

Biologically diverse habitats that provide essential breeding, nesting and roosting sites, space, cover, and food for migratory birds would be conserved, protected, and restored.

Research is supported that increases the amount of baseline data related to all species of migratory birds and their diverse habitat requirements.

Research is encouraged that identifies changes in migration patterns as a potential indicator of climate change.

Management Actions - General

Only authorize actions that would *[not]* adversely impact nesting migratory birds ~~if they are subject to seasonal restrictions or mitigation requirements.~~

Minimize disturbances or adverse effects on breeding bird populations that might result from authorized activities through seasonal restrictions, special permit stipulations, or other appropriate mitigation measures.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and at on-site venues along Quail and Leeds Creeks and the Virgin River that educate the public about migratory bird species, the causes for declining populations, and the need to protect riparian habitats and seasonal migration routes.

Promote opportunities for viewing and photographing diverse species of migratory birds through interpretive materials, recreation trails, and special outreach activities such as guided birding hikes along Quail and Leeds Creeks and the Virgin River.

In partnership with the National Audubon Society and others, recruit and train youth groups, citizen stewards, and other volunteers to participate in annual migratory bird counts in Quail and Leeds Creeks, the Virgin River, and elsewhere in the NCA.

Management Actions - Scientific Research

Pursue opportunities to conduct field inventories of riparian areas along Quail and Leeds Creeks and the Virgin River to identify avian species that utilize the NCA.

Pursue opportunities to collect baseline observational data on migratory birds and other avian species and develop location maps of occupied habitats and nesting sites.

Pursue opportunities to conduct systematic inventories of migratory birds that utilize the NCA and evaluate the condition of the preferred habitats for each species.

Develop new volunteer opportunities for partners, special interest groups, birding enthusiasts, and citizen scientists to assist with observational data collection and habitat mapping for migratory birds, Birds of Conservation Concern and Partners in Flight species.

Management Actions - Climate Change Monitoring

Pursue research opportunities that focus on changes in the seasonal migration patterns of selected migratory bird species as potential indicators of climate change.

2.9.21 BLM Sensitive Mammal Species

Goals

Habitats for BLM Sensitive mammal species support viable populations that do not require listing under the ESA. Sensitive mammals present in the NCA include: kit fox, Allen's big-eared bat, big free-tailed bat, fringed myotis, spotted bat, Townsend's big-eared bat, and western red bat.

Objectives

Habitats for the kit fox provide for a diverse and healthy prey base, as well as sufficient reproductive and home range requirements.

Habitats for sensitive bat species provide high quality maternity and roosting sites, winter hibernacula, and a

diverse prey base, thereby sustaining viable populations of these species.

Caves, karst resources, and abandoned mines allow for unimpeded ingress and egress by diverse bat species.

Research is supported that increases the baseline data related to sensitive mammal species and the habitats that they utilize in the NCA.

Management Actions - General

As needed, implement National White Nose Syndrome Decontamination Protocol and BLM IM 2010-18 in the management of habitats that support sensitive species bat populations.

Authorize [Allow] the reintroduction, translocation, and population augmentation of sensitive mammal species where doing so would not be detrimental to the viability of other native species.

Do not authorize the use of herbicides, pesticides, or poisons that are injurious or toxic to sensitive mammal species, will damage native vegetation communities, or will reduce the quality and quantity of species that comprise their prey base.

Manage caves, karst resources, and abandoned mines to protect bat habitat (e.g., foraging, roosting, maternity sites, winter hibernacula) and reduce the potential spread of contagious diseases, such as White Nose syndrome, in bat populations.

Require the installation of bat-friendly gates in caves and karst features that require access restrictions or closure.

Where appropriate, limit abandoned mine closure methods to the installation of bat-friendly gates for those abandoned mines that provide habitat (e.g., foraging, roosting, maternity sites, winter hibernacula) for bats.

Install bat friendly escape ramps in troughs or other artificial water sources.

[Do not authorize activities that have the potential to disturb bats within a 0.25 mile radius of maternity roost sites and winter hibernacula, including all entrances to caves, karst features, and abandoned mines as recommended by the USFWS (USFWS 2015).]

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues both off-site and on to inform visitors about the many sensitive mammal species found in the NCA, as well as their diverse habitats and prey.

Management Actions - Scientific Research

Pursue opportunities for scientific studies to collect population and life history data on the kit fox in the NCA.

Pursue opportunities for scientific studies related to the diversity, abundance, and distribution of small mammals that comprise the prey base for the kit fox.

Pursue opportunities to conduct field inventories of caves, abandoned mines, cliffs, and other suitable habitats to identify all of the bat species that utilize the NCA.

Pursue opportunities to collect baseline observational data on bat species and develop location maps of occupied habitats, hibernacula, and maternity roost sites.

Develop new volunteer opportunities for partners, special interest groups, cave enthusiasts, and citizen scientists to assist with observational data collection and habitat mapping for sensitive mammal species.

2.5.22 Sensitive Reptile and Amphibian Species**Goals**

Reptiles and amphibians identified as BLM Sensitive species do not require listing under the ESA. Sensitive reptiles and amphibians present in the NCA include the common chuckwalla, Gila monster, sidewinder, western banded gecko, western thread-snake, zebra-tailed lizard, and Arizona toad.

Objectives

Introduced populations would increase to the point of being viable, self-sustaining populations of native endemic reptile and amphibian species.

Biologically suitable habitats would be conserved and protected.

Research is supported that increases the baseline data related to reptiles and amphibians in the NCA.

Research is encouraged that informs the management of reptile and amphibian habitats under predicted climate change scenarios.

Management Actions - General

~~Authorize~~ [Allow] the reintroduction, transplantation, and population augmentation of Arizona toad, northern leopard frog, lowland leopard frogs, and relict leopard frogs to suitable habitat locations, where doing so would not be detrimental to the viability of other native species.

Authorize [Allow] the reintroduction, transplantation, and population augmentation of sensitive reptile species, where doing so would not be detrimental to the viability of other native species.

Do not authorize the use of herbicides, pesticides, or poisons that are injurious or toxic to sensitive reptile or amphibian species, will damage native vegetation communities, or will reduce the quality and quantity of species that comprise their prey base.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that educate the public about reptiles and amphibians in the ecosystems of the NCA.

Provide educational materials through various media and venues both off-site and along Leeds Creek and the Virgin River to inform visitors about the diverse species that occupy these habitats.

Management Actions - Scientific Research

Pursue opportunities to conduct field inventories to identify amphibians and reptiles that are found in springs/seeps, and along Quail and Leeds Creeks and the Virgin River through the NCA.

Pursue opportunities to increase the amount of baseline data and scientific knowledge related to the life histories, population trends, habitat requirements, and threats to amphibians and reptiles in the NCA to inform the management of aquatic habitats.

2.9.23 Other Fish and Wildlife Habitat Management**Goals**

Aquatic and terrestrial habitats support viable populations of diverse native wildlife species and provide for biological diversity, ecological resilience, and species persistence under predicted climate change scenarios.

Objectives

Crucial and substantial habitats for diverse native wildlife species on public lands provide high quality forage or a high quality prey base, as well as water, space, cover, and breeding areas, thereby sustaining viable populations and overall ecosystem biodiversity and resilience.

Multi-species habitat connectivity, migration routes, and movement corridors are conserved and protected between ecological zones to facilitate species persistence, adaptation, and overall biodiversity under predicted climate change scenarios.

Research is supported that increases the amount of baseline data related to all species of wildlife and their diverse habitat requirements.

Research is encouraged that increases general understanding of ecosystem processes and anthropogenic influences on changing climatic conditions.

Management Actions - General

Develop new wildlife waters in collaboration with UDWR in areas where field studies reveal the need for such to maintain healthy, viable populations of mule deer or other game and nongame species. Such waters will be developed in accordance with the objectives and guidelines of applicable game, nongame, and habitat management plans.

Ensure that all existing and proposed artificial wildlife waters include escape ladders or are designed to allow safe access by game birds [wildlife].

Ensure that all new or replacement range-type fencing conforms to BLM specifications that allow safe passage for game and nongame wildlife species.

Authorize [Allow] the reintroduction, transplantation, and augmentation of priority native wildlife species populations (as defined in BLM Manual 1745 or subsequent guidance) into current or historic habitats in the NCA, in coordination with USFWS and UDWR in order to: (a) maintain current population numbers, distributions, and genetic diversity, and (b) restore or enhance native species populations.

Mule Deer

Manage mule deer habitat to assist UDWR in achieving long-term herd population goals and objectives.

Restrict dispersed camping to designated sites that do not impede wildlife access to water sources.

Remove unnecessary range-type fencing within the NCA to lessen potential for injuries and entanglement by mule deer, particularly fawns.

Include native vegetation species that benefit mule deer in upland habitat restoration and ES&R projects.

Gambel's Quail, Mourning Dove, and Other Game Birds

Include native vegetation species that provide forage, cover, and nesting opportunities for quail and other game birds in habitat restoration and ES&R projects.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that educate

visitors about the diverse fish and wildlife species of the NCA.

Enhance opportunities for public viewing and photographing of mule deer, game birds, and other wildlife through special outreach activities such as guided wildlife photography hikes.

Authorize documentary and educational filming of wildlife through film permits, consistent with the Congressionally-defined purposes of conservation, protection, and restoration of resource values on public lands in the NCA.

Management Actions - Scientific Research

Pursue opportunities for scientific studies to collect population and life history data on carnivore species, such as mountain lion and bobcat, in the NCA.

Pursue opportunities for scientific studies related to the diversity, abundance, and distribution of small mammals that comprise the prey base for raptors, carnivores, and other predatory species, including rodents, desert cottontails, and black-tailed jackrabbits

Management Actions - Climate Change Monitoring

Pursue opportunities to identify key riparian connectivity zones within and outside the NCA that will facilitate wildlife movement under predicted changes in seasonal precipitation patterns and increased ambient temperatures.

2.9.24 Heritage Resources**Goals**

Heritage resources are conserved, protected, and enhanced for the benefit of present and future generations, consistent with the Congressional mandates from OPLMA Section 1974.

Objectives

Heritage resources currently documented or that may be documented the future within the NCA are allocated and managed to the Use Allocations (as defined by BLM Manual Section 8110.42 and Land Use Planning Handbook H-1601-1) that are consistent with the legislative mandates from OPLMA for the NCA: Scientific Use, Conservation for Future Use, Public Use, and [or] Traditional Use.

Heritage resources of scientific interest currently documented or that may be documented in the future within the NCA are not allocated to Experimental Use or Discharged from Management, as these would not be consistent with the Congressionally-designated purposes

for the NCA, as they relate to cultural and historical resources. See Table 2-1 for descriptions of each Use Allocation category.

Public awareness and appreciation of heritage resources is enhanced through education and volunteer stewardship opportunities.

Appropriate heritage resource sites or groups of sites are nominated for inclusion in the NRHP, whenever warranted.

The integrity of setting is conserved, protected, and restored in areas where natural and cultural resources combine to form an important heritage landscape

Management Actions - General

As required by federal historic preservation laws, continue consultations with [among the BLM, the Advisory Council on Historic Preservation], the Utah SHPO, American Indian Tribes, [applicants for federal assistance, permits, licenses or other approvals, representatives of local governments,] and other interested parties to inform and direct management decisions related to heritage resources. Manage properties recommended as “potentially eligible” for inclusion in the NRHP as “eligible properties” until evaluative testing determines the status of that resource.

Complete implementation-level Cultural Resource Project Plans whenever warranted, in consultation with Utah SHPO, American Indian Tribes, and other interested parties.

Conduct regular site monitoring and site condition assessments utilizing BLM staff and trained volunteer Site Stewards.

Prehistoric Habitation Sites, Campsites, or Specialized Activity Areas

Allocate and manage 100% of these NRHP-eligible site types for Scientific Use, Conservation for Future Use, Public Use, and [or] Traditional Use.

General Management Actions:

Protect sites from impacts related to authorized uses and unauthorized activities (e.g., vandalism) through installations of physical barriers (e.g., fencing, plantings) or other management actions.

Stabilize sites where erosion and/or vandalism threaten loss of site integrity and data.

Install informational signing on site etiquette and ARPA where evidence of public use exists.

Evaluate risks at fire-susceptible sites and remove hazardous fuels where threat of site damage or loss to wildfire exists.

Prohibit geocaching in all Prehistoric Habitation Sites, Campsites, or [and] Specialized Activity Areas.

Scientific Use

Authorize data recovery excavations under appropriate research designs that emphasize conservation of site resources for future use, as well as Native American and public involvement in the research.

Conservation for Future Use

Do not authorize activities or research studies that will directly impact the integrity and information potential of sites.

Public Use

Complete implementation-level plans (e.g., Cultural Resource Project Plans, Recreation Management Plans, Interpretation Plans) to direct management of Public Use sites that may contain one or more of actions listed below:

- Develop on and off-site interpretation for intensively visited Public Use sites;
- Install visitor registers at intensively visited Public Use sites;
- Install on-site informational signing on site etiquette and ARPA;
- Perform surface collection of artifacts on all sites allocated to Public Use;
- Prioritize Class III inventory in areas adjacent to Public Use sites.

Traditional Use

Complete implementation-level Cultural Resource Project Plans, in consultation with culturally-affiliated American Indian Tribes to direct management of Traditional Use sites.

Rock Shelters, Alcoves, and Caves with Cultural Materials

Allocate and manage 100% of these NRHP-eligible sites for Scientific Use, Conservation for Future Use, and [or] Traditional Use.

Allocate and manage rock shelters, alcoves, and caves identified as Sacred Sites for Conservation for Future Use and [or] Traditional Use.

Allocate and manage identified Traditional Cultural Properties for Traditional Use.

General Management Actions:

Prioritize Class III inventory in areas with high potential for this site type to occur.

Conduct regular site monitoring, utilizing BLM staff and trained volunteer Site Stewards.

Protect sites from impacts related to authorized uses and unauthorized activities (e.g., vandalism) through installations of physical barriers (e.g., fencing, plantings) or other management actions.

Stabilize sites where erosion and/or vandalism threaten loss of site integrity and data.

Install informational signing on site etiquette and ARPA where evidence of public use exists.

Prohibit geocaching in all Rock Shelters, Alcoves, and Caves with Cultural Materials.

Scientific Use

Authorize data recovery excavation with appropriate research design which maximizes conservation of the site resources for future use and Native American and public involvement in the research.

Complete NRHP nominations for Scientific Use sites on a priority basis as identified in Cultural Resource Project Plans.

Conservation for Future Use

Do not authorize activities or research studies that will directly impact the integrity and information potential of sites.

Traditional Use

Complete implementation-level Cultural Resource Project Plans, in consultation with culturally-affiliated American Indian Tribes.

Toolstone Sources or Quarries

Allocate and manage 100% of these NRHP-eligible sites for Scientific Use, Conservation for Future Use, and [or] Public Use.

General Management Actions:

Install informational signing on site etiquette and ARPA where evidence of public use exists.

Prioritize Class III inventory in areas with high potential for this type of site to occur.

Develop Cultural Resource Project Plans that include management direction related to the collection of

non-artifact geologic materials from source/quarry locations.

Scientific Use

Authorize data recovery excavations under appropriate research designs that emphasize conservation of site resources for future use, as well as Native American and public involvement in the research.

Conservation for Future Use

Do not authorize activities or research studies that will directly impact the integrity and information potential of sites.

Public Use

Complete implementation-level plans (e.g., Cultural Resource Project Plans, Recreation Management Plans, Interpretation Plans) to direct management of Public Use sites that may contain one or more of actions listed below:

- Develop on and off-site interpretation for intensively visited Public Use sites;
- Install visitor registers at intensively visited Public Use sites;
- Install on-site informational signing on site etiquette and ARPA;
- Perform surface collection of artifacts on all sites allocated to Public Use;
- Prioritize Class III inventory in areas adjacent to Public Use sites.

Rock Art Sites

Allocate and manage 100% of these sites for Scientific Use, Conservation for Future Use, Public Use, and [or] Traditional Use.

Allocate and manage rock art sites with evidence of public visitation for Scientific Use, Public Use, and [or] Traditional Use.

Allocate and manage rock art sites with no evidence of public visitation for Conservation for Future Use and [or] Traditional Use.

Allocate and manage rock art sites identified as Sacred Sites for Conservation for Future Use and [or] Traditional Use.

General Management Actions:

Manage all rock art sites as eligible for inclusion in the NRHP.

Prioritize Class III inventories in areas with high potential for this site type to occur.

Professionally document all rock art sites by photographing, mapping, and developing detailed measured drawings of all elements and cultural materials using the best available technology.

Protect sites from impacts related to authorized uses and unauthorized activities (e.g., vandalism) through installations of physical barriers (e.g., fencing, plantings) or other management actions.

Stabilize sites where erosion and/or vandalism threaten loss of site integrity and data.

Install informational signing on site etiquette and ARPA where evidence of public visitation exists.

Evaluate risks at fire-susceptible sites and remove hazardous fuels where threat of site damage or loss to wildfire exists.

Prohibit geocaching at all Rock Art sites.

Professionally document all rock art sites by photographing, mapping, and developing detailed measured drawings of all elements and cultural materials using the best available technology.

Manage all rock art sites as “eligible properties” for inclusion in the NRHP.

Scientific Use

Authorize surface collection of artifacts under the authority of ARPA if warranted by threats of loss or destruction.

Conservation for Future Use

Do not authorize activities or research studies that will directly impact the integrity and information potential of sites.

Public Use

Complete implementation-level plans (e.g., Cultural Resource Project Plans, Recreation Management Plans, Interpretation Plans) to direct management of Public Use sites that may contain one or more of actions listed below:

- a) Develop on and off-site interpretation for intensively visited Public Use sites;
- b) Install visitor registers at intensively visited Public Use sites;
- c) Install on-site informational signing on site etiquette and ARPA;

d) Perform surface collection of artifacts on all sites allocated to Public Use;

e) Prioritize Class III inventory in areas adjacent to Public Use sites;

f) Develop trails, viewing platforms, passive barriers, or other facilities to manage visitor uses and protect resource values at intensively visited Public Use sites.

Traditional Use

Complete implementation-level Cultural Resource Project Plans, in consultation with culturally-affiliated American Indian Tribes.

Ethno-historic Sites, Sacred Sites, Traditional Cultural Properties, Traditional Use Areas

Allocate and manage 100% of these NRHP-eligible ethno-historic sites for Scientific Use, Conservation for Future Use and [or] Traditional Use.

Allocate and manage Traditional Cultural Properties and Traditional Use Areas [*identified by the Agency Official*] for Traditional Use.

Allocate and manage sites identified as Sacred Sites for Conservation for [*Conservation for Future Use*] Future Use and/or Traditional Use.

General Management Actions:

Develop detailed site records of all identified ethno-historic sites, Sacred Sites, Traditional Cultural Properties, and Traditional Use Areas.

Protect sites from impacts related to authorized uses and unauthorized activities (e.g., vandalism) through installations of physical barriers (e.g., fencing, plantings) or other management actions.

Conduct regular monitoring patrols, utilizing BLM staff and trained volunteer Site Stewards.

Stabilize sites where erosion and/or vandalism threaten loss of site integrity and data.

Install informational signing on site etiquette and ARPA where evidence of public use exists.

Evaluate risks at fire-susceptible sites and remove hazardous fuels where threat of site damage or loss to wildfire exists.

Prohibit geocaching at all Ethno-historic sites, Sacred Sites, Traditional Cultural Properties, and [*Traditional Use Areas*].

Scientific Use

Authorize data recovery excavations under appropriate research designs that emphasize conservation of site resources for future use, as well as Native American and public involvement in the research.

Authorize surface collection of artifacts under the authority of ARPA, if warranted by threats of loss or destruction.

Conservation for Future Use

Do not authorize activities or research studies that will directly impact the integrity and traditional heritage values of sites.

Traditional Use

Complete implementation-level Cultural Resource Project Plans, in consultation with culturally-affiliated American Indian Tribes.

Historic Roads, Trails, Highways, and Associated Travel-related Sites and Features

Allocate and manage 100% of NRHP-eligible properties for Scientific Use, Conservation for Future Use, and [or] Public Use.

General Management Actions:

Complete Class III level inventory of the travel corridor for each site to establish baseline data on linear heritage resources and associated travel-related sites and features.

Protect sites from impacts related to authorized uses and unauthorized activities (e.g., vandalism) through installations of physical barriers (e.g., fencing, plantings) or other management actions.

Conduct regular monitoring patrols, utilizing BLM staff and trained volunteer Site Stewards.

Stabilize sites where erosion and/or vandalism threaten loss of site integrity and data.

Prohibit geocaching at all associated travel-related sites and features.

Scientific Use

Authorize surface collection of artifacts under the authority of ARPA if warranted by threats of loss or destruction.

Prepare an historic context for each resource as prioritized by Cultural Resource Project Plans

Conservation for Future Use

Do not authorize activities or research studies that will directly impact the integrity and information potential of sites.

Emphasize conservation of setting in management actions identified in Cultural Resource Project Plans.

Public Use

Complete implementation-level plans (e.g., Cultural Resource Project Plans, Recreation Management Plans, Interpretation Plans) to direct management of Public Use sites that may contain one or more of actions listed below:

- a) Develop on and off-site interpretation for intensively visited Public Use sites;
- b) Install visitor registers at intensively visited Public Use sites;
- c) Install on-site informational signing on site etiquette and ARPA;
- d) Install roadside markers and directional signing;
- e) Prepare visitor use maps and driving, biking, and hiking guides;
- f) Construct pullouts and wayside exhibits with visitor amenities (e.g., restrooms, information kiosks), where appropriate.

Historic Mining, Ranching/Farming/Livestock Grazing Sites, Buildings, Standing Structures, and Landscapes

Allocate and manage 100% of these NRHP-eligible sites for Scientific Use, Conservation for Future Use, and [or] Public Use.

General Management Actions:

Complete appropriate scale Class III level inventory to identify all associated sites, features, and structures.

Protect sites from impacts related to authorized uses and unauthorized activities (e.g., vandalism) through installations of physical barriers (e.g., fencing, plantings) or other management actions.

Conduct regular monitoring patrols, utilizing BLM staff and trained volunteer Site Stewards.

Stabilize sites where erosion and/or vandalism threaten loss of site integrity and data.

Evaluate risks at fire-susceptible sites and remove hazardous fuels where threat of site damage or loss to wildfire exists.

Prohibit geocaching at all Historic Mining, Ranching/Farming/Livestock Grazing Sites, Buildings, and Standing Structures.

Scientific Use

Authorize surface collection of artifacts under the authority of ARPA if warranted by threats of loss or destruction.

As prioritized by Cultural Resource Project Plans:

- a) Complete an intensive archaeological inventory of the resources to collect baseline data;
- b) Collect oral histories;
- c) Prepare an historic context for each site;
- d) Develop photo documentation of historic buildings, structures, features, and landscapes;
- e) Complete Level 1 HABS documentation, including elevations, plans, measured drawings, photos;
- f) Complete appropriate level HALS documentation, where warranted.

Conservation for Future Use

Emphasize conservation of setting in management actions identified in Cultural Resource Project Plans.

Public Use

Complete implementation-level plans (e.g., Cultural Resource Project Plans, Recreation Management Plans, Interpretation Plans) to direct management of Public Use sites that may contain one or more of actions listed below:

- a) Develop on and off-site interpretation for intensively visited Public Use sites to increase public awareness and appreciation of historic period mining, ranching and agricultural activities in the NCA;
- b) Install visitor registers at intensively visited Public Use sites;
- c) Install on-site informational signing on site etiquette and ARPA;
- d) Perform surface collection of artifacts on all sites allocated to Public Use;

- e) Prioritize Class III inventory in areas adjacent to Public Use sites.

Yellow Knolls Heritage Area

Manage approximately 1,196 acres of public land as the Yellow Knolls Heritage Area to maintain and protect the integrity of setting with a focus on pre-historic rock art, subsistence strategies, and resource procurement (Map 2-11).

Develop off-site interpretation at wayside exhibits along the non-motorized Yellow Knolls Trail system.

Manage Heritage Area as VRM Class II.

Manage for non-motorized recreation (hiking, mountain biking, equestrian use) on designated trails.

Manage for day use only.

Prohibit geocaching in all archaeological sites in the Yellow Knolls Heritage Area

White Reef Heritage Area

Manage approximately 787 acres of public land as the White Reef Heritage Area to maintain and protect the integrity of setting with a focus on the historic roads, structures, and features related to mid-19th Mormon settlement at Harrisburg and silver mining in the Harrisburg/Silver Reef District (Map 2-11).

Develop on and off-site interpretation at wayside exhibits along the non-motorized White Reef trail system.

Manage Heritage Area as VRM Class II.

Manage for non-motorized recreation (hiking, mountain biking, equestrian use) on designated trails.

Manage for day use only.

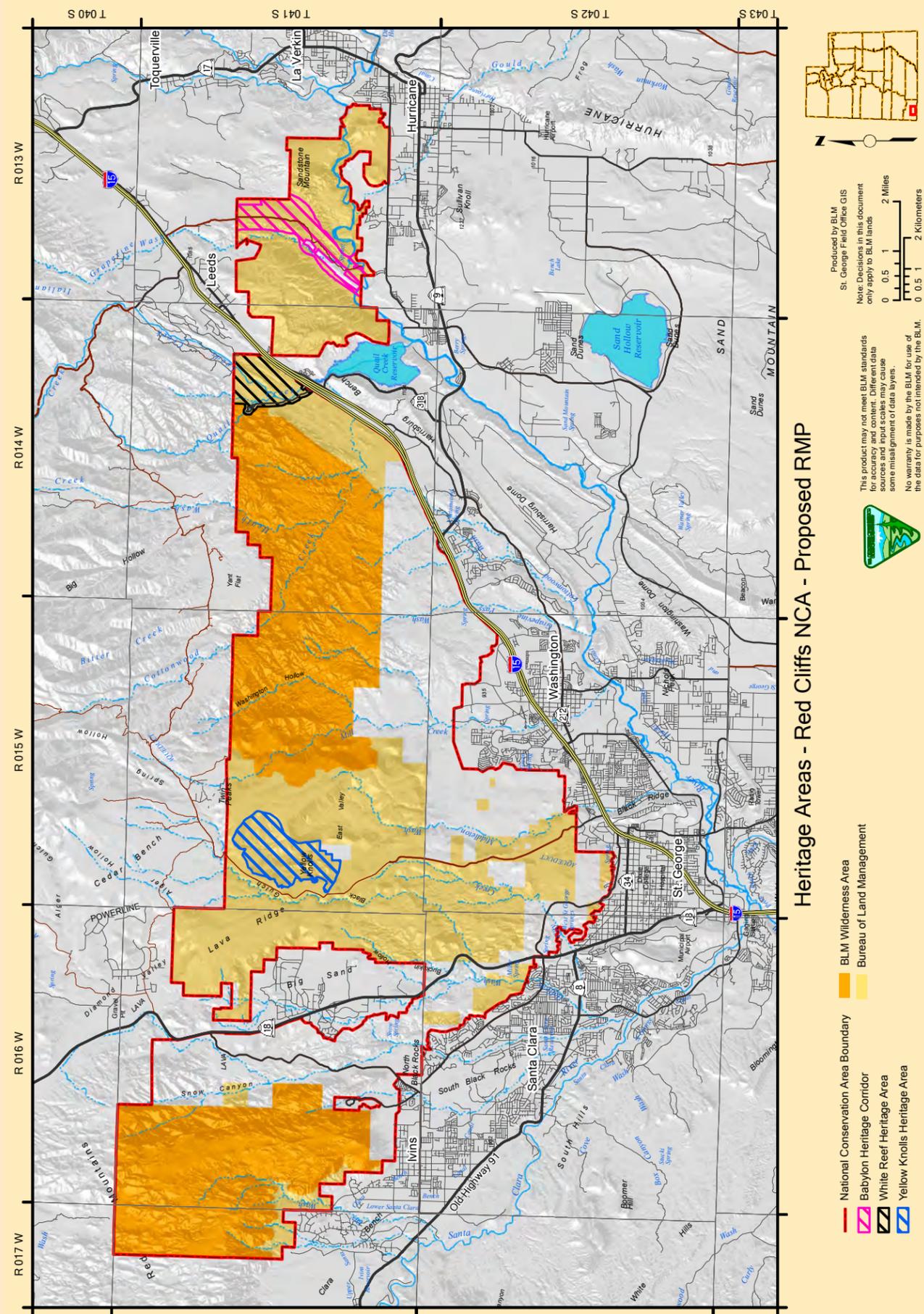
Prohibit geocaching in all archaeological sites [and historic period sites] in the White Reef Heritage Area.

Babylon Heritage Corridor

Manage approximately 1,028 acres of public land as the Babylon Heritage Corridor to maintain and protect the integrity of setting with a focus on significant vertebrate and plant fossil resources, prehistoric rock art, historic roads, structures, and features related to late 19th century silver mining and milling in the Harrisburg/Silver Reef District (Map 2-11).

Develop on and off-site interpretation at wayside exhibits along the Babylon Road.

Manage Heritage Corridor as VRM Class II.



OHV area designation is limited to Designated Routes with individual routes designated through the TMP.

Manage for day use only.

Prohibit geocaching in all [*fossil localities*], archaeological sites [*and historic period*] sites in the Babylon Heritage Area.

Management Actions - Public Education and Interpretation

Develop heritage tourism sites focusing on appropriate types of sites that have been identified for Public Use.

Sponsor educational programs for school groups, civic organizations, elected officials, and public land user groups that increase public appreciation for the unique and irreplaceable heritage resources of the NCA.

Sponsor trainings and information dissemination to youth and scout groups, recreational user groups, and the general public about programs like “Tread Lightly” and “Leave No Trace” that help to protect heritage resources.

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites, educational programs, school curriculum) focused on heritage resources and appropriate site etiquette when visiting Public Use sites.

Promote opportunities for volunteer involvement in Site Stewardship and Docent programs that increase public awareness of the need to conserve and protect heritage resources.

Recruit and train youth and veteran groups, citizen stewards, and other volunteers to participate in site clean-up and restoration, as well as archaeological inventory and data recovery projects that enhance public understanding of regional cultural history and the heritage values of the NCA.

Management Actions - Scientific Research

Scientific research is encouraged that increases the cultural resource inventory database and serves to improve baseline knowledge and general understanding of cultural and historical resources of the NCA.

Research will be authorized at sites allocated to Scientific Use, as described above by the specific type of site.

Management Actions - Climate Change Monitoring

Pursue opportunities for research studies to utilize data recovered from archaeological contexts in the NCA to identify changes in native vegetation communities, faunal assemblages, and aboriginal subsistence strategies

that could provide data for comparison with modern climate trends.

2.9.25 Wilderness (Red Mountain and Cottonwood Canyon)

Goals

Preserve wilderness character in accordance with the Wilderness Act of 1964 and OPLMA.

Objectives

Manage the Red Mountain and Cottonwood Canyon Wilderness in accordance with the Wilderness Act of 1964, OPLMA, and *BLM Manual 6340*.

Management Actions - General

Manage wilderness areas in the NCA in conformance with implementation-level decisions from the Wilderness Management Plan for the Red Mountain and Cottonwood Canyon Wilderness, when completed.

2.5.26 Visual Resource Management

Goals

The open spaces, natural aesthetics, and scenic vistas of the NCA are protected for social, economic, and environmental benefits.

Objectives

Visual quality and integrity are maintained in accordance with established VRM Management Class criteria:

Class I Objective: The existing character of the landscape is preserved. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

Class II Objective: The existing character of the landscape is retained. The level of change to the characteristic landscape should be low. Changes can be seen but should not attract the attention of the casual viewer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Class III Objective: The existing character of the landscape is partially retained. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Class IV Objective: To provide for management activities that require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements found in the predominant natural features of the characteristic landscape.

Management Actions - General

Use architectural design standards that create a unique and recognizable identity for the NCA. The standards would include, but are not limited to: fencing design, signage requirements, vegetative screening, siting requirements, and the height, shape, and color of proposed structures.

Incorporate visual and architectural design considerations during the project design phase for all new surface disturbing projects or activities, regardless of size or potential impact.

Conduct ecosystem restoration projects that meet VRM objectives for the NCA over the long-term (over the anticipated life of the restoration project). In the short term (5 years or less) or the mid-term (5-10 years), VRM objectives for restoration projects in the NCA would not have to be met.

Use the best available technology to minimize light emissions from all authorized facilities.

Retroactively prioritize and apply architectural design standards to existing structures and facilities.

Reduce or prevent impacts to night skies through the application of specific mitigation measures. These measures could include, but are not limited to: directing all light emissions downward, using shielded light sources, using only the minimum illumination necessary, using light sources less prone to atmospheric scattering, and using circuit timers or motion sensors.

Manage the NCA as follows:

VRM Class I: 19,989 acres

VRM Class II: ~~21,034~~ [18,525] acres

VRM Class III: 3,652 [6,160] acres

VRM Class IV: ~~184~~ [183] acres

(Map 2-12)

2.5.27 Natural Soundscapes

Goals

Public land users can experience natural soundscapes in the NCA.

Objectives

Land uses and authorized activities are managed to conserve and protect natural soundscapes.

Management Actions - General

Identify and provide opportunities for visitors to enjoy the atmosphere of peace and tranquility afforded by the natural soundscapes of the NCA.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites, educational programs, school curriculum) focused on increasing public awareness of natural quiet and the benefits of protecting natural soundscapes where they are present in the NCA.

Management Actions - Scientific Research

Identify appropriate acoustic monitoring locations in the NCA using established protocols.

Install sound level meters and supporting hardware to collect, analyze, and determine the levels and types of natural sounds in the NCA and to identify potential anthropogenic sources of soundscape impacts.

2.5.28 Recreation and Visitor Services

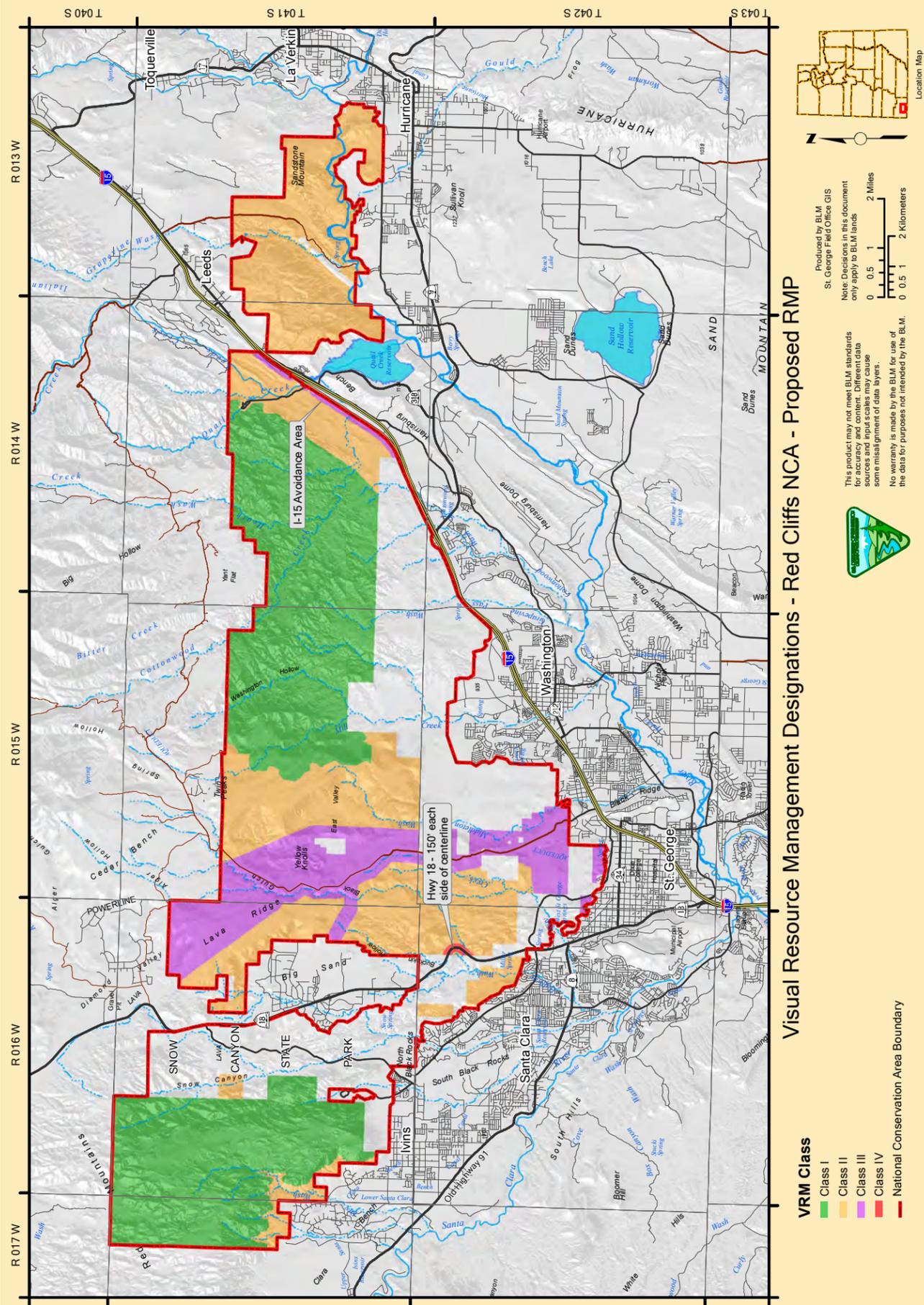
Goals

High quality sustainable recreation opportunities and visitor services are provided. Those opportunities support the quality of life of NCA visitors as well as local communities, regional economies and the resource values of the NCA.

Objectives

Protect NCA resource and recreation values using the following:

- Trail and facility design;
- Directional, informational, regulatory, traffic control, boundary, and trail signs;
- Maps and associated digital technology;
- Appropriate law enforcement;
- Interpretive materials and educational programs;
- Citizen stewardship.



Visual Resource Management Designations - Red Cliffs NCA - Proposed RMP

Management Actions - Recreation Management Areas

Remove those portions of the [identified] Red Mountain/Santa Clara SRMA and the SGFO ERMA administrative designations that overlap the NCA.

Do not carry forward the Upland and Lowland Zones from the Public Use Plan (PUP).

Establish the Red Cliffs SRMA, as shown on Map 2-13.

Red Cliffs NCA SRMA, Recreation and Visitor Services Objectives:

Foster a sense of awareness and stewardship in recreational participants and local community partners to maintain recreation values in the NCA.

Provide opportunities for public land users to develop an understanding and appreciation of the NCA through on and off-site educational and interpretive materials.

Develop a nationally recognized non-motorized trail system that provides high quality opportunities for a wide range of recreational activities

Develop trailheads and waysides that share a signature design emblematic of the NCA

Establish four RMZs within the Red Cliffs SRMA as management tools to assist in setting priorities for facilities development, maintenance, and law enforcement. Each zone would have consistent management objectives across Alternative but would vary in size. See Table 2-4 for information about each zone and Appendix H for detailed RMZ descriptions and objectives.

Manage the RMZs as follows:

- Rural Zone: 1,224 acres
- Frontcountry Zone: 14,937 acres
- Backcountry Zone: 8,709 acres
- Primitive Zone: 19,989 acres

(Map 2-13)

Allowable uses for other resources and programs within the SRMA are defined by the NCA legislation. Allowable recreation uses have been defined by RMZ and can be found in Table 2-4 and Appendix H.

Coordinate management of recreational activities and uses with adjacent federal agencies, tribal governments, and state, county, and municipal governments.

Develop an implementation-level RAMP to identify specific management actions for recreational activities and visitor services within the SRMA. On BLM-administered lands, the RAMP would replace the implementation-level

PUP for the Red Cliffs Desert Reserve (PUP 2001). The RAMP would include, but is not limited to:

- a) Non-motorized trail system development and management;
- b) Motorized route system management;
- c) Rock climbing management;
- d) Campground development and management;
- e) Dispersed camping management;
- f) Architectural design standards;
- g) Recreational impact monitoring standards and procedures.
- h) Commercial, competitive, and group use management.

Develop [commercial leases for recreation-related businesses] concessionaire contracts, if necessary, to protect resource values, as well as provide for appropriate and sustainable recreation opportunities and visitor services.

Manage any non-federal lands that may be acquired within the NCA in conformance with RMZ decisions for adjacent public lands.

Special Recreation Permits

Prohibit [Do not authorize] SRPs for competitive equestrian events in the NCA.

Prohibit [Do not authorize] SRPs for competitive motorized events in the NCA.

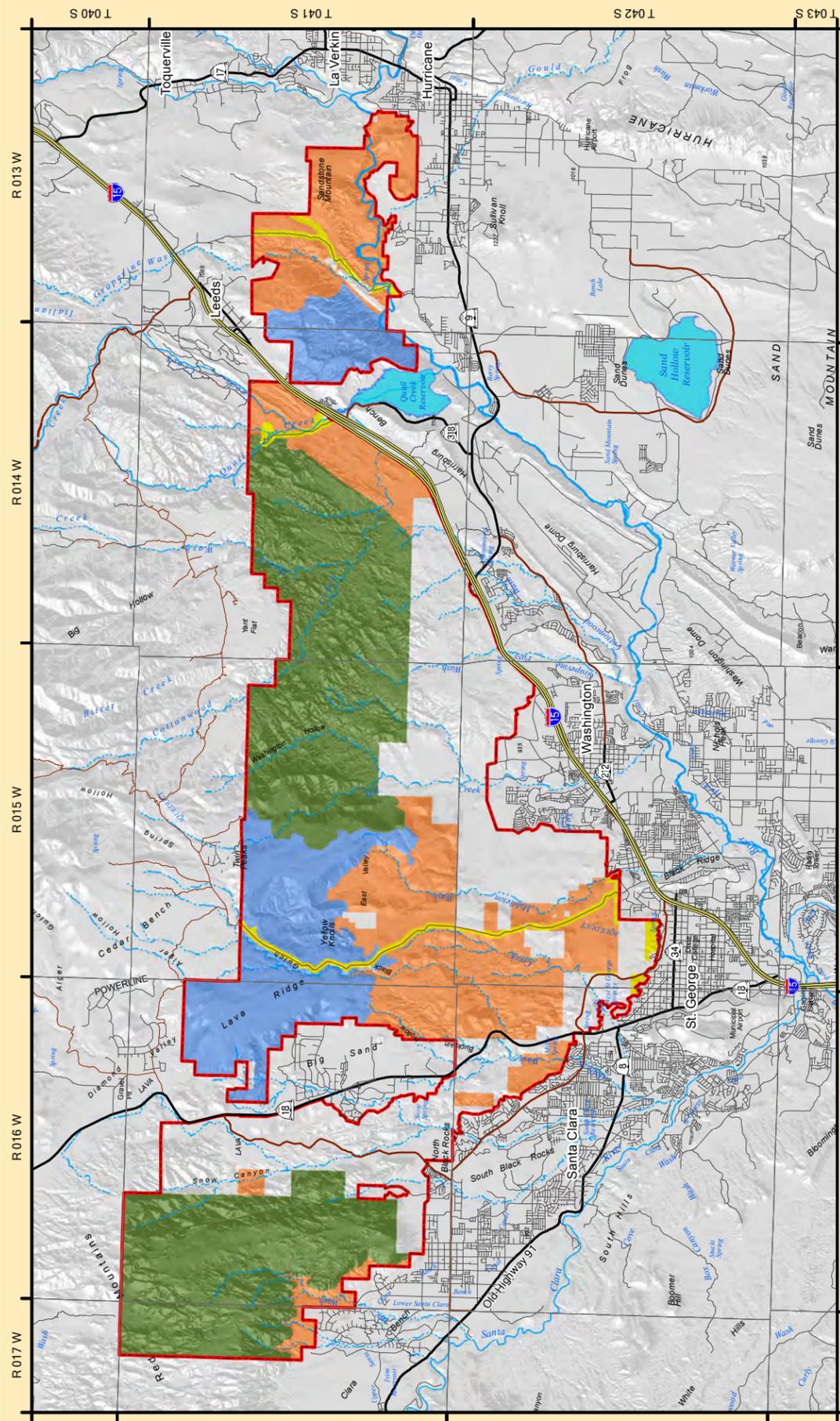
Limit SRPs for [motorized commercial and organized group] recreation activities to roads and primitive roads authorized for use by the public.

Discharge of Firearms

Prohibit the discharge of firearms, except in the act of licensed hunting according to state laws during prescribed seasons. [The discharge of firearms in the NCA is prohibited except in the act of hunting big game and upland game species by licensed hunters in accordance with current city and county ordinances, and state laws during prescribed seasons.]

Allow hunting dogs to be off-leash in the NCA when accompanied by a licensed hunter in the act of hunting during official seasons. [Off-leash hunting dogs must be under the control of their owner at all times.]

Prohibit paintball activities of any kind.



Special Recreation Management Area (SRMA) - Red Cliffs NCA - Proposed RMP

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Special Recreation Management Area - Recreation Management Zone
 Red Cliffs SRMA, Rural RMZ
 Red Cliffs SRMA, Frontcountry RMZ
 Red Cliffs SRMA, Primitive RMZ
 National Conservation Area & SRMA Boundary

Scale: 0 0.5 1 2 Miles / 0 0.5 1 2 Kilometers

Location Map

Table 2-4 Recreation Management Zone Descriptions

Table 2-4 Recreation Management Zone Descriptions	
RURAL ZONE	<ul style="list-style-type: none"> • Located adjacent to the urban interface, along heavily trafficked roads, and around high use trailheads. • Accommodates the highest number of visitors. • Largest number of management controls including directional, educational, and regulatory signs. • Frequent BLM staff presence. • Regular law enforcement patrols. • Significant amount of infrastructure; includes all roads, trailheads, and parking areas. • Off-road motorized use is restricted to administrative and emergency purposes only. • [Pets must be on leash.]
FRONTCOUNTRY ZONE	<ul style="list-style-type: none"> • Accessed from Rural Zone trailheads. • Accommodates a large number of visitors. • Large number of management controls consisting primarily of directional, educational, and regulatory signs. • BLM staff presence is consistent but less than the Rural Zone. • Law enforcement patrols are irregular and often based on incident or emergency response. • Motorized use is restricted to administrative purposes only. • Non-motorized use is restricted to designated trails. • [Pets must be on leash.] • Majority of zone is within designated critical tortoise habitat.
BACKCOUNTRY ZONE	<ul style="list-style-type: none"> • Accessed from the Rural Zone trailheads or Frontcountry Zone trails. • Less recreational use than the Frontcountry Zone, but still accommodates a significant number of visitors. • Fewer management controls consisting primarily of directional and regulatory signs. • BLM staff presence is infrequent and generally based on project-specific need. • Law enforcement patrols generally limited to incident and emergency response. • Motorized use is restricted to administrative purposes. • Non-motorized use is restricted to designated trails. [(Note: would not be enforced until trail system is fully developed.)] • [Pets must be on leash.] • Majority of zone is outside critical desert tortoise habitat.
PRIMITIVE ZONE	<ul style="list-style-type: none"> • Accessed from the Rural, Frontcountry, or Backcountry Zones. Boundary corresponds with designated wilderness, except in Alternative C. • Accommodates a varying number of visitors depending on location. • Limited management controls consisting primarily of directional and regulatory signs located on and around the wilderness boundary. • BLM staff presence is very low. • Law enforcement presence limited to emergency response. • Motorized and mechanized use prohibited except for emergency response. • Cross-country travel is allowed. All visitors must be on foot or horseback. • No constructed or maintained trails, but popular primitive routes are displayed on visitor maps. • Majority of this zone is outside critical tortoise habitat.

Management Actions - Public Education and Interpretation

Develop an implementation-level Interpretive Master Plan that creates a long-range vision to guide interpretive services that emphasize the values and significance of the NCA and addresses a long-term strategy for name recognition and branding. The plan will include the following:

- a) Interpretive goals, objectives, and associated management actions necessary for interpreting themes to key user groups/audiences;
- b) Identification of a full range of interpretive services including facilities, programs, activities, exhibits, publications/printed materials, electronic media, and audiovisuals to enhance knowledge and appreciation of natural and cultural resources, and to promote stewardship;
- c) Identification of opportunities for outreach programs with user groups, local schools, universities, and special interest groups;
- d) Identification of opportunities to enrich interpretation through partnerships with municipal, county, state, and national parks, educational institutions, and other organizations;
- e) Identification of desired visitor experiences consistent with the RAMP and RMZs;
- f) Identification of themes and sub-themes to communicate the story of place (e.g., those narratives that express the unique and compelling character of the NCA);
- g) Consistency with NCA architectural design standards (e.g., color, shape, themes) that will apply to all site improvements, recreational facilities, site fixtures, structures, and associated spaces;
- h) Integration of graphic elements such as logos, logo placements, color schemes, quality, and voice across all media to ensure effective recognition and branding for the NCA;
- i) Training goals and objectives for staff and volunteers to ensure consistency in interpretive themes and professionalism.

Management Actions - Scientific Research

Pursue opportunities for scientific studies that evaluate the effects of diverse recreation activities on the desert environment.

Implementation Decisions: Red Cliffs SRMA

Recreation Facilities

Develop uniform architectural design standards for all site improvements, recreational facilities, site fixtures, structures, and associated spaces developed in the NCA. These standards include construction materials, styles, colors, textures, and interpretive themes.

Construct site improvements, recreational facilities, site fixtures, structures, and associated spaces in the Rural, Frontcountry, or Backcountry Zones to protect resource values, respond to recreational use demand, and enhance visitor experiences. Developments could include standard and/or expanded amenity fee sites.

Issue RUPs through the collection of standard or expanded amenity fees for the short-term recreational use of specialized sites or facilities (such as campgrounds and day use sites) which meet fee collection guidelines as provided for in the Federal Lands Recreation Enhancement Act of 2004 or subsequent similar authority.

Continue to manage the Red Cliffs Recreation Area as an Expanded and Standard Amenity Fee Site for camping and day use in accordance with the approved Red Cliffs Recreation Area Business Plan.

Maintain, improve, and enlarge facilities for camping, sanitation, or day use (e.g., increased parking, additional vault toilets, campsites) at the Red Cliffs Recreation Area, as needed, to achieve management objectives for public safety, resource protection, and quality recreational experiences.

~~“This plan designates a primitive campground at Sand Cove (near Sandstone Mountain). Camping at this popular group site shall require a permit issued by the appropriate Reserve Manager. In the future, primitive facilities may be installed to service the area (e.g. a sanitary toilet) and a use fee may be charged to support facility maintenance.” (PUP-2001).~~

[Continue to manage camping in the Sand Cove Primitive Camping Area under a permit system.]

Develop camping facilities at the Sand Cove Primitive Camping Area. Development would include:

- a) A visible marker that clearly delineates the location as a designated campsite;

- b) A metal campfire container;
- c) A vault toilet;
- d) Vehicle access improvements;
- e) A kiosk for displaying interpretive and regulatory information.

Limit camping at the Sand Cove Primitive Camping Area to one permit per day with a maximum group size of 20. All groups would be required to camp in designated sites and haul out all trash and human waste.

Dispersed Camping

Prohibit dispersed camping in the Rural and Frontcountry Zones (Map 2-13).

Develop a limited number of designated undeveloped dispersed campsites in the Backcountry Zone and limit camping to these sites. Each campsite would include, but is not limited to:

- a) A visible marker that clearly delineates the location as a designated campsite;
- b) A metal campfire container.

Allow dispersed camping in the Primitive Zone, except within 1 mile of the Red Cliffs Recreation Area developed campground and within 300 feet of water sources.

Provide public education on minimum impact camping through a variety of on- and off-site media.

Allow campfires within the provided metal campfire container at designated campsites and/or developed campgrounds in the Rural, Frontcountry, and Backcountry Zones.

Allow dispersed campfires outside of a metal campfire container in the Primitive Zone.

Non-Motorized Trails

Design and construct the non-motorized trail system to the professional standards outlined in Appendix I to ensure that trail design:

- a) Addresses the needs of equestrians, hikers, climbers, and mountain bikers;
- b) Protects diverse NCA resource values from direct or indirect recreation impacts by promoting compliance with regulatory requirements and visitor use restrictions;
- c) Results in sustainable systems;
- d) Provides high quality experiences;

- e) Serves the abilities of non-motorized recreational users;
- f) Offers opportunities for looping, varying distances, linking between geographic areas and trailheads, and connecting to heritage and other educational resources;
- g) Minimizes user conflicts by separating user groups whenever feasible;
- h) Limits the desire to venture off-trail.

Construct new trails in the Rural, Frontcountry, or Backcountry Zones, as shown in the TMP for Alternative D.

~~Where new trail development would result in surface disturbance in designated critical habitats, restore acreage of similar quality habitat at a 1:1 ratio. Restoration methods and adequacy would be determined by BLM in consultation with USFWS.~~

~~Such methods could include, but are not limited to, reclamation and re-vegetation with approved native species or native species cultivars on linear disturbances, fire-damaged lands, or other disturbed areas.~~

[Where new trail development would result in a modification of the primary constituent elements of designated critical habitat for Mojave desert tortoise, restore an equivalent acreage of damaged habitat in the NCA through reclamation and revegetation (with approved species) of user-created trails, closed roads, fire-damaged lands, or other disturbed areas, in consultation with USFWS and UDWR.]

Commercial SRPs

Limit SRPs for recreation activities to 10% of overall visitation (overall visitation is defined as the total number of all visits: commercial and non-commercial, motorized and non-motorized).

Limit SRPs for motorized recreation activities (e.g., Motor Coach tours, OHV tours, motorcycle tours, ATV Jamborees) to roads and primitive roads authorized for use by the public.

Set group size limits for SRPs on a case-by-case basis. Factors for the determination of limits would include, but are not limited to: type of activity, type of transportation, length of stay, potential for resource impacts, potential for impacts to other visitors, and compatibility with RMZs.

Competitive SRPs

SRPs for competitive running and bicycling events could be authorized on roads in the NCA if they meet the following criteria:

- a) Event staging takes place outside the NCA or takes place on designated roads and/or at trail-heads inside the NCA;
- b) The event causes no new surface disturbance;
- c) Event scheduling complies with seasonal restrictions to protect wildlife and habitats, (e.g., restrictions on events during desert tortoise active season, generally between March 15 and October 15).

[d) *The event highlights NCA resource values and promotes their protection.*]

Group size limits for competitive non-motorized events would be set on a case-by-case basis. Factors for the determination of limits could include, but are not limited to: type of event, length of event, number of participants, potential for resource impacts, potential for impacts to other visitors, and compatibility with RMZs.

SRPs for competitive equestrian events would not be authorized in the NCA.

SRPs for competitive motorized events would not be authorized in the NCA.

Organized Groups

Authorize SRPs for organized groups (e.g., scouting events, church events, school classes, historical reenactments) on a case-by-case basis, if the proposed event conforms to an implementation-level Interpretive Master Plan, when developed (see Public Education and Interpretation below).

Group size for organized groups would be set on a case-by-case basis. Factors for the determination of limits could include, but are not limited to: type of activity, type of transportation, number of participants, length of stay, potential for resource impacts, potential for impacts to other visitors, and compatibility with RMZs.

Handcarts, buggies, wagons, or other animal-drawn vehicles would be limited to travel on roads and routes designated through the approved TMP in the Rural, Frontcountry, and Backcountry Zones. All proposed activities (e.g., historical reenactments)

would require an SRP or a letter of authorization [agreement] from the NCA Manager.

Rock Climbing

Continue to manage the existing climbing area within the NCA.

Allow climbing anywhere in the Primitive Management Zone.

Authorized one new climbing area, Sandstone Mountain (Map 2-14).

Develop a Climbing Management Plan as part of the RAMP. The plan would:

- a) Identify areas where climbing would be authorized;
- b) Identify potential climbing restrictions such as group size limits or seasonal closures;
- c) Establish monitoring protocols to identify resource impacts;
- d) Establish procedures for authorizing new climbing areas.

All authorized climbing areas would remain open until the Climbing Management Plan is complete.

Other Recreational Uses

Prohibit physical geocaches in the Frontcountry and Primitive Zones.

Allow physical geocaches in the Rural and Backcountry Zones.

Allow virtual geocaches in all RMZs provided they are compliant with other zone restrictions.

Approval from authorized NCA staff [Written approval from the NCA Manager] would be required prior to any physical geocache placement.

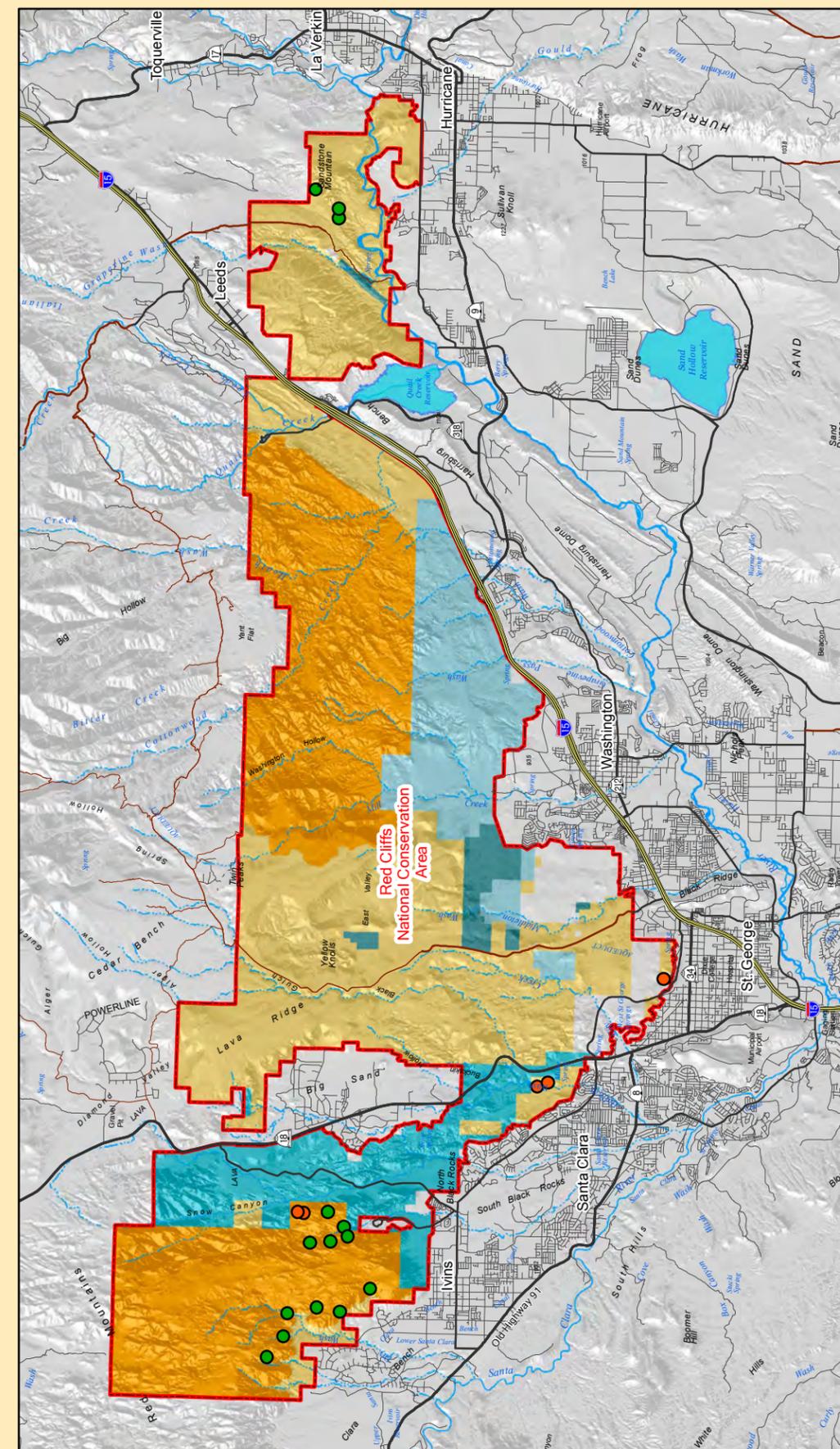
Approval from authorized NCA staff [Written approval from the NCA Manager] would be required prior to the public posting of any virtual geocache placement.

Prohibit the take-off and landing of powered parachutes in the NCA.

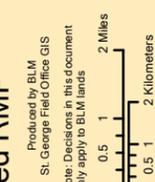
Prohibit the take-off and landing of remote-controlled aircraft in the NCA.

Casual rock collection, including the gathering of mineral specimens and rock hounding, would be allowed under the following criteria:

- a) Collect using hand tools;
- b) Only collect specimens for personal use.



Authorized Climbing Areas - Red Cliffs National Conservation Area (NCA) - Proposed RMP



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- Existing Climbing Areas
- Proposed Climbing Areas
- National Conservation Area Boundary
- BLM Wilderness Area
- Bureau of Land Management
- State
- State Parks and Recreation
- State Wildlife Reserve / Management Area

Prohibit all recreational metal detecting activities.

Monitoring

Develop a comprehensive program for monitoring recreational impacts in the NCA as part of the RAMP. The program would focus primarily on the identification of illegal trails and would include a progression of appropriate management actions.

2.9.29 Comprehensive Travel and Transportation Management

Goals

Compatible traditional, current, and future use of the land is sustained by establishing a transportation system that contributes to protection of sensitive resources, promotes dispersed recreation, and minimizes user conflicts.

A high quality, sustainable transportation system that provides appropriate public and administrative access is developed and maintained to conserve, protect, and enhance the resource values of the NCA.

Objectives

Provide a well-maintained and functional motorized transportation system that provides public access to recreational opportunities and is consistent with goals, objectives, and recommendations of the *Revised Recovery Plan for the Mojave Desert Tortoise* (USFWS 2011).

Provide a functional motorized administrative transportation system that is consistent with goals, objectives, and recommendations of *Revised Recovery Plan for the Mojave Desert Tortoise* (USFWS 2011) and provides the minimum access necessary to authorized infrastructure and valid ROWs.

Provide a nationally recognized, professionally designed, non-motorized trail system that provides access to a wide range of recreational opportunities and is consistent with the goals, objectives, and recommendations of the *Revised Recovery Plan for the Mojave Desert Tortoise* (USFWS 2011).

[The BLM shall comply with OPLMA Sec. 1977 (b)(2) which states the following:

(2) SCOPE; CONTENTS.—In developing the travel management plan, the Secretary shall—

(A) in consultation with appropriate Federal agencies, State, tribal, and local governmental entities (including the County and St. George City, Utah), and the public, identify 1 or more alternatives for a northern transportation route in the County;

(B) ensure that the travel management plan contains a map that depicts the trail; and

(C) designate a system of areas, roads, and trails for mechanical and motorized use.]

Management Actions - General

The BLM would coordinate transportation management with adjacent federal agencies, [American Indian Tribes,] state and local governments, and authorized users.

All motorized routes identified in the PUP, subsequent implementation-level plans, and subsequent project-specific NEPA documents are carried forward into the TMP.

(For Non-motorized Transportation Management Actions See 2.5.26 Recreation and Visitor Services)

OHV Area Designations

Open to Cross-Country OHV use: 0 acres

Limited to Designated Routes: 24,870 acres

Closed to OHV use: 19,989 acres

A map of the existing transportation system can be found at the BLM ePlanning website <http://bit.ly/2av3Q1i>.

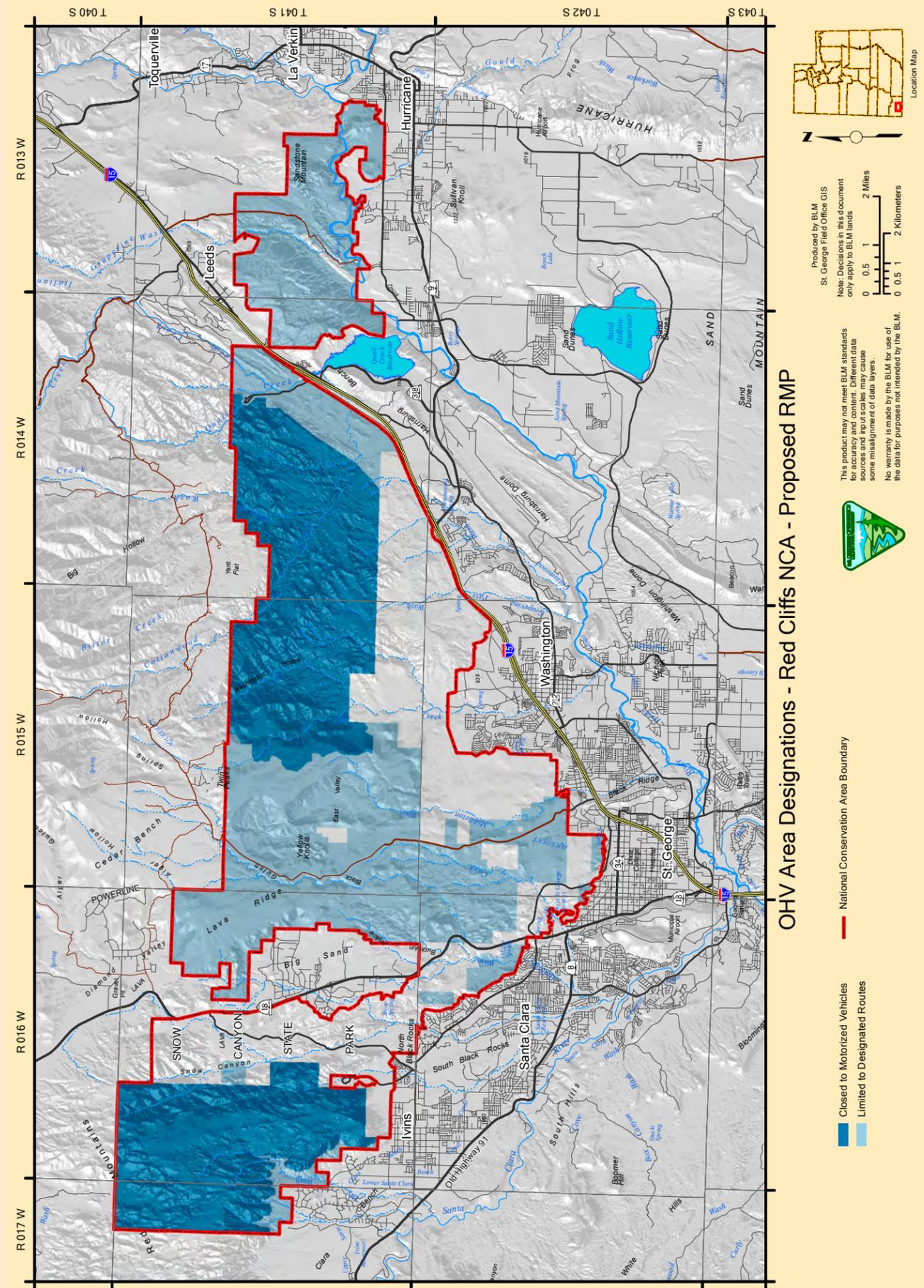
(Map 2-15)

Non-Motorized Trails

Design and construct the non-motorized trail system to professional standards to ensure that trail design:

- a) Addresses the needs of equestrians, hikers, climbers, and mountain bikers;
- b) Protects diverse NCA resource values from direct or indirect recreation impacts by promoting compliance with regulatory requirements and visitor use restrictions;
- c) Results in sustainable systems;
- d) Provides high quality experiences;
- e) Serves the abilities of non-motorized recreational users;
- f) Offers opportunities for looping, varying distances, linking between geographic areas and trailheads, and connecting to heritage and other educational resources;
- g) Minimizes user conflicts by separating user groups whenever feasible;
- h) Limits the desire to venture off-trail.

Construct new trails in the Rural, Frontcountry, or Backcountry Zones, as shown in the TMP for Alternative D.



OHV Area Designations - Red Cliffs NCA - Proposed RMP

Where new trail development would result in surface disturbance in designated critical habitats, restore acreage of similar quality habitat at a 1:1 ratio. Restoration methods and adequacy would be determined by BLM in consultation with USFWS. Such methods could include, but are not limited to, reclamation and revegetation with approved native species or native species cultivars on linear disturbances, fire-damaged lands, or other disturbed areas.

[Where new trail development would result in a modification of the primary constituent elements of designated critical habitat for Mojave desert tortoise, restore an equivalent acreage of damaged habitat in the NCA through reclamation and revegetation (with approved species) of user-created trails, closed roads, fire-damaged lands, or other disturbed areas, in consultation with USFWS and UDWR.]

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about appropriate public lands etiquette, including OHV etiquette.

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that encourage motorized users to use existing disturbed areas for parking and camping.

2.9.30 Lands and Realty

Goals

Land tenure adjustments are made to assist the conservation, protection, and enhancement of NCA resource values, facilitate management, and reduce administrative costs.

Land use authorizations further the purposes of conservation, protection, and enhancement of resource values in the NCA.

Objectives

Non-federal lands are acquired from willing land owners through purchase, exchange [of public lands identified for disposal outside the boundaries of the NCA] or donation[, or conservation easement].

Surface and subsurface rights would be acquired whenever possible to avoid creating split estates.

Conservation easements may be acquired where such interest would further the management objectives of the NCA.

Land tenure adjustments would be prioritized based on manageability, the feasibility of successful acquisition, and the ecological, cultural, recreational, and scenic values of the tract to be acquired.

Ensure that long and short term land use authorizations are consistent with the NCA purposes of resource conservation, protection, and enhancement.

[BLM will work collaboratively with local, state, and federal partners to accomplish the goals and the objectives of the Washington County HCP and its implementation agreement.]

Management Actions - General

“Any land or interest in land that is located in the National Conservation Area that is acquired by the United States shall—(1) become part of the National Conservation Area; and (2) be managed in accordance with—(A) the Federal Land Policy and Management Act of 1976 (U.S.C. 1701 et seq.); (B) this section; and (C) any other applicable law (including regulations)” (OPLMA Section 1974 (f)).

“(1) In General.—Subject to valid existing rights, all Federal land located in the National Conservation Area is withdrawn from—(A) all forms of entry, appropriation, and disposal under the public land laws; (B) location, entry, and patenting under the mining laws; (C) operation of the mineral leasing, mineral materials, and geothermal leasing laws. (2) Additional Land.—If the Secretary acquires additional land that is located in the National Conservation Area after the date of enactment of this Act, the land is withdrawn from operation of the laws referred to in paragraph (1) on the date of acquisition of the land” (OPLMA Section 1974 (g)).

[“(h) EFFECT.—Nothing in this section prohibits the authorization of the development of utilities within the National Conservation Area if the development is carried out in accordance with—(1) each utility development protocol described in the habitat conservation plan; and (2) any other applicable law (including regulations)” (OPLMA Section 1974 (h)).]

Manage public lands in accordance with applicable city and county zoning restrictions and municipal ordinances (to the extent that such restrictions and ordinances are consistent with the purposes for which the NCA was Congressionally-designated), as well as other federal laws, regulations, and policies, and with goals, objectives, and management decisions from the approved RMP for the NCA.

Do not authorize commercial renewable energy (e.g., wind, solar) leases or ROWs in the NCA.

[Any new proposed actions must be consistent with the established purpose of the NCA as identified in OPLMA, and must be consistent with all other federal law, regulation and policy.

Consider allowing realty authorizations, such as ROWs and permits, outside of ROW exclusion areas, only when required for local, essential community services and when no siting alternatives exist outside the NCA.]

Existing ROWs will be maintained in accordance with the respective ROW grant or other applicable authorization through the end of the defined term. While processing ROW renewals, in accordance with applicable law and policy, BLM will work with holders of existing ROWs to consider new, additional, or modified terms and conditions to minimize impacts to NCA resource values. [Consideration will also be given to relocating ROWs and any related infrastructure to areas outside the NCA.]

Evaluate realty authorization requests using evaluation criteria designed to protect conservation area resources and values.

Land Tenure Adjustments

Work with willing land owners or administrators to acquire in-holdings and edge-holdings that are in the public interest through purchase, exchange of public lands targeted for disposal outside of the NCA boundaries, donation, or conservation easement.

Acquire both surface and subsurface rights whenever possible to avoid the creation of split estates. Prioritize acquisition of non-federal inholdings and parcels that adjoin the NCA boundaries that meet one or more of the following criteria:

- a) Further the purposes of the NCA relating to the conservation, protection, and enhancement of its ecological, scenic, wildlife, cultural, historical, recreational, natural, educational, and scientific resources;
- b) Enhance public recreation experiences and benefits;
- c) Provide additional access to other public lands.

[Manage acquired lands in conformance with RMP decisions for linear ROWs, utility and transportation corridor designations, site-type leases or ROWs, commercial renewable energy leases or ROWs, and other land use authorizations.]

Linear ROWs

[Designate ROW Avoidance and Exclusion areas and retain an existing ROW corridor as follows (Map 2-16):

Exclusion areas: (areas that are not available for location of ROWs under any conditions, including all designated wilderness within the NCA): 38,472 acres

Avoidance areas: 6,367 acres

- While considering a new proposed ROW application the BLM will:
 - a) consider options for routing or siting the ROW outside of the NCA;
 - b) ensure consistency of the ROW with the established purpose of the NCA, as identified in OPLMA;
 - c) ensure that new ROWs share, parallel, or adjoin existing ROWs;
 - d) apply special stipulations and mitigation measures within avoidance areas consistent with VRM objectives and the purpose of the NCA;
 - e) authorize new ROWs only when the project-specific NEPA analysis indicates that the construction and operation of the facility would not result in the take of federally-listed species; the adverse modification of designated critical habitats; or adverse effects to NRHP-listed or eligible properties, and the following criteria are met:
 - 1) construction could be accomplished through methods that minimize new surface disturbances and resource impacts;
 - 2) new ROW access roads would not be required for construction, operation, and maintenance;
 - 3) existing ROW access roads would not be permanently widened or upgraded for construction, operation, and maintenance; temporary enlargements or modifications to existing access routes needed during construction would be rehabilitated immediately after construction is completed; and
 - 4) construction, operations, and maintenance would not require off-road travel by motorized vehicles.

1) construction could be accomplished through methods that minimize new surface disturbances and resource impacts;

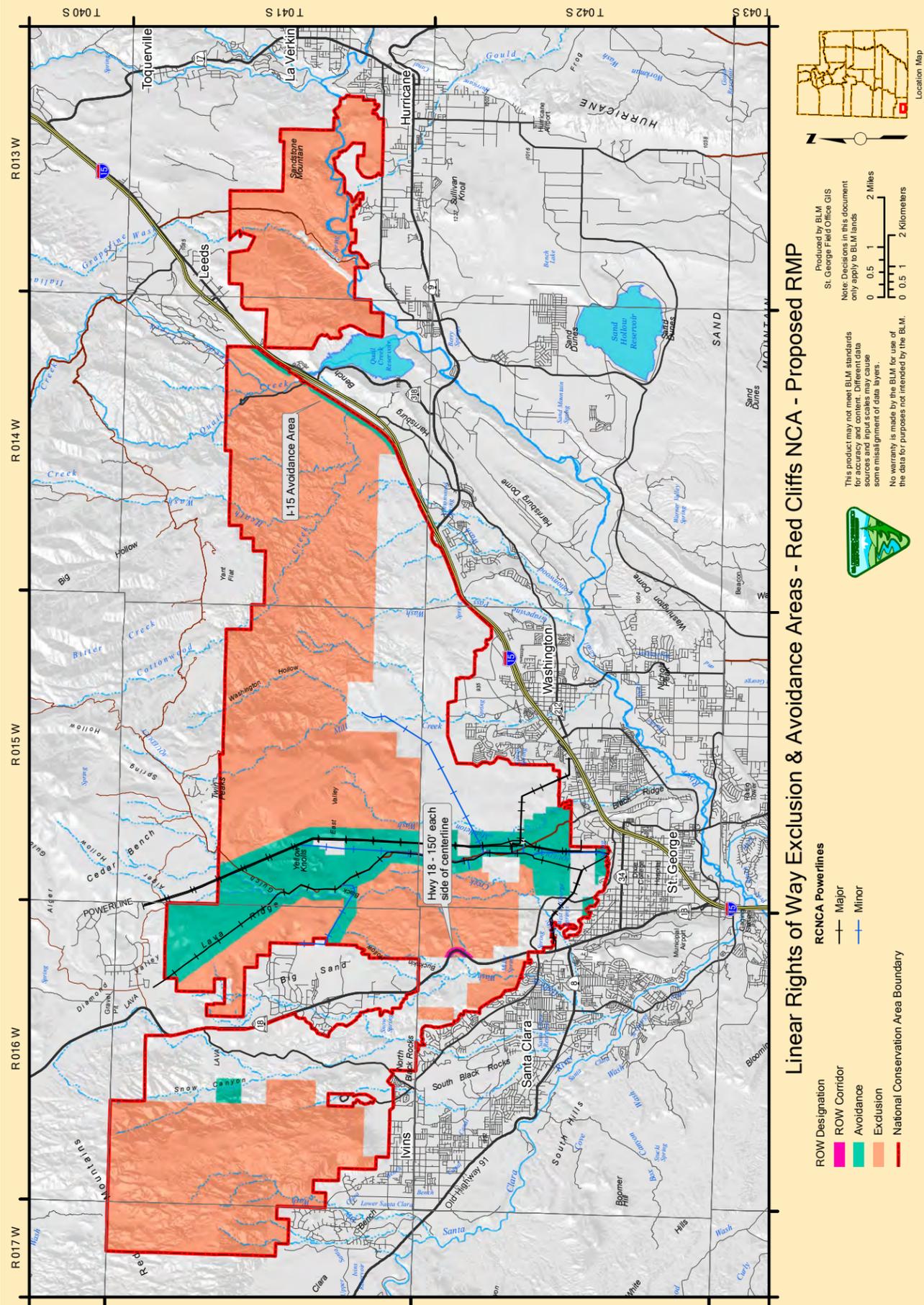
2) new ROW access roads would not be required for construction, operation, and maintenance;

3) existing ROW access roads would not be permanently widened or upgraded for construction, operation, and maintenance; temporary enlargements or modifications to existing access routes needed during construction would be rehabilitated immediately after construction is completed; and

4) construction, operations, and maintenance would not require off-road travel by motorized vehicles.

Designated ROW Corridor: 20 acres

- Retain the existing corridor along SR-18 through the NCA (150 feet either side of centerline of highway) to minimize adverse environmental impacts and the proliferation of separate right-of-ways.]



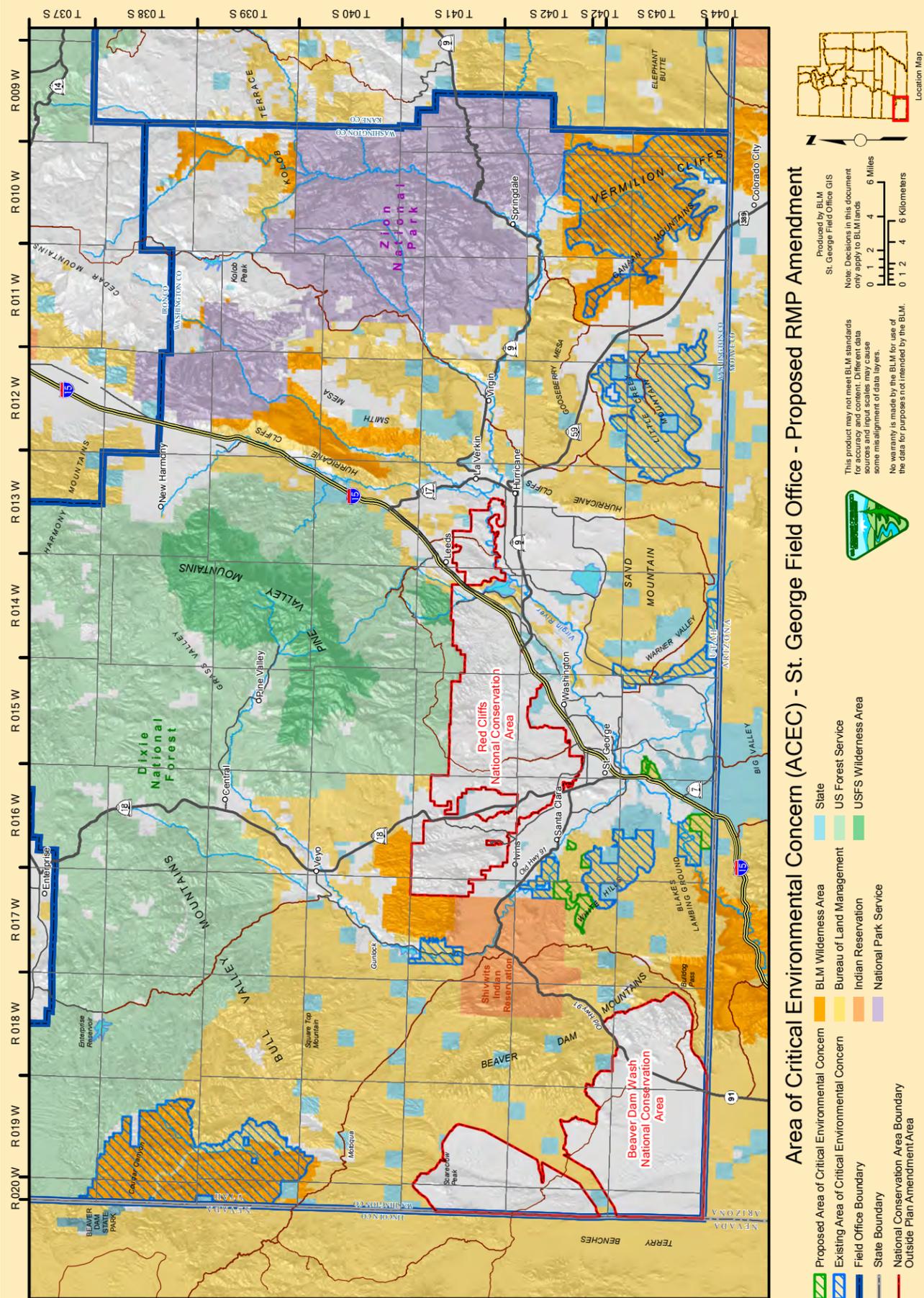
Site-type Leases and ROWs

Exclude new site-type [leases] and ROWs (e.g., cell towers).

Other Land Use Authorizations

Do not authorize leases under the authority of the Recreation and Public Purposes Act within the NCA.

Only authorize commercial film permits if they further public understanding and appreciation of the NCA and its purposes. Permits may be subject to surface use and seasonal restrictions and will only be granted after applicable environmental compliance legal requirements have been satisfied, including site-specific NEPA analyses.



2.10 PROPOSED ST. GEORGE FIELD OFFICE RMP AMENDMENT

2.10.1 Areas of Critical Environmental Concern

Goals

Biological conservation and restoration mandates from OPLMA (Section 1979) for priority biological areas are satisfied through the administrative designation of new ACECs.

Objectives

Identify and evaluate areas where the relevance and importance criteria, as stated at 43 CFR 1610.7.2, are met for the administrative designation of ACECs to satisfy biological conservation and restoration mandates from OPLMA (Section 1979).

Re-evaluate existing ACECs when developing new or revised RMPs to determine if special management attention through this administrative designation continues to be required.

Designate the following new ACECs:

- a) South Hills ACEC (1,950 acres);
- b) State Line ACEC (1,410 acres);
- c) Webb Hill ACEC (520 acres).

(Map 2-17)

Continue to manage the following as ACECs:

- a) Red Bluff ACEC (6,166 acres);
- b) Warner Ridge/Fort Pearce ACEC (4,286 acres);
- c) Santa Clara/Gunlock ACEC (2,002 acres);
- d) Santa Clara River/Land Hill ACEC (1,664 acres);
- e) Lower Virgin River ACEC (1,806 acres);
- f) Little Creek Mountain ACEC (19,331 acres);
- g) Canaan Mountain ACEC (33,955 acres);
- h) Upper Beaver Dam Wash ACEC (33,108 acres).

(Map 2-17)

Management Prescriptions Applicable to All New Proposed ACECs

Lands and Realty

Public lands in ACECs will be retained in federal ownership.

Non-federal lands within or adjacent to an ACEC may be acquired for the purposes of conservation of relevance and importance values, through purchase, exchange, or donation. Acquired lands will be incorporated into the ACEC and managed in accordance

with the prescriptions applied to the remainder of the ACEC.

All ACECs are subject to valid and existing rights. Unless otherwise restricted by law, allow renewal and transfer of existing land use authorizations within ACECs, if otherwise designated as Avoidance or Exclusion areas.

Land use authorizations that could result in the irreparable damage of relevant and important values within ACECs will not be authorized. Ground-disturbing military maneuvers and landfills will not be authorized in ACECs.

Woodland Products Harvesting and Collection

Commercial and personal use woodland products harvesting (green wood, dead and down, poles, and Christmas trees) and firewood gathering is prohibited.

Livestock Grazing

Unless previously made unavailable for livestock grazing in the SGFO RMP, public lands are available for livestock grazing in ACECs, subject to the Terms and Conditions of federal grazing permits and the Terms and Conditions of Biological Opinions issued by USFWS, pursuant to Section 7 consultations under the ESA for federally-listed species.

Minerals Management

Locatable Minerals

Locatable: Public lands in Washington County will remain available to mining location under the General Mining Law of 1872 and applicable regulations, except where segregated from mineral entry by law or withdrawn in accordance with applicable law. Plans of Operation required for development in ACECs.

Saleable Minerals

Saleable: ACECs are closed to mineral materials disposal.

South Hills Proposed ACEC: Endangered Species: Dwarf Bearclaw Poppy (*Arctomecon humilis*) and Holmgren Milkvetch (*Astragalus holmgreniorum*)

Designate and manage as a 1,950-acre ACEC to protect populations and habitat for dwarf bearclaw poppy and Holmgren milkvetch.

Management Prescriptions

In addition to the management prescriptions listed above for all proposed ACECs, the following prescriptions would apply:

Lands and Realty Management

Retain 100% of public lands in federal ownership.

Manage as Exclusion area for linear, site-type, and material site ROWs.

Native Vegetation Management

Manage as closed to native seed, plants, and plant materials harvesting for commercial purposes and personal use.

Collection of native seeds, cuttings, biological soil crust communities and species for scientific research, conservation, and for use in future restoration projects would be authorized, as long as this activity is compatible with resource management objectives. Seed collection will follow the Seeds of Success Protocol, in partnership with the Great Basin and Mojave Desert Native Plant Programs. Collection of cuttings and biological soil crust communities will follow the best available protocols.

Noxious Weeds and Invasive Species Management

Approved herbicides to control exotic invasive annuals or noxious weeds could be authorized for use, on a case-by-case basis, within the ACEC. Consultations would be conducted with USFWS to identify appropriate herbicide, application methods, as well as other project protocols, to ensure that special status plants are not impacted. Restore and re-vegetate treatment areas to reduce the potential for re-infestations.

Minerals Management

Open to fluid mineral leasing with No Surface Occupancy Stipulation.

Recreation Management

Closed to dispersed camping.

Authorize the discharge of firearms. Except in the act of licensed hunting, all firearms must be discharged toward a proper backstop sufficient to stop the projectile's forward progress.

Targets must be constructed of wood, cardboard, paper or similar unbreakable materials. All targets,

clays, and shells are considered litter after use and must be removed and disposed of properly.

Special Recreation Permits may be issued for commercial, organized group, and competitive events, subject to site-specific analysis under NEPA and Section 7 consultations.

Travel Management

OHV area designation is Limited to Designated Routes.

Visual Resource Management

Manage as VRM Class II.

State Line Proposed ACEC: Endangered Species: Holmgren's Milkvetch and Gierisch Globemallow (*Sphaeralcea gierischii*)

Designate and manage a 1,410-acre ACEC to protect populations and habitat for Holmgren milkvetch and Gierisch globemallow.

Management Prescriptions

In addition to the management prescriptions listed above for all proposed ACECs, the following prescriptions would apply:

Lands and Realty Management

Manage as an Exclusion area for linear, site-type, and material site ROWs.

Native Vegetation Management

Closed to native seed, plants, and plant materials harvesting for commercial purposes and personal use.

Collection of native seeds, cuttings, biological soil crust communities and species for scientific research, conservation, and for use in future restoration projects would be authorized, as long as this activity is compatible with resource management objectives. Seed collection will follow the Seeds of Success Protocol, in partnership with the Great Basin and Mojave Desert Native Plant Programs. Collection of cuttings and biological soil crust communities will follow the best available protocols.

Noxious Weeds and Invasive Species Management

Herbicides to control exotic invasive annuals or noxious weeds could be approved for use on a case-by-case basis in the ACEC. Consultations would be conducted with USFWS to identify appropriate herbicide, application methods, as

well as other project protocols and monitoring requirements.

Minerals Management

Open to fluid mineral leasing with No Surface Occupancy Stipulation.

Recreation Management

Closed to dispersed camping.

SRPs may be issued for commercial, organized group, and competitive events, subject to site-specific analysis under NEPA and Section 7 consultations.

Travel Management

OHV area designation is Limited to Designated Routes.

Visual Resource Management

Manage as VRM II.

Webb Hill Proposed ACEC: Endangered Species: Dwarf Bearclaw Poppy**Management Prescriptions**

In addition to the management prescriptions listed above for all proposed ACECs, the following prescriptions would apply:

Lands and Realty Management

Retain 100% of public lands in federal ownership.

Manage as Exclusion area for linear, site-type, and material site ROWs.

Native Vegetation Management

Closed to native seed, plants, and plant materials harvesting for commercial purposes and personal use.

Collection of native seeds, cuttings, biological soil crust communities and species for scientific research, conservation, and for use in future restoration projects would be authorized, as long as this activity is compatible with resource management objectives. Seed collection will follow the Seeds of Success Protocol, in partnership with the Great Basin and Mojave Desert Native Plant Programs. Collection of cuttings and biological soil crust communities will follow the best available protocols.

Noxious Weed and Invasive Species Management

Approved herbicides to control exotic invasive annuals or noxious weeds could be authorized for use on a case-by-case basis in the ACEC.

Consultations would be conducted with the USFWS to identify appropriate herbicide, application methods, as well as other project protocols and monitoring requirements.

Minerals Management

Closed to fluid mineral leasing.

Closed to mineral materials disposal.

Recreation Management

Closed to dispersed camping.

Do not grant SRPs for commercial, organized group, and competitive events.

Non-motorized recreation use will continue to be limited to designated trails.

Travel Management

SGFO RMP VG-09, OV-01: OHV area designation Limited to Designated Routes, OV-04: Ability to close routes in sensitive species habitat.

Visual Resource Management

Manage as VRM Class II.

2.10.2 Comprehensive Travel and Transportation Management**Goals**

Compatible traditional, current, and future use of the land is sustained by establishing a transportation system that contributes to protection of sensitive resources, promotes dispersed recreation, and minimizes user conflicts.

Objectives

Sustain or expand, where needed, a variety of existing motorized, mechanized, and non-motorized trail and travel opportunities to meet public and administrative needs.

Public access, resource management, and regulatory needs are considered through transportation planning, incorporating consideration of access needs and the effects of and interaction among all forms of travel, including motorized, mechanized, and non-motorized/non-mechanized travel.

~~Coordinate travel management with adjacent BLM field offices and other agencies where possible.~~

Provide opportunities for sustainable motorized, mechanized, and non-motorized/non-mechanized recreation on public lands.

[The BLM shall comply with OPLMA Sec. 1977 (b)(2) which states the following:

(2) SCOPE; CONTENTS.—In developing the travel management plan, the Secretary shall—

(A) in consultation with appropriate Federal agencies, State, tribal, and local governmental entities (including the County and St. George City, Utah), and the public, identify 1 or more alternatives for a northern transportation route in the County;

(B) ensure that the travel management plan contains a map that depicts the trail; and

(C) designate a system of areas, roads, and trails for mechanical and motorized use.]

Management Actions - General

The BLM would coordinate transportation management with adjacent federal agencies, [American Indian Tribes,] state and local governments, and authorized users.

OHV Area Designations

Individual route designations are implementation-level decisions that will be addressed in the TMP and tiered to the OHV Area Designations in this plan.

Open to Cross Country OHV use: 21,442 acres

Limited to Designated Routes: 386,563 acres

Closed to OHV use: 112,427 acres

A map of the existing transportation system can be found at the BLM ePlanning website <http://bit.ly/2av3Q1i>.

(Map 2-18)

Upon completion of the TMP, all acres under Limited to Existing category will shift to the Limited to Designated [Routes] category.

All cross-country (off-transportation system) motorized or mechanized travel would be prohibited, with the following exceptions:

- a) Designated Open OHV Areas;
- b) Minimum necessary for administration of the area;
- c) For emergency purposes;
- d) Minimum necessary for the exercise of a valid existing right or authorized use.

In areas designated as Limited to Existing or Limited to Designated Routes, allow motorized vehicles to pull off of a route up to 100 feet to either side of the route centerline for the purpose of parking or camping [except in areas designated as closed to camping]. Monitor this use on a continuing basis. If monitoring

results show or impacting cultural resources degradation of natural resources within the 100 foot corridor, this option could be revoked by the Field Office Manager. Such revocations could be area-wide or site-specific.

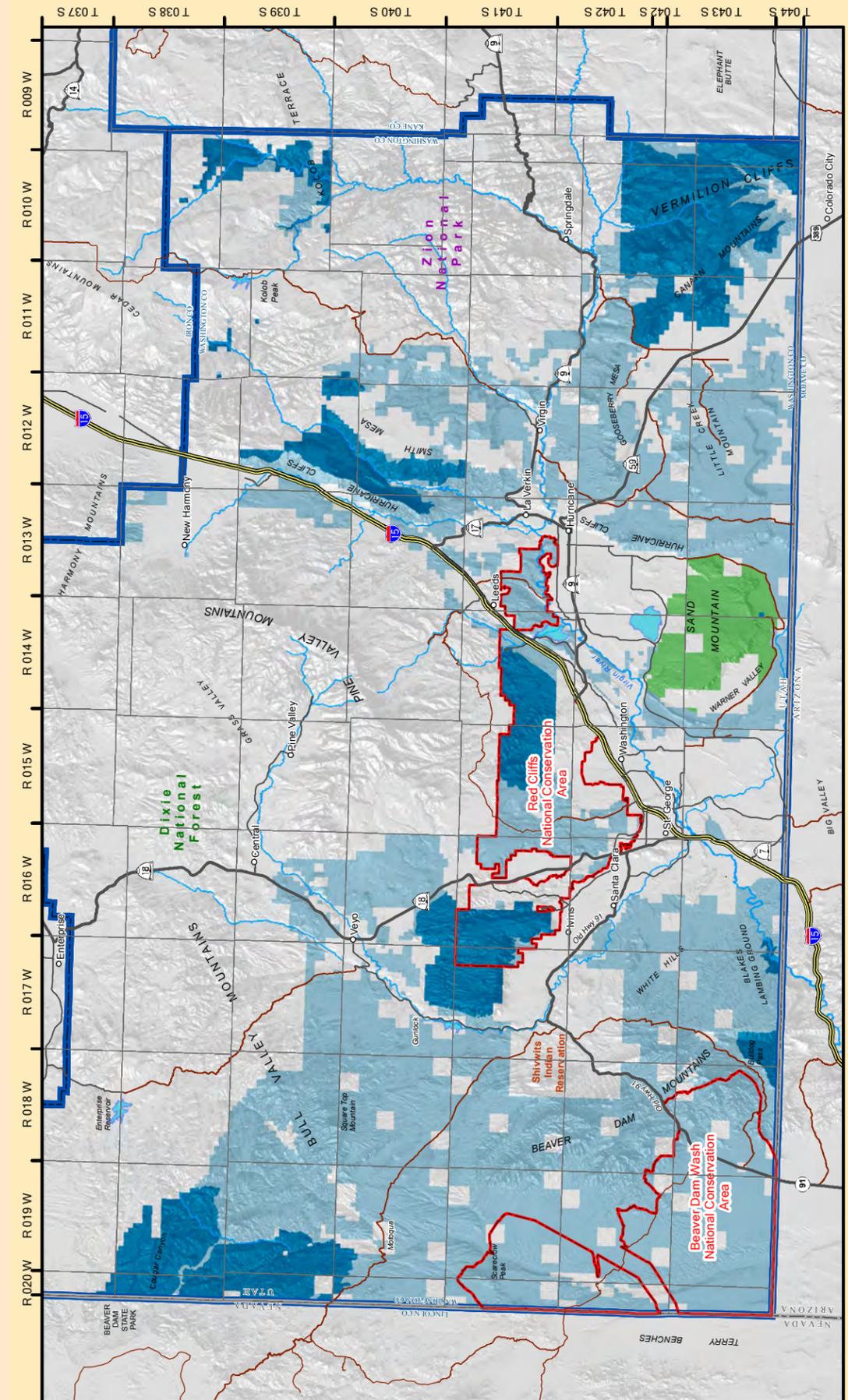
Within designated ACECs, unless otherwise posted, OHV area designation is limited to Designated Routes with use of the shoulder and immediate roadside to allow for vehicle passage, emergency stopping, or parking.

Use of non-motorized, wheeled game carriers to retrieve game kills or collect antlers would be allowed in all areas except designated wilderness. [Use of motorized vehicles for] Motorized game retrieval or antler collection would be prohibited.

Management Actions - Public Education and Interpretation

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that inform visitors about appropriate public lands etiquette, including OHV etiquette.

Provide educational materials through various media and venues (e.g., trailhead kiosks, websites) that encourage motorized users to use existing disturbed areas for parking and camping.



OHV Area Designations - St. George Field Office - Proposed RMP Amendment

Produced by BLM
St. George Field Office GIS

Note: Decisions in this document only apply to BLM lands.

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0 1 2 4 6 Miles
0 1 2 4 6 Kilometers

Legend:
■ Closed to Motorized Vehicles
■ Limited to Designated Routes
■ Open to All Vehicles
— National Conservation Area Boundary (Outside Plan Amendment Area)
— Field Office Boundary
— State Boundary

