



Society of Vertebrate Paleontology

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FEIN: 06-0906643

June 11, 2024

Subject: Comments from the Society of Vertebrate Paleontology on the Draft Resource Management Plan and Environmental Impact Statement for the Bears Ears National Monument

To the U.S. Bureau of Land Management and USDA Forest Service,

Please consider our comments on the draft Resource Management Plan (**RMP**) and Environmental Impact Statement (**EIS**) for the Bears Ear National Monument (**BENM**) (DOI-BLM-UT-Y020-2022-0030-RMP-EIS), which you will find appended to this letter (**Appendix 1**). Our comments are on behalf of the approximately 2,000 members of the Society of Vertebrate Paleontology (**SVP**: <http://vertpaleo.org>), a non-profit international scientific organization consisting of researchers, educators, students, and enthusiasts, to advance the science of vertebrate paleontology. SVP members have ongoing paleontological research at BENM in the field and on material that has been extracted and repositied in public collections.

We agree with Proclamation 10285 that “*scientifically important paleontological resources remain to be discovered*” at BENM. Our comments are aimed at ensuring that the RMP facilitates “*future exploration [that] will greatly expand our understanding of prehistoric life on the Colorado Plateau*”. About one-third of BENM is underlain by fossiliferous rock units that have the highest possible Potential Fossil Yield Classification (**PFYC**) rating of “5”, indicating that they are highly likely to yield new scientifically important paleontological resources (see Figure 3-2, p A-51, Vol. 2 of the draft RMP/EIS). Most of the remaining two-thirds of BENM are underlain by rocks with PFYC ratings of “3” or “4”, which also indicate a substantial likelihood for important discoveries. To date, fossils from BENM have been critical for understanding the response of life to the largest mass extinction in our planet’s history (<https://giw.utahgeology.org/giw/index.php/GIW/article/view/82>).

We support alternatives that achieve the aims of Proclamation 10285 by conserving and protecting paleontological resources in the ground and facilitating their scientific study. These aims require surface collecting, extraction, preparation in laboratories, imaging, and geochemical analysis, as well as curation in federally approved, publicly accessible repositories. The final RMP/EIS must realize the intent of Proclamation 10285.

Questions concerning our letter and comments should be addressed to any one of us (or Dr. David Polly and Dr. Kenshu Shimada: SVP’s Government Affairs Committee) at svp@vertpaleo.org. Thank you for the opportunity to comment.

Yours sincerely,

Margaret E. Lewis, Ph.D.

Stuart S. Sumida, Ph.D.

Jessica M. Theodor, Ph.D.

A handwritten signature in black ink, appearing to read 'M. E. Lewis'.

SVP President

A handwritten signature in black ink, appearing to read 'Stuart S. Sumida'.

SVP Vice President

A handwritten signature in black ink, appearing to read 'Jessica M. Theodor'.

Past SVP President

Appendix 1: SVP's Comments on Draft RMP and EIS

Generally speaking, SVP favors Alternative E, but some changes in wording are required to make it consistent with Proclamations 10285 and the Paleontological Resources Preservation Act of 2009. Our most important comment on the draft RMP/EIS is that the provision that “*Any work done involving fossils should not be extractive; fossil resources would not be extracted from BENM*” should be removed (Section 2.4.4.3, Table 2-3, Alternative E). This provision does not appear to be underpinned by and, as the EIS concludes, it is incompatible with the conservation of paleontological resources because “*avoidance of fossil extraction would result in paleontological resources being exposed to the elements indefinitely, this would result in eventual erosion and may result in vandalism or destruction of paleontological resources*” (Section 3.4.1.2.7, Impacts under Alternative E). Few fossils can be identified or studied without extracting them, which compromises inventorying and study and is thus incompatible with achieving the aims of Proclamation 10285 and appears to be in conflict with PRPA. Furthermore, extraction only rarely causes damage to the landscape or the integrity of its visual appearance. We, therefore, recommend substituting the language from the Collaborative Management Plan of the Bears Ears Inter-Tribal Coalition (BEITC) that “[c]ollection of paleontological objects will be by permit only. Tribal Nations of the BEITC have traditional uses for petrified wood. Special permits should be granted for collection by tribal members” (Appendix L-C, p. 8).

Detailed Comments

The draft RMP and EIS document lists, along with an executive summary, a total of 20 types of paleontological resources that are considered as either ‘natural environment’ or ‘built environment’ (Page 2-9). SVP’s comments and recommendations for each resource type from the perspective of paleontological resource management are presented below.

Executive Summary

Page ES-2: In the Executive Summary (ES-2), it states “*5. Protect important paleontological resources*”. While SVP is delighted to see paleontological resources being recognized as a significant component of BENM, if the statement will be used also in the Final RMP, we prefer it to be rephrased as “*5. Protect, preserve, and manage scientifically significant paleontological resources*” where the addition of the words ‘preserve’ and ‘manage’ will be consistent with the mandates required by the Paleontological Resources Preservation Act (PRPA) of 2009 (Public Law 111-11, Subtitle D: 16 USC 470aaa). Although the phrase ‘scientifically significant’ is appreciably slightly vague, it is far more specific than merely ‘important.’ It is critical to stress that collection and curation (under sections 6304 and 6305 of PRPA) are the only way to preserve the most scientifically significant fossils. 43 CFR Part 49 § 49.30 and 36 CFR Part 291 § 291.1 obligate the BLM and USFS to “*preserve, manage, and protect paleontological resources on and from Federal land using scientific principles and expertise*”, and to coordinate these activities with the scientific community.

Page ES-11 Vol 1 of the RMP states, “*requiring methods to separate the public from paleontological resources.*” Paleontologists are “the public” with regard to U.S. law. Keeping paleontologists separate from paleontological resources would not be consistent with PRPA or the proclamation, nor would it be consistent with the duty to manage these resources using scientific principles. 43 CFR Part 49 § 49.120

and 36 CFR Part 291 § 291.13 indicate that permitted fossil collection should be approved when it furthers "*paleontological knowledge, public education, or management of paleontological resources*", and would be "*consistent with the purpose and management objectives defined for the Federal land.*" Given that the proclamations designating BENM specify preservation and scientific study of paleontological resources, allowing permitted collection of scientifically significant fossils is the only alternative consistent with these presidential proclamations and DOI regulations (i.e., 43 CFR Part 49).

2.4.3. Geology and Minerals

Table 2.2: Collection of paleontological resources necessary to preserve scientifically significant specimens generally involves some level of ground-disturbing activities. Therefore, SVP prefers management alternatives that would permit the collection of paleontological resources for scientific research. Any of the alternatives with an amended provision for permitted paleontological collecting is preferred and should follow the rules and guidelines set forth by PRPA (16 USC 470aaa) and its resulting regulations for federal lands managed by the Department of the Interior (43 CFR Part 49) and USFS (36 CFR Part 291).

In addition, SVP prefers an alternative that would ideally prohibit, or minimally strongly discourage or limit, any forms of mineral resource activities where very high potential for paleontological resources exists, particularly if areas of interest have the Potential Fossil Yield Classification (PFYC) rating of “4” or “5”. For any lands of interest, no mineral activity permits should be issued prior to each mineral activity without proper paleontological surveys and any necessary excavations/mitigations by qualified paleontologists, including BLM or USFS paleontologists. Regardless, SVP asks that any decision-making about geology or minerals should be made in consultation with the agency’s qualified paleontologists in the region. In fact, we recommend the need for ‘consultation with the agency’s qualified paleontologists’ to be added as one of the items in any of the alternatives that will be adopted in the Final RMP to ensure that such important consultation will not be inadvertently missed because paleontological resources inherently occur within the geologic context.

2.4.4. Paleontological Resources Management Actions

Overall, we prefer Alternative E for the management of paleontological resources, including collaboration with the Bears Ears Commission (**BEC**) on prioritization and interpretation of resources. Mutual learning activities would be especially valuable from the point of view of paleontologists. There are, however, several specific points in the Alternative E action list that are contradictory and should be changed, some of which are also inconsistent with the proposed BEC management plan presented in Appendix L of Volume 2.

Page 2-13: One of the ‘Goals and Objectives’ (2.4.4.1.) states “*Protect paleontological resources in BENM in collaboration with the Bears Ears Commission and Traditional Indigenous Knowledge regarding the value of these resources to the BENM cultural landscape*”. We recommend the following rephrasing for consistency with PRPA without changing the intent of this sentence: “*Protect, preserve, and manage paleontological resources in BENM in collaboration with the BEC and Traditional Indigenous Knowledge regarding the scientific value of these resources to the BENM cultural landscape.*” The addition of the context of ‘preservation’ would also be consistent with the first item listed under the ‘Goals and Objectives’ for ‘2.4.3. Geology and Minerals.’

Page 2-14, third action point, Alternative E: In the context of agencies collaborating with BEC to gather information and collaborating on information gathering from Tribal Nations, please insert “*Agencies would organize mutual learning activities between Tribal Nations and the broader paleontological community about the nature and interpretation of paleontological resources*” [recognizing, of course, that some tribal members are also paleontologists and vice versa].

Page 2-14, fifth action point, Alternative E: The RMP states, “*Casting of paleontological resources would be by permit only*”. We recommend that the wording be changed to “*Casting of paleontological resources such as trackways that are not being collected and remaining in situ would be by permit only, except where a resource has been evaluated as safe for non-permitted casting for the enjoyment of the resources by non-paleontologists.*” This statement seems to have been taken from the Monticello RMP, but it is vague and seems unworkable largely because the term ‘casting’ is not defined and the context is not specified. ‘Casting’ is sometimes done in situ for trackways because they cannot be removed from the landscape but require study in laboratories or research collections. This technique often involves coating the surface with a non-adhesive substance and then filling the tracks with plaster or other material, that is removed when solidified. Such casting is also frequently done by non-scientists. This type of casting should require a BLM/USFS permit because, if not done carefully and with appropriate materials, the tracks could be damaged or worn by repeated applications. In some cases, it is conceivable that permits might be issued for non-scientific purposes, or even that a particularly durable trackway might be made available to the public for this type of casting. ‘Casting’ is also sometimes done on fossils that are being prepared in a laboratory or that are in a research repository. The purpose of this kind of casting is to create a replica that is to be displayed for educational purposes or shared with other repositories. This type of casting is managed by the professional staff of the repository because there is a substantial danger of damaging the resource if carried out improperly. Once a resource has been transferred to a repository, decisions about casting should be made by the professional staff managing the repository who will be able to judge the potential of damage on the individual resource in question. Note that today casting of both kinds has largely been replaced by digital scanning.

Page 2-15, second action point, Alternative E: The sentence “*Any work done involving fossils should not be extractive; fossil resources should not be extracted from BENM*” should be replaced with the management action point from BEC, “[c]ollection of paleontological objects will be by permit only. Tribal Nations of the BEITC have traditional uses for petrified wood. Special permits should be granted for collection by tribal members” (Appendix L-C, p. 8). Extraction and removal are, in most cases, essential for other management actions that would be adopted with Alternative E, including protecting paleontological resources, fostering public awareness, providing public access for scientific education, identifying, studying, and interpreting paleontological resources, inventorying and monitoring them, or mitigating damage to them. Vertebrate fossils come in many types and sizes, ranging from microscopic to large trackways, most in the small range. Vertebrate fossils are also found in assemblages that represent the remains of a once-living community of organisms that were buried together by a sedimentary process of the past. To identify a fossil as an early marsupial mammal, an early bird, a new dinosaur, a gar fish, or whatever it might be, it must be professionally collected to avoid breaking it, taken to a laboratory where it can be carefully cleaned and repaired, and then studied (often with microscopic or scanning techniques) and compared to other similar fossils. Only after extraction can it be determined precisely what type of animal the paleontological resource represents, which is a prerequisite for precisely determining the age of the fossils in the rock unit where it was collected, inventorying the importance of resources that are still present in that rock unit, deriving scientific knowledge of the ancient world from those fossils, or providing public enjoyment through education about the fossil resources. Furthermore, as the analysis of Alternative E concludes, fossils near the surface are often in danger of weathering, transport, or damage through human or animal activities, and conserving them can be impossible without extraction. One

imagines this provision may have been inserted because of worry about damage to the landscape by extraction. Most paleontological collection involves little or no ground disturbance and thus does not damage the landscape. Normally permits that require surface disturbing activities as defined in the regulations of PRPA are given intense scrutiny to ensure that the extractive work does not compromise other prioritized resources, including the integrity of the landscape. SVP recommends that such scrutiny also be given to surface disturbing extraction in BENM in consultation with BEC because of their knowledge of the cultural significance of particular locations, the value placed by tribal members on paleontological resources that are readily visible at the location, and other types of traditional knowledge. As currently phrased, however, this management action that prohibits all extractive work is contradictory to Proclamation 10285, to other management actions in Alternative E, and the preference of the BEC as stated in Appendix L, as well as the scientific interests of members of SVP.

2.4.5. Soil Resources

Table 2-4: Extraction of paleontological resources generally involves some level of ground-disturbing activities, but following an excavation, it is typical for the site to be restored and for any disturbance to be mitigated. Because paleontological resources may occur in different settings including with different slope gradients, SVP prefers alternatives where soil disturbance is avoided but not prohibited, allowing flexibility to conduct carefully managed surface disturbance activities, such as paleontological excavations. Therefore, SVP prefers inserting a management provision that contains the clause “*No discretionary actions would be allowed*” or “*No surface-disturbing activities would be allowed*” for any slope gradient as long as it accompanies the clause “*unless necessary to protect BENM objects*”, where ‘objects’ would include scientifically significant paleontological resources that may be removed from such sites on a case-by-case basis for their protection and preservation. SVP asks that any decision-making should be made in consultation with the agency’s qualified paleontologists in the region, which is consistent with the BLM and USFS duty to manage these resources using scientific principles and expertise (43 CFR Part 49 § 49.30 and 36 CFR Part 291 § 291.1).

2.4.6. Water Resources

Table 2-5: While SVP supports the requirements to maintain healthy water resources, issues concerning water resources are largely irrelevant from the paleontological standpoint, except for alternatives that would have scenarios completely prohibiting surface disturbance activities because paleontological resources may occur in a variety of settings. Therefore, SVP is fine with any alternative that would allow flexibility: 1) for surface disturbances to protect BENM objects, where ‘objects’ would include scientifically significant paleontological resources that may be removed from such areas for their protection and preservation; and 2) for using of mechanical tools (including hand tools, jackhammers, and rock saws) for extractions of scientifically significance paleontological resources on a case-by-case basis. SVP asks that any decision-making should be made in consultation with the agency’s qualified paleontologists in the region, which is consistent with the BLM and USFS duty to manage these resources using scientific principles and expertise (43 CFR Part 49 § 49.30 and 36 CFR Part 291 § 291.1).

2.4.7. Vegetation

Table 2-6: Paleontological resources are not common in vegetated areas, but they nevertheless do occasionally. Therefore, although SVP does not have any specific preferences regarding different

proposed alternatives, such areas should be properly surveyed for paleontological resources by qualified paleontologists, including BLM or USFS paleontologists. If any prescribed fire of such lands is needed, such lands should be expeditiously, but properly and adequately, surveyed for paleontological resources (and mitigated or excavated if necessary) by qualified paleontologists prior to the burn. If any excavation of scientifically significant paleontological resources is deemed necessary in such areas, flexibility for allowing surface disturbances to protect and preserve the paleontological resources as well as the use of mechanical tools for their extractions should be permitted to qualified paleontologists on a case-by-case basis. SVP asks that any decision-making should be made in consultation with the agency's qualified paleontologists in the region, which is consistent with the BLM and USFS duty to manage these resources using scientific principles and expertise (43 CFR Part 49 § 49.30 and 36 CFR Part 291 § 291.1).

2.4.8. Forestry and Woodlands

Table 2-7: Paleontological resources are not common in heavily vegetated areas such as forests. Therefore, SVP does not have any specific comments as long as those areas have been properly evaluated for paleontological resources. For example, there have been cases where even areas with Potential Fossil Yield Classification (PFYC) ratings of as low as “2” or “3” have yielded scientifically significant paleontological resources. If any excavation of scientifically significant paleontological resources is deemed necessary in such areas, flexibility for allowing surface disturbances to protect and preserve the paleontological resources as well as the use of mechanical tools for their extractions should be permitted to qualified paleontologists on a case-by-case basis. SVP asks that any decision-making should be made in consultation with the agency's qualified paleontologists in the region, which is consistent with the BLM and USFS duty to manage these resources using scientific principles and expertise (43 CFR Part 49 § 49.30 and 36 CFR Part 291 § 291.1).

2.4.9. Lands with Wilderness Characteristics

Table 2-8: Although SVP supports the requirements to maintain lands with wilderness characteristics, SVP finds all possible alternatives in this entire section to be vague about how the paleontological activities can be carried out. Because paleontological resources commonly occur in such wilderness areas, having no management plan specifically for paleontological resources would be problematic. SVP prefers an alternative that would allow paleontological inventories/surveys, excavations, and mitigations, that may involve some degree of surface disturbances, on a case-by-case basis. If any excavation of scientifically significant paleontological resources is deemed necessary in such areas, flexibility for allowing surface disturbances to protect and preserve the paleontological resources as well as the use of mechanical tools for their extractions should be permitted to qualified paleontologists on a case-by-case basis. SVP asks that any decision-making should be made in consultation with the agency's qualified paleontologists in the region, which is consistent with the BLM and USFS duty to manage these resources using scientific principles and expertise (43 CFR Part 49 § 49.30 and 36 CFR Part 291 § 291.1).

2.4.10. Special Designations

Table 2-9: SVP prefers an alternative that provides explicit guidance on the protection, preservation, and management of paleontological resources that are scientifically viable, and that would be Alternative E, followed by Alternative D, in general (Pages 2-39 and 2-40). If any excavation of scientifically significant paleontological resources is deemed necessary in such areas, besides flexibility for allowing surface

disturbances to protect and preserve the paleontological resources, the use of mechanical tools for their extractions should be permitted to qualified paleontologists on a case-by-case basis. SVP asks that any decision-making should be made in consultation with the agency's qualified paleontologists in the region, which is consistent with the BLM and USFS duty to manage these resources using scientific principles and expertise (43 CFR Part 49 § 49.30 and 36 CFR Part 291 § 291.1).

2.4.11. Wildlife and Fisheries

Table 2-10: Because SVP does not have a direct interest or expertise in these resources, we will defer to the evaluations provided by groups that do. However, we note that trampling by large animals, such as horses, can have a negative impact on paleontological resources at or near the ground surface. SVP asks that any decision-making should be made in consultation with the agency's qualified paleontologists in the region, which is consistent with the BLM and USFS duty to manage these resources using scientific principles and expertise (43 CFR Part 49 § 49.30 and 36 CFR Part 291 § 291.1).

2.4.12. Special Status Species

Table 2-11: Because SVP does not have a direct interest or expertise in these resources, we will defer to the evaluations provided by groups that do. However, SVP asks that any decision-making should be made in consultation with the agency's qualified paleontologists in the region, which is consistent with the BLM and USFS duty to manage these resources using scientific principles and expertise (43 CFR Part 49 § 49.30 and 36 CFR Part 291 § 291.1).

2.4.13. Visual Resource Management, Night Skies, and Soundscapes

Table 2-12: Because SVP does not have a direct interest or expertise in these resources, we will defer to the evaluations provided by groups that do. However, where surface disturbances are involved, SVP prefers alternatives that would offer flexibility to conduct paleontological surveys, mitigations, and excavations. SVP asks that any decision-making should be made in consultation with the agency's qualified paleontologists in the region, which is consistent with the BLM and USFS duty to manage these resources using scientific principles and expertise (43 CFR Part 49 § 49.30 and 36 CFR Part 291 § 291.1).

2.4.14. Cultural Resources

Table 2-13: SVP supports the protection, preservation, and management of cultural resources as much as those of paleontological resources in BENM and elsewhere. If and when the management of paleontological resources overlaps with resource use, trained and qualified paleontologists should be consulted so that the significance of tribal cultural heritage can be further enhanced also to encompass scientific significance, which is consistent with the BLM and USFS duty to manage these resources using scientific principles and expertise (43 CFR Part 49 § 49.30 and 36 CFR Part 291 § 291.1). Examples of these mutually reinforcing cultural and paleontological narratives can be found across the region (Santucci et al., 2021), including in Zion National Park (Staker, 2006), Grand Staircase-Escalante National Monument (Lockley et al., 2006), and within BENM itself (Gay et al., 2020, and references therein).

2.4.15. Cross Cultural Education and Outreach

Table 2-14: SVP supports tribal stewardship, including cultural education and outreach, as much as scientific stewardship, including paleontological education and outreach in BENM and elsewhere. If and when the management of paleontological resources overlaps with tribal stewardship, trained and qualified paleontologists should be consulted so that the significance of tribal cultural heritage can be further enhanced also to encompass scientific significance, which is consistent with the BLM and USFS duty to manage these resources using scientific principles and expertise (43 CFR Part 49 § 49.30 and 36 CFR Part 291 § 291.1).

2.4.16. Air Quality

Table 2-15: Although SVP supports the requirements to maintain healthy air resources, issues concerning air resources are largely irrelevant from the paleontological standpoint. The only possible exception may be situations that would involve surface disturbances, including excavation of scientifically significant paleontological resources at or near ground surfaces (if any). If any questions arise from such occasions, relevant agency personnel should consult with the agency's qualified paleontologists in the region, which is consistent with the BLM and USFS duty to manage these resources using scientific principles and expertise (43 CFR Part 49 § 49.30 and 36 CFR Part 291 § 291.1).

2.4.17. Fire Management

Table 2-16: Because SVP does not have a direct interest or expertise in these resources, we will defer to the evaluations provided by groups that do. However, while SVP supports any necessary fire management plans, it should be noted that fire has the capacity to damage or destroy paleontological resources and sites. Therefore, if any prescribed fire (controlled burns) of lands needs to be conducted, such lands should be expeditiously, but properly and adequately, surveyed for paleontological resources (and mitigated or excavated if necessary) by qualified paleontologists, including BLM or USFS paleontologists, prior to the burn. This approach is consistent with the BLM and USFS duty to manage these paleontological resources using scientific principles and expertise (43 CFR Part 49 § 49.30 and 36 CFR Part 291 § 291.1). In particular, prescribed fire should be avoided in areas that have the Potential Fossil Yield Classification (PFYC) rating of "4" or "5" if possible.

2.4.18. Health and Safety

Table 2-17: Because SVP does not have a direct interest or expertise in these resources, we will defer to the evaluations provided by groups that do. However, SVP's preferences are alternatives that would provide flexibility on a case-by-case basis to access paleontological sites (potentially including the use of motorized vehicles and devices like jackhammers and rock saws) and to conduct carefully managed surface disturbing activities, such as paleontological surveys, mitigations, and excavations. SVP asks that any decision-making should be made in consultation with the agency's qualified paleontologists in the region, which is consistent with the BLM and USFS duty to manage these resources using scientific principles and expertise (43 CFR Part 49 § 49.30 and 36 CFR Part 291 § 291.1).

2.4.19. Lands and Realty

Table 2-18: Less regulated ROW would make it easier for people to purposefully or unwittingly disturb paleontological sites or remove paleontological resources, particularly in the absence of increased law enforcement activities or paleontological monitoring. Land development and land use typically have a negative impact on paleontological resources. Therefore, SVP prefers alternatives that would limit ROW, including activities pertaining to renewable energy and backcountry byways. If new ROW corridors are suggested to be developed, SVP asks that the agency's qualified paleontologists in the region be consulted for the most optimal pathways that will eliminate, or at least minimize, the potential for damages to paleontological resources, if any, in the area.

Land development typically has a negative impact on paleontological resources, and thus SVP prefers alternatives that limit land development. Furthermore, SVP prefers alternatives that would retain BLM lands as public land, particularly areas with the Potential Fossil Yield Classification (PFYC) rating of "4" or "5", and does not prefer those that consider land withdrawals. If land withdrawals are considered, the decision should be made in consultation with the agency's qualified paleontologists in the region. Retention of public lands by BLM or USFS will ensure the protection, preservation, and management of paleontological resources under the Paleontological Resources Preservation Act of 2009. SVP asks that any decision-making should be made in consultation with the agency's qualified paleontologists in the region, which is consistent with the BLM and USFS duty to manage these resources using scientific principles and expertise (43 CFR Part 49 § 49.30 and 36 CFR Part 291 § 291.1).

2.4.20. Recreation and Visitor Services

Table 2-19: The impacts of recreation on paleontological resources are variable depending on the type of activity and the location. SVP asks that any allowed recreational activities be consonant with the protection of paleontological resources and that areas with important paleontological sites or high Potential Fossil Yield Classification (PFYC) ratings (i.e., rating of "4" or "5") but excluded from recreational activities that are likely to result in degradation. In this regard, SVP generally prefers Alternatives D or E.

The use of off-road vehicles (ORV) has great potential to harm paleontological resources at or near the ground surface, so SVP prefers alternatives that specifically restrict or close access for the use. Where ORV access is permitted, SVP prefers that vehicles be used only on preexisting vehicle trackways unless specific permission to go off them is granted. SVP asks that any decision-making should be made in consultation with the agency's qualified paleontologists in the region, which is consistent with the BLM and USFS duty to manage these resources using scientific principles and expertise (43 CFR Part 49 § 49.30 and 36 CFR Part 291 § 291.1).

2.4.21. Travel and Transportation Management

Table 2-20: As noted above in the context of off-road vehicles (ORV), OHV use can cause significant damage to paleontological resources near the surface, including those on the surface that are critical for locating sites during surveys. Furthermore, vehicular transport makes it easier for people to purposefully or unwittingly disturb fossil sites or steal material from them, particularly in the absence of increased law enforcement activities or paleontological monitoring. However, research, excavation, and mitigation of paleontological resources can require access by vehicles, especially for moving heavy equipment and/or specimens. SVP prefers alternatives that balance the need to protect BLM objects like paleontological resources from damage caused by the presence of roads and OHVs, with the need for reasonable access.

Therefore, SVP prefers Alternative D. It must be noted that paleontological resources are nonrenewable, so detailed management plans must be in place to eliminate the possibility of damage to paleontological resources in such areas in the first place. SVP asks that any decision-making should be made in consultation with the agency's qualified paleontologists in the region, which is consistent with the BLM and USFS duty to manage these resources using scientific principles and expertise (43 CFR Part 49 § 49.30 and 36 CFR Part 291 § 291.1).

2.4.22. Livestock Grazing

Table 2-21: Grazing, especially trampling by livestock and vehicular access to grazing areas can have a negative impact on paleontological resources near the surface. Alternatives that expand the area open to grazing or that increase its intensity are discouraged by SVP, and we prefer alternatives that reduce the acreage available for livestock grazing and/or alternatives that protect paleontological resources from the impacts of grazing. This is particularly true for areas with the Potential Fossil Yield Classification (PFYC) rating of "4" or "5", and SVP asks that any decision-making should be made in consultation with the agency's qualified paleontologists in the region.

3.4.1. Paleontological Resources and Geology Environmental Impact Study

Overall, SVP thinks the environmental assessment in the proposed RMP is appropriate. However, there are passages that are either overly vague, confusing, or seemingly contradictory with other passages, and they are pointed out below.

Page 3-11: RMP states, "*Traditionally, the BLM and USDA Forest Service have measured fossil condition with a single indicator: Are fossils in collections or the field in good condition?*" This statement and the paragraph containing it are difficult to understand. In our experience, BLM and USFS do not routinely assess the 'condition' of paleontological resources. Rather, they use scientific methods, sometimes in collaboration with non-governmental scientists, to inventory paleontological resources, classify them using the PFYC scheme, to prioritize them for mitigation, conservation, and scientific study. The 'condition' of a fossil is not directly related to its scientific value to our knowledge. We recommend this section be rewritten under the direction of qualified BLM and USFS paleontologists.

Page 3-13: RMP states:

"Additionally, the 2008 Monticello RMP requires a permit for the casting of fossils (specifically vertebrate paleontological resources and including some trace fossils). Although the 2020 ROD/MMPs does not provide guidance regarding the casting of paleontological resources, casting of paleontological resources would follow permit stipulations issued by the Authorized Officer (BLM)/Responsible Official (USDA Forest Service)".

As discussed above, the definition of 'casting' needs to be refined in this document. To the best of our knowledge, the provision about casting in the Monticello RMP is unique, and without elaboration, it should not be transferred to the BENM MMP because it could have unintended consequences of hampering scientific studies of paleontological resources or inadvertently damaging them. SVP recommends that this paragraph be revised by BLM and USFS paleontologists and at very least amended to state "*casting of paleontological resources in the boundaries of BENM would fossil permit stipulations issued by the Authorized Officer...*" and perhaps that "*Casting of fossils removed to approved repositories would follow the stipulations given in the repository agreement.*"

Page 3-13: RMP states, “*Only a small number of these occurrences are ever prosecuted*”. It would be appropriate in this sentence and throughout the paragraph to report actual statistics on the number of reports of theft and vandalism and the number of prosecutions over the last 10 years. We also know of cases where educational and scientific activities have resulted in the recovery of fossils looted from the management area, including a phytosaur skull surrendered at Petrified Forest and then reunited with the remainder of the skeleton that was discovered under permit *in situ* in the management area.

Page 3-13: RMP states, “*Approximately one exhibit is completed every few years for public exhibition. Some of these are portable, whereas others are fixed at institutions like visitor centers, in situ fossil localities, and museum exhibit halls.*” This paragraph, including this sentence, is vague because it does not indicate whether statements such as these are summaries of past activity over some number of years or targets for future activities.

Page 3-13: RMP states, “*Additionally, Tribal values prioritize the remains of ancient beings staying in situ (see Appendix L).*” This statement contradicts what is said in the proposed management plan from BEC given in Appendix L that says “[c]ollection of paleontological objects will be by permit only. Tribal Nations of the BEITC have traditional uses for petrified wood. Special permits should be granted for collection by tribal members” (Appendix L-C, p. 8), which should be substituted here. As described above, there are some instances where resource management would be facilitated by leaving fossils *in situ* but a blanket prohibition on collection is incompatible with provisions in all the alternatives in this draft RMP and with Proclamation 10285.

Page 3-14: RMP states, “*Although specific goals, objectives, and management direction vary slightly between Alternative A and the action alternatives, many of the key elements are the same.*” This is untrue as the variation from A, which allows scientific collection and survey work, to all other alternatives represents a ban on research and work which is explicitly called out in the authorizing language of the Presidential Proclamations. The presidential proclamation states that the fossils of BENM “*provide important opportunities for further paleontological study*” (Presidential Proclamation 9558), and allow future paleontological “*exploration [that] will greatly expand our understanding of prehistoric life*” (Presidential Proclamation 10285).

3.4.1.2.2 Impacts Common to All Alternatives

Pages 3-16 and 3-17: RMP in reference to recreationists encountering fossil resources states, “*this public discovery and proper handling of 3-16 paleontological resources would rely on BLM-supported or USDA Forest Service-supported community engagement and education on the preservation of the resource, along with collaboration with the BEC and holders of Traditional Indigenous Knowledge regarding the values of these resources.*” SVP suggests adding “*along with paleontologists*” as the final clause of this statement. As mentioned above, scientific knowledge can act in concert with Traditional Indigenous Knowledge to provide a richer view of the natural world.

Page 3-17: RMP states regarding Lands and Realty, “*Additionally, grants for ROWs contain stipulations that require grant holders to cease activities and report any paleontological resources that are discovered. Agencies would collaborate with the BEC on lands, realty, and cadastral actions.*” SVP suggests adding “*qualified paleontologists*” to the last sentence.

3.4.1.2.3. Impacts under Alternative A

Page 3-18: As explained above, SVP suggests revising the last sentence on this page to read, “*Casting of vertebrate fossils, including dinosaur tracks, in the management area would be prohibited unless under a scientific or research permit issued by the BLM Utah State Office, except in locations that have been specifically approved by qualified paleontologists for casting activities by members of the public.*”

3.4.1.2.7 Impacts under Alternative E

Page 3-26: RMP in reference to Alternative E states:

“...the BEC notes that any work done involving fossils should not be extractive. Therefore, under Alternative E, collaboration between agencies and the BEC is highlighted to implement appropriate measures, including but not limited to no extraction of fossil resources from BENM; avoidance, restoration, and construction of physical barriers; or other methods to separate the public from paleontological resources. These practices would retain the scientific and cultural integrity of paleontological resources by minimizing or eliminating unnecessary disturbance by discretionary actions.”

As explained above, this statement is contradictory to the text of the BEC management plan presented in Appendix L and is contradictory to the goals established in Proclamation 10285. As the assessment in this paragraph points out, this management action would also result in vandalism and destruction of paleontological resources, which also contradicts the goals of Proclamation 10285 as well as the PRPA’s requirement “*to manage these resources using scientific principles and expertise*” (43 CFR Part 49 § 49.30 and 36 CFR Part 291 § 291.1).

3.4.9. Areas of Critical Environmental Concern (ACEC) and Research Natural Areas

Page 3-174: RMP identifies the John’s Canyon area as a paleontological ACEC. SVP notes that other areas of the monument have as much paleontological potential as John’s Canyon. Given the paleontological investigation in John’s Canyon and its potential for future scientific discoveries, we would endorse permitted paleontological collections following PRPA.

Page 3-182: RMP states, “*Under Alternative A, the John’s Canyon Paleontological ACEC would not be designated ... surveys would be required in PFYC Classes 4 and 5 prior to implementing discretionary actions.*” SVP would recommend surveys with collection and salvage of at-risk fossils for any of the Alternatives A through E prior to discretionary actions that would potentially harm fossiliferous areas. It would be helpful to include language that explicitly mandates the collection and salvage of these resources.

Page 3-186: RMP proposes John’s Canyon Paleontological ACEC under Alternative D and discusses paleontological investigation only in the context of the survey prior to “*surface-disturbing activities.*” The pursuit of paleontological research the mechanisms for collecting (i.e., surface collections or excavation) should be stipulated based on the regulations in PRPA.

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