April 13, 2018

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Sent via email and eplanning

Re: Grand Staircase-Escalante National Monument Scoping Comments

Dear Mr. Betenson:

Please accept and fully consider these scoping comments for the Grand Staircase-Escalante National Monument Resource Management Plan (RMP) and Environmental Impact Statement (EIS), submitted by The Wilderness Society, Grand Canyon Trust, Grand Staircase Escalante Partners, Southern Utah Wilderness Alliance, Western Resource Advocates, Great Old Broads for Wilderness, Wild Utah Project, Western Watersheds Project, WildEarth Guardians, Defenders of Wildlife, National Parks Conservation Association, and Taxpayer Association of Kane County. The undersigned care deeply about the future management of the Monument and look forward to working cooperatively with the Bureau of Land Management (BLM) to conserve, protect and restore the natural and cultural resources for current and future generations. We appreciate this opportunity to comment and appreciate the BLM's commitment to addressing the circumstances and values related to management of the public resources within the Monument.

The Wilderness Society (TWS) is a non-profit national organization founded in 1935, with members who reside throughout the nation, including in Utah. TWS works to protect America's wilderness lands through public education, scientific analysis, and advocacy. TWS's mission is to protect wilderness and inspire Americans to care about our wild places, so that future generations will enjoy the clean air, water, wildlife, beauty, and opportunities for recreation and renewal that pristine deserts, mountains, forests, and rivers provide. Protecting wilderness quality and other sensitive lands managed by BLM is vital to achieving The Wilderness Society's mission.

The Grand Canyon Trust (GCT) is a 501(c)(3) non-profit public lands advocacy organization founded in 1985 whose mission is to protect and restore the Colorado Plateau – its spectacular landscapes, flowing rivers, clean air, diversity of plants and animals, and areas of beauty and solitude. The permanent protection of the outstanding cultural, natural, and historic resources of the entirety of the Grand Staircase-Escalante National Monument is directly aligned with our mission as a conservation organization. The Trust advocates for Native American sovereignty and self-determination, environmentally responsible management of public lands and their associated resources, access to these lands, and permanent administrative and legislative protections to maintain their cultural and ecological integrity. We submit these comments in the interest of the furtherance of the goals of our organization and our membership. The Trust is headquartered in

Flagstaff, Arizona and has more than 4,000 active members and supporters. In addition to our Flagstaff headquarters, we operate satellite offices in Moab, Utah, and Denver and Durango, Colorado.

Grand Staircase Escalante Partners is a nonprofit 501 (c)(3) organization committed to preserving and protecting the vast landscape of Grand Staircase-Escalante National Monument for the use and enjoyment of present and future generations. We are the official "friends" organization for Grand Staircase-Escalante National Monument and we have made a Commitment to Diversity, Equity and Inclusivity.

The Southern Utah Wilderness Alliance (SUWA) is a non-profit environmental membership organization with members in all fifty states and offices in Washington, D.C. and Utah. It is dedicated to the sensible management of all federal public lands within the State of Utah, the preservation and protection of plant and animal species, the protection of clean air and water found on federal public lands, the preservation and protection of cultural and archaeological resources, and the permanent preservation of Utah's remaining wild lands. SUWA staff and members actively supported President Clinton's exercise of his authority under the Antiquities Act to designate the Grand Staircase-Escalante National Monument and preserve the objects identified in the Proclamation for current and future generations of Americans. SUWA staff and members have worked for decades to obtain permanent, heightened protection for the Grand Staircase-Escalante area.

Great Old Broads for Wilderness (Broads) is a national grassroots organization, led by women, that engages and inspires activism to preserve and protect wilderness and wild lands. With over 8,000 members and supporters, Broads has 40 chapters across the country that engage citizens in education, advocacy, and stewardship of public lands. Broads was conceived in 1989 by older women who loved wilderness and organized to protect it. The wisdom of their combined years told them that the Broads could bring knowledge, commitment, and humor to the movement to protect our last wild places on earth.

Western Watersheds Project ("WWP") is a non-profit conservation organization founded in 1993 with the mission of protecting and restoring western watersheds and wildlife through education, public policy initiatives, and legal advocacy. Headquartered in Hailey, Idaho, Western Watersheds Project has 1,400 members and field offices in Idaho, Montana, Wyoming, Nevada, Arizona, and California. WWP has a long-standing interest in the preservation of the area in and around the Grand Staircase-Escalante National Monument because its members place a high value on wild, undeveloped deserts that are protected from industrial uses. WWP actively seeks to protect and recover the desert ecosystems of Grand Staircase-Escalante National Monument and has for many years advocated for stronger protections for native plants and ecosystem health there from a variety of uses.

Founded in 1989, Western Resource Advocates is a non-profit organization dedicated to protecting the West's land, air, and water to ensure that vibrant communities exist in balance with nature. WRA uses law, science, and economics to craft innovative solutions to the most pressing conservation issues in the region. With offices in Utah, Colorado, New Mexico, Nevada, and Arizona, and with over 44,000 members from across the West, WRA engages at Federal, state, and

local levels to protect and connect half of western lands, and ensure that conserved areas across the region are preserved for future generations.

The mission of Wild Utah Project is to provide science-based solutions for wildlife and land conservation in Utah. We do this by working to insert best conservation science into agency decision making processes, particularly on public lands, including the Grand Staircase-Escalante National Monument.

WildEarth Guardians ("Guardians") is a non-profit conservation organization founded in 1989. Guardians is headquartered in Santa Fe, New Mexico and has offices in Denver, Colorado; Portland, Oregon; Missoula, Montana; Tucson, Arizona; and Seattle, Washington. Guardians' mission is to protect and restore the wildlife, wild places, wild rivers, and health of the American West. Guardians has more than 184,000 members and activists across the United States who are committed to securing protection for the important scientific, cultural and historic resources of Grand Staircase-Escalante National Monument.

Founded in 1947, Defenders of Wildlife is a national non-profit conservation organization focused on conserving and restoring native species and the habitat upon which they depend. Based in Washington, DC, the organization also maintains six regional field offices, including in the Southwest. Defenders is deeply involved in public lands management and wildlife conservation, including the protection and recovery of flora and fauna on the mesas and canyonlands of southern Utah. We submit these comments on behalf of more than 1.8 million members and supporters nationwide, including 13,725 members in Utah.

National Parks Conservation Association was founded in 1919 and has been the independent, nonpartisan voice working to strengthen and protect America's favorite places. With 1.3 million members and supporters beside us, we are the voice of America's national parks, working to protect and preserve our nation's most iconic and inspirational places for present and future generations. We celebrate the parks — and work tirelessly to defend them — whether on the ground, in the courtroom or on Capitol Hill.

Founded in 2007, the Taxpayer Association of Kane County advocates for the financial interests of the people of Kane County. The Mission of the TPA is twofold: To keep life affordable in Kane County, and to preserve our rural quality of life. We have intervened in a number of Kane County decisions that involve serious fiscal consequences. TPA Kane County is the largest member-based taxpayer advocacy organization in Utah, serving over 500 businesses and families.

As a preliminary matter, the undersigned groups are not acquiescing to Proclamation No. 9682, 82 Fed. Reg. 58089 (Dec. 4, 2017), which we maintain is illegal. We make no admissions with regard to the new proclamation, waive no litigation rights, nor otherwise waive any rights or privileges. We are simply exercising our right to participate in the public planning process. As stated below, the agencies should not be planning under Proclamation No. 9682, 82 Fed. Reg. 58089 (Dec. 4, 2017) at this time until the legal status of this proclamation is decided by the courts. However, these comments and recommendations should be fully considered and applicable as part of the administrative record to the current planning process and environmental analysis.

Issues Addressed

I. SUSTAINABLE GRAND STAIRCASE-ESCALANTE ALTERNATIVE

We are including with these comments a "Sustainable Grand Staircase-Escalante Alternative" ("Sustainable Alternative") for the BLM to fully consider and incorporate in its range of alternatives for this process. For convenience we have included the full "Sustainable Alternative" within **Appendix A** as well as a rationale for the Alternative in **Appendix B**.

The Sustainable Alternative is within the scope of analysis for this planning process and offers reasonable, prudent and well-thought-out protections for the important resources in the area. As discussed in further detail below, the National Environmental Policy Act (NEPA) and FLPMA both require that the agency consider reasonable alternatives in the EIS that analyzes the RMP revision.[1] This range of alternatives is not limited to only those crafted by the agency, but must also include approaches and alternatives proposed by the public, stakeholders, cooperating agencies, as well as other interested parties, so long as those alternatives fall within the scope of the analysis, are reasonable, and accomplish the management goals and obligations of the agency.[2]

The Sustainable Alternative provided in **Appendix A** will help BLM to fulfill these legal obligations as well as provide a strong foundation for a land use plan. We encourage the agency to not just consider or incorporate the Sustainable Alternative, but to adopt the Sustainable Alternative as its plan for the planning area. We will be reaching out to the agency to arrange a meeting to discuss these comments and the Sustainable Alternative and any questions you may have.

II. MANAGEMENT FRAMEWORK OF NATIONAL MONUMENTS

A. Management of the Monument should not move forward until litigation is settled regarding President Trump's illegal Proclamation attempting to reduce the monument

We maintain that Proclamation No. 9682, 82 Fed. Reg. 58089 (Dec. 4, 2017) attempting to reduce the size of Grand Staircase-Escalante National Monument is an unlawful revocation of the existing monument and will be overturned in a court of law. The president only has the authority to create a national monument under the Antiquities Act of 1906 (16 U.S.C. §§ 431-433). Only Congress can revoke or reduce a national monument.

President Trump's illegal proclamation is already being challenged in court by a multitude of plaintiffs, many of which are the undersigned commenters. The BLM's rush to act while these lawsuits are ongoing is irresponsible. The BLM should abstain from planning efforts under Proclamation 9682 until the legitimacy of the proclamation is fully settled by the courts. If the

[1] Consideration of alternatives is the "heart" of the NEPA process, and is one of the ways the agency must show it has taken a "hard look" at the consequences of its proposed action. *See* U.S. COUNCIL ON ENVIRONMENTAL QUALITY, EXECUTIVE OFFICE OF THE PRESIDENT, A CITIZEN'S GUIDE TO THE NEPA: HAVING YOUR VOICE HEARD (Dec. 2012). *See also* 40 C.F.R. § 1502.14.

[2] *See, Colorado Environmental Coalition v. Salazar*, 875 F. Supp. 2d 1233 (D. Colo. 2012). The Court found that the Final EIS was deficient in failing to sufficiently address the "Community Alternative" recommended by environmental organizations, area governments, and members of the public.

BLM moves forward with these planning processes at this time, it will likely be a colossal waste of time and money for an already strapped agency as the new proclamation is expected to be overturned by the courts. The BLM should invest its limited financial and staff resources on protecting the Monument and the natural and cultural resources within the area for current and future generations.

Summary of Comments: The BLM should not move forward with planning for Grand Staircase-Escalante National Monument until all litigation regarding the monument's boundaries and challenges to Proclamation No. 9682, 82 Fed. Reg. 58089 (Dec. 4, 2017) is settled.

B. Protection of the Monument objects must be the priority

Any actions proposed within the original and valid boundaries of Grand Staircase-Escalante National Monument should only substantially advance the proper care and management of the objects of interest as set forth in Proclamation No. 6920, 61 Fed. Reg. 50223 (Sept. 18, 1996) creating the Grand Staircase-Escalante National Monument.

The Federal Land Policy and Management Act (FLPMA) requires BLM to manage public lands under multiple use principles unless an area has been designated by law for specific uses, in which case BLM must manage the land for those specific uses. 43 U.S. C. §1732(a). In other words, BLM will manage national monuments not under the FLPMA multiple use mandate, but rather under Proclamation No. 6920, 61 Fed. Reg. 50223 (Sept. 18, 1996) that established Grand Staircase-Escalante National Monument. This is expressly provided for in FLPMA itself:

> The Secretary shall manage the public lands under the principles of multiple use and sustained yield, in accordance with the land use plans developed by him under section 1712 of this title when they are available, *except that where a tract of such public land has been dedicated to specific uses according to any other provisions of law it shall be managed in accordance with such law."* FLPMA, 43 U.S.C. § 1732(a) (emphasis added).

Pursuant to the legal authority granted by Congress in the Antiquities Act of 1906 (16 U.S.C. §§ 431-433), President Clinton designated Grand Staircase-Escalante National Monument through Proclamation No. 6920, 61 Fed. Reg. 50223 (Sept. 18, 1996) for the explicit purpose of protecting and preserving identified historic and scientific objects. Accordingly, the standard approach to multiple use management does not apply to this monument, and any effort to adopt such a management approach to the detriment of its natural and cultural objects and values would be in violation of Proclamation No. 6920, 61 Fed. Reg. 50223 (Sept. 18, 1996) as well as the mandates of FLPMA. BLM must manage the Monument for the protection and preservation of its natural, cultural, historic and scientific values, and only allow uses other than those needed for protection of monument objects when those uses do not conflict with the directives of Proclamation No. 6920, 61 Fed. Reg. 50223 (Sept. 18, 1996).

Because of its significance, which merited designation as a National Monument and inclusion in the National Landscape Conservation System (National Conservation Lands), the Monument requires different management from other BLM lands. The designation of National Monuments,

together with the establishment of the National Conservation Lands themselves, represents the cornerstone of a new era in land stewardship, in which BLM focuses on a mission of stewardship to: "conserve, protect, and restore nationally significant landscapes that have outstanding cultural, ecological, and scientific values for the benefit of current and future generations." 16 U.S.C. § 7202 (2009).

Secretarial Order 3308 speaks to the management of the National Conservation Lands. The Order states in pertinent part that "[T]he BLM shall ensure that the components of the [National Conservation Lands] are managed to protect the values for which they were designated, including, where appropriate, prohibiting uses that are in conflict with those values." The Order also requires the incorporation of science into the decision-making process for the National Conservation Lands, stating, "[s]cience shall be integrated into management decisions concerning [National Conservation Lands] components in order to enhance land and resource stewardship and promote greater understanding of lands and resources through research and education." The 15-Year Strategy for the Conservation Lands reinforces this by stating the "conservation, protection, and restoration of the [National Conservation Lands] values is the highest priority in [National Conservation Lands] planning and management, consistent with the designating legislation or presidential proclamation." National Conservation Lands Strategy at 8.

The most important aspect of this planning effort is ensuring that the objects that these areas were designated to protect are conserved, protected and restored over the life of the monument management plan. While discretionary uses may be allowed to continue if compatible with that charge, BLM must limit or prohibit such uses if they are in conflict with the values that the areas were designated to protect.

The BLM should look to the management provided in the current monument management plan (Grand Staircase-Escalante National Monument Approved Management Plan and Record of Decision, 1999) for protection of important and sensitive resources in both the original proclamation and reduced areas, including cultural, natural/ecological, paleontological, geological resources as well as Tribal sacred lands and resources as described in Proclamation No. 6920, 61 Fed. Reg. 50223 (Sept. 18, 1996).

The existing Monument Management Plan was created after extensive engagement with local communities. There were, for example, over 30 public workshops with over 2,000 participants throughout 15 communities engaged in providing input about the early draft management plan. *See* Notice of Public Involvement and Scoping Opportunities for the Grand Staircase-Escalante National Monument Management Plan and Associated Environmental Impact Statement (Jul. 31, 1997).

Per the Monument Management Plan, in order to implement properly the Grand Staircase Proclamation, the Monument has been structured and managed according to two basic precepts: that the Monument would remain remote and undeveloped, protected in its primitive frontier state, in order to safeguard the scientific and historic resources as required by the Proclamation, and that the Monument would provide unparalleled opportunities for the study of scientific and historic resources. *Id.* at iv, 5.

Summary of Comments: BLM must manage the Monument primarily for the protection and preservation of its natural, cultural, historic and scientific values, and only allow uses other than those needed for protection of monument objects when those uses do not conflict with the directives of Proclamation No. 6920, 61 Fed. Reg. 50223 (Sept. 18, 1996). The BLM should look to the management framework provided in the current Monument Management Plan, the 1999 Grand Staircase-Escalante National Monument Approved Management Plan and Record of Decision.

C. National Conservation Lands policies and manuals

Secretarial Order 3308 states that the National Conservation Lands "shall be managed as an integral part of the larger landscape, in collaboration with the neighboring land owners and surrounding communities, to maintain biodiversity, and promote ecological connectivity and resilience in the face of climate change." The BLM's 15-Year Strategy for the National Conservation Lands discusses utilizing large-scale assessments, such as BLM's Rapid Ecoregional Assessments (REA), to identify how to connect and protect resources at the landscape-level.

Instruction Memorandum (IM) No. 2013-082 addresses the use of Regional Assessments and specifically stated that District and Field Office managers should "Use the REAs and other assessments, where appropriate, in developing new land use plans, plan amendments and project specific National Environmental Policy Act documents." The Colorado Plateau REA was completed in 2012.[3] BLM should use the information in the REA to evaluate the landscape setting where the Monument sits.

Summary of Comments: While this planning process for the illegally-revoked Monument should not be going forward, any planning process for the Monument under Proclamation No. 6920, 61 Fed. Reg. 50223 (Sept. 18, 1996) must be consistent with policies for the National Conservation Lands, including looking at the larger landscape for management of resources. BLM completed the Colorado Plateau REA in 2012. The agency should use this data to plan for the Monument in a broader landscape context. BLM's planning assessment should include considerations such as wildlife movement through and outside of the monument, route and road proliferation, potential for the spread of invasive species, and the impacts of climate change on the Monument.

III. PUBLIC PARTICIPATION/NATIONAL ENVIRONMENTAL POLICY ACT OBLIGATIONS

The National Environmental Policy Act (NEPA) is designed to foster informed and transparent decision-making. 40 C.F.R. § 1500.1; *Robertson v. Methow Valley Citizens Council,* 490 U.S. § 322, 349 (1989). NEPA requires BLM to "[e]ncourage and facilitate public involvement in decisions which affect the quality of the human environment," 40 C.F.R. § 1500.2(d), and to use high quality information because "[a]ccurate scientific analysis. . . and public scrutiny are essential to implementing NEPA," *Id.* 1500.1(b). To these ends, courts have held that environmental review documents must be written in plain, clear language and "supported by evidence that the agency has

[3] Available at: https://consbio.org/products/projects/blm-rapid-ecological-assessment-rea-colorado-plateau.

made the necessary environmental analyses." *See, e.g., Earth Island Inst. v. U.S. Forest Service,* 442 F.3d 1147, 1160 (9th Cir. 2006).

A. The agencies have failed to provide meaningful public participation opportunities

Secretary Zinke recently signed Secretarial Order (SO) 3355, which covers streamlining of NEPA reviews and implementation, and is designed to remove "impediments to efficient development of public and private projects that can be created by needlessly complex NEPA analysis." SO 3355 imposes subjective and unrealistic page and time limitations for EISs on all DOI NEPA. This includes a suggested page limit of 150 pages, or 300 pages for "unusually complex projects," excluding appendices. Additionally, a target deadline to complete all final EISs within one year.

We support efficient NEPA processes, but not those that eliminate the public from effectively engaging in the process or that result in agencies not fulfilling their responsibilities to take a hard look at the impacts from its actions. SO 3355 constrains the agency's ability to satisfy NEPA's mandatory legal requirements mentioned above and the imposition of arbitrary timelines significantly hinders opportunity for effective public engagement. The BLM must be sure not to undercut mandatory requirements, including those for public participation.

Though we disagree with moving forward with the planning process at this time, we recommended hosting additional scoping meetings to ensure meaningful public participation. For comparison, when the Grand Staircase Escalante National Monument Management Plan was originally developed, the BLM held 15 meetings in six states plus Washington, D.C., over the course of two months. We agree with hosting meetings in local communities such as Kanab and Escalante but believe meetings should also be held in major metropolitan areas where people frequently come from to visit the Monument, such as Salt Lake City, UT, Denver, CO, and Flagstaff, AZ.

Additionally, if this process continues to move forward, we feel strongly that the BLM should release alternatives for public review prior to publishing the draft RMP. Due to the volume of public interest in this process, BLM should also host public meetings in the appropriate locations listed above upon publishing the draft RMP.

Summary of Comments: The agencies' public participation opportunities so far have been woefully inadequate. BLM should host additional public meetings in several locations, including local communities as well as surrounding metropolitan areas to gather more information for scoping, preliminary alternatives and the draft RMP/EIS. BLM also should release alternatives for public review prior to publishing the draft RMP. We highly recommend that the agency fulfill its obligations under NEPA by ensuring that its analysis is thorough and complete rather than sacrifice the integrity of the EIS for arbitrary restrictions set forth in SO 3355. <u>BLM should host public meetings in several locations, including local communities as well as surrounding metropolitan areas. BLM also should release alternatives for public review prior to publishing the draft RMP.</u>

B. A reasonable range of alternatives must be considered

The range of alternatives is "the heart of the environmental impact statement." 40 C.F.R. § 1502.14. NEPA requires BLM to "rigorously explore and objectively evaluate" a range of

alternatives to proposed federal actions. *See* 40 C.F.R. §§ 1502.14(a), 1508.25(c). "An agency must look at every reasonable alternative, with the range dictated by the nature and scope of the proposed action." *Nw. Envtl. Defense Center v. Bonneville Power Admin*., 117 F.3d 1520, 1538 (9th Cir. 1997). An agency violates NEPA by failing to "rigorously explore and objectively evaluate all reasonable alternatives" to the proposed action. *City of Tenakee Springs v. Clough*, 915 F.2d 1308, 1310 (9th Cir. 1990) (quoting 40 C.F.R. § 1502.14). This evaluation extends to considering more environmentally protective alternatives and mitigation measures. *See, e.g., Kootenai Tribe of Idaho v. Veneman*, 313 F.3d 1094, 1122–23 (9th Cir. 2002) (and cases cited therein). The consideration of more environmentally protective alternatives is also consistent with FLPMA's requirement that BLM "minimize adverse impacts on the natural, environmental, scientific, cultural, and other resources and values (including fish and wildlife habitat) of the public lands involved." 43 U.S.C. §1732(d)(2)(a).

NEPA requires that an actual "range" of alternatives is considered, such that the Act will "preclude agencies from defining the objectives of their actions in terms so unreasonably narrow that they can be accomplished by only one alternative (i.e., the applicant's proposed project)." *Col. Envtl. Coal. v. Dombeck*, 185 F.3d 1162, 1174 (10th Cir. 1999), citing Simmons v. U.S. Corps of Engineers, 120 F.3d 664, 669 (7th Cir. 1997). This requirement prevents the EIS from becoming "a foreordained formality." *City of New York v. Dep't of Transp.*, 715 F.2d 732, 743 (2nd Cir. 1983). *See also Davis v. Mineta*, 302 F.3d 1104 (10th Cir. 2002).

Further, in defining what is a "reasonable" range of alternatives, NEPA requires consideration of alternatives "that are practical or feasible" and not just "whether the proponent or applicant likes or is itself capable of carrying out a particular alternative"; in fact, "[a]n alternative that is outside the legal jurisdiction of the lead agency must still be analyzed in the EIS if it is reasonable." Council on Environmental Quality, *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations*, *Questions 2A and 2B, available at*https://www.energy.gov/sites/prod/files/G-CEQ-40Questions.pdf; 40 C.F.R. §§ 1502.14, 1506.2(d).

Throughout the planning process, the BLM should put forth alternatives in its plan that protect the resources of the Monument as set forth in Proclamation No. 6920, 61 Fed. Reg. 50223 (Sept. 18, 1996). This will ensure that the monument management planning process evaluates a reasonable range of alternatives. This is particularly important while litigation regarding the legality of President Trump's December 2017 Proclamation is pending. Importantly, BLM would be in violation of NEPA if it did not consider alternatives for the protection of the Monument as set forth in Proclamation No. 6920, 61 Fed. Reg. 50223 (Sept. 18, 1996).

Summary of Comments: The BLM must consider a reasonable range of alternatives throughout the planning process, including alternatives that are environmentally protective, practical and feasible, which must include protecting resources in the Monument as set forth in Proclamation No. 6920, 61 Fed. Reg. 50223 (Sept. 18, 1996).

C. Hard look must be appropriate to proposed action and include direct, indirect, and cumulative impacts

NEPA dictates that BLM take a "hard look" at the environmental consequences of a proposed action and the requisite environmental analysis "must be appropriate to the action in question." *Metcalf v. Daley*, 214 F.3d 1135, 1151 (9th Cir. 2000); *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 348 (1989). In order to take the "hard look" required by NEPA, BLM is required to assess impacts and effects that include: "ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, *whether direct, indirect, or cumulative*." 40 C.F.R. § 1508.8. (emphasis added). NEPA regulations define "cumulative impact" as:

> the impact on the environment which results from the *incremental impact of the action when added to other past, present, and reasonably foreseeable future actions* regardless of what agency (Federal or non-Federal) or person undertakes such other actions. *Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.*

40 C.F.R. § 1508.7 (emphasis added).

To satisfy NEPA's hard look requirement, the cumulative impacts assessment must do two things. First, BLM must catalogue the past, present, and reasonably foreseeable projects in the area that might impact the environment. *Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 809–10 (9th Cir. 1999). Second, BLM must analyze these impacts in light of the proposed action. *Id.* If BLM determines that certain actions are not relevant to the cumulative impacts analysis, it must "demonstrat[e] the scientific basis for this assertion." *Sierra Club v. Bosworth*, 199 F.Supp.2d 971, 983 (N.D. Ca. 2002). A failure to include a cumulative impact analysis of actions within a larger region will render NEPA analysis insufficient. *See, e.g., Kern v. U.S. Bureau of Land Management*, 284 F.3d 1062, 1078 (9th Cir. 2002) (analysis of root fungus on cedar timber sales was necessary for an entire area).

Summary of Comments: The BLM must take a hard look at the impacts of decisions from this planning process.

D. Baseline information must be sufficient to permit analysis of impacts

Importantly, 40 C.F.R. § 1502.15 requires agencies to "describe the environment of the areas to be affected or created by the alternatives under consideration." Establishment of baseline conditions is a requirement of NEPA. In *Half Moon Bay Fisherman's Marketing Ass'n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988), the Ninth Circuit states that "without establishing . . . baseline conditions . . . there is simply no way to determine what effect [an action] will have on the environment, and consequently, no way to comply with NEPA." The court further held that "[t]he concept of a baseline against which to compare predictions of the effects of the proposed action and reasonable alternatives is critical to the NEPA process."

Summary of Comments: The BLM must establish baseline conditions sufficient to permit analysis of environmental impacts.

E. Mitigation measures must be described with specificity and must include commitments for action

NEPA requires that BLM discuss mitigation measures in an EIS. 40 C.F.R. §§ 1502.14, 1502.16. Also, under NEPA, BLM's Finding of No Significant Impact (FONSI) is lawful only if "BLM has made a convincing case that no significant impact will result there from or that any such impact will be reduced to insignificance by the adoption of appropriate mitigation measures." *Defenders of Wildlife*, 152 IBLA 1, 6 (2000) (citations omitted). In general, to show that mitigation will reduce environmental impacts to an insignificant level, BLM must discuss the mitigation measures "in sufficient detail to ensure that environmental consequences have been fairly evaluated." *Communities, Inc. v. Busey*, 956 F.2d 619, 626 (6th Cir. 1992). Simply identifying mitigation measures, without analyzing the effectiveness of the measures, violates NEPA. Agencies must "analyze the mitigation measures in detail [and] explain how effective the measures would be . . . A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA." *Nw. Indian Cemetery Protective Ass'n v. Peterson*, 764 F.2d 581, 588 (9th Cir. 1985), *rev'd on other grounds*, 485 U.S. 439 (1988). NEPA also directs that the "possibility of mitigation" should not be relied upon as a means to avoid further environmental analysis. Council on Environmental Quality, *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, available at* https://www.energy.gov/sites/prod/files/G-CEQ-40Questions.pdf; *Davis v. Mineta*, 302 F.3d at 1125.

Further, general statements that BLM will conduct monitoring are not an appropriate form of mitigation. Simply monitoring for expected damage does not actually reduce or alleviate any impacts.

Summary of Comments: The BLM must identify and analyze mitigation measures to demonstrate how effective the mitigation will be. In general, the BLM must ensure that NEPA compliance demonstrates how and why the proposed decisions avoid significant environmental impacts.

IV. AREAS OF CRITICAL ENVIRONMENTAL CONCERN

When developing a land use plan, FLPMA mandates that BLM "*give priority* to the designation and protection of areas of critical environmental concern." 43 U.S.C. § 1712(c)(3) (emphasis added). Areas of critical environmental concern (ACECs) are areas "where special management is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes." *Id.* § 1702(a).

The designation of ACECs are appropriate in the Monument RMP. ACEC nominations must be considered by BLM in the land use planning process and nominations will be forthcoming at our earliest convenience.

A. Retention of existing ACECS and designating new ACECs

In evaluating ACEC proposals, BLM's ACEC Manual requires that each area recommended for consideration as an ACEC, including from external nominations, be considered by BLM, through

collection of data on relevance and importance, evaluation by an interdisciplinary team and then, if they are not to be designated, the analysis supporting the conclusion "must be incorporated into the plan and associated environmental document." BLM Manual 1613, Section .21 (Identifying Potential ACECs). An ACEC is to be as large as is necessary to protect the important and relevant values. BLM Manual 1613, Section .22.B.2 (Size of area to receive special management attention).

Summary of Comments: BLM should not only retain existing ACECs but should also designate new ACECs per FLPMA. These should include landscape-scale ACECs that help connect important habitat within the Monument pursuant to Proclamation No. 6920, 61 Fed. Reg. 50223 (Sept. 18, 1996). BLM must analyze and respond to any ACEC submissions submitted by the public during this planning process. We will be submitting nominations for ACECs at our earliest convenience.

B. Management of ACECs

As stated above, BLM is required by FLPMA to prioritize the designation *and protection* of ACECs. BLM's ACEC Manual directs that, for ACECs proposed in at least one alternative, management prescriptions are to be "fully developed" in the RMP. BLM Manual 1613, Section .22 (Develop Management Prescriptions for Potential ACECs). BLM should include specific management prescriptions for each designated ACEC that will protect the highlighted values, such as mineral withdrawal and travel management and route designations. *Id*. and Section .33.C (Provision for Special Management Attention). Setting out more detailed management prescriptions in the RMP will ensure protection of the ACEC values and can obviate the need for additional planning activities.

***Summary of Comments*:** BLM should set specific management prescriptions for each ACEC in order to protect ACECs from irreparable harm and provide special management attention for the ACEC as required by FLPMA and other laws and regulations.

C. Layering ACECs with the Monument and other designations

The obligations of the BLM with regard to ACECs under FLPMA remain in place in conjunction with the duties under the Proclamation creating the Monument. A critical aspect of the statutory language cited above is FLPMA's requirement that BLM "give priority" to ACEC designation *and* protection. 43 U.S.C. § 1712(c)(3). This cannot be overlooked when thinking about ACECs in the context of the draft plan. Even though BLM is proposing to manage the Monument to protect the objects and values of the Monument, it still must also prioritize designation and protection of ACECs within the Monument. This means the Monument should not subsume ACECs, but are another layer of complimentary management.

Overlapping designations are common in BLM land use planning, including for the National Conservation Lands. For example, just a few of these include:

- Perry Mesa and Larry Canyon ACECs in the Agua Fria National Monument
- High Rock Canyon and Soldiers Meadows ACECs in the Black Rock Desert—High Rock Canyon Emigrant Trails NCA
- Cow Creek ACEC in the Upper Missouri River Breaks National Monument
- Appelton-Whittell ACEC in the Las Cinegas NCA

- Scotch Creek and Oregon Gulch ACECs in the Cascade-Siskiyou National Monument
- Vekol Valley Grassland ACEC in the Sonoran Desert National Monument
- Watermelon Mountains ACEC in the Ironwood Forest National Monument
- San Rafael RNA, San Pedro River RNA and St. David Cienega RNA ACECs in the San Pedro Riparian NCA

In the RMP for the Monticello Field Office, BLM responded to resistance to layering designations in the following appropriate way:

> "Layering" is planning. Under FLPMA's multiple use mandate, BLM manages many different resource values and uses on public lands. Through land use planning BLM sets goals and objectives for each of those values and uses, and prescribes actions to accomplish those objectives. Under the multiple use concept, BLM doesn't necessarily manage every value and use on every acre, but routinely manages many different values and uses on the same areas of public lands. The process of applying many individual program goals, objectives, and actions to the same area of public lands may be perceived as "layering". BLM strives to ensure that the goals and objectives of each program (representing resource values and uses) are consistent and compatible for a particular land area. Inconsistent goals and objectives can lead to resource conflicts, failure to achieve the desired outcomes of a land use plan, and litigation. Whether or not a particular form of management is restrictive depends upon a personal interest or desire to see that public lands are managed in a particular manner. All uses and values cannot be provided for on every acre. That is why land use plans are developed through a public and interdisciplinary process. The interdisciplinary process helps ensure that all resource values and uses can be considered together to determine what mix of values and uses is responsive to the issues identified for resolution in the land use plan. Layering of program decisions is not optional for BLM, but is required by the FLPMA and National BLM planning and program specific regulations.

Monticello Proposed RMP, Response to Comments, at 7-48.

Summary of Comments: In order to meet the statutory requirement of prioritizing the designation and protection of ACECs, BLM must apply special management to protect the values identified for each of the ACECs and identify new ACECs as appropriate. BLM will not meet its duty under FLPMA to prioritize ACECs if the designation is subsumed by the overlapping Monument; and layering to protect the meaning of both designations is consistent with applicable law and policy.

V. LANDS WITH WILDERNESS CHARACTERISTICS

FLPMA requires BLM to inventory and consider lands with wilderness characteristics during the land use planning process. 43 U.S.C. § 1711(a); s*ee also Ore. Natural Desert Ass'n v. BLM,* 625 F.3d 1092, 1122 (9th Cir. 2008) (holding that "wilderness characteristics are among the values that FLPMA specifically assigns to the BLM to manage in land use plans).[4] IM 2011-154 and BLM

[4] The BLM has taken the policy position that it does not designate new Wilderness Study Areas (WSA). We maintain that this policy is not valid and should not be maintained. BLM should specifically mention potential WSAs as something to inventory for during the planning assessment phase.

Manuals 6310 and 6320 contain mandatory guidance on implementing that requirement. The IM directs BLM to "conduct and maintain inventories regarding the presence or absence of wilderness characteristics, and to consider identified lands with wilderness characteristics in land use plans and when analyzing projects under [NEPA]." This includes the "necessary forms for each area" including photo logs, route analysis forms and inventory area evaluations. Manual 6310, Appendices A-D. Manual 6310 reiterates that, "[r]egardless of past inventory, the BLM must maintain and update as necessary, its inventory of wilderness resources on public lands." BLM Manual 6310.06(A) Manual 6320 requires BLM to consider lands with wilderness characteristics in land use planning, both in evaluating the impacts of management alternatives on lands with wilderness characteristics and in evaluating alternatives that would protect those values. Wilderness inventories are to be done on a *continuing* basis and relevant citizen-submitted data is to be evaluated. BLM Manual 6310.04(C)(1).

A. The multiple values of lands with wilderness characteristics

In order to possess wilderness characteristics, an area must "possess sufficient size, naturalness, and outstanding opportunities for either solitude or primitive and unconfined recreation" and can also contain supplemental values. BLM Manual 6310.06(C)(2). Through this planning process, BLM should recognize the wide range of values associated with lands with wilderness characteristics that supplement and benefit other resources that the agency manages for. Many of these resources are specifically identified in Proclamation No. 6920, 61 Fed. Reg. 50223 (Sept. 18, 1996) as purposes for which Grand Staircase-Escalante National Monument was designated and/or Monument objects which must be protected. These include the following:

(a) Scenic values – FLPMA specifically identifies "scenic values" as a resource of BLM lands for purposes of inventory and management (43 U.S.C. § 1711(a)), and the Monument Proclamation identifies scenic values such as "stunning," "fantastical" and "vividly hued." The unspoiled landscapes of lands with wilderness characteristics generally provide spectacular viewing experiences. Protecting lands with wilderness characteristics would help ensure the scenic values of these lands exist for future generations.

(b) Recreation – FLPMA also identifies "outdoor recreation" as a valuable resource to be inventoried and managed by BLM. 43 U.S.C. § 1711(a). Lands with wilderness characteristics provide opportunities for primitive recreation, such as hiking, camping, hunting and wildlife viewing. Many primitive recreation experiences would be severely impacted if the naturalness and quiet of these lands are not preserved.

(c) Wildlife habitat, connectivity and riparian areas – FLPMA acknowledges the value of wildlife habitat found in public lands and recognizes habitat as an important use. 43 U.S.C. § 1702(c). The Monument Proclamation acknowledges the Grand Staircase-Escalante area supports a variety of wildlife species, and spends much of the proclamation explaining the various species and connections. These values must be prioritized in the Monument management plan.

Due to their unspoiled state, lands with wilderness characteristics provide valuable habitat for wildlife, thereby supporting additional resources and uses of the public lands. As part of their habitat, many species are also dependent on riparian and other wetland habitats, especially during either seasonal migrations or seasons and years when surrounding habitats are dry and

unproductive. Wilderness-quality lands support biodiversity, watershed protection and overall healthy ecosystems. In addition, they provide connectivity that facilitates wildlife migration, seasonal movements and dispersal of young. The low route density, absence of development activities and corresponding absence of motorized vehicles, which are integral to wilderness character, also ensure the clean air, clean water and lack of disturbance necessary for productive wildlife habitat, large scale connectivity and riparian areas (which support both wildlife habitat and human uses of water).

Further, inventorying lands with wilderness characteristics will also provide important data on existing large blocks of habitat and how BLM can restore these blocks of habitat to better match the historic range of variability. Identifying, restoring and protecting substantial roadless areas will provide crucial benefits to wildlife, especially to endangered and sensitive species.

(d) Cultural and historic resources – FLPMA also recognizes the importance of protecting "historical" and "archeological values" as part of the resources of the public lands. 43 U.S.C. § 1701(a)(8). Proclamation No. 6920, 61 Fed. Reg. 50223 (Sept. 18, 1996) elaborates extensively on the rich cultural history of the area dating back 12,000 years, as well as significant modern history. The lack of intensive human activity on lands with wilderness characteristics helps to protect these resources. Managing lands to protect wilderness qualities will also help protect cultural and archaeological sites.

(e) Economic benefits – The recreation opportunities provided by wilderness quality lands also yield direct economic benefits to local communities. According to the U.S. Fish & Wildlife Service, in 2011 state residents and non-residents spent $1.2 billion on wildlife recreation in Nevada.[5] In addition, local communities that protect wildlands reap measurable benefits in terms of employment and personal income. For instance, a report by the Sonoran Institute found that:

> Protected lands have the greatest influence on economic growth in rural isolated counties that lack easy access to larger markets. From 1970 to 2000, real per capita income in isolated rural counties with protected land grew more than 60 percent faster than isolated counties without any protected lands.[6]

We discuss the economic benefits of wilderness quality lands in more detail elsewhere in these comments.

(f) Quality of life – The wildlands located within Grand Staircase-Escalante National Monument help to define the character of this area and are an important component of the quality of life for local residents and future generations, providing wilderness values in proximity to the Kanab Field Office, a major western tourism destination, and other communities near the Monument.

(g) Balanced use – The vast majority of BLM-managed lands are open to motorized use and development. FLPMA recognizes that "multiple use" of the public lands requires "a combination of balanced and diverse resource uses" that includes recreation, watershed, wildlife, fish, and natural scenic and historical values. 43 U.S.C. § 1702(c). The National Conservation Lands provide

[5] USFWS 2011, National Survey of Hunting, Fishing and Wildlife-associated Recreation, available at http://www.census.gov/prod/2013pubs/fhw11-nv.pdf.
[6] Sonoran Institute 2004, Prosperity in the 21st Century West - The Role of Protected Public Lands.

critical balance to public lands management by directing the agency to adopt conservation-focused management of our most spectacular western landscapes. Protection of wilderness characteristics will benefit many of the other multiple uses and values of BLM-managed lands such as air and water quality, night skies, soundscapes, and viewsheds, while other more exclusionary uses (such as off-road vehicle use and timber harvesting) will still have adequate opportunities on other BLM lands.

Summary of Comments: BLM should recognize the wide range of values associated with lands with wilderness characteristics that supplement and benefit other resources that the agency manages for, including specifically resources that are identified in Proclamation No. 6920, 61 Fed. Reg. 50223 (Sept. 18, 1996) as purposes for which Grand Staircase-Escalante National Monument was designated and/or Monument objects which must be protected. These associated values should be acknowledged and discussed in the environmental analysis, and reflected in the decisions made, in the Monument management plan.

B. Citizen inventory information

Citizen inventory data must be evaluated and considered in making decisions in the Monument management plan. BLM Manual 6310.06(A)(3). This includes previous inventory data submitted by the Southern Utah Wilderness Alliance or other groups or individuals.

Citizen inventory data meets the criteria laid out in Manual 6310 as the "Minimum Standard for Review of New Information":

1. A map of sufficient detail to determine specific boundaries of the area in question;
2. A detailed narrative that describes the wilderness characteristics of the area and documents how that information substantially differs from the information in the BLM inventory of the area's wilderness characteristics; and
3. Photographic documentation.

BLM Manual 6310.06(B)(1)(b).

As such, this information must be evaluated by the BLM. BLM should document this evaluation and make the documentation and findings available to the public as soon as practicable, and before BLM moves forward with developing management alternatives for lands included in the citizen inventory.

Summary of Comments: BLM should further document and evaluate the initial citizen LWC inventory information, which meets the minimum standards for review of new information as set forth in BLM Manual 6310. BLM should document this evaluation and make the documentation and findings available to the public as soon as practicable, and before BLM moves forward with developing management alternatives for the lands included in the citizen inventory.

C. Recommendations for ensuring a compliant and accurate inventory of lands with wilderness characteristics

BLM Manual 6310 sets forth the agency's policy for conducting wilderness characteristics inventory on BLM lands. In compliance with FLPMA, BLM is directed to maintain an inventory of lands with wilderness characteristics on a continuing basis, including during land use planning, or when the public identifies wilderness characteristics as an issue during a NEPA process or submits new information concerning wilderness resources. BLM Manual 6310.06(A). Additionally, BLM is given broad discretion to update its wilderness characteristics inventory in other circumstances.

BLM's inventory procedures require that necessary forms are completed for each area (included as appendices to Manual 6310), and that a Permanent Documentation File for each area is developed and updated. BLM Manual 6310.06(B)(4). Proper documentation of inventory findings is to include relevant narratives, maps, photographs, new information and any other relevant information. BLM Manual 6310.06(A). This information should be published online, or otherwise released to the public as soon as documentation files are complete, and BLM should respond to new information and comments submitted on preliminary inventory findings. Instruction Memorandum 2013-106 provides additional guidance to BLM Manuals 6310 and 6320 on public and cooperating agency involvement in the LWC inventory and planning process. The IM instructs that BLM field offices should make finalized and signed wilderness characteristics inventory findings available to the public **as soon as practicable after their completion and before the inventory data is used to inform decisions.** If possible, this should occur prior to, and no later than, the publication of the draft NEPA analysis associated with the action.

BLM should use the below recommendations to reevaluate its inventory that has been completed to date and in considering additional inventory work.

1. <u>GIS analysis can be useful to identify lands meriting field inventory but a desktop inventory is not sufficient</u>

We recommend BLM begins the LWC inventory process by conducting a GIS-based roadless analysis of the entire field office or planning area to determine potential lands with wilderness characteristics. For example, most BLM field offices in Colorado completed GIS roadless analyses as a starting point for their LWC inventories, and these types of analyses have proven useful and informative for determining potential LWC units to be inventoried in the field. However, because BLM road data is often faulty or incomplete, and because BLM road data does not differentiate between routes that meet the definition of a "road" for wilderness inventory purposes as defined by Manual 6310, the resulting analyses based on this data is often flawed and/or incomplete and therefore must be verified on the ground. Our experience is that GIS analysis alone is inadequate to ensure that the routes ultimately used to identify boundaries and make size determinations comply with BLM guidance in Manual 6310. BLM must utilize the definition of "wilderness inventory roads" established in Manual 6310 to assess roadlessness, and field inventory must confirm the existence and present condition of those roads on the ground.

For example, the White River Field Office in northwestern Colorado conducted an initial "desktop inventory" to identify potential lands with wilderness characteristics, using GIS data to determine roadless areas. The Wilderness Society verified the White River Field Office's findings on the ground, and found many errors resulting from inaccurate or outdated GIS data. Specifically, we found two major issues arising from the preliminary inventory:

1. **Several parcels were entirely missed by the desktop inventory.** Possibly because the BLM's desktop inventory was based on an out-of-date or inaccurate road layer the resulting collection of potential LWC polygons was deficient and missed several blocks of BLM lands that could qualify as LWCs. In particular, several contiguous blocks of unroaded BLM lands less than 5,000 acres in size but that were later found to be adjacent to Wilderness Study Areas were originally overlooked. BLM Manual 6310 is clear that units of less than 5,000 acres in size can meet the size criteria if they are found to lie adjacent to lands currently managed for their wilderness characteristics.

2. **The potential LWC units that were identified were often defined by boundaries that do not meet the criteria for boundary delineation laid out in BLM Manual 6310.** Manual 6310 states that the boundary delineation for a LWC unit "is generally based on the presence of wilderness inventory roads." BLM Manual 6310 at .06(C)(1). BLM defines a wilderness inventory road as a vehicle route that has "been improved and maintained by mechanical means to ensure relatively regular and continuous use." BLM Manual 6310 at .07. A "way" that is either solely "maintained" by the passage of vehicles, is used regularly but not maintained, or was originally constructed using mechanical means *but is no longer being maintained by mechanical methods* is *not* a road. *Ibid*. Without conducting field visits to these areas with the express intent of assessing whether or not the proposed boundary line meets the definition of a "wilderness inventory road" or other defining feature, it is very difficult to draw an accurate boundary for a potential LWC unit.

We would expect similar errors to occur in any GIS-based desktop inventory. Therefore, while we support utilizing GIS analysis to obtain an initial understanding of the lay of the land, fieldwork is necessary to verify boundaries and assess the presence or absence of wilderness characteristics within potential LWC units. This information is likely not have available from GIS inventory alone.

Notably, after conservation organizations conducted field inventory in the White River Field Office and submitted comments to the BLM outlining these errors in detailed specific instances, BLM was prompted to conduct its own field inventory of those areas. BLM then agreed with the conservation organizations' assessment and adjusted its inventory to match the citizen inventory almost exactly.

2. <u>Assessment of wilderness characteristics should not be overly conservative and should look at apparent naturalness and the standalone opportunities of each unit</u>

BLM Manual 6310 directs, "avoid an overly strict approach to assessing naturalness." BLM Manual 6310.06(C)(2)(b)(ii)(2). BLM is to assess *apparent naturalness*, which the manual distinguishes from natural integrity, meaning that naturalness determinations should be based on whether an area looks natural to the average visitor regardless of ecosystem health. Features listed in Manual 6310 that may be considered "substantially unnoticeable" and thus have no effect on apparent naturalness include trails, spring developments, fencing, stock ponds, and certain types of linear disturbances. Furthermore, the manual specifically states that "undeveloped ROWs and similar undeveloped possessory interests (e.g., mineral leases) are not treated as impacts to wilderness characteristics because these rights may never be developed." BLM Manual 6310.06(C)(3)(d).

Impacts to naturalness must be documented to allow the public to adequately review and understand said impacts. BLM should not only photograph and map substantially noticeable human impacts located within the boundaries of a wilderness inventory unit, but should describe in the associated narrative how these impacts, either individually or cumulatively, detract from the apparent naturalness of the unit as a whole. BLM Manual 6310 also requires Route Analysis forms for boundary roads and for routes that are considered to be substantially noticeable impacts to naturalness. These Route Analysis forms are critical to provide the public with the rationale behind naturalness and unit boundary determinations.

We note that Manual 6310 emphasizes the importance of the word "or" in determining whether an area possess outstanding opportunities for solitude **or** a primitive and unconfined type of recreation:

> Determine if the area has outstanding opportunities for solitude or a primitive and unconfined type of recreation. The word "or" in this sentence means that an area only has to possess one or the other. The area does not have to possess outstanding opportunities for both elements, nor does it need to have outstanding opportunities on every acre, even when an area is contiguous to lands with identified wilderness characteristics. In most cases, the two opportunities can be expected to go hand-in-hand. An outstanding opportunity for solitude, however, may be present in an area offering only limited primitive recreation potential. Also, an area may be so attractive for primitive recreation that it would be difficult to maintain an opportunity for solitude.

BLM Manual 6310.06(C)(2)(c).

The manual provides important detailed information for making determinations as to outstanding opportunities, including that BLM should not compare the lands in question with other parcels. *Id.* Each area should be evaluated on its own merits, regardless of whether its qualities are perceived to be common or typical of a planning area, or how it compares to other wilderness-quality lands.

Furthermore, Manual 6310 plainly states that "an area can have wilderness characteristics even though every acre within the area may not meet all the criteria." BLM Manual 6310 at .06(C)(3)(e). BLM should assess the overall qualities of an area, and not disqualify primarily natural areas based on minimal impacts.

Supplemental values should be documented, such as important habitat and other elements of ecosystem integrity. However, the presence or absence of those elements should not affect an area's naturalness for purposes of lands with wilderness characteristics inventory according to Manual 6310.

3. <u>Boundary delineation should be used to define LWC areas, including through adjusting units and cherry-stemming</u>

BLM Manual 6310 states that the "boundary [for a wilderness characteristics inventory unit] is usually based on the presence of wilderness inventory roads" but can also be based on changes in property ownership or developed rights-of-way. Wilderness inventory roads are further defined as those roads that are "improved and maintained by mechanical means to insure relatively regular

and continuous use… A route that was established or has been maintained solely by the passage of vehicles would not be considered a road for the purposes for wilderness inventory, even if it used on a relatively regular and continuous basis." BLM Manual 6310.07. As stated above, Route Analysis forms are required to document that routes used as boundaries meet the criteria for wilderness inventory roads.

Where substantially noticeable human impacts do occur within a potential LWC unit, BLM should make an attempt to cut them out of the unit, either through the cherry-stemming of wilderness inventory roads or by cutting out sub-sections of the potential unit entirely, in order to determine if a smaller area can be identified that still meets the size criteria but that doesn't contain substantially noticeable impacts such as wilderness inventory roads, well pads, or other features. Manual 6310 directs BLM to define the area to "exclude wilderness inventory roads and other substantially noticeable human-caused impacts," and that "lands located between individual human impacts should not be automatically excluded." BLM Manual 6310.06(C)(3).

4. Manageability considerations should not be part of determining whether lands have wilderness characteristics

BLM must inventory all potential lands with wilderness characteristics, regardless of potential manageability of those characteristics. This inventory serves as the information base from which BLM makes land use decisions, and therefore must precede planning decisions.

The inventory process should not be conflated with management of lands with wilderness characteristics. BLM should not eliminate areas from inventory because they may be difficult to manage; rather those areas should be inventoried and the full results of those inventories—including road determinations, photographs, and maps detailing the locations of the photographs—should be released for public review and verification. If BLM finds them to possess wilderness characteristics, then BLM can decide whether or how to manage those characteristics. Potential manageability for wilderness characteristics does not affect BLM's obligation to maintain an accurate inventory of wilderness resources on the public lands.

Summary of Comments: BLM should complete a comprehensive inventory of lands with wilderness characteristics in the entire planning area, complying fully with the process and definitions set forth in BLM Manual 6310. BLM should consider utilizing GIS analysis to identify potential lands with wilderness characteristics and follow up with field inventory to identify appropriate boundaries and make determinations as to the presence or absence of wilderness characteristics. The inventory should be a complete, objective assessment of wilderness resources on the public lands, regardless of perceived manageability or other management issues. Inventory findings, including thorough documentation files, should be available to the public prior to the inventory being used to inform management decisions, and BLM should refine and update the inventory based on any new information and/or comments provided by the public.

D. Management of lands with wilderness characteristics

1. An accurate and comprehensive inventory of lands with wilderness characteristics is necessary to inform management alternatives, impact analysis and decision-making

Evaluating management alternatives for lands with wilderness characteristics requires an accurate inventory to serve as baseline information. FLPMA requires BLM to inventory the resources of the public lands in order to development management plans. 43 U.S.C. § 1711(a). NEPA, 42 U.S.C. § 4321 *et seq*., requires agencies to "describe the environment of the areas to be affected or created by the alternatives under consideration." *See* 40 C.F.R. § 1502.15. Establishment of baseline conditions is a requirement of NEPA. In *Half Moon Bay Fisherman's Marketing Ass'n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988), the Ninth Circuit states that "without establishing . . . baseline conditions . . . there is simply no way to determine what effect [an action] will have on the environment, and consequently, no way to comply with NEPA." The court further held that "[t]he concept of a baseline against which to compare predictions of the effects of the proposed action and reasonable alternatives is critical to the NEPA process."

The U.S. Court of Appeals for the Ninth Circuit has held: "wilderness characteristics are among the 'resource and other values' of the public lands to be inventoried under § 1711. BLM's land use plans, which provide for the management of these resources and values, are to 'rely, to the extent it is available, on the inventory of the public lands, their resources, and other values.' 43 U.S.C. § 1712(c)(4)." *Ore. Natural Desert Ass'n v. Bureau of Land Management*, 531 F.3d at 1119. Therefore, BLM is required to consider "whether, and to what extent, wilderness values are now present in the planning area outside of existing WSAs and, if so, how the Plan should treat land with such values." *Id*. at 1143.

As discussed previously in these comments, BLM Manual 6310 provides instruction on how to conduct and maintain lands with wilderness characteristics inventories under Section 201 of FLPMA. Conducting an accurate and comprehensive inventory as directed by Manual 6310 is BLM's current policy for establishing the baseline conditions required by NEPA. BLM must ensure its LWC inventory is fully compliant with Manual 6310 to meet its requirements for documenting wilderness resources per FLPMA and NEPA, and to allow for adequate evaluation of management alternatives and environmental consequences per BLM Manual 6320.

Summary of Comments: In order to establish a true set of baseline conditions as required under NEPA, BLM must ensure its lands with wilderness characteristics is fully compliant with Manual 6310 before the inventory can be used to inform management decisions.

2. BLM must consider multiple alternatives in the RMP for managing lands with wilderness characteristics

BLM Manual 6320 states that BLM will "use the land use planning process to determine how to manage lands with wilderness characteristics as part of the BLM's multiple-use mandate." BLM Manual 6320.06. The manual specifies that where lands with wilderness characteristics have been identified through the inventory process, the land use plan "shall contain a full range of reasonable alternatives to provide a basis for comparing impacts to wilderness characteristics." BLM Manual 6320.06(A)(2)(d). Each alternative is to include management actions and allowable uses and restrictions for lands managed to protect wilderness characteristics. *Id.*

The range of alternatives is "the heart of the environmental impact statement." 40 C.F.R. § 1502.14. NEPA requires BLM to "rigorously explore and objectively evaluate" a range of alternatives to proposed federal actions. *See* 40 C.F.R. §§ 1502.14(a) and 1508.25(c).

> NEPA's requirement that alternatives be studied, developed, and described both guides the substance of environmental decision-making and provides evidence that the mandated decision-making process has actually taken place. Informed and meaningful consideration of alternatives -- including the no action alternative — is thus an integral part of the statutory scheme.

Bob Marshall Alliance v. Hodel, 852 F.2d 1223, 1228 (9th Cir. 1988), *cert. denied*, 489 U.S. 1066 (1989) (citations and emphasis omitted). BLM Manual 6320 directs BLM to "consider a full range of alternatives for [lands with wilderness characteristics] when conducting land use planning." BLM Manual 6320.06.

An agency violates NEPA by failing to "rigorously explore and objectively evaluate all reasonable alternatives" to the proposed action. *City of Tenakee Springs v. Clough*, 915 F.2d 1308, 1310 (9th Cir. 1990) (quoting 40 C.F.R. § 1502.14). This evaluation extends to considering more environmentally protective alternatives and mitigation measures. *See, e.g., Kootenai Tribe of Idaho v. Veneman*, 313 F.3d 1094,1122-1123 (9th Cir. 2002) (and cases cited therein); *see also Envt'l Defense Fund., Inc. v. U.S. Army Corps. of Eng'rs*, 492 F.2d 1123, 1135 (5th Cir. 1974); *City of New York v. Dept. of Transp*., 715 F.2d 732, 743 (2nd Cir. 1983) (NEPA's requirement for consideration of a range of alternatives is intended to prevent the EIS from becoming "a foreordained formality."); *Utahns for Better Transportation v. U.S. Dept. of Transp.*, 305 F.3d 1152 (10th Cir. 2002), *modified in part on other grounds*, 319 F3d 1207 (2003); *Or. Envtl. Council v. Kunzman*, 614 F.Supp. 657, 659-660 (D. Or. 1985) (stating that the alternatives that must be considered under NEPA are those that would "avoid or minimize" adverse environmental effects).

NEPA requires that an actual "range" of alternatives is considered, such that the Act will "preclude agencies from defining the objectives of their actions in terms so unreasonably narrow that they can be accomplished be only one alternative (i.e. the applicant's proposed project)." *Colorado Environmental Coalition v. Dombeck*, 185 F.3d 1162, 1174 (10th Cir. 1999), citing *Simmons v. United States Corps of Engineers*, 120 F.3d 664, 669 (7th Cir. 1997). This requirement prevents the EIS from becoming "a foreordained formality." *City of New York v. Department of Transp.*, 715 F.2d 732, 743 (2nd Cir. 1983). *See also, Davis v. Mineta*, 302 F.3d 1104 (10th Cir. 2002).

Given the broad purpose of the preparation of the Monument management plan and the information compiled by the public regarding lands with wilderness characteristics, the range of alternatives for these lands should include a number of alternatives to protect their wilderness values. This range of alternatives must be consistent with BLM's FLPMA obligations to inventory its lands and their resources, which includes wilderness character. FLPMA also obligates BLM to take this inventory into account when preparing land use plans, using and observing the principles of multiple use and sustained yield. 43 U.S.C. § 1712(c)(4); 43 U.S.C. § 1712(c)(1). Through management plans, BLM can and should protect wilderness character and the many uses that wilderness character provides on the public lands through various management decisions, including by excluding or limiting certain uses of the public lands. *See*, 43 U.S.C. § 1712(e). This is necessary and consistent with the definition of multiple use, which identifies the importance of various aspects of wilderness character (such as recreation, wildlife, natural scenic values) and requires BLM's consideration of the relative values of these resources but "not necessarily to the combination of uses that will give the greatest economic return." 43 U.S.C. §

1702(c). It is also consistent with the purpose of the Monument and its inclusion in the National Conservation Lands, which are lands the agency is directed to manage with a conservation focus.

Summary of Comments: The RMP should evaluate a full range of alternatives for managing inventoried lands with wilderness characteristics, including multiple alternatives that protect lands with wilderness characteristics.

3. BLM should manage a substantial amount of lands to protect their wilderness characteristics in the Monument management plan in order to meet the agency's statutory and regulatory obligations

BLM should protectively manage all lands with wilderness characteristics in Grand Staircase-Escalante National Monument. These areas are treasured by tribes, hikers, artists, wildlife viewers and many others who visit our public lands to experience the sights and sounds of nature and revel in our most spectacular western landscapes – the National Conservation Lands. As stated above, in addition to providing backcountry recreation opportunities, lands with wilderness characteristics harbor important wildlife habitat, riparian areas, cultural resources and other resources of the public lands that are better protected within lands managed to protect wilderness characteristics.

FLPMA directs BLM to inventory for the many values of the public lands and consider ways to protect them in the RMP (i.e., not all uses are appropriate in all places). 43 U.S.C. §§ 1711, 1712. FLPMA further requires that: "In managing the public lands the [Secretary of Interior] shall, by regulation or otherwise, **take any action necessary to prevent unnecessary or undue degradation** of the lands." 43 U.S.C. §1732(b) (emphasis added). BLM's duty to prevent unnecessary or undue degradation under FLPMA is mandatory, and BLM must, at a minimum, demonstrate compliance with this standard. *See Sierra Club v. Hodel*, 848 F.2d 1068, 1075 (10th Cir. 1988). As the court found in *Mineral Policy Center v. Norton*, "in enacting FLPMA, Congress's intent was clear: **Interior is to prevent, not only unnecessary degradation, but also degradation that, while necessary to mining, is undue or excessive**." 292 F.Supp.2d 30 (D.D.C. 2003) (emphasis added). Further: "FLPMA, by its plain terms, vests the Secretary of the Interior with the authority—and indeed the obligation—to disapprove of an otherwise permissible mining operation because the operation though necessary for mining, would unduly harm or degrade the public land." *Id.* at 20.

Protecting all of the inventoried lands with wilderness characteristics in Grand Staircase-Escalante National Monument is the appropriate action to prevent unnecessary and undue degradation to wilderness resources on the public lands, and specifically in the National Conservation Lands. BLM can do this by adopting the recommended three-tier approach set out below in section (v)(2) of these comments. Accordingly, BLM is under a statutory obligation to demonstrate compliance with FLPMA's requirement to not cause undue or unnecessary degradation to important resources. *See e.g.*, *Kendall's Concerned Area Residents*, 129 IBLA 130, 138 (1994). BLM should discuss a variety of options to protect this important resource, including through explicitly managing to protect wilderness characteristics.

Furthermore, BLM should maximize protection of wilderness characteristics through layering management. Layering management that protects a variety of resources is an important tool that BLM consistently uses. Protection of wilderness characteristics can be effective as a standalone

management approach but is also effective along with designation of ACECs and other conservation-oriented designations, as well as portions of special and extensive recreation management areas.

Summary of Comments: BLM should manage a substantial amount of land in Grand Staircase-Escalante National Monument for protection of wilderness characteristics to comply with FLPMA's unnecessary and undue degradation standard. BLM should layer management of LWC with other administrative designations where necessary to adequately manage and protect all relevant resources and values.

4. The RMP must evaluate the economic benefits of protecting lands with wilderness characteristics

IM 2011-154 provides that BLM must "consider the benefits that may accrue to other resource values and uses as a result of protecting wilderness characteristics." In accordance with NEPA, this should include considering the economic benefits. BLM has current guidance on estimating nonmarket environmental values and analyzing those values in land use planning.[7] IM 2013-131 directs BLM to "utilize estimates of nonmarket environmental values in NEPA analysis supporting planning and other decision-making." Nonmarket values are described as values that "reflect the benefits individuals attribute to experiences of the environment, uses of natural resources, or the existence of particular ecological conditions that do not involve market transactions and therefore lack prices," such as "the perceived benefit of hiking in wilderness."

BLM's guidance directs the agency to analyze nonmarket values for each alternative and adopt management decisions that are informed by that analysis:

> In framing information for management decisions, focus on the *difference in changes to nonmarket values* between action alternatives. Such information can highlight tradeoffs. For example, an alternative designating an additional thirty miles of trails for off-highway vehicles may *increase* the visitor days of use – therefore the total nonmarket benefits – from motorized recreation, but may *decrease* the benefits of subsistence hunting and watershed protection in this area. The *difference* between the changes to nonmarket values between this alternative and an alternative that, for example, only designates an additional ten miles of trails, can inform the choice among action alternatives.

IM 2013-131, Attachment 1-5.

The guidance also directs that quantitative analysis of nonmarket values is strongly encouraged when "the alternatives to be considered present a strong contrast between extractive and nonextractive uses of land and resources. For example, an RMP may include alternative resource allocations that vary between managing land primarily for oil and gas development or managing it for habitat conservation and recreation." IM 2013-131, Attachment 1-7. While the Monument management plan will not evaluate alternatives that have a strong extractive or development focus, BLM should nonetheless complete quantitative analysis of nonmarket values to the extent possible,

[7] IM 2013-131, available at: https://blm-prod.opengov.ibmcloud.com/policy/im-2013-131-ch1.

particularly to help the public understand the economic benefits that could be realized by visitation to the Monument.

The recreation opportunities provided by wilderness quality lands yield direct economic benefits to local communities. Communities near protected public lands reap measurable benefits in terms of employment and personal income. A report by the Sonoran Institute found that protected lands have the greatest influence on economic growth in rural isolated counties that lack easy access to larger markets. Rasker et al. 2004. From 1970 to 2000, real per capita income in isolated rural counties with protected land grew more than 60 percent faster than isolated counties without any protected lands. This report also found that rural western counties with a higher dependence on extractive industries showed lower income and employment growth. *See also* Rudzitis and Johansen (1989, 1991), Whitelaw and Niemi (1989), Johnson and Rasker (1993, 1995), and Lorah (2001) for additional research on the role of wildlands in the local economy.

These findings confirm earlier research, showing that wilderness and open space are in fact beneficial for local economies. Residents of counties with wilderness cite wilderness as an important reason why they moved to the county, and long-term residents cite it as a reason they stay. Recent survey results also indicate that many firms decide to locate or stay in the West because of scenic amenities and wildlife-based recreation, both of which are strongly supported by wilderness areas. *See* Morton 2000b. Other "non-market" economic values arise from the ability of wildlands to contribute to recreation and recreation-related jobs, scientific research, scenic viewsheds, biodiversity conservation, and watershed protection. *See* Morton 1999. All of these economic benefits are dependent upon adequate protection of the wilderness characteristics of the lands.

We have included additional information and recommendations regarding socioeconomic analysis in a separate section in these comments.

Summary of Comments: BLM should analyze the economic benefits of protecting lands with wilderness characteristics for each alternative and utilize that analysis to inform the management decisions ultimately adopted in the RMP.

5. Management Prescriptions

i. *BLM should base management decisions on the analysis of the affected environment and environmental impacts*

BLM Manual 6320 specifically provides that BLM must document its rationale for its determination regarding the management of lands with wilderness characteristics:

> In making the final planning decision regarding management of lands with wilderness characteristics, consider both the resources that would be forgone or adversely affected, and the resources that would benefit under each alternative. As with any planning decision, document the reasons for its determination regarding management of lands with wilderness characteristics.

BLM Manual 6320.06(A)(2)(g). In addition, Manual 6320 requires BLM to "consider and document the wilderness characteristics for each area identified as possessing wilderness characteristics" and provides factors for consideration including:

1. Considering and documenting whether the lands can be effectively managed to protect their wilderness characteristics and if a boundary modification might improve manageability;
2. How wilderness characteristics will be managed over the life of the plan;
3. Documenting the land status and mineral ownership of the lands;
4. Potential impact of providing access to non-Federal inholdings;
5. The fact that incompatible activities or uses can be seen or heard from areas possessing wilderness characteristics should not be a determining factor when analyzing the manageability of such areas unless these impacts are pervasive and omnipresent;
6. The degree to which other resources or uses are present in the area with wilderness characteristics;
7. The potential for further development or use of the other resources on the lands with wilderness characteristics;
8. The degree to which other resources or uses are present on other public and private lands outside the area containing wilderness characteristics;
9. Local, regional, or traditional (e.g., Tribal) economic value of various resources on the lands with wilderness characteristics and the potential to enhance the economic importance by protecting the lands with wilderness characteristics; and
10. The degree to which use or development of each resource is compatible with or conflicts with management of the area to protect wilderness characteristics.

Furthermore, one of the core purposes of NEPA is to disclose how an agency is making a decision when that decision may significantly impact the environment. The U.S. Supreme Court has reinforced this principle:

> The statutory requirement that a federal agency contemplating a major action prepare such an environmental impact statement serves NEPA's "action-forcing" purpose in two important respects. It ensures that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts; it also guarantees that **the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking process and the implementation of that decision.** *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989) (internal citations omitted) (emphasis added).

The RMP should document and analyze the uses, trends, resources of each unit in order to come up with and justify management prescriptions that are appropriate to specific units. The affected environment discussion in the RMP should assess individual LWC units as to the current and trending uses of those lands, including both values and threats. The environmental impacts analysis and alternatives should reflect the current conditions, including by evaluating management alternatives that ensure protection of existing values and/or target specific threats.

Summary of Comments: The RMP should clearly tie the analysis of the affected environment and environmental impacts to the alternatives and ultimately to the management decisions. Individual lands with wilderness characteristics units should be assessed on their own merits and threats, and

management decisions should be considered that are appropriate to the current and trending uses of those lands.

ii. Management prescriptions must be robust to adequately protect wilderness resources identified for protection in the RMP and BLM should consider a variety of management regimes for lands identified as possessing wilderness characteristics.

BLM must adopt meaningful protections for wilderness resources as part of its multiple use mission. Manual 6320 directs that "an alternative that protects lands with wilderness characteristics must contain management actions to achieve protection." Manual 6320.06(A)(2)(d). The manual provides examples of land use plan decisions that could protect wilderness characteristics, including: recommend withdrawal from mineral entry; close to leasing or NSO with no exceptions, waivers or modifications; right-of-way exclusion; close to construction of new roads; close or limit motorized and/or mechanized use; designate as visual resource management (VRM) I or II; among others.

BLM maintains discretion to set management actions for lands with wilderness characteristics that it is managing for the protection of those wilderness characteristics as a priority over other multiple uses. However, BLM should set baseline management actions that will ensure appropriate protection of all LWC units being prioritized for protection of wilderness characteristics. For the Monument, which already has limitations on development that would impair lands with wilderness characteristics, the most important baseline management action is prohibiting construction or maintenance of roads. From this baseline, BLM can and should consider tailoring management prescriptions to individual units or categorizing units based on specific threats to wilderness values and supplemental values that are present. This approach is similar to BLM's management of ACECs, where relevant and important values must be protected but the management actions are developed based on the threats to those values and the opportunities to enhance and experience them.

For Grand Staircase-Escalante National Monument, we recommend BLM manage lands with wilderness characteristics in two categories: very high quality LWC meriting the strongest levels of protection; and additional LWC in which other resources are emphasized. Both categories should include management direction to consider impacts to wilderness characteristics in implementation-level decisions and avoid, minimize or mitigate those impacts to the extent possible.

For example, the Rio Puerco (NM) Draft RMP developed three approaches for managing lands with wilderness characteristics: Protect Wilderness Characteristics, Minimize Impacts to Wilderness Characteristics, and Not Managed to Protect Wilderness Characteristics. Rio Puerco Draft RMP, p. 2-38—40. All three categories, **including lands not managed to protect wilderness characteristics**, have management prescriptions in place to minimize impacts to wilderness characteristics. Similarly, the White River (CO) Approved RMPA grouped inventoried LWC into 3 management tiers ranging from most restrictive management to least. Even the least restrictive tier allows for applying management decisions to avoid and minimize impacts to wilderness characteristics. White River Approved RMPA at Map 2-9.

VI. CULTURAL RESOURCES

A. National Historic Preservation Act obligations

Section 106 of the National Historic Preservation Act (NHPA) requires BLM to account for the effect of its actions on historic properties. 16 U.S.C. § 470f. Specifically, a federal "undertaking" triggers the Section 106 process, which requires the lead agency to identify historic properties affected by the action and to develop measures to avoid, minimize, or mitigate any adverse effects on historic properties. 16 U.S.C. § 470f; 36 C.F.R. §§ 800.4, 800.6. NHPA regulations provide that an agency "shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey." 36 C.F.R. § 800.4(b)(l). Prior to authorizing a proposed action, BLM must determine whether the proposed action is an undertaking under the NHPA. 36 C.F.R. § *800.3; Mont. Wilderness Ass'n v. Fry*, 310 F. Supp. 2d 1127, 1152 (D. Mont. 2004).

Section 106 review must occur prior to approving the designations of routes in the record of decision since the designation of routes in a RMP is an "undertaking," BLM's regulations indicate that formal designation of ORV routes occur not at the implementation level but with "[t]he approval of a resource management plan. . . ." 43 C.F.R. 8342.2(b); *see also, Norton v. S. Utah Wilderness Alliance (SUWA)*, 542 U.S. 55, 69 n.4 (2004) (holding the "affirmative decision" to open or close a specific ORV route occurs through land use planning.) The *SUWA* Court's interpretation is consistent with national guidance from the Interior Department stating that "[p]roposed decisions to designate new routes or areas as open to OHV use. . . are subject to section 106 compliance" *See* BLM IM 2007-030. Therefore, it is clear that road and route designations made during the land use planning process are undertakings requiring review under Section 106 of the NHPA prior to approval of the RMPs.

There has been recent case law on this topic. In *Montana Wilderness Association v. Cornell*, the court held that the BLM violated the NHPA's "reasonable and good faith" inventory requirement when it adopted the Upper Missouri River Breaks National Monument RMP. Appeal No. 11-35818, 2013 WL 3927754, Slip Op. at 35-45 (citing 36 C.F.R. § 800.4(b)(1)). The court held that BLM's Class I literature review for the RMP did not amount to a "reasonable effort to identify historical and cultural resources" because "[c]onsistent with BLM's own policy documents, BLM is required to conduct Class III inventories for roads, ways and airstrips that have not been surveyed previously or were surveyed decades ago." Slip Op. at 43. The court remanded to the district court to enter an order requiring BLM to conduct Class III surveys. Slip Op. at 45.

As remarkable as the known archaeological record is for Grand Staircase-Escalante National Monument, it likely constitutes only a small fraction of what is actually in the Monument area, protected for millennia by the remote wilderness from modern threats. The known and registered cultural sites together constitute a rare continuous record of human passage.

Given the recognized impacts to cultural resources and the fact that these resources have priority status as Monument objects and values, BLM should have a more complete inventory before allowing uses that impact these resources to continue. BLM should prioritize the most

sensitive, important, and at-risk areas for cultural resources and commit to performing surveys before making final resource allocations in the RMP.

Summary of Comments: BLM should prioritize cultural resource inventories in the Monument to have the best information available for planning for and managing cultural resources. In accordance with NHPA, BLM must initiate and complete the Section 106 process prior to the designation of roads and routes located within Grand Staircase-Escalante National monument during the planning process. BLM should not designate any roads without a proper cultural survey along those roads.

B. Indian sacred sites and traditional lifeways

Indian sacred sites and traditional cultural properties (TCP) are different, but both require tribal consultation and should be considered as components of the human environment as part of the NEPA analysis.

According to EO 13007, sacred sites are defined as "specific, discrete, narrowly delineated locations on Federal land that are identified by an Indian tribe, or . . . authoritative representative of an Indian religion, as sacred by virtue of their established religious significant to, or ceremonial use by, an Indian religion . . ."

The NHPA and the 36 C.F.R. § 800 regulations refer to "properties of traditional religious and cultural significance" and "properties of traditional religious and cultural importance." These terms are geographic places prominent in a group's cultural practices, beliefs, or values, when those values:

- Are widely shared with the group,
- Have been passed down through the generations, and
- Have served a recognized role in maintaining the group's cultural identify for at least 50 years.

TCP are given special management attention to ensure the protection of areas of traditional religious and cultural importance. TCPs can include traditional subsistence areas used for hunting or gathering resources or places that traditionally have a wealth of resources for subsistence activities (e.g., caribou movement corridors, wood for fuel and construction, plants for ceremonial use, etc.). TCPs can also include large areas and a variety of culturally important activities, such as the Medicine Lakes Highlands Traditional Cultural Places District in California (approximately 24,000 acres, sacred sites and training areas for medicine men) and Mount Taylor Traditional Cultural Property in New Mexico (over 400,000 acres, pilgrimage sites, traditional cultural and religious activities, which include gathering items and hunting).

Chapter 6 of the BLM Handbook H-1790-1 implementing NEPA identifies the need to assess effects on the social and economic elements of the environment, including areas and locations of socio-cultural importance to tribes and others. The Council on Environmental Quality regulations implementing NEPA states that the human environment "shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment." It goes on to state that, "When an environmental impact statement is prepared and

economic or social and natural or physical environmental effects are interrelated, then the environmental impact statement will discuss all of these effects on the human environment" 40 C.F.R. § 1508.14.

Much of the area encompassed in Grand Staircase-Escalante National Monument's boundaries is sacred to Native peoples. As such, BLM must comply with its government-to-government responsibilities and consult with relevant Tribal governments about management strategies. Consultation, as required under NEPA and Section 106 of the NHPA, require BLM to give tribes opportunities to:

- Identify their concerns about historic properties, including those of traditional religious and cultural importance;
- Advise the agency on identifying and evaluating these properties;
- Provide their views on how agency actions might affect those properties; and
- Participate in resolving adverse effects.

The BLM must consult tribes about projects potentially impacting sacred sites or traditional cultural properties and ask for information to assist with management of these areas very early in the planning process. It is up to the tribes to decide what information to share and it is up to the BLM to listen and respect the information provided.

Summary of Comments: Broader cultural landscapes and values in addition to more specifically defined locations of cultural importance to tribes should be addressed through the NEPA analysis. The BLM must consult tribes about projects potentially impacting sacred sites or traditional cultural lifeways very early in the planning process and ask for information to assist with management of these areas.

C. Cultural landscapes

As stated in the 15-year Strategy for the National Conservation Lands, BLM will "[m]anage cultural resources within the context of the cultural landscape and adjoining lands to provide the greatest conservation benefit" *See* 15-Year Strategy, Goal2A(3). We encourage BLM to emphasize the management of cultural landscapes and its approach to this in more detail in the RMP.

The Canyons of the Ancients National Monument RMP (Canyons RMP) contains one of the best examples of protecting cultural resources for BLM National Conservation Lands. The Canyons RMP begins by establishing the goal for cultural resources management as the protection of cultural resources in the monument at a "landscape- level," and recognizing the "integral and independent relationship between sites" *See* Canyons RMP, p. 2. The Canyons RMP then proposes to implement this goal by identifying "settlement clusters" in the monument — places where numerous sites are in proximity to each other — and prohibiting or restricting uses that may directly or indirectly harm those clusters. Canyons RMP, p. 3. Again, the intent of this approach is to protect the context and setting of cultural resources through landscape-level management. The Canyons RMP states the following:

> The term "landscape" in the [National Landscape Conservation System] title is a key element to how public lands within the [National Landscape Conservation System] are managed. The emphasis is on protecting entire landscapes for cultural and natural values, instead of preserving only isolated parcels and fragmented ecosystems. Therefore, for the Monument, management and protection is extended to settlement clusters and the surrounding natural resources (the "setting") in order to gain a better understanding of how people settled and used the land. Canyons RMP, p. 1.

Summary of Comments: The management approach for cultural resources taken by BLM at Canyons of the Ancients National Monument promotes the spirit of the National Landscape Conservation System through innovative land management to protect the objects and values first, while allowing for multiple use management to continue where consistent with protecting the objects and values of the Monument. We strongly encourage BLM to come up with similar solutions for the management of important Monument values during the current planning process.

D. Outdoor museum

As mentioned above, Grand Staircase-Escalante National Monument is home to many sacred and unique cultural sites and is considered sacred to Native peoples. The Monument RMP should incorporate tools to educate visitors and support safe public access, while also respecting and maintaining the unmanaged backcountry nature and sacredness of sites. We feel strongly that the BLM should work closely with the interested tribes, as well as archaeologists to identify certain areas within the monument that should not be managed heavily, and instead be preserved in their natural state without signs, maps, and established trails. The BLM should still account for human visitation and protect heavily visited areas with appropriate management techniques such as signs and information kiosks.

This concept, known as the "outdoor museum", was incorporated into Canyon of the Ancients National Monument's management plan. Canyons of the Ancients allocated 13 cultural resource sites in the frontcountry for development and public use, including interpretive signs and brochures for visitors, while still maintaining the areas natural setting. However, the remaining 22 cultural resource sites in the backcountry remain accessible through self-discovery as an "outdoor museum." The BLM developed this strategy based on input received from Native American tribes, local communities, and the visiting public that there was a desire for the agency to manage the area with a "light hand" and that development should be minimized. *See* Canyons of the Ancients ROD 1.3.1.

All cultural resources are allocated under the plan to "Uses A-D," and "Use D" is further allocated to be listed as "D- developed" (i.e., promoted to the public) or "D- undeveloped" (sites that are not promoted to the public, but may be visited in a backcountry context). Canyons of the Ancients' management plan does maintain some standing architecture according to Historic American Building Survey standards, but only as necessary to address visitor safety and repair human-caused impacts. For much of the monument, standing walls can deteriorate naturally. The outdoor museum management tool protects the natural setting of the monument, while allowing primitive recreational experiences at the developed sites and providing unique opportunities to visit unique

and unmanaged cultural resource sites in the backcountry. The outdoor museum concept is incorporated into all public messages, contact opportunities, and interpretive/education materials.

Summary of Comments: Grand Staircase-Escalante National Monument should incorporate the Canyon of the Ancients' "outdoor museum" concept into its management plan, allowing for heavily visited areas to be developed with educational materials while still maintaining the primitive nature, but leaving sacred, backcountry sites for unmanaged, self-discovery. The BLM must work closely with interested tribal governments to identify and manage these sites. Using the strategy from Canyon of the Ancients' Monument management plan, the BLM should consider allocating all cultural resources into distinct categories, specifically listing which will be "developed" or "undeveloped," and managing accordingly.

VII. WILDLIFE MANAGEMENT AND VIABILITY

President Clinton's proclamation of Grand Staircase-Escalante National Monument highlighted the region's biodiversity values, including that it:

- "Span[s] five life zones from low-lying desert to coniferous forest";
- "Blend[s] warm and cold desert floras, along with the high number of endemic species, plac[ing] this area in the heart of perhaps the richest floristic region in the Intermountain West";
- Exemplifies a "spectacular array of unusual and diverse soils that support many different vegetative communities and numerous types of endemic plants and their pollinators";
- "Contains an extraordinary number of areas of relict vegetation, many of which have existed since the Pleistocene, where natural processes continue unaltered by man"; and
- Provides habitat for "mountain lion, bear, and desert bighorn sheep . . . Over 200 species of birds, including bald eagles and peregrine falcons."

At the time the current management plan was drafted, researchers had inventoried 362 species of vertebrate animals and 1,112 species of invertebrates within the designation.[8] Since that time, research has revealed that the level of biological diversity in the monument is nothing short of astonishing. For instance, a survey of the monument's bees in 2000-2003 found 650 species, representing 54 genera. Of these, three genera and nearly four dozen species were new to science. Grand Staircase-Escalante hosts one of the richest concentrations of bee fauna in the West.[9]

A. Endangered Species Act compliance

The U.S. Fish and Wildlife Service's Information for Planning and Consultation[10] web tool indicates that the following species listed under the ESA have the potential to occur within the original monument area: Utah prairie dog (*Cynomys parvidens*), California condor (*Gymnogyps californianus*), Mexican spotted owl (*Strix occidentalis lucida*), southwestern willow flycatcher (*Empidonax traillii extimus*), yellow-billed cuckoo (*Coccyzus americanus*), bonytail chub (*Gila*

[8] https://eplanning.blm.gov/epl-front-office/projects/lup/65870/79803/92581/GSENM_MP.pdf (p. 11).
[9] https://www.blm.gov/programs/national-conservation-lands/utah/grand-staircase-escalante-national-monument/science-research.
[10] United State Fish and Wildlife Service. Information for Planning and Consultation, https://ecos.fws.gov/ipac/.

elegans), Colorado pikeminnow (*Ptychocheilus lucius*), humpback chub (*Gila cypha*), razorback sucker (*Xyrauchen texanus*), Kanab ambersnail (*Oxyloma haydeni kanabense*), Jones cycladenia (*Cycladenia humilis* var. *jonesii*), Kodachrome bladderpod (*Lesquerella tumulosa*), Navajo sedge (*Carex specuicola),* Siler pincushion cactus (*Pediocactus* [=*Echinocactus, =Utahia*] *sileri*) and Ute ladies'-tresses (*Spiranthes diluvialis*). The monument contains designated critical habitat for the Mexican spotted owl and the southwestern willow flycatcher.

The MMP must comply with the Endangered Species Act (ESA). Congress enacted the ESA to provide "a program for the conservation of . . . endangered species and threatened species." 16 U.S.C. § 1531(b). Section 2(c) of the ESA establishes that it is "the policy of Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act." 16 U.S.C. § 1531(c)(1). The ESA defines "conservation" to mean "the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this [Act] are no longer necessary." 16 U.S.C. § 1532(3).

Summary of Comments: The BLM must consult with the consult with the U.S. Fish and Wildlife Service on revision of the MMP. The NEPA analysis should support a determination that the MMP contributes to the recovery of ESA-listed species.

B. Sensitive species

In addition to demonstrating that monument objects will be protected and prioritized for conservation, the MMP must also provide for BLM sensitive species by "identify[ing] appropriate outcomes, strategies, restoration opportunities, use restrictions, and management actions necessary to conserve … Bureau sensitive species." BLM Manual 6840.04D5.

C. Wildlife corridors

A large portion of Proclamation No. 6920, 61 Fed. Reg. 50223 (Sept. 18, 1996) is spent describing the various wildlife resources and their habitat. As such, BLM and USFS should identify and protect wildlife corridors in the Monument to ensure that usable habitat and migration pathways will remain.

The Western Governors Association's *Wildlife Corridors Initiative*[11] defines wildlife corridors as:

> "Crucial habitats that provide connectivity over different time scales (including seasonal or longer), among areas used by animal and plant species …and serve to maintain or increase essential genetic and demographic connection of populations."

[11] Available at: http://www.westgov.org/index.php?option=com_content&view=article&id=123&Itemid=68

Reduction in habitat connectivity through increased fragmentation — due to roads, residential and commercial development, energy development, and off-road vehicles — substantially decreases the amount of ecologically intact core habitat available for many wildlife species. Ecologists have long recognized that the loss of core habitat and habitat connectivity pose the greatest threats to species persistence and overall biodiversity. *See* Wilcove et al. 1998.

Secretarial Order (SO) 3308 states that "[t]he NLCS components shall be managed as an integral part of the larger landscape, in collaboration with the neighboring land owners and surrounding communities, to maintain biodiversity, and promote ecological connectivity and resilience in the face of climate change." In addition, the 15-Year Strategy for the National Conservation Lands includes the following guidance:

- Use large-scale assessments, such as BLM's REAs, to identify areas where NLCS units are important for resource protection and conservation within a broader landscape context; such as providing for large-scale wildlife corridors and water-dependent resources.
- Maintain or increase habitat connectivity with other important habitat areas to provide for sustainable populations of native species.
- Utilize existing large-scale assessments and maps, such as BLM's REAs, wildlife corridor mapping effort, wilderness inventories, and other federal and state agency analyses to inform collaborative planning and land acquisition efforts.

Through RMPs , BLM plans for the management of its lands at the landscape level, which gives the agency the ability to designate and protect naturally-occurring wildlife corridors. The BLM has the legal authority to implement protective management of wildlife corridors, and the legal obligation to address threats to wildlife and wildlife habitat as stewards of the western public lands. Protecting wildlife corridors through administrative designations is consistent with the BLM's obligations under the Monument's Proclamation, FLPMA, 42 U.S.C. § 1701, *et seq.*, and NEPA, 42 U.S.C. § 4321, *et seq.*

SO 3362, issued by Secretary Zinke on February 9, 2018, represents the Department of the Interior's most recent attempt to address large-landscape connectivity and wildlife corridor protection. While we do not support all aspects of SO 3362, including categorical exclusions for vegetation management and no mention of species other than big game, we've included some important concepts from the Order below.

SO 3362 acknowledges and directs federal agencies to take a leadership role on the issue. The political boundaries of states, private lands and federal public lands cut through wildlife corridors, and recognition of the need for national leadership to fully protect and manage corridors is a positive step.

SO 3362 directs agencies to review "data regarding wildlife migrations early in the planning process." This information is critical to landscape-scale planning and management. Incorporating this information early and often is the best way to ensure that wildlife corridor management isn't an afterthought, but is an integral component of plan development. SO 3362 directs the U.S. Geological Survey to develop maps and tools to track movement, land use and effectiveness of

current habitat treatments. These important steps will help develop the body of science that will be important to understand the effectiveness of conservation actions.

SO 3362 also includes direction for site-specific activities, including fencing modification, "avoiding development in the most crucial winter range or migration corridors," and "minimizing development that would fragment winter range and primary migration corridors." These steps, if undertaken consistently and appropriately, could significantly improve habitat function and protection across the West, benefiting other species as well.

In the Pinedale Record of Decision and RMP, the BLM specifically designated and protected an important wildlife corridor as an ACEC. The BLM designated the Trapper's Point ACEC with the specific goal to "preserve the viability of the big game migration bottleneck, cultural and historic resources, and important livestock trailing use." Pinedale ROD/RMP, 2008, p. 2-56.

The RMPs for the Lower Sonoran Field Office and Sonoran Desert National Monument were completed on dual track and were both finalized in September 2012. This RMP process is like the planning efforts underway for the Monument as there are decisions being made for units within the National Conservation Lands as well as for lands adjacent covered by the Grand Staircase-Escalante National Monument RMP. This makes it easier to view the broader landscape, though we still feel strongly that there needs to ultimately be separate records of decision for the Grand Staircase-Escalante National Monument RMP.

To address the challenges with managing and protecting priority wildlife, the Lower Sonoran RMP identifies "priority habitats" in the planning area. These areas contain designations for wildlife habitat areas as well as wildlife movement corridors that connect important wildlife habitat. The RMP provides the following explanation:

> Priority habitats are large areas that encompass wildlife habitat areas (WHAs) and wildlife movement corridors. Connection between these habitat patches is important to provide wildlife the ability to move along elevation gradients and between habitat areas. As climate conditions change, wildlife must be able to adapt by expanding or contracting according to the needs of their lifecycles. Therefore, it is necessary to maintain corridors of undisturbed vegetation that connect to other undisturbed habitat areas.

Lower Sonoran/Sonoran Desert National Monument Proposed RMP at 2-76.

The BLM should establish "priority habitats" in the planning area within Grand Staircase-Escalante National Monument, similar to the Lower Sonoran RMP to ensure important corridors are protected.

Summary of Comments: We recommend identifying wildlife movement corridors at the broader landscape level during the planning assessment to inform the designation of wildlife corridors through the planning process in accordance with Proclamation No. 6920, 61 Fed. Reg. 50223 (Sept. 18, 1996), SO 3362 and BLM policies for the National Conservation Lands. We also recommend using the Lower Sonoran Field Office/Sonoran Desert National Monument

example to establish "priority habitats" in the planning area within Grand Staircase-Escalante National Monument to ensure important corridors are protected.

D. Science-based wildlife management

Given the sizable land management challenges of the coming decades — including federal land management agencies' response to climate change and the complex natural resource dilemmas associated with climate change (i.e., species adaptation, extreme variability in natural processes) — it is imperative that the BLM, the Kanab Field Office, and the management plan for Grand Staircase-Escalante National Monument employ effective and efficient science-based planning and analysis methods to support robust and legitimate decision-making processes.

The effective application of science to land management planning and decision-making requires three "essential ingredients":

- Well-defined, measurable standards (e.g., wildlife population or habitat condition targets), developed via robust public involvement processes
- The employment of science-based analytical tools to evaluate compliance with the standards (e.g., population viability analysis, or the spatially explicit Decision Support System recommended by the Western Governors' Association)
- Consistent implementation of science-based analysis and decision-making (i.e., dedicated funding for monitoring and science-based adaptive management processes)

Rohlf, D.J. 2004. Science, Law, and Policy in Managing Natural Resources: Toward a Sound Mix Rather than a Sound Bite. Pages 127-142 *in* K. Arabas and J. Bowersox, editors. *Forest futures: science, politics, and policy for the next century.* Rowman and Littlefield, Lanham, Maryland, USA.

The Kanab Field Office should consider these essential elements as it moves forward with efforts to respond to the pressing land management challenges of the coming decades.

1. Well-defined standards

Providing functioning habitat for wildlife and ensuring the long-term persistence of wildlife populations are part of the BLM's responsibilities to manage the public lands for multiple use and sustained yield. FLPMA specifically directs that management of public lands "takes into account the long-term needs of future generations" for wildlife, as well as other resources, and is implemented toward "achievement and maintenance in perpetuity" 43 U.S.C. §§ 1712(c)(1); 1702(c) and (h). Achieving these goals for wildlife can best be realized by establishing well-defined, measurable standards. The use of well-articulated concepts and operational planning practices associated with the literature and practice of population viability assessment may provide land managers with effective and efficient means of applying science-based conservation methods to wildlife planning decisions.

2. Science-based analytical tools

To adopt a legitimate, efficient and effective science-based planning framework, the Kanab Field Office should look to the well-established conservation planning and population viability assessment literature, as well as models employed by other BLM units and neighboring agencies. *See* U.S. Department of Agriculture, Committee of Scientists. (March 15, 1999). *Sustaining the People's Lands: Recommendations for Stewardship of the National Forests and Grasslands into the Next Century*.[12] For example, the Grand Mesa, Uncompahgre and Gunnison (GMUG) National Forests in Colorado monitor populations of "management indicator species" to measure the effects of management activities on unmeasured species and to provide insights into the integrity of the ecological systems to which they belong. The use of an indicator or focal species approach, in combination with robust knowledge of the link between species and habitats, allows managers an effective means to apply science-based principles to resource management decisions. Indeed, to meet the challenges of 21st century land management and conservation, agencies will need to cooperate on vital management planning activities, including the sharing and co-generation of biological information.

Summary of Comments: The Grand Staircase-Escalante and Kanab Field Office RMP should adopt planning and decision-making processes (including data collection, analysis, and monitoring) that employ measurable planning objectives at multiple biological scales (i.e., wildlife populations, habitat and ecosystem conditions) to ensure viable wildlife populations.

VIII. RECREATION

A. Recreation Management Zones

BLM should consider delineating Management Zones for the entire Monument that emphasize certain types of management and experiences for the Monument as allocated in the RMP. This can be an effective way to integrate recreation goals and experiences into the RMP, particularly for management plans for the National Conservation Lands, which have a visitor experience element throughout the entire planning area.

Management Zones are broadly-defined landscapes that describe the type of uses and experiences that will be expected in the specific areas. This allows for other management decisions, such as designated routes for travel or management of invasive species, to be based on the criteria for that zone.

BLM guidance states that "Field Offices may choose to establish [Travel Management Areas] or management zones (i.e., recreation management zones) that cover the entire planning area." *See BLM Handbook H-8320-1, Planning for Recreation and Visitor Services.* This policy direction (H-8320-1) outlines BLM's guidance for integrating Comprehensive Travel and Transportation Management (CTTM) into land use planning. The Monument management plan would benefit greatly from delineating Management Zones to set the overarching goals for visitor experiences as well as a basis for designating routes in a CTTM.

BLM has already defined these types of management zones in the current Grand Staircase-Escalante National Monument Management Plan (November 1999). In this plan, BLM described

[12] Available at: http://www.fs.fed.us/emc/nfma/includes/cosreport/Committee%20of%20Scientists%20Report.htm.

four zones to "provide guidance to help define permitted or excluded activities and any stipulations pertaining to them." Monument Management Plan at 8. These zones included Frontcountry, Passage, Outback, and Primitive Zones. *Id.* at 8-9.

Another example is the Craters of the Moon National Monument RMP which included the Frontcountry, Passage, Primitive, and Pristine Zones for the entire planning area. Craters RMP at 13-14. The plan describes the use of zones as a useful way to guide decisions to meet desired conditions.

> Management zoning is established throughout the planning area to provide and maintain a range of recreation and access for different user types with varying interests and abilities. Each separate zone has distinct settings to be provided and maintained. Physical settings consider the degree of naturalness and amount and type of facilities, as well as proximity to roads. Social settings consider the number of contacts with other people, the size of groups, and evidence of other users. Managerial settings consider the amount of visitor management used to achieve desired social and resource conditions, the compatibility of traditional land uses with the recreational environment, and the type of access and vehicle use allowed in the area.

Other management zones for the planning area that BLM has used include titles like "Rustic" and "Wilderness" zones or can parallel labels for Recreation Management Zones that are designated in Special Recreation Management Areas (SRMAs). There is currently no standard way to create management zones for a planning area; they are often based on the needs and uses of that particular area. However, once designated, zones can provide guidance for not only travel and transportation management decisions, but also for management of other resources and management prescriptions, such as visual resource management classifications.

BLM should keep the existing management zones and descriptions for Grand Staircase-Escalante National Monument. The RMP should make clear that future route designations would be based on the goals and objectives for each zone. If BLM decides to designate new zones, the agency should consider the following.

1. **Passage Zone:** special areas on the urban interface where the primary activities are non-motorized trail activities, yet there is a need for recreational and passenger vehicles to travel through to access other zones, internal trail heads, or for administrative purposes. These areas will have a high level of administrative control, including speed limits, and may further restrict vehicle to travel to only passenger vehicles or authorized uses. These areas are highly visible and serve a variety of non-motorized experiences at medium to high densities often while protecting special resources. Emphasis in these zones is on highly developed, well planned and designed non-motorized trail systems. The density of motorized use routes would be very low.

2. **Motorized Backcountry Zone:** provide routes or loops designated for motorized recreation. In addition to use of ATVs and motorcycles on roads, special ATV width or single track motorized trails may be developed or designated for the

specific use of these machines. Full size passenger vehicles may be restricted on certain trail segments. Routes in these areas should be designated to support long distance recreational travel, geo caching and sightseeing activities by ATV or motorcycle. Administrative control will be at a moderate level, with trail and route markers and designated parking/staging areas. Density of routes may be medium to high in select areas to form loop experiences. Other non-motorized routes may exist in these zones at low densities. Routes for transportation and access may exist at varying densities as determined by need.

3. **Primitive Zone:** are special non-wilderness backcountry areas that serve quiet non-motorized recreation in a primitive setting where visitors may enjoy a less developed recreational experience. These areas generally have sensitive resources; therefore, non-motorized trails in these areas will have a low to medium density.

4. **Pristine Zone:** are lands with wilderness characteristics and other highly sensitive ecological areas where there will be no motorized routes or travel permitted. Evidence of administrative control should be little to none. Non-motorized routes are generally undeveloped, and areas are generally accessed by foot or horseback.

Summary of Comments: BLM should manage Grand Staircase-Escalante National Monument according to the existing Monument Management Plan's management zones to help guide the comprehensive travel and transportation management process, as well as other management decisions and prescriptions in the RMP. If the BLM designates new management zones, the agency should release preliminary maps of management zones for public comment prior to issuing the draft RMP.

B. Recreation Management Areas

BLM guidance for recreation and visitor services planning in the land use planning process (H-8320-1) creates a three-category system for lands in the planning area to be designated as SRMAs, managed as extensive recreation management areas (ERMAs), or classified as public lands not designated as recreation management areas.

Management focus for SRMAs is to "protect and enhance a targeted set of activities, experiences, benefits, and desired recreation setting characteristics," whereas ERMAs are managed to "support and sustain the principal recreation activities and the associated qualities and conditions of the ERMA." In SRMAs, recreation is to be the dominant use, and in ERMAs management is "commensurate with the management of other resources and resource uses." Whereas SRMAs are intended for more intensive management, ERMAs may be appropriate to designate for quiet-use, backcountry experiences and layer with other special designations that are compatible with quiet recreation, such as ACECs and lands with wilderness characteristics. Both SRMAs and ERMAs provide mechanisms for the BLM to actively manage different types of recreation to the benefit of users while protecting the other resources of the public lands.

We generally support designation of ERMAs for quiet-use recreation experiences. ERMAs are to be less intensively managed and thus provide a primitive experience in a backcountry setting. ERMAs are also be definition commensurate with management of other resources, such as lands with wilderness characteristics, ACECs and other areas being managed for conservation values. Moreover, the management toolbox offered by those resources and designations complements management of quiet-use recreation opportunities. We therefore recommend BLM designate ERMAs for non-motorized recreation that overlap with other specially managed areas.

This approach is adopted in the Rio Puerco (NM) Draft RMP, which evaluates multiple ERMAs with Recreation Management Zones that correspond to ACEC and LWC boundaries. The Petaca Pinta ERMA, for example, would be designated to promote a range of recreation activities including hiking, wildlife viewing, and off-highway vehicle use in non-restricted areas, and creates the following Recreation Management Zones accordingly:

The Petaca Pinta ERMA is located in a remote area southwest of Los Lunas and Belen, NM. There are five zones within the ERMA: Pronoun Cave ACEC zone, Cerro Verde ACEC zone, Volcano Hill zone, Cimarron Mesa zone, and Sandy Wash zone. The Volcano Hill and Cimarron Mesa zones roughly correspond to the areas of the same name identified as lands with wilderness characteristics. Rio Puerco Draft RMP at 2-63.

The Rio Puerco Draft RMP's analysis of the affected environment details corresponding benefits to cultural resources from recreation management decisions, including mineral restrictions and closures for motorized travel. Such a strategy also aligns with dual objectives for quiet recreation and protection of lands with wilderness characteristics. In the Monument management plan, BLM should identify places and resources where management can address multiple goals and objectives.

We emphasize that both SRMAs and ERMAs require robust management prescriptions to protect and promote the recreation opportunities they are designated for. While ERMAs are to be less intensively managed (such as, requiring minimal infrastructure or implementation actions), the RMP still must set forth allowable uses that will retain the recreation activities ERMAs are targeting. For example, intensive motorized recreation would preclude quality, backcountry hiking and hunting opportunities and therefore must be prohibited or limited in ERMAs designated for those purposes.

While ERMAs can support objectives for quiet and non-motorized recreation, SRMAs may also be appropriate designations to achieve the necessary management approach to achieve BLM's goals and objectives. SRMAs are intended for more intensive management, but this does not also infer more intense forms of recreation. The BLM Handbook makes clear that recreation and visitor service objectives in RMAs are recognized as a primary resource management consideration, and specific management is required to protect the recreation opportunities. BLM can also use SRMAs to create management that maintains or enhances the *desired* physical, social, and operational resource setting conditions, including for quiet recreation.

Areas that have primitive character should be managed for that experience and desired future condition, even if they do not currently meet all of the criteria that the BLM has set for

primitive physical settings or designation. By adopting such a prescriptive, or aspirational management approach, as opposed to a more descriptive or reactive approach of just basing the management of the RMAs on perceived evidence of human presence or an acceptance of more people wanting to use the area, BLM can ensure that some level of existing disturbance does not disqualify areas which do provide a primitive experience from a decision to manage them to protect and enhance such qualities and provide this important experience.

In designating SRMAs that include quiet recreation objectives alongside other recreation activities, we recommend BLM consider Recreation Management Zones (RMZ) to protect quiet and non-motorized recreation. RMZs provide a useful management tool to manage recreation resources in complex situations. When making divisions, each RMZ should have discrete objective and provide for specific recreation opportunities.

In the Grand Junction Approved RMP, for example, the Bangs SRMA provides opportunities for: mountain biking, hiking and trail running on world class single-track trails; OHV use on a network of motorcycle, ATV, 4X4 and rock crawling routes. Grand Junction RMP K-7-25. Given the range and complexity of these competing recreation uses, zones allow for management for discrete settings and objectives. Of note, the backcountry zone of the Bangs SRMA is substantially larger than the other zones at over 32,200 acres. BLM should provide sufficiently large quiet recreation RMZs to provide quality primitive recreation experiences and minimize disturbance to quiet-use activities from other forms of recreation and resource-uses.

Summary of Comments: BLM should designate ERMAs for non-motorized recreation that overlap with other specially managed areas such as lands with wilderness characteristics. In places with high recreation demand for a variety of activities, BLM should develop Recreation Management Zones. The RMP must put in place robust management prescriptions for SRMAs and ERMAs to protect and promote the recreation opportunities they are designated for.

C. Special Recreation Permits

BLM should adopt unambiguous, protective criteria for issuance of special recreation permits (SRPs) to effectively manage the increase in commercial and competitive group activities that can have a significant impact on the lands in Grand Staircase-Escalante National Monument. The BLM Handbook on Recreation Permit Administration (H-2930-1) clearly states that BLM can and should develop guidelines for issuing SRPs. The Handbook states: "Field Offices are encouraged to develop thresholds through land use planning for when permits are required for organized groups and events for specific types of recreation activities, land areas, or resource settings" H-2930-1 at 13. On the issue of Special Area Permits, the Handbook states: "Applications for Special Area Permits issued to individuals are processed according to the area- specific land use and/or business plan, or guidelines approved by the State Director." H-2930-1 at 17. BLM therefore must provide clear guidelines for processing Special Area Permits, because in this situation the Handbook directs that permit issuance will tier to the RMP.

The Price Field Office (Utah) RMP provides an excellent example for evaluating SRP applications and issuing such permits. It classifies SRPs into four distinct classes, ranging from least intensive to most intensive, based on specific factors such as type of equipment, size of area used, number of participants, etc. These factors are defined and then compared in a simple

permit classification matrix consisting of Classes I through IV (with I being for smaller and less impacting events and IV being for larger, more impacting events). Each Class also has an example of the type of event that may fit into the category. After the Class is determined, the BLM can then look to see how permit types fit into Recreation Opportunity Spectrum Classifications and/or SRMA or ERMA. Various SRMAs can be broken into classes and it is easy to see what types of uses and events should be permitted for each area. Because the standards set out in the Price RMP are very specific (for example, surface disturbance of 5-40 acres ranks as "medium intensity"), BLM can easily determine whether to issue an SRP and where, and can better estimate cumulative impacts from such permits. The Monument management plan should use the model provided by the Price RMP for classification of SRPs to define which uses may be appropriate or inappropriate in specific areas.

As specified in the existing Monument Management Plan, competitive events should not be permitted in Grand Staircase-Escalante National Monument. As discussed throughout these comments, BLM manages national monuments not under the FLPMA multiple use mandate, but rather under Proclamation No. 6920, 61 Fed. Reg. 50223 (Sept. 18, 1996), which established Grand Staircase-Escalante National Monument. BLM must manage the Monument for the protection and preservation of its natural, cultural, historic and scientific values, and only allow uses other than those needed for protection of monument objects when those uses do not conflict with the directives of Proclamation No. 6920, 61 Fed. Reg. 50223 (Sept. 18, 1996).

Of the fifteen National Monuments that are both managed (at least in part) by the BLM and have Approved RMP/ROD in place, only two do not have language regarding the management of commercial or motorized events through an SRP. *See* the table below. The other thirteen Monument RMPs, including Grand Staircase-Escalante, either outright prohibit this use or place special limitations on it due to potential conflicts. Clearly BLM recognizes that competitive events are often not compatible with managing the National Conservation Lands.

National Monument	**Commercial/Motorized Events?**	**Text**	**Page**
Agua Fria	No	**RR-41**. Prohibit competitive motorized or mechanized races, and consider other competitive events on a case-by-case basis as long as they do not conflict with achievement of all resource DFCs for the location.	RMP, at 54
Grand Canyon-Parashant	No	**MA-RR-25.** No motorized speed events will be authorized in the Monument.	RMP, at 2-84
Ironwood Forest	Not prohibited, but limited	**AA-145:** Manage commercial/group vehicle touring opportunities in accordance with special recreation use permits (SRPs). **AA-146:** Manage SRPs in accordance with 43 CFR §2930 Special Recreation Permits requirements for: (1) commercial, (2) competitive, (3) vending, (4) individual or group use in special areas, and (5) organized group activity and event use, and on a case-by-case basis, and to achieve recreation management objectives. **AA-147:** Limit issuance of SRPs based on the potential for resource damage and conflicts with other uses.	RMP, at 72

Sonoran Desert	No	**RM-2.1.13:** Competitive motor sports will not be allowed in the SDNM.	RMP, at 2-75
Vermilion Cliffs	No	**MA-RR-29** No motorized speed events are authorized in the Monument.	RMP, at 2-66
Carrizo Plain	No	**Allowable Use REC-6(P):** Low-impact, non-motorized competitive activities and events that are consistent with the Monument Proclamation and cultural and biological objectives may be authorized.	RMP, at II-62
Santa Rose and San Jacinto Mountains	Not prohibited, not specified	No language.	n/a
Canyons of the Ancients	No	Prohibit commercial filming (still and movie photography), except for educational purposes relevant to the objectives of the Monument, as determined by the Monument Manager. Prohibit competitive and special events, except for educational purposes relevant to the objectives of the Monument, as determined by the Monument Manager. Allow private special events, at the discretion of the Monument Manager.	RMP, at 8
Craters of the Moon	Not prohibited, not specified	No language re: OHV events; SRP -not defined.	n/a
Pompeys Pillar	Not prohibited, but limited	**MD REC-13:** The BLM will issue special recreation use permits as appropriate for commercial, competitive, and special events subject to guidelines in BLM Handbook 2930, resource capabilities, social conflict concerns, professional qualifications, public safety, and public needs. **MD TTM-11:** SRPs for motorized events, competitive events, or organized group activities will be considered and addressed through site-specific analysis.	RMP, at 3-31, 3-33, K-78, K-80
Kasha-Katuwe Tent Rocks	Not prohibited	No language on competitive events	
Upper Missouri River Breaks	Not prohibited, but limited	Special recreation permit applications for organized group activities or events may be granted, if the activity will not impact the resources or values for which the Monument was designated. Large group events will be authorized subject to restrictions to protect resources. These restrictions may include, but would not be limited to, the designation of specific roads or trails for a particular event, limitations on parking, use of campfires, sanitation requirements and the number of people involved in the event. The BLM may also issue permits for commercial hiking, horseback riding and other commercial recreation activities that are not associated with big game hunting or river boating.	RMP, at 24,63,65

Prehistoric Trackways	Not prohibited, but limited	**"The Chile Challenge"- OHV event...2.3 Recreation and Visitor Services:** The BLM will authorize commercial, competitive, and organized group activities on a discretionary, case-by-case basis per 43 CFR Part 2930, Special Recreation Permits, and in compliance with NEPA....**SRPs for OHV** events will be limited by the following requirements, or other restrictions that provide for the protection of fossil resources: -Will not degrade fossil resources; -No more than three permitted OHV events per year (first-come, first-served, no multiple year events permits will be considered); -No permits will be issued for OHV events lasting for more than 4 consecutive days. -No more frequently than 1 every 3 months; -No more than 250 vehicles per event; -No more than 20 vehicles per "run"; -No more than two "runs" per trail route will be authorized during each event; - Only Registered Event vehicles (including event support and BLM staff vehicles) will be allowed on the routes, during the event.	RMP, at RMP-23
Cascade - Siskiyou	Not prohibited overall	**REC-36** SRPs are considered on a case-by-case basis and may be denied based upon factors such as potential impacts to resource values ... Use must also be primarily recreational. RNAs specifically prohibit OHV use.	
Grand Staircase - Escalante	No	EVENT-3: No competitive events will be allowed.	RMP, at 36

There are millions of acres of public land in Utah managed under BLM's multiple use mandate that may provide appropriate areas for competitive events. It has already been decided in the existing Monument Management Plan that Grand Staircase-Escalante National Monument is no place for competitive events. There is no reason to risk damage to the important resources of our National Conservation Lands by modifying the existing management plan and permitting competitive events in Grand Staircase-Escalante National Monument.

Summary of Comments: BLM should establish guidelines for issuing Special Recreation Permits in order to protect the resources that the Monument is intended to protect and sustain. Competitive and non-commercial events with excessively large group sizes should continue to not be permitted in Grand Staircase-Escalante National Monument.

IX. TRAVEL MANAGEMENT

A. Criteria specific to monuments and ACECs

As discussed previously in these comments, National Monuments are held to a higher

standard of protection as units of the National Conservation Lands. Proclamation No. 6920, 61 Fed. Reg. 50223 (Sept. 18, 1996) identifies a wide range of resources and values to be protected as Monument objects, including cultural, archaeological, geologic, ecological, historical, and scientific resources. These values can be adversely affected by motorized and mechanized travel. BLM should limit these uses within the Monument to protect the aforementioned resources and provide opportunities for quiet, backcountry recreation experiences.

The National Landscape Conservation System 15-Year Strategy has a goal, Goal 1F, for, managing facilities within Conservation System units that conserves, protects, and restores the values for which those lands were designated. Action item 2 under Goal 1F of the Strategy states that "[t]he BLM will only develop facilities, including roads, on [National Conservation Lands] where they are required for public health and safety, are necessary for the exercise of valid existing rights, minimize impacts to fragile resources, or further the purposes for which an area was designated." This is a clear recognition that roads should be limited to the minimum network necessary for the management of the monument.

Additionally, Proclamation No. 6920, 61 Fed. Reg. 50223 (Sept. 18, 1996) includes specific travel management guidelines for the Monument. Motorized travel in the Monument is to be limited to designated roads and mechanized use is to be limited to designated roads and trails. The Carrizo Plain National Monument RMP limits motorized vehicles in the monument to street-licensed vehicles only. *See* PRMP 2-114. This helps prevent illegal off-road use in the monument, and we recommend BLM adopt a similar approach in this Monument.

Summary of Comments: BLM has policy direction for units of the National Landscape Conservation System that requires designation of roads only when required for public health and safety, are necessary for the exercise of valid existing rights, minimize impacts to fragile resources, or further the purposes for which an area was designated. This is, in short, the "minimum road network" necessary for protection of the values for which the unit was designated. BLM should both analyze a minimum road network alternative and choose it as the best option consistent with BLM policy and for the protection of monument objects.

B. Mapping of routes

As part of comprehensive travel management planning, BLM must produce route maps to illustrate a base travel network, to generate various route designation proposals, and for purposes of receiving public comments. In these contexts, it is vital that the agency clearly mark on all maps or proposed maps areas with existing restrictions on motorized use, such as wilderness areas, WSAs, primitive non-motorized designations and ACECs. Depicting existing restrictions will ensure that public comments are informed by the knowledge that additional routes will not be permitted in certain areas. Further, maps should indicate resources that could be affected by motorized use, such as wilderness characteristics and wildlife habitat. Public comments will then be informed by the potential resource conflicts and the best opportunities for designating areas for non-motorized recreation.

Route maps should also distinguish user-created routes from roads that were created and are maintained by the BLM to serve planned transportation needs. Also, user-created routes in areas that have motorized restrictions should only be shown as closed and/or for prioritizing

restoration. To be added to the transportation system, user-created routes must go through NEPA analysis to ensure they are not damaging resources and comply with BLM regulations, such as the minimization criteria for ORV use discussed in these comments. In addition, BLM should commit in the Monument plan to completing a NEPA analysis with application of the minimization criteria for any proposal for new routes or trails in the future.

In addition, as part of designating routes, BLM should use consistent definitions of roads, primitive roads, and trails. IM 2006-173 ("Implementation of Roads and Trails Terminology Report"), sets out and defines these terms, and includes a definition of a road as:

> A linear route declared a road by the owner, managed for use by low-clearance vehicles having four or more wheels, and maintained for regular and continuous use.

It is important that BLM use these terms to distinguish both the types of routes and the appropriate types of motorized use.

Summary of Comments: BLM should identify both existing restrictions on motorized access and other areas that can be damaged by motorized use on all maps used in travel planning. User created routes should be distinguished from legitimate roads on travel planning maps, and, where they were created illegally, should be excluded from the baseline inventory. Within the Monument plan, BLM should make any future proposals for additional routes or trails subject to site-specific NEPA, the minimization criteria, and all applicable other laws and regulations.

C. Non-motorized trail system network

We encourage BLM to designate a network of non-motorized trails located throughout the Monument. The Monument RMP should designate non-motorized trails to enable and encourage primitive and quiet recreation experiences, and should be deliberate in designing a non-motorized trail system that comprehensively addresses the needs and desires of quiet trails users. BLM should identify this system as a separate network in the Monument plan.

In implementing its 2006 Roads and Trails Terminology Report, BLM emphasized the importance of taking a "holistic" approach to the management of roads and trails. *See* Instruction Memorandum 2006-173. Likewise, the agency's 2011 Travel and Transportation Management (TTM) Manual generally recognizes that:

> Whereas a comprehensive interdisciplinary approach to travel and transportation management incorporates the concerns and needs of multiple programs, the recreation program has a specific need to recognize and manage motorized recreational use of off- highway vehicles (OHVs) and non-motorized travel, such as foot, equestrian, and non-motorized mechanical travel. The planning process should consider and address the full range of various modes of travel on public lands, not only motorized access needs. An understanding of the regional supply and demand of recreational opportunities and access needs is important in designating a system of roads, primitive roads, trails, and areas for specific recreation and other uses.

BLM Manual l626, § .06(A)(l) (emphasis added).

BLM's TTM Manual lays the foundation for looking holistically at a network of non-motorized trails and "quiet use" recreational experiences for any given planning area.

FLPMA requires BLM to develop land use plans that "consider the relative scarcity of values involved and the availably of alternative means and sites for realization of those values." 43 U.S.C. § 1712(C)(6). Access to a "quiet use" recreation experience on our public lands through non-motorized trails is a growing need as opportunities for this use are shrinking with an increasing motorized population. Furthermore, increased visitation to the Monument will require BLM to be more proactive and deliberate in designing travel networks that preserve quiet recreation opportunities.

Summary of Comments: The Monument RMP should designate a standalone non-motorized trail network that is comprehensively designed to meet the needs of quiet trails users and provides and preserves backcountry recreation experiences while prioritizing protection of monument objects.

X. VISUAL RESOURCE MANAGEMENT

A. Classes I & II

Proclamation No. 6920, 61 Fed. Reg. 50223 (Sept. 18, 1996) notes how special the high, rugged, and remote region is, mentioning how the unspoiled frontier was the last place in the continental United States to be mapped. It is BLM policy that VRM classes are assigned to all public lands as part of the Record of Decision for RMPs. The objective of this policy is to "manage public lands in a manner which will protect the quality of the scenic (visual) values of these lands." BLM Manual MS-8400.02. The Grand Staircase-Escalante National Monument Approved Management Plan highlighted one of its objectives was to preserve the area's spectacular scenic assets. *See* Approved Management Plan and Record of Decision February 2000.

Under the authority of FLPMA, BLM must prepare and maintain on a continuing basis an inventory of visual values for each planning effort. 43 U.S.C. § 1711; BLM Manual MS-8400.06. The most recent inventory of visual resources was conducted as part of the 2000 Monument Management Plan, where 68% of the lands within the Monument were assigned to VRM Class II and 32% of the lands within the Monument were assigned to VRM Class III. Because this inventory was completed 18 years ago, BLM should update its visual resource inventory for the Monument and reclassify lands where necessary.

BLM should ensure that scenic values are a public lands resource that is conserved and must establish clear management direction describing areas inventoried and possessing high scenic importance with clearly defined objectives that limit surface disturbance within important viewsheds, including:

- Lands managed to preserve their natural values, such as primitive recreation areas and lands with wilderness characteristics, should be managed as Class I to "preserve the existing character of the landscape." BLM Manual 6320 affirms that

VRM Class I may be appropriate to protect lands with wilderness characteristics. BLM Manual 6320 at .06(A)(2)(d).

- Lands within popular and easily accessible vantage points should be managed for visual resources, such as VRM Class II to "retain the existing character of the landscape," including clear provisions dealing with oil and gas development, renewable energy infrastructure, and other human disturbance.
- ACECs and other special management designations and prescriptions should be used to protect scenic landscapes and lookout points within the resource area with stipulations specifically addressing and managing human development impacts, including VRM Class I to "preserve the existing character of the landscape" or VRM Class II to "retain the existing character of the landscape" as appropriate.
- All Wilderness Study Areas must be rated as VRM Class I per BLM policy guidance. Instruction Memorandum No. 2000-096 (2009).
- Developed campgrounds should not negatively impact the viewshed.

NEPA requires that measures be taken to "assure for all Americans . . . aesthetically pleasing surroundings." Once established, VRM objectives are as binding as any other resource objectives, and no action may be taken unless the VRM objectives can be met. *See* IBLA 98-144, 98-168, 98-207 (1998). The RMP must make clear that compliance with VRM classes is not discretionary.

Summary of Comments: BLM must update VRM classifications for all of the public lands in the Monument in the context of the Monument designation. Specially-managed areas with high conservation values, such as lands with wilderness characteristics, backcountry recreation areas and ACECs, should be managed as VRM I and II to protect scenic values. The RMP must make clear that compliance with VRM classes is not discretionary.

B. Night skies

BLM should be actively managing BLM-administered lands for the value of the dark night sky resources they contain. Night skies unimpaired by light pollution are important for the role they play in visitor perception and experience and in various ecological processes. BLM has been given an explicit, obligatory mandate to manage the lands under its jurisdiction for their scenic and atmospheric values, which includes night skies. *See* FLPMA, 43 U.S.C. § 1701(a)(8) (stating that ". . . the public lands be managed in a manner that will protect the quality of the . . . scenic . . . [and] air and atmospheric . . . values . . ."); NEPA, 43 U.S.C. § 4331(b)(2) (requiring measures to be taken to ". . . assure for all Americans . . . esthetically pleasing surroundings . . ."); NHPA, 36 C.F.R. § 800.1(a) (requiring federal agencies to consider measures to avoid impacts on historic properties, including their "settings"). A dark night sky is undoubtedly a scenic and atmospheric value within that term's meaning as defined in FLPMA.

Other federal land-use management agencies, such as the National Park Service, have already recognized the importance of this fading resource. *See Managing Lightscapes*, National Park Service.[13] While the NPS operates under a different set of legal obligations than BLM, NPS's Organic Act mandate to "conserve the *scenery* and natural and historic objects and the wild life therein to provide for the enjoyment of the same in such a manner and by such means as will

[13] Available at: https://www.nps.gov/subjects/nightskies/index.htm.

leave them unimpaired for the enjoyment of future generations," Organic Act of 1916 § 1 (emphasis added), clearly has parallels to BLM's multiple use mandate in FLPMA to "take into account the long-term needs of future generations… including *natural scenic... resources,"* 43 U.S.C. § 1702(c) (emphasis added).

Since 1984, BLM has interpreted its mandate as a "stewardship responsibility" to "protect visual values on public lands" by managing all BLM-administered lands "in a manner which will protect the quality of scenic (visual) values." Visual Resource Management Handbook, H-8400-1(.02), (.06)(A). Night sky management is an inherent component of this responsibility. VRM is not restricted to land-based resources. To this end, the Monument management plan should include analysis and management prescriptions that give due consideration to the value of a dark night sky, consistent with BLM's multiple use mandate, as defined at 43 U.S.C. § 1702(c).

We highlight that a BLM national monument was the first recipient of official recognition for dark skies on public lands, when the Grand Canyon-Parashant National Monument was designated as an International Night Sky Province by the Dark Sky Association. In celebrating the designation, BLM Director Neil Kornze remarked that the designation "is an ideal match with the Monument's focus on conserving pristine natural resources."[14] BLM also noted that the Monument's new International Night Sky Province status could "prove to be a boost to local economies which rely heavily on tourism dollars by attracting a more diverse group of low-impact visitors to the remote Monument, including the scientific community, eco-tourists, and astronomy enthusiasts." *Id*. The designation recognizes BLM's role in managing and garnering support for dark skies in the Monument, and will help protect the area from light pollution and preserve the starry nights that visitors enjoy on our public lands. The designation will also help promote scientific research and tourism. Grand Staircase-Escalante National Monument should strive to similarly achieve renowned dark skies by adopting management decisions that protect important night sky resources in the Monument.

BLM can meet its duty to manage for night sky resources by setting management prescriptions for this important resource in the RMP. For example, the Arizona Strip District incorporated the following prescriptions in the RMPs for the District:

- Permanent outdoor lighting in VRM Class I areas will not be allowed.
- Impacts to dark night skies will be prevented or reduced through the application of specific mitigation measures identified in activity level planning and NEPA review. These measures may include directing all light downward, using shielded lights, using only the minimum illumination necessary, using lamp types such as sodium lamps (less prone to atmospheric scattering), using circuit timers, and using motion sensors.
- Any facilities authorized will use the best technology available to minimize light emissions.

Arizona Strip RMP at 65; Grand Canyon-Parashant National Monument RMP at 67; Vermilion Cliffs National Monument RMP at 47-48.

[14] *See* https://www.stgeorgeutah.com/news/archive/2014/03/22/grand-canyon-parashant-national-monument-receives-international-night-sky-province-designation/#.WqBxOujwaUk.

Summary of Comments: BLM should explicitly include considerations for night skies in the VRM portion of the RMP as well as management prescriptions for night sky protection.

XI. SOUNDSCAPES

Like viewsheds and air quality, sound is one of the resources on the public lands that is affected by agency-authorized uses and can impact other resources as well, such as recreation and wildlife. BLM has a statutory obligation to manage the public lands "in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition." 43 U.S.C. § 1701(8). To fulfill this mandate, it is important for BLM to consider natural soundscapes in order to give meaningful effect to this provision, especially on those lands which are to be managed in their "natural condition," including lands with wilderness characteristics.

As a part of its multiple use and sustained yield mandate, as well as agency direction for managing the National Conservation Lands, BLM must provide opportunities for quiet recreation on the public lands. As a result, BLM must also consider activities that interfere with the soundscape associated with quiet recreation opportunities, such as energy development and off- road vehicle use. Research shows that for many people, especially quiet recreationists, the primary reason for visiting primitive landscapes is to attain a sense of solitude and tranquility, which are interrupted by non-natural noises. A study performed by psychologists at Colorado State University (CSU) found that acoustic stressors impact visual landscape quality. Mace 1999. In other words, non-natural noise affects the perceived naturalness of a landscape. Therefore, to preserve the naturalness of an area, BLM must preserve the natural soundscape.

Furthermore, the authors of the CSU study note that "tranquility" and "solitude" are explicitly addressed in the Wilderness Act as values that must be preserved by land management agencies. BLM guidance directs the preservation of "naturalness" in Wilderness Study Areas, Visual Resource Management I zones, and other areas managed to protect wilderness qualities. These values are negatively impacted when the natural soundscape is impacted; therefore, BLM must retain the natural soundscape in wilderness-quality lands and primitive recreation areas. As supported by the U.S. Geological Survey, dissatisfaction with recreational opportunities can "diminish public support for land-management programs." Ouren 2007.

BLM's obligation to preserve natural soundscapes is further described in Executive Order 11644 (1972), as amended by Exec. Order 11989 (1977), which directs the BLM to locate areas and trails to: "Minimize conflicts between off-road vehicle use and other existing or proposed recreation uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, *taking into account noise and other factors."* BLM regulations at 43 C.F.R. § 8342.1 reiterate the directives of the executive order.

Soundscapes are also important to managing wildlife resources. Environmental noise can affect the physiology, behavior, and spatial distribution of wildlife. While the impacts vary by species and habitat, studies have shown that transportation-based and other human-caused noise can

impact species in ways crucial to survival and reproductive success. Havlick 2002; Ouren et al. 2007; Knight and Gutwiller 1995.

BLM has determined that it will consider noise and its potential impacts on public land during the planning and authorization process. BLM Manual 7300.06D states the following:

> When BLM programs, projects, and/or use authorizations have the potential to affect existing resources that may be sensitive to noise such as public health and safety, wildlife, heritage resources, wilderness, wildland/urban interface areas, and other special value areas (such as Areas of Critical Environmental Concern and National Landscape Conservation Areas), BLM will consider noise and its potential impacts on the public and the environment, as well as any appropriate mitigation measures, during the planning and authorization review process. This is especially important when land use proposals include high volumes of motorized vehicles or mechanized equipment.

Additionally, courts have upheld the responsibility of federal land management agencies to evaluate noise impacts on the natural soundscape. *Izaak Walton v. Kimbell,* 516 F. Supp. 2d 24 982, 985, 995-96 (D. Minn. 2007) (EA prepared by U.S. Forest Service for plan to construct snowmobile trail adjacent to Boundary Waters Canoe Area Wilderness failed to properly analyze noise impacts from snowmobile use, as required by NEPA; EA provided no quantitative evidence of analysis of decibel levels to be projected by snowmobile use of the trail into adjoining wilderness).

BLM should utilize acoustic modeling to analyze and preserve natural soundscapes, especially in special management areas managed for quiet use recreation. The Wilderness Society has developed a GIS-based model based on The System for the Prediction of Acoustic Detectability (SPreAD; Harrison et al. 1980), which is a tool that was developed by the USFS and EPA to predict the acoustic impacts of recreational activity in wildland settings. SPreAD was originally developed as a system of worksheets and tables, where the user could enter information about the sound source and environment and manually calculate noise propagation from a single point source to a single point receiver. TWS adapted the SPreAD model to ArcGIS, automating the hand calculation method to predict the propagation of noise for all directions throughout the area of interest.

SPreAD-GIS can be used to 1) determine the areas within a planning unit where the natural soundscape is predominant and protect that setting through recreation planning; and 2) model sound propagation from uses such as motorized vehicles in a proposed quiet-use recreation area to determine what planning decisions, such as route closures, could restore and enhance the natural soundscape. In this way, BLM could ensure that travel and recreation planning decisions provide opportunities for experiencing naturalness and solitude. There are other models and methodologies available, but we highlight SPreAD-GIS because it is available by request from TWS.[15]

[15] The tool is free, but installation of SPreAD-GIS requires ArcInfo-level licensed copy of ArcGIS 9.3 or higher with the Spatial Analyst extension.

We recommend BLM manage sound resources on the public lands similar to visual resources, with a classification gradient ranging from most protective of natural soundscapes to allowing significant impacts to the soundscape. This would provide for areas where maintaining the natural soundscape is prioritized to benefit recreation, wildlife, wilderness and other natural values on the public lands. It would also assist the agency with managing activities that impact sound resources by clearly defining where and how those impacts may occur.

The following classes provide an example of a possible approach for inventorying and managing sound resources in landscape-level planning:

- *Class I Objective:* The objective of this class is to preserve the natural soundscape. This class would be appropriate for lands managed to preserve wilderness characteristics, promote primitive recreation experiences, and protect wildlife habitat and ecological systems. The level of change to the characteristic soundscape should be very low and must not attract attention.
- *Class II Objective:* The objective of this class is to retain the natural soundscape such that noticeable impacts are infrequent and isolated instances. The level of change to the natural soundscape should be low. Management activities may be *heard on occasion,* such as a passing motorized vehicle, but should not detract from the experience of the natural landscape.
- *Class III Objective:* The objective of this class is to partially retain the natural soundscape where practicable. Management activities may attract attention but should not dominate the auditory experience of the casual observer. This class would be appropriate for front country recreation areas or other areas where natural soundscapes are not critical to the experience being sought out by visitors.
- *Class IV Objective:* The objective of this class is to provide for management activities which require significant impacts to the natural soundscape, including highly impactful events or impacts sustained over the long term. These management activities may dominate the sound of the landscape and may 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 basic elements.

These potential management objectives for sound resource classes are similar to the BLM Manual for Visual Resource Classes (BLM Manual 8400). Likewise, planning areas could be delineated into sound quality rating units for management purposes. Considerations on rating sound resources, such as landform, vegetation, and scarcity, are among the factors that could logically be incorporated into baseline data and management objectives for auditory resources. Acoustic modeling would be an important component of assessing sound quality rating units.

There are several examples of BLM analyzing and managing natural soundscapes in land use planning:

- The Vermilion Cliffs National Monument Approved RMP identifies soundscapes as a separate and specific resource addressed in the plan. Approved Vermilion Cliffs National Monument RMP at 2-50. The plan includes a desired

future condition that "Natural quiet and natural sounds will be preserved or restored, where practicable." *Id.*

- The Red Cliffs NCA RMP/ROD states the following
    - **Goal**: Public land users can experience natural soundscapes in the NCA.
    - **Objective**: Land uses and authorized activities are managed to conserve and protect natural soundscapes.
    - **Management Action - General**: Identify and provide opportunities for visitors to enjoy the atmosphere of peace and tranquility afforded by the natural soundscapes of the NCA.
    - **Management Action - 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 [and] 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. Red Cliffs RMP/ROD at 55.
- The Northwest Colorado Greater Sage-grouse EIS includes soundscapes as a separate resource in its affected environment and environmental consequences analyses. The EIS modeled ambient background noises at specific points to determine the expected levels of sound dissipation during winter and summer months as tied to vegetation and topography, using the SPreAD-GIS model. Northwest Colorado Greater Sage-Grouse Draft EIS at 397-401. The Draft EIS finds that any change from ambient noise levels would be an adverse impact on soundscapes and commits to further analyze impacts on soundscapes at the project implementation level. Northwest Colorado Greater Sage- Grouse Draft EIS at 831-833.

Summary of Comments: BLM should acknowledge the sound resource on the public lands and address the soundscape as a separate resource which must be analyzed; complete sound modeling to the extent practicable to assess noise impacts of management alternatives on recreation and wildlife; adopt management decisions based on sound modeling data or other information generated from soundscape analysis that minimize or mitigate noise impacts on recreation and wildlife; and identify areas of the public lands where protection of the natural soundscape is prioritized.

XII. LIVESTOCK MANAGEMENT

Proclamation 6920 outlines the "extraordinary" vegetation within the Monument and then goes on to state that "[m]ost of the ecological communities contained in the monument have low resistance to, and slow recovery from, disturbance." 61 Fed. Reg. 50223. In areas of the Monument where grazing is consistent with the values identified in the Proclamation, it should be done in a manner that conserves, protects, and restores the Monument's "spectacular array of scientific and historic resources," 61 Fed. Reg. 50223.

The Proclamation addressed livestock grazing with the following statement: "Nothing in this proclamation shall be deemed to affect existing permits or leases for, or levels of, livestock grazing on Federal lands within the monument; existing grazing uses shall continue to be governed by applicable laws and regulations other than this proclamation." *Id.* The "applicable laws and regulations" that the Proclamation refers to include but are not limited to the Taylor Grazing Act, 43 U.S.C. §§ 315-315r; Federal Land Policy and Management Act, 43 U.S.C. §§ 1701-84; National Historic Preservation Act, 16 U.S.C. §§ 470-470w-6; Fundamentals of Rangeland Health and Standards, 43 C.F.R. § 4180.1; and the Omnibus Public Lands Management Act of 2009, 16 U.S.C. 7202.

The **Taylor Grazing Act** ("TGA") governs grazing activities within the Monument. Under the TGA, a grazing permit is not a constitutionally protected property interest. *U. S. v. Fuller,* 409 U.S. 488 (1973). The BLM may regulate stocking levels, designate foraging locations, establish seasonal timing restraints, and impose related restrictions to protect range resources. The grazing privileges are subject to reasonable regulation to accomplish the Monument's protective purposes. The Proclamation's grazing provision viewed against the broader context of the TGA leads to the understanding that grazing is not a protected right but a privilege that may be regulated within the Monument in order to protect Monument resources.

The **Federal Land Policy and Management Act** ("FLPMA"), contains several provisions that are relevant to livestock grazing on the Monument. FLPMA's multiple use provision requires the BLM to balance competing resource values to ensure that the public lands are managed in a manner "that will best meet the present and future needs of the American people," 43 U.S.C. § 1702(c). *See, National Wildlife Federation v. BLM*, 140 IBLA 85 (1997). Because the Monument was created for the conservation of the Monument's resources, the multiple use provision should be interpreted in light of the Monument's conservation purpose. Furthermore, FLPMA contains an exception to the multiple use provision, stating that public lands are to be managed under the principles of multiple use except where "public land has been dedicated to specific uses according to any other provisions of law it shall be managed in accordance with such law." *Id.* at § 1732. In the Monument Management Plan, BLM acknowledges that the Monument was created "to protect a spectacular array of scientific, historic, biological, paleontological, and archaeological objects." MMP at 3. Because the GSENM was created for the specific purpose of protecting the Monument's resources, the Monument should be managed according to that purpose.

Additionally, FLPMA directs the BLM to manage resources "without permanent impairment of the productivity of the land and the quality of the environment," *id.* at § 1702(c), and "to prevent unnecessary or undue degradation of the lands," *id.* at § 1732(b). FLPMA also mandates that the BLM adhere to its land use plans, "in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values." *Id.* at §§ 1701(8), 1712. The Proclamation, viewed in light of FLPMA's mandates, encourages prioritizing preservation in managing the Monument.

The **Omnibus Public Land Management Act of 2009** (16 U.S.C. § 7202), established the National Landscape Conservation System ("National Conservation Lands") to "conserve, protect, and restore nationally significant landscapes that have outstanding cultural, ecological, and scientific values for the benefit of current and future generations…." 16 U.S.C. § 7202(a). The Act

requires that the National Conservation Lands be managed "in a manner that protects the values for which the components of the system were designated." *Id.* at § 7202(c)(2).

Secretarial Order 3308 speaks to the management of the National Conservation Lands. The Order states in pertinent part that "[T]he BLM shall ensure that the components of the [National Conservation Lands] are managed to protect the values for which they were designated, including, where appropriate, prohibiting uses that are in conflict with those values." The 15-Year Strategy for the Conservation Lands reinforces this by stating the "conservation, protection, and restoration of the [National Conservation Lands] values is the highest priority in [National Conservation Lands] planning and management, consistent with the designating legislation or presidential proclamation." National Conservation Lands Strategy at 8.

The Order also requires that the National Conservation Lands "be managed as an integral part of the larger landscape, in collaboration with the neighboring land owner and surrounding communities, to maintain biodiversity, and promote ecological connectivity and resilience in the face of climate change." The Order goes on to require the incorporation of science into the decision-making process for the National Conservation Lands, stating, "[s]cience shall be integrated into management decisions concerning [National Conservation Lands] components in order to enhance land and resource stewardship and promote greater understanding of lands and resources through research and education."

BLM recently issued manuals to implement policies for the National Conservation Lands. **BLM Manual 6220** addresses management of grazing within National Monuments and states:

1. Where consistent with the designating legislation or proclamation, livestock grazing may occur within Monuments and NCAs.
2. Grazing management practices will be implemented in a manner that protects Monument and NCA objects and values unless otherwise provided for in law.
3. The BLM will use Monuments and NCAs as a laboratory for innovative grazing techniques designed to better conserve, protect, and restore NLCS values, where consistent with the designating legislation or proclamation.

BLM Manual 6220, *National Monuments, National Conservation Areas, and Similar Designations* (July, 13 2012).

The **National Historic Preservation Act** ("NHPA"), states that "the historical and cultural foundations of the Nation should be preserved as a living part of our community life and development in order to give a sense of orientation to the American people." 16 U.S.C. § 470. The BLM must "administer federally owned, administered, or controlled prehistoric and historic resources in a spirit of stewardship for the inspiration and benefit of present and future generations." *Id.* at § 470-1. NHPA requires the BLM to assume "responsibility for the preservation of historic properties which are owned or controlled by" the agency. *Id.* at § 470h-2. The Proclamation recognized the importance of the cultural resources in the Monument, stating that "[t]he cultural resources discovered so far in the monument are outstanding in their variety of cultural affiliation, type and distribution." 61 Fed. Reg. 50223. Livestock grazing has the potential to impact archaeological and historic resources directly by trampling artifacts, pushing over standing structures, rubbing on rock art panels, and surface disturbance from construction of range

facilities. The Proclamation's grazing provision viewed against the backdrop of the NHPA leads to an interpretation favoring the preservation of cultural resources and limiting impacts to those resources from livestock grazing. *See, Great Old Broads for Wilderness v. Kempthorne*, 452 F. Supp. 2d 71, 87 (D.D.C. 2006) (remanding the Grazing Management Plan for Glen Canyon NRA in part because of the lack of analysis of impacts to cultural resources under the NHPA). In addition, any routes authorized for use for grazing or other purposes must have intensive (Class III) surveys completed pursuant to the NHPA, BLM policy (Instruction Memorandum No. 2012-067). *S. Utah Wilderness Alliance v. Burke*, Case No. 2:12CV257DAK (D. Utah Nov. 4, 2013).

The **Fundamentals of Rangeland Health** and **Standards and Guidelines**, 43 C.F.R. § 4180.1, also guide grazing management. These regulations established fundamentals of rangeland health and directed each state BLM director to develop state specific grazing standards. Overall, the BLM is required to "promote healthy sustainable rangeland ecosystems," and ensure these ecosystem components are "properly functioning." *Id.* at § 4100.0-2. Consequently, the BLM's own regulations require the agency to balance grazing levels with the need to maintain functioning ecosystems.

The BLM **Utah Standards for Rangeland Health and Guidelines for Grazing Management** provide further guidance on implementing the Fundamentals of Rangeland Health. The standards provide measures and indicators of land health such as soil permeability and infiltration, properly functioning riparian areas, and maintenance of desired species. The guidelines provide methods for improving land health and achieving desired conditions on the ground. Standards and guidelines must be used in order to ultimately achieve the Fundamentals of Rangeland Health under BLM regulations. Decisions in this plan amendment should be made to facilitate the restoration of healthy sustainable rangeland ecosystems.

While rangeland health standards are an important tool, they do not specifically address impacts to all Monument objects and values from livestock grazing. In conducting an evaluation of the compatibility of grazing with protecting monument objects in the Cascade-Siskiyou National Monument, BLM contrasted the findings using rangeland health standards and using a test of compatibility with protection. *See, Determination of Compatibility of Current Livestock Grazing Practices with Protecting the Objects of Biological Interest in the Cascade-Siskiyou National Monument*, Table 1, p. 5 (available on-line at: http://www.blm.gov/or/resources/recreation/csnm/csnm-grazing.php). An examination of the approach used in the Cascade-Siskiyou National Monument will demonstrate the contrast between attaining rangeland health standards and a more detailed examination of impacts to Monument objects and values.

In making land use decisions, federal agencies have an obligation under NEPA to take a "hard look" at the environmental consequences of a proposed action, and the requisite analysis "must be appropriate to the action in question." 42 U.S.C. § 4321 et seq.; Metcalf v. Daley, 214 F.3d 1135, 1151 (9th Cir. 2000); Robertson v. Methow Valley Citizens Council, *supra.* The impacts and effects of a proposed action, such as livestock grazing, that federal agencies are required to assess include: "ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative." 40 C.F.R. § 1508.8.

Under the **Data Quality Act**, federal agencies are required to use information that is of high quality and that is objective, useful, and verifiable by others. *See*, Treasury and General Government Appropriations Act for Fiscal Year 2001, Pub.L.No. 106-554, § 515.

Agencies must also use "sound statistical and research" methods. **Presidential Memorandum on Scientific Integrity** (March 9, 2009) states that federal agencies must ensure "the highest level of integrity in all aspects of the executive branch's involvement with scientific and technological processes." Following this mandate, the Office of Science and Technology Policy released a guidance memorandum on scientific integrity (2010) and the Department of Interior issued Manual 305 DM 3.

These documents provide directives for ensuring the highest level of scientific integrity in the Department of Interior as well as for redress for scientific or scholarly misconduct. BLM must guarantee that it will abide by the highest scientific and scholarly conduct in its preparation of the grazing EIS and plan amendment. *See also*, Secretarial Order 3308, § 4(d) ("Science shall be integrated into management decisions concerning NLCS components in order to enhance land and resource stewardship and promote greater understanding of lands and resources through research and education."); 15-Year Strategy for the National Conservation Lands, Goals 1C and 1E(2) [BLM must "provide a scientific foundation for decision making" and "Use the best available science to conduct capacity studies, establish specific, measurable, attainable, relevant, and time-specific (SMART) objectives (or similar), and develop monitoring plans for compatible uses to ensure the NLCS values are protected, consistent with the designating legislation or presidential proclamation. Use the monitoring results to adaptively manage the NLCS values."]; National Landscape Conservation System Science Strategy (generally guides the study and use of science in National Conservation Lands); MMP, "Science and Research" at 44-46 (discussing the priority for research and applied science in the Monument).

Under **Secretarial Order 3289**, BLM is required to "consider and analyze potential climate change impacts when undertaking long range planning exercises … (and) developing multi-year management plans." Secretarial Order 3289 also provides authority for Landscape Conservation Cooperatives (LCC). These LCCs were established to bring together a variety of stakeholders to "develop landscape-level strategies for understanding and responding to climate change impacts." BLM should call on the expertise of the Colorado Plateau LCC to come up with strategies to respond to climate change in the planning area. Specifically, BLM should request that the Colorado Plateau LCC help analyze vulnerability and provide scenario planning models to help the agency respond to the threats associated with global climate change from livestock grazing. One example of assessing vulnerability to climate change was recently done for the planning process for BLM Alaska's NPR-A. *See*, Final NPR-A Integrated Activity Plan/EIS, Appendix C: https://www.blm.gov/epl-front-office/projects/nepa/5251/41008/43158/Vol6_NPR-A_Final_IAP_FEIS.pdf.

In addition, as part of BLM's "Landscape Approach to Managing the Public Lands," the agency has committed to completing REA. *See*, Information Bulletin No. 2012-058. The Colorado Plateau

REA should be used to assess baseline conditions and projections for climate change as it relates to livestock grazing.

Finally, the **National Landscape Conservation System** is particularly well-suited for leading the way in demonstrating landscape-level management. Secretarial Order 3308, which provides direction on the management of the National Landscape Conservation System, states that "[t]he NLCS components shall be managed as an integral part of the larger landscape, in collaboration with the neighboring land owners and surrounding communities, to maintain biodiversity, and promote ecological connectivity and resilience in the face of climate change." In addition, the 15-Year Strategy for the National Landscape Conservation System provides further details on managing units within the context of the broader landscape, integrating science into decision-making and monitoring management to adapt to respond to additional stressors, such as climate change.

The BLM's **Land Use Planning Handbook** (BLM 2005a) sets out certain factors for the agency to consider when making a determination of whether to make lands available to livestock grazing in land use plans pursuant to its regulations. 43 C.F.R. § 4310.2(a). These factors include:

1. Other uses for the land;
2. terrain characteristics;
3. soil, vegetation, and watershed characteristics;
4. the presence of undesirable vegetation, including significant invasive weed infestations; and
5. the presence of other resources that may require special management or protection, such as special status species, special recreation management areas (SRMAs), or ACECs.

BLM Land Use Planning Handbook H-1601-1, Appendix C at II(B), p. 14.

In the **Monument Management Plan**, BLM acknowledges that the Monument was created by the president "to protect a spectacular array of scientific, historic, biological, paleontological, and archaeological objects." MMP at 3. Indeed, "[a]ll other considerations are secondary to that edict." *Id.* Under FLPMA and BLM regulations, all management authorizations and actions must conform to the approved resource management plan for a resource area. 43 U.S.C. § 1732(a); 43 C.F.R. § 1610.5–3.

The Proclamation viewed against the backdrop of the Monument Management Plan presumes that BLM will manage grazing in such a manner that Monument values and objects will receive protection and will persist intact and healthy throughout the Monument.

The grazing EIS is being prepared to amend the Monument Management Plan to incorporate livestock grazing management into the MMP. As recognized by BLM, the Monument Framework Plans developed in the 1970s and early 1980s are inadequate to address today's land management challenges in the area, which include a heightened conservation mandate for the Monument as set forth in the Proclamation and in the establishment of and policies for the National Landscape Conservation System.

In 1999, BLM amended, following NEPA review, several parts of the Escalante MFP related to livestock grazing in order to improve protection of riparian areas and wildlife habitat and to reduce or eliminate recreation conflicts with grazing (USDI 1999b). Through this amendment, BLM closed four allotments (Escalante River, McGath Point, Saltwater Creek, and Steep Creek) and

closed portions of other allotments that were located on the Escalante River (Big Bowns Bench, Deer Creek, and Phipps). The amendment also created grass banks for the remaining AUMs on the Phipps allotment that weren't canceled due to the partial closure as well as the Little Bowns Bench allotment and the Wolverine pasture of the Deer Creek allotment. Reductions were also made for three other allotments (Moody, Wagon Box Mesa, and Big Horn). Other restrictions include:

- Authorized 750 AUMs on the Big Bowns Bench allotment with a season of November 1 to March 31.
- Horse Canyon to the part of the trail going onto Big Bowns Bench to the trail leaving Horse Canyon going onto King Bench would only be used as a holding pasture to gather livestock at the end of the grazing season.
- Grazing facilities that are no longer needed would be evaluated for historic or interpretive value and will be removed if they are found not to have those values.

Thus, there are a number of laws and regulations that govern livestock grazing other than the Proclamation itself, including guidance from the broader National Landscape Conservation System. BLM is required take into account all of these applicable authorities, along with the Proclamation, and govern livestock grazing within the Monument accordingly.

The **Glen Canyon National Recreation Area** (GCNRA) was established in 1972 "[i]n order to provide for public outdoor recreation use and enjoyment of Lake Powell and lands adjacent thereto . . . and to preserve scenic, scientific, and historic features contributing to public enjoyment of the area[.]" Glen Canyon Enabling Act, 16 U.S.C. § 460dd(a). The GCNRA Enabling Act authorized BLM to administer grazing leases in GCNRA in accordance with "[t]he same policies [it] followed . . . in issuing and administering . . . grazing leases on other lands under its jurisdiction[.]" 16 U.S.C. § 460dd-5. However, the BLM's authority to manage grazing in GCNRA was limited by the Secretary of the Interior's obligation to "administer, protect, and develop the recreation area" as provided in the National Park Service's Organic Act. *Id.* This obligation includes managing units of the National Park System "by such means and measures as conform to [their] fundamental purpose. . ., which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." 16 U.S.C. § 1. *See also, Great Old Broads for Wilderness v. Kempthorne*, 452 F. Supp. 2d 71, 73-74 (D.D.C. 2006).

The General Management Plan (GMP) for GCNRA was completed in 1979. The GMP did not include specific management for livestock grazing but instead proposed that a separate plan be developed with detailed descriptions of the existing range conditions and "[r]ecommendations for specific range improvement practices and devices, management activities, and maximum grazing intensities compatible with the purpose of the recreation area." GMP at 180, emphasis added..

In 1999, a Grazing Management Plan for the GCNRA was adopted. The grazing plan was subsequently challenged on the sufficiency of its environmental analysis. *Great Old Broads for Wilderness v. Kempthorne*, 452 F. Supp. 2d 71 (D.D.C. 2006). The court in this case found that NPS, in its EA for the grazing plan, had not adequately evaluated cumulative and other impacts such as impacts from recreation and impacts to cultural resources and remanded the plan for further analysis. *Id.* at 83-87. BLM and NPS must comply with this order in completing the grazing EIS/plan amendment.

In addition, NPS and BLM have a Memorandum of Understanding ("MOU") from 1984 regarding the management of grazing within the GCNRA. This MOU sets up the working relationship between the agencies for grazing management in the GCNRA. Under the MOU, BLM is responsible for grazing administration and NPS is responsible for ensuring that proposed grazing activities are consistent with the purposes for which the area was established. More specifically, BLM must receive, in writing, a "Values and Purposes Determination" from the NPS Regional Director before it may authorize grazing or related activities stating that the proposed action will not lead to an impairment of GCNRA resources and values. NPS must provide BLM with terms and conditions to ensure compatibility with GCNRA's values and purposes. This process was reiterated in interagency agreements entered into in 1993 and 1998 (*Id*. at 74-75).

Consistent with applicable laws and regulations governing livestock management on BLM lands and criteria specific to Monuments, we recommend the following elements for management of livestock in the Monument:

1. Utilization limits of 30% in non-drought years and 25% in drought years.
   Holechek, et al. (1999) documented with a review of 29 studies that the greatest economic return, upward trend of range, and production during drought years occurs with light grazing (32%) compared to moderate (47%) or heavy (57%) utilization.

2. A variety of grazing arrangements.
   The diverse, statewide Collaborative Group on Sustainable Grazing for U.S. Forest Service Lands in Southern Utah (2012) recommends allowance for a diversity of grazing arrangements, including:
   - Differences in time, timing and intensity
   - Grass banks
   - Reference areas
   - Multi-season and long-term rest
   - Voluntary non-use
   - Flexibility in species and class of livestock used

3. Native plant use, restoration, and maintenance will be the priority for all projects.
   Short-lived, non-persistent, non-native plants may be used only in limited, emergency situations.

4. Protection of springs.
   Springs are culturally significant for the Native American uses that are made of spring-associated vegetation, and their association with nearby habitation and cultivation. Springs are visited and used by livestock, wildlife, tribal members, and recreationists, and are vulnerable to over-use, trampling, water extraction, and fouling of waters.

5. Establishment of recovery reference areas.
   A recovery reference area is an area where livestock grazing has ceased within ten years. A recovery reference area reveals the limitations on and potential for recovery of a site in light of its past uses. Recovery on the grazed sites (particularly for such physical features as ground cover, sheet erosion, seedhead production, and streambank or spring protection) can be compared with the recently-grazed recovery reference area.

Summary of Comments: There are several laws and regulations that govern livestock grazing other than the Proclamation itself, including guidance from the broader National Landscape Conservation System. BLM is required take into account all of these applicable authorities, along with the Proclamation, and govern livestock grazing within the Monument accordingly.

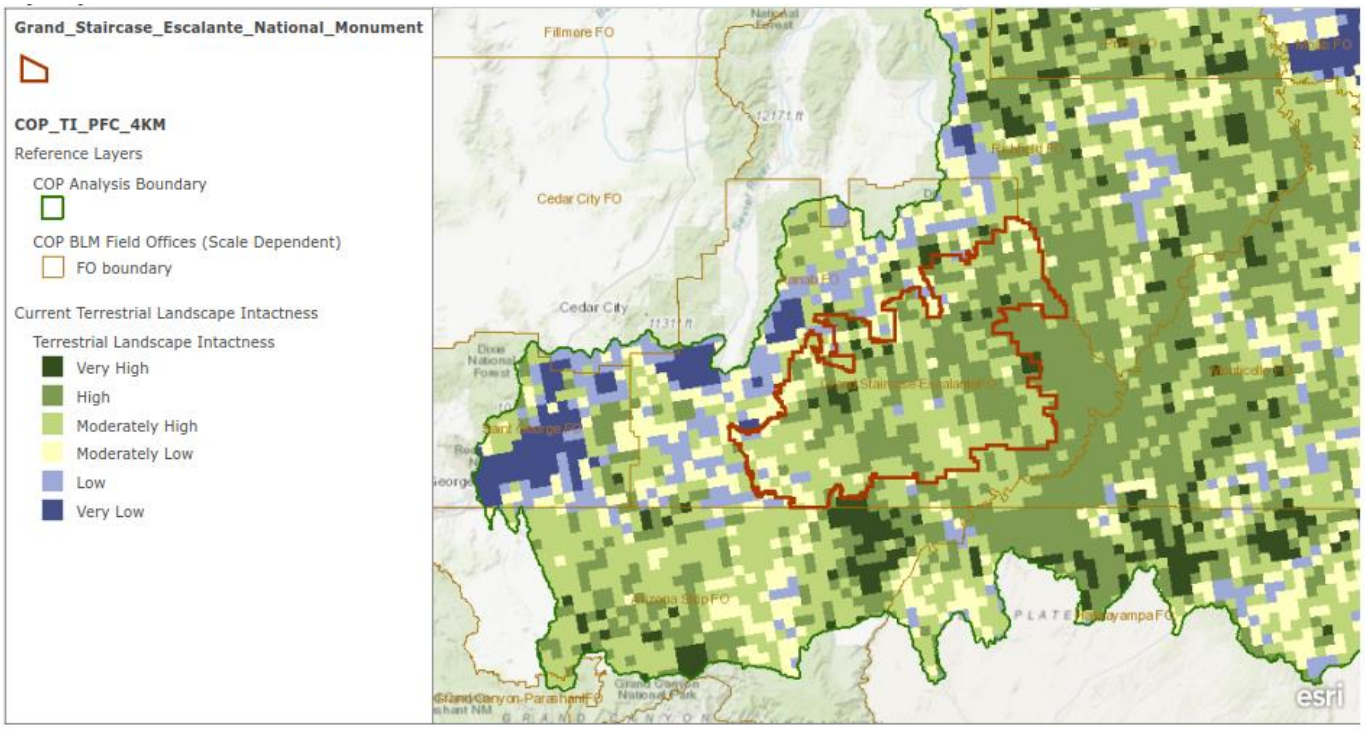
XIII. CLIMATE CHANGE

Grand Staircase-Escalante National Monument protects and provides for conservation and management of an exceptionally important and unique ecosystem and conservation values. The area contained within the monument boundaries exhibits a high and increasingly rare level of ecological integrity compared to other western lands. The original designation of Grand Staircase-Escalante National Monument appropriately recognized and protected these values: a relatively intact and functional western ecosystem. Remote landscapes relatively unmodified by human intrusion and development are increasingly rare within the region and nation.

The BLM's own Rapid Ecoregional Assessment found that the monument contains a high degree of ecological intactness (BLM 2012: ix), a measure of ecological and scientific distinction that can only be protected through the current size and configuration of the monument (see Map 1). Grand Staircase-Escalante also provides for regionally significant landscape-level connectivity (BLM 2012: 93), a significant and rare ecological feature in western landscapes. Connectivity is one of the most crucial factors in the conservation of fish and wildlife populations. The recognition and protection of connectivity facilitates migration, dispersal, and gene flow within and among habitat areas.

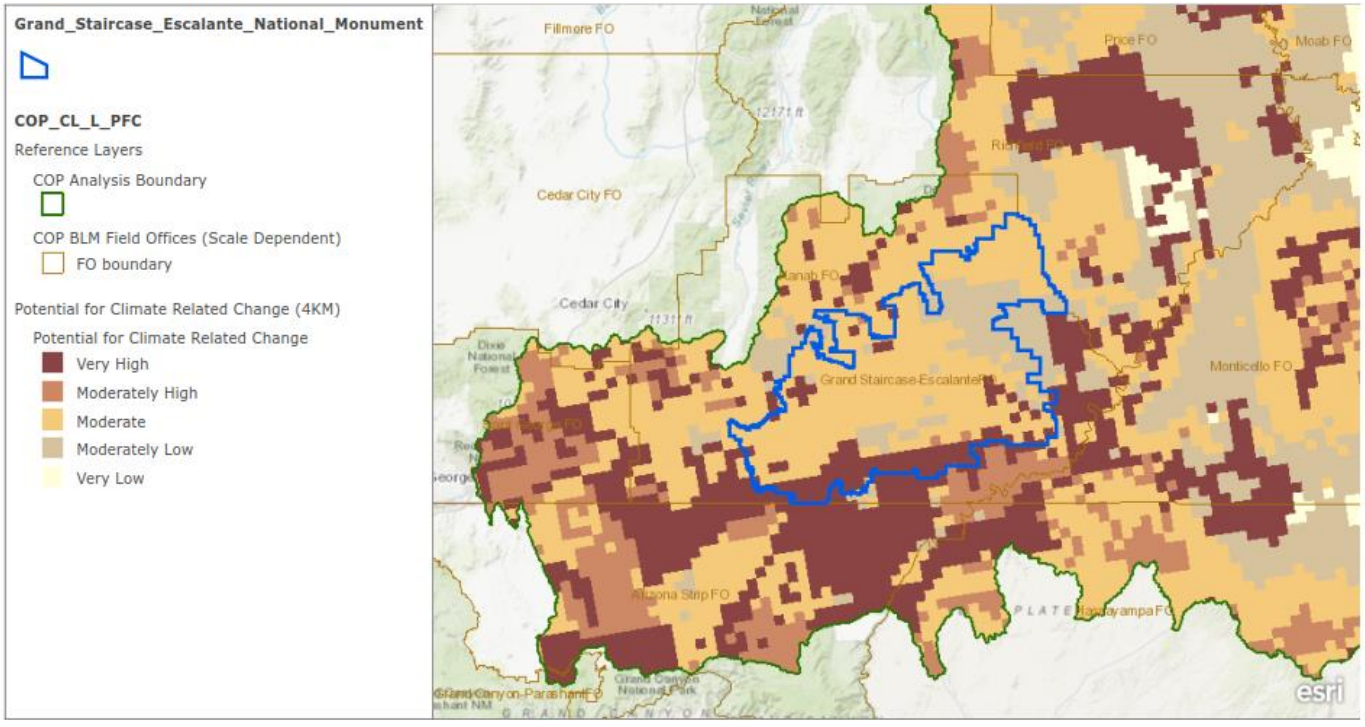
The Grand Staircase-Escalante National Monument also appropriately protects a highly resilient landscape, which are better able to provide for conservation values and other key ecosystem services to society into the future. According to the BLM's Rapid Ecoregional Assessment for the Colorado Plateau, much of the monument area is projected to experience low to moderate potential for impacts from climate change and other stressors (BLM 2012: xi). By contrast, large areas to the south and southwest of the designation are likely to face more severe impacts (see Map 2). The relative climate resilience of Grand Staircase-Escalante underscores the importance of protecting its habitats and species from other stressors at a landscape scale.

Map 1. Ecological Intactness of Grand Staicase-Escalante National Monument



Esri, HERE, Garmin, FAO, USGS, EPA, NPS | CSS-Dynamac and Conservation Biology Institute (CBI)

Map 2. Potential for Climate-related Change in Grand Staircase-Escalante National Monument



Esri, HERE, Garmin, FAO, USGS, EPA, NPS | CSS-Dynamac and Conservation Biology Institute (CBI)

A. BLM's obligation and authority to analyze climate change in RMPs

BLM has a legal duty to address the impacts of climate change both from land management actions and to the resource area in the Grand Staircase-Escalante National Monument management plan. The Kanab Field Office will undoubtedly experience real effects of climate change during the 20-year period that the RMP is in effect and beyond. Many management decisions in the RMP may contribute to and exacerbate the impacts of human-induced global climate change, and BLM stewards many resources that must be managed to maximize their ability to adapt and endure in the face of climate change.

1. BLM must take a hard look at climate change impacts from management decisions in the environmental impact statement for the RMP

Impacts to the ecosystem from climate change include shrinking water resources; extreme flooding events; invasion of more combustible non-native plant species; soil erosion; loss of wildlife habitat; and larger, hotter wildfires. Many of these impacts have been catalogued in recent studies by federal agencies showing the impacts of climate change specifically in the United States such as the National Climate Assessment.[16]

Secretarial Order 3289 unequivocally mandates all agencies within the Department of Interior "analyze potential climate change impacts when undertaking long-range planning exercises, setting priorities for scientific research and investigations, developing multi-year management plans, and making major decisions regarding potential use of resources under the Department's purview." SO 3289, *incorporating* SO 3226 (emphasis added). This Monument management plan falls squarely under this guidance and BLM must assess impacts from the proposed actions that may directly, indirectly, or cumulatively result in exacerbating climate change within this document.

BLM must fully analyze the cumulative and incremental impacts of the proposed decisions in the RMP. *Center for Biological Diversity v. National Highway Traffic Safety Administration,* 538 F.3d 1172, 1217 (9th Cir. 2008). In *CBD v. NHTSA,* the NHTSA failed to provide analysis for the impact of greenhouse gas emissions on climate change and was rebuked by the U.S. Court of Appeals for the Ninth Circuit, which observed that "[t]he impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct." 538 F.3d at 1217. For example, off-road vehicle designations, oil and gas management stipulations, and renewable energy development may significantly increase or reduce greenhouse gas emissions contributing to climate change and must be analyzed under NEPA.

Further, NEPA regulations require that NEPA documents address not only the direct effects of federal proposals, but also "reasonably foreseeable" indirect effects. These are defined as:

> Indirect effects, which are caused by the action and are later in time or farther removed in distance, *but are still reasonably foreseeable.* Indirect effects may include growth

[16] Available at http://nca2014.globalchange.gov/.

> inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems."

40 C.F.R. § 1508.8(b) (emphasis added).

As held by the U.S. District Court in Montana:

> BLM cannot acknowledge that climate change concerns defined, in part, the scope of the RMP revision while simultaneously foreclosing consideration of alternatives that would reduce the amount of available coal based upon deference to earlier coal screenings that had failed to consider climate changes.

Western Organization of Resource Councils v. U.S. Bureau of Land Management, CV 16-21-GF-BMM (Mont. March 26, 2018).

Finally, BLM IM 2013-094 regards management during drought. This IM requires BLM to modify uses and management to lessen impacts from drought including activities such as grazing, recreation, lands actions and minerals activities. IM 2013-094 also states that BLM should consider the information in BLM's REAs in assessing drought and mitigation measures and states a preference for RMPs and other plans to proactively address potential drought and its effects.

BLM is required to take a hard look at direct, indirect, and cumulative impacts to and from climate change in the planning area in the RMP. The following sections provide recommendations for analyzing fugitive dust emissions and assessing baseline conditions in the planning area.

a) *Analyzing fugitive dust emissions*

Fugitive dust suspended in the air has the potential to impact more total area than any other impact of roads (paved or unpaved), and it can have significant effects on ecosystems and wildlife habitat. Forman et al., 2003; Westec, 1979. Motorized vehicles create fugitive dust by travelling on unpaved roads and through cross country travel; it is then dispersed along roadsides or carried further afield via wind currents. An example of fugitive dust plumes caused by ORV traffic is documented in 1973 satellite photos. These photos show six dust plumes in the Mojave Desert covering more than 1,700 km^2 (656.2 mi^2). These plumes were attributed to destabilization of soil surfaces resulting from ORV activities. Nakata et al. 1976; Gill 1996.

Fugitive dust can have serious consequences for plant and animal species. BLM should also analyze impacts to climate change from fugitive dust emissions. A hard look at impacts from fugitive dust is necessary to understand and disclose to the public the likely contributions to regional climate change caused by this plan. In September 2009, Dr. Jayne Belnap of the United States Geological Survey gave a presentation to the Colorado Water Conservancy District. Dr. Belnap's presentation addressed the connection between increased temperature, disturbance, invasive species and dust. This presentation focused much attention on the impacts from ORVs and noted the cycle of increasing temperatures, which increases dust, which is exacerbated by

ORV use, which increases the effects of climate change (temperature increases), with the key indicator of these problems being earlier snowmelts. Of concern is the amount of dust that results from motorized routes, which settles upon snow pack and alters the melt rate which, in turn, alters the availability of warm season infusion of water into streams and lakes, when such water is critical to wildlife. For example, in 2005 and 2006, disturbed desert dust melted snow cover 18 to 35 days earlier in the San Juan Mountains. Painter et al. 2007. In 2009, disturbed desert dust melted snow cover 48 days earlier in the San Juans. Painter 2009.

Neff et al. (2008) found that "dust deposition onto snow cover in the western United States has recently been shown to accelerate melt and reduce snow-cover duration by approximately one month, a finding that has broad implications for water resources in mountainous regions of the United States" (citing Painter, T. H. et al. The impact of disturbed desert soils on duration of mountain snow cover. *Geophys. Res. Lett.* 24 (2007).

BLM should analyze impacts to climate change from fugitive dust emissions that would result from recreation activities authorized under this RMP and adopt a final RMP that minimizes and/or mitigates those impacts.

b) *Addressing climate change conditions*

BLM baseline data on climate change must be sufficient to permit analysis of impacts under NEPA. Importantly, 40 C.F.R. § 1502.15 requires agencies to "describe the environment of the areas to be affected or created by the alternatives under consideration." Establishment of baseline conditions is a requirement of NEPA. In *HalfMoon Bay Fisherman's Marketing Ass'n v. Carlucci,* 857 F.2d 505, 510 (9th Cir. 1988), the Ninth Circuit states that "without establishing... baseline conditions ... there is simply no way to determine what effect [an action] will have on the environment, and consequently, no way to comply with NEPA." The court further held that "[t]he concept of a baseline against which to compare predictions of the effects of the proposed action and reasonable alternatives is critical to the NEPA process."

There is a growing body of scientific information already available on climate change baseline conditions, much of it generated by or available through federal agencies. Where there is scientific uncertainty, NEPA imposes three mandatory obligations on BLM: (1) a duty to disclose the scientific uncertainty; (2) a duty to complete independent research and gather information if no adequate information exists unless the costs are exorbitant or the means of obtaining the information are not known; and (3) a duty to evaluate the potential, reasonably foreseeable impacts in the absence of relevant information, using a four-step process. Unless the costs are exorbitant or the means of obtaining the information are not known, the agency must gather the information in studies or research. 40 C.F.R. § 1502.22. Courts have upheld these requirements, stating that the detailed environmental analysis must "utiliz[e] public comment and the best available scientific information." *Colorado Environmental Coalition v. Dombeck,* 185 F.3d 1162, 1171-72 (10th Cir. 1999) (citing *Robertson v. Methow Valley Citizens' Council,* 490 U.S. at 350); *Holy Cross Wilderness Fund v. Madigan,* 960 F.2d 1515, 1521-22 (10th Cir. 1992).

As the Supreme Court has explained, while "policymaking in a complex society must account for uncertainty," it is not "sufficient for an agency to merely recite the terms 'substantial

uncertainty' as a justification for its actions." *Motor Vehicle Manufacturers Ass'n v. State Farm Mutual Automobile Ins. Co., 463 U.S. 29, 52* (1983). Instead, in this context, as in all other aspects of agency decision-making, "[w]hen the facts are uncertain," an agency decision-maker must, in making a decision, "identify the considerations he found persuasive." *Small Refiner Lead Phase Down Task Force v. EPA*,705 F.2d 506, 520 (D.C. Cir. 1983), quoting Ind. *Union Dept., AFL- CJO v. Hodgson,* 499 F.2d 467, 476 (D.C. Cir. 1974).

BLM's duty to evaluate reasonably foreseeable significant adverse impacts includes "impacts which have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason." 40 C.F.R. § 1502.22(b). Such impacts are especially significant in the face of climate change.

2. BLM must craft long-term management prescriptions without permanent impairment and unnecessary or undue degradation to the resources in the face of climate change

FLPMA gives BLM the authority to manage and plan for emerging issues and changing conditions that global climate change will affect in the planning area. FLPMA mandates that when BLM revises land use plans, it must "use and observe the principles of multiple use and sustained yield set forth in this and other applicable law" 43 U.S.C. § 1712(c).

> The term "multiple use" means the management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions... a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources... and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output. 43 U.S.C. § 1702(c) (emphasis added).

Additional pertinent requirements of FLPMA that specifically apply to land use planning include using "a systematic interdisciplinary approach to achieve integrated consideration of physical, biological, economic, and other sciences; consider[ing] relative scarcity of the values involved; and weigh[ing] long-term benefits to the public against short-term benefits. *Id.* FLPMA also provides that BLM must "take any action necessary to prevent unnecessary or undue degradation to managed resources." 43 U.S.C. § 1732(b). Collectively, the provisions of FLPMA highlighted above necessitate on-the-ground implementation of climate change policies.

In addition to the agency's duty under NEPA to take a hard look at the impacts of climate change to and from decisions in the RMP, BLM must also include a range of alternatives that includes a strategy for mitigating these impacts. CEQ regulations instruct agencies to consider

alternatives to their proposed action that will have less of an environmental impact, specifically stating that "[f]ederal agencies shall to the fullest extent possible:. . . Use the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment." 40 C.F.R. § 1500.2(e) (emphasis added); *see also,* 40 C.F.R. §§ 1502.14, 1502.16.

The impacts of climate change should be a major factor in every alternative that is created since it is an undeniable reality that will drive all land use planning decisions. As provided in the Oregon/Washington BLM State Office guidance document IM OR-2010-012, "[r]esource management plans and other broad programmatic analyses are actions that would typically have a long enough duration that climate change could potentially alter the choice among alternatives."

Further, general statements that BLM will conduct monitoring are also not an appropriate form of mitigation. Simply monitoring for expected damage does not actually reduce or alleviate any impacts. Instead, a vigilant science-based monitoring system should be set out in the RMP in order to address unforeseeable shifts to the ecosystem. A detailed monitoring approach is also required under the BLM's planning regulations:

> The proposed plan shall establish intervals and standards, as appropriate, for monitoring and evaluation of the plan. Such intervals and standards shall be based on the sensitivity of the resource to the decisions involved and shall provide for evaluation to determine whether mitigation measures are satisfactory, whether there has been significant change in the related plans of other Federal agencies, State or local governments, or Indian tribes, or whether there is new data of significance to the plan. The Field Manager shall be responsible for monitoring and evaluating the plan in accordance with the established intervals and standards and at other times as appropriate to determine whether there is sufficient cause to warrant amendment or revision of the plan. 43 C.F.R. § 1610.4-9 (emphasis added).

Such vigilant monitoring is necessary to create an effective adaptive management framework in the face of climate change.

Summary of Comments: The RMP provides the BLM with an excellent opportunity to analyze the impacts from climate change to the planning area over the next two decades, as well as the contribution to climate change from management decisions made in the plan. This analysis should lead to the development of thoughtful management prescriptions and alternatives in the land use plan that will address how BLM will mitigate these causes and adapt its management over the coming years to prevent permanent impairment and unnecessary or undue degradation to the resources in the face of climate change.

B. Recommended approach to managing climate change in RMPs

Under the pressures of global change, it must be acknowledged that many objects of conservation are at risk wherever they are found, and the traditional natural resource management paradigm of modifying ecosystems to increase yield must change to a new paradigm of managing wildland ecosystems to minimize loss — specifically loss of the

ecosystem composition, structure, and function that yields the benefits we seek from wildlands. Natural resource management must change from a paradigm of maximum sustained yield to a paradigm of risk management.

Although there is no widely-accepted method of assessing and managing risk, we recommend breaking risk down into its component parts — vulnerability, exposure, and uncertainty —as a useful way to think about risk to biodiversity and productive potential. In the TWS report, "Recommended Risk Assessment and Management Approach for Addressing Climate Change in BLM Land Use Planning", we recommend an approach for assessing risk in the planning area as well as an approach for management of that risk for BLM to comply with its legal obligations under NEPA and FLPMA as set out above.

Summary of Comments: BLM should utilize the management framework above to address and manage climate change in the RMP.

C. Adapting to climate change

In addition to the analyzing the impacts of climate change, The Department of Interior Manual for climate change adaptation (523 DM 1) requires BLM to plan for uncertainty and risk in the face of climate change. Among other things, this policy guidance requires BLM to:

- Use the best available science of climate change risks, impacts and vulnerabilities,
- Use the network of Landscape Conservation Cooperatives, Climate Science Centers and other partnerships to understand and respond to climate change,
- Use well-defined and established approaches for managing through uncertainty including vulnerability assessments, scenario planning and other risk management approaches,
- Promote landscape-scale, ecosystem-based management approaches to enhance the resilience and sustainability of linked human and natural systems,
- Manage linked human and natural systems that help mitigate climate change impacts, such as:
    - Protect diversity of habitat, communities and species,
    - Protect and restore core, unfragmented habitat areas and key habitat linkages,
    - Maintain key ecosystem services,
    - Monitor, prevent and slow the spread of invasive species,
    - Focus development activities in ecologically disturbed areas and avoid ecologically sensitive landscapes, culturally sensitive areas, and crucial wildlife corridors.

The biggest question that land managers face today is how we respond to uncertainty in the face of global climate change. It is especially challenging for planners to make predictions about future ecosystem dynamics 10, 20 or 50 years down the line. Adaptation to changing conditions is and will be essential. However, general statements that BLM will plan to "be adaptive" is not planning – it is a strategy that is reactive only. A true plan for climate adaptation will require applying knowledge and foresight gained from a "learn as you go" approach.

We recommend using an experimental, adaptive design known as the "portfolio approach" of management strategies in the RMP. *See* Belote et al.[17] As stated by Belote et al., "[u]ncertainty about how ecosystems and species will respond to co-occurring, interactive, and synergistic impacts of the Anthropocene precludes our ability to know which strategy will best sustain wildland values in to the future." Thus, Belote et al. concludes that land managers should use an experimental zoning approach for managing certain lands that include the following zones as management strategies:

- **Restoration Zones:** areas that are devoted to forestalling change through the process of ecological restoration;
- **Innovation Zones:** areas that are devoted to innovative management that anticipates climate change and guides ecological change to prepare for it; and
- **Observation Zones:** areas that are left to change on their own time to serve as scientific "controls" and to hedge against the unintended consequences of active management elsewhere.

These strategies should be used in conjunction with each other to spread the risk among the different strategies and to allow for diverse outcomes to inform rapid learning about management strategies in the future. This is the kind of deliberate yet dynamic planning process that BLM should be fostering in RMPs.

The BLM is especially equipped to apply this type of portfolio approach due to its wide variety of designations and management regimes. The purpose of **restoration zones** is to sustain existing or historical ecosystems. This type of strategy lends itself to designations such as national conservation areas, ACECs and other lands that are set aside for conservation of natural and cultural resources, but that may also be appropriate for restoration in certain areas.

Due to the acknowledgement that returning to historical range of variability is an increasingly challenging concept in the study of climate change, **innovation zones** are also necessary. This is where the forecasting of climate change may drive greater intervention to experiment with things like anticipatorily boosting resiliency or facilitating transition to an altered future state where shifts seem inevitable. This strategy would be more appropriate for BLM-managed lands that have already sustained substantial change or where future impacts of climate change may severely disrupt the production of ecosystem goods and services. Conservation designations or allocations would typically not fall within this management strategy.

The third strategy of establishing **observation zones** is necessary to allow for ecosystems to generally change without specific intervention, as a scientific control. This management strategy would be most appropriate for Wilderness, WSAs, and lands managed for wilderness characteristics, but would also be the default strategy for lands that could not be managed for treatment under the restoration and innovation zones due to budget and operational constraints or in lands between such designations where connectivity is desirable to facilitate movement in response to climate change.

[17] These concepts are set out in Belote, et al. "Wilderness and Conservation Strategy in the Anthropocene." The Pinchot Letter (Spring 2014).

Summary of Comments: BLM should implement a portfolio approach to land use planning that allows for diverse strategies and adaptive, dynamic planning as a climate change adaptation strategy. This involves establishing restoration, innovation and observation zones in order to "learn while doing."

XIV. SOCIO-ECONOMICS

The analysis of the socio-economic impacts of the RMP must be thorough and accurate in order to responsibly manage the public lands. The Wilderness Society's "Socio-Economic Framework for Public Land Management Planning: Indicators for the West's Economy" details our expectations for the baseline analysis of the region's economy as well as the analysis of the potential impacts of proposed management alternatives on the area. The analysis of socio-economic considerations in Grand Staircase-Escalante National Monument should follow the approach set out in this document, as well as the more specific considerations detailed below.

These comments focus specifically on how BLM should evaluate the costs and benefits of conservation alternatives versus development alternatives within the Monument. We note that as a national monument, the range of alternatives in the plan would be better described as more conservation focused to less conservation focused, as BLM is not evaluating extractive uses in the Monument or intensive development. Nonetheless, the principles are relevant to planning in the Monument, particularly in terms of evaluating nonmarket and wildland values, the baseline analysis of the regional economy and broader economic implications, and the need to evaluate the benefits and costs of both conservation and development. Past analyses of conservation alternatives have tended to focus only on the costs; the agency needs to fully evaluate all the benefits as well for these alternatives. On the other hand, analyses of development alternatives tend to emphasize the benefits and ignore the costs. For these alternatives the agency must fully evaluate all the costs.

A. General considerations

In general, when looking at the economic implications of various management alternatives, BLM should do a full accounting of the costs and benefits. To facilitate informed investment decisions about publicly owned wildlands, economic analysis must take into consideration both market and nonmarket benefits and costs. Loomis, 1993.

1. <u>BLM should utilize a Total Economic Valuation Framework for evaluating alternatives</u>

To account for the full array of market and nonmarket wildland benefits, economists have derived the total economic valuation framework. Peterson and Sorg 1987; Morton 1999, 2000a. The total economic valuation framework (TEV) is the appropriate measure to use generally when evaluating alternatives developed for the RMP, and specifically for evaluating the benefits of conserving wilderness character.

All Americans own Federal public lands and the scope of the economic analysis should therefore look beyond the employment and income impacts on local communities to include all Americans. Taking a narrow "regional accounting stance" that only includes local counties will

ignore the benefits and costs that accrue to Americans outside the region from management of public land. Because public lands are owned by all Americans, we recommend the BLM take a national accounting stance when estimating the benefits and costs of management alternatives for the Monument management plan.

To provide an analytic framework (see Figure 1) for such an analysis, economists have developed the total economic valuation concept that includes non-market benefits. Randall and Stoll 1983; Peterson and Sorg 1987; Loomis and Walsh 1992. Under this approach, non-market benefits of a primitive and wild landscape may be substantial. Morton 1999. Researchers have consistently found that passive use benefits of wildlands, including the benefits of retaining the option to visit wilderness, simply knowing wilderness exists, and being able to pass it on to future generations (known to economists as option, existence, and bequest benefits), are greater than other wildland benefits. BLM planners must derive and fully utilize a total economic valuation framework when evaluating land management alternatives. It is the appropriate framework for evaluating management alternatives for public land.

2. <u>BLM should avoid IMPLAN or other input-output models that are grounded in Economic Base Theory when estimating jobs-income for each alternative</u>

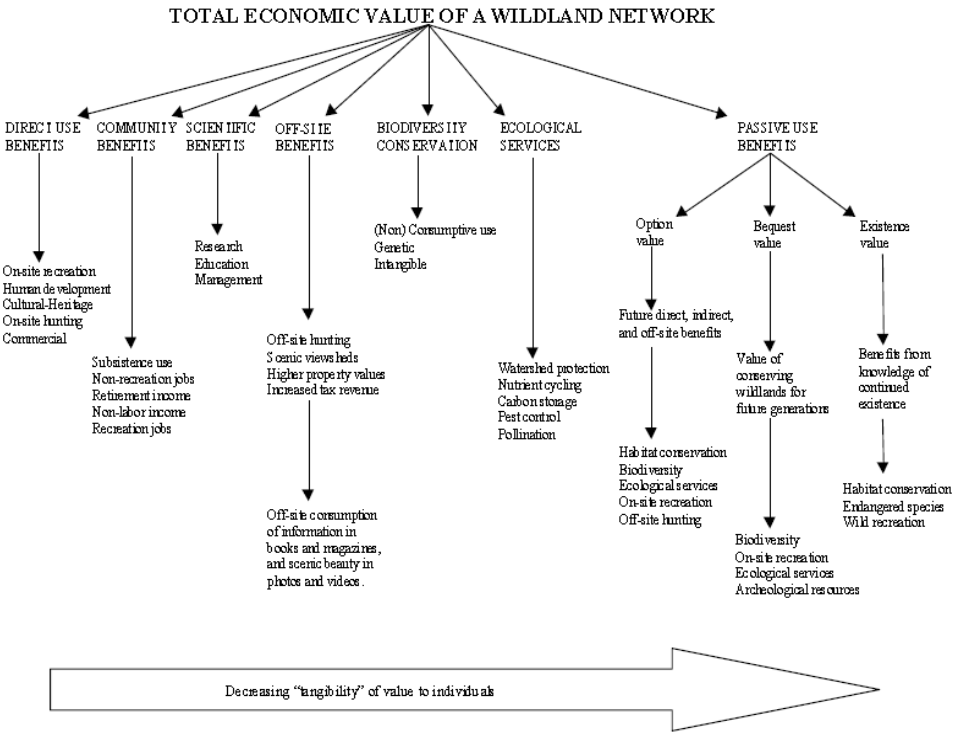


Figure 1. Total Economic Valuation Framework for Wilderness Quality Lands. Morton 1999.

The IMPLAN model is an economic model used by the Forest Service and the BLM to project jobs and income from proposed actions. While the IMPLAN model can be useful as a static analysis of the regional economy, communities must be aware of the shortcomings and poor track record of the model. A more accurate, dynamic, and complimentary approach

examines regional trends in jobs and income. We recommend that BLM use the EPS model developed by, and available free from, the Sonoran Institute.

In general, models like IMPLAN are grounded in economic base theory. These models assume that an economy is static (i.e., it does not change), which everyone knows is not true. IMPLAN models also do not consider the impacts of many important variables that affect regional growth in the rural west, such as regional amenities like high quality hunting, fishing and recreational opportunities, open space, scenic beauty, clean air and clean water, a sense of community, and our overall high quality of life. Many of these amenities are associated with attracting new migrants as well as retaining long-time residents.

Many long-time residents and new residents earn retirement and investment income. As shown by an analysis of economic trends, retirement and investment income is becoming increasingly important to rural economies of the west. A 2003 letter from 100 economists reinforces the importance of non-labor income to the economy of the West. Whitelaw et al. 2003. Unfortunately, most IMPLAN models completely fail to consider the important economic role of retirement and investment in the economy of a community, which can be a fatal flaw of the model.

Our more specific concerns have to do with the technical assumptions used in most IMPLAN models. These questionable assumptions include: no changes in relative prices, no input substitution or technological change in the production processes; no labor mobility; no change in products or tastes; no regional migration; and no changes in state and local tax laws.

In a review of 23 studies that empirically tested the economic base hypothesis, Krikelas (1991) found only four studies that provided any evidence in support of economic base theory as a long run theory of economic growth — a dismal track record. History is replete with cases of communities and areas that lost their export base and continued as reasonably successful economies with their social capital intact. The local-serving sectors of the economy were the persistent ones, as new exports were substituted for the old.

Even Tiebout (1956) recognized the shortcomings of the economic base theory when he wrote, "Without the ability to develop residentiary activities, the cost of development of export activities will be prohibitive." Krikelas (1992) concludes that economic base theory has severe limitations, especially for economic planning and policy analysis. This is a conclusion that community leaders and BLM officials and planners can no longer ignore, and one that should be incorporated into public land and community-level planning. As Haynes et al. (1997) note:

> Where the economic base approach gets into trouble is when it is used inappropriately as a tool for planning or predicting impacts of greater than one year in duration; a snapshot of current conditions tells little about the form a region's future economy may take.

Economists with the Forest Service and Office of Technology Assessment concluded that while IMPLAN is useful for appraising the total economic impacts of a management plan, the model is insufficient for evaluating the economic impacts for communities. Hoekstra et al., 1990; OTA 1992. According to the OTA (1992), IMPLAN has an additional shortcoming for assessing community impacts: the economic data used to construct IMPLAN do not provide comparable

details for all resource-based sectors of the economy. While economic data for oil and gas is classified as a separate manufacturing industry, recreation is scattered among a variety of industries generally classified in services and retail, with some in transportation. The ease of data acquisition for estimating oil and gas impacts combined with the difficulty of estimating the impacts of recreation and tourism underscores the potential oil-gas bias in IMPLAN modeling.

The 25th anniversary issue of the Journal of Regional Science included an article by H.W. Richardson, a noted regional scientist, who believed that 40 years of research on economic base models "has done nothing to increase confidence in them". In addition, he concluded that it would be hard to "resist the conclusion that economic base models should be buried, and without prospects for resurrection." Richardson 1985. He is not alone. Many have suggested that economic base theories be abandoned in favor of other, more comprehensive theories of regional growth and development. Krikelas 1992; Rasker 1994; Power 1995 and 1996. Many of these economists recommend analysis of regional trend in total personal income as a better way to understand where the local economy carne from and where it is headed.

The concern over the accuracy of regional growth models like IMPLAN combined with concern over the use of these models for planning, suggests that it is not only inappropriate but a disservice to rural communities to rely on IMPLAN to estimate the economic impacts of public land management alternatives on rural communities. If the BLM decides to use IMPLAN, we insist that the BLM shall fully discuss the assumptions, the shortcomings, and the poor track record of the model in planning efforts. At the same time the BLM must also complete a trend analysis of regional jobs and income to provide a better and more complete understanding of their economic past and their economic future. We recommend the Economic Profile System that is available free from the Sonoran Institute.

3. BLM should use Total Personal Income as a basis for examining economic impacts

For the analysis of regional economic trends, BLM should include an analysis of all sources of income, rather than relying solely on employment, which will dramatically overstate the importance of oil and gas industries to the local economy. A full accounting of income is necessary to an understanding of the important role that transfer payments and other sources of non-labor income, such as interest payments, rents, and profits have upon the regional economy. For example, in Colorado in 2007, investment and retirement income accounts for 25% of total personal income in the state which makes its contribution to total personal income larger than the contribution from any single industry. Therefore, an economic impact analysis that excludes non-labor income is totally inadequate and misleading.

4. To provide socio-economic context, BLM should examine historic trends in county income and employment

A growing number of economists are recognizing that protecting the quality of the natural environment is key to attracting new residents and business and therefore the environment is the engine propelling the regional economy. A letter to President Bush from 100 economists concludes "The West's natural environment is, arguably, its greatest, long-run economic

strength... A community's ability to retain and attract workers and firms now drives its prosperity. But if a community's natural environment is degraded, it has greater difficult retaining and attracting workers and firms." *See* Whitelaw, et al. 2003. Given these findings, we request that the BLM economists fully consider the indirect role of wildlands (i.e., the "conservation alternative") in attracting non-recreational businesses and retirees when completing the economic impact analysis (including total personal income) of management alternatives.

Completing an analysis of income and employment trends and the role of wildlands in those trends is especially relevant given the growing body of literature suggesting that the future diversification of rural economies is dependent on the ecological and amenity services provided by public lands in the west. Power 1996; Rasker 1994; Haynes and Horne 1997; Rasker et al. 2004. These services (e.g., watershed protection, wildlife habitat, recreation opportunities, and scenic vistas) improve the quality of life, which in turn attracts new businesses and capital to rural communities.

Public lands in the west represent natural assets that provide communities with a comparative advantage over other rural areas in diversifying their economies. Public land management can contribute to decreasing dependence/specialization and diversifying local economies by de-emphasizing resource extraction and emphasizing management and budgets on providing high-quality recreation and conserving habitat for the regions biological resources.

As noted by Freudenburg and Gramling (1994):

> It needs to be recognized as a serious empirical possibility that the future economic hope for resource-dependent communities of...the United States could have less to do with the consumption of natural resources than with their preservation.

Resource managers, economic planners and community leaders must become aware of this potential. We therefore request our concerns be fully addressed as part of the Monument management plan.

Summary of Comments: BLM should use a Total Economic Valuation framework to account for the full array of market and nonmarket wildland benefits, rather than relying on IMPLAN or other input-output models that are grounded in Economic Base Theory. BLM should utilize The Wilderness Society's "Socio-Economic Framework for Public Land Management Planning: Indicators for the West's Economy" for the socio-economic analysis for the Monument management plan details our expectations for the baseline analysis of the region's economy as well as the analysis of the potential impacts of proposed management alternatives on the area.

B. Value of ecosystem services

The importance of an analysis of the value of ecosystem services cannot be underestimated in the development of the Monument Management Plan. Ecosystem services are those services provided by the ecosystem, seemingly for free. These ecosystem services include such tangible things as food, clean water, and carbon sequestering; but also include intangible services such

as beauty, cultural heritage, and a place for solitude and quiet. Because it appears difficult to calculate the value of ecosystem services and because this variety of services has appeared to be free, their loss frequently does not get evaluated in the economic planning process for public lands. However, it is critical to note that these services do have economic value, that can be calculated, and the loss of those values can be significant.

Seemingly the loss of an ecosystem service would bring the value of that service to $0. However, the loss of a service brings the value of the service into a minus value, because if that service must be restored, then there is an actual cost to return the ecosystem to its previous functioning state. As an example, the pollution of the Rio Grande River by the mine at Summitville brings the value of clean water not to zero, but to the cost of building and maintaining the now necessary water treatment facility at the Summitville superfund site. Unfortunately, while current economic models do not take these costs and losses into account, worse still are models based on GNP methodologies, that would see the cleanup or restoration based on the loss of an ecosystem as a positive value as the labor and materials needed for such cleanup or restoration would be goods and services that contribute to the Gross National Product. By extension, such a model would imply that ecosystem services should be destroyed to raise the value of the GNP.

BLM has current guidance on estimating nonmarket environmental values and analyzing those values in land use planning. *See* IM 2013-131.[18] IM 2013-131 directs BLM to "utilize estimates of nonmarket environmental values in NEPA analysis supporting planning and other decision-making." Nonmarket values are described as values that "reflect the benefits individuals attribute to experiences of the environment, uses of natural resources, or the existence of particular ecological conditions that do not involve market transactions and therefore lack prices."

IM 2013-131 explains that "Ecosystem goods and services":

> Include a range of human benefits resulting from appropriate ecosystem structure and function, such as flood control from intact wetlands and carbon sequestration from healthy forests. Some involve commodities sold in markets, for example, timber production. Others, such as wetlands protection and carbon sequestration, do not commonly involve markets, and thus reflect nonmarket values.

BLM's guidance directs the agency to analyze nonmarket values for each alternative and adopt management decisions that are informed by that analysis:

> In framing information for management decisions, focus on the *difference in changes to nonmarket values* between action alternatives. Such information can highlight tradeoffs. For example, an alternative designating an additional thirty miles of trails for off-highway vehicles may *increase* the visitor days of use — therefore the total nonmarket benefits — from motorized recreation, but may *decrease* the benefits of subsistence hunting and watershed protection in this area. The *difference* between the changes to nonmarket values between this alternative and an alternative that, for

[18] Available at: https://www.blm.gov/policy/im-2013-131-ch1.

example, only designates an additional ten miles of trails, can inform the choice among action alternatives.

IM 2013-131, Attachment 1-5.

The guidance also directs that quantitative analysis of nonmarket values is strongly encouraged when "the alternatives to be considered present a strong contrast between extractive and nonextractive uses of land and resources. For example, a RMP may include alternative resource allocations that vary between managing land primarily for oil and gas development or managing it for habitat conservation and recreation." IM 2013-131, Attachment 1-7. While the Monument management plan will not evaluate alternatives that have a strong extractive or development focus, BLM should nonetheless complete quantitative analysis of nonmarket values to the extent possible, particularly to help the public understand the economic benefits that could be realized by visitation to the Monument.

Summary of Comments: As outlined above, the economic value of ecosystem services can be calculated. That value is ongoing each year into the future. The loss of ecosystem services can be great, and costly. Choices made in land use planning can immediately reduce or destroy the existent ecosystem services, or perhaps do the same at some point in the future. For these reasons the economic value of ecosystems services must be included in the analysis of social economic impacts and fully considered as recommendations are made for land use in the RMP.

CONCLUSION

Thank you for considering these comments. We look forward to working with BLM as the planning process for Grand Staircase-Escalante National Monument RMP continues. Please keep us informed of publication of documents related to the RMP and opportunities to provide comments and recommendations throughout the process. Please add the undersigned to the mailing list for this planning process. As indicated in Section 1 above, we will be reaching out to the agency to arrange a meeting to discuss these comments and the Sustainable Grand Staircase-Escalante Alternative in **Appendix A** and any questions you may have.

Sincerely,

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APPENDIX A

SUSTAINABLE GRAND STAIRCASE-ESCALANTE ALTERNATIVE

Sustainable Grand Staircase-Escalante Alternative

For Grand Staircase, Kaiparowits, and Escalante Canyons Units and Federal lands previously included in the Monument ("Monument+")

Contents

1. Air

AIR-1 The Monument+ will continue to be managed as a Prevention of Significant Deterioration Class II area designated by the Clean Air Act. All BLM actions and use authorizations will be designed or stipulated so as to protect air quality within the Monument+ and the Class I areas on surrounding Federal lands.

AIR-2 Site specific project proposals affecting BLM and adjacent lands will be reviewed for compliance with existing air quality laws and policies. Mitigation will be incorporated into project proposals to reduce air quality degradation. Projects will be designed to minimize further degradation of existing air quality. New emission sources will be required to apply control measures to reduce emissions.

AIR-3 Management ignited fires will comply with the State of Utah Interagency Memorandum of Understanding requirements to minimize air quality impacts from resulting particulates (smoke). This procedure requires obtaining an open burning permit from the State prior to conducting a management ignited fire.

2. Archaeology

Objectives

- Identify, document, and protect the array of archaeological resources in the Monument+,
- manage uses to prevent damage to archaeological resources,
- increase public education and appreciation of archaeological resources through interpretation, and
- facilitate appropriate research on archaeological resources such that the Monument+ is recognized as a laboratory for the preservation, study and appreciation of cultural heritage.

Management

Definition: Adaptive management is a formal process for continually improving management policies and practices by learning from the outcomes of operational programs and new scientific information. Under adaptive management, plans and activities are treated as working hypotheses rather than final solutions to complex problems.

ARCH-1 The BLM will continue to inventory and conduct project compliance for archaeological resources in order to evaluate their potential for protection, conservation, research, or interpretation. Cultural surveys in high-use areas, such as along trails and open routes, will be prioritized to ensure protection of vulnerable resources. Beyond these areas, inventory and research efforts will be expanded to fill in the information gaps and complete research that will contribute to the protection of sites and adaptive management. The BLM will use the information collected to create a better understanding of cultures and will work to showcase and preserve remnants of Native American Indian cultures within the Monument+.

ARCH-2 Public education and interpretation will be emphasized to improve visitor understanding of archaeological resources and to prevent damage. Archaeological site etiquette information will be readily available to Monument+ visitors. Collaborative partnerships with Native American Indians, outfitters and guides, volunteers and universities will be pursued to document, preserve, study, monitor or interpret sites consistent with the overall objective of protecting archaeological resources.

ARCH-3 Traditional Cultural Properties are those sites recognized by contemporary Native American Indians as important to their cultural continuity. These sites will be identified, respected, preserved, and managed for continued recognized traditional uses. Consultation with appropriate Native American Indian communities will be a priority. Archaeological sites and Traditional Cultural Properties will be managed and protected from site degradation in accordance with appropriate laws and regulations.

3. Fish and Wildlife

Objectives

- Work in conjunction with the Utah Division of Wildlife Resources (UDWR) in managing fish, wildlife, and other

animals work in conjunction with the Utah Division of Wildlife Resources (UDWR) in managing fish, wildlife, and other animals to achieve and maintain natural populations, population dynamics, and population distributions in a way that protects and enhances Monument+ resources,

- work cooperatively with the UDWR to reestablish populations of native species to historic ranges within the boundaries of the Monument+, and to take needed actions to protect and enhance the habitat of these native species,
- manage uses to prevent damage to fish and wildlife species and their habitats,
- increase public education and appreciation of fish and wildlife species through interpretation, and
- facilitate appropriate research to improve understanding and management of fish and wildlife resources within the Monument+.

Management

FW-1 The BLM will manage habitats for the recovery or reestablishment of native populations through collaborative planning with local, State and Federal agencies, user groups, and interested organizations.

FW-2 The BLM will work with the UDWR to meet the requirements of Executive Order 11312 (1999) as amended by EO 13751 (2017) on Invasive Species.

FW-3 The BLM will continue to work with the UDWR to meet the goals described in adopted species management plans.

FW-4 The BLM will place a priority on protecting riparian and water resources as they relate to fish and wildlife, and will work cooperatively with the U.S. Forest Service to coordinate maintenance of fisheries and flows.

FW-5 The BLM will preserve the integrity of wildlife corridors, migration routes and access to key forage, nesting, and spawning areas by limiting adverse impacts from development in the Monument.

FW-6 All proposed projects will be required to include a site assessment for impacts to fish and wildlife species. Appropriate strategies will be used to avoid sensitive habitat (i.e., construct barriers). Seasonal restrictions on visitor use could be implemented to protect crucial habitat and migration corridors.

FW-7 Water developments may be constructed for wildlife purposes if consistent with the overall objectives for fish and wildlife and with water management direction (**Water**); and if the development to benefit one species (e.g., an ungulate) is not detrimental to species depending on the source spring (e.g., a bat or amphibian) or associated riparian area being developed.

FW-8 The BLM will continue to coordinate with the UDWR and other organizations to inventory for wildlife and to evaluate needs for habitat protection. Inventory and research efforts will be targeted to fill information gaps on habitat needs and support adaptive management.

FW-9 Public education and interpretation will be emphasized to improve visitor understanding of fish and wildlife species. Collaborative partnerships with volunteers and universities will be pursued to monitor and study biological resources consistent with the overall objective of protecting such resources.

FW-10 If recreation activities (e.g., hiking, camping, backpacking) are determined to impact known bald eagle roost sites, allocations and/or group size restrictions or other measures will be implemented to reduce disturbance. If allocations and group size limits are implemented, they will be developed in accordance with the **Group Size** and **Recreation Allocation** provisions of this Plan.

FW-11 Trail construction will generally be limited to the Frontcountry and Passage Zones. Project level assessments of least-impacting trail locations will be completed before construction of any trails that are in close proximity to bald eagle roost sites. Designated primitive camping areas, picnic areas, and trailheads will not be located in areas of known roost sites for bald eagles. Every effort will be made to protect potential roosting areas in the Monument+ from human disturbance activities.

FW-12 The use of poisons for Wildlife Services (Animal Damage Control) purposes will not be permitted in the Monument+ due to safety concerns and potential conflicts with Monument+ resources including bald eagles. All control will be coordinated with Wildlife Services, as described in the **Wildlife Services** section of this chapter. Control actions by the State of Utah, or actions taken under State law by private citizens, are not affected by this provision.

FW-13 If recreation activities (e.g., hiking, camping, backpacking) are determined to impact known peregrine falcon nest sites, allocations and/or group size restrictions or other measures will be implemented to reduce disturbance. If allocations and group size limits are implemented, they will be developed in accordance with the **Group Size** and **Recreation Allocation** provisions of this Plan.

FW-14 Project level assessments and consultation with the USFWS will be completed before construction of any trails within 1 mile of falcon nest sites. Designated primitive camping areas, picnic areas, and trailheads will not be located within 1 mile of known falcon nests. This 1 mile buffer is recommended in the "Utah Field Guide for Raptor Protection from Human and Land Use Disturbances" (USFWS, 2002a).

FW-15 Criteria for designation of climbing areas will be established for the Monument+. These criteria will not allow climbing areas to be designated in known peregrine falcon nest sites. If new sites are identified as occupied for nesting in areas designated for climbing, seasonal closures will be established in those areas to assure that disturbance of nesting activities does not occur.

FW-16 Activity level environmental assessments will be required before the use of any chemical substances that may reach Lake Powell through the Escalante River.

FW-17 Honeybee apiaries will not be permitted on Monument+ lands.

4. Special Status Animal Species

Objectives

- work with State, local, and Federal partners to minimize or eliminate the need for additional listing of species under the Endangered Species Act, and to contribute to the recovery of species already listed as such.
- take measures to promote the recovery and conservation of all special status animal species within the Monument+ (including Federally listed endangered and threatened species, candidate species, and State sensitive species) in accordance with applicable Endangered Species Act of 1973 regulations (50CFR402) and BLM policy (6840 Manual, IM UT No. 97-66). Manual 6100 and Manual 6220.

Management

SSA-1 The BLM will continue to ensure that authorized actions do not jeopardize the continued existence of any special status animal species or result in the destruction or adverse modification of critical habitats.

SSA-2 Consultation with the USFWS will occur when activities are proposed in areas with listed or candidate species. Coordination with the U.S. Forest Service, the UDWR, and the National Park Service will occur in areas where species cross jurisdictional lines. The BLM will work with these agencies to develop recovery plans, when needed, and to implement existing recovery plans for all listed species.

SSA-3 Surface disturbing research activities will generally not be allowed in threatened or endangered species habitat. All scientific research projects in close proximity to listed species populations or habitat will be evaluated by Monument+ biologists, the USFWS, and appropriate experts prior to initiation to determine impacts to these populations or habitat. Any research project that may have an effect on populations of listed species will be coordinated with the USFWS and appropriate permits and Section 7 consultation will be completed as determined necessary. Projects which provide new information and understanding of listed species, their populations, and/or their habitat, may be allowed after approval by the BLM and the review and issuance of permits by the USFWS. All projects will be evaluated on a case-by-case basis.

SSA-4 Fuelwood cutting is restricted to designated areas, none owhich occur in known nesting or roosting habitat. These areas are small in size and are unlikely to affect foraging activities of raptors or other listed species. Future identification of fuelwood cutting areas will consider listed animal populations and habitats prior to designation.

SSA-5 Vegetation Restoration methods will not be allowed in areas where special status species roost or nest (unless consultation with USFWS indicates no effect or a beneficial effect to species).

SSA-6 There will be an active noxious weed control program in the Monument+, This program will focus on areas where habitat, including special status animal species habitat, is being lost due to changes in the water table and changes in vegetation structure and composition caused by noxious weeds. This weed control program will include the use of volunteer groups, BLM employees, county personnel, contractors, and adjacent agency personnel when appropriate. This program will target species in a prioritized manner. Priorities for weed control may include: invasiveness of the species, extent of invasion, sensitivity of the area being invaded, and accessibility.

Special status animal species habitat jeopardized by noxious weed invasions will be a high priority for control efforts.

SSA-7 BLM law enforcement personnel and increased field presence of BLM personnel will concentrate efforts in areas with special status species habitat in order to curbnon-compliance activities. The

BLM has established a cooperative law enforcement agreement with the Sheriff department in Kane County and is pursuing an agreement with Garfield County to facilitate shared law enforcement and support for enforcing established closures.

SSA-8 Livestock grazing allotments will be evaluated, and grazing as it relates to all endangered species will be addressed during this process. Evaluations will incorporate the latest research and information in the protection of species. Section 7 consultation will be conducted for all allotments that may affect listed species during the individual allotment evaluations. This process will provide protection for listed and sensitive species as the evaluation will be site specific for each of the allotments.

SSA-9 As described in the **Water** section, priority will be to maintain natural flows and flood events. The measures described in that section will be initiated to accomplish this goal. In addition, the maintenance of instream flows will provide adequate water for natural structure and function of riparian vegetation, which serves as habitat for many special status animal species.

Mexican Spotted Owl *(Strix occidentalis lucida)*

Spotted owls were listed as Threatened in 1993, In 2004, critical habitat was designated, including within GENM. In 2012, the recovery plan was revised..

SSA-10 Fire suppression activities will be evaluated by fir resource advisors prior to implementation to provide appropriate protection measures in spotted owl habitat.

SSA-11 If recreation activities (e.g., hiking, camping, backpacking) are determined to impact known nest sites, allocations and/or group size restrictions or other measures will be implemented to reduce disturbance. If allocations and group size limits are implemented, they will be developed in accordance with the **Group Size** and **Recreation Allocation** provisions in this Plan.

SSA-12 Trail construction will generally be limited to the Frontcountry and Passage Zones. Project level assessments and consultation with the USFWS will be completed before construction of any trails that are in close proximity to owl nest sites. Designated primitive camping areas, picnic areas, and trailheads will not be located within ½ mile of known spotted owl nesting, unless consultation with USFWS determines that impacts to nesting birds will not occur. This ½ mile buffer is recommended in the "Utah Field Guide for Raptor Protection from Human and Land Use Disturbances" (USFWS, 2002a).

SSA-13 Criteria for designation of climbing areas will be established for the Monument+. These criteria will not allow climbing areas to be designated in known Mexican spotted owl nest sites. If new nest sites are identified in areas designated for climbing, seasonal closures will be established in those areas to assure that disturbance of nesting activities does not occur.

SSA-14 A comprehensive inventory for spotted owls in the Monument+ was begun in 1999. This is a multi-year project that will look at occurrence of owls, current habitat, and potential habitat (i.e., habitat that is potential if modifications were made to that habitat). After the surveys are completed, the BLM will designate protected activity centers in accordance with the recovery plan. Activities such as recreational use in these protected areas may be limited (as described in SSA-18) to help protect this species.

Southwestern Willow Flycatcher *(Empidonax traillii extimus)*

For the purposes of the Endangered Species Act, all breeding southwestern willow flycatchers in Monument+ are endangered southwestern willow flycatchers. Non-breeding southwestern willow flycatchers confirmed outside the June 22 to July 10 window may or may not be endangered willow flycatchers.

SSA-15 Actions which promote the recovery and conservation of this species and habitat will be encouraged and all activities will conform with the Final Recovery Plan Southwestern Willow Flycatcher (*Empidonax traillii extimus*) (USFWS 2002b)

SSA-16 Livestock will be excluded from suitable SW flycatcher habitat (whether occupied or unoccupied) during the growing season (bud break to leaf drop). Unsurveyed suitable habitat should be considered occupied. If livestock are excluded using fencing, fencing will be inspected and maintained annually

California Condor *(Gymnogyps californianus)*

The California condor has been protected as an endangered species by federal law since 1967. The California condor population in northern Arizona and southern Utah is designated as nonessential and experimental under section 10(j) of the Endangered Species Act [Federal Register (Vol. 61, No. 202) October 16, 1996, pp. 54044-54060]. An agreement between the counties in Utah and the USFWS outlines a positive working relationship, and a USFWS report on condor recovery is to be issued every five years.

SSA-16 Although Section 7 consultation is not required for this species, the USFWS and the BLM will discuss this species. Efforts will be made to protect potential habitat for this species and to limit activities which may be detrimental to their existence in cooperation with the counties and the USFWS.

Kanab Ambersnail *(Oxyloma hadeni kanabensis)*

Kanab ambersnail was listed as endangered in 1992, and a recovery plan was prepared in 1995. In Utah, the Knab ambersnail is known to exist in two small populations outside the Monument+; a third population is in Arizona. Although Kanab Creek is a drainage not connected to the Monument+, there is the potential for this species to occur within the Monument+. Surveys for this species were initiated in 1999. in potential habitat, moist seeps, and along water courses in the Monument.

SSA-24 Actions will be taken to improve identified habitat as consistent with the recovery plan objectives. Actions may include assuring flows in appropriate streams and seeps by removing non-native plants affecting the water table and reducing impacts from visitors and/or livestock Surveys will also identify current habitat and habitat that is potential if modifications are made.

SSA-25 All potential Kanab Ambersnail habitat in Monument+ will be surveyed or re-surveyed at least once every ten years.

5. Geology

Objectives

- Manage uses to prevent damage to the geomorphologic features (small-scale expressions of geological processes) and manage uses to minimize activities in high-hazard areas,
- increase public education and appreciation of geologic resources through interpretation, and
- facilitate appropriate geologic research to improve understanding of geologic processes within the Monument+.

Management

GEO-1 Efforts to inventory and assess the potential for geologic hazards as they might relate to visitor safety, visitor facilities, rights-of-way, communication sites, and transportation routes will continue.

GEO-2 Visitor activities could be restricted in high-hazard areas or in areas where damage to sensitive geomorphologic features may occur. Examples include restrictions on camping in known flood channels, debris basins, or sensitive soil areas.

GEO-3 The design or placement of designated primitive camping areas, trailheads, or communication structures may be affected by geologic hazards. Prior to construction of any of these facilities, surveys will be conducted to assess impacts to geologic resources in the Monument+.

6. History

Objectives

- Identify, document, and protect the historic resources of the Monument+,
- manage uses on the Monument+ to prevent damage to historical resources,
- increase public education and appreciation of historic resources through interpretation, and
- facilitate appropriate research on historic resources so that the Monument+ is recognized as an outdoor classroom and laboratory for the preservation, study, and appreciation of cultural heritage.

Management

HIST-1 In order to protect important historic resources, the BLM will continue to inventory the Monument+ to identify historic resources and to evaluate their potential for conservation, research, or interpretation. This will include efforts to evaluate historic and cultural properties for nomination to the National Register of Historic Places. Surveys in high-use areas such as along trails and open routes will be prioritized to ensure protection of vulnerable resources. Beyond these areas, inventory and research efforts will be expanded to fill in the information gaps and complete research that will contribute to protection of sites and support adaptive management.

HIST-2 All proposed projects will be required to include a site inventory for historic resources, and appropriate strategies will be used to protect sensitive sites. This will include avoiding the site altogether, restricting access to the sensitive resource (i.e., construct barriers), interpreting the resource, stabilizing the resource, or as a last resort, excavating and curating the resource.

HIST-3 The BLM will establish continuing collaborative programs with local communities, organizations, local and State agencies, Native American Indian tribes, outfitters and guides, volunteers, and other interested parties. This will be done in order to identify, inventory, monitor, and develop and

implement plans for the restoration, stabilization, protection, and/or interpretation of appropriate sites and resources within the Monument+. The collaborative programs will include the continuation of the current Oral History Program in cooperation with local communities. The BLM will use the information collected to create a better understanding of cultures and communities and will work to showcase the histories of the local communities.

7. Paleontology

Objectives

- Protect the abundant paleontological resources in the Monument+ from destruction or degradation,
- manage uses to prevent damage to paleontological resources in the Monument+,
- increase public education and appreciation of paleontological resources through interpretation, and
- facilitate appropriate paleontological research to improve understanding of paleontological resources within the Monument+.

Management

PAL-1 The BLM will continue to inventory the Monument+ for paleontological resources and evaluate their potential for protection, conservation, research, or interpretation. High use areas within the Monument+ will have high priority for inventory efforts. Beyond high-use areas, inventory and research efforts will be expanded to fill in the information gaps on formations and other information needs and to support adaptive management.

PAL-2 A monitoring program will be used to assess management needs of sensitive sites and areas. All proposed projects will be required to include a paleontological site inventory, and appropriate strategies will be used to avoid sensitive sites, restrict access to the sensitive resource (i.e., construct barriers), or as a last resort, excavate and curate the resource.

PAL-3 Public education and interpretation will be emphasized to improve visitor understanding of paleontological resources and to prevent damage. Collaborative partnerships with volunteers, universities, and other research institutions will be pursued to document, preserve, monitor or interpret sites consistent with the overall objective of protecting paleontological resources.

8. Riparian

Objectives

Manage riparian areas so as to maintain, where at potential, or restore to potential conditions and to ensure that stream channel morphology and functions are appropriate to the local soil type, climate, and landform.

Management

RIPA-1 Special status species habitat and ecological processes will be evaluated in all future riparian assessments. Management actions that prioritize recovery of these species will be implemented.

RIPA-2 All segments of riparian habitat previously inventoried will be reassessed every10 years. Furthermore, riparian areas that have not been evaluated in the past ten years will be scheduled for assessment within three years commencing on the first July 1 following approval of the Monument+ plan.

RIPA-3 Monitoring of riparian resource conditions will be established to determine when actions should be taken to ensure movement towards proper functioning condition on all riparian stream segments in the Monument+.

RIPA-4 Communication sites, and utility rights-of-way will avoid riparian areas whenever possible.

RIPA-5 Vegetation restoration methods will not be allowed in these areas, unless needed for removal of noxious weed species or restoration of disturbed sites. In these circumstances, consultation with the Monument+ Advisory Committee will be used to determine the most appropriate control and restoration methods to ensure proper protection.

RIPA-6 The noxious weed control program will target invasive species such as tamarisk and Russian olive, which will improve riparian functioning condition.

RIPA-7 New recreation facilities will be prohibited in riparian areas, except for small signs for resource protection.

RIPA-8 Trails will be kept out of riparian areas wherever possible. Where this is not possible, trails will be designed to minimize impacts by placing trails away from streams, using soil stabilization structures to prevent erosion, and planting native plants in areas where vegetation has been removed.

RIPA-9 Group size limits, beyond the restrictions provided in the various zones, may be imposed in these areas.

RIPA-10 The BLM will work with the Escalante River Watershed Partnership to review, approve and implement the Long-Term Monitoring and Maintenance Plan for the Escalante River Riparian Area within the Monument+ to prevent invasions of riparian habitat by Russian olive or other invasive species.

9. Soils and Biological Soil Crusts

Objectives

Manage uses to prevent damage to soil resources and to ensure that the health and distribution of fragile biological soil crusts are maintained, where at potential or improved, where below potential.

- Increase public education and appreciation of soils and biological soil crusts through interpretation, and
- Facilitate appropriate research to improve understanding and management of soil resources and biological soil crusts.

Management

SOIL-1 The BLM will apply procedures to protect soils from accelerated or unnatural erosion from any ground disturbing activity, including route maintenance and restoration. The effects of activities such as=mineral exploration or development, or water developments will be analyzed through the preparation of project specific National Environmental Policy Act (NEPA) documents. This process will include inventories for affected resources and the identification of mitigation measures.

SOI-2 The impacts of livestock trampling on loss of biological crusts and subsequent erosion will be considered in allowable uses by livestock. (Livestock Grazing, Section D)

SOIL-3 Prior to any ground disturbing activity, the potential effects on biological soil crusts will be considered and steps will be taken to avoid impacts on their function, health, and distribution. Long-term research toward preservation and restoration of soils will support adaptive management, Further research will be conducted on these crusts, and the results interpreted for management and education purposes.

SOIL-4 Biological soil crust data collection will be part of all range management evaluations (e.g., trend studies, frequency transects, and any other assessments or data collection).

SOIL-5 When planning road and trail construction, areas with high percentage cover of biological soil crust or high biodiversity conservation value (such as gypsiferous soils) will be avoided whenever possible. Enforcement of off-road vehicle regulations will be prioritized in these areas.

SOIL-6 Because several biological soil crust species and some vascular plant species are rare gypsum endemics, and gypsum soils cover very little Monument+ area, a system of small fenced reserves will be constructed to conserve habitat of the endemic biota.

SOIL-7 Soil surface disturbing projects will not be conducted in habitats of rare biological soil crust species, where biological soil crust diversity is high, or where removal of biological soil crust will degrade soil, hydrology, or biology ecosystem functions.

SOIL-8 The Monument+ will use management techniques to stabilize or protect crusts, including:

a. Reducing unnaturally frequent and intense fires, such as those resulting from annual grass invasions.
b. Concentrating recreational use by hikers and OHVs to reduce trampling and prevent disturbance.
c. Gathering information on the distribution of biological soil crusts, particularly rare species and where species diversity is concentrated, is important to define habitat characteristics and identify threats. Plant monitoring and inventory projects will include a moss and lichen species component. Specimens of biological soil crust will be collected and identified.
d. The effects of livestock trampling on loss of biological crusts and subsequent erosion will be considered in allowable uses by livestock i.e., availability and unavailability for livestock use (Livestock Grazing, Section D).
e. Relocate existing water development and nutrient block location to sites with low potential for biological soil crust development, such as rocky areas. Using brush barriers to divert trailing from sites with biological soil crust also helps prevent trampling damage.

10. Vegetation

Objectives

- Increase public education and appreciation of vegetation through interpretation,
- facilitate appropriate research to improve understanding and management of vegetation, and
- protect unique vegetation associations such as hanging gardens and relict plant associations.

Management

VEG-1. **The desired plant community (DPC) shall be defined by the Potential Natural Community (PNC). PNC is "(T)**he stable biotic community that would become established on an ecological site if all successional stages were completed without human interference under present environmental conditions." The PNC for each community on the Monument will be defined by the best available science. Sources of information include NRCS Soil Survey, NRCS GSENM

ecological site vegetation descriptions for specific soil types; reference sites/exclosures on Monument+, Rangeland Health assessments for reference areas; relict areas; and other relevant field data and scientific studies. PNC descriptions will contain information on state-and-transition models. Ecological Site Descriptions will be updated to reflect current knowledge on biological crusts and soil surface cover. BLM will document any departure from potential natural communities and adjust management to allow sites to move toward PNC.

VEG-2 The BLM will place a priority on the control of noxious weed species and prevent the introduction of new invasive species in conjunction with Kane and Garfield Counties and the adjacent U.S. Forest Service and National Park Service units. Further, in keeping with the overall vegetation objectives and Presidential Executive Order 11312, native plants will be used as a priority for all projects in the Monument+ (see the **Noxious Weed Control** section for related decisions).

VEG-3 The BLM will continue to coordinate with other organizations to inventory the Monument+ and evaluate the need for vegetation protection strategies. Such research will be coordinated as part of implementation and adaptive management, and the results will be interpreted for management and public education purposes.

VEG-4 All proposed developments or surface disturbing activities will be required to include a site assessment for impacts to vegetation. Appropriate strategies will be used to avoid sensitive vegetation associations, and restoration provisions will be included in projects.

11. Special Status Plant Species

Objectives

- The BLM will take measures to promote the recovery and conservation of all special status plant species within the Monument+ (including Federally listed endangered and threatened species, candidate species, and State sensitive species). This is in accordance with applicable Endangered Species Act of 1973 regulations (50 CFR 402) and BLM policy as updated in 2008 (Manual 6840;„"Special Status Species Management Manual"). Federally listed plant species are discussed in detail below. There are currently no candidate plant species present within the Monument+, and
- the BLM will continue to ensure that actions authorized do not jeopardize the continued existence of any special status plant species or result in the destruction or adverse modification of critical habitats.

Management

SSP-1 The BLM will continue to consult with the USFWS to ensure that actions authorized by the BLM do not jeopardize the continued existence of any Federally listed plant species or result in the destruction or adverse modification of critical habitats. Coordination with the U.S. Forest Service, the Utah Division of Wildlife Resources' Natural Heritage Program, and the National Park Service will also occur in areas where plant species cross jurisdictional lines. The BLM will work with these agencies to develop recovery plans, when needed, and to implement existing recovery plans for all listed species

SSP-2 No exceptions for cross-country vehicular travel will be made in known habitat or locations of sensitive plant species.

SSP-3 Disturbance, injury, or mortality of special status plants resulting from grazing by livestock will be minimized or eliminated. Where grazing by livestock is leading to adverse effects, conservation

measures will be implemented to reduce or mitigate damage to the plant species. Measures can include fencing, seasonal restrictions, or relocation of livestock developments.

SSP-3 Surface disturbing research activities will generally not be allowed in threatened or endangered plant species habitat. All scientific research projects in close proximity to listed species populations or habitat will be evaluated by Monument+ biologists, the USFWS, and appropriate experts prior to initiation to determine impacts to these populations or habitat. Any research project which may have an effect on populations of listed species will be coordinated with the USFWS.

SSP-6 Areas with threatened or endangered plants will be targeted for noxious weed control activities as a first priority. BLM employees or contractors with appropriate certification will be responsible for use of chemicals in noxious weed removal efforts, and will take precautions to prevent possible effects to non-target species.

SSP-7 Public education about protection of these species will be an integral part of projects and will be provided in interpretive displays and handouts at project sites and visitor centers around the Monument+. Information will also be included on the Monument+ website.

SSP-8 BLM law enforcement personnel and increased field presence of BLM personnel will concentrate efforts in areas with special status species habitat in order to curb non-compliance activities. The BLM is pursuing cooperative agreements with each of the Sheriff departments in Kane and Garfield Counties to facilitate shared law enforcement and support for enforcing established closures.

SSP-9 Communication sites, utility rights-of-way, and road rights- of-way will not be permitted in known special status species populations. As permits are granted for these sites and rights-of-way, surveys will be completed to determine the presence of special status species in the area. If they are found, these activities will be moved to another location.

SSP-10 Reseeding or surface disturbing restoration after fires will not be allowed in areas with special status plant species. Natural diversity and vegetation structure will provide adequate regeneration. Management ignited fires will also not be allowed in these areas unless consultation with the USFWS indicates that fire is necessary for the protection and/or recovery of listed species.

The following additional measures will be applied to specific listed species in order to promote the protection and recovery of these species. Other measures may be implemented and some may be terminated, as deemed necessary through evaluation of monitoring data in conjunction with the adaptive management framework

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Jones' Cycladenia *(Cycladenia humilis var. jonesii)*

SSP-11 There are oil and gas leases in the area where Jones' Cycladenia grows, some of which have been suspended

Stipulations to prevent impacts to these populations through avoidance or other conservation measures (after consultation with the USFWS) will be placed on any permits to drill for oil and gas. There are currently no mining or mineral operations in the area that will affect this population of plants or its habitat.

SSP-12 Inventories to locate new populations of this species will be conducted at least every ten years to provide more accurate information on distribution and to facilitate protection and recovery.

Kodachrome Bladderpod *(Lesquerella tumulosa)*

SSP-13 Cross-country vehicle travel is prohibited. There is one route open in the Kodachrome bladderpod area. This route will be open to street legal vehicles only.

SSP-14 Physical barriers as well as "closed" signs may be placed in strategic locations to prevent access into areas where the Kodachrome bladderpod grows. Restoration in closed areas may occur to eliminate impacts and return the area to pre-disturbance condition. Monitoring will continue in order to determine effects of closures and to measure the resilience of the population.

SSP-15 Additional monitoring sites will be developed in strategic locations to measure impacts to the population, following established protocols. If, through monitoring, impacts to the population from visitors are identified, visitor allocations or other measures will be imposed to eliminate any further impacts from increased visitation and use. Group size and numbers of groups allowed in the area, as well as the types of activities allowed, could be limited.

SSP-16 Trails, parking areas, or other recreations facilities will not be allowed in the Kodachrome bladderpod population.

SSP-17 Camping, overnight stays, and campfires will not be allowed in the Kodachrome bladderpod population.

SSP-18 No livestock waters or supplements will be placed within or near any populations.

Ute Ladies'-tresses *(Spiranthes diluvialis)*

The USFWS found that the 1999 Monument Management Plan will affect, but is not likely to jeopardize the continued existence of the Ute ladies'-tresses, provided the conservation measures in the Biological Assessment and that Management Plan are taken.

SSP-19 Priority will be to maintain natural flows and flood events. In addition, the maintenance of instream flows will provide adequate water for natural structure and function of riparian vegetation. Ute ladies'-tresses relies on these natural flood events to colonize new areas and maintain healthy and viable populations.

SSP-20 Surveys for this species were initiated in the 1999 growing season and results of this survey will be used to determine any further actions.

SSP-21 Appropriate actions will be taken to prevent trampling of the plants by visitors in high-use areas. These actions may include replanting native vegetation or construction of barriers.

SSP-22 Areas may be closed if necessary to protect these plants. Barriers will be constructed and restoration work initiated to stabilize the soil and banks and provide the best possible habitat for this plant.

SSP-23 No expansion of current or new facilities will be permitted where this plant grows.

SSP-24 Existing trails in areas where this plant grows will be relocated away from the plants and potential habitat when possible. These protection measures apply to current as well as future potential habitat areas for this species.

SSP-25 Interpretive materials will be developed to educate the public about Ute ladies'-tresses and the actions being implemented to protect it.

SSP-26 Restoration of social trails in known populations will be initiated, including obliteration of the trail by planting native species, and moving soil to return the area to its natural grade. Group size restrictions, allocations, or other measures will be initiated if continued monitoring indicates that visitor use in the area is causing impacts.

Stipulations to prevent impacts to these populations through avoidance or other conservation measures (after consultation with the USFWS) will be placed on any permits to drill for oil and gas.

12. Relict Plant Communities and Hanging Gardens

RHG-1 Vegetation restoration methods will not be allowed in these areas, unless needed for removal of noxious weed species. In these circumstances, consultation with the Monument+ Advisory Committee will be used to determine the most appropriate control methods to ensure proper protection.

RHG-2 No new water developments will be authorized in these areas. Maintenance activities will be allowed if these resources are not affected.

RHG-3 Surface disturbing research will not be allowed in these areas.

RHG-4 Parking areas or other recreation facilities will not be allowed in these areas.

RHG-5 Camping, overnight stays, and campfires in these areas will not be allowed.

RHG-6 Group size limits may be imposed in relict plant areas to restrict use beyond the restrictions provided in the various zones. Most of these areas occur in the Primitive Zone which has limits of 12 people and 12 pack animals.

RHG-7 Pack animals will not be allowed in relict plant areas.

RHG-8 Communication sites and utility rights-of-way will not be allowed in these areas.

RHG-9 Inventories, modeling, and field investigations for both relict plant communities and hanging gardens will be conducted and/or revised at least every ten years. Current information on the location of these associations in the Monument+ is largely anecdotal and may change following consideration of inventory data.

13. Vegetation Restoration Methods

Objectives

- Restore and promote a natural range of native plant associations in the Monument+.
- Methods and projects which do not achieve this objective or which irreversibly impact Monument+ resources will not be permitted.

Management

RM-1 Manual methods, including manual pulling and the use of hand tools (e.g., chainsaws, machetes, pruners) may be allowed throughout the Monument+.

RM-2 The use of machinery for restoration of native vegetation may be allowed in all zones except the Primitive Zone. Due to the potential for irreversible impacts to other Monument+ resources, such as archaeological sites and artifacts, paleontological resources, and biological soil crusts, soil-disturbing machinery (chaining, Dixie harrow, mastication) will not be used to remove pinyon and juniper.

RM-3 Chaining may be allowed only to cover rehabilitation seed mixes with soil after wildfires only where:

- noxious weeds and invasive non-native species are presenting a significant threat to Monument+ resources or watershed damage could occur if the burned area is not reseeded,
- it can be demonstrated that Monument+ resources will not be detrimentally affected (i.e., completion of full archaeological, paleontological, threatened and endangered species and other resource clearance and consultation),
- it is determined that seed cover is necessary for the growth of the native species proposed for seeding, and
- other less surface disturbing measures of covering seed are not available or cannot be applied in a timely manner.

The Monument+ Advisory Committee will be consulted before the use of machinery for treatments is permitted.

RM-4 Livestock grazing after native seedings are established will be modified to ensure the survival of the native plants. The livestock exclusion period required to allow full establishment of seeded native species and recovery of surviving native plants after a wildfire may be more than two years. Site evaluation will be required to determine when the native seedings should be grazed again and the effectiveness of the current or new grazing system on the persistence of native plants.

RM-5 Chemical methods will generally be restricted to the control of noxious weed species, and are discussed in that section. The use of chemicals may also be allowed in conjunction with research projects and must lead to the achievement of the overall vegetation objectives. These activities will be approved as determined appropriate through consultation with the Monument+ Advisory Committee.

RM-7 Management ignited fire may be used for vegetation restoratation when fire has been documented to historically occur in an area, where various factors have prevented natural fire cycles from occurring, and where cheatgrass or other invasive vegetation is not present. In these circumstances, management ignited fires may be used, and will attempt to simulate natural fire intensity and timing. Specific objectives for all management ignited fires will be developed prior to its use in the Monument+. All fire activities will be conducted and coordinated with appropriate fire management personnel, as provided for in the Color Country Interagency Fire Management Area annual operating plan.

RM-8 With all of the methods described above, vegetation monitoring plots, including fenced control plots, will be established to determine the effectiveness of the treatments in achieving management objectives and to provide baseline data of overall change. This monitoring will include species frequency, density, and distribution data, and will be part of overall adaptive management.

14. Noxious Weed Control

NW-1 The BLM will control noxious weeds in accordance with National and State policies and directives. Control of noxious weeds is also a priority to achieve the overall vegetation objectives.

NW-2 Projects will be designed in conjunction with Kane and Garfield Counties and adjacent U.S. Forest Service and National Park Service staffs. With this strategy the BLM hopes to control noxious weed species and prevent introduction of new invasive species into the Monument+ and surrounding ecosystems.

NW-3 An array of methods will be used as appropriate for the control of specific noxious weed species. These methods include: the use of chemicals (aerial spraying, hand spraying, and painting), hand cutting, biological control agents, and manual pulling. Each of these methods has a place in the control of these invasive species and will be evaluated for their effectiveness as eradication projects are designed.

NW-4 BLM employees or contractors with appropriate certification will be responsible for use of these chemicals and will take precautions to prevent possible effects to non-target plant species.

NW-5 Aerial chemical applications may only be used in limited circumstances where:

- accessibility is so restricted that no other alternative means is available,
- it can be demonstrated that non-target sensitive species or other Monument+ resources will not be detrimentally affected, and
- noxious weeds are presenting a significant threat to Monument+ resources.

The Monument+ Advisory Committee will be consulted before the aerial application of chemicals is permitted.

NW-6 The noxious weed control program will target species in a prioritized manner. Priorities for weed control may include: invasiveness of the species, extent of invasion, sensitivity of the area being invaded, and accessibility. Areas with special status species habitat will have a high priority for weed removal. Project level environmental assessments or other NEPA analysis will be completed prior to noxious weed removal project initiation.

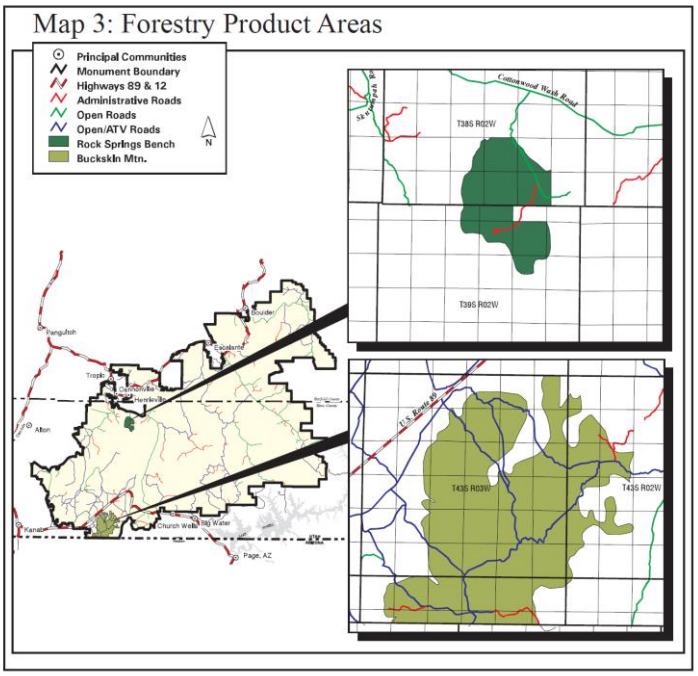
NW-7 In addition to strategies for control of established noxious weeds, it is also imperative to reduce the introduction of noxious weed species as stated in Presidential Executive Order (EO 11312) on invasive species. Cooperative programs established for control of these species will also help identify potential new invasions before area-wide establishment has occurred. There are two policies which will help to reduce potential noxious weed introduction.

- First, the BLM requires that all hay used on BLM lands be certified weed free. This is a statewide policy which applies to the Monument+, as well as all other BLM lands in the State of Utah.
- Second is the requirement that all machinery that has been used outside the Monument+ be cleaned prior to use in the Monument+. This provision generally applies to contract equipment used for projects such as construction of facilities and firefighting equipment. Both of these provisions will help reduce the introduction and spread of noxious weed species in the Monument+.

NW-8 For major removal projects, monitoring plots will be established in key areas to determine effectiveness of methods and presence of noxious weed species. All projects will contain restoration and/or revegetation protocols to minimize re-colonization of treated areas by noxious weed species. Monitoring in these areas will be part of adaptive management.

15. Forestry Products

FP-1 Fuelwood harvesting, post cutting, and Christmas tree cutting will be allowed by permit only within designated areas (Map 3 or other future areas that go through a written investigation, analysis and public comment period). Commercial fuelwood cutting will be limited and authorized in designated areas only. There are currently two forestry product areas located in the Monument+: Rock Springs Bench area and Buckskin Mountain area.



Map 3. Forestry Product Areas

FP-2 Additional areas may be designated to meet the overall vegetation management objectives, but will not be allowed outside already disturbed areas. All cutting areas will be designated under a permit system, with maps provided to assure compliance.

FP-3 In general, the off-highway vehicle restrictions discussed in the **Transportation and Access** sections will apply to forestry product areas (i.e., travel will be allowed only on designated routes and vehicles will be permitted to pull no more than 50 feet off designated routes in the Outback Zone). However, because forestry product collection activities are controlled by a permit and permits are issued to further overall management objectives, the BLM could authorize access on administrative routes and, in some cases, in areas more than 50 feet away from routes. These areas/provisions will be delineated in the permit prior to its issuance.

FP-4 No commercial timber harvesting is authorized within the Monument+.

16. Native vs. Non-native Plants

NAT-1 In keeping with the overall vegetation objectives and Presidential EO 11312, native plants will be used as a priority for all projects in the Monument+.

NAT-2 Non-native plants may be used in limited, emergency situations. An emergency is a situation that, if action is not taken, would result in the immediate, severe degradation of soil, hydrology, or biotic conditions. If this degradation would hinder re-establishment of native communities, remedial action

must be taken as soon as possible to prevent further resource degradation. In these situations, the restoration plants selected will be short-lived nurse crop species that are not competitive with natives, will not persist longer than a few years, and are unlikely to spread from the project site. In addition, they will be combined with native species to facilitate the ultimate establishment of native communities. This use will be allowed to the extent that it complies with the vegetation objectives, and implements research protocols that monitor for unintended consequences such as non-natives species outcompeting natives. Native plants will be dominant within 10 years, or an active plan for removal of non-natives and re-establishment of native species will be implemented.

NAT-3 All projects proposed in the Monument+ will contain a restoration or revegetation component and will budget for the cost of seeding with native species. All planning for projects, in all except limited, emergency situations, will use native species, and the use of non-native species will not be analyzed as an alternative.

NAT-4 The priority for existing seedings will be to restore native communities as defined by the Ecological Site Descriptions and Potential Natural Community for the appropriate sagebrush grassland/soil type from the GSENM monument soil map.

NAT-5 Non-native plants may be used for restoration-related research if the use is consistent with and furthers the overall vegetation management objectives, including NAT-2 above, and after consultation with the Monument+ Advisory Committee.

NAT-6 Non-native plants will not be used to increase forage for livestock and wildlife.

NAT-7 Monitoring plots, including adequate-size exclosures, will be established in any areas treated in order to document changes in vegetation structure and composition and will be an integral part of adaptive management.

17. Reseeding after Fires

SEED-1 When deciding whether to reseed after fires, there are many factors that should be considered. The overriding consideration is the vegetation management objective and priority to use native plants. In trying to make the determination of whether seeding will help attain these objectives, there are other considerations: (1) the structure and diversity of vegetation in the area before it burned, and (2) the presence of noxious weeds in the area and the likelihood of such weeds increasing as a result of a fire. Areas with high species diversity and little potential for noxious weed spread will not be reseeded. Areas that had little diversity and little potential for noxious weed invasion will be seeded with native species exclusively. Areas of low diversity and high potential for noxious weed invasion will most likely be seeded, and non-native/native seed mixes could be used if it was determined that timing was critical and non-native species will help prevent weed spread. Each fire will have to be evaluated on a case-by-case basis to determine the appropriate actions to meet the established vegetation management objectives. Actions may change over time as a result of new research or other information in accordance with adaptive management. If seeding with non-natives is deemed necessary, it will be in accordance with the provision stated above (short- lived, nurse crop species with natives in the mix).

SEED-2 The use of aircraft in reseeding operations may be allowed in areas as appropriate. In areas with raptor species, timing will be appropriate to eliminate impacts to these species.

18. Restoration and Revegetation

Restoration is the process of returning disturbed areas to a natural array of native plant and animal associations. Revegetation is the process of putting vegetation back in an area where vegetation previously existed.

REV-1 Many factors will be considered when deciding to implement a revegetation or restoration strategy. Each project and area to be treated will be evaluated to determine the appropriate strategy. The following general guidelines can be applied to determine which strategy is the most appropriate and how it will be implemented in order to be consistent with the overall vegetation management objectives.

- Restoration will be the goal whenever possible (i.e., an attempt will be made to return disturbed areas to conditions which promote a natural array of native plant and animal associations).
- Species used in both restoration and revegetation projects will comply with the non-native plant policy described above (i.e., native plants will be used except in emergencies as described in NAT-2).
- Revegetation strategies will be used in areas of heavy visitation, where site stabilization is desired.
- Restoration provisions will be included in all surface disturbing projects including provisions for post restoration monitoring of the area. Costs for these activities will be included in the overall cost of the project and will come out of the entire project budget.
- Priority for restoration or revegetation will be given to projects where Monument+ resources are being damaged. These sites will likely be in areas near development and/or heavy visitor use. Although these areas are more likely to be candidates for revegetation projects, careful evaluation of disturbed sites needs to be conducted to include desired future condition of an area. Restoration or revegetation of areas receiving heavy use may include limits on visitor use in order to promote recovery.

19. Water

Objectives

The BLM's objectives with respect to water resources will be to:

- ensure that appropriate quality and quantity of water resources are available for the proper care and management of the objects of the Monument+,
- increase public education and appreciation of water resources through interpretation, and
- facilitate appropriate research to improve management of water resources.

Management

WAT-1 Ensure that land management policies protect water resources. Since much of the water important to the Monument+ falls as precipitation within the Monument+, its continued availability can be ensured by appropriate land management policies within the Monument+. The BLM will exercise its existing land management authorities to protect and maintain all available water and natural flows in the Monument+.

- In the limited cases where water is needed for a visitor facility, the acquisition of State appropriative water rights (discussed above) should be possible

- New water developments can only be done when a NEPA analysis determines this tool to be the best means of achieving the above objectives and only when the water development will not dewater springs or streams.

- In general, diversions of water out of the Monument+ will not be permitted. There is an existing small-scale diversion of groundwater out of the Monument+ for the domestic water supply of the nearby town of Henrieville. This Plan does not prohibit the continuation of this diversion, nor its expansion, if necessary, to meet the municipal needs of population growth in Henrieville. Any proposed new groundwater diversion to meet Henrieville's municipal needs could be approved, consistent with the Plan, if the BLM and the Utah State Engineer complete a joint analysis to determine that such development would not adversely impact springs or other water resources within the Monument+, and the BLM completes an environmental review analysis for public review under NEPA. Exceptions could be considered for other local community culinary needs if the applicant demonstrates, with independent professional review, that the diversion of water will not damage water resources within the Monument+ or conflict with the objectives of this Plan.

WAT-2 Monitor to ensure water flowing into the Monument+ is adequate to support Monument+ resources. The BLM will also assess whether the water flows coming into the Monument+ continue to be adequate. The BLM will work with the Water Resources Division of the U.S. Geological Survey, the Utah Department of Natural Resources, and others to gather comprehensive information concerning precipitation, surface water flows, and subsurface water flows into and out of the Monument+. This could include establishing additional stream-gauging stations at selected locations, and continued inventorying of water sources such as seeps, springs, and wells. Established climate-data stations will be an integral part of the hydrologic monitoring network.

Some of the main objectives of water resource investigations will include, but will not be limited to:

- Conceptualizing the surface and ground-water systems, and their interactions at the regional (Monument+) scale.
- Subdividing the Monument+ into smaller-scale hydrologic "compartments" on the basis of hydrologic and geologic attributes. Attributes, among others, could include surface-water drainage areas, aquifer systems, precipitation zones, hydraulic conductivity of surficial deposits and bedrock.
- Cataloging and classifying hydrologic attributes of the compartments, and establishing appropriate long-term monitoring programs to collect spring and stream discharge and water chemistry data.
- Quantifying hydrologic processes such as surface-water and ground-water exchange, and precipitation, runoff, and sediment transport relationships within each compartment. In addition to new stream and spring monitoring stations, the existing network of climate stations will serve to gather appropriate data.
- Determining direct and indirect effects of humans on hydrologic attributes of each compartment and subsequent effects on Monument+ resources.

The priority in data collection effort will be to collect data on flows entering the Monument+. This will be done in order to ensure sufficient base and peak flows to support Monument+ resources.

WAT-3 *Pursue other options for assuring water availability, if needed.* At any point that the above data collection and assessment effort suggests that adequate water to protect Monument+ resources is not entering the Monument+, or that water is otherwise being depleted to the detriment of the Monument+, other measures for assuring water availability will be taken. These measures could include:

- Cooperation with other Federal agencies that may already have Federal reserved water rights. Glen Canyon National Recreation (GCNRA) is a Federal reservation and has a Federal reserved water right (as yet unquantified) which could indirectly provide adequate protection to the Monument+ resources. If the United States successfully establishes a Federal reserved water right for GCNRA, that water right would have a priority date of about 1965. The Monument+ will benefit from this water right, because some of the water necessary to satisfy the GCNRA's water needs will pass through the Monument+. The BLM will begin discussions with GCNRA to quantify this water right.

- Continue discussions with the Utah State Engineer (Utah Division of Water Rights), Utah Division of Water Resources, and State and local water users to identify how nearby communities could secure water supplies for expected future growth without interfering with the water flows needed for Monument+ resources. These discussions will include negotiations toward an agreement between the State and local water users similar to the agreement recently reached for Zion National Park. The Zion agreement (reached between the Department of the Interior, the State of Utah, and local water users) allows additional future non-Federal development of water that could affect the Park, but caps it, and protects the continuation of "spike" or flood events in the Par environment. The BLM will explore options with the State of Utah and local communities, perhaps based on the Zion National Park model, for securing local water needs without jeopardizing the water needs of the Monument+. If such an agreement is reached, or if any other agreement is reached with the State under the options below, segments of rivers determined to be suitable for Wild and Scenic River designation in this Plan would be managed in accordance with that agreement.

- Other options are available to the BLM for assuring water availability. These are summarized below.

    ° Appropriative Water Rights Under State Law - options in this category include: Pursuing a cooperative agreement between the BLM and one of the State agencies authorized to acquire and hold an instream flow right (where the State agency has a similar interest in protecting a particular resource);
    ° approaching the Utah State Engineer with a request to use his authority to protect natural flows in the Monument+ by denying water rights applications where the water would serve a more beneficial purpose by remaining in the channel; and,
    °converting BLM held water rights that may no longer be needed for grazing to wildlife rights after an appropriate proceeding to change the water right in the Office of the State Engineer.

·Federal Reserved Water Rights - The Grand Staircase-Escalante National Monument Proclamation does not reserve water as a matter of Federal law. It does not, however, abolish or defeat the BLM's claims to Federal- law-based water rights under other reservations or proclamations. Options in this category include:

    ° Public water reserves;
    ° Wild and Scenic Rivers (upon designation by Congress, or the Secretary of the Interior upon application of the Utah Governor); and
    ° Congressional reservation of unappropriated water; and, by Presidential Proclamation.

Strategy for Assuring Water Quality

WAT-4 All activities on Monument+ will be assessed for their contributions to compliance with water quality standards established by the State of Utah (R.317-2) and the Federal Clean Water and Safe Drinking Water Acts.

The following list shows 303(d) waters within the Monument+ and their associated load problems [Utah Department of Environmental Quality (UDEQ), Utah Division of Water Quality (UDWQ), 2018.] The list will be updated annually.

- Paria River from start of Paria River Gorge to headwaters - temperature, total dissolved solids
- Paria River 2 from Cottonwood Creek confluence to start of Paria Gorge - temperature, total dissolved solids
- Paria River 3 Paria River and tributaries from AZ/UT state line to Cottonwood Creek confluence - O/E [observed-to-expected] bioassessment, total dissolved solids
- Escalante River Upper (from Boulder Creek confluence to Birch Creek confluence) - O/E bioassessment, total dissolved solids
- Calf Creek (confluence with Escalante River to headwaters) – temperature
- Wahweap Creek and tributaries from Lake Powell to headwaters - selenium, temperature
- Chance Creek and tributaries from Lake Powell to headwaters - O/E bioassessment, total dissolved solids
- Cottonwood Creek and tributaries from confluence with Paria River to headwaters - dissolved oxygen
- Johnson Wash 1: Johnson Wash and tributaries from UT/AZ state line to Skutumpah Canyon confluence - selenium, boron, total dissolved solids
- Johnson Wash 2: Johnson Wash and tributaries from Skutumpah Canyon to headwaters - dissolved oxygen, O/E bioassessment, temperature, zinc, copper, lead, total dissolved solids, copper

WAT-5 Activities on BLM Lands will fully support the designated beneficial uses described in the Utah Water Quality standards (R.317-2) for surface and groundwater as indicated by: Water quality parameters, including but not limited to nutrient loads, total dissolved solids, chemical constituents, fecal coliform, water temperature and algae meet standards

WAT-6 The BLM will request that the State of Utah accelerate development of TMDLs for 303(d) waters in the Monument+.

WAT-7 The BLM will continue to develop a water quality monitoring program at 60 sites in conjunction with the UDWQ to ensure that State and Federal water quality standards are met. In addition, the BLM will develop a comprehensive water quality monitoring program to ensure the protection of Monument+ resources and visitor safety. The BLM will continue to work with UDEQ/UDWQ as water quality improvement programs and TMDLs are developed.

WAT-8 Water quality monitoring will be implemented as a required part of all authorizations which could adversely affect water quality. Mitigation will be required if adverse effects are detected.

Management of Visitors and Other Uses

20. Camping

CAMP-1 Camping in developed campgrounds or in designated primitive camping areas will be allowed in the Frontcountry and Passage Zones. Dispersed primitive camping will not be allowed in these zones.

CAMP-2 Dispersed primitive camping will be allowed in the Outback and Primitive Zones, but primitive camping could be limited to certain designated areas in these zones if resource damage occurs.

CAMP-3 Permits will be required for overnight use in all zones.

CAMP-4 Designated primitive camping areas are places where the BLM has identified and designated areas for camping use. These areas will not have any developments, other than a small sign or barriers to delineate the site.

CAMP-5 Motorized or mechanized vehicles may pull off designated routes no more than 50 feet for direct access to dispersed camping areas in the Outback Zone, except in WSAs, threatened and endangered plant areas, relict plant areas, riparian areas, or other areas identified. Visitors will be encouraged to use existing disturbed areas for pulling off routes to access camping areas and are required to leave existing vegetation intact. In the Frontcountry and Passage Zones, vehicles will be confined to using designated pullouts and will not be allowed to pull off the route, except as provided for in emergencies (see **Emergency and Management Exceptions** for related decisions).

CAMP-6 Campfires will not be allowed in the Escalante and Paria/Hackberry Canyons, No Mans Mesa, and other relict plant areas as they are identified. Campfires will also be prohibited in archaeological sites, rock shelters, or alcoves Monument+-wide.

CAMP-7 Campfires will be allowed only in designated fire grates, designated fire pits, or mandatory fire pans in the Frontcountry and Passage Zones, and wood collection for campfires will not be permitted. In the Outback and Primitive Zones, fire pans will be encouraged and dead and down wood may be collected in areas where campfires are allowed.

21. Climbing

CLMB-1 Climbing will not be allowed in archaeological sites, on natural bridges or arches, or within identified threatened and endangered species nesting areas.

CLMB-2 Climbing areas may be seasonally closed to assure that disturbance to raptor nesting activities does not occur.

CLMB-3 The BLM will work with the public to identify climbing areas and develop specific management plans for them. Criteria for designation of climbing areas will be established for the Monument+.

CLMB-4 Climbing will be subject to zone and other specific management restrictions.

22. Collections

COL-1 Collection of Monument+ resources, objects, rocks, petrified wood, fossils, plants, parts of plants, animals, fish, insects or other invertebrate animals, bones, waste, or other products from animals, or of other items from within the Monument+ will be prohibited. Exceptions could include: collections authorized by permit in conjunction with authorized research or management activities; the

collection of small amounts of fruits, nuts, and berries for personal, non-commercial use; the collection of certain natural materials by Native American Indians under BLM permit; the collection of antlers or horns as provided for by UDWR regulations; and the collection of dead and down wood for immediate use in campfires, where campfires are allowed. The above prohibitions shall not be deemed to diminish the responsibility and authority of the State of Utah for management of fish and wildlife, including the regulation of hunting and fishing, on Federal lands within the Monument+.

23. Commercial Filming

FILM-1 Filming may be approved in all zones if the activity complies with the zone requirements and Plan provisions. Permits for commercial filming will be required and the preparation of a project-level NEPA document may be required.

24. Competitive and Special Events

EVENT-1 Special events may be approved, under permit, if the event meets other zone requirements and Plan provisions.

EVENT-2 Special events will be permitted in accordance with the requirements of the most restrictive zone that the event encounters.

EVENT-3 No competitive events will be allowed.

25. Emergency and Management Exceptions

EMERG-1 In emergency circumstances, vehicles may pull immediately off designated routes (see **Transportation and Access** for related decisions).

EMERG-2 Limited exceptions to the general management provisions may be granted by the Monument+ Manager. These exceptions may allow off-highway vehicle use, aircraft landing, motorized or mechanized access on closed routes, or use of mechanized equipment in closed areas. Exceptions may be made in emergencies, or where clearly essential to serve Monument+ management purposes. Exceptions may be made in cases such as carrying out search and rescue operations,

26. Facilities

Visitor Facilities in the Gateway Communities

FAC-1 In an effort to protect Monument+ resources and provide economic opportunities in the local communities, major facilities and the services associated with them will be located in these communities, outside the Monument+. These include a Monument+ headquarters in Kanab, an Interagency Office in Escalante, and visitor contact stations in Cannonville, Glendale, and Big Water. Their precise locations will be based on factors such as the availability of infrastructure; economic considerations, including market feasibility; the availability of financing; and managerial concerns. These determinations will be made by the communities and the BLM. Any construction activities associated with these sites are contingent upon funding by Congress. Monument+ staff will also be available at the Paria Contact Station and at the Anasazi State Park in Boulder.

Visitor Facilities in the Monument+

FAC-2 All facilities and signs will be consistent with the Monument+ Interpretive Plan, the Monument+ Facilities Master Plan, and the Monument+ Architectural and Landscape Theme (all in the process of development).

FAC-3 The Monument+ Facilities Master Plan will address and be consistent with the Americans with Disabilities Act of 1973, the Rehabilitation Act of 1973, and the Architectural Barriers Act of 1968.

FAC-4 All projects causing surface disturbance will be subject to NEPA analysis and the standard stipulations described in Appendix 2.

FAC-5 No projects or activities that result in permanent fills or diversions in, or placement of permanent facilities on special flood hazard areas (as designated by the Federal Emergency Management Agency), will occur within the Monument+.

FAC-6 All facilities and parking areas will be designed to be unobtrusive and to meet the visual resource objectives (see the Visual Resource Management section for related decisions).

FAC-7 The development of water may be provided in limited circumstances, where necessary for visitor safety or resource protection, in the Frontcountry or Passage Zones. The provision of water at sites within the Monument+ will be very limited because the only facilities provided will be modest pullouts, parking areas, trailheads, picnic sites, toilets, and primitive camping areas. These sites do not require water, including most toilets which could use other technologies.

Frontcountry Zone:

FAC-8 As the focal point for visitation, visitor day-use facilities and signs will be added as necessary for visitor use, safety, and the protection of sensitive resources, in addition to existing facilities. These facilities could include pullouts, parking areas, trailheads, trails, toilets, fences, and picnic areas. Day-use areas could include vault toilets, picnic tables, interpretive kiosks, and in some cases, interpretive trails which will be universally accessible but not paved. Most day-use parking areas will be paved, but those off of unpaved roads, such as Grosvenor Arch and the Paria Movie Set, will remain unpaved. Most parking areas will be small, accommodating 10 to 20 cars. Construction of small spur routes or trails may be allowed to access parking areas or other facilities.

FAC-9 Scenic overlooks and other sites that have been developed along Highway 12 will be maintained. Some of the parking areas will be better delineated with barriers or fences to prevent further expansion. Additional wayside exhibits may be developed for some of the existing sites to stimulate further learning and protect resources. The BLM will look for appropriate opportunities to highlight Monument+ resources along Highways 12 and 89, and around the communities of Boulder, Escalante, Henrieville, Cannonville, Tropic, Church Wells, and Big Water. The Monument+ will work with communities, visitors, and other interested publics to develop sites. Up to 15 of these sites could be developed in the Frontcountry Zone, and specific projects will go through the NEPA process with full public involvement.

FAC-10 Calf Creek and Whitehouse Campgrounds are the only developed campgrounds in the Frontcountry Zone. Dispersed primitive camping will not be allowed in this zone, although up to 10 designated primitive camping areas (without amenities) may be identified for individuals or groups. Most of these will be designated in areas already used for camping. These areas could accommodate 2-5 vehicles with a few areas large enough for group camping. Camping areas will be designated with a small sign and barriers. Toilets, water, tables or other amenities will not be provided at these sites.

Passage Zone:

FAC-11 The condition of routes and distance from communities in the Passage Zone makes it a secondary zone for visitation. Similar facilities as allowed in the Frontcountry Zone could be provided for resource protection, visitor safety, or for the interpretation of Monument+ resources. Information kiosks approximately the size of two 3 foot by 5 foot panels will be located at major trailheads (e.g., The Gulch, Deer Creek, and Dry Fork), and smaller kiosks or signs will be located at less used trailheads. Rarely used trailheads will be identified with a small sign.

FAC-12 Existing parking areas may be better delineated with barriers to prevent further expansion. Parking areas could accommodate up to 30 vehicles, but most will be designed for fewer than 10 cars. Construction of small spur routes or trails may be allowed to access parking areas or other facilities. Trails and parking areas will not be paved.

FAC-13 Existing destinations such as Devils Garden and Dance Hall Rock will be maintained.

FAC-14 Up to 17 parking areas or pullouts (scenic overlooks) could be designated in this zone. These are generally areas that are already used for parking, and delineating them with natural barriers or fences will prevent further resource damage. Interpretive kiosks or signs could be provided at these sites as discussed above.

FAC-15 The existing Deer Creek Campground will be the only developed campground in this zone. Dispersed primitive camping will be assessed every three years for minimization of impacts to Monument+ resources. These areas could accommodate 2-5 vehicles with a few camping areas large enough for groups. Camping areas will be designated with a small sign and barriers. User-created camping areas will be removed if Monument+ resources are not being protected, and revegetated with native vegetation. Toilets, water, tables or other amenities will not be provided.

Outback Zone:

FAC-16 Small signs to educate the public about a particular resource or safety hazard may be installed at limited sites, but these sites will not be promoted in literature. Facilities such as designated parking areas, toilets, or fences could be allowed for protection of resources in limited cases, only where other tools to protect resources are ineffective.

FAC-17 Trails could be delineated if necessary to prevent widespread impacts from multiple trails.

FAC-18 Dispersed primitive camping will be allowed in this zone, but certain areas could be closed and certain areas could be designated for camping if resource damage is occurring.

Primitive Zone:

FAC-19 Limited signs could be allowed for resource protection or public safety. Small directional signs may be needed, but these will be kept to an absolute minimum and will be rare.

FAC-20 Trails could be delineated only if necessary to prevent widespread impacts from multiple trails.

FAC-21 No water, toilets, or other visitor amenities or facilities will be provided.

FAC-22 Dispersed primitive camping will be allowed in this zone, but certain areas could be closed and certain areas could be designated for camping if resource damage is occurring.

27. Fees

FEE-1 Public input will be sought prior to the design and implementation of any fee system.

FEE-2 Existing use fees will continue to be charged.

28. Fences

FENCE-1 Fences may be used in certain circumstances to protect Monument+ resources, to manage visitor use, and to manage livestock, consistent with the Proclamation. They will be designed and constructed in accordance with visual resource management objectives and the Monument+ Facilities Master Plan (see the **Visual Resource Management** section for related decisions).

29. Group Size

GROUP-1 There will be no limit on group size in the Frontcountry Zone.

GROUP-2 Group size camping at one site will be limited to 25 people in the Passage and Outback Zones.

GROUP-3 Permits for groups over 25 people will be considered in the Passage and Outback Zones, if the number of people and the activities proposed are consistent with the protection of Monument+ resources. Appropriate NEPA analysis will be prepared on areas where permits could be authorized. These permits will require that adequate sanitation and trash collection are provided, and that activities take place in areas where resources will not be damaged.

GROUP-4 In the Primitive Zone, group size will be limited to 12 people and 12 pack animals. Within the Paria River corridor in the Primitive Zone, permits could be approved for groups over 12 people up to a maximum of 25 people.

GROUP-5 In order to protect Monument+ resources, it may become necessary to place limits on the overall numbers of people and/or pack animals allowed, or to further restrict group sizes in areas where resource damage is occurring (see the **Recreation Allocation** section for related decisions).

30. Livestock Grazing

A. Goals

1. **GOAL 1 Watersheds** are in, or are making significant, measurable progress toward, properly functioning physical and biological condition, including their upland, riparian-wetland, and aquatic components; soil and plant conditions support infiltration, soil moisture storage, and the release of water that are in balance with climate and landform and maintain or improve water quality, water quantity, and timing and duration of flow.

2. **GOAL 2 Native plant communities** are healthy, diverse, and productive, or are making significant, measurable progress toward such conditions.

3. **GOAL 3 Ecological processes**, including the hydrologic cycle, nutrient cycle, and energy flow, are maintained, or there is significant, measurable progress toward their attainment, in order to support healthy biotic populations and communities.

4. **GOAL 4 Riparian and wetland areas** exhibit, or are making significant, measurable progress toward exhibiting potential native vegetation diversity, density, age structure composition, and cover. Stream channel morphology and functions are appropriate to soil type, climate and landform.

5. **GOAL 5 Soils** exhibit, or are making significant, measurable progress toward permeability and infiltration rates that sustain potential site productivity or improve site productivity, considering the soil type, climate, and landform.

6. **GOAL 6 Habitats** are supporting, or are making significant, measurable progress toward supporting their full complement of Monument+/GCNRA native species and are exhibiting conditions expected to provide for recovery ("conservation") of Federal threatened and endangered species or Federal proposed or candidate threatened or endangered and other special status species.

B. Objectives

1. **Objective 1. Native Plant Communities**
   - 1.1. Native plant communities reflect ≥80% of the native plant diversity, density, age classes, and productivity of relevant ungrazed reference sites (i.e., Monument+ or GCNRA sites which are of similar potential to support the native diversity and have been ungrazed by domestic ungulates for ten years).
   - 1.2. Native plant communities support (≥80% of reference sites based on appropriate quantitative measures) specific values, including:
     - 1.2.1. Plant species endemic to Monument+ or the Colorado Plateau
     - 1.2.2. Rock crevice and canyon bottom native vegetation
     - 1.2.3. Dunal pockets that hold unique plant species adapted to shifting sands
     - 1.2.4. Plants highly adapted to saline areas
     - 1.2.5. Relict plant communities
   - 1.3. Native species reoccupy habitat niches and voids caused by disturbances at 80% the rate of reoccupation in recovery reference sites (i.e., similarly disturbed sites recently excluded from grazing) based on appropriate quantitative measures.
   - 1.4. Native plant communities support the following, at levels of at least 80% of relevant ungrazed reference areas:
     - 1.4.1. Pollinator diversity, with pollinators often dependent on a particular species, genus, or plant family.
     - 1.4.2. Cover, nesting, calving, and/or food habitat for native declining, uncommon, and endemic vertebrate animals.
     - 1.4.3. Diversity of native aquatic biota.
     - 1.4.4. Diversity of soil invertebrates.
   - 1.5. Habitats are connected at a level to enhance populations of native species, including pollinators, based on estimated connectivity requirements using best available science.

2. **Objective 2. Riparian and Wetland Areas.**
   - 2.1. Streambank vegetation, at 80% of reference riparian areas:
     - 2.1.1. consists of, or shows an independently measurable trend toward, native species with root masses capable of withstanding high streamflow events;
     - 2.1.2. maintains cover adequate to protect stream banks and dissipate streamflow energy associated with high water flows, protect against accelerated erosion, capture sediment, and provide for groundwater recharge.
   - 2.2. Riparian vegetation reflects, at 80% of reference riparian areas, maintenance of riparian and wetland soil moisture characteristics, diverse age structure and composition, high vigor, and large

woody debris when site potential allows; and provides food, cover and other habitat needs for dependent animal species.

2.3. At 80% of reference riparian areas, point bars are revegetating and lateral stream movement is associated with natural sinuosity; channel width, depth, pool frequency and roughness appropriate to landscape position.

2.4. An active floodplain is present.

3. **Objective 3. Soils**

3.1. Ground cover (including litter) is maintained at 80% of a relevant (e.g., similar soil, vegetation type, precipitation) Monument+ ungrazed site in order to protect the soil surface from excessive water and wind erosion, promote infiltration, detain surface flow, retard soil moisture loss by evaporation, and provide appropriate biological soil crust ecosystem functions (hydrology and nutrient cycling).

3.2. Biological soil crusts (aka cryptobiotic soils) which are critical for soil stability and nutrient availability are protected from trampling and other physical disturbance within at least 60% of their predicted available habitat within Monument+; and within 80% of GCNRA predicted available habitat.

3.3. Indicators of excessive erosion such as rills, soil pedestals, mass wasting, and actively eroding gullies and headcuts are within 80% of appropriate, identified reference sites.

4. **Objective 4. Water Quality Standards.** The Monument+ is in compliance with water quality standards established by the State of Utah (R.317-2) and the Federal Clean Water and Safe Drinking Water Acts. Activities on BLM Lands will fully support the designated beneficial uses described in the Utah Water Quality standards (R.317-2) for surface and groundwater as indicated by:

4.1. Water quality parameters, including but not limited to nutrient loads, total dissolved solids, chemical constituents, E. coli, water temperature and algae meet standards

4.2. Macroinvertebrate community diversity and composition meet standards and are within 80% of relevant reference stream reaches.

4.3. Fine sediments do not exceed 80% of an equivalent ungrazed reference stream.

5. **Objective 5. Habitats of Species of Concern**, including native, threatened, endangered, proposed and special status-species, are sufficient to ensure reproductive capability and recovery.

5.1. Habitats are, or are making significant progress toward, being restored or maintained for conservation (i.e., recovery) of Federal threatened, endangered, proposed, candidate or other special status species. "Significant progress toward restoration of habitat" for such species is demonstrated by maintaining progress at a rate that is 80% that of relevant ungrazed recovery reference areas.

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C. Management Actions

1. **Public Transparency and Engagement**

1.1. Prior to allotment permit renewal, allotment management plan development, or vegetation projects for conditions impacted by livestock grazing, notice will be provided for a public tour to obtain comment and provide input.

1.2. Prior to a Decision Notice, all Environmental Assessments (EAs) will provide for public comment on the alternatives and their analyses.

1.3. Annual plans of use.

1.3.1. A map and annual plan of use for each allotment (with pastures) will be posted prior to livestock seasonal entry on the allotment.

1.3.2. Annual plans of use for the previous two years will be displayed on the website.

1.4. Mid-season adjustments of the annual permit will be posted as a revised annual permit.

1.5. Pre-annual permit meetings. When requested by a member of the public, BLM will participate in a pre-annual permit meeting to discuss problems observed/documented on the allotment the previous year, and proposed solutions to those problems. Such meetings will be available to the permittee and other members of the public.

1.6. Collaborations. BLM will encourage the establishment of independent, multi-stakeholder, consensus collaborations that include representatives of all relevant stakeholders, for purposes of advising BLM on increasing the sustainability of grazing and diverse grazing arrangements on Monument+/GCNRA. BLM staff may participate as resources for these consensus collaborations, which would be convened or co-convened by non-BLM entities.

1.7. Interested publics will be encouraged to participate in and contribute to on-ground implementation and monitoring of grazing experiments developed by interested public, permittees and BLM personnel.

2. **Interested publics**, including permittees, are encouraged to engage with the BLM to discuss and propose management options:
   2.1. Where native diversity, density, age class structure, and/or productivity are less than 80% of the potential native diversity of relevant ungrazed reference sites, or do not support values identified within Monument+ or are not reoccupying habitat niches and voids caused by disturbances;
   2.2. where native vegetation support for wildlife (Objective 1.4) is less than 80% of relevant ungrazed reference areas or stream reaches, permittees and interested public are encouraged to engage with the BLM to discuss options to achieve such support;
   2.3. where ground cover is less than 80% of a relevant ungrazed site or indicators of excessive erosion are present (Objective 3.1);
   2.4. when less than 60% of Monument+ biological soil crust predicted habitat is protected from trampling (Objective3.2);
   2.5. where native riparian or wetland plant diversity, density, age class structure, and/or productivity are less than 80% of the potential native diversity of relevant riparian or wetland reference sites, or desired stream dynamics (Objective 2.1.2) are not present or a potential floodplain is not active;.
   2.6. where water quality standards are not being met or parameters are not being maintained within 80% of relevant reference stream reaches (Objective 4); and/or
   2.7. where significant, measurable progress is not being made toward restoring habitat for Federal threatened or endangered species, or candidate or proposed threatened or endangered species, or other special status species (Objective 5).

3. **A Diversity of Grazing Arrangements** will be encouraged within Monument+, including such arrangements as:
   3.1. Collaborative grazing experiments
   3.2. Multiple allotments combined into a single system
   3.3. Range improvements
   3.4. Changing kind and class of livestock (within existing limitations)
   3.5. Rest-rotation systems
   3.6. Deferred rotation systems
   3.7. On-off systems
   3.8. Grass banks/forage reserve areas
   3.9. Reduced use areas
   3.10. Suspended use areas
   3.11. Non-use areas
   3.12. Closed areas

4. **Time, Timing and Intensity** of livestock grazing will be adaptively managed to insure that Goals and Objectives are met.

5. **Utilization.**
   5.1. A 30% utilization standard, both for riparian and upland areas will be instituted, one pasture a year for each allotment until all pastures in each allotment have a 30% utilization limit.
   5.2. Utilization limits of 25% will be operative within all pastures during a drought year using the Standardized Precipitation Index of the National Drought Mitigation Center.

6. **Allotment Action Plans**. When monitoring of indicators shows an allotment or pasture is failing to meet or move towards Objectives, plans will be drawn up for meeting or moving towards Objectives. The plans must be based on evidence that the proposed activities or management have resulted in movement toward the particular Objectives in other settings and must include methods for measuring whether conditions are improving under the action plan. The actions taken must result in progress that is "as expeditious and effective as practical" (Rangeland Health Standards H-4180-1).

   6.1. If progress toward Objectives is not being observed/measured, further conversations will be in order, and adjustments to the action plan will be made.

7. **Annual Use Plans**. Each annual use plan will reflect the best estimate that the number of days authorized and other instructions will result in Objectives being met or moved toward.
   7.1. Staggered seasonal use. At a minimum, there will be six weeks between the beginning of seasonal use of a particular allotment or pasture one year and when the season of use begins the following year. If this is not possible in a particular area, the area will be rested every other year.
   7.2. Pasture movement within annual permits. Gathering of livestock will commence prior to the end date of the use of a pasture or area such that all livestock will have been moved and stragglers found by the off date.

8. **Passive and Active Vegetation Treatments.** Vegetation treatments will:
   8.1. Have the objective of restoring or supporting potential native vegetation and ecosystem processes;
   8.2. Address underlying causes of the problematic conditions prompting vegetation treatments;
      8.2.1. When livestock and/or wild ungulate grazing have contributed to the problematic conditions being treated, grazing will be managed to avoid return of the problematic conditions.
   8.3. Utilize native seeds or seedlings only, of local genetic stock whenever possible;
   8.4. Include measurable Desired Outcomes and the methods that will be used to monitor outcomes when compared to outcomes in a portion of the treated area that is not grazed.
   8.5. Be detailed in project-level plans and NEPA analyses, which provide for public comment on a full range of reasonable alternatives.
   8.6. Use a variety of measures to protect planted and naturally regenerated seedlings from the effects of trampling, browsing, and girdling by livestock and wildlife. Such measures will typically include temporary suspension of grazing, and may include fencing, tubing, netting, and/or animal repellants; and
   8.7. Mimic natural processes to the degree possible, including, but not limited to succession and use of prescribed fire.

9. **Wild Ungulates and Vegetation Treatments.** Where applicable, initiate communication with the Utah Division of Wildlife Resources and/or Arizona Game and Fish Dept. to provide for protection of vegetation treatment.

10. **Revegetation** (including maintenance) of sites formerly seeded to exotic species will utilize native species only.

11. **Riders**. A pre-season plan and daily log will be filled for documentation of physical presence of a rider with the rider's livestock 5 out of every 7 days throughout the season of use of the allotment

12. **Fencing to Meet Objectives**.
    12.1. If fencing is necessary to meet any Objective, the permittee will construct and maintain the fencing unless BLM is required to do so by an existing authorization.
    12.2. All fences and other annual permit infrastructure must be maintained and functional prior to livestock entry for the season

13. Non-native and/or Invasive Plant Species
    13.1. Passive restoration and non-chemical methods will be the first priority for preventing the introduction, establishment and spread of exotic, invasive plant species.
    13.2. If herbicides are deemed essential, least-use of herbicides will be accomplished using Integrated Vegetation Management principles, including reducing or eliminating stressors contributing to the introduction, establishment and/or spread of exotic, invasive plant species.

14. **Water Trough/ Watering Pond Non-native, invasive plant species** The permittee(s) will manually maintain an area free of all invasive, exotic plant species within 100 feet radius of a watering trough or watering pond.

15. **Gates**
    15.1. Exclosures with gated openings accessible to livestock will be locked, with Monument+/GCNRA providing a key to the permittee; and retaining another key for as-needed use by public members who wish to access the site for non-grazing purposes.
    15.2. Gate signs. A sign on any gate through which the public passes will indicate the current dates of livestock in the unit (e.g., allotment, riparian pasture) on either side of the fence and direction to keep the gate closed during those times the livestock should be in one of the two adjacent units.

16. **Fire.** Grazing will be suspended from post-fire areas for at least two years or until the majority of native plant species in the area have seeded, whichever is longer.

17. **Roads for Livestock Management**. Maintain roads and trails essential for facilitating livestock grazing in a manner that minimizes the effects on landscape hydrology (avoid concentrating overland flow, prevent sediment transport, and minimize compaction to maintain infiltration capacity).

18. **AUMs.** To determine the accurate number of AUMs in each allotment (associated with 30% utilization during absence of drought and 20% utilization during drought), a clip-and-weigh analysis of forage will be conducted every ten years in each pasture of an allotment. This information will be used to adjust AUMs in the permit.

19. **Drought**.
    19.1. Drought will be determined within the Monument+ using the previous three months' cumulative Evaporative Drought Demand Index of 80% or greater; or cumulative drought of "moderate" or higher for the previous three months, U.S. Drought Monitor archive
    19.2. Stocking rates associated with 30% or less utilization will be kept to the capacity of the driest three years in the last ten years, and 20% utilization during drought/
    19.3. The absence or presence of drought (19.2) will be posted monthly on the BLM website.
    19.4. Grazing after drought has ended will remain at 20% or less until key native forage species have produced mature seed.

20. **Glen Canyon National Recreation Area Grazing Management.** Grazing management decisions on lands within the NRA shall require approval of the Park Service for any decision affecting grazing use within the Glen Canyon NRA. Decisions on the timing and amount of grazing made annually shall also require Park Service approval. All grazing use and decisions will fully comply with NPS Policy, the Organic Act and other NPS requirements, including nonimpairment.

D. Allowable Uses

1. **Availability and Unavailability for Livestock Use**. Designation of allotments as available or unavailable for livestock grazing is provisional. Areas that are deemed "available" at one time may become "unavailable" depending on site conditions. Conversely, areas that are currently "unavailable" to livestock grazing due to resource concerns may become "available" if conditions are significantly improved and grazing practices are predicted, on the basis of scientific evidence, to retain the improved resource conditions.

1.1. Criteria used to identify Monument+ areas that will be grazed by livestock
  1.1.1. Areas currently grazed that meet Objectives or are measurably and significantly moving toward such Objectives in relation to ungrazed reference areas, using independently verifiable methods; and
  1.1.2. the permittee(s) wish to continue livestock grazing on the allotment/pasture; or
  1.1.3. another permittee obtains the permit and continues to meet or move toward Objectives.

1.2. Criteria that identify Monument+ areas that will not be grazed by livestock
  1.2.1. Areas closed to livestock grazing via a Record of Decision supported by NEPA analysis and documentation.
  1.2.2. Areas in suspended use.
  1.2.3. Areas that are not meeting or significantly and measurably moving toward Objectives in relation to ungrazed reference areas.

1.3. Criteria that identify Monument+ areas that may be set aside for other uses
  1.3.1. Areas that are particularly difficult to graze on a geographic (e.g., remoteness), productivity, and/or environmental (e.g., lack of water sources or forage production) basis.
  1.3.2. Areas voluntarily relinquished or otherwise available for retirement and containing any of the following or combinations of the following:
    1.3.2.1. Areas that would serve as valuable reference areas
    1.3.2.2. Vegetation types that are either not represented or are underrepresented in currently ungrazed Monument+ areas.
    1.3.2.3. Monument+ objects that are not compatible with or are damaged and impacted by livestock grazing (e.g., biological soil crust, rare and scattered riparian areas, declining native plant or wildlife species)
    1.3.2.4. Significant cultural resources.
    1.3.2.5. Significant opportunities to conserve or restore historical, cultural, soil health, biological soil crust, fish, wildlife, riparian, vegetation and/or water quality objectives of the Monument+ Management Plan.
    1.3.2.6. Riparian areas, springs and hanging gardens that have potential to be impacted or are currently impacted by livestock grazing.
    1.3.2.7. Moderate to high recreation values that are compromised by livestock grazing
    1.3.2.8. Populations or habitat for threatened, endangered species; candidate or proposed threatened or endangered species; and special status species, or their habitat (e.g., Southwest willow flycatcher, sage grouse, desert bighorn sheep, Mexican spotted owl).
    1.3.2.9. Allotments where grazing is not compatible with special use sites.
    1.3.2.10. Allotments or units within which soil capability classes of 3 or more are common.

Note: In 2016, Grand Staircase-Escalante National Monument staff identified the following as allotments or pastures meeting the above criteria for potential closure in their interpretation of the Sustainable Grazing Alternative (Alternative C) criteria proposed for the Grazing Management EIS,. These areas could be established in addition to the 3.6% of GSENM acres that had previously been closed to livestock grazing:

Allotments or Pastures Proposed by GSENM Staff for Potential Closure under "Alternative C", Using "Alternative C" Criteria

Proposed for Closure in Alternative C	
Allotment	**Pasture**
Alvey Wash	
Big Bowns Bench	Middle and Seep Side Pastures
Big Horn	Big Flat North Pasture
Cedar Wash	
Circle Cliffs	
Cottonwood	Gravelly Hills and Paria River Pastures
Deer Creek	Brigham Tea and Wolverine Pastures
Dry Valley	
Flood Canyon	
Forty Mile Ridge	
King Bench	King Bench Pasture
Lake	Navajo Point Pasture
Last Chance	Summer Pasture
Little Bowns Bench	
Lower Hackberry	
Lower Warm Creek	
Mollie's Nipple	Buckskin(outside monument boundary), Jenny Clay, and Blue Spring Pastures
Phipps	Phipps Pasture
Rock Creek-Mudholes	
Round Valley	
Upper Hackberry	South Jody Pasture
Upper Paria	Willis Creek, Unallotted South, Henderson Creek, Upper Coal Bench, and Lower Coal Bench Pastures
Vermillion	Seaman Pasture
Wolverine	

2. **Reduced Use or Non-use**. A permittee request for multi-year non-use or partial use will be granted for conservation or recovery outcomes that can be objectively documented and measured. An approved monitoring plan and schedule will be part of the application.

3. **Voluntary Relinquishment**. Upon receiving any request for voluntary relinquishment of permitted livestock grazing, the Authorized Officer will re-evaluate whether livestock grazing is in the best interest of achieving Objectives and protecting Monument+ values and objects, utilizing the above criteria, and consider amending the Monument+ Management Plan to allocate forage for a different purpose pursuant to Instruction Memorandum No. 2013-184.

E. Livestock Monitoring

1. **Protocols for Measuring Indicators of Objectives.** Within one year of the Record of Decision, BLM will designate, with interested public/permittee input, the methods BLM will use to measure Indicators that Objectives are being met
   1.1. BLM monitoring methods will be posted on the Monument+ website, including methods used to measure
      1.1.1. Meeting or moving toward Objectives
      1.1.2. Existing long-term trend transects Monument+/GCNRA
      1.1.3. IIRH points or transects, PFC assessment points or stream reaches, AIM points
      1.1.4. Effectiveness of treatments at reaching both individual project and Monument+-wide Desired Outcomes
      1.1.5. Any other methods used systematically by the BLM within Monument+/GCNRA

2. **Reference Areas.** Reference areas exist or are established for all Objectives in order to demonstrate potential for Objectives to be met, and/or potential rate of change toward meeting Objectives. Reference areas are established across Monument+ that represent the full range of ecosystem and plant community types (both riparian and upland) including sites that have received exotic vegetation treatments. A reference area, with the exception of recovery reference areas (see 2.4 below) consists of a site that has not been grazed or accessible to livestock for at least ten years.
   2.1. Establishment of reference areas. Where local reference areas are preferable but do not exist, designate local areas to attain future reference area status (i.e., at least ten years of non-use by livestock). In the interim, use a more distant, reference site that has not been grazed for at least ten years.
   2.2. Reference area size. Prioritize establishment of larger, landscape-scale reference areas whenever feasible, in order to allow for recovery and/or protection of ecosystem functions, a patchwork of habitats, species diversity, and other elements not easily documented within small reference areas.
   2.3. Permanent range cages**.** At least two permanent range cages (at least 16' X 16') are maintained in each grazed pasture, in representative areas frequently used by livestock.
   2.4. Recovery reference areas are areas where livestock grazing has ceased, but which have been grazed within the previous ten years. Exclosures of various sizes can begin to provide immediate benefits for comparison with sites on which livestock are being adaptively or experimentally managed for recovery toward particular Objectives. Recovery on the grazed sites (particularly for such physical features as ground cover, sheet erosion, and streambank protection; or for seedhead production) can be compared with the recently-ungrazed sites for comparative rates and types of recovery.

3. **Utilization Cages.** For purposes of quantitatively measuring utilization, utilization cages must have been in place for two years (rather than one) in order to more accurately depict expected production.

4. **80%.** Objectives generally will be considered to have been met when monitoring documents the Indicators are at least 80% (e.g., of soil cover, willow density, native plant species richness) of those in reference areas of the same ecological site (e.g., soil type, precipitation, elevation, slope as relevant). Such reference areas may consist of exclosures, ungrazed pastures/allotments, permanent range cages, or ungrazed recovery reference areas. Conditions below 80% of the reference site(s) are appropriate subjects for problem-solving among the BLM, permittees and interested public.

5. **Independent Monitoring**. Upon objective documentation of on-ground indications that Objectives are not being met, any member of the public can arrange for a meeting with BLM staff to discuss and propose solutions to the problem(s). A written record of evidence of the problem(s), solutions considered, and commitments by BLM, interested public, and/or permittees will be retained in the file(s) of the relevant allotment(s).
   5.1. Objective, repeatable data gathered independently (e.g., use of BLM monitoring methods or methods in Appendix 9 of the 2012 *Final Report and Consensus Recommendations* of the Collaborative Group on Sustainable Grazing for National Forests in Southern Utah) is required in problem-solving meetings. All such meetings are open to the permittees and other interested publics.

6. **Social/Economic Indicators** will be used to monitor the social and economic sustainability of Monument+ grazing, including both the economic and cultural values of livestock grazing, and the social value of participation in public lands grazing management decisionmaking by publics interested in public lands grazing and/or ecosystem services provided by public lands. Social/economic Indicators are best developed via consensus among BLM, Monument+, GCNRA personnel; permittees; and interested publics.
   6.1. Social/economic Indicators may include the following, which were published in the Final Report and Consensus Recommendations of the Collaborative on Sustainable Grazing for National Forests in Southern Utah (2012)*:*

      6.1.1. Investment in grazing practices. Dollar value of time, capital and other investments (e.g., short and long-term infrastructure, monitoring, land improvement projects) related to grazing management changes on Monument+-GCNRA/ allotment by:
         6.1.1.1. Permittees,
         6.1.1.2. BLM, and
         6.1.1.3. Other entities
      6.1.2. Total pounds of meat production/acre/allotment (5-10 year average)
      6.1.3. Opportunities to participate in livestock grazing programs within Monument+
         6.1.3.1. For permittees: Number of individual permits and Animal Unit Months (AUMs) per permittee
            6.1.3.1.1. Permitted AUMS by month
            6.1.3.1.2. Grazing use reported by month
         6.1.3.2. For other entities: Identification of programs and partners engaged in grazing management arrangements, e.g.:
            6.1.3.2.1. Utah Division of Wildlife Resources (UDWR)
            6.1.3.2.2. Conservation organizations
            6.1.3.2.3. Utah Dept. of Agriculture's Grazing Improvement Program (GIP)
            6.1.3.2.4. Watershed Restoration Initiative (WRI)
            6.1.3.2.5. Natural Resources Conservation Service(NRCS)
      6.1.4. Diversity of grazing management arrangements
         6.1.4.1. Number and acreage by year of diverse grazing management arrangements, including but not limited to:
            6.1.4.1.1. Multiple allotments combined into a single system
            6.1.4.1.2. Range improvements
            6.1.4.1.3. Changing kind and class of livestock
            6.1.4.1.4. Rest-rotation systems
            6.1.4.1.5. Deferred rotation systems
            6.1.4.1.6. On-off systems
            6.1.4.1.7. Reduced use

31. Night Skies

NS-1 The BLM will seek to prevent light pollution within the Monument+. No actions will be proposed within the Monument+ that will contribute to light pollution. The BLM will also work closely with the surrounding communities to minimize light pollution.

32. Outfitter and Guide Operations

OG-1. Outfitter and guide operations will be allowed throughout the Monument+ in compliance with the constraints of the zones and other Plan provisions

OG-2. Training will be provided on an annual basis to keep outfitters and guides current on appropriate research studies occurring in the Monument+.

OG-3. Outfitters and guides will be strongly encouraged to incorporate interpretive/educational components into their trips.

33. Recreation Allocations

ALLO-1 The Monument+ will use the following indicators to determine when and where visitor allocations need to be made: (1) resource damage (e.g., proliferation of campsites, human waste problems, social trailing or vandalism to historical, archaeological, paleontological sites, or destruction of biological soil crusts), (2) conflicts with threatened and endangered plant or animal species, and/or (3) the number of social encounters become unacceptable.

ALLO-2 Inventories, surveys, and studies will establish baseline data for Monument+ resources. These data will be used to set up an ongoing monitoring program and to prioritize areas that require more restrictive management. This will be done as part of the adaptive management framework (Chapter 3) with consultation from the Monument+ Advisory Committee. When it is determined that critical indicators have been approached or exceeded, the Monument+ will go through a public process to determine allocations for specific areas. Total numbers of people and group size will be considered. The BLM will consult with Glen Canyon National Recreation Area and the Escalante Ranger District of Dixie National Forest if allocation is determined necessary for the Escalante Canyons.

ALLO-3 The Monument+ will work closely with the UDWR throughout the public process as they administer and regulate hunting, fishing, and the permits issued for these activities.

ALLO-4 As the focal point for visitation, there will generally be no allocation in the Frontcountry Zone other than directing individuals to selected sites chosen for their interpretive values. However, allocations may be allowed in limited circumstances where other tools to protect resources are proving ineffective. Since the Frontcountry Zone is the focal point for visitation, social encounters will not trigger such action, but resource damage could if other tools are ineffective at protecting resources.

ALLO-5 Allocation is possible in the Passage Zone for the protection of sensitive resources or visitor experience. The most likely places that allocation will occur is at trailheads in order to limit the number of people accessing the primitive areas.

ALLO-6 Allocation is moderately likely for the protection of sensitive resources or visitor experience in the Outback Zone. The first step will be designating primitive camping areas. Limiting the number of people in specific areas could also be used if other measures are ineffective.

ALLO-7 Allocation is highly likely in the Primitive Zone for the protection of sensitive resources or visitor experience. Additional areas meeting the criteria, as outlined in ALLO-1, will also be considered.

ALLO-8 In developing allocation plans for areas, efforts will be made to coordinate with other resource planning efforts (e.g., research, grazing allotment management plans), as discussed in the implementation and adaptive management framework in Chapter 3. This type of integrated activity planning will lead to more comprehensive planning efforts for specific areas and to better decision making.

34. Recreational Stock Use

STOCK-1 Horses or other pack animals will not be allowed in relict plant communities, archaeological sites, rock shelters, or alcoves.

STOCK-2 Sheep species will not be allowed for pack use.

STOCK-3 Recreational stock are limited to 12 animals in the Primitive Zone.

STOCK-4 The BLM requires that all hay used on BLM lands be certified weed free.

35. Science and Research

Focus of Science and Research

SCI-1 Monument+ management priorities and budgets will focus on a comprehensive understanding of the resources of the Monument+ while assisting in the development of improved and innovative land management, restoration, and rehabilitation practices. The natural, physical, and social sciences, including the study of history will each play an essential role in science and research activities. Research projects will have a multi-scale and interdisciplinary approach when possible. Recreation and other uses will be managed to complement science and research objectives.

SCI-2 The first priority for conducting BLM-sponsored research will be to study, collect, or record scientific information that is most at risk of being damaged or lost through disturbance or the passage of time, including oral histories and ethnologies related to the Monument+ area. The second priority will be to continue gathering baseline data on the biological, physical, cultural, and social sciences within the Monument+. A third priority will be to conduct applied research regarding the management of natural systems, including disturbance and recovery strategies.

Education and Outreach

SCI-3 The BLM will encourage researchers to incorporate a public outreach/education component into projects. Educators and students will have the opportunity to participate in research activities where appropriate. The BLM will involve communities in science and education activities.

SCI-4 Research sites and visitor centers will emphasize scientific interpretation. Results of scientific research and inventory data will be disseminated through interpretive displays, publications, forums, and public exhibition of objects and artifacts.

SCI-5 The BLM is currently working on an interpretive plan for the Monument+. Themes for the various visitor contact stations will be identified as well as appropriate onsite and offsite interpretation areas and topics.

SCI-6 The BLM will play a role in developing educational programs for grades Kindergarten through 12, emphasizing the area's scientific and cultural resources. The BLM will cooperate with colleges and universities in undergraduate and graduate programs as resources permit. Outreach efforts such as Monument+-sponsored science publications and field schools will be incorporated into management programs to the extent possible. In addition to normal avenues for research publications (scientific journals, symposia proceedings, etc.), the BLM will help facilitate the transfer of research information to the public through periodic science forums and Monument+-sponsored publications.

Management of Science and Research Activities

SCI-7 Researchers will have to comply with the decisions in this Plan. However, some science and research activities may require the use of equipment, surface disturbance, and/or personnel which could exceed the management prescriptions outlined for visitors and other users. Except where specifically prohibited (e.g., in relict plant areas, wildlife protected activity centers), the BLM will consider exceptions to the Plan prescriptions during the special-use permitting process for extremely high-value research opportunities, especially for those opportunities that may not be available elsewhere. Research projects focused on protecting resources at risk will also be considered for exceptions to zone prescriptions. The Monument+ Advisory Committee will be consulted on whether research proposals which require restricted activities warrant the requested exceptions. Evaluation will consider whether the proposed research can be permitted in a manner consistent with the protection of Monument+ resources, and whether the methods proposed are the minimum necessary to achieve the desired research objective.

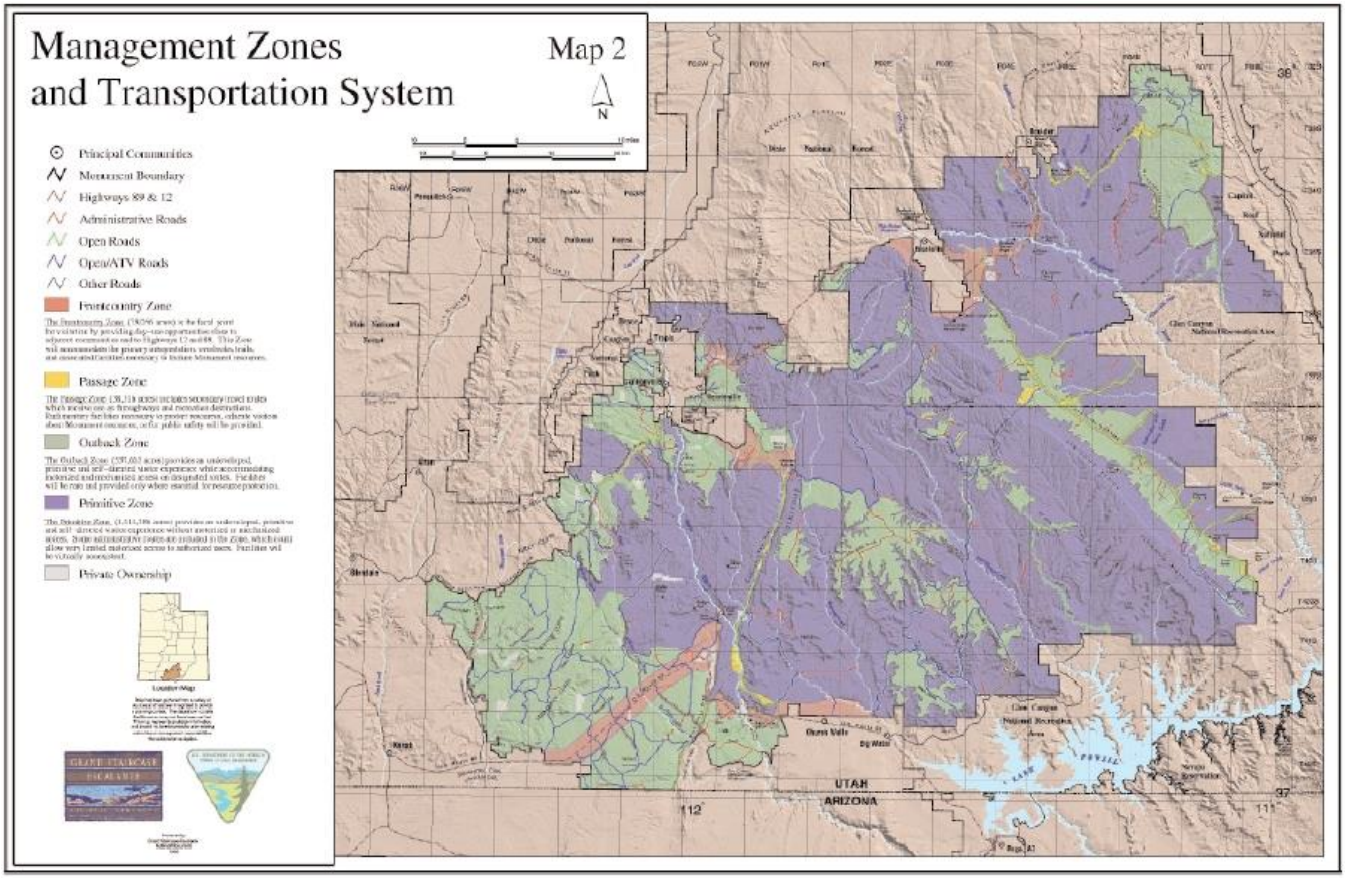
SCI-8 All research and related educational activities will require special-use permits.

SCI-9 All research will meet Monument+ data collection standards to be established by the Monument+ Manager with the advice of the Monument+ Advisory Committee, and will provide information that feeds directly into the adaptive management framework.

36. Transportation and Access

Public Access

TRAN-1 This Plan designates the route system for the Monument+.
The transportation map (Map 2,) shows routes that will be open for public use and those available for administrative use only (see the **Administrative Routes and Authorized Users** section for related decisions).



TRAN-2 Cross-country motorized travel will be prohibited in accordance with 43 CFR 8340 Off-Road Vehicle (OHV) regulations. Use on designated routes is allowed. OHV designations will be either "closed" (in the Primitive Zone) or "limited to designated routes" (in the Frontcountry, Passage, and Outback Zones) (Map 2).These designations are consistent with standard BLM designations provided for in BLM Manual 8340.Vehicles may pull off routes no more than 50 feet for parking and camping in the Outback Zone, except where prohibited (see the **Camping and Forestry Products** section for related decisions). No off-highway vehicle play areas will be designated in the Monument+.

TRAN-3 Use of bicycles is limited to designated routes and cross- country travel is not allowed.

TRAN-4 Street legal motorized vehicles, including four-wheel- drive and mechanized vehicles (including bicycles), will be allowed on approximately 908 miles of routes designated open in the Frontcountry, Passage, and Outback Zones (Map 2). In order to display all open routes, this mileage number includes sections of Highways 12 and 89 within the Monument+. No routes will be designated open in the Primitive Zone.

TRAN-5 Non-street legal all-terrain vehicles (ATVs) and dirt bikes will be restricted to those routes designated as open for their use. Non-street legal ATVs and dirt bikes will be allowed on approximately 553 miles of the 908 miles of routes designated open to street legal vehicles in the Frontcountry, Passage, and Outback Zones; no routes will be designated open to these vehicles in the Primitive Zone. TRAN-6 All zones will allow hikers, horses, and pack animals, except where noted elsewhere to protect resources.

TRAN-6 All zones will allow hikers, horses, and pack animals, except where noted elsewhere to protect resources.

Maintenance

TRAN-7 With the exception of those segments listed below, open routes may be maintained within the disturbed travel surface area as of the date of this Plan; no widening, passing lanes, or other travel surface upgrades could occur. Deviations from the current maintenance levels will be allowed as follows (subject to Wilderness Study Area Interim Management Policy, BLM Manual H-3550-1):

- Hole-in-the-Rock Road: Allow stabilization of washout prone areas, primarily along the southeastern end, to prevent erosion and sediment loading in drainages.
- Smoky Mountain Road: Allow stabilization in the Alvey Wash section to prevent erosion and sediment loading in drainages.
- Cottonwood Wash Road: Allow stabilization of washout prone areas, primarily along the southern section, to prevent erosion and sediment loading in drainages.
- Skutumpah Road: Allow new crossing for safety at Bull Valley Gorge, and stabilization of washout prone areas, primarily along the northern section, to prevent erosion and sediment loading in drainages.

TRAN-8 In the event that Title 5 rights-of-way are issued, or in the event of legal decisions on RS 2477 assertions, maintenance activities will be governed under the terms of those actions.

TRAN-9 The BLM will continue to work with the Utah Department of Transportation (UDOT) on issues related to route maintenance for Highways 12 and 89. This will cover maintenance and safety work activities. Any new ground disturbance will require site-specific environmental analysis.

Trails

TRAN-10 In the Frontcountry Zone, a full range of trails could be developed and maintained in order to provide opportunities for visitors.

TRAN-11 In the Passage Zone, trails could be developed and maintained where needed for protection of Monument+ resources or for public safety.

TRAN-12 Trails may only be developed or maintained in the Outback and Primitive Zones where necessary to protect Monument+ resources.

TRAN-13 The BLM will work with UDOT to explore the possibility of developing bicycle lanes or parallel bicycle routes along Highways 12 and 89.

Administrative Routes and Authorized Users

TRAN-15 The BLM will be responsible for administrative routes which will be limited to authorized users. These are existing routes that lead to developments which have an administrative purpose, where the BLM or some permitted user must have access for regular maintenance or operation. These authorized developments include such things as powerlines, cabins, weather stations, communication sites, spring developments, corrals, and water troughs. Routes designated open for certain administrative purposes (approximately 182 miles) are shown on Map 2.

Access will be strictly limited and will only be granted for legitimate and specific purposes. Maintenance will be the minimum required to keep the routes open for limited use by high clearance vehicles. If the administrative purpose of the route ceases, the route will be evaluated for closure following public notification and opportunity to comment. Authorized users could include grazing permittees, researchers, State or Federal agencies, Native American Indians accessing recognized traditional cultural properties, and others carrying out authorized activities under a permit or other authorization.

TRAN-16 Beyond the routes shown on Map 2, the BLM will work with any individual operating within the Monument+ under existing permits or authorizations to document where access must continue in order to allow operation of a current permit or authorization. Routes that go only to BLM range monitoring and study areas will not be maintained, but periodic vehicular access to these sites will be granted for required range monitoring uses.

Road Restoration Strategy

TRAN-17 The BLM's strategy for restoring routes that will no longer be available for public or administrative motorized use in the Monument+ will be phased over a period of years. This will be accomplished as rapidly as funding permits. It is anticipated that this could take as many as ten years. Each year, a percentage of the Monument+'s base budget will be used to restore routes in areas that are easily accessible to the public and that involve sensitive resources in immediate danger of being degraded. Generally, routes in the Frontcountry and Passage Zones will be closed first. However, there may be routes in the Outback and Primitive Zones that will be considered on a case-by-case basis.

The proposal for restoration will include:

- not repairing washed out routes
- natural barriers, such as large boulders
- dead and down wood to obscure route entry ways
- fences
- ripping up the route bed and reseeding with vegetation natural to that area
- replacing gates with a fence if area has a fence in place
- visitor education and information

Each route will be looked at individually, and the best, least intrusive method will be used based on the geography, topography, soils, hydrology, and vegetation. The first several hundred feet of select routes identified for closure could be left open to provide pull-out areas or camping opportunities, preventing new ground disturbance elsewhere.

Enforcement

TRAN-18 The BLM's strategy to keep vehicles on designated travelways will be to hire additional staff including law enforcement personnel to patrol by foot, horse, and vehicle.

TRAN-19 Maps and signs will be used to help educate the public about routes that are open and closed. The information will be on the Monument+ website, at the visitor centers/contact stations, and sent to the media.

TRAN-20 The BLM has established a cooperative law enforcement agreement with the Sheriff department of Kane County and will pursue an agreement with Garfield County to facilitate shared law enforcement and support for enforcing established closures.

TRAN-21 The BLM will continue to work with the counties, the State, the communities, and others to communicate correct information about the transportation network to the visiting public and to residents.

TRAN-22 A volunteer program that will assist in educating visitors about access and other issues will also be developed.

TRAN-23 Monument+ staff will be scheduled to patrol on a regular basis throughout the year. Additional patrols will be added for intense use periods.

Aircraft Operations

TRAN-24 The Department of Defense operates two Military Training Routes across the Monument+. The BLM will work with the Department of Defense to ensure that military training routes are appropriate to Monument+ management.

TRAN-25 The BLM will work cooperatively with aircraft operators, adjacent land managing agencies, and the FAA to direct overflights to appropriate management zones.

TRAN-26 The only active airstrip inside the Monument+ is the New Home Bench airstrip near Boulder, which is located partially on U.S. Forest Service and partially on BLM lands. No other airstrip would be permitted in the Monument+.

TRAN-27 A number of entities holding rights-of-way or permits, State agencies, and the BLM use aircraft for patrolling, monitoring, maintenance, and repair functions. Necessary aircraft operations for rights-of-way holders, permittees, and other agencies will be documented in the appropriate permit, authorization or a Memorandum of Agreement. Landing of aircraft for these purposes will be limited to the minimum necessary to meet the required maintenance or repair function.

TRAN-28 Natural ambient sound is an important component of the resource and visitor experience. Studies on the effects of noise utilizing both visitor surveys and sound measuring instruments will be completed to determine what the noise baseline is for various areas within the Monument+. Studies will be coordinated for areas that border adjacent National Parks.

37. Utility Rights-of-Way and Communication Sites

LAND-1 The BLM will work with local communities and utility providers to identify short and long-term community needs for infrastructure which could affect Monument+ lands and resources.

LAND-2 Community projects which require public lands access or use will be subject to necessary project level NEPA analysis.

LAND-3 The BLM will work with the sponsor of a project to meet Monument+ Plan objectives for protecting resources. Alternative locations for projects will be identified when unavoidable conflicts arise. In order to protect Monument+ resources, such projects will be focused in appropriate zones as discussed below.

LAND-4 In general, proposals for diverting water out of the Monument+ will not be permitted. Exceptions could be made as discussed previously in WAT-2 of the **Water** section in this chapter.

LAND-5 In the Frontcountry and Passage Zones, communication sites and utility rights-of-way will be allowed, but will have to meet visual resource objectives (see the **Visual Resource Management** section for related decisions).

LAND-6 In the Outback Zone, communication sites and utility rights-of-way will be allowed within the constraints of the zone, where no other reasonable location exists, and will meet the visual objectives (see the **Visual Resource Management** section for related decisions).

LAND-7 In the Primitive Zone, utility rights-of-way will not be permitted. In cases of extreme need for local (not regional) needs and where other alternatives are not available, a plan amendment could be considered for these facilities in the Primitive Zone. Communication sites will only be allowed in the Primitive Zone for safety purposes and where no other alternative exists.

Rights-of-Way

LAND-8 The following criteria and/or stipulations apply to the management of all rights-of-way in the Monument+ where they are allowed:

- Bury new and reconstructed utility lines (including powerlines up to 34.5 kilovolts) unless: visual quality objectives can be met without burying; geologic conditions make burying infeasible; or burying will produce greater long-term site disturbance.

- All reconstructed and future powerlines must meet non-electrocution standards for raptors. If problems with existing powerlines occur, corrective measures will be taken.
- Construct all powerlines using non-reflective wire. Steel towers will be constructed using galvanized steel. Powerlines will not be high-lined unless no other location exists.

- Strobe lights will not be allowed at any communication site. Other methods will be used to meet aircraft safety requirements.

- Communication site plans will be prepared for all existing or new sites before any new uses or changes in use occur.

- A Monument+-wide feasibility study will be prepared to determine the most appropriate location for new communication sites.

LAND-9 Per Public Law 105-355, signed by President Clinton on October 31, 1998, a utility corridor was designated along Highway 89 in Kane County, including that portion of Highway 89 within the Monument+. Location of the proposed Lake Powell to Sand Hollow water pipeline within this utility corridor has been designated.. Subsequent NEPA analysis will be required.

LAND-10 The BLM will authorize only one access route to private land parcels unless public safety or local ordinances protective of Monument+ resources warrant additional routes. Private land owners will be required to coordinate the development of access routes across public lands in order to prevent a proliferation of routes. Rights-of-way may be allowed when necessary to exercise valid existing rights.

38. Valid Existing Rights and Other Existing Authorizations

Valid existing rights (VERs) are those rights in existence within the boundaries of Monument+ when the Monument+ was established on September 18, 1996. Valid existing rights were established by various laws, leases, and filings under Federal law, and for leases on lands acquired by the United States from Utah, under Utah State law.

Energy and Mineral Activities (Including Hardrock, Oil, Gas, and Coal)

VER-1 The BLM will verify whether VERs are present by periodically reviewing the files related to existing mining claims and leases. This will help ensure that required actions, filings, and fees are in full compliance with the law. This process, known as adjudication, will continue for the life of each VER. With regard to mining claims and millsites located under the Mining Law of 1872, the BLM will initiate a validity examination process to verify the VERs of claimants before such claimants conduct surface disturbing activities greater than casual use. Valid mining claims within Monument+ require existence on September 18, 1996, of a discovery of a valuable mineral deposit, as well as a continuing discovery to the date of the validity examination and thereafter. For previously approved operations, the BLM will conduct validity examinations. For new proposals, except as described in the next sentence, the BLM will

(1) withhold approval of plans of operations under 43 CFR 3802 or 3809 until the validity examination process is complete and the claims are determined to be valid; and

(1) withhold approval of plans of operations under 43 CFR 3802 or 3809 until the validity examination process is complete and the claims are determined to be valid; and
(2) inform persons who have written the BLM that they intend to commence notice-level operations under 43 CFR 3809 that such operations cannot commence until the BLM completes its validity examination process and has verified that there are VERs. Until the validity examination process is complete, the BLM may allow notice-level operations or approve a plan of operations under 43 CFR 3809 for operations on unreclaimed previously disturbed areas, which are limited to taking samples to confirm or corroborate mineral exposures that are physically disclosed and existing on the mining claim. BLM may deny plans of operations without the performance of a validity examination if such denial is consistent with BLM regulations and policy.

In addition, VERs may be examined in the field for compliance with laws and regulations. The BLM will continue to monitor oil and gas activities through its Inspection Program.

Once a VER is verified, the process used to address applications or notices filed under that VER (such as an application to drill on an oil or gas lease, or a plan of operations or notice filed on a mining claim) will vary by commodity and regulation. However, for all applications and notices, the BLM will use a NEPA analysis to determine potential impacts on the Monument+ resources that this Plan is required to protect. Once such analysis is completed, the BLM will take the following actions on a case-by-case basis:

- If the analysis indicates no impact to Monument+ resources, or indicates impacts to resources, but determines that the impacts are consistent with the Proclamation and this Plan, the proposed operation can proceed in accordance with applicable regulations, standards and stipulations.

- If analysis and documentation indicate that, under the laws, regulations, and stipulations discussed above, a proposal may have impacts that are not in conformance with the Proclamation and this Plan, the BLM will take the following actions on a case- by-case basis:
  - Work with the applicant to find alternatives or modifications to the proposal that will either:
    - Cause no adverse impacts to Monument+ resources, or

- Minimize such impacts through special stipulations or other permit conditions, consistent with the applicant's rights.
- If unable to prevent or minimize adverse impacts as described in 2(A), disapprove the proposed action if disapproval is consistent with the applicants' rights. For persons with rights within WSAs within the Monument+, the BLM will also be guided by its July 5, 1995 (or its update), Interim Management Policy and Guidelines for Lands Under Wilderness Review.

Other Existing Rights or Interests

There are situations, unrelated to minerals, in which the BLM has authorized some use of public land, or has conveyed some limited interest in public land. The authorization may be valid, existing when the Monument+ was designated, and may convey some "right" or interest. Many rights-of-way[2], easements[3], and leases[4] granted on public land are in this category. They vary from case-to-case, but the details of each one are specified in the authorizing document.

VER-2 Authorizations, where they are valid and existed on September 18, 1996, will be recognized in the Monument+ and their uses will be allowed subject to the terms and conditions of the authorizing document. Where these uses conflict with the protection of Monument+ resources, and where legally possible, leases, permits, or easements will be adjusted to eliminate or minimize adverse impacts.

VER-3 The Materials Act of 1947 specifically excludes the disposal of mineral materials from National Monuments. As a result, free use permits or contracts for mineral materials authorized under this Act will not be renewed.

VER-4 Some mineral material sites are authorized under Title 23 U.S.C. Section 107 (1998), which provides for the appropriation of lands or interests in lands for highway purposes. Unlike free use permits or contracts for sale of mineral materials that are issued for a fixed term, Title 23 rights-of-way continue indefinitely. The BLM does not resume jurisdiction over the land covered by the rights- of-way until the lands are returned to the BLM upon a determination by the Federal Highway Administration that the need for the material no longer exists. Existing Title 23 rights-of-way within the Monument+ are inconsistent with the protection of Monument+ resources. The BLM will request closure of those sites from the Federal Highway Administration and will work with the Federal Highway Administration to find suitable replacement sources of mineral material.

Non-Federal Land Inholdings

There are approximately 15,000 acres of private land within the boundary of the Monument+.

VER-5 Owners of non-Federal land surrounded by public land managed under FLPMA are entitled to reasonable access to their land. Reasonable access is defined as access that the Secretary of the Interior deems adequate to secure the owner reasonable use and enjoyment of the non-Federal land. Such access is subject to rules and regulations governing the administration of public land.[5] In determining reasonable access, the BLM has discretion to evaluate and will consider such things as proposed construction methods and location, reasonable alternatives, and reasonable terms and conditions as are necessary to protect the public interest and Monument+ resources.

VER-6 The BLM will consider land exchanges and acquisitions so long as the current owner is a willing participant and so long as the action is in the public interest, and is in accordance with other management goals and objectives of this Plan. The action must also result in a net gain of objects and values within the Monument+, such as wildlife habitat, cultural sites, riparian areas, live water,

threatened or endangered species habitat, or areas key to the maintenance of productive ecosystems. The action may also meet one or more of the following criteria:

- ensures the accessibility of public lands in areas where access is needed and cannot otherwise be obtained;
- is essential to allow effective management of public lands;
- results in the acquisition of lands which serve a National priority as identified in National policy directives.

All land exchanges and acquisitions will be subject to VERs as determined by the BLM.

Other Land Use Authorizations

VER-7 There are a variety of other land use authorizations which were in effect as of September 18, 1996, and which, although they involve no "rights," are being continued in the Monument+. Outfitter and guide permits are an example. These permits authorize certain uses of public land for a specified time, under certain conditions, without conveying a right, title, or interest in the land or resources used. Such permits will be recognized in the Monument+ and fulfilled subject to the terms and conditions of the authorizing document. If at any time it is determined that an outfitter and guide permit, other such permit, or any activities under those permits, are not consistent with the Approved Monument+ Management Plan, then the authorization will be adjusted, mitigated, or revoked where legally possible.

VER-8 Grazing permits are also in this category. Grazing permits or leases convey no right, title, or interest in the land or resources used. Other applicable laws and regulations govern changes to existing grazing permits and levels of livestock grazing in the Monument+, just as in other BLM livestock grazing administration programs. Management of livestock grazing is addressed previously in the **Livestock Grazing** section of this chapter.

Acquired School and Institutional Trust Lands

VER-9 The BLM will be acting in place of the State in administering all valid existing authorizations for the remainder of the applicable term in accordance with State laws and regulations. As part of such administration, BLM decisions will be subject to those Federal laws which are ordinarily attached to Federal decisions (e.g., the National Environmental Policy Act, Endangered Species Act, National Historic Preservation Act). Renewal of any lease, permit, or contract will occur if provided for under the terms of the lease, permit, or contract. Upon expiration of any grazing lease or permit, the holder shall be entitled to a preference right to renew such lease or permit to the extent provided by Federal law. This provides a priority to the holder of the expiring lease or permit against other applicants, but does not guarantee that a renewal will occur.

39. Vending

VEND-1 Vending within the Monument+ will be occasional, infrequent, and may be allowed by permit on a case-by-case basis in the Frontcountry and Passage Zones, in association with approved special events or recreation sites. Generally, permits could be issued to provide services needed at recreation sites (such as firewood sales at campgrounds) and services that are commonly offered in conjunction with permitted special events. Criteria and/or stipulations to protect Monument+ resources will be included in all permits.

Concessionaire sales and on-going vending permits are not included in this provision, except where contracts between concessionaires and the Monument+ are used to provide services to visitors in the Frontcountry and Passage Zones.

VEND-2 Vending will not be allowed in the Outback or Primitive Zones.

VEND-3 The BLM will work with UDOT to regulate vendors along Highways 12 and 89.

40. Water-Related Developments (Non-Culinary)

WDEV-1 Water developments can be used as a management tool throughout the Monument+ for the following purposes: better distribution of livestock when deemed to have an overall beneficial effect on Monument+ resources, including water sources or riparian areas, or to restore or manage native species or populations. They can be done only when a NEPA analysis determines this tool to be the best means of achieving the above objectives and only when the water development would not dewater streams or springs. Developments will not be permitted to increase overall livestock numbers. Maintenance of existing developments can continue, but may require NEPA analysis and must be consistent with the objectives of this Plan.

41. Wildfire Management

FIRE-1 Vegetation in the Monument+ generally evolved with fire as a minor part of the ecosystem, as is evident from the flora and soil characteristics. Periodic fires did occur in the Monument+, but little information is known about the frequency or size of these fires. The objective of the fire management program will be to allow fire to play its natural role in the ecosystem. Management ignited fires may be initiated in areas where fire suppression has disrupted natural fire regimes. Specific objectives for management ignited fire will be developed prior to its use and with recommendations from the Monument+ Advisory Committee.

FIRE-2 For all fire activities, the Monument+ is part of the Color Country Interagency Fire Management Area. This area includes Iron, Washington, Beaver, Kane, and Garfield Counties in Utah, and the BLM Arizona Strip Field Office lands of Mohave County in Arizona. This area was established to share resources in southwestern Utah and northwestern Arizona. An operating plan outlining agency responsibilities and organizational structure for suppression activities is updated annually.

Specific zoned areas and policies have been established to indicate how suppression activities will be managed in specific areas of the Monument+. Most of the Monument+ is included in zones that have little fire suppression activity. Some full suppression zones occur within the Monument+, found in areas where protection of structures and property are a concern. Protection of other resources is fully integrated into the fire management strategies for all of the zones in southern Utah and northern Arizona. Changes in specific zone strategies may be updated on an annual basis to assure appropriate action is taken for fire suppression in a given area. All changes in zones and activities will be coordinated with the Color Country Fire Management Area staff following established processes.]

FIRE-3 Heavy equipment use is allowed through authorization of the Monument+ Manager.

FIRE-4 A designated fire resource advisor familiar with WSA issues will be consulted on all fires within the Monument+ that involve WSAs.

42. Wildlife Services

WS-1 Wildlife Services (formerly Animal Damage Control) activities within the Monument+ will be limited to the taking of individual coyotes within the immediate vicinity after verified livestock kills, where reasonable livestock management measures to prevent predation had been taken and had failed. Reasonable livestock management measures could include preventative measures to control predation, such as managing where calving occurs, in order to develop improved land management practices.

WS-2 No traps, poisons, snares, or M44s will be allowed in the Monument+ due to safety concerns and potential conflicts with Monument+ resources.

WS-3 The above provisions do not diminish the responsibility and authority of the State of Utah for management of fish and wildlife. These provisions apply to the operations of the Animal and Plant Health Inspection Service (Wildlife Services) agency and are taken under the terms of the national agreement between the BLM and Wildlife Services, which states that "APHIS-ADC shall conduct activities on BLM lands in accordance with APHIS-ADC policies, wildlife damage management plans, applicable State and Federal laws and regulations, and consistent with BLM Resource or Management Framework Plans." Control actions taken by the State of Utah, or actions taken under State law by private citizens are not affected by this provision.

43. Withdrawal Review

This section refers to any lands within the Monument that have been removed or withdrawn from operation under some or all of the public land laws (such as mining and/or mineral leasing laws) by statute or Secretarial order prior to the Proclamation. These withdrawals were imposed to achieve a variety of purposes, and they remain in effect until specifically revoked, or otherwise expire. Many were established prior to the enactment of FLPMA in 1976. Table 1 summarizes all existing withdrawals in the Monument.

Table 1. Withdrawals/Classifications

Number	Type	Acres
248	Public Water Reserves	12,035
10	Reclamation Withdrawals	17,496
3	Recreation Classifications	7,940
1	Withdrawal for Federal Energy Regulatory Commission (FERC) Project #2219	132
1	Withdrawal for FERC Project #2642	57
1	Wolverine Petrified Wood Area	1,520
1	Escalante Canyons Outstanding Natural Area (ONA)	1,160
1	Devils Garden ONA	640
1	North Escalante Canyon ONA	5,800
1	The Gulch ONA	3,430
1	Phipps-Death Hollow ONA	34,300
1	Calf Creek Recreation Area	5,835
1	Deer Creek Recreation Area	640
1	Dance Hall Rock Historic Site	640

WR-1 The BLM will continue to review withdrawals within the Monument+ to determine their consistency with the intent of the withdrawal. Any withdrawals no longer meeting their intended purpose will be terminated under Section 204 (l) of FLPMA. Where appropriate, existing withdrawals could also be modified or revoked under Section 204 (a) of FLPMA to implement the objectives of this Plan.
Special Emphasis

Special Emphasis Areas

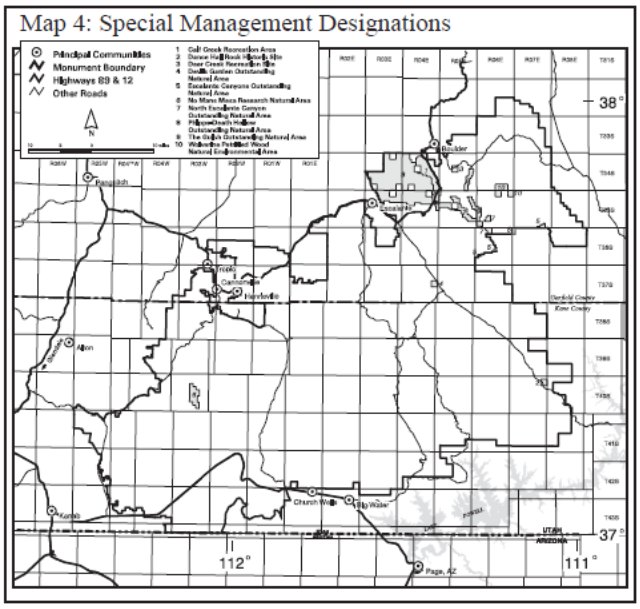
44. Areas of Critical Environmental Concern

ACEC-1 The designation of Areas of Critical Environmental Concern (ACECs) are appropriate in the Monument + Management Plan. ACEC nominations must be considered by BLM in the land use planning process and nominations are forthcoming at our earliest convenience.

45. Special Management Designations

SMA-1 All existing special management designations are consistent with the Proclamation and the objectives of this Plan. The following designations (Map 4) will continue:

- Calf Creek Recreation Area
- Deer Creek Recreation Site
- Devils Garden Outstanding Natural Area
- Dance Hall Rock Historic Site
- Escalante Canyons Outstanding Natural Area (tracts 2, 3, 4 are included in North Escalante Canyon/The Gulch ISA and Tract 1 and 5 are separate)
- North Escalante Canyon Outstanding Natural Area
- The Gulch Outstanding Natural Area
- Phipps-Death Hollow Outstanding Natural Area
- No Mans Mesa Research Natural Area
- Wolverine Petrified Wood Natural Environmental Area



46. Special Recreation Management Areas

Special Recreation Management Areas (SRMA) are areas where more intensive recreation management may be needed because the area will be a focal point for visitation (Highway 12 and 89 corridors) or

because recreational uses within the area need to be closely managed or limited to prevent conflicts with Monument+ resources (Escalante Canyons, Paria/Hackberry, and Fiftymile Mountain).

SRMA-1 The Escalante Canyons, Paria/Hackberry, and Paria Canyons and Plateaus will continue to be managed as Special Recreation Management Areas. Fiftymile Mountain, the Highway 12 Corridor, and the Highway 89 Corridor will also be SRMAs (Map 5). Management objectives for these areas are outlined below.

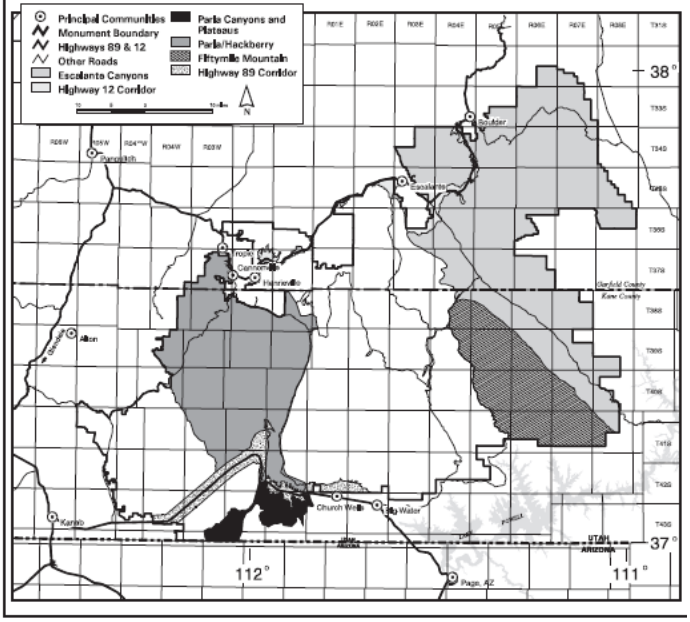
SRMA-2 Escalante Canyons SRMA

The boundary of this SRMA will follow the geographical topography including all the tributaries to the main Escalante Canyon. It will include trailheads for all the popular routes into the canyons. Activities in this SRMA include backpacking, canyoneering, non- motorized boating, and equestrian use. The overall recreation experience will continue to be primitive, uncrowded, and remote. Overall social encounters will remain low compared to other southwest canyon hiking opportunities. However, a range of social encounters will be available. Potential permit systems could address general public, commercial, and administrative users.

SRMA-3 Paria/Hackberry SRMA

This area is bordered on the west by Kitchen Canyon Road, on the east by Cottonwood Canyon Road corridor, on the south by the confluence of Hackberry/Cottonwood Creeks and the Paria River, and on the north by Dixie National Forest, excluding the Skutumpah corridor. Activities in this SRMA include backpacking, canyoneering, and equestrian use. The overall recreation experience will continue to be primitive, uncrowded, and remote. Equestrian opportunities will be emphasized in Paria Canyon, while backpacking opportunities will be emphasized in Hackberry Canyon. Potential permit systems could address general public use and commercial users.

Map 5: Special Recreation Management Areas



SRMA-4 Paria Canyons and Plateaus SRMA This area encompasses Buckskin Mountain, West Clark Bench, and Cedar Mountain to connect to the BLM Arizona Strip's "Canyons and Plateaus of the Paria Resource Conservation Area." These areas are located south of Highway 89, with the Monument+

boundary marking the east boundary. Activities in this SRMA include canyoneering, equestrian use, backpacking, hiking, hunting, and scenic touring along the House Rock Valley Road. The overall recreation experience will continue to be primitive, uncrowded and remote. Overall social encounters will remain low compared to other southwest canyon hiking opportunities.
However, a range of social encounters occur. Management of this SRMA will be in coordination with the Kanab and the Arizona Strip Field Offices.

SRMA-5 Fiftymile Mountain SRMA

This area includes the geographical area called Fiftymile Mountain including trail access points. Activities in this SRMA include equestrian use, backpacking, and hunting. The recreation experience will be primitive, uncrowded, and remote. Visitors will not be encouraged to go to this area and commercial outfitting will be extremely limited.

SRMA-6 Highway 12 Corridor SRMA

This area encompasses the Highway 12 corridor located in the Monument+, including the Calf Creek Campground and Interpretive Trail. Activities in this SRMA include scenic driving, day-use hiking, camping, equestrian use, road bicycling, scenic and interpretive viewing. The recreation experience will focus on learning about geology, history, archaeology, biology, and paleontology, in addition to scenic viewing. Short interpretive trails and scenic overlooks will be developed to encourage visitors to learn more about these Monument+ resources. Opportunities will accommodate all visitors. Information stations located in Boulder, Escalante, and Cannonville will disseminate educational materials to further information about these resources.

SRMA-7 Highway 89 Corridor SRMA

This area encompasses the Highway 89 corridor within the Monument+, including the Paria Movie Set, the old Pahreah townsite, and the Paria Contact Station. Activities in this SRMA include scenic driving, day-use hiking, camping, road and mountain bicycling, scenic and interpretive viewing. The recreation experience will focus on learning about geology, history, archaeology, biology, and paleontology, in addition to scenic viewing. Short interpretive trails and scenic overlooks will be developed to encourage visitors to learn more about these Monument+ resources. Opportunities will accommodate all visitors. This corridor will be coordinated with the Vermilion Cliffs Highway Project.

47. Visual Resource Management

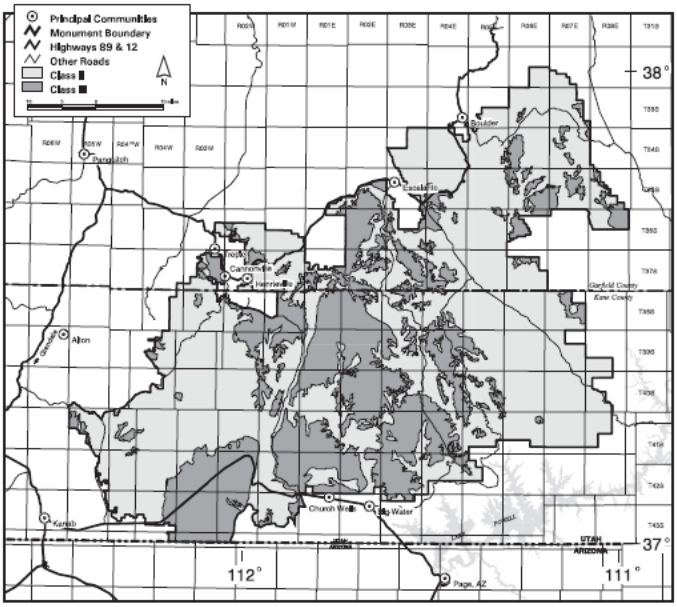
Objectives

Preserve the spectacular scenic assets of Monument+.

Management

VRM-1 Utilizing the results of the visual resource inventory and other resource allocation considerations, 68 percent of the lands within the Monument+ will be assigned to VRM Class II and 32 percent of the lands within the Monument+ will be assigned to VRM Class III, as shown on Map 6.

Map 6: Visual Resource Management Classes



The VRM class objectives are as follows:

Class II: The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. 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: The objective of this class is to partially retain the existing character of the landscape. 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 landscape.

VRM-2 All proposed actions must consider the importance of visual values and must minimize the impacts the project may have on these values. While performing an environmental analysis for projects, the visual resource contrast rating system will be utilized as a guide to analyze potential visual impacts of the proposal.

Projects will be designed to mitigate impacts and conform to the assigned VRM Class objective and other objectives including: (1) using natural or natural appearing material as a priority, (2) meeting restoration/revegetation objectives, and (3) complying with the Monument+ Facilities Master Plan.

VRM-3 Some types of projects such as valid existing rights, or ingress to private land may be allowed on a case-by-case basis in Class II or III areas. Visual resource impacts in these instances will be minimized by such measures as screening, painting, project design, relocation, or restoration.

VRM-4 The Monument+ Manager may allow temporary projects, such as research projects, to exceed VRM standards in Class II and III areas, if the project terminates within two years of initiation. Rehabilitation will begin at the end of the twoyear period. During the temporary project, the Manager may require phased mitigation to better conform with prescribed VRM standards.

VRM-5 The VRM classes acknowledge existing visual contrasts. Existing facilities or visual contrasts will be brought into VRM class conformance to the extent practicable when the need or opportunity arises (i.e., rights-of-way renewals, mineral material site closures, abandoned mine rehabilitation).

VRM-6 If areas are designated as Wilderness or designated a wild section of a National Wild and Scenic River, they will be reassigned to VRM Class I.

48. Wild and Scenic Rivers

WSR-1 Approximately 252[6] miles of river segments have been determined suitable and will be recommended for Congressional designation into the National Wild and Scenic River System (NWSRS). The suitable river segments include: Escalante River 1, 2, 3; Harris Wash; Lower Boulder Creek; Slickrock Canyon; Lower Deer Creek 1, 2; The Gulch 1, 2, 3; Steep Creek; Lower Sand Creek and tributary Willow Patch Creek; Mamie Creek and west tributary; Death Hollow Creek; Calf Creek 1, 2, 3; Twenty-five Mile Wash; Upper Paria River 1, 2; Lower Paria River 1, 2; Deer Creek Canyon; Snake Creek; Hogeye Creek; Kitchen Canyon; Starlight Canyon; Lower Sheep Creek; Hackberry Creek; Lower Cottonwood Creek; and Buckskin Gulch. The suitable segments are shown on Maps 7 and 8. Rationale for suitability determinations for all segments are found in Appendix 4.

WSR-2 Those streams found suitable will be managed for protection of the resources associated with the stream. Such action will not entail any additional state water rights and will not result in a Federal reserved water right unless Congress acts to officially designate the stream or stream segment as part of the NWSRS. Upon such designation, if any, the Federal reserved water right thus established would, by law, be established with the priority date of the designation and would be junior to all preexisting water rights, in accordance with the existing state priority system. Senior rights in any stream designated would be unaffected.

WSR-3 River segments determined non-suitable will be managed under the direction and prescriptions of this Plan.

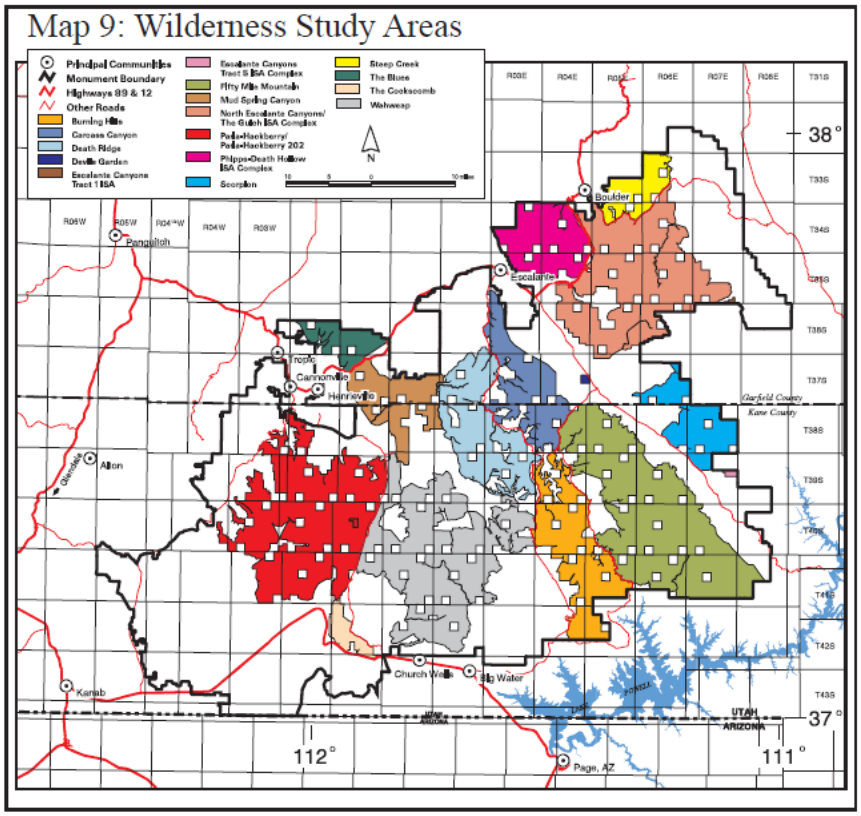
49. Wilderness Study Areas

The Monument+ contains 16 Wilderness Study Areas (WSAs), totaling approximately 881,997 acres[7], or about 47 percent of the BLM acres in the Monument+ (Table 2 and Map 9).

Table 2. Wilderness Study Areas

Name	Acres*
Phipps-Death Hollow Instant Study Area (ISA)	42,731
Steep Creek Wilderness Study Area (WSA)	21,896
North Escalante Canyons/The Gulch ISA	120,204
Carcass Canyon WSA	47,351
Scorpion WSA	35,884
Escalante Canyons Tract 1 ISA	360
Escalante Canyons Tract 5 ISA	760
Devils Garden ISA	638
The Blues WSA	19,030
Fiftymile Mountain WSA	148,802
Death Ridge WSA	63,667
Burning Hills WSA	61,550
Mud Spring Canyon WSA	38,075
The Cockscomb WSA	10,827
Paria/Hackberry and Paria/Hackberry 202 WSA	135,822
Wahweap WSA	134,400

* WSA/ISA acres are total BLM acres from the Utah Statewide Wilderness Study Report, October 1991.



WSA-1 Existing WSAs in the Monument+ will be managed under the BLM's Interim Management Policy (IMP) and Guidelines for Lands Under Wilderness Review (BLM Manual H-8550-1) until legislation takes effect to change their status. The major objective of the IMP is to manage lands under wilderness review in a manner that does not impair their suitability for designation as wilderness. In general, the only activities permissible under the IMP are temporary uses that create no new surface disturbance nor involve permanent placement of structures. Temporary, non-disturbing activities, as well as activities governed by valid existing rights, may generally continue in WSAs.

WSA-2 Actions allowed under the IMP will also be subject to other BLM laws and policies that govern the use of public land, including management prescriptions or other restrictions developed in this Plan (where they are consistent with the IMP). It is important to note that some uses and activities described in this Plan may not be achievable under the IMP. Where conflicts occur between the zone prescriptions and IMP, IMP will take precedence until action is taken by Congress to either designate the WSAs as Wilderness or release them from further protection. This Plan and zone prescriptions will apply to all public land within the Monument+ if Congress releases them from WSA status.

50. Lands with Wilderness Characteristics

LWC- 1 There are 459,000 acres of BLM-identified Lands with Wilderness Characteristics (LWC) present within the Monument+ boundaries. These 459,000 acres will be managed for the protection of their existing wilderness characteristics.

51. Cooperation and Consultation

Cooperation with Communities, State and Federal Agencies

COMM-1 The BLM will form innovative partnerships with Native American Indian tribes, local and State governments, qualified organizations, and appropriate Federal agencies to manage lands or programs for mutual benefit consistent with the goals and objectives of this Management Plan.

COMM-2 The BLM will work with communities, counties, State and other Federal agencies, and interested organizations in seeking nontraditional sources of funding including challenge cost-share programs, grants, in-kind contributions, and allowable fee systems to support specific projects needed to achieve Plan objectives.

COMM-3 The BLM will consider, where appropriate, contracting with private sector businesses, nonprofit organizations, academic institutions, or State and local agencies to accomplish essential studies, monitoring, or project development.

COMM-4 The BLM will increase the use of citizen and organizational volunteers to provide greater monitoring of resource conditions and to complete on-the ground developments for resource protection, effective land management, and human use and enjoyment.

COMM-5 Where it is found to be mutually advantageous, the BLM will enter into cooperative agreements or memorandums of understanding with Federal, State, local, tribal, and private entities to manage lands or programs consistent with the goals and policies of this Management Plan. Such agreements could provide for the sharing of human or material resources, the management of specific tracts of lands for specific purposes, or the adjustment of management responsibilities on prescribed lands. This would be done in order to eliminate redundancy and reduce costs.

COMM-6 Non-profit organizations, citizens and user groups that have adequate resources and expertise could enter into cooperative agreements to assist in the management of public lands in the Monument+. Assistance could include, but would not be limited to, resource monitoring, site cleanups, and the construction of authorized projects.

52. Consultation with Native American Indians

CNA-1 Consultation with the following tribal groups will continue: Hopi, Zuni, Navajo, Kaibab Paiute, Paiute Tribes of Utah, San Juan Southern Paiute, and Ute. The BLM will endeavor to consult with any interested federally recognized Native American tribe.

CNA-2 The BLM will continue its agreements to collect ethnographic data with the Hopi and the Kaibab Paiute. The BLM will expand this effort to the other tribal nations and expand the breadth of this program.

53. Monument+ Advisory Committee

ADV-1 A Grand Staircase-Escalante National Monument+ Advisory Committee (chartered under the Federal Advisory Committee Act) will be established to advise Monument+ managers on science issues and the achievement of Management Plan objectives. This committee will serve solely as an advisory committee, making recommendations regarding Monument+ management. Monument+

management will evaluate all Advisory Committee recommendations, but will ultimately be responsible for making all final decisions.

ADV-2 The primary purpose for the re-establishment of this committee is to aid in achievement of the Management Plan objectives, through participation in the adaptive management program. In this capacity it will have several tasks: (1) Review evaluation reports produced by the Management Science Team (comprised of the Assistant Monument+ Managers for Biological Sciences, Cultural and Earth Sciences, and Visitor Services) and make recommendations on protocols and projects to meet overall objectives. These evaluations will be completed regularly (see Chapter 3, Implementation and Adaptive Management Framework) and will compile monitoring data and assess the extent to which Management Plan objectives are being met.

- Review appropriate research proposals and make recommendations on project necessity and validity.
- Make recommendations regarding allocation of research funds through review of research and project proposals as well as needs identified through the evaluation process above. The Committee could be consulted on issues such as protocols for specific projects (e.g., vegetation restoration methods) or standards for excavation and curation of artifacts and objects. This Committee will meet at least twice a year to accomplish the tasks outlined above.

ADV-3 This Committee will be comprised of eight scientists covering the areas of archaeology, paleontology, geology, botany, wildlife biology, history, social science, and systems ecology. In addition to scientists, there will be seven other Committee members: one local elected official from both Kane and Garfield Counties, one from State or tribal government, one from the environmental community, one educator, one from the outfitter and guide community operating within the Monument+, and one from the ranching community operating within the Monument+. These additional members will facilitate communication with adjacent agencies and stakeholders and provide insight into community and stakeholder concerns.

ADV-4 The Monument+ Advisory Committee will be used to involve other agencies and the public in analysis, monitoring, research and adaptive management.

Role of the Management Science Team and the Monument+ Advisory Committee

ADV- 5 The Management Science Team (comprised of the Assistant Monument+ Managers for Biological Sciences, Cultural and Earth Sciences, and Visitor Services) will be responsible for developing monitoring and adaptive management protocols and ensuring that documentation is sufficient to facilitate feedback into the adaptive management process. This team will also be responsible for ensuring that monitoring results and other new information (based on sub-unit assessments) are compiled and evaluated according to the two evaluation phases discussed above.

The credibility of an adaptive management process rests in part on the routine application of an outside check on the use of technical and scientific information, including monitoring. Independent reviews can provide verification that plans, evaluation, and changes in management strategy are consistent with current scientific concepts. The GSENM Advisory Committee discussed in Chapter 2 of this Plan will be used in this role to evaluate compiled monitoring data in the evaluation phases discussed above, and will make recommendations to management regarding changes to projects, strategies or objectives. The majority of the committee
members will be scientists, reflecting the Advisory Committee's science focus. There will be eight scientists representing the areas of archaeology, paleontology, geology, botany, wildlife biology, history, social science, and systems ecology. In addition, there will be seven members representing other agencies, local communities, interest groups, and users of the Monument+.

Consultation, Coordination, and Collaboration

Collaborative approaches to implementation are necessary to assure success. While the BLM retains the responsibility and authority for land management decisions, these decisions are more meaningful, effective, and longer lasting if done in a collaborative and open process. Therefore, close working relationships between management and regulatory agencies need to be developed and maintained. In addition, others outside of the BLM (e.g., state and local agencies, universities, scientists, volunteers) should be involved in subsequent analysis, monitoring, evaluation, research, and adaptive management processes.

A major component that will be used to involve other agencies and the public in subsequent analysis, monitoring, research and adaptive management is the Monument+ Advisory Committee/. Other efforts will include forming partnerships to complete assessments, establish baseline data, monitor, and modify management actions as a result of these processes.

Relationship to Other Agency Plans

Local, State, other Federal agencies, and Indian tribes in the immediate region routinely prepare plans that establish goals and direction for land use, economic development, or resource management within their jurisdictions. Many of these plans bear directly on or are significantly affected by BLM plans for managing public lands. Under this Plan, BLM will collaborate with such agencies and tribes on planning implementation and achieving consistency with other approved plans to the extent that they are determined consistent with protection of Monument resources, federal laws, regulations, and policies. The principles of community-based planning will be employed where timing, mutual interest, and the availability of resources are appropriate to address economic, ecologic, and land use issues of concern. The following list of plans relates to the management of lands in or around the Monument+ and will be given consideration as implementation proceeds.

- Bryce Canyon National Park General Management Plan
- Capitol Reef National Park General Management Plan
- Glen Canyon National Recreation Area General Management Plan
- Dixie National Forest Land and Resource Management Plan
- Garfield County General Plan
- Kane County General Plan
- Kane County Water Conservancy Master Plan

References

[USFWS] U.S. Fish and Wildlife Service, Utah Field Office. 2002a *Utah Field Office Guidelines for Raptor Protection From Human And Land Use Disturbances*.

[USFWS] U.S. Fish and Wildlife Service, Utah Field Office. 2002b *Final Recovery Plan Southwestern Willow Flycatcher (* Empidonax traillii extimus).

APPENDIX B

RATIONALE FOR THE SUSTAINABLE GRAND STAIRCASE-ESCALANTE ALTERNATIVE

Rationale for Certain Elements of the
Sustainable Grand Staircase-Escalante Alternative

The **Sustainable Grand Staircase-Escalante Alternative** combines, with some additions/differences, (1) the 1999 Grand Staircase-Escalante Monument Management Plan; and (2) the Sustainable Grazing Alternative, which the BLM had indicated in 2016 would be Alternative C in the planned EIS for a Monument Management Plan grazing amendment. Thus the Sustainable Grand Staircase-Escalante Alternative is a comprehensive, stand-alone alternative to be fully analyzed and compared for its environmental consequences with other alternatives in the Draft EIS.

The 1999 Monument Management Plan provides context and rationale for all elements of that plan. Some 1999 Monument Management Plan wording has been modified in the Sustainable Grand Staircase-Escalante Alternative in light of greater ecological knowledge or other changes since the plan was written 20 years ago, but hopefully the rationale is obvious for most of those changes. We encourage BLM to communicate with us if the rationale of any new direction proposed by the Alternative is not clear.

We provide below a rationale for several pieces of the Alternative that differ in important ways from the 1999 Monument Management Plan, including

- Livestock Grazing - Section 30, because the 1999 MMP did not address livestock grazing)
- Fish and Wildlife (Section 3) direction to prevent exotic honeybees on the Monument
- Vegetation Restoration Methods (Section 13) direction to avoid soil-disturbance and cheatgrass spread and direction to provide a means of understanding the outcomes of treatments

[*Note: All references for which a link (URL) is not offered below are being mailed to the BLM separately on a DVD by Grand Canyon Trust. Please contact Mary O'Brien, Utah Forests Program Director, mobrien@grandcanyontrust.org for any documents for which downloading from a link does not appear to be working (all links were accessed on 4/11/2018).*]

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Rationale

1 Livestock Grazing

A. Goals

The six Goals of the Sustainable GSE Alternative are based on the BLM Fundamentals of Rangeland Health (43CFR §4180.1)

1. **GOAL 1 Watersheds** are in, or are making significant, measurable progress toward, properly functioning physical and biological condition, including their upland, riparian-wetland, and aquatic components; soil and plant conditions support infiltration, soil moisture storage, and the release of water that are in balance with climate and landform and maintain or improve water quality, water quantity, and timing and duration of flow.

   Goal 1 is the BLM Fundamentals of Rangeland Health Goal for Watersheds except for addition of the word "measurable," because the public needs to be able to know that claims of progress toward watershed health, can be reviewed or documented by them.

   This goal also meets Guideline 1(b) of BLM Utah's Guidelines for Grazing Management.

2. **GOAL 2 Native plant communities** are healthy, diverse, and productive, or are making significant, measurable progress toward such conditions.

Goal 2 is the means by which, the Monument+ will be managed to achieve a natural range of native plant associations and that vegetation restoration will be used to "…restore and promote a natural range of native plant associations" (Alternative GSE Alternative, Objective for Vegetation Restoration).

The intent of Goal 2 is to meet Standard 3 of BLM's Utah Rangeland Health Standards:

> Standard 3. Desired species, including native, threatened, endangered, and special status-species, are maintained at a level appropriate for the site and species involved.
> As indicated by:
> a) Frequency, diversity, density, age classes, and productivity of desired native species necessary to ensure reproductive capability and survival
> . . .
> c) Native species reoccupy habitat niches and voids caused by disturbances unless management objectives call for introduction or maintenance of normative species.

As noted above, the Alternative GSE Alternative calls for the maintenance of native species.

3. GOAL 3 **Ecological processes**, including the hydrologic cycle, nutrient cycle, and energy flow, are maintained, or there is significant, measurable progress toward their attainment, in order to support healthy biotic populations and communities.

   Goal 3 is the BLM Fundamentals of Rangeland Health goal for Ecological processes except for addition of the word "measurable," as in Goal 1.

4. **GOAL 4 Riparian and wetland areas** exhibit, or are making significant, measurable progress toward exhibiting potential native vegetation diversity, density, age structure composition, and cover. Stream channel morphology and functions are appropriate to soil type, climate and landform.

   Goal 4 meets Standard 2 of BLM's Utah Rangeland Health Standards:

   > **Standard 2.** Riparian and wetland areas are in properly functioning condition. Stream channel morphology and functions are appropriate to soil type, climate and landform.
   > As indicated by:
   > a) Streambank vegetation consisting of, or showing a trend toward, species with root masses capable of withstanding high streamflow events. Vegetative cover adequate to protect stream banks and dissipate streamflow energy associated with high water flows, protect against accelerated erosion, capture sediment, and provide for groundwater recharge.
   > b) Vegetation reflecting: Desired Plant Community, maintenance of riparian and wetland soil moisture characteristics, diverse age structure and composition, high vigor, large woody debris when site potential allows, and providing food, cover and other habitat needs for dependent animal species.

c) Revegetating point bars; lateral stream movement associated with natural sinuosity; channel width, depth, pool frequency and roughness appropriate to landscape position.
d) Active floodplain.

5. **GOAL 5 Soils** exhibit, or are making significant, measurable progress toward permeability and infiltration rates that sustain potential site productivity or improve site productivity, considering the soil type, climate, and landform.

Goal 5 fulfills Standard 1 of BLM's Utah Rangeland Health Standards:

> **Standard 1.** Upland soils exhibit permeability and infiltration rates that sustain or improve site productivity, considering the soil type, climate, and landform.
> As indicated by:
> a) Sufficient cover and litter to protect the soil surface from excessive water and wind erosion, promote infiltration, detain surface flow, and retard soil moisture loss by evaporation.
> b) The absence of indicators of excessive erosion such as rills, soil pedestals, and actively eroding gullies.
> c) The appropriate amount, type, and distribution of vegetation reflecting the presence of (1) the Desired Plant Community (DPC), where identified in a land use plan, or (2) where the DPC is not identified, a community that equally sustains the desired level of productivity and properly functioning ecological conditions

6. **GOAL 6 Habitats** are supporting, or are making significant, measurable progress toward supporting their full complement of Monument+/GCNRA native species and are exhibiting conditions expected to provide for recovery ("conservation") of Federal threatened and endangered species or Federal proposed or candidate threatened or endangered and other special status species.

Goal 6 expands the BLM Fundamentals of Rangeland Health goal for Habitat by adding:
a) the word "measurable," as in Goals 1 and 3; and
b) supporting the "full complement of Monument+/GCNRA native species"

B. Objectives

1. **Grazed areas at 80% of ungrazed areas**

There is no way to know how closely the six Goals are being met without a comparison to ungrazed areas. The Monument+ needs ungrazed areas of sufficient size, number, and ecological site diversity such that the comparisons are local and directly comparable. However, "making significant, measurable progress," can be compared to recently-established ungrazed sites (e.g., exclosures) within areas for which such progress is needed

The intent of the 80% threshold is to trigger discussions and problem-solving, not to replace other measures BLM may wish to use for standards/

Why 80%? The choice of a yardstick, or trigger, is necessarily a social as well as scientific choice, as is the selection of Goals. However, BLM has set the six Goals above and thus a trigger needs to be selected for acceptable proximity to or progress toward those goals.

To set the trigger lower than 80%, for instance 75%, would simply amount to an admission that livestock grazing cannot be managed without impacting various conditions (e.g., native plant diversity, bare soil, biological soil crust cover) by more than 20%. For instance, that livestock grazing necessarily reduces infiltration of soils by more than 20% compared to ungrazed soils. Or that the diversity of native plant communities is necessarily reduced by more than 20% simply by having livestock graze the area.

How would 80% be measured? There are myriad elements that comprise healthy watersheds, permeable soils, habitat for diverse native species, etc. Not everything can be monitored, but certain indicators can be selected for particular settings and to answer particular questions. The simplest objective measures of 80% can be selected and used.

In some cases 80% will be approximated qualitatively; in others, quantitative measures will be used. It will be important, however, to engage interested publics, including permittees, in which ecological elements will be monitored, and by what methods. To the degree that qualitative ("ocular") measurements are made, regular, documented quality-checking with a quantitative measure would be important.

If triggers are not set, what is considered "diverse," or "healthy," or "permeable," or "significant progress" enters the world of diverse opinion (e.g. "Looks good enough to me") rather than an objective determination. No business would set goals without measuring whether those business goals are being met or not. The commercial use of Monument+ (public lands) is a business and necessarily must be objectively accountable to Monument+ Goals and the public.

2. **Habitat for pollinator diversity**. Objective 1.4.1 Native plant communities support the following, at levels of at least 80% of relevant ungrazed reference areas: Native pollinator diversity, with pollinators often dependent on a particular species, genus, or plant family.

   Why is support for pollinator diversity included? Native pollinators, wildlife that include bees, bumblebees, wasps, butterflies, moths, hummingbirds, and bats, are the sole means by which particular plant species reproduce. (Some plants e.g., grasses are wind-pollinated, some, e.g., dandelions, can self-pollinate). Some plant species or genera are pollinated by only particular pollinator species; others are pollinated by more than one pollinator species. If the flowers of flowering plants dependent upon pollinators for pollination are not present on the plants (e.g., have been consumed by ungulates) at the time the plant's pollinator (or pollinators) is available, that plant cannot reproduce that year. Similarly, if the plants that a particular pollinator depends upon for nesting, larval stages, or pollen/nectar are not present, that pollinator cannot reproduce in the area. Some pollinators are able to travel large distances searching for plants; but some specialized pollinators will not cross relatively small patches of unsuitable habitat. Thus, the conservation of native pollinators is not easily achieved by small areas of suitable habitat.

   For instance, a two-year study in northwestern Utah (Wilson, et al. 2009) found low similarity between bee species in various plots, indicating that "dune conservation strategies that preserve 'representative' portions of dune systems may be insufficient to protect bees and the pollination services they provide." This has implications for size of ungrazed areas when used to understand the protection of pollinator diversity.

However, the potential diversity of bees and other pollinators is extremely high on the Colorado Plateau. In a 1997 Science Symposium regarding, Griswold, et al. (1997) reported on a 15-year study of bee species in Utah's San Rafael Desert. More species (333) were recorded than in all of New England. They found one-third of the species specialized on a particular plant family or genus. They reported, "Limited sampling in the Grand Staircase-Escalante National Monument suggests it to be equally diverse, but distinctive; nearly have of the Monument's bees are not present in the San Rafael Desert."

There are methods of sampling for abundance and diversity of pollinators and these methods can range from individual species identification (requiring identification by specialists) to simpler methods of recording groups of pollinators, e.g., bumblebee, honeybee, native bee, butterfly) along a transect. A study (O'Brien,et al. 2011) in California via the mentored citizen science Fourth of July Butterfly Count, censused all butterfly species for 32 years at Willow Slough in Yolo County. The number of species observed declined by 39% during the 32 years, but statistically, the decline was not detected until year 13. This illustrates two points: (1) once-a-year sampling, if rigorously done is a useful monitoring tool for pollinators; and(2) declines can happen silently, unnoticed, in the absence of monitoring. The authors attribute the decline to broad patterns of land use and habitat continuity.

In the absence of tracking pollinators in some systematic manner, the BLM has no idea of the degree to which pollinator diversity is being lost through livestock consumption of forbs or loss of native plant diversity. Pollinators, however, are a wildlife group that can be key to retention of native plant diversity and vice-versa.

The Xerces Society for invertebrate conservation, for instance, notes at their site, *www.xerces.org/**pollinator**-conservation-managing-habitat/*

> *Consider timing, duration and intensity*
> A diverse pollinator population requires adequate nectar and pollen sources from early spring to early fall, which makes seasonal timing a key consideration for an effective grazing plan. Management should be adjusted to maintain the majority of the floral resources throughout the seasons. Also, grazing should be avoided when butterfly larvae or adults are active, as it can result in direct mortality. Grazing periods should be short to allow for adequate recovery of the habitat. Herd sizes should be moderate to light

3. **Habitat for declining animals**. Objective 1.4.2. Native plant communities support the following, at levels of at least 80% of relevant ungrazed reference areas: Cover, nesting, calving, and/or food habitat for native declining vertebrate animals.

   Why is support of "declining" species and not just Threatened, Endangered, and Sensitive Species included? If native wildlife species are declining in abundance due directly or indirectly to livestock grazing, and particularly if they are uncommon already, they can eventually become sensitive, threatened or endangered species.

4. **Connectivity to enhance native species**. Objective 1.5 Habitats are connected at a level to enhance populations of native species, including pollinators, based on estimated connectivity requirements using best available science.

A study of state wildlife action plans' consideration of connectivity and linkages for wildlife movement (Lacher and Wilkerson 2013) suggests the following best practices:

> …collect ecologically meaningful background data, foster broad collaboration, increase specificity of data and goals, include adaptive management, account for climate change, and incorporate socio-related information.

While the BLM does not have resources to establish connectivity requirements for all species, collaboration with Utah Division of Wildlife Resources and other wildlife biologists, and use of best available science can contribute to consideration of connectivity as livestock grazing is adaptively managed for time, timing, and intensity; and when considering particular areas for uses other than livestock.

5. **Biological crust protected on at least 60% predicted habitat in Monument+; 80% in GCNRA.** Objective 3.2. Biological soil crusts which are critical for soil stability and nutrient availability are protected from trampling and other physical disturbance within at least 60% of their predicted available habitat within Monument+; and within 80% of GCNRA predicted available habitat.

It is important to have a measurable desired condition for retention and recovery of biological soil crusts ("biocrusts") within Monument+ and GCNRA. The Sustainable GSE Alternative selects the Objective of 60% of Monument+ and 80% of GCNRA suitable habitat for biocrusts to be areas in which dispersed disruption/trampling will not be reducing biological soil crusts or preventing their regeneration. The difference in the two goals is a socio-political-legal one, not a scientific one.

The Organic Act for the National Park Service has an explicit direction to leave natural objects "unimpaired." Section 1.4.5 i.e., ("What Constitutes Impairment of Park Resources and Values") of the National Park Service *Management Policies* (2006) says the impairment that is prohibited:

> *[I]s an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including*
>
> *the opportunities that otherwise would be present for the enjoyment of those resources and values. Whether an impact meets this definition depends on the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts.*
>
> *…An impact would be more likely to constitute impairment to the extent that it affects a resource or value whose conservation is:*
>
> - *Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park,*
> - *Key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or*
> - *Identified in the park's general management plan or other relevant NPS planning documents as being of significance.*

> *An impact would be less likely to constitute an impairment if it is an unavoidable result of an action necessary to preserve or restore the integrity of park resources or values and it cannot be further mitigated*. [Emphases added.]

As livestock grazing will continue within the GCNRA, at least in some places, for the near future, a goal of 80% of predicted available habitat for biocrusts should be protected from the dispersed trampling that is characteristic of cattle grazing.

Livestock grazing will continue within Monument+, at least in some places. However, in light of the key ecological role that biocrusts plays for ecological integrity of Monument+ (see below); the BLM Fundamentals of Rangeland Health Goal for Watersheds; and the UT BLM Standard for Soils, the Sustainable GSE Alternative identifies a need for protection of biocrusts from trampling in at least 60% of its predicted suitable habitat within the Monument+. It does not currently have that protection, and opportunities to move toward that Goal should be welcomed.

Biological soil crusts (biocrusts), primarily composed of moss, lichen, cyanobacteria, and/or green and brown algae, are an indicator of ecosystem function in arid systems (Bowker et al., 2008). biocrusts support and conduct important ecological processes. They:

1. fix carbon and nitrogen in soils;
2. reduce erosion, stabilize soils and trap sediment in erosive environments;
3. reduce water runoff and overland flows while increasing water retention and infiltration; and
4. contribute to nutrient cycling through consumption and contribution while also containing key decomposers (fungi, bacteria, archea and microfauna).

Biocrusts are key to prevention of soil erosion in Monument+/GCNRA, and the importance is well-stated by Bowker, et al. (2008):

> Soil erosion and subsequent degradation has been a contributor to societal collapse in the past and is one of the major expressions of desertification in arid regions. . . . Our results [referring to research results in the paper] suggest that, holding the intensity of erosive forces constant, the acceleration or reduction of soil erosion in arid landscapes will primarily be an outcome of management practices. This is because the factor which is most influential to soil erosion, biocrusts development, is also among the most manageable, implying that water erosion in drylands has a solution.

An Introduction to Biological Soil Crusts at www. soilcrust.org (sponsored by U.S. Geological Survey) describes the challenge biological soil crusts face in Monument+/GCNRA from livestock grazing and recreation:

> Crusts are well adapted to severe growing conditions, but poorly adapted to compressional disturbances. Domestic livestock grazing, and more recently, recreational activities (hiking, biking, and off-road driving) and military activities place a heavy toll on the integrity of the crusts. Disruption of the crusts brings decreased organism diversity, soil nutrients, stability, and organic matter.

There are certain conditions under which biological crusts are more or less vulnerable, e.g., as NRCS notes:

> Biological crusts that are in areas of low rainfall, are on coarse textured soils with low stability, and are in areas with a large amount of bare ground are most susceptible to frequent disturbances and have the longest recovery times. Biological crusts of all types are least susceptible to disturbance when the soil is frozen or is covered with snow. Biological crusts on sandy soils are less susceptible to disturbance when the soils are wet or moist, and the ones on clayey soils are less susceptible when the soils are dry. Trampling or grazing when the soil surface is very wet or ponded should be avoided because it can displace and bury the biological crust. [Emphasis added.]

Monument+ is an area of low rainfall, includes coarse textured soils with low stability, and contains a large amount of bare ground – those conditions in which biological crusts "are most susceptible to frequent disturbances and have the longest recovery times." In Monument+, crusts are most likely to be found on gypsiferous soils, limestone-derived soils, non-calcareous sandy soils, and siliceous sandy soils (Bowker, et al. 2006; and personal communication, Matthew Bowker with David deRoulhac, 2013).

Loss of biocrusts has long-term impacts. Neff and others (2005) found that grazed areas that had been rested 30 years contained significantly less silt (38-43%) and up to 51% less Magnesium, Sodium, Potassium, Phosphorous and Manganese compared with never before grazed areas. The authors concluded this was likely due to wind erosion that had followed disturbances caused by livestock grazing. The grazed sites also experienced a 60-70% Carbon and Nitrogen reduction in surface soils, elements critical to nutrient cycling and ecological processes.

Given the easily-observed cattle grazing impacts to biocrusts in Monument+ (see, e.g., the photographic essay of Monument+ biological crusts in grazed and less- or non-grazed areas at http://www.vanishingdeserts.com), the importance of biocrusts to arid ecosystem health and processes, the scientific literature surrounding the critical roles biocrusts play for ecological integrity and soil retention within arid areas such as the Monument+, we would suggest that large areas of suitable biocrust habitat must remain ungrazed by cattle.

C. Management Actions

1. **Public Tours.** Mgt Action 1.1 Prior to allotment permit renewal, allotment management plan development, or vegetation projects for conditions impacted by livestock grazing, notice will be provided for a public tour to obtain comment and provide input.

   There is no better way to approach significant management decisions than by on-ground tours of the area with interested publics. That is where BLM can hear the various perspectives and information diverse entities bring, people with diverse perspectives can look at the same piece of ground together and share with each other what they're seeing, and creative problem-solving takes place. If additional conversations take place at locations away from the site, the participants can remind each other about what they were seeing. It's a means by which the BLM can convey and learn scientific information in a concrete, visual way. It is such an efficient way of communicating and solving problems.

Public tours provide an efficient means by which Secretarial Order 3308, 4(f) [Management of National Landscape Conservation System lands] can be fulfilled: "The NLCS shall recognize the importance of a diversity of viewpoints when considering management options."

2. **EA Alternatives Public Comment.** Mgt. Action 1.2 Prior to a Decision Notice, all Environmental Assessments (EAs) will provide for public comment on the alternatives and their analyses.

   As with Environmental Impact Statements (EISs), EAs should consider a range of reasonable alternatives, and generally, only 2 or 3 alternatives are likely to have been developed. During the scoping period, an interested public may suggest an alternative that is reasonable, distinct from alternatives the agency is proposing, and provides for environmental benefits. Unless the BLM provides for public comment on the EA prior to its Decision, including all the alternatives and comparative assessment of the environmental consequences of the alternatives, the public is unable to indicate their thoughts on the alternatives and/or the scientific integrity of the comparative analyses of the alternatives. Moreover, even if the agency wishes to adopt all or part of the alternative that was submitted during the scoping period, it is prevented from doing so if adoption of that alternative or parts of the alternative have not been presented to the public for comment. Thus, a comment period on an EA (or a Draft EA) prior to a Decision is essential for providing a clear basis for choic among options by the decision maker and the public" (40 CFR 1502.14).

3. **Posting of Annual Plans of Use and Maps.** Mgt. Action 1.3.1 and 1.3.2 A map and annual plan of use for each allotment (with pastures) will be posted prior to livestock seasonal entry on the allotment. Annual plans of use for the previous two years will be displayed on the website.

   The posting of annual plans of use helps the public understand whether the grazing they are seeing on the Monument is that which has been planned and approved by the BLM.

   The posting of annual plans of use for two years, as, e.g., the Dixie and Fishlake National Forests do, helps the public understand whether livestock grazing is changing time, timing, and/or intensity in different years; and allows the public to see whether maintenance requirements one year were completed.

   This is an effective means by which Goals 1B(4), 1C(4), 1D(1), 1E(1) and 2B of the 15-Year Strategy for the National Conservation Lands can be met, i.e., engaging partners on assessment, inventorying and monitoring.

4. **Posting of Mid-season Adjustments** Mgt. Action 1.4 of the annual plan of use will be posted as a revised annual permit.

   Posting of mid-season adjustments in annual plans of use avoids mis-communications with the public regarding BLM approved uses for the season.

5. **Pre-annual Plans of Use Meetings.** Mgt. Action 1.5 When requested by a member of the public, BLM will participate in a pre-annual permit meeting to discuss problems observed/documented on the allotment the previous year, and proposed solutions to those problems. Such meetings will be available to the permittee and other members of the public.

During the winters of recent years, Grand Canyon Trust has requested (and been granted) meetings with Forest Service District Rangers and Range Specialists regarding problematic conditions (or improvements) the Trust had observed, documented, and reported the previous season. The Trust has left the decision up to the District Ranger as to whether she or he will invite the relevant permittees to participate or not; some do and others don't. (The Trust and other interested publics are not permitted at the Annual Operating Instruction meetings between the FS and permittees, which is why the Trust initiated these "pre-AOI" meetings.) These meetings have been productive, and most of the AOIs (the FS equivalent of BLM annual use plans) that have been the subject of discussion have been improved as a result. In several cases, the result has been the plan to follow up with a field visit the following season, or joint monitoring.

6. **Collaborations.** Mgt. Action 1.6 Monument+ will encourage the establishment of independent, multi-stakeholder, consensus collaborations that include representatives of all relevant stakeholders, for purposes of making recommendations to BLM regarding increasing the sustainability of grazing and diverse grazing arrangements on Monument+/GCNRA. BLM staff may participate as resources for these consensus collaborations, which would be convened or co-convened by non-BLM entities.

   As we are all aware, the process of developing a consensus collaboration among diverse stakeholders regarding the development of the GSENM grazing management plan was cut short mid-2013 when the exodus of a Garfield County Commission representative precipitated the dissolution of the collaboration before its first meeting. The Trust (and many others within the BLM and the public) will continue to encourage the formation of consensus collaborations convened by non-agency entities, for the purpose of problem-solving, mutual understanding, and support of the BLM.

   Since 2007, successful consensus collaborations have been problem-solving and making recommendations to the National Forests in Utah relating to livestock and wild ungulate grazing (i.e., Tushar Allotments Collaboration, Utah Forests Restoration Working Group, Collaborative Group on Sustainable Livestock Grazing, and Monroe Mountain Working Group). While the BLM would not be leading such collaborations, signals from the BLM that they would welcome initiation of such collaborations regarding grazing management within Monument+ and GCNRA would be helpful.

7. **Public Participation in Monitoring of Experiments.** Mgt. Action 1.7 Interested publics will be encouraged to participate in and contribute to on-ground implementation and monitoring of grazing experiments developed by interested public, permittees and BLM personnel.

   BLM regulations at 43 CFR 4100.0-5 define an "Interested Public" as "An individual, group or organization that has submitted a written request to the authorized officer to be provided an opportunity to be involved in the decision making process for the management of livestock grazing on specific allotments or has submitted written comments to the authorized officer regarding the management of livestock grazing on a specific allotment."

8. **Public Participation in Proposing Management Options** Mgt. Action 2. when grazed conditions are <80% ungrazed conditions.

   The Sustainable GSE Alternative establishes the general threshold of acceptable livestock impairment or depletion of ecosystem processes or native species to be 80%. While the BLM

would continue to use particular standards and guidelines to insure livestock grazing meets or moves toward such a threshold, the threshold would help interested publics engage with the BLM regarding more severe impacts of livestock grazing at particular sites. As will be noted in many scoping comments for this EIS, many in the public feel that there are unacceptable impacts on the Monument by livestock grazing. This threshold will help guide the public in knowing what impacts the BLM is accepting within this Monument.

9. **A Diversity of Grazing Arrangements**. Mgt Action 3. A diversity of grazing arrangements will be encouraged within Monument+.

   One of the consensus recommendations of the Collaborative Group on Sustainable Grazing (at p. 19) is that a diversity of grazing arrangements, including areas for reference, collaborative grazing experiments, conventional grazing, grass banks, non-use and closed allotments, provides for both ecological and social stability of livestock grazing. See support for this Management Action within BLM and NLCS direction.

10. **Time, Timing and Intensity.** Mgt. Action 4. Time, timing, and intensity of livestock grazing will be adaptively managed to insure that Goals and Objectives are met.

    Altering timing, time, and/or intensity is the fundamental means by which livestock grazing can be managed. See pp. 12-13 of (Collaboration 2012).

11. **30% Utilization standard. Mgt.** Action 5.1 A 30% utilization standard, both for riparian and upland areas will be instituted, one pasture a year for each allotment until all pastures in each allotment have a 30% utilization limit.

    Long-time grazing management researchers (Holechek, et al. 1999) summarized 29 studies of varying grazing utilization and associated economics to conclude that light grazing (32%) was economically superior to heavier utilization, and, compared to moderate (43%) and heavy (57%) utilization, produced more forage during drought years.

    The unpublished review of published literature by John Carter (2013) provides evidence for 30% utilization. The literature cited in the review reveals not only ecological benefits and benefits post-drought, but also economic feasibility for the rancher.

    The *Tushar Allotments Collaboration Final Report* (Straube 2009) described the process whereby the two allotments that were the subject of the two-year, multi-stakeholder, multi-agency collaboration on the Fishlake National Forest, would move from 60% to 30% utilization, one pasture a year, until all pastures were at 30% utilization (with one pasture being rested each year). Long-term trend transects read in 2008 were read again in 2013. While the final report has not yet been compiled, every transect is slightly up in cover and plant diversity (personal communication Reggie Swenson, 2013, Beaver Ranger District Range Specialist, Fishlake NF). The Trust re-read two aspen browse transects inside and outside a permanent vegetation cage, and aspen in the outside transect was increasing in height, including above browse height, and decreasing in browse percent. Aspen in this area was not experiencing recruitment prior to the percent utilization reduction.

    Anyone who has observed sites where graminoids have been grazed to 50% or 60% is aware that only ground-hugging flowers (if any) remain; nearly all seedheads are gone; there is inadequate hiding cover for small wildlife and birds; sagebrush understory is depleted; bare ground is increased within sagebrush communities; riparian banks are trampled; and aspen,

cottonwood, and willow sprouts are nearly all browsed. Conversely, personal observations (e.g., by Mary O'Brien, one of the authors of these scoping comments) of sites where utilization has been 30% result in at least scattered palatable ("forage") plants ungrazed; some seedheads; and less browse of aspen.

12. **25% Utilization During Drought.** Mgt. Action 5.2. Utilization limits of 25% will be operative within all pastures during a drought year using the Standardized Precipitation Index of the National Drought Mitigation Center.

    Drought stresses every species within the low-elevation, arid Monument. While cattle graze after or during a season of drought, they are subsidized by troughs of water, but the plants are not, setting up the ability for livestock to exacerbate the drought for the plant species. For instance, the USDA U.S. Drought Monitor for April 3, 2018 shows Monument+ as being in a region of "severe drought." The Environmental Demand Drought Index shows that the Monument+ area has been

    A reduction of utilization to 25% reduces the exacerbation of drought by livestock grazing.

13. **Allotment Action Plans**. Mgt. Action 6. When monitoring of indicators shows an allotment or pasture is failing to meet or move towards Objectives, plans will be drawn up for meeting or moving towards Objectives. The plans must be based on evidence that the proposed activities or management have resulted in movement toward the particular Objectives in other settings and must include methods for measuring whether conditions are improving under the action plan. If movement toward Objectives is not being observed/measured, further conversations will be in order, and adjustments to the action plan will be made.

    Allotment Action Plans are in order for allotments that are failing to meet or move toward Objectives. They offer the opportunity to the permittee(s) to indicate what actions they believe they could take to improve conditions, based on evidence that such management has resulted in improvement elsewhere.

    Interested publics may be interested in offering suggestions and support for the plan, including monitoring with and for the permittee(s).

14. **Annual Use Plans**. Mgt. Action 7.Each annual use plan will reflect the best estimate that the number of days authorized and other instructions will result in Objectives being met or moved toward.

    When the BLM prepares an Annual Use Plan (and posts it on the Monument+ website), it should represent the Range Specialist's best understanding of the time, timing, intensity, and distribution of cattle that will result in Objectives being met or moved toward. It is unreasonable to approve a Use Plan which relies solely on the permittee to judge when and where over-use is occurring.

15. **Staggered Seasonal Use**. Mgt. Action 7.1. At a minimum, there will be six weeks between the beginning of seasonal use of a particular allotment or pasture one year and when the season of use begins the following year. If this is not possible in a particular area, the area will be rested every other year.

When a pasture is grazed at or nearly the same time every year, any species growing at that time, or maturing seeds, or scattering seeds, will likely be under particular pressure and may be extirpated from the site over time. As noted by the Sustainable Grazing Collaboration in its *Consensus Report and Recommendations* (at p. 12):

> The TIMING of grazing is also a key grazing management principle. This refers to when (what stage of plant growth) livestock graze in a specific area. . . Timing is important for both ecological and social/economic reasons. Managing the timing of grazing so pastures and individual plants have ample time to re-grow can improve plant health and plant community health. In addition, the date that livestock arrive at a pasture can influence what plants the animals eat and may impact recreation or other resource uses in certain areas at specific times.

16. **Pasture Movement within Annual Use Plans.** Mgt. Action 7.2 Gathering of livestock will commence prior to the end date of the use of a pasture or area such that all livestock will have been moved and stragglers found by the off date.

    If livestock time and timing have been planned, the plan should be carried out, unless the time is shortened due to over-use.

17. **Passive and Active Vegetation Treatments.** Mgt. Action 8.

    The Federal Land Policy and Management Act of October 21, 1976 ("FLPMA", 43 USC 1701) declares that the public land be managed in a manner that would: a) protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water, and archaeological values; b) preserve and protect certain public lands in their natural condition; c) provide food and habitat for fish and wildlife and domestic animals.

    Many native communities throughout the Monument+ and GCNRA are in a condition, structure and composition that deviate from their potential "natural" state. Restoration of landscape succession/disturbance regimes is the foundation of the strategy to manage long-term climate change and drought risk to terrestrial, aquatic, and riparian ecosystems. Restoration will help conserve scarce habitats in the short term, while expanding these habitats in the long-term.

    Restoration need not be active; it may simply involve relief from the stress of livestock grazing. Perhaps the most dramatic example of passive restoration is the 160-acre land ("South Hollow") of Dennis Bramble, a retired U of Utah Biology professor. The land is not far from Monument+. It is in the Escalante River Watershed, north of Canaan Peak, south of Hwy 12, w. of Escalante, surrounded by grazed Dixie NF land. In 29 years of passive restoration only, the 160 acres, which had previously been grazed, planted to crested wheatgrass, subjected to sagebrush removal (which then became rabbitbrush) and partly burned, has now become a highly diverse, productive site, with extraordinary contrast between it and the surrounding Dixie NF grazed land.

18. **Objective of Veg Treatments.** Mgt. Action 8.1. Vegetation treatments will have the objective of restoring or supporting potential native vegetation and ecosystem processes.

As directed within the Monument Management Plan, Monument+ vegetation treatments should be directed toward restoration and recovery of native plants. At p. 22, the Sustainable GSE Alternative notes, "…the Monument will be managed to achieve a natural range of native plant associations."

Methods of native vegetation restoration need to be selected carefully. For instance, Evangelista, et al. (2004) note that mechanical seeding of native species post-fire in Monument+ not only further reduces biological soil crust, but prevents regeneration of the crusts.

19. **Veg Treatments Address Underlying Causes.** Mgt. Action 8.2. Vegetation treatments will address underlying causes of the problematic conditions prompting vegetation treatments When livestock and/or wild ungulate grazing have contributed to the problematic conditions being treated, grazing will be managed to avoid return of the problematic conditions.

    The multi-stakeholder, multi-agency Utah Forest Restoration Working Group (UFRWG 2010) described four steps in the decision process for restoration of aspen. The the same steps are applicable for restoration treatments within Monument+:

    Step 1. Assess the condition of aspen [or any other vegetation type' in the landscape/area
    Step 2. Rely on site-specific data to target the underlying cause(s) of the problematic condition(s)
    Step 3. Select Response Option(s) relevant to the particular stand type, underlying causes of the problematic condition(s), and landscape context
    Step 4. Monitor [Emphases added.]

    If a vegetation treatment is being undertaken to "restore" sagebrush understory, for instance, the first question that must be asked is what has caused or contributed to depletion of the sagebrush understory. Local sagebrush areas not grazed by livestock are key to being able to answer this question, but the Monument+ at this time appears to have almost no sagebrush landscapes that are not being heavily grazed. It is extremely important to establish, as soon as possible, a series of ungrazed sagebrush areas for understanding the potential of sagebrush understory to recover in the absence of grazing. It is certainly recovering native grass and forb understory on the South Hollow property of Dennis Bramble, mentioned above at D.18.

20. **Native Seedings/seedlings Only.** Mgt. Actions 8.3 and 10. Utilize native seeds or seedlings only, of local genetic stock whenever possible. Revegetation (including maintenance) of sites formerly seeded

    Given the vegetation treatment objective of restoring native vegetation, it is essential non-native species not be purposefully introduced into the Monument+ where they can compete with native species.

21. **Measurable Desired Outcomes for Veg Treatments.** Mgt. Action 8.4. Include measurable Desired Outcomes and the methods that will be used to monitor outcomes when compared to outcomes in a portion of the treated area that is not grazed.

This should need no explanation. Restoration projects throughout the nation suffer from lack of (1) measurable Desired Outcomes; and (2) monitoring to determine if Desired Outcomes have been met.

22. **Riders**. Mgt. Action 11. A pre-season plan and daily log will be filled for documentation of physical presence of a rider with the rider's livestock 5 out of every 7 days throughout the season of use of the allotment

    In the absence of active riding, livestock will preferentially and excessively use preferred (e.g., mesic, flat) portions of the allotment; may exceed utilization limits; may trespass into neighboring allotments; and may otherwise violate the annual plan of use. Broken fences and other livestock infrastructure may become non-functional.

23. **Fencing to Meet Objectives**. Mgt. Action 12.1 If fencing is necessary to meet any Objective the permittee will construct and maintain the fencing unless BLM is required to do so by an existing authorization.

    It is difficult to reason that fences exclusively required for a private business be constructed and maintained with public funds.

24. **Fencing Maintenance Prior to Livestock Entry**. Mgt. Action 12.2 All fences and other annual permit infrastructure must be maintained and functional prior to livestock entry for the season.

    This needs no explanation.

25. **Passive Restoration of Native Species.** Mgt. Action 13.1 Passive restoration and non-chemical methods will be the first priority for preventing the introduction, establishment and spread of exotic, invasive plant species.

    Passive restoration (i.e., removal of stressors and surface-disturbing activities) may not be sufficient at a given site in order to restore native species, but it should be the first priority.

26. **Least Use of Herbicides.** Mgt. Action 13.2. If herbicides are deemed essential, least-use of herbicides will be accomplished using Integrated Vegetation Management principles, including reducing or eliminating stressors contributing to the introduction, establishment and/or spread of exotic, invasive plant species.

    Again, this needs no explanation. The use of toxic chemicals should not be used to mitigate for livestock-facilitated introduction, establishment, and/or spread of exotic, invasive plant species.

27. **Water Trough/ Watering Pond Non-native, invasive plant species**. Mgt. Action 14. The permittee(s) will manually maintain an area free of all invasive, exotic plant species within 100 feet radius of a watering trough or watering pond.

    The heavy use by livestock within 100 feet of watering troughs or watering ponds often (if not always) facilitates the introduction and establishment of invasive, exotic plant species. It is reasonable that the livestock permittee(s) must maintain the area free of exotic and invasive plant species and must do so without mechanical disturbance or the use of chemical herbicides.

28. **Exclosure Gates Locked.** Mgt. Action15.1 Exclosures with gated openings accessible to livestock will be locked, with Monument+/GCNRA providing a key to the permittee; and retaining another key for as-needed use by public members who wish to access the site for non-grazing purposes.

    Management Action 15.1 insures that gates are not inadvertently left open by visitors.

29. **Allotment/Pasture Gate Signs.** Mgt. Action 15.2 A sign on any gate through which the public passes will indicate the current dates of livestock in the unit (e.g., allotment, riparian pasture) on either side of the fence and direction to keep the gate closed during those times the livestock should be in one of the two adjacent units.

    Management Action 15.2 helps the public assist the permittee(s) with maintaining their annual use plan and avoiding unauthorized or trespass use by their cattle.

30. **Fire.** Mgt. Action 16. Grazing will be suspended from post-fire areas for at least two years or until the majority of native plant species in the area have seeded, whichever is longer.

    There is extensive scientific literature regarding the likelihood that fire will increase the spread of cheatgrass or other invasive, exotic species, and that biological crusts are adversely impacted by fire.

31. **Roads for Livestock Management**. Mgt. Action 17. M aintain roads and trails essential for facilitating livestock grazing in a manner that minimizes the effects on landscape hydrology (e.g., avoid concentrating overland flow, prevent sediment transport, and minimize compaction to maintain infiltration capacity).

    This needs no explanation.

D. Allowable Uses

1. **Availability and Unavailability for Livestock Use**. Allowable Uses 1. Designation of allotments as available or unavailable for livestock grazing is provisional. Areas that are deemed "available" at one time may become "unavailable" depending on site conditions. Conversely, areas that are currently "unavailable" to livestock grazing due to resource concerns may become "available" if conditions are significantly improved and grazing practices are predicted, on the basis of scientific evidence, to retain the improved resource conditions.

   BLM determines whether lands are available for livestock grazing in land use plans. 43 C.F.R. § 4310.2(a). The regulations do not provide any additional guidance on how BLM will allocate lands as available. However, the regulations leave room for BLM to determine how lands will be made available or unavailable for grazing. The *BLM Land Use Planning Handbook H-1601-1* states that BLM will fulfill this obligation by considering the following factors (Appendix C-II, p. 14):
   1. Other uses for the land;
   2. terrain characteristics;
   3. soil, vegetation, and watershed characteristics;

4. the presence of undesirable vegetation, including significant invasive weed infestations; and
5. the presence of other resources that may require special management or protection, such as special status species, special recreation management areas (SRMAs), or ACECs.

By considering these factors, BLM can come to the conclusion that lands should be available for grazing, available with certain conditions attached or unavailable for grazing. However, rather than just determining that lands will be "available" or "unavailable" in the land use plan, BLM has the discretion to allocate lands as available for grazing but with varying degrees of availability or even unavailable for grazing depending on the factors set out in the Handbook as well as other factors that may be present.

One example of BLM taking a broader approach to livestock grazing in an RMP than just the available/unavailable dichotomy is found in the 2005 Upper Deschutes RMP in eastern Oregon, which allows for grazing permit retirement via a "grazing matrix" (at page 80) The matrix is further discussed in the appendices and the full document is available online (BLM 2005b).The Clarno Allotment and the Lynch Allotment have been retired in recent years using the matrix (personal communication, Oregon Natural Desert Association).

A second example is the 2010 Carrizo Plain National Monument RMP in Caifornia. In the Carrizo Plain RMP, BLM set out the following three categories: (1) "Available for livestock grazing," (2) "Available for livestock grazing, but only for the purpose of vegetation management," and (3) "Unavailable for any livestock grazing." Carrizo RMP at II-56. This approach shows that BLM can and should utilize a range of options for livestock grazing when planning at the landscape level in order to achieve the most appropriate management regime for the planning area.

2. **Reduced Use or Non-use**. Allowable Uses 2. A permittee request for multi-year non-use or partial use will be granted for conservation or recovery outcomes that can be objectively documented and measured. An approved monitoring plan and schedule will be part of the application.

   All efforts by permittees to conserve and restore native species, protect archaeological or other cultural resources, or allow ecosystem functions to regain integrity should be welcomed by the BLM and Monument+. Conservation or recovery outcomes should be predicted, and monitoring should be required for determining whether predicted outcomes are met.

3. **Voluntary Relinquishment**. Allowable Uses 3. Upon receiving any request for voluntary relinquishment of permitted livestock grazing, the Authorized Officer will re-evaluate whether livestock grazing is in the best interest of achieving Objectives and protecting Monument values and objects, utilizing the above criteria [at III.D.1] and consider amending the Sustainable GSE Alternative to allocate forage for a different purpose pursuant to Instruction Memorandum No. 2013-184.

   Voluntary relinquishment is the most promising means by which large ungrazed areas can be obtained within the Monument for a balance between grazing and protection of Monument values and objects; for reference areas; for recovery of depleted native communities; for recovery of biological soil crusts; or any other ecological or social benefits.

E. Monitoring

1. **Protocols for Measuring Indicators of Objectives.** Monitoring 1.Within one year of the Record of Decision, BLM will designate, with interested public/permittee input, the methods BLM will use to measure Indicators that Objectives are being met. BLM monitoring methods will be posted on the Monument+ website, including methods being used to measure Indicators that Objectives are being met.

   It is important that the BLM be transparent about the methods it is using to determine whether Objectives are being met or moved toward. The public and scientists can then more easily build off the BLM methods and data to ask other questions, e.g., about pollinators, or habitat for ground-nesting birds. It is a simple step to post a link to the methods being used.

2. **Reference Areas for Objectives.** Monitoring 2.Reference areas exist or are established for all Objectives in order to demonstrate potential for Objectives to be met, and/or potential rate of movement toward meeting Objectives. Reference areas are established across Monument+ that represent the full range of ecosystem and plant community types (both riparian and upland) including sites that have received exotic vegetation treatments. A reference area, with the exception of recovery reference areas (see III.E. 2.4) consists of a site that has not been grazed or accessible to livestock for at least ten years

   With such a large percentage of the major vegetation types and native plant communities in grazed areas (deRoulhac 2013b), there is almost no opportunity for observing and documenting land health conditions in comparable, ungrazed Monument+ lands. The great percentage of native ecosystems existing primarily within grazed lands highlights the need to establish reference areas against which the attainment or movement toward Objectives can be measured or observed. Such reference sites can be extraordinarily valuable for people with diverse perceptions and perspectives to gain a shared sense of what is and what is possible.

   Reference areas do not need to be “pristine”, or “never grazed.” In fact, for certain questions, e.g., “How quickly can this area regain plant cover while being grazed?”, a reference site may be needed that is similarly lacking in plant cover from recent grazing, so that comparative rates of plant cover can be compared.

   Of course, careful grazing management may result in <u>better</u> conditions for certain species or ecosystem functions or sites than in the associated ungrazed reference area. They may result in moving toward the relevant Objectives more quickly than the ungrazed reference area. The important point is to compare livestock grazing management with ungrazed areas.

3. **Establishment of Reference Areas**. Monitoring 2.1.Where local reference areas are preferable but do not exist, designate local areas to attain future reference area status (i.e., at least ten years of non-use by livestock). In the interim, use a more distant, reference site that has not been grazed for at least ten years.

   The more distant the reference site, the more skepticism will be expressed if the distant, ungrazed site is compared to a Monument+ grazed site. However, the Monument currently sorely lacks ungrazed areas at all (deRoulhac 2013b) or even local exclosures (deRoulhac 2013a). Therefore, more distant sites (e.g., ESD reference sites, ungrazed private inholdings, largely inaccessible areas) can be used while newly-established ungrazed areas become ten years older or more.

4. **Reference Area Size.** Monitoring 2.2.Prioritize establishment of larger, landscape-scale reference areas whenever feasible, in order to allow for recovery and/or protection of ecosystem functions, a patchwork of habitats, species diversity, and other elements not easily documented within small reference areas.

   Depending on the question(s) being asked, smaller or larger reference areas will suffice or be needed, and shorter or longer times since being last grazed will be needed. For instance, if questions are being asked about recovery of potential biodiversity, a reference area of pasture, allotment, or subwatershed size may be needed, as a small site will not support diverse soils, microhabitats, aspects, pollinators, ecosystem functions, or other elements that would contribute to biodiversity recovery. On the other hand, if an Objective at a particular site is to reduce bare ground through changed grazing management, a smaller, ungrazed reference site may suffice. A large reference area can contain many small reference sites useful for a particular question, but the reverse is not true.

   In a detailed study comparing a grazed Monument+ mesa top (Guenther, et al. 2004) with the relict, non-grazed No Man's Mesa, the researchers found that at a square meter scale grazing microsite disturbance increased species (exotic plus native) richness in this pinyon-juniper habitats, but ". . .there is a homogenization of species richness at the landscape (6000 sq m and 1 ha) scale, which is the scale with which managers are most concerned."

5. **Permanent range cages.** Monitoring 2.3. At least two permanent range cages (at least 16' X 16') are maintained in each grazed pasture, in representative areas frequently used by livestock.

   Utilization cages are annually or frequently moved, precluding understanding of production that takes place not only during the first year post-grazing, but the second, or fifth, or tenth. (An interesting analogy is what happens 2 minutes, 24 hours, 2 weeks, 1 year, 5 years, etc. after quitting smoking: Google "What Happens When You Quit Smoking Timeline."

   Given that 77 allotments currently are administered by BLM on Monument+ and GCNRA, the size of permanent range cages may be small (at least 16' X 16'). However, their number (at least two in each grazed pasture) gains in providing direct, local comparability, particularly for such elements as ground cover, potential production, or which plants are selectively grazed. Range cages provide a comparison with the annually-moved utilization cages, which generally record only the production that is possible the first growing season after having been grazed.

   Small, permanent range cages cannot indicate the potential for any feature that requires large-scale conditions (e.g., ground nesting bird habitat/use; sheet erosion.

   If a larger, representative reference area exists within the pasture, additional small permanent range cages might not be needed.

6. **Recovery reference areas.** Monitoring 2.4. Recovery reference areas are areas where livestock grazing is not occurring, but which have not been ungrazed for ten years. Exclosures of various sizes can begin to provide immediate benefits for comparison with sites on which livestock are being adaptively or experimentally managed for recovery toward particular Objectives. Recovery on the grazed sites (particularly for such physical features as ground cover, sheet erosion, and streambank protection; or for seedhead production) can be compared with the recently-ungrazed sites for comparative rates and types of recovery.

Recovery reference areas will most effectively be established within the area where livestock are being managed for recovery toward particular Objectives, and at the approximate time when the changed management for recovery is being undertaken. This facilitates direct comparison of the rate and nature of recovery between the grazed area and the reference area.

7. **Utilization Cages.** Monitoring 3.For purposes of quantitatively measuring utilization, utilization cages must have been in place for two years (rather than one) in order to more accurately depict expected production.

   The plant production that occurs the first year after grazing (e.g., if root reserves have been depleted; if little photosynthetic material was available during growing season) does not necessarily represent what is sustainable. It is important to at least see what plants produce a second growing season after having been grazed perhaps for many years in a row and perhaps heavily.

   If half of the utilization cages are moved each year, that will, after the first two years, allow for comparing utilization to two-year ungrazed plants.

8. **Public Engagement: Grazed Conditions Below 80%.** Monitoring 4. Conditions below 80% of the reference site(s) are appropriate subjects for problem-solving among the BLM, permittees and interested public.

   While the BLM may use its standard monitoring for purposes of annual grazing, the threshold of 80% is useful for conversations about degradation, and what grazing management changes might bring a pasture or riparian reach or allotment closer to BLM Fundamentals of Rangeland Health and Utah BLM Guidelines for Grazing Management, and the Monument Management Plan mandates.

9. **Independent Monitoring**. Monitoring 5.Upon objective documentation of on-ground indications that Objectives are not being met, any member of the public can arrange for a meeting with BLM staff to discuss and propose solutions to the problem(s). A written record of evidence of the problem(s), solutions considered, and commitments by BLM, interested public, and/or permittees will be retained in the file(s) of the relevant allotment(s). Objective, repeatable data gathered independently (e.g., use of BLM monitoring methods or methods in Appendix 9 of the 2012 *Final Report and Consensus Recommendations* of the Collaborative Group on Sustainable Grazing for National Forests in Southern Utah) is required in problem-solving meetings. All such meetings are open to the permittees and other interested publics.

   There are myriad scientific and monitoring questions and objective methods for attempting to answer those questions and BLM should welcome all objective assessments and monitoring of grazed and ungrazed lands within Monument+/GCNRA. Nothing is to be gained by limiting attention to monitoring only those elements of grazing management BLM is coordinating across Field Offices or states. Thus the Collaborative Group on Sustainable Grazing identified over 80 methods that can be used by permittees, interested publics, and/or the Forest Service to objectively identify problems or progress within grazing management.

For instance, aerial imagery is not being currently used extensively within the Monument, but Harris and Asner (2003) used remotely sensed hyperspectral imagery to detect long-term rangeland deterioration (grazing gradients) related to proximity to a water source in Mollies Nipple Allotment. Similarly, the Trust (Hoglander and Rivas 2014) used the Normalized Difference Vegetation Index (NDVI) and LANDSAT aerial data which resulted in detecting a decrease in vegetation productivity in Mollies Nipple (and in 80% of Monument+ acres) between 1986 and 2011. Such independent research and observations can signal interest in discussing and problem-solving around conditions within Monument+.

It is important that within the grazing management plan the BLM explicitly welcome objective, independent information and conversations with interested publics (including permittees) regarding grazing management on this national monument. All members of the Monument+ community(visitors, hikers, plant and wildlife advocates and afficianados, photographers, permittees) are adversely affected when livestock grazing is not managed in a sustainable manner. All interested publics must be encouraged to positively contribute to the attainment of the Fundamentals of Rangeland Health, the Monument Management Plan mandates, protections envisioned within the Proclamation, and Utah Guidelines for Range Management.

10. **Social/Economic Indicators.** Monitoring 6. Social/economic indicators will be used to monitor the social and economic sustainability of Monument+ grazing, including both the economic and cultural values of livestock grazing, and the social value of participation in public lands grazing management decisionmaking by publics interested in public lands grazing and/or ecosystem services provided by public lands. Social/economic Indicators are best developed via consensus among BLM, Monument+, GCNRA personnel; permittees; and interested publics.

    The *Collaborative Group on Sustainable Grazing for U.S. Forest Service Lands in Southern Utah: Final Report and Consensus Recommendations* (Straube 2012) lists a variety of social and economic indicators of sustainable grazing. These were agreed upon, with consensus, by a diverse group of participants. This is important, because too often social and economic indicators focus almost exclusively on the culture of ranching and input/output measures of cost and profit for the permittees and whatever role their purchases are playing in the local community, as if other purchases and multipliers would not be present with a balance of grazed and ungrazed areas within the Monument.

    It is important to emphasize that social values related to grazing management extend far beyond the "custom and culture" of private permittees and communities immediately surrounding Monument+/GCNRA. The values of all users of Monument+/GCNRA, all interested publics, all researchers need to be considered. As noted within the Headwaters Economics Reports (2018, 201) economic interests other than the local ranching culture are invested in Monument+/GCNRA. As well, these are national public lands, and undue attention to "local custom and culture" could undermine provisions for other values elsewhere in the nation.

11. **Social Indicator: Public involvement** Monitoring 6.1.5. Public involvement that reflects a broad range of societal values: Basis and number of (NEPA) administrative appeals or formal objections of Monument+ grazing management decisions, including National Environmental Policy Act (NEPA) analysis leading to decisions on grazing systems' Allotment Management Plan (AMP) revisions; permit revisions; and annual monitoring

(collection of data, report out of the findings, and discussions about the results and implications for future management)

It is notable that the Collaborative Group on Sustainable Grazing (Straube 2012) recommended, by consensus, that monitoring should include the degree to which monitoring of the Forest, by District and year, has included public involvement in grazing management decisionmaking processes, given that agency grazing management decisions affect their uses of and the values they find in their public lands. Again, this is a visible, objective means of extending beyond exclusive consideration of a "local custom and culture."

2. Fish and Wildlife

FW-17 Honeybee apiaries will not be permitted on Monument+ lands.

The following rationale for FW-17 is extracted from a larger unpublished piece by Vincent Tepedino, retired USDA Agricultural Research Service entomologist with >140 scientific publications on bee biology and pollination, particularly of native bees and rare plants in the western U.S.

1) Utah is home to more bee species than any other state in the union save California and perhaps Arizona and Nevada. There are 1,128 recorded native bee species; most of are solitary rather than social, and many are extremely specialized in the flower species they can visit for pollen. For example, Grand Staircase Escalante National Monument (GSENM), which is near to two of these forests, has 650 documented species (compare with a total of 750 bee species east of the Mississippi) on about 1.9 million acres (Messinger et al., paper submitted to PEERJ, 2018).

2) These bee species have evolved as pollinators of our diverse native flora and are instrumental in maintaining the integrity of our native ecosystems; they enable the production of fruit and seeds for wildlife and make possible future generations of the plants from which our ecosystems and watersheds arise.

3) Honey bees, though invaluable as crop pollinators, are not native to the Americas and have evolved social and foraging behaviors which make them fearsome competitors for the pollen and nectar all bees require as food. Their behavior of recruiting nestmates to rich sources of pollen and nectar will enable them to outcompete and displace many species of native bees – already under pressure from the removal of forage over much of public lands by livestock grazing - and make it impossible for them to reproduce at normal levels. Persistent pasturing of honey bees on native wildlands will greatly reduce populations of many native bee species and eventually push them towards extinction on these lands.

4) Honey bees vary in their pollination effectiveness: they will pollinate some native plant species effectively but not others; native bees do a better job of pollinating the native plant species they have evolved with. Replacement of natives by honey bees will thus result in a change in the mix of seeds produced by native plants; if such honey bee pasturing persists, the species composition of forbs and shrubs in the public lands will change over time in unpredictable ways. We have no way of knowing if this alteration will be positive or negative.

5) A recent study (Smart et al., 2016) estimates that 80 acres of land is necessary to support a hive of bees for five months. During this period the honey bee foragers in that hive would remove enough pollen to have reared well over 100,000 native bees (probably around 150,000; see Cane & Tepedino 2017). Typical hives coming out of west coast orchards in late spring/early summer are grouped, ill-advisedly but for logistic purposes, in apiaries of 100 hives. Conservative estimates of the amount of pollen removed over 5 months by the bees in one apiary is thus between 10 and 15 MILLION native bees.

6) Honey bees are currently under pressure from various disease agents which have reduced the number of honey bee hives nationwide. Although research on disease spillover between domesticated honey bees and wild native bees has only begun in the past decade, already numerous studies have uncovered disturbing connections (Tehel et al. 2016). For example, it has

been established that honey bees in almond orchards carry a host of pathogens (Cavigli et al. 2016; Gisder and Genersch 2017). Even more important, Singh et al. (2010) have shown that Israeli Acute Paralysis Virus (IAPV) is transferred at flowers between honey bees and bumblebees. Several studies have shown that DWV (Deformed Wing Virus) is transferred from honey bees to bumblebees and that it is pathogenic (Fürst et al. 2014; McMahon et al. 2015). There is additional evidence that DWV has infected other non-honey bee species including the bee *Ceratina smaragdula* and two species of *Polistes* wasp in Hawaii (Santamaria et al. 2018); that DWV and Black Queen Cell Virus (BQCV) have been transmitted from honey bees to bees in the genera *Andrena, Anthophora, Bombus, Osmia*, and *Xylocopa* in Europe (Radzevičiüte et al. 2017) and also that these viruses replicate in those bee genera. Other studies have demonstrated that several viruses are shared by honey bees and native bees though the direction of transmission or whether the viruses are pathogenic in natives remains to be elucidated (e.g., Ravoet et al. 2014; and for meliponine bees in Argentina (Alvarez et al. 2017). Finally, there is also evidence that some viruses that are highly pathogenic to honey bees (Acute Bee Paralysis Virus) may spill over from native bees (Singh et al. 2010). In view of these facts, we must ask ourselves: what sense does it make to contaminate our native bee fauna, already under intense pressure from a variety of stressors, with these honey bee viruses and conversely, what sense does it make to possibly introduce new viruses to an already beleaguered honey bee pollination force? It makes little sense.

7) The western bumblebee, *Bombus occidentalis*, a declining species which is currently being considered by the U. S. Fish & Wildlife Service for listing as threatened or endangered under the U. S. Endangered Species Act, has been documented on Grand Staircase-Escalante National Monument. And, lest we forget, there is already evidence that the honey bee passes the debilitating twisted wing virus to bumblebees.

The positive experience of many recreationists will directly clash with honey bee hives on Utah's public lands. Many of these visitors will feel uncomfortable or fearful in the presence of honey bees (Schmidt 1986), and roughly 5% of visitors will be allergic to honey bee venom (Golden 2013) which is twice as painful as the venom of most native bees.

8) Finally, there are alternative programs to help provide forage for honey bees to produce honey and to regain strength when they are not pollinating crops. The CRP, EQIP, WHiP and CSP programs of the USDA plus numerous other directives to numerous government agencies put forth in a Task Force formed by the Obama White House in 2014-2015 need to be encouraged, reinvigorated and improved. We should support the honey bee industry but not at the expense of our native species and their contribution to the integrity of our ecosystems.

3. Vegetation Restoration Methods

RM-2 The use of machinery for restoration of native vegetation may be allowed in all zones except the Primitive Zone. Due to the potential for irreversible impacts to other Monument+ resources, such as archaeological sites and artifacts, and paleontological resources, soil-disturbing machinery will not be used to remove pinyon and juniper.

Due to their ground disturbance, Dixie harrowing, chaining, and mastication have the potential for irreversible impacts to archaeological sites and artifacts, and paleontological resources; and to degrade or eliminate biological soil crusts.

At the same time, little positive outcomes may result at degraded juniper sites (Huffman, et al. 2017). Recent research (Coop, et al. 2017) examined 24 pairs of treated and untreated controls of 1-11-year old pinyon-juniper mastication treatments in Colorado. They concluded that the costs in terms of invasives and wildlife habitat amid climate change may render mastication treatments unwarranted.

> Treatments exhibited much higher frequency, richness, and cover by a suite of non-native plant species including cheatgrass (*Bromus tectorum*). Non-native plant expansion appears linked to the disturbance associated with treatment activities, reductions in tree canopy, and alterations to ground cover, and effective mitigation of increases by these species may necessitate both pre- and post-treatment control measures. Shifts from native-dominated woodlands to open, weedy, herb- and shrub-dominated communities are likely to change patterns of abundance and habitat use by woodland- and forest-dependent wildlife. Decreased canopy fuels and increased herbaceous surface fuels including exotic annuals are expected to alter potential fire behavior. We encourage managers carrying out P-J mastication projects to explicitly address potential trade-offs between desired treatment outcomes and potentially unwelcome impacts, and how these might be mitigated. It may also be worth considering whether or not tree removal treatments will be warranted given anticipated climate change impacts to these woodlands.

RM-7 Management ignited fire may be used for vegetation restoration when fire has been documented to historically occur in an area, where various factors have prevented natural fire cycles from occurring, and where cheatgrass or other invasive vegetation is not present. In these circumstances, management ignited fires may be used, and will attempt to simulate natural fire intensity and timing. Specific objectives for all management ignited fires will be developed prior to its use in the Monument+.

Both fire and grazing reduce resistance to cheatgrass in part by reducing native bunchgrasses and biological soil crust (Condon and Pyke 2018; Reisner et al. 2013). Amid climate change, annual invasives are favored.

RM-8 With all of the methods described above, vegetation monitoring plots, including fenced control plots, will be established to determine the effectiveness of the treatments in achieving management objectives and to provide baseline data of overall change. This monitoring will include species frequency, density, and distribution data, and will be part of overall adaptive management

For decades, vegetation treatments such as pinyon-juniper removal, sagebrush removal, and seedings of exotic pasture grasses have been undertaken in Grand Staircase-Escalante National Monument. In almost no cases have either untreated control plots or treated exclosures been established or monitored post-treatment. The outcomes of such treatments have often been judged to be failures, while the results of others have been regarded as successful, at least in the short term. However, without untreated controls, fenced untreated plots, or fenced treated plots, the BLM is unable to separate consequences of treatments from consequences of treatments+ subsequent livestock grazing, or consequences of treatments from consequences of treatments+drought/temperature. It is irresponsible to undertake treatments amid climate change and grazing without including control plots and fenced exclosures, in light of the increasing temperatures and drought, and past treatment failures.

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