

April 1, 2022

Attn: David Vincelette, NEPA Planner
430 So. Main Street, P.O. Box 248, Fredonia, AZ 86022
Fax 928-643-8105
Sent via email to: comments-southwestern-kaibab-north-kaibab@usda.gov

RE: HRWA Bison Management Improvements Project

Dear Mr. Vincelette:

We are writing on behalf of the following organizations, all of whom have been engaged in management of the North Kaibab District of the Kaibab National Forest (KNF) and engaged in particular with the management of bison and bison-hybrids on the North Kaibab: Sierra Club - Grand Canyon (Arizona) Chapter, Western Watersheds Project, and Wild Arizona.

Sierra Club is one of the country's oldest grassroots environmental organizations with more than 60,000 members and supporters in Arizona as part of the Grand Canyon Chapter. Sierra Club's mission is "to explore, enjoy, and protect the wild places of the earth; to practice and promote the responsible use of the earth's ecosystems and resources; and to educate and enlist humanity to protect and restore the quality of the natural and human environments." Our members have long been committed to protecting and enjoying our public lands, including Grand Canyon National Park and the Kaibab National Forest, and enjoy various types of recreation in the area including hiking, backpacking, wildlife photography and more. Sierra Club has been involved in issues related to bison-hybrids in the North Kaibab and Grand Canyon National Park, and related to the newly introduced bison in the North Kaibab, for more than a decade, including providing comments, attending meetings, and participating in field trips.

The staff and members of Western Watersheds Project (WWP) are concerned with the management of our public lands. WWP is a nonprofit organization dedicated to protecting and restoring western watersheds and wildlife through education, public policy initiatives, and legal advocacy. With members and supporters throughout the United States, including Arizona, WWP actively works to protect and improve upland and riparian areas, water quality, fisheries, wildlife, and other natural resources and ecological values. We work throughout the West, advocating for watersheds, wildlife, and ecological integrity. WWP's staff and members are concerned with the management of public lands throughout Arizona, including those lands located in the Kaibab National Forest and within the House Rock Wildlife Area.

Background and History

Bison-cattle hybrids were introduced into House Rock Valley Wildlife Area (HRWA) in 1907 and the herd was acquired by the State of Arizona. The hybrids were managed by the State at HRWA beginning in 1929.

Previous mismanagement at HRWA, including failure to maintain fencing and inability to round up escaped animals, has resulted in a stray population of bison-hybrids on the North Kaibab and in Grand Canyon National Park that numbers in the hundreds, with more than 800 stray animals on the landscape now (“Stray animal” as defined in ARS 3-1401).¹ Damage from these animals is ubiquitous across the Plateau and extending south to Powell Plateau, manifesting as denuded meadow vegetation, abundant manure in and surrounding water sources, and damaged cultural resources (see Figures 6 through 22).

The State of Arizona has allowed the bison-hybrids to become stray animals according to Arizona law by “permit[ting] the animal[s] to roam at large” in Grand Canyon National Park “without permission”:

ARS 3-1401. Definition of stray animal

"Stray animal" as used in this article means livestock, bison or raptiles whose owner is unknown or cannot be located, or any such animal whose owner is known but permits the animal to roam at large on the streets, alleys, roads, range or premises of another without permission, except that this section does not apply to livestock where the principles of a federal permit, federal allotment or federal lease are in dispute.

The stray bison-hybrids have roamed in the Kaibab National Forest and Grand Canyon for decades, forcing Grand Canyon National Park to create and execute a set of controversial and resource intensive procedures in an attempt to remove the animals and save park resources from destruction.²

Rather than assisting in rounding up and returning the stray bison-hybrids to HRWA, in 2017 the Arizona Game and Fish Department (AGFD) abandoned the animals and instead imported new bison to HRWA, evidently with the goal of hunting.³ Two years later, in 2019, AGFD found the infrastructure at HRWA inadequate to contain the new bison.⁴

AGFD has long acknowledged the inherent difficulty of trying to keep bison or bison-hybrids on the HRWA. The 1984 Allotment Management Plan for Buffalo Allotment, North Kaibab Ranger District, Kaibab National Forest (hereafter, “1984 Allotment Plan”) describes the difficulty of keeping buffalo and lays out numerous reasons that confinement of the bison-hybrids in House Rock Valley was destined to fail even with intensive management:

“It is almost impossible to move and keep the animals in an area where they don’t want to be...

“Buffalo are difficult to move or drive. They tend to follow fences when moving of their own accord, but when disturbed or excited, they pay little attention to such a minor

¹ p. 1 in NPS 2017. Initial Bison Herd Reduction Environmental Assessment Grand Canyon National Park. 199pp.

² <https://parkplanning.nps.gov/projectHome.cfm?projectId=49574>

³ USDA USFS May 21, 2019 Scoping letter. “AGFD may have additional requests or needs associated with management of the bison and the bison hunt within the HRWA.” Available at https://www.fs.usda.gov/nfs/11558/www/nepa/109619_FSPLT3_4646976.pdf, accessed 3/28/22.

⁴ USDA USFS. 2019. House Rock Wildlife Area Bison Management Improvements Project. <https://www.fs.usda.gov/project/?project=54296>, accessed 3/28/22.

obstical. [sic] They frequently disregard fences when they wish to follow the phenological development of forage plants.” (1984 Allotment Plan at pp. 3, 5)

The 1984 Allotment Plan also describes how, by that date, the ecological condition of HRWA was severely damaged and would be slow to recover. (1984 Allotment Plan at p. 5) Poor condition, poor soils, and low annual precipitation were identified as problems for the sustainable management of bison and bison-hybrids at HRWA. (1984 Allotment Plan at p. 5)

For years, AGFD explained how problematic and counterintuitive it was to keep bison or bison-hybrids at HRWA in their hunt booklets. For example, in the 2015 AGFD hunt booklet the animals were deemed as having been “excess for their Forest Service grazing lands” by the mid-1940s.⁵ In its 2015 explanation of the history of bison in northern Arizona, AGFD elucidated as to why bison management will never be a profitable, or even sustainable, endeavor for the State of Arizona:

“The herds at House Rock and Raymond Ranch wildlife areas remained, however, and the Department set out to manage these herds on a sustained basis. A economic profit [sic] proved elusive, however, as it was impossible to sustain sufficient breeding stock without damaging the range.”⁶

The containment and management of bison/cattle hybrids did, in fact, prove to be difficult. Not only did bison-hybrids breach the fences at House Rock Wildlife Area; within a two-year period, they also breached *all* experimental research fences erected at wetlands where they wallowed.⁷ The current effort to contain this newly imported herd of bison with new fencing and gates will undoubtedly prove futile without substantial costs to reinforce these features.

In 2017, without any environmental analysis or public input, AGFD imported 15 new bison from Montana and released them into HRWA. Within two years, AGFD found the infrastructure in HRWA insufficient to contain the new bison, creating a need for the 2019 House Rock Wildlife Area Bison Management Project. Now, again, after another three years, AGFD needs to make more infrastructure improvements. There has never been a full comprehensive analysis of the environmental impacts to the area from these new bison, nor a full disclosure of all probable future infrastructure and management projects.

This project requires an Environmental Impact Statement (EIS)

The use of an EA for this project will likely fail to comply with National Environmental Policy Act requirements. The USFS should be analyzing the impacts of the proposal to install livestock grazing infrastructure to support a population of imported, genetically valuable bison in conjunction with the impact of bison-hybrids on the landscape. By authorizing actions to keep

⁵ AZGFD 2015. Hunt Arizona 2015 Edition: Survey, Harvest, and Hunt data for Big and Small Game, 209 pp. Available at <https://www.azgfd.com/Portals/Images/files/hunting/HuntAZ/HuntAZbook2015Rev2.pdf>, accessed June 14, 2017.

⁶ *ibid.* p. 145.

⁷ Reimondo E. 2012. Ecological impacts and management implications of introduced bison in the Grand Canyon Region. Northern Arizona University Master of Science Thesis. 93 pp.

and expand the range of the newly imported animals, the USFS is losing HRWA as a place to move bison-hybrids from the Kaibab Plateau. This compounds the difficulty of managing the bison-hybrids and extends bison grazing impacts into a larger area. Additionally, the proximity to and overlap of HRWA with specially designated areas requires a higher level of analysis in light of the intensity and context of this specific project. Similarly, the presence of threatened and endangered species and designated critical habitat in and near the project area raise the level of analysis necessary to ensure compliance with federal regulations. See 40 C.F.R. §§ 1508.27(a) (context), b (intensity)). In assessing “context,” agencies must look at different geographic scales and the short- and long-term impacts of the proposed action within those different geographic scales (40 C.F.R. § 1508.27(a)). In assessing “intensity,” agencies must look at the severity of the impact based on several factors:

1. The fact that impacts “may be both beneficial and adverse” and that “[a] significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.” 40 C.F.R § 1508.27b(1).

The HRWA is specifically managed for an introduced species (bison). The current management of bison could significantly impact other species, including bison-hybrids and special management areas. This project, as well as the 2019 HRWA project, are proposals by the AGFD and the AGFD has indicated that additional future actions or activities are likely, meaning there are likely to be additional, ongoing, perpetual requests from the AGFD to manage (or “ranch”) these introduced bison. The Forest Service cannot continue to break these actions down into small projects without analyzing the cumulative impacts of the bison-management program, including the management of the bison-hybrids.

2. “The degree to which the proposed action affects public health and safety.” 40 C.F.R § 1508.27b (2).

It is well documented that bison are difficult to contain within fences. These bison are likely to breach the fence lines, which could potentially put recreational users at risk from injury. There is already a danger of vehicle collisions with bison-hybrids on some roads in the Kaibab National Forest.

3. “Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.” 40 C.F.R § 1508.27b (3).

As mentioned above, the allotment is adjacent and overlapping with special management areas, including designated Wilderness (Saddle Mountain), Inventoried Roadless Areas (Cockscomb), the Grand Canyon National Park (which forms the HRWA’s eastern and southern boundaries), the Grand Canyon Game Preserve, critical habitat for threatened and endangered species, and culturally significant lands. There are also competing priorities in the *Kaibab*

National Forest Land and Resource Management Plan [i.e., the “Forest Plan” (February 2014 – as updated)], including the need to ensure compliance with Management Area direction for designated and proposed wilderness areas, the Pediocactus management area, as well as the need to ensure general Forest Plan compliance regarding soils, constructed waters, and visual resources.

4. “The degree to which the effects on the quality of the human environment are likely to be highly controversial.” 40 C.F.R § 1508.27b (4).

The introduction of a non-native species of bison to the area is highly controversial. The management of a game species as though they are a domestic livestock species is highly controversial. When the bison escape the HRWA they will breed with the livestock on the nearby Forest Service allotments (including the Kane, South Kane, Central and South Summer, Willis Canyon, Ryan, and Burro allotments), as well as the bison-hybrids within the foray range of the bison. This will exacerbate the problem of bison-hybrids that are causing significant damage to the Grand Canyon National Park and other surrounding areas and will require additional highly controversial actions such as the culling of bison-hybrids.

5. “The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.” 40 C.F.R § 1508.27b (5).

The Forest Service and the AGFD are proposing this project without any recognition or disclosure of the fact that bison are likely to breach the fencing. The risks involved with these breaches include known and unknown risks, as well as unique risks to the habitat of the Fickeisen Plains Cactus and the need for highly controversial culling of bison-hybrids in the future.

6. “The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.” 40 C.F.R § 1508.27b (6).

The introduction of the bison to the HRWA has resulted in the “need” for fencing and other livestock grazing infrastructure to manage the introduced herd (authorized in 2019 via a Categorical Exclusion), and now the “need” for additional fencing, cattleguards, pipelines, tanks, and catchments. Each of these pieces of grazing infrastructure will need perpetual maintenance, ensuring future decisions to allow for that “need.” The entrenchment and expansion of this introduced species will preclude the ability of the Forest Service or AGFD, or any other agency, from utilizing the HWRA for bison-hybrids, creating significant impacts on adjacent lands.

7. “Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by

termining an action temporary or by breaking it down into small component parts.” 40 C.F.R § 1508.27b (7).

We have addressed these issues above. Additionally, federal land managers have inadequately addressed the impacts of livestock grazing in the project area and this is a significant cumulative impact. As you can see from the maps below (Figure 1, the top map, is an overview of Arizona; Figure 2, the bottom map, is zoomed into the project area), the livestock grazing allotments to the north of the HRWA have been renewed via the FLPMA 402(c)(2) provision which allows for the renewal of grazing permits and leases without NEPA analysis.

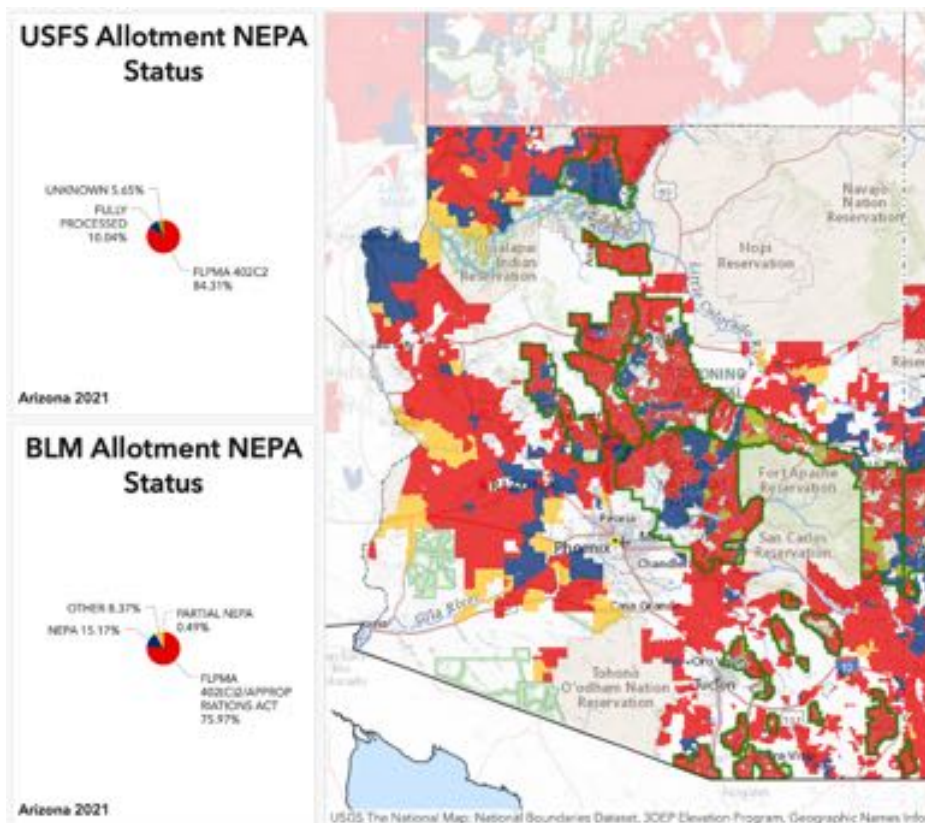


Fig. 1. USFS and BLM Allotment NEPA Status for the State of Arizona.

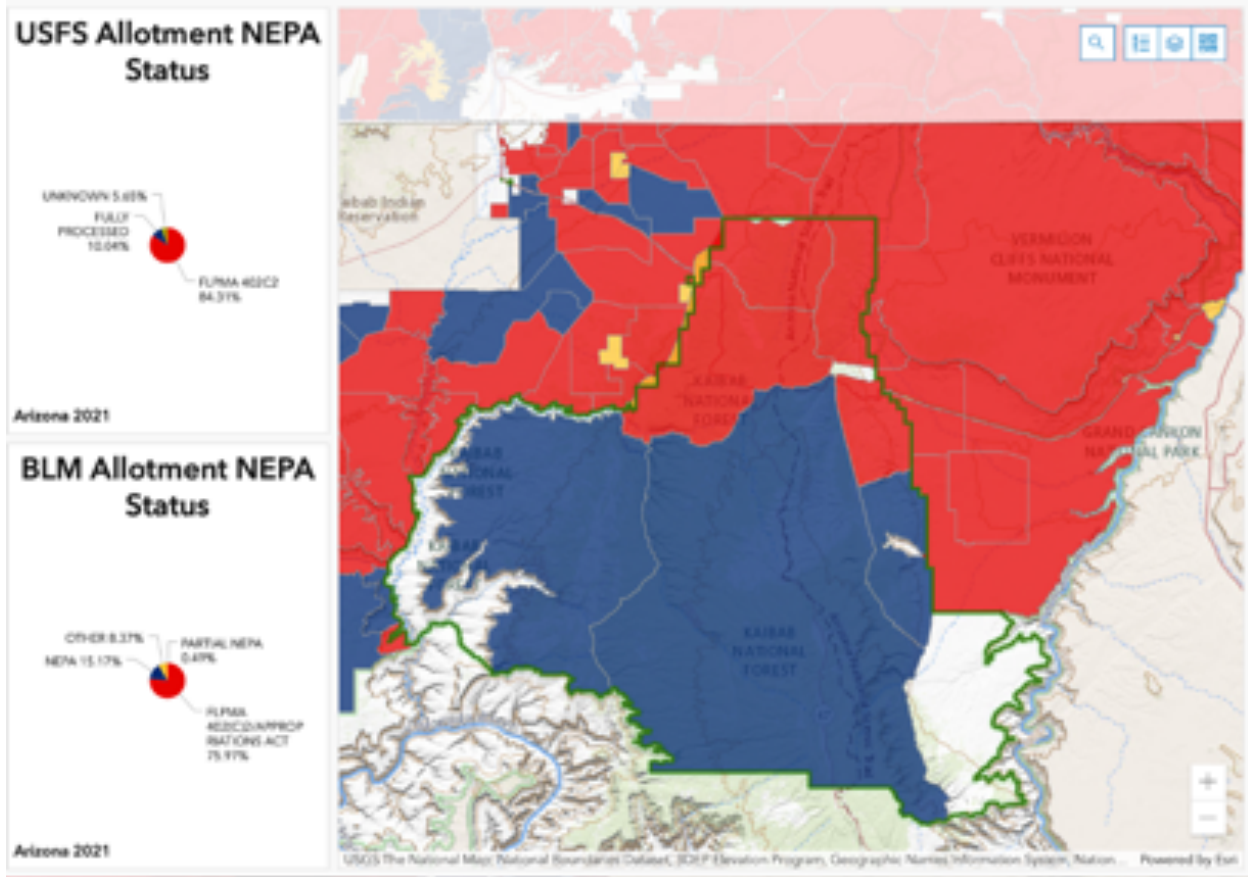


Fig. 2. USFS and BLM Allotment NEPA Status for lands surrounding the Project Area.

The Central Summer and Kane allotments (on the west of the HRWA) appear to have last had a NEPA analysis in 2013, and the Bureau of Land Management managed Soap Creek and Beanhole Well allotments (on the north of the HRWA) have been reauthorized via the 402(c)(2) provision at least once. It is unknown if a livestock capability or forage capacity determination, or any land health evaluation, has been completed for the HRWA. Given that the AGFD and the Forest Service are in reality managing these bison in the same way that livestock are managed, the capability and capacity determinations and land health evaluations should be conducted on the entire HRWA prior to the turnout of the bison.

8. “The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.” 40 C.F.R § 1508.27b (8).

The degree of impacts to cultural resources is unknown. An archaeological survey was conducted of just the 4,000 acre project area in 2019, but the Forest

Service used the House Rock Valley chisel-toothed kangaroo rat and the Fickeisen's plains cactus surveys as proxies for cultural resource surveys. A thorough survey of the entire area where bison will be permitted to graze, as well as surveys of the areas where grazing infrastructure will be installed, must be conducted.

9. "The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973." 40 C.F.R § 1508.27b (9).

The critical habitat for threatened and endangered species includes: designated habitat for the Mexican spotted owl adjacent to and near the area where bison will be kept and where infrastructure such as fences will be installed and maintained and designated habitat for the Fickeisen Plains Cactus (*Pediocactus Peeblesianus ssp. Fickeiseniae*) within the project area. In the 2019 decision for this same area the Forest Service indicated that the cactus was not located within the project area and this is no longer true. (See Figures 3 and 4)

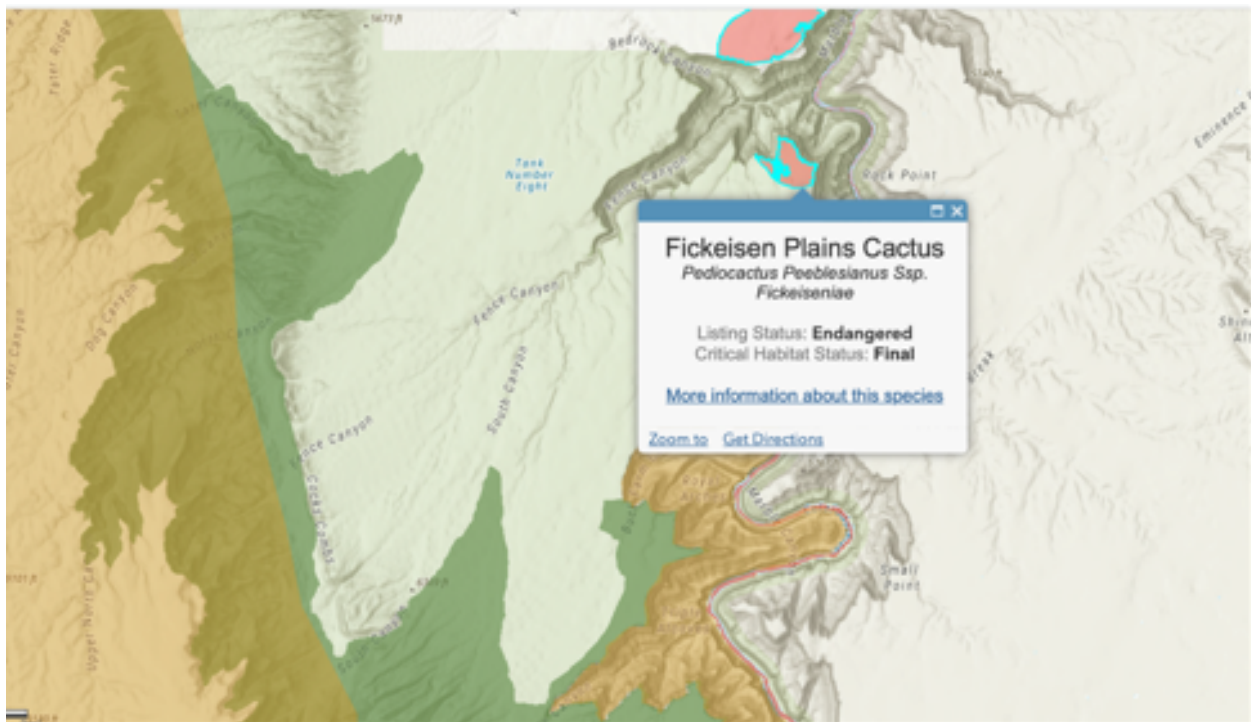


Fig. 3. Designated habitat for the Fickeisen Plains Cactus (*Pediocactus peeblesianus ssp. Fickeiseniae*).

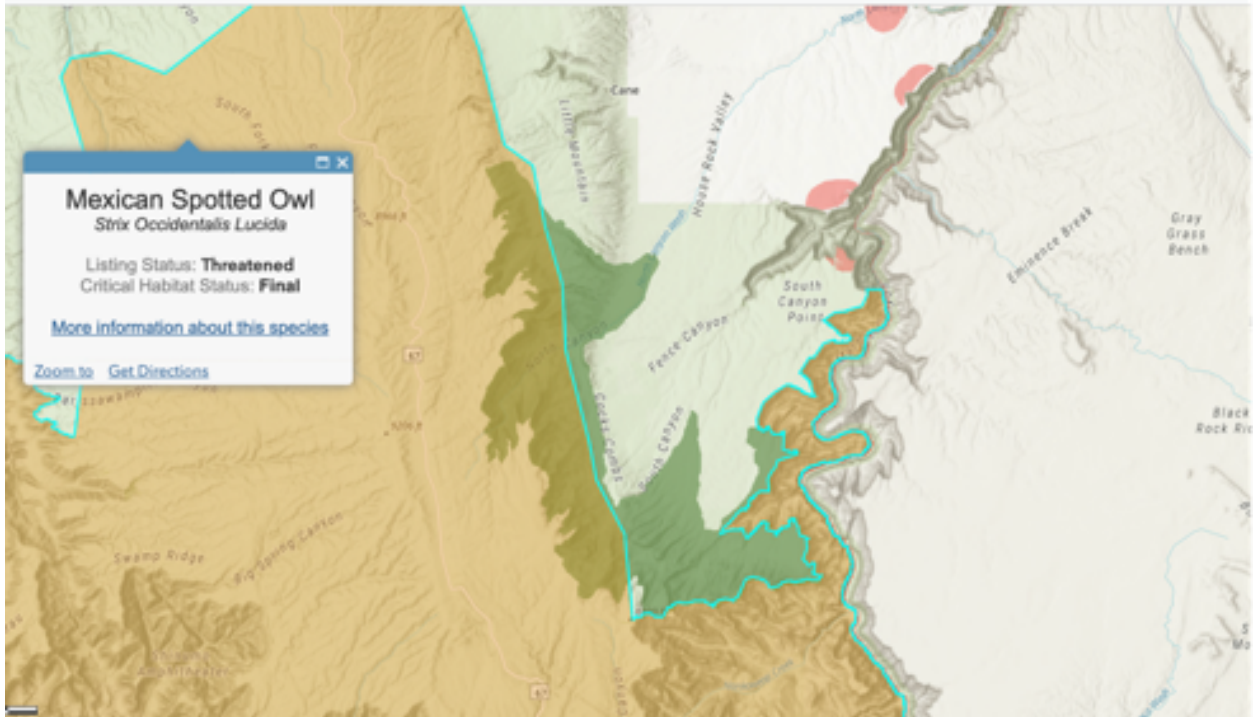


Fig. 4. Designated habitat for the Mexican spotted owl (*Strix occidentalis lucida*).

10. “Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.” 40 C.F.R § 1508.27b (10).

There are potential violations of the Wilderness Act, NEPA, FLMPA, and the Endangered Species Act.

Finally, the Forest Service must consider the impacts of recent fires within the watershed of the project area. Figure 5 is a map of fires from the year 2000-2016:

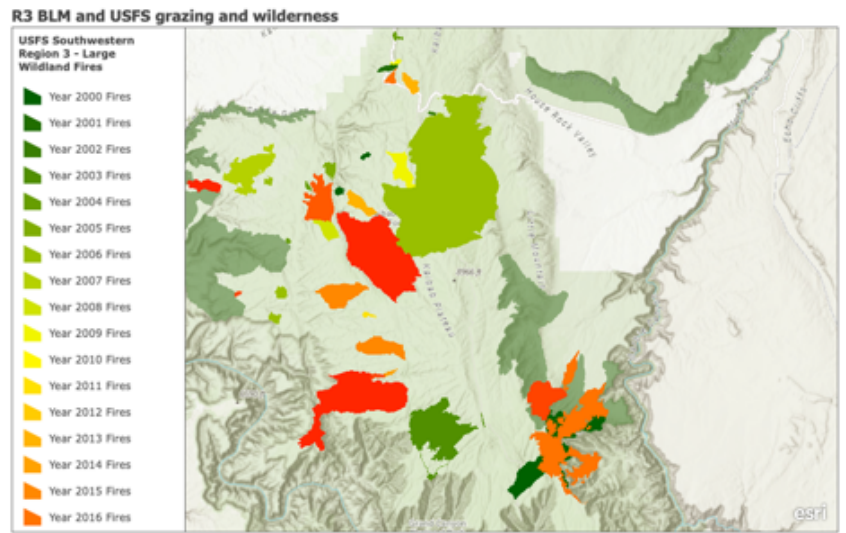


Fig. 5. Fires near Project Area between 2000 and 2016.

Proposed Action is Inconsistent with 1984 Allotment Plan

The Proposed Action includes maps of two alternatives: an “AGFD Preferred Fence Alternative Following Approved 1984 HRWA AMP” (hereafter, “Preferred Alternative”) and “Option 2.” (Proposed Action at pp. 3-4) Both alternatives place 25 bison in the northeast pasture year round and ~120 bison in the northwest and south pastures year round, implying a goal of ~145 bison.

This is wholly inconsistent with the direction given in the 1984 Allotment Plan that is presented as Appendix E on the USFS project page.⁸ The 1984 Allotment Plan specifically directs management of a herd of bison brought to House Rock Valley in 1907 and is not meant to enable the importation of new bison herds to the region:

III. MANAGEMENT

A. History and Past Management:

Buffalo were introduced into House Rock Valley in 1907 by Jim Owens. The State of Arizona subsequently acquired the buffalo and through various agreements, the buffalo were moved to the present allotment... (1984 Allotment Plan at p. 5)

The 1984 Allotment Plan specifically caps the number of bison allowed to be kept by AGFD at no more than 90, pending improvements of range condition and trend. The USFS presents no evidence that range condition requirements have been met. According to the 1984 Allotment Plan, the number of bison on House Rock Valley was supposed to be capped at 61% less than the 145 animals now being proposed. (Proposed Action at pp. 3-4) Further, there are now more than 800 descendents of the 1907 bison-hybrids on the surrounding landscape.⁹ The 1984 Allotment Plan was never intended to apply to a new herd of 145 bison kept in addition to 800 animals roaming throughout the region.

From the 1984 Allotment Plan:

II. Objectives:

The goal of this plan is to improve range resource conditions through an intensive management system, while maintaining a healthy buffalo population consistent with other wildlife and resource needs.

A. Short Range Objectives:

1. Maintain the herd at 75 to 90 head (post hunt) (all count animals, regardless of age or sex) to 1985, then evaluate the relative range condition and trend. The goal is to harvest recruitment or calf crop...

B. Long Range Objectives:

⁸ USFS project page at <https://www.fs.usda.gov/project/?project=58903>, accessed 3/31/22.
1984 Allotment Plan link on USFS project page at

http://www.fs.usda.gov/nfs/11558/www/nepa/114550_FSPLT3_6400345.pdf, accessed 3/31/22.

⁹ p. 1 in NPS 2017. Initial Bison Herd Reduction Environmental Assessment Grand Canyon National Park. 199pp.

1. Maintain a buffalo population in balance with the capabilities of the resource.
2. Maintain or enhance suitable habitat for deer, antelope, and other wildlife.
3. Establish an upward trend on areas of unsatisfactory range condition and monitor or improve the condition of these [sic] areas presently classified as satisfactory range.
4. With mutual cooperation of A.G.&F., develop [sic] range improvement projects...

C. Range Conditions:

The latest analysis shows considerable portions to be in poor condition...
Much of the area has inherently poor soils...

IV. MANAGEMENT PLAN:

A. Harvest System and Herd Management:

The Arizona Game and Fish Department's herd goal is to maintain the present numbers (75-90 head, post-hunt) and harvest the recruitment up through 1985, and then evaluate the situation. Basically, they will achieve better animal production for trophy and meat while improving the range resource for all wildlife. (1984 Allotment Plan at pp. 4-6)

Knowing that historical problems with management of the 1907 bison-hybrids led to the creation of the 1984 Allotment Plan, AGFD should not be allowed to create conditions that are worse than those that led to, or that were agreed to in, the 1984 Allotment Plan. The USFS must create an EIS to determine whether bison should be kept in HRWA in light of the number of bison-hybrids roaming the surrounding area. The USFS must analyze the cumulative impacts of the newly imported bison with the hundreds of bison-hybrids ranging the region. Under no circumstances should 145 bison be allowed in HRWA, knowing that this number was already deemed to be above the capacity of HRWA.

The USFS should share all historic and current documents that provide guidance on grazing management of HRWA on the project website.

Documentation of Compliance with 2010 MOU Must be Provided

In 2010, the USFS and AGFD signed the "Master Memorandum of Understanding Between the U.S. Department of Agriculture Forest Service Southwestern Region and the Arizona Game and Fish Commission and Department" (hereafter, "2010 MOU"). The 2010 MOU sets specific requirements on AGFD regarding species releases on National Forest System Lands:

B. The Department agrees...

11. To seek early U.S. Forest Service input regarding the Department's evaluations to make determinations of native or indigenous species that could potentially occur on

National Forest System Lands and coordinate prior to introductions on National Forest System Lands.

12. To coordinate with the U.S. Forest Service on any proposals for release, introduction, or establishment of fish and wildlife populations (including threatened and endangered species) within National Forests; and, in the event of unanticipated introduction, transplant, or stocking, provide notice (in advance to the fullest extent possible) to the U.S. Forest Service for review of environmental analysis and documentation (where appropriate) and coordination. (2010 MOU at p. 6)

The USFS must make available on the Project website all documentation showing that the USFS and AGFD did “coordinate prior to introductions [of bison] on National Forest System Lands” in HRWA. (2010 MOU at p.6) The USFS must make available on the Project website all “proposals for release, introduction, or establishment of fish and wildlife populations” that specifically refer to bison introductions in HRWA. (2010 MOU at p.6) The USFS must make available on the Project website all “review of environmental analysis and documentation (where appropriate) and coordination” relating to bison introductions at HRWA. (2010 MOU at p.6)

Compliance with Other Relevant Documents Must be Provided

In the Scoping Letter for this project dated March 2, 2012 [sic], the USFS states:

AZG&FD’s wildlife management activities related to the HRWA are carried out in accordance with the *Kaibab National Forest – Land and Resource Management Plan* [i.e., the “Forest Plan” (February 2014 – as updated)], as well as applicable laws, rules, and regulations. Additionally, the 2010 *Master Memorandum of Understanding between the U.S. Department of Agriculture Forest Service Southwest Region and the Arizona Game and Fish Commission and Department* (FS agreement number 10-MU-11031600-019), and earlier MOUs specific to the management of bison within the HRWA are being applied to the analysis of the proposed action. And more recently, management actions which are in line with the 2020 *Master Good Neighbor Agreement between the Arizona Game and Fish Department and the USDA Forest Service, Southwestern Region* (FS agreement number 20-GN-11031600-148). (3/2/22 Scoping Letter at p. 1)

Elsewhere in these comments we discuss the Kaibab National Forest Land and Resource Management Plan, the 2010 MOU, and the 1984 Allotment Plan. Our interpretation of the earlier MOUs cited by the USFS in the Scoping Letter is that they are inconsistent with the 2017 introduction of the bison to HRWA and the Proposed Action.

The Forest Service must provide on the project website a copy of the 2020 Master Good Neighbor Agreement between the Arizona Game and Fish Department and the USDA Forest Service, Southwestern Region (FS agreement number 20-GN-11031600-148) so that the public can understand what guidance in this document relates to HRWA bison.

A 1950 Memorandum of Understanding (MOU) between AGFD, the USFS, Bureau of Land Management, and ranchers dedicated an allotment in House Rock Valley to the keeping of the state-owned bison-hybrids. In that document, AGFD agreed, "To maintain an adequate fence on the north boundary of the buffalo allotment on the Kaibab National Forest and to keep the buffalo confined to their designated range on the Kaibab National Forest."

AGFD failed to adhere to this MOU and as a result, hundreds of bison-hybrids range throughout the Kaibab National Forest and Grand Canyon National Park.

A 1973 MOU between AGFD and the USFS adds that, "The (AGFD) Commission agrees... To neither make nor sanction any release, introduction or establishment of wildlife, excluding fish, which may affect National Forest management until a joint investigation has been made and a mutual agreement reached regarding its possible effect upon all other resources." AGFD should not have released the newly imported bison in HRWA without "a joint investigation", and in fact should not have imported the bison to HRWA without such an investigation. If "a joint investigation" occurred and "a mutual agreement" was reached "regarding its possible effect upon all other resources," the USFS must provide all related documentation on the project website.

KNF Forest Plan Direction/ Compliance with Kaibab National Forest Land and Resource Management Plan (Forest Plan) for the HRWA and Bison Management

It does not appear the proposed action is compliant with the KNF Forest Plan and indeed, may be contrary to the plan. The AGFD's emphasis on the "new" bison's high conservation value due to the bison's high bison genetic diversity and lack of cattle introgression supports our position that this project is likely in violation of the Forest Plan.

From the Proposed Action Project or Activity Background, Section 1.1:

In December 2017, the Arizona Game and Fish Department (Department) released 15 yearling bison from the American Prairie Reserve in Montana onto House Rock Wildlife Area (HRWA). *These new bison are of high conservation value containing high bison genetic diversity and no known cattle introgression.* These young naive bison had no established site fidelity to HRWA, which is an ideal strategy to "concentrate" bison within HRWA; which is consistent with the Kaibab Forests' Land and Resource Management Plan. These bison and their offspring have spent all of their time within the 4,000 acre northeast pasture and are establishing site fidelity to this location through their innate natural history by completing breeding and calving cycles in this locale which anchors them to specific locations.

From the Purpose and Need of the Proposed Action, Section 1.2:

As stated above, these bison have stayed within the northeast pasture since arriving from American Prairie Reserve. The Kaibab National Forest (KNF) and the Department engaged in a joint vegetation monitoring project in 2018 within the northeast pasture to monitor usage and help estimate carrying capacity. This herd will soon reach the carrying capacity within the 4,000 acre pasture and will need to be released from this locale to rest the pasture. The Department is committed in implementing the Forests' Plan direction of "the bison should be managed so that the herd is concentrated within the House Rock Wildlife Area." To do this while keeping the ecological balance in the northeast pasture and meet KNF's Forest Plan objectives, the Department will need additional infrastructure within HRWA before releasing the herd from the pasture.

The proposed action is to expand the area at HRWA where genetically valuable, imported bison are allowed to roam, in part because the size of the imported herd at HRWA "will soon reach the carrying capacity" within the pasture they are currently using and the Forest Service and AGFD claim that it is in keeping with the provisions in the Forest Plan regarding managing bison at the HRWA. The proposed action is described as necessary to ensure compliance with the Kaibab's Forest Plan as regards bison management. However, no reference to a specific provision in the Forest Plan is provided. We therefore provide them here. (2014 KNF Forest Plan at 103)

House Rock Wildlife Area

The bison herd has been present on the North Kaibab Ranger District for more than 100 years, and was specifically mentioned in legislation leading to the Grand Canyon Game Preserve. The State of Arizona owns and manages this free-ranging bison herd on the Kaibab NF through an agreement between the AGFD and the U.S. Forest Service.

Desired Conditions for the House Rock Wildlife Area

- Bison are a desired introduced wildlife species within the designated House Rock Wildlife Area in House Rock Valley.
- There are opportunities to hunt bison.
- The bison herd size is in balance with ecological conditions in the House Rock Wildlife Area.

Guidelines for the House Rock Wildlife Area

- The bison should be managed so that the herd is concentrated within the House Rock Wildlife Area.
- Active management should be used to minimize impacts from bison to sensitive resources, particularly outside the House Rock Wildlife Area.

Management Approach for the House Rock Wildlife Area

Coordination and cooperation between the Kaibab NF, AGFD, Grand Canyon National Park, and researchers will be needed to identify workable solutions for managing the bison, which are now spending much of their time in the remote forested areas of the Kaibab Plateau. Efforts to achieve the desired conditions will likely be implemented in phases with an initial emphasis on reducing the herd size and excluding them from Grand Canyon National Park. Strategies may include hunting and trapping, fencing, and herding.

The animals to which the KNF Forest Plan refers are the stray bison-hybrids, which were supposed to be moved to HRWA to stop the damage that they were doing on the Kaibab Plateau.

This proposed action highlights two problems. First, now that the area is occupied by imported bison of “high conservation value” due to the lack of cattle introgression and this herd is nearing the carrying capacity of the pasture, it becomes harder to round up and keep the stray bison-hybrids in the same area. Second, placing the bison-hybrids in the HRWA will diminish the conservation value and genetic value of the imported bison as the two groups of bison reproduce.

If AGFD is abandoning plans to round up and contain bison-hybrids on HRWA, this should be seen as AGFD rescinding all claim of ownership of the stray bison-hybrids and this should be put in writing. Alternatively, if the AGFD plans to combine the two groups of bison, the Forest Service must analyze the impacts of bison and bison-hybrids on natural resources including vegetation and other ungulates.

Management areas are generally described in Chapter 3 of the LRMMP as containing “specific management direction that differs from the general forest. In some cases, there may appear to be a conflict between direction presented at larger and finer scales. If there is an apparent conflict, the direction at the finer scale takes precedence. (KNF 2014 Forest Plan at pp. 85 and 95) Additionally, specific to the HRWA and as we included above, the Forest Plan further explains the significance of this area and its importance as a place to manage the free-ranging bison-hybrid herd.

In the general vicinity of the HRWA Management Area the Forest Service must also consider other Designated and Management Areas, including any adjacent designated and recommended wilderness areas, and the Pediocactus Conservation Area. It is important that the replacement of the 2.7 miles of existing fence in the designated wilderness area does not degrade the wilderness character. We note that the project timeline indicates the fencing in the “West Pasture” is the most time pressing part of the project and that the fencing in the wilderness area is located in the West Pasture. (Project Description at pp. 3-5) The Forest Service cannot expedite this project and compromise the wilderness area because of a perceived need by the AGFD to obtain approval so that funding from the Habitat Partnership Committee (HPC) fund can be obtained in 2022.

The Forest Service must also ensure that the desired conditions for other natural resources are not negatively and unduly impacted by the decisions made for the HRWA, including the desired

conditions for soils, watersheds, and natural and constructed waters. The impacts to these resources must be fully analyzed.

Chisel-tooth kangaroo rat

The narrow endemic Arizona chisel-toothed kangaroo rat, or *Dipodomys microps leucotis*, is also known as the House Rock Valley kangaroo rat due to its distribution in House Rock Valley. Arizona chisel-toothed kangaroo rats are considered general granivores.¹⁰ They also eat saltbush as a part of their diet and are able to extract the salt from vegetation while retaining water.¹¹ The rat stores seeds and leaves them in burrows for use during dry periods.¹² Mating season, May to September, is likely related to the availability of certain nutrients in perennial shrub leaves or winter annuals. Common predators include rattlesnakes, gopher snakes, owls, and less commonly coyotes, bobcats, and raptors.¹³

The rat constructs burrow systems with multiple entrances on discrete raised mounds in desert scrub habitat with open sandy areas and vegetation dominated by sparse grasses, shadscale, four-wing saltbush, or blackbrush.¹⁴

Preferred habitat has surface soils with a rock or gravel component and is relatively undisturbed by cattle grazing.¹⁵ Major threats to the chisel-toothed kangaroo rat include grazing, which can cause the removal of shrubs from the landscapes, eliminating an important component of the kangaroo rat's diet, especially near water sources.¹⁶

The Forest Service must analyze the impacts of the installation of the bison infrastructure on the rat and its habitat and must also analyze the impacts of the expanded use of the HRWA by the imported bison, including how the bison will impact the food source of the rat, especially saltbush. Bison will trample rat burrows, especially near water sources. The bison infrastructure, including fences and water sources, will alter the predator populations of the area and the Forest Service must analyze and disclose the impacts this will have on the kangaroo rat. Any personnel using motorized equipment or installing infrastructure must be trained to recognize rat habitat, including mounds, and avoid them during construction, installation and maintenance of the infrastructure. The use of motor vehicles must be carefully monitored to ensure mounds and saltbush are not driven over.

¹⁰ Navajo Nation Integrated Weed Management Plan Biological Assessment. October 2021. USDO, BIA, Navajo Nation, Arizona Department of Transportation, Navajo Nation Soil and Water Conservation Districts. October 2021. Appendix I at I-68. https://www.bia.gov/sites/bia.gov/files/assets/bia/navreg/nniwmp/docs/Appendix_I_Biological_Assessment.pdf last accessed April 1, 2022.

¹¹ *Id.*

¹² Arizona Game and Fish Department (AGFD). 2001. *Dipodomys microps*. Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. 7 pp.

¹³ Navajo Nation Biological Assessment at I-68.

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ AGFD 2001.

In addition, the Forest Service must accurately describe the amount of habitat for the kangaroo rat that will be disturbed. The Proposed Action for this project indicates that 19,711 acres will be newly available for bison to forage and graze in. (2022 Proposed Action at p. 1) The 2019 Decision Memo for the HWRA bison project incorrectly calculated the amount of area impacted by the project, indicating that 31 acres was just 0.01 percent of the 4,0000 acre project area when it actually is 0.78 percent.

The USFS must Analyze Potential Impacts on Pronghorn Habitat

Studies reveal that bison interference in pronghorn habitat is rare, and bison foraging exposes vegetation that pronghorn can more easily find and consume. However, the effects of cattle grazing on forb communities are not thoroughly understood. Given that there are also bison-hybrids in the North Kaibab, it is important for the USFS to clarify how will the expanded area these bison are permitted to access impact pronghorn in HRWA? Given that these bison are being managed as livestock, it is important that the USFS identify the forage needs of the bison and pronghorn and identify how the bison behavior will impact pronghorn forage. See pp. 27-32 for more information, especially pp. 31-32: https://www.fs.fed.us/rm/pubs/rmrs_gtr135_2/rmrs_gtr135_2_013_034.pdf, last accessed March 30, 2022.

The USFS Should Share a Map of Project Area and Adjacent Land Designations

We appreciate the Forest Service including a map of the project area. However, this map fails to show important ecological features such as the Pediocactus Conservation Area and designated or recommended Wilderness Areas, making it difficult to comment. This information is in the Forest Plan for the Kaibab National Forest, but this information must be mapped in the project documents and potential impacts must be disclosed.

The USFS Must Disclose Impacts of HRWA Bison on *Pediocactus* spp.

It is unclear from the Proposed Action and associated maps whether any portion of the project area overlaps with occurrences of the endangered Fickeisen plains cactus (*Pediocactus peeblesianus* ssp. *Fickeisenii*) or the Candidate Conservation Area for Kaibab pincushion cactus (*Pediocactus paradinei*).

The Decision Memo for the 2019 House Rock Wildlife Area Bison Management Improvements cites 2013 and 2014 cactus surveys and a “House Rock Wildlife Area Bison Management CE, Rare Plant Analysis, KNF Specialist Report, 5pp.” by T. Russell, but that document appears to be unavailable on the 2019 project website. Please make that and any updated pediocactus surveys available on the 2022 project website. Also, the public needs to see a map of the

Pediocactus Conservation Area and its proximity to the Proposed Action. Please make a map of the Pediocactus Conservation Area and the Proposed Action available on the project website.

The Pediocactus Conservation Area was established to protect the Paradine or Kaibab plains cactus (*Pediocactus paradinei*). “In lieu of formal listing, an interagency conservation assessment and strategy was prepared for the Paradine plains cactus” and this area was “established to aid in managing this species.” (KNF 2014 Forest Plan at p. 104) The Forest Plan clearly states the guidelines for the Pediocactus Conservation Area require that “[p]roject activities should include protective measures for the Paradine plains cactus. Any potentially ground-disturbing activities in the Pediocactus Conservation Area should be evaluated, and protective measures should be implemented to minimize resource impacts.” (Forest Plan at p. 104) Additionally, “motorized access should be restricted[,]” and “the character of this area is maintained by limiting access and managing threats.” *Id.*

The USFS Must not Allow Additional Negative Impacts in Protected Wilderness Areas

The project area includes one or more portions of the Saddle Mountain Wilderness Area and may include a Recommended Wilderness area. The Desired Conditions for Designated and Recommended Wilderness in the Forest Plan are consistent with The Wilderness Act (1964).

The Forest Plan states Desired Conditions for Wilderness Areas:

- Wilderness provides opportunities for nonmotorized and non-mechanized primitive and unconfined recreation and contiguous wildlife habitat. Social encounters are infrequent and occur only with individuals or small parties.
- The environment is essentially unmodified. No services are provided and self-reliance is required. The naturally occurring scenery dominates the landscape. Manmade features are rare and use natural or complimentary materials. Some constructed features are present when needed to provide for public safety or resource protection.
- Enduring, high-quality wilderness values are maintained while providing for solitude and primitive, unconfined recreation experiences.
- Natural processes are maintained within wilderness. Fires function in their natural ecological role.
- Wilderness areas have minimal to no nonnative invasive species.
- Wilderness boundary postings are well maintained.
- Maps, information, and educational material are provided at wilderness access points. The materials encourage understanding of wilderness philosophy and support for its ecological and social benefits.
- A reproducing population of Apache trout is maintained in North Canyon Creek. (LMRP at p. 88)

The Desired Conditions for Recommended Wilderness Areas in the Forest Plan include:

- Recommended wilderness provides non-motorized and non-mechanized opportunities for primitive and unconfined recreation and contiguous wildlife habitat. Social encounters are infrequent and occur only with individuals or small parties.
- The environment is essentially unmodified. No services are provided and self-reliance is required. The naturally occurring scenery dominates the landscape. Manmade features are rare and use natural or complimentary materials. Some constructed features are present when needed to provide for public safety or resource protection.
- Enduring, high-quality wilderness values are maintained while providing for solitude and primitive, unconfined recreation experiences.
- Natural processes are maintained within wilderness. Fires function in their natural ecological role.
- Wilderness areas have minimal to no nonnative, invasive species. KNF 2014 Forest Plan at 95, emphasis added. (Forest Plan at p. 95)

The Guidelines for Recommended Wilderness Areas are:

- Activities should maintain or improve the wilderness character until such time as Congress acts on the recommended area, either making it designated wilderness or releasing it for other management. Id. at 96, emphasis added. The Forest Service has not disclosed whether or how this project will affect the Wilderness character of the Recommended Wilderness area, whether motorized vehicle uses are proposed for the Recommended Wilderness area, nor whether fencing and water developments will be installed in this Recommended Wilderness area or how they will move this area toward the desired natural appearing primitive setting. This information must be disclosed and again makes clear that the use of a Categorical Exclusion is inappropriate. (Forest Plan at p. 96)

“Retrofitting” fencing and allowing bison grazing in Designated or Recommended Wilderness as shown in the Preferred Alternative would violate the Forest Plan Desired Conditions for Wilderness Areas and Recommended Wilderness Areas in the following ways:

- 1) by breaking up contiguous wildlife habitat;
- 2) by failing to leave the environment essentially unmodified, and allowing a manmade feature to dominate the area;
- 3) by constructing a fence that would interrupt an unconfined recreation experience;
- 4) interrupting natural processes;
- 5) maintaining a nonnative/introduced species in the area. (Forest Plan pp. 88, 95).

Because the Preferred Alternative violates the Forest Plan and the Wilderness Act, it should not be considered.

The USFS must provide a clear map with the Project Area and all adjacent and overlapping Wilderness Areas and Recommended Wilderness Areas labeled.

The USFS Must Analyze Construction Impacts, Roads, and Motorized Vehicle Use

The USFS must disclose all areas where motorized vehicles will be used and any new roads or staging areas that will be created. The map of the project area shows a high road density. The USFS must disclose the road density of the project area as it current exists as well as the road density that will result from the proposed action.

General information regarding the impacts of roads can be found in the U.S. Forest Service Wildlife Specialist report from the Travel Management Planning decision and the Forest Service should consult that document for this project.

We are concerned about the use of ATVs or other vehicles for cross-country travel for fence repair. We recommend the Forest Service require the AGFD to survey any areas where ATVs or other vehicles will be driven for sensitive species of plants and animals prior to the use of any vehicle off designated vehicle routes. The Forest Service should also require a maximum speed limit to ensure that wildlife will not be harmed by the use of ATVs or other vehicles off designated routes.

The USFS Must Consider Additional Ecological Risks and Cumulative Impacts

The HRWA is an ecologically diverse area that provides several important habitats. The HRWA contains pronghorn habitat and about 50% of the key deer winter habitat in the area; it overlaps with Saddle Mountain Wilderness Area, it contains South Canyon Spring, and three distinct vegetation types. (1984 Allotment Plan at pp. 3-4, 6)

The USFS must analyze the risk of bison damaging the understory and hiding cover that mule deer and pronghorn depend upon. On the Kaibab Plateau, there is a significant correlation between bison-hybrid usage of an area and reduced vegetation cover, reduced vegetation height, and increased bare soil.¹⁷ (See Figs. 6 to 22). Bison-hybrid impact is concentrated around wetland habitats, such as ponds and springs, where denuding vegetation can have an elevated impact on biodiversity. Riparian and wetland habitats occupy less than 1 percent of the western landscape but are essential to 70-80 percent of all desert, shrubland, and grassland plants and wildlife at some phase of their life cycle.¹⁸ Understory, hiding cover, and wetlands all support mule deer and pronghorn populations.

The USFS must also consider the cumulative impacts of bison introductions and management with climate change and the negative impacts of other introduced species. The Project Area has been in a state of drought for decades now, and increasing temperatures are compounding the

¹⁷ Reimondo E. 2012. Ecological impacts and management implications of introduced bison in the Grand Canyon Region. Northern Arizona University Master of Science Thesis. 93 pp.

¹⁸ Belsky, A.J., Matzke, A., and S. Uselman. 1999. Survey of livestock influences on stream and riparian ecosystems in the western United States. *Journal of Soil and Water Conservation*. 54:419-431.

drought's hydrological and ecological effects.¹⁹ One of the main vegetation types in HRWA, pinyon-juniper woodland, has taken a particular hit with extremely high levels of mortality in the last few years in and around the Project Area.²⁰

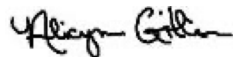
The USFS must analyze the risk of increasing the spread of introduced non-native plants through HRWA. Introduced non-native species, particularly annual brome grasses, have spread throughout hundreds of acres of USFS and BLM land on the Arizona Strip. These grasses increase the risk of fire ignitions and rapid fire spread. Bison may intensify the risk of introduced non-native grass infestations by denuding the landscape and creating openings where annual grasses can establish. Supplemental feed can also carry non-native plant seed.

The USFS must also analyze the impacts of fencing and other infrastructure on the movements of other wildlife species. Particularly during drought and in a changing climate, animals will need to move to find water, adequate food, and suitable temperatures. The reinforced fencing that contains bison could inhibit the movements that other animals need to survive.

Thank you for your attention to our concerns. Please keep us informed of any updates on this and related projects.

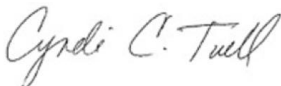
Sincerely,

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¹⁹ Overpeck, J.T. and B. Udall. 2020. Climate change and the aridification of North America. PNAS 117:11856-11858.

²⁰ <https://www.knau.org/knau-and-arizona-news/2022-03-30/aerial-imagery-reveals-massive-die-off-of-arizonas-junipers>, accessed 3/31/22.

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The following photos are of the Kaibab National Forest. The area is badly damaged by bison-hybrids and the damage has been ongoing for several years now. August 2014:



Figure 6. Bison/cattle hybrids turn a lush meadow into a dusty pasture, despite it being the height of monsoon season. August, 2014. Alicyn Gitlin photo.



Figure 7. Bison/cattle hybrids turn a lush meadow into a dusty pasture, despite it being the height of monsoon season. August, 2014. Alicyn Gitlin photo.



Figure 8. Bison/cattle hybrids deplete groundcover and foul a meadow on the North Kaibab. August, 2014. Alicyn Gitlin photo.



Figure 9. Bison/cattle hybrids deplete groundcover and foul a meadow on the North Kaibab. August, 2014. Alicyn Gitlin photo.



Figure 10. Bison/cattle hybrids deplete groundcover and foul a meadow on the North Kaibab. August, 2014. Alicyn Gitlin photo.



Figure 11. Bison/cattle hybrids deplete groundcover and foul a meadow on the North Kaibab. August, 2014. Alicyn Gitlin photo.



Figure 12. Bison/cattle hybrids deplete groundcover and foul a meadow on the North Kaibab. August, 2014. Alicyn Gitlin photo.



Figure 13. Bison/cattle hybrids deplete groundcover and foul a meadow on the North Kaibab. August, 2014. Alicyn Gitlin photo.

The following photos are of Robbers Roost Spring in Grand Canyon National Park. It was heavily damaged by bison-hybrids. May 17, 2019:



Figure 14. Robbers Roost Spring in Grand Canyon National Park is denuded of vegetation by bison/cattle hybrids and fouled by feces. May 17, 2019. Alicyn Gitlin photo.



Figure 15. Robbers Roost Spring in Grand Canyon National Park is denuded of vegetation by bison/cattle hybrids and fouled by feces. May 17, 2019. Alicyn Gitlin photo.



Figure 16. Robbers Roost Spring in Grand Canyon National Park is denuded of vegetation by bison/cattle hybrids and fouled by feces. May 17, 2019. Alicyn Gitlin photo.



Figure 17. Robbers Roost Spring in Grand Canyon National Park is denuded of vegetation by bison/cattle hybrids. May 17, 2019. Alicyn Gitlin photo.



Figure 18. Robbers Roost Spring in Grand Canyon National Park is denuded of vegetation by bison/cattle hybrids and fouled by feces. May 17, 2019. Alicyn Gitlin photo.



Figure 19. Robbers Roost Spring in Grand Canyon National Park is denuded of vegetation by bison/cattle hybrids and fouled by feces. May 17, 2019. Alicyn Gitlin photo.



Figure 20. Robbers Roost Spring in Grand Canyon National Park is denuded of vegetation by bison/cattle hybrids and fouled by feces. May 17, 2019. Alicyn Gitlin photo.



Figure 21. Robbers Roost Spring in Grand Canyon National Park is denuded of vegetation by bison/cattle hybrids and fouled by feces. May 17, 2019. Alicyn Gitlin photo.



Figure 22. Robbers Roost Spring in Grand Canyon National Park is denuded of vegetation by bison/cattle hybrids and fouled by feces. May 17, 2019. Alicyn Gitlin photo.

