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Society of Vertebrate Paleontology

9650 Rockville Pike • Bethesda, MD 20814-3998

Phone: (301) 634-7814 • Fax: (301) 634-7455

Email: svp@vertpaleo.org • Web: www.vertpaleo.org

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Subject: Comments from the Society of Vertebrate Paleontology on "*Notice of Intent To Prepare Resource Management Plans for the Grand Staircase-Escalante National Monument–Grand Staircase, Kaiparowits, and Escalante Canyon Units and Federal Lands Previously Included in the Monument That Are Excluded From the Boundaries and Associated Environmental Impact Statement, Utah*" (Document Citation: 83 FR 2179; Agency/Docket Number: 18X LLUT030000 L17110000.XZ0000; Document Number: 2018-00518)

To Bureau of Land Management, U.S. Department of the Interior,

The Society of Vertebrate Paleontology (**SVP**, <http://vertpaleo.org>) is a key stakeholder in U.S. national monuments, including the Grand Staircase-Escalante (**GSENM**) and Bears Ears (**BENM**) National Monuments, because of our interest in their scientifically important paleontological resources, especially the fossil remains of prehistoric backboned (vertebrate) animals. SVP is a non-profit professional international organization with more than 2,500 members, including researchers, educators, students, and amateurs. Our mission is to advance the science and education of vertebrate paleontology and to encourage the protection of vertebrate fossils and fossil sites. SVP considers Presidential Proclamations 9681 and 9682, that altered the boundaries of BENM and GSENM, respectively, to be incompatible with preserving scientific paleontological resources for reasons described in our response to Docket ID DOI-2017-0002 (82 FR 22016) on July 9, 2017 (<http://vertpaleo.org/GlobalPDFS/SVP-Response-to-National-Monument-Review-July-2017.aspx>). Nevertheless, in this document, SVP proposes a Paleontological Resource Management Plan (**PRMP**) for the new Grand Staircase, Kaiparowits, and Escalante Canyon 'monument units' as well as the Federal lands that were excluded from the former GSENM boundaries as a result of Presidential Proclamation 9682 and thus no longer convey special status to scientific paleontological resources. We use the acronym GSENM to refer to the entire area of the current and former Grand Staircase-Escalante National Monument boundaries.

Our proposed PRMP is built on the foundation of the 1999/2000 Management Plan for GSENM, but we have substantially revised it to reflect changes in standards and practices and to incorporate the experiences of SVP members who have worked at GSENM with BLM staff since the original 1996 Presidential Proclamation. Appendix 1 contains a detailed version of our recommended PRMP covering the following five major topics: I. Resource Needs; II. Research and Education; III. Collection; IV. Transportation and Access; and V. Energy and Mineral Activities. The following bullet-point list highlights some of our major points:

- The Management Plan for the new monument units and excluded areas should be consistent with the Paleontological Resources Preservation Act (**PRPA**: P.L. 111-011 Omnibus Public Land Management Act of 2009) and all other applicable Federal laws and regulations.

- The number of paleontology monument staff should be increased to at least one full-time (FT) paleontologist and one FT paleontological technician for each of the three new monument units in addition to the existing FT senior monument paleontologist as well as at least one FT education and outreach coordinator for the combined monument units plus excluded areas. Given the hundreds of paleontological projects that have been carried out within the former boundaries of GSENM, we anticipate even greater demand in what will be an administratively more complex environment. A single monument paleontologist is insufficient to fulfill the scientific mission of all three new monument units.
- Funding for protecting and preserving paleontology resources at the new monument units and excluded areas should support the paleontology staff and facilitate research on, surveying of, monitoring of, collection and curation of, protection and preservation of those resources, as well as paleontology education and outreach.
- Enforcement of paleontological regulations (i.e., protection of paleontological resources) should be among the highest priorities of law enforcement for both inside the new monument units and excluded areas.
- Scientific research, particularly projects utilizing paleontological resources, should remain as a priority and at the core of activities at the new monument units and excluded lands. BLM's support for research, education, and outreach is essential for enhancing the preservation, management, and appreciation by all U.S. citizen of the national paleontological resources.
- BLM's partnerships with external researchers are crucial for effective management of paleontological resources and should be facilitated through flexible support of research methods, fostering collaborations, and a rapid processing of permit requests.
- Researchers should be encouraged to communicate their research findings through public programs, exhibits, interpretative materials, and scientific publications and presentations targeting both local communities and regional, national, and international audiences.
- Molding and casting as well as digitization of paleontological resources from the new monument units as well as the excluded areas, and free availability of these resource representations, would greatly enhance their research and educational value.
- Collecting paleontological resources for non-scientific purposes must be prohibited within the boundaries of the new monument units.
- Commercial collecting of paleontological resources must remain prohibited on all federally administered lands, including the lands now excluded from GSENM boundaries.
- The management plan should provide paleontologists with flexibility in collecting techniques and methods with reasonable justification to recover and preserve paleontological resources.
- Collecting permissions should require proof of a repository agreement granted by a public-trust specimen repository.
- BLM should provide financial support for partnerships with non-Federal public-trust repositories to prepare, preserve, and curate specimens and make non-sensitive data on these specimens available to the public through the electronic dissemination of these data in online databases.
- An appropriate management plan to regulate traffic within the new monument units as well as on the lands now excluded from GSENM is critical to avoid or minimize damage to paleontological resources and paleontologically sensitive sites.
- All proposed mineral extraction sites (including oil and gas) and their associated passages in the excluded areas of the former GSENM must be adequately surveyed for paleontological resources prior to the execution of mining activities.

- Mineral extraction sites (including oil and gas) that have a high potential for yielding paleontological resources based on the preliminary paleontological resource survey must be inspected periodically by a monument paleontologist.
- Any paleontological resource of potential scientific importance encountered during mineral exploration and extraction (including oil and gas) must be immediately reported to a monument paleontologist.

Our recommendation is intended to serve as the minimum management standard for BLM's efforts in protecting and preserving the scientifically important paleontological resources for which GSENM was originally created. Resources in the excluded areas, which include more than 1,000 known paleontological sites of scientific importance, are now especially vulnerable to mineral extraction activities, off-road vehicles, and other uses that were prohibited in the original monument. These resources will need special management to ensure the preservation of their scientific integrity.

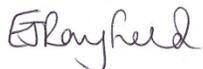
The 83 FR 2179 notice states that "The BLM will prepare a single Environmental Impact Statement (EIS) to satisfy the NEPA [National Environmental Policy Act] requirements for these RMPs [Resource Management Plans]." We note that many of the findings from the environmental impact analyses of paleontological resources that were conducted for BLM's 1999 GSENM management plan still hold true. However, the 1999 analysis did not take into consideration the more recent PRPA. In addition to NEPA assessment, SVP strongly suggests that a PRPA assessment be made prior to adopting the new management plans.

In closing, we reiterate that SVP does not endorse Presidential Proclamation 9682 that altered the boundaries of GSENM and these comments should not be construed as waiving our rights to challenge it. The excluded areas contain hundreds of known scientifically important paleontological sites, including many of the original sites that justified the establishment of the monument in 1996. The monument was created to protect those scientific resources. We believe that the President has acted beyond his authority in "unprotecting" lands that were given Monument status because of their scientific value. We are particularly alarmed by the statement in notice 83 FR 2179 that "a baseline reasonably foreseeable development scenario will be developed for oil and gas and other mineral resources for Federal lands previously included in GSENM that are now excluded from the monument boundaries." Paleontological resources are nonrenewable and irreplaceable once destroyed. In large part, the purpose of GSENM was to protect these resources from destruction by mineral extraction and to promote scientific research that increases their value to the American public. Without a PRMP, hundreds of scientifically irreplaceable sites may be lost. Questions concerning our letter and comments should be addressed to Dr. P. David Polly (SVP President: svp_president@vertpaleo.org) and Dr. Kenshu Shimada (Chair of SVP's Government Affairs Committee: kshimada@depaul.edu). Thank you for the opportunity to comment.

Sincerely yours,



P. David Polly, Ph.D.
SVP President



Emily J. Rayfield, Ph.D.
SVP Vice President



John A. Long, Ph.D.
Past SVP President

Appendix 1. SVP's suggested Paleontological Resources Management Plans for the Grand Staircase, Kaiparowits, and Escalante Canyon units of the Grand Staircase-Escalante National Monument and Federal lands previously included in the Monument that are excluded from the boundaries.

The new units of the Grand Staircase-Escalante National Monument (**GSENM**) and Federal lands now excluded from GSENM boundaries preserve significant paleontological resources from geologic formations spanning the Paleozoic through Pleistocene. The BLM should continue to inventory paleontological resources in the excluded areas as well as the new monument units in order to evaluate their potential for protection, conservation, research, or interpretation. High-use areas within the new monument units and the excluded areas should have high priority for inventory efforts. Additional inventory and research efforts should be prioritized to fill information gaps on formations that have not been systematically prospected. Visitor use and other activities should be managed in such a way as to protect paleontological resources from intentional and inadvertent damage. A monitoring program should be used to assess management needs of sensitive sites and areas. In addition, all new uses of the new monument units and excluded areas, including mineral leases, should be preceded by a paleontological site inventory. Appropriate strategies should be used to avoid activities in areas that contain scientifically sensitive sites: access to the sensitive resources should be restricted (i.e., construct barriers) or the paleontological resources should be excavated and curated if deemed necessary.

I. RESOURCE NEEDS

Collaborative partnerships with volunteers, universities, and other research institutions as well as law enforcement should be pursued for the purposes of documenting, preserving, monitoring, and interpreting paleontological sites in a manner consistent with the overall objective of protecting paleontological resources. In addition to disseminating paleontological findings through conventional scientific channels, they should be disseminated to the public through appropriate educational and interpretative venues to improve visitors' understanding of paleontological resources and to prevent damage. To achieve these objectives, adequate personnel, funding, and protection enforcement are necessary.

A. Personnel

At least one full-time (FT) paleontologist is necessary for each of the new monument units, in addition to the existing FT senior monument paleontologist who would coordinate them and oversee paleontological resources at the excluded Federal lands. These staff should be charged with preserving, studying, and interpreting the paleontological resources of GSENM, including consulting with the GSENM Advisory Committee and coordinating the activities of external researchers and other BLM paleontologists. Each of the three unit paleontologists should be assisted by at least one trained FT monument paleontology technician. In addition, the three new monument units collectively need at least one FT education and outreach coordinator to promote the monument units' paleontology program and the awareness of paleontological resources protection and preservation to the general public. The senior monument paleontologist would continue to oversee the entire paleontology program in the new monument units and the areas now

excluded from GSENM boundaries, and would prioritize tasks of each unit paleontologist and the education and outreach coordinator. Each paleontology unit should have relevant support staff housed at monument unit facilities.

B. Funding

In order to maximize the public and scientific value of the paleontological resources at the new monument units and the excluded areas, funding must be available not only to support monument paleontology staff (e.g., paleontologists, technicians, and coordinators), but also to facilitate paleontological resource surveys and monitoring programs, research, education and outreach (including internship opportunities), site protection and preservation, specimen collection, and specimen curation. In addition, there must be reliable annual funding to support sharing of research results with the public to demonstrate the effectiveness of each monument unit's research program and integration of local communities with its activities (e.g., paleontology staff and interns' participation in professional conferences and/or workshops, sponsoring education and outreach activities, and presentations to the public and interested groups).

Specimens from the new monument units and excluded areas should continue to be curated in public-trust repositories. When cases where collection, preparation, and curation of a discovery are beyond the resources (financial or otherwise) of BLM alone, finding such resources, including possible cost sharing or cooperation with non-Federal public-trust repositories, is the responsibility of BLM. This includes cases of illegally collected paleontological resources seized through law enforcement activities where their curation is deemed necessary. In addition, funding to digitize paleontological specimens originating from the monument units and excluded areas should be available to researchers, and such digital representations should be freely available to researchers and the general public. To these ends, National Conservation Lands funds and other sources of BLM funding should be made available to appropriate projects selected by existing application procedures, in addition to other funding streams that may be available from other Federal and non-Federal programs.

C. Protection Enforcement

The protection of paleontological resources and enforcement of paleontological protections should be maintained in accordance with their value as non-renewable scientific and educational resources. All monument paleontology staff should work closely with appropriate law enforcement to protect paleontological resources, active excavations, and access to sensitive areas. Effective communication between monument paleontology staff and law enforcement may include regular trainings and updates by paleontology staff. Enforcement of paleontological regulations should be among the highest priorities of law enforcement. A minimum of three BLM law enforcement officers (LEOs) should be assigned to GSENM exclusively (one per monument unit) to ensure protection of monument resources. Each LEO shall undergo additional training from monument paleontology staff on the significance and distribution of fossil resources within the new monument units and at excluded Federal lands, as well as training on how to detect and field stabilize looted fossil sites.

II. RESEARCH AND EDUCATION

Since the monument's founding, scientific research in the field of paleontology has been a central purpose and focus of GSENM, and is highlighted as a priority in the original monument management plan. Furthermore, the fossil discoveries from the monument, made both by monument staff and external partners, have brought considerable positive attention to the monument and enhanced our understanding of Earth's history. Associated education and outreach, in the form of news media coverage, documentary television programs, websites, museum exhibits, and visitor center exhibits have reached millions of people in the United States and worldwide. Yet, each new discovery raises additional intriguing scientific questions. Numerous sections of the monument still have not been paleontologically surveyed. Continued support of research and its associated education and outreach are necessary to ensure that the paleontological resources of the new monument units and the lands now excluded can be appreciated, protected, and shared.

A. Engagement and Support

The BLM's partnerships with external organizations such as museums and universities have been effective in the past for cost-sharing, maximizing efficiency, and ensuring that appropriate experts oversee relevant paleontological research. In fact, the BLM's partnerships with external scientists have been crucial for exploration, conservation, and interpretation of paleontological resources within GSENM. As such, the new monument units should facilitate research to the fullest extent possible, in accordance with the BLM policy and all applicable laws, including the Paleontological Resources Preservation Act (**PRPA**: P.L. 111-011 Omnibus Public Land Management Act of 2009). BLM staff who approve permitting should have relevant scientific degrees and appropriate paleontological research experience. Monument unit officials should review and render a rapid decision on all paleontological collection permit applications falling under their purview. Similarly, the staff who review special requests related to research on paleontological resources and related materials from the monument units (e.g., loans, consumptive sampling, and specimen replication) should have similar professional qualifications and process requests within a reasonable timeframe. Facilitation of collaborative work among researchers with similar research objectives, and avoidance of antagonistic relationships, should also be among the objectives of monument oversight.

The process for evaluating proposed research should consider whether it can be carried out in a manner consistent with the protection of the monument units' other resources, and whether the disturbance proposed is the minimum necessary to achieve the desired research objective. All research and related educational activities shall require special-use permits. All research shall meet Monument data collection standards to be established by the chief monument manager with the advice of the GSENM Advisory Committee, and shall provide information that feeds directly into the adaptive management framework. Except where specifically prohibited (e.g., in relict plant areas and wildlife protected activity centers), the BLM shall consider exceptions during the special-use permitting process for extremely high-value scientific research opportunities, especially for those opportunities that may not be available elsewhere. Research projects focused on protecting paleontological resources at risk should also be considered for exceptions. The GSENM Advisory Committee shall be consulted on whether research proposals that require restricted activities warrant the requested exceptions.

Recognizing that the tools available for paleontological research, such as 3D scanning and elemental analyses, are changing rapidly, novel research methods should be encouraged, with a

particular emphasis on making the resulting data available to the scientific community and general public with minimal restrictions. Appropriate restrictions on site data to protect paleontological resources, in accordance with PRPA, should be applied. However, both field and laboratory work often rely upon the exchange of detailed site data among researchers. As such, all reasonable requests for locality data, or the exchange of locality information, should be granted to qualified researchers for legitimate research and/or management purposes.

B. Education and Outreach

The BLM should engage in education and outreach in a manner consistent with ongoing efforts in the state of Utah and in BLM's paleontology program nationwide. Public education and interpretation should be emphasized to improve visitor understanding of paleontological resources and to prevent damage. Collaborative partnerships with volunteers, universities, and other research institutions should be pursued to document, preserve, monitor or interpret sites consistent with the overall objective of protecting paleontological resources. All investigators conducting research in GSENM and intervening lands should be encouraged to engage in, or initiate, education and outreach activities.

Visitor centers should promote scientific interpretation. Results of paleontological research should be disseminated to visitors through interpretative public displays, public programming, exhibitions, publications, and discussion forums. Each visitor center should include interpretative exhibits and programs on the paleontology of the monument unit and surrounding areas, with a particular emphasis on the paleontology of the region around the visitor center. In addition, the BLM should play a role in developing educational programs for grades K-12, emphasizing the area's scientific and cultural resources, as well as for undergraduate and graduate programs at universities as resources permit. The results of paleontological research should also be communicated to the broader public, including the scientific community, via news releases, publications, traveling exhibits, and other kinds of media. Special outreach efforts should focus on local and regional communities and on underserved communities around the nation. A monument website, educational brochures and publications, and collaboration with non-Federal organizations (e.g., universities) offering experiential-learning field courses and internships, should be incorporated into management programs to the fullest extent possible.

The BLM should permit and encourage molding and casting as well as 2D and 3D digitization of paleontological resources from the monument units and the excluded areas for research and educational purposes. Dissemination of digital representations of paleontological resources should be made available for free. Whether physical replicas or through photographs or digital files printable on a 3D printer, such activities enhance public knowledge of the monument units' paleontological resources and reduce potential damage to material in repositories (i.e., by reducing handling) or those still in the ground (i.e., by providing an alternative to poaching and vandalism). Furthermore, they expand the ability of outside entities to provide hands-on access to physical replicas and digital representations of paleontological resources from the monument units, enhancing the types of educational opportunities relating to the monument units that are available at local, regional, and national levels.

C. Authority

The senior paleontologist should (1) report directly to the chief monument manager; (2) work with and keep other BLM paleontologists informed; (3) work with and keep informed the state paleontologist for the state of Utah; (4) consult and articulate with similarly acting monument

archaeologists as their activities overlap; (5) coordinate activities of permittees within the boundaries of the former GSENM, ensuring that research is conducted in such a way as to minimize interference among different projects. Unit paleontologists should report to the senior paleontologist, with technical assistants reporting to their corresponding unit paleontologist. The education-outreach coordinator for paleontology should work directly under the senior paleontologist and alongside the unit paleontologists.

III. COLLECTION

Collecting and conserving paleontological resources require special skills and resources that are not only critical for scientific research and education but also for properly preserving America's natural heritage. This process includes proper field collecting, site preservation, specimen preparation and curation, logistical support for researchers and educators, management and dissemination of contextual data associated with paleontological resources, and consulting with law enforcement officers when paleontological resources received by a repository appear to have been collected or transported illegally. Funded partnerships between BLM and external institutions are critical for achieving these objectives.

A. Field Collecting and Permitting

The collection of vertebrate and non-vertebrate paleontological resources must be conducted in accordance with PRPA and existing BLM regulations. Collecting of paleontological resources for non-scientific purposes should be prohibited within the new monument boundaries. As stipulated in PRPA, the collection of vertebrate fossils should only be conducted by qualified individuals under permit for research and/or educational purposes. Commercial collecting is prohibited on all federally administered lands.

Individuals receiving permits to conduct research on paleontological resources should have qualifications consistent with existing Federal guidelines outlined in PRPA, such as an advanced academic degree in paleontology or equivalent evidence of advanced paleontological knowledge and experience. Projects approved for permits should be compatible with management plans and whatever policies are applicable to the Federal land concerned. Projects should be compatible with the protection of other natural and cultural resources. Permits should indicate that all paleontological resources that are collected in the course of the project remain the property of the United States and should be preserved for the public in a public-trust repository along with associated data. Specific site data should remain confidential to researchers except as specified in the (pending) PRPA regulations.

Collecting of paleontological resources may require the use of special tools and techniques. Given the remote location of many fossil-bearing rocks as well as the techniques required to stabilize, excavate, and remove paleontological resources (e.g., dinosaur skeletons), management of these activities requires appropriate flexibility. Hand tools (e.g., picks, shovels, hammers, and chisels) are often sufficient to safely remove small specimens (i.e., those typically covered under a surface collection permit). However, small power tools (e.g., jackhammers, generators, rock saws, and other tools) are often required to safely stabilize, collect, and prepare larger paleontological specimens for transport, in both front country and back country areas. Importantly, these small power tools may result in less net disturbance to the ground by permitting a quicker and more focused excavation than would be allowed by hand tools. Thus, all management plans should allow

for flexibility in collecting techniques with reasonable justification. Similarly, management plans should allow for judicious yet appropriate use of wheeled and/or motorized vehicles and heavy equipment as necessary to protect, preserve, and recover paleontological resources.

B. Site Preservation

Because irreplaceable paleontological resources are regularly exposed by erosion, and are at risk of damage by erosion or vandalism once exposed, regular monitoring of paleontological sites are strongly advised as part of an ongoing resource management plan. A monument paleontologist from the relevant management unit should coordinate efforts to maximize preservation of the site's context. For projects involving surveying and surface collection, there should be only limited disturbance, with little or no digging in accordance with existing BLM and PRPA regulations. For projects involving excavation, waste material should be piled immediately next to dig sites, and excavated sites should be cared for post-excavation to protect fossil-bearing pockets and to restore the outcrop to its pre-disturbance state. Whenever possible, each excavation permit should estimate the necessary amount of paleontological resources that are required to complete the project. Sites should not be marked by graffiti, and rock cairns should be dismantled when encountered in order to protect sites from potential vandalism.

Each management unit should also staff law enforcement to assist in site protection and monitoring. Law enforcement staff should be sufficiently trained in such protection and knowledgeable of laws governing natural and cultural resources on Federal public lands, including the Federal Land Policy and Management Act (FLPMA) and PRPA.

C. Repository

Applications for research permits should include a repository agreement granted by an appropriate public-trust repository. Any paleontological resource collected under a permit as well as associated field records (e.g., photographs, field notes, and excavation maps) should be stored by that repository. Proof of receipt of these paleontological resources by the repository should be provided to the senior monument paleontologist and managing Federal office by the permittee in the form of an institutional accession number and an inventory of fossils collected (to be provided with annual and final reports). However, prior to formal accessioning, the repository should be allowed to discard paleontological resources that are determined not to be scientifically significant upon their preparation or evaluation. Such paleontological resources should ideally be transferred to educational collections to maximize their utility. Formally curated and catalogued paleontological resources shall not be deaccessioned or discarded without permission of the BLM.

The BLM should financially support partnerships with non-Federal public-trust repositories to prepare, conserve, and curate Federal specimens and make non-sensitive data on these specimens available to the public through the electronic dissemination of these data in online databases. Day-to-day management of research on Federal specimens should be assigned to the repository with terms negotiated via the permittee's repository agreement, Memoranda of Understanding, or other approved agreement. To facilitate efficiency, each repository should be given permission to make basic collection-based decisions (including consumptive or destructive sampling) without requiring prior Federal approval, while still working with the concerned Federal agency to ensure that such decisions are documented. Which and how many repositories may house paleontological resources from the monument unit will depend on the scope and nature of the proposed project(s) and on the collections scope of the participating institutions acknowledged on the permit(s). The monument's collections should continue to be curated and housed by multiple public-trust repositories (Federal

and non-Federal), sustaining those diverse collections and long-term projects. This is particularly true for management areas having high paleontological sensitivity and varied research priorities.

D. Authority

Decisions about collecting activities should be managed directly by the senior monument paleontologist in conjunction with other appropriate Federal officers as well as non-Federal partners and institutions.

IV. TRANSPORTATION AND ACCESS

Unregulated uses of street legal motorized vehicles (including four-wheel-drive) and mechanized vehicles (including bicycles) as well as off-highway vehicles (OHV), also called all-terrain vehicles (ATV), including snowmobiles, have the potential to damage paleontological resources and sites, especially away from designated routes. Even foot traffic and horseback rides may harm paleontological resources. Therefore, an appropriate management plan to regulate traffic within the new monument units and the lands now excluded from GSENM is critical to avoid or minimize damage to paleontological resources and paleontologically sensitive sites.

A. Public Access.

Within the Monument—Public access to off-road areas with known paleontological resources within the monument shall be restricted to dispersed foot-traffic only in order to minimize damage to the resources by vehicles and other modes of transportation.

Areas now excluded from GSENM—Paleontological resources in areas now excluded from the monument boundaries shall be identified and evaluated for sensitivity to motorized vehicular access, non-motorized vehicular access, and recreational access not involving vehicles. These conditions also apply to casual collection of paleontological resources to the extent allowed by PRPA and all other public uses within the limit of existing laws and regulations. However, areas with high paleontological sensitivity shall be considered for restrictions that would protect the resources. Examples include, but not limited to, Cottonwood Canyon, from US-89 to Kodachrome Basin, that contain abundant paleontological resources requiring such protection.

B. Research Access

Within the Monument—Access to field areas for all paleontological research shall be conducted under permit. Exploration, collection, and excavation activities shall be permitted to qualifying institutions after review by BLM in keeping with agency guidelines. Access by motorized vehicles, non-motorized vehicles, and other modes of transportation such as horseback, shall be restricted as necessary to provide reasonable protection for the paleontological resources. Access needs shall be evaluated on a case-by-case basis, to encourage efficiency and to ensure responsible exploration and excavation with reasonable safety.

Areas now excluded from GSENM—Access to field areas for paleontological research in areas excluded from GSENM shall be conducted under permit. Areas with high sensitivity shall be considered for restrictions that protect resources but allow for vehicular access by roads, two-tracks, and foot trails, under conditions that minimize impacts on the resources. Vehicular access shall be considered in the permitting process.

C. Commercial and Mining Access

Within the Monument—Access to areas in the monument with paleontological resources for non-paleontological commercial purposes such as grazing, film production, and mineral extraction shall be conducted only where paleontological resources will not be adversely affected. Access to all areas within the new monument units with paleontological resources shall be restricted to existing roads.

Areas now excluded from GSENM—Access to areas outside the new monument units for non-paleontological purposes such as grazing, film production, and mining, shall be restricted to existing roads except as permitted, after review of potential impacts on paleontological resources and salvage of fossils in impacted areas. Access to areas identified for exploration or mineral extraction shall be permitted with conditions that minimize impact; and where impact is inevitable, with conditions that mitigate such impacts beginning with on-the-ground surveys, surface collection, and excavation. BLM shall solicit professional advice for situations that require extensive deliberation or mitigation. Costs of mitigation shall be borne by the entity applying for a commercial-use permit.

D. Management Exceptions

Within the Monument—BLM should permit a reasonable range of collecting techniques, including judicious yet appropriate use of wheeled and/or motorized vehicles as necessary to protect, preserve, and recover paleontological resources if there is justifiable reason. In addition, handheld motorized equipment, such as portable jackhammers and rock saws should be permitted within the monument for paleontological survey and excavation. All such permitting shall be done on a case-by-case basis in consultation with the monument paleontologist, where decisions shall take into account other possible alternatives, least impact, and reasonable safety for participants and resources. Delivery of supplies and equipment, and transportation of fossils or blocks at the completion of excavation, may be permitted as needed, including helicopter transport if surface modes of transport are not possible or not practical.

Areas now excluded from GSENM—Off-road vehicle access to paleontological exploration areas and excavation sites shall be considered on a case-by-case basis, including helicopter transport if other options are not practical. Access shall be permitted only where BLM determines that other resources will not be impacted, or where resource impact will be minimal and can be mitigated. Motorized equipment, such as jackhammers, and heavy equipment such as tractors or bulldozers, may be permitted on a case-by-case basis for paleontological survey and excavation. Road construction and surface modification (e.g., drainage control) for extraction sites such as a mine or well pad shall follow a route with minimal impact to fossil resources. Construction of facilities and infrastructure (e.g., buildings, warehouses, holding tanks, pipe lines, power lines) shall be situated where impact to fossil resources is minimized or otherwise mitigated with appropriate salvage. BLM shall solicit professional advice for situations that require extensive deliberation or mitigation.

E. Authority

Decisions over transportation and access within each monument unit should be managed directly by the chief monument manager, who would work in conjunction with monument paleontologists and the GSENM Advisory Committee. Decisions for Federal lands now excluded from GSENM boundaries should be made by a single BLM officer, who would work in conjunction with monument paleontologists. Applicable laws such as the National Environmental

Policy Act (NEPA) and PRPA provide clarification and guidance for establishment of activities on Federal lands that contain paleontological resources.

V. ENERGY AND MINERAL ACTIVITIES

Paleontological resources are non-renewable and can often occur in intermittent concentrations. Damage to scientifically important paleontological sites from energy and mineral exploration and extraction operations must be avoided. Although energy and mineral extraction are prohibited within the boundaries of the new monument units, the areas that were previously included within the 1996 boundaries of GSENM are rich with scientifically important paleontological sites, many of them currently under study. PRPA does not protect sites or paleontological resources from destruction in cases where leases for mineral extraction have been granted. The excluded areas include several geological units that are rich with scientifically important paleontological resources and are known to contain commercially viable mineral resources: the type area of the Kaibab Formation in the Buckskin Gulch area, the Chinle Formation (which contains commercially viable uranium deposits), the Naturita (Dakota) Formation, the Tropic Shale (which could be impacted on a large scale by shale gas extraction), and the Straight Cliffs Formation (especially the John Henry Member, which bears commercially viable coal, titanium, and zirconium deposits).

Destruction of scientifically important paleontological sites or fossils by mineral extraction activities shall not be permitted in the excluded areas until a mitigation strategy has been adopted. This provision is especially important for exploitation of non-paleontological resources where mining activities inevitably impact or even destroy resources above and below the target resource. Mitigation should consist of preliminary surveying and collecting of whatever paleontological resources can be identified prior to the beginning of mineral extraction work; on-site survey and collection during extraction; and salvage collection after extraction. Fossils collected by mitigation activities should be processed and deposited in an appropriate public-trust repository. Under permit issued by BLM, mitigation activities shall be conducted only by qualified organizations and by individuals with a strong background in paleontology. Costs shall be borne by the industry contractor. Paleontological information shall be collected by extractive industries during exploration, sampling, and extraction, and shall be deposited at BLM headquarters and evaluated for potential mitigation.

A. Prior to Commercial Energy and Mineral Activities

Preliminary mitigation surveys should cover the entire proposed area of disturbance, including proposed access roads, parking, spoil banks, and other infrastructure. At least one field season should be allowed for each survey. The duration shall be extended (1) if inclement weather conditions prevent conducting an adequate survey during that field season, (2) if the proposed area is excessively large for the crew size to complete an adequate paleontological resource survey in one field season, or (3) if a large-scale excavation of paleontological resources by paleontologists prior to the proposed mining activity is required. If important paleontological resources are identified by the survey, the beginning of energy or mineral operations should be delayed by at least one field season to allow adequate time for remediation efforts. Energy or mineral mining operation shall not begin until the chief monument manager or authorized officer carefully reviews and accepts recommendations made by the senior monument paleontologist based on the results of the paleontological resource survey.

B. During Commercial Energy and Mineral Activities

In cases where extraction activities are being conducted in areas with high potential for yielding paleontological resources as determined by the preliminary survey, periodic inspections by a professional paleontologist should be conducted to ensure scientifically important paleontological resources are not inadvertently destroyed or unlawfully extracted. These inspections should include newly disturbed areas and their spoil banks. Mining workers during operation must immediately report to the designated monument paleontologist should they encounter any paleontological resources that are suspected of having scientific importance. If the discovery is determined to be scientifically important, the paleontologist shall immediately report to the senior paleontologist who will then request the chief monument manager or authorized officer to request an emergency excavation to collect the paleontological resources in question.

C. Individual Mineral Activities

Casual mineral collection, especially in the newly excluded areas of the former GSENM, could easily extend to fossils in the minds of collectors. Individuals with rights to collect minerals may only do so within the limits of PRPA, which applies to all Federal lands and which explicitly excludes paleontological resources from the definition of minerals. Individuals should immediately report to one of the monument paleontologists any paleontological resources they suspect of having scientific importance.

D. Authority

The senior monument paleontologist should determine who would serve to direct a paleontological resource survey should a mining proposal be submitted for an area of Federal lands previously included in GSENM that are now excluded from the monument boundaries. The senior paleontologist shall directly report to the chief monument manager.