

Draft Programmatic EA  
Casual collecting of paleontological resources on BLM administered lands

**U.S. DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT**

**DRAFT ENVIRONMENTAL ASSESSMENT FOR TWO DEFINITIONS  
FOR CASUAL COLLECTING OF PALEONTOLOGICAL RESOURCES  
ON BLM-ADMINISTERED LANDS**

**PROPOSED 43 CODE OF FEDERAL REGULATIONS PART 49, SUBPART I**

**I. Introduction**

The Department of the Interior proposes to promulgate regulations to implement the Paleontological Resources Preservation Act of 2009, 16 U.S.C. §§ 470aaa – 470aaa-11 (PRPA). PRPA addresses the management, protection, and preservation of paleontological resources on lands managed by the Bureau of Land Management (BLM), the Bureau of Reclamation (Reclamation), the National Park Service (NPS), and the U.S. Fish and Wildlife Service (FWS) (the bureaus).

The rule under PRPA is categorically excluded from National Environmental Policy Act (NEPA) analysis under Department of the Interior categorical exclusion, 43 CFR 46.210(i), which covers “Policies, directives, regulations, and guidelines: that are of an administrative, financial, legal, technical, or procedural nature; or whose environmental effects are too broad, speculative, or conjectural to lend themselves to meaningful analysis and will later be subject to the NEPA process, either collectively, or case-by-case.” BLM is developing this environmental assessment in order to evaluate the definitions of two terms that are addressed in the proposed rule under PRPA because unlike the other elements of the rule, these definitions would be immediately effective upon adoption of the rule, without the requirement for further decision-making, and may have effects on the quality of the human environment. These effects are anticipated to be beneficial, as they would establish, in regulation, the guidelines under which BLM already manages these resources.

PRPA reaffirms that visitors to public lands may collect common non-vertebrate paleontological resources for non-commercial purposes, currently authorized at 43 C.F.R. § 8365.1-5, by stating that the bureau shall allow casual collecting without a permit on Federal land controlled or administered by the Bureau of Land Management; and by requiring that the terms ‘reasonable amount’ and ‘negligible disturbance’ be defined.

**II. Rationale for the BLM to Prepare an EA**

Neither an EA nor an EIS must be prepared for the rule under PRPA. However, the BLM has elected to prepare this EA to inform decision makers regarding the possible effects of two specific provisions of the rule that apply the public lands BLM manages. Under the current management approach, most BLM-administered lands are open to casual collection of paleontological resources unless specifically closed by a site-specific decision. Under the proposed rule, these lands will remain open and casual collection will continue to occur on

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BLM-administered public lands. The purpose of this EA is to assist BLM in reviewing, confirming, and/or refining existing BLM practices.

The BLM welcomes input from the public on this EA, which may be revised in response to public input as well as further agency review.

### **III. Need for the Proposal/Federal Action**

PRPA provides specific authority and limits under which casual collecting can take place. In particular, PRPA provides that “casual collecting” is “the collecting of a reasonable amount of common invertebrate and plant paleontological resources for non-commercial personal use, either by surface collection or the use of non-powered hand tools resulting in only negligible disturbance to the Earth’s surface and other resources” (PL-111-11, section 6301(1), 123 Stat. 1172).

In other words, “casual collecting” must meet these five parameters provided by PRPA:

1. reasonable amount,
2. of common invertebrate and plant paleontological resources,
3. for non-commercial personal use,
4. by surface collection or the use of non-powered hand tools, and
5. resulting in only negligible disturbance to the Earth’s surface and other resources.

After setting forth the broad parameters of “casual collecting,” PRPA then explains when and where “casual collecting” is to be allowed. Specifically, Section 6301 of PRPA, 16 U.S.C. § 470aaa-3, states as follows:

(a) PERMIT REQUIREMENT.—

- (1) IN GENERAL.—Except as provided in this subtitle, a paleontological resource may not be collected from Federal land without a permit issued under this subtitle by the Secretary.
- (2) CASUAL COLLECTING EXCEPTION.—The Secretary shall allow casual collecting without a permit on Federal land controlled or administered by the Bureau of Land Management,... where such collection is consistent with the laws governing the management of those Federal land (sic) and this subtitle.

Collecting that is not conducted in accordance with a permit or within the parameters of “casual collecting” is prohibited by Section 6306 of PRPA, 16 U.S.C. § 470aaa-8, as follows:

(a) IN GENERAL.—A person may not—

- (1) excavate, remove, damage, or otherwise alter or deface or attempt to excavate, remove, damage, or otherwise alter or deface any paleontological resources located on Federal land unless such activity is conducted in accordance with this subtitle; ...

Thus, under PRPA, the law states that paleontological resources can only be collected from DOI-administered lands under a bureau-issued permit. “Casual collecting” is a narrow exception to this law. Any collection from BLM-administered lands that is not consistent with one or more of the five parameters of this exception, or is not consistent with the laws applicable to those lands, is prohibited and may be subject to civil or criminal penalties. Therefore, it is

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important that the parameters of casual collecting are carefully defined, and this is the purpose and need for the proposed definitions of the two terms in this rulemaking.

PRPA directs the Secretary of the Interior to define the terms “reasonable amount” and “negligible disturbance.” These definitions will immediately apply to casual collection on BLM public lands once the proposed rule is finalized. The analysis in this EA is qualitative and descriptive in character, and consists largely of presenting the possible negative consequences that might result from not defining these terms carefully, as well as describing the considerations that informed the proposed definitions and the alternatives that were considered.

#### **IV. Scoping and Issues**

Scoping for the development of this EA has primarily been internal, taking place among paleontological and other experts within other bureaus and offices in the Department of the Interior, as well as the United States Department of Agriculture Forest Service.

However, the bureaus received substantial public input previously. In 1999, the Senate Interior Appropriations Subcommittee requested that DOI, the U.S. Department of Agriculture (USDA) Forest Service (FS), and the Smithsonian Institution prepare a report on fossil resource management on federal lands (see Sen. Rep. 105–227, at 60 (1998)). The request directed these entities to analyze (1) the need for a unified federal policy for the collection, storage, and preservation of fossils; (2) the need for standards that would maximize the availability of fossils for scientific study; and (3) the effectiveness of current methods for storing and preserving fossils collected from federal lands. During the course of preparing the report, the agencies published a notice in the *Federal Register* and held a public meeting to gather public input. Many of the comments received during that time supported the continuation of BLM’s policy of the hobby or recreational collecting of common invertebrate and plant fossils from public lands, and contributed to the development of the PRPA itself. See, e.g., Report of the Secretary of the Interior, *Assessment of Fossil Management on Federal and Indian Lands*, May 2000.

There are three primary issues related to casual collecting. One is the damage to land or other resources that may result from collecting activities that cause significant disturbance, such as using tools or explosives to expose more fossil-bearing layers. Although some collectors contend that this damage is much less than the damage resulting from other uses of BLM-administered areas, such as timber harvest, mineral extraction, and grazing (these comments were made on the U.S. Forest Service paleontological resources regulations; see 80 *Fed. Reg.* 21588, 21600 (April 17, 2015)), those other activities require authorization from the bureaus, evaluation under NEPA and other laws, disclosure to the public of potential impacts, and identification of mitigation measures. Casual collecting, in contrast, does not require site-by-site evaluation and authorization and therefore must be defined upfront so that it will not exceed any surface disturbance threshold that would trigger BLM evaluation and NEPA analysis.

The second issue is loss of Federally-owned property. Paleontological resources on BLM lands are owned by the United States and are administered by the bureaus for the benefit of all Americans. Fossils collected from BLM-administered lands under permit remain in Federal ownership, are studied by scientists, are curated under appropriate standards, and may be used for educational purposes. The permit system is a key component of bureau accountability for these publicly-owned resources. Paleontological resources casually collected from BLM lands, in contrast, are not collected under a permit. Not only do these fossils leave Federal ownership, but they can no longer be tracked or accounted for by the bureau. Therefore the amounts that can be collected in this way must be carefully defined.

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The third issue is that many people, both young and old, enjoy and learn from casual collecting fossils from BLM lands. It has never been permissible to sell or buy fossils collected from Federal lands, and thus casual collecting does not have direct economic value, but it has educational and recreational value. The goal is to balance the enjoyment of the current generation with the enjoyment of future generations by carefully defining the amounts that may be collected and size surface disturbances that are permissible during casual collecting.

The BLM invites the public to comment on the possible environmental consequences of the proposed definitions and their alternatives presented in the EA and the proposed rulemaking.

#### **IV. Proposed Action and Alternatives**

Under the proposed action and all alternatives, the current authority that allows the collection of reasonable amounts of common invertebrate and common plant fossils for noncommercial purposes under 43 CFR § 8365.1-5 would be preserved. Under PRPA the term “casual collecting” is introduced to describe the lawful activity of collecting common invertebrate and common plant paleontological resources. Collection of these non-vertebrate fossils would continue to be allowed on BLM-administered lands unless those lands are closed to casual collecting, such as by short term, long term, or permanent regulatory closures or restrictions (supplementary closures, withdrawals, etc.), land-use plans (resource management plans), or special designation (national monuments, national conservation areas, outstanding natural areas, forest reserves, or cooperative management and protection areas). BLM will continue to have the authority to restrict casual collecting activities under the resource protection regulations at 43 CFR 8364.1, or through the land use planning process provided for in 43 CFR Part 1600.

Under the proposed action and all alternatives, the proposed PRPA regulations would formalize the existing constraints for public collecting of non-vertebrate fossils for non-commercial purposes provided under 43 CFR § 8365.1-5. Under proposed rules at 43 C.F.R. Part 49, Subpart I, § 49.810:

##### **§ 49.810 What is casual collecting?**

(a) Casual collecting means the collecting without a permit of a reasonable amount of common invertebrate or plant paleontological resources for non-commercial personal use, either by surface collection or the use of non-powered hand tools, resulting in only negligible disturbance to the Earth’s surface or paleontological or other resources.

(1) Common invertebrate or plant paleontological resources are invertebrate or plant fossils that have been established as having ordinary occurrence and wide-spread distribution. Not all invertebrate or plant paleontological resources are common.

(2) **Reasonable amount means ...[under analysis in this EA].**

(3) **Negligible disturbance means ...[under analysis in this EA].**

(4) Non-commercial personal use means a use other than for purchase, sale, financial gain, or research.

(5) Non-powered hand tool means a small tool, such as a geologic hammer, trowel, or sieve, that does not use or is not operated by a motor, engine, or other mechanized power source, and that can be hand-carried by one person.

(b) In order to preserve paleontological or other resources, or for other management reasons, the authorized officer may establish limitations on casual collecting, including but not limited to reducing the weight of common invertebrate or plant paleontological resources below the amount specified in this subpart; limiting the depth of disturbance;

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establishing site-specific dates or locations for collecting; or establishing what is common in a specific area.

(c) Collecting common invertebrate or plant paleontological resources inconsistent with any of the limitations in paragraph (a) or (b) of this section is not casual collecting, and must be immediately discontinued.

(d) Collecting common invertebrate or plant paleontological resources inconsistent with this subpart is a prohibited act and may result in civil or criminal penalties.

Under the proposed action and all alternatives, all of the language in Subpart I would be the same. The only differences between the proposed action and the alternatives are the varying definitions of “reasonable amount” and “negligible disturbance.”

**A. Proposed Action: Proposed Definition of “Reasonable Amount” and “Negligible Disturbance”**

The proposed action is to define “reasonable amount” and “negligible disturbance” in 43 C.F.R. § 49.810(a) of the proposed regulations as follows:

(2) Reasonable amount means a maximum of 25 pounds per day per person, not to exceed 100 pounds per year per person. Pooling of individuals’ daily amounts to obtain pieces in excess of 25 pounds is not allowed.

(3) Negligible disturbance means little or no change to the surface of the land and minimal or no effect to natural and cultural resources, specifically:

(i) In no circumstance may the surface disturbance exceed 1 square yard (3 feet x 3 feet) per individual collector;

(ii) For multiple collectors, each square yard of surface disturbance must be separated by at least 10 feet;

(iii) All areas of surface disturbance must be backfilled with the material that was removed so as to render the disturbance substantially unnoticeable to the casual observer.

**B. Alternative 1: No Action/No Definition of “Reasonable Amount” or “Negligible Disturbance” in the Proposed Regulations**

Under this alternative, the proposed regulations would not define the terms “reasonable amount” or “negligible disturbance” for casual collecting on BLM-administered lands. BLM would manage the amounts of fossils subject to casual collecting, and the allowable disturbance for casual collecting, under its existing regulations and guidance under FLPMA.

BLM’s current regulations for recreational or hobby collecting of common invertebrate and plant fossils are found at 43 CFR 8365.1-5, which provides as follows:

(b) Except on developed recreation sites and areas, or where otherwise prohibited and posted, it is permissible to collect from the public lands reasonable amounts of the following for noncommercial purposes:

(2) Nonrenewable resources such as rock and mineral specimens, common invertebrate and common plant fossils, and semiprecious gemstones;”

The BLM has additional policy and guidance about casual collecting of paleontological resources in BLM Manual Section 8270 and BLM Handbook 8270-1. However, neither the existing regulations at 43 CFR 8365.1-5 nor BLM policies quantify “reasonable amount.” The

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current rule of thumb for reasonable amounts for rocks, minerals, and/or common invertebrate and common plant fossils has been the limited amounts defined for petrified wood at 43 CFR 3622, i.e., 25 pounds plus one piece not to exceed 250 lbs per year per person. However, not every field office (FO) has clear policies about what is a reasonable amount. Only BLM Arizona and the Albuquerque FO have published notices in the Federal Register defining what a reasonable amount is. Other offices may or may not have web pages and/or brochures that address the casual collecting of fossil policies. For example, in an examination of BLM web pages in November 2010, one field office has limited the reasonable amount to 10 pounds (this was the original amount proposed for petrified wood back in 1963 after Congress made petrified wood a mineral material).

In addition, current BLM regulations at 43 CFR 8365 do not define the amount of disturbance of the surface that may occur during casual collecting. Although casual use is defined in the regulations in Title 43 of the Code of Federal Regulations as causing only negligible disturbance, the term “negligible disturbance” is not quantified.

**C. Alternative 2: Variable Definitions of “Reasonable Amount” and a Metric-Based Measurement for “Negligible Disturbance”**

Under this alternative, BLM considered defining the term “reasonable amount” with variable parameters. Specifically, the following definitions were considered.

***Reasonable amount*** means a maximum of 100 pounds per year per person. The maximum daily amount of common invertebrate or plant paleontological resources that may be collected per person is the following or combination of the following, as long as the total amount does not exceed 25 pounds:

- (i) 2 quarts by volume of small hand samples (3x3x3 inches or less) including any associated rock, clay, or soil; or
- (ii) 25 pounds by weight of larger specimens (larger than 3x3x3 inches) including any associated rock, clay, or soil.

or

***Reasonable amount*** means a (daily) maximum of one gallon by volume or 25 pounds by weight, and generally includes not more than five specimens of any one fossil variety. For rock slabs containing fossils, the amount is limited to a slab that can be hand-carried by one person with minimal effort. The authorized officer may modify the amount that is reasonable or establish a period of time for collection as needed on a case-by-case basis to preserve fossil-bearing locations.

BLM also considered defining “negligible disturbance” using the metric system. Under this alternative the definition would be:

***Negligible disturbance*** means little or no change to the surface of the land and causing minimal or no effect to other resources. In no circumstance can the disturbance exceed 1 square meter per person. For groups, each square meter of disturbance must be separated by at least 10 meters.

#### **D. Alternative 3: Definition of “Reasonable Amount” Would Depend on Amount of Surface Disturbance**

The proposed Alternative 3 is to define “reasonable amount” and “negligible disturbance” defined qualitatively with respect to one another. The proposed definition for reasonable amount would be defined as follows:

*Reasonable amount* means an amount that results in only negligible disturbance from surface collection or with the use of non-powered hand tools.

#### **E. Alternative Considered but Eliminated from Detailed Analysis: Stopping all Casual Collecting on BLM Lands Until a Programmatic Environmental Impact Statement is Completed**

Under this alternative, BLM would halt all casual collecting and complete a nationwide Environmental Impact Statement (EIS) before deciding on the definitions of “reasonable amount” and “negligible disturbance.” Because the proposed action consists of formalizing in regulations an accepted guideline that has been in use by the BLM for nearly 30 years, cessation of activities for which Congress has expressed solicitude in order to establish an environmental baseline across the public lands in order to develop an EIS to support implementing protective measures for the resources, does not seem warranted.

### **VI. Affected Environment**

#### Lands

The BLM manages more land – 258 million acres – than any other Federal agency. Most of this public land is located in 12 Western states, including Alaska. The BLM’s multiple-use mission is to sustain the health and productivity of the public lands for the use and enjoyment of present and future generations. The BLM accomplishes this by managing such activities as outdoor recreation, livestock grazing, mineral development, and energy production, and by conserving natural, historical, cultural, and other resources on public lands.

Most BLM-administered public lands are open to casual collecting of common invertebrate and common plant paleontological resources, unless otherwise encumbered by other developmental activities, such as mining operations or rights-of-ways, or closed to casual collecting activities by operation of law, or land use plans or other closures because of potential adverse effects to other natural, biological, and cultural resources.

Some BLM-administered lands are managed under special designations, such as national monuments and national conservation areas, which are part of the National Landscape Conservation System. Because they were designated by legislation or Presidential proclamation for conservation and preservation, casual collecting may, be prohibited in some of these areas.

#### Geology

Fossils are found in sedimentary rock units or soil that forms in any of the three main rock classes (igneous, metamorphic, and sedimentary), including sedimentary structures, fissure-

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fillings or cracks, sink holes, caves, lake margins, permafrost, and other environments. Non-vertebrate paleontological resources are found in all of the states in which public lands occur.

Most casual collecting is done by hand-picking specimens from exposed geologic formations at the surface of the Earth. Fossil specimens that are partially buried in rock or soil are collected with the aid of tools such as a geologic hammer and/or trowel. Fossil specimens are often collected using a hammer and chisel either by chipping away rock to expose the fossil, or by splitting the rock in order to reveal previously unseen fossils.

### Minerals

Paleontological resources are part of the surface estate. Some mineral resources may actually be composed of fossil material, for example, limestone, and coal. In those cases, the mineral nature of the resource is of primary interest because of its economic values. The exploration, development, and production of mineral resources are priorities of the United States (see the Mining and Minerals Policy Act of 1970 and the Energy Policy Act of 2005). PRPA preserves all existing statutes that provide for the location and extraction of mineral resources. Therefore, casual collecting of common invertebrate and plant paleontological resources would have little to no effect on authorized mineral resource activities.

### Cultural Resources

Common invertebrate and plant paleontological resources may occur in areas that contain archaeological, historic, and other cultural resources. When the activity of casual collecting is from the surface and with little or no surface disturbance, the direct impacts to cultural resources are minimal to none. The BLM has a long history of educating the public land users about the importance of cultural resources and the consequences of theft and vandalism to the understanding of human cultures and the associated loss to science.

### Recreation

Outdoor recreation uses of the public lands include the legal collecting of reasonable amounts of berries, nuts, seeds, rocks, minerals, and common non-vertebrate fossils. Other popular activities include hunting, fishing, camping, sightseeing, hiking, winter sports, off-highway vehicle (OHV) use, and many others. Casual collecting is often enjoyed by people who are using the public lands for other recreational activities and collect fossils when they happen to come across them. Alternatively, dedicated avocational collectors come to public lands to pursue casual collection as a form of recreation.

### Wildlife and Other Biological Resources

A great diversity of aquatic and terrestrial animal species inhabit federally managed public lands. Equally diverse are the vegetation communities that serve as habitat for these unique assemblages of aquatic and terrestrial species. Federal lands provide seasonal or permanent habitat for more than 3,000 species of fish, amphibians, reptiles, birds, and mammals. Assuming that the activity of casual collecting is from the surface and with little or no surface disturbance, the direct impacts to biological resources are minimal to none.

### Estimates of Casual Collectors Using Public Lands



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Statistics about the number of casual collectors or “rockhounds” on public lands are not maintained by the BLM. However, numbers were presented by the Western Rockhound Association (WRA) in Congressional testimony during the 93<sup>rd</sup> Congress for two hearings, one on H.R. 5441<sup>1</sup>, the BLM Organic Act (now known as FLPMA), the other on “National Outdoor Recreation Programs and Policies.”<sup>2</sup> The WRA estimated that in 1973, there were 2 million people in the United States that were interested in some aspect of the hobby of rockhounding. In 1973, members and affiliates of the WRA existed in 28 states and represented approximately 250,000 people that regularly visited public lands to pursue their hobby. In 1974, the number of “rockhounds” utilizing public lands was estimated at 300,000 and of these 200,000 visited public lands in the West. In the California Desert, there were 26,000 “rockhounds” that contributed an estimated 800,000 visitor days per year pursuing their hobby. People engaging in the casual collection of non-vertebrate paleontological resources are a subset of these numbers, since not all “rockhounds” collect fossils.

As of 2011, the principal rock and mineral association was the American Federation of Mineralogical Societies. For the 50 states and Washington, DC there are about 728 rock, mineral, and fossil clubs. On average, there are about 60 members per club according to AFMS<sup>3</sup> or their member associations. According to Bob’s Rock Shop web page<sup>4</sup>, the number of rock, mineral, and fossil clubs were about 786; there was no estimate of the number of members per club.

In 2016 myFOSSIL.org<sup>5</sup> has a membership of more than 60 networked fossil clubs and societies in the United States that are devoted to the casual collection of paleontological resources. These clubs “hold meetings; host speakers; conduct outreach; work with scientists; build their own collections; and contribute to the study of paleontology.”

For purposes of this analysis, BLM assumes that the total of rock, mineral, and fossil clubs in the United States is 800 with an estimated average of 100 members per club, which is about 80,000 members. BLM further assumes all the members go rock, mineral, and/or fossil hunting on the public lands at least once a year. According to the 2015 public lands statistics<sup>6</sup> there were more than 62.4 million recreation-related visits to public lands in 2015. This is less than one-half of one percent. Of the 80,000 members, not all collect fossils.

Many recreationists also collect rocks, minerals, or fossils. Since there are no statistics for the number of users who collect rocks, minerals, or fossils as part of their recreational experience, BLM will assume 1% of 62.4 million visitors will collect some of the rocks, minerals, or fossils they come across. That is about 624,000 – a little more than half a million people.

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<sup>1</sup> 1974, BLM Organic Act, Part I, Hearings before the Subcommittee on Public Lands of the Committee on Interior and Insular Affairs, House of Representatives, Ninety-Third Congress on H.R. 5441 to Provide for the Management, Protection, Development, and Sale of the Natural Resource Lands, Serial No. 93-30, pp. 635-640.

<sup>2</sup> 1973, National Outdoor Recreation Programs and Policies, Hearings before the Subcommittee on National Parks and Recreation of the Committee on Interior and Insular Affairs, House of Representatives, Ninety-Third Congress, First Session, Serial No. 93-3, pp. 362-369.

<sup>3</sup> The American Federation of Mineralogical Societies, <http://www.amfed.org>, last accessed Jan. 5, 2011

<sup>4</sup> Bob’s Rock Shop, <http://www.rockhounds.com/rockshop/table.shtml>, last accessed Jan. 5, 2011

<sup>5</sup> myFOSSIL.org, <http://www.myfossil.org>

<sup>6</sup> Public Land Statistics 2015, Table 4-1. Published May 2016 by the U.S. Department of the Interior, Bureau of Land Management (BLM). [http://www.blm.gov/public\\_land\\_statistics/index.htm](http://www.blm.gov/public_land_statistics/index.htm)

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Even with deliberately high estimates, the estimated number of people collecting rocks, minerals, or fossils at least once a year is 80,000 with possibly 570,000 additional incidental collectors. That is an estimated 704,000 people who collect rocks, minerals, or paleontological resources, or about 1% of the 62 million visitors to the public lands. Not all of these users discover or collect fossils.

## **VII. Environmental Effects of Proposed Action and Alternatives**

### **A. Effects Common to Proposed Action and All Alternatives Considered**

#### Environmental Effects Common to Proposed Action and All Alternatives Considered

Under the proposed action and all alternatives considered, the environmental effects of casual collecting would be similar because these three parameters would apply to all casual collecting:

1. Only common invertebrate and plant paleontological resources could be collected;
2. Collectors could use only non-powered hand tools; and
3. Collected resources could only be used for non-commercial personal uses.

In addition, other laws and standards applicable to BLM lands, such as the "undue and unnecessary" standard and closure authorities, would apply regardless of the definition of "reasonable amount" and "negligible disturbance," under which BLM would restrict collection or close areas to protect resources, safety, property, or for other management reasons. Casual collecting would remain subject to monitoring by BLM to ensure that surface disturbance to public lands does not exceed this standard.

Surface disturbance associated with casual collecting activities typically involves access to the collecting sites using established roads and trails. Decisions related to access to public lands are made through the recreation and/or land use planning process which has its own land use planning requirements. Casual collectors would have to follow the recreation and travel management prescriptions established in these plans. In addition, impacts from access by 80,000 dedicated "rockhounds" as compared to 62.4 million other recreationists using public lands are negligible.

#### Socioeconomic Effects Common to Proposed Action and All Alternatives Considered

Neither the proposed definitions nor the alternative definitions are likely to have an adverse socioeconomic impact on casual collectors. Most casual collection is incidental as described in the Recreation section above. That is, people may find and collect fossils while engaging in other recreational activities. Based on BLM's experience, incidental collectors are not likely to collect and carry out more than 25 pounds of specimens.

Regardless of the precise definition of "reasonable amount" and "negligible disturbance," casual collectors must comply with all five parameters of casual collecting:

1. reasonable amount of
2. common invertebrate and plant paleontological resources for
3. non-commercial personal use
4. by surface collection or the use of non-powered hand tools
5. resulting in only negligible disturbance to the Earth's surface and other resources.

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If any one of those parameters is exceeded the activity is no longer casual collecting. The collector has the option to apply for a permit from the bureau that would allow them to collect greater amounts of paleontological resources or to create a larger disturbance, as authorized by the permit. Thus, the precise definition of “reasonable amount” and “negligible disturbance” are not likely to stop or reduce the activity of casual collecting, but will encourage professional collectors (i.e. research paleontologists) to apply for a permit so that they can conduct research without the restrictions of casual collecting.

In addition, there should be no economic impact from any of the proposed definitions or alternative definitions of “reasonable amount” and “negligible disturbance,” because casually collected paleontological resources cannot be bought or sold. Section 6306 of PRPA, 16 U.S.C. § 470aaa-8, states that:

(a) IN GENERAL.—A person may not—

...

(3) sell or purchase or offer to sell or purchase any paleontological resource if the person knew or should have known such resource to have been excavated, removed, sold, purchased, exchanged, transported, or received from Federal land.

In addition, existing regulations at 43 CFR 8365.1-5 also clearly state that the collection of non-vertebrate fossils is for noncommercial purposes. Therefore, the definitions of “reasonable amount” and “negligible disturbance” have recreational, rather than economic, implications.

## **B. Effects of Proposed Action/Proposed Definition**

As stated above, the proposed action would define “reasonable amount” and “negligible disturbance” in 43 C.F.R. § 49.810(a) of the proposed regulations as follows:

(2) Reasonable amount means a maximum of 25 pounds per day per person, not to exceed 100 pounds per year per person. Pooling of individuals’ daily amounts to obtain pieces in excess of 25 pounds is not allowed.

(3) Negligible disturbance means little or no change to the surface of the land and minimal or no effect to natural and cultural resources, specifically:

(i) In no circumstance may the surface disturbance exceed 1 square yard (3 feet x 3 feet) per individual collector;

(ii) For multiple collectors, each square yard of surface disturbance must be separated by at least 10 feet;

(iii) All areas of surface disturbance must be backfilled with the material that was removed so as to render the disturbance substantially unnoticeable to the casual observer.

### Environmental Effects of Proposed Action:

The bureau believes 25 pounds per person per day is a reasonable amount and will have insignificant effects because in most cases it will not cause a common resource to be depleted.

While problems of excessive collecting or negative cumulative effects have most often been associated with the collection of paleontological resources for commercial purposes, which is unlawful, excessive casual collecting (i.e., for personal or hobby uses) can still lead to degradation of these resources. In areas where 25 pounds per day is considered to be too much, or where there is a danger of over-collecting, the Act allows the bureau to limit collection by

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lowering “reasonable amount” for specific areas on a case-by-case basis (PRPA Section 6304(e), or 16 U.S.C. 470aaa-3(a)). The bureau considered defining “reasonable amount” as 50 lbs/day or 100 lbs/day, but determined that these amounts were too high, primarily because of the cumulative effects to the land from multiple people collecting.

The bureau believes 100 pounds per person per year is a reasonable annual limit because in most cases it will not cause a common resource to be depleted. The bureau considered raising the amount to 250 pounds per person per year, but is concerned that the cumulative effects to the environment and to the resource may be too large at that level. The cumulative effects are especially large when a group of people collect in a similar area, or return to an area over several years.

BLM further believes that the proposed definition of “negligible disturbance” is reasonable, measureable, and consistent with public understanding and practice, and that it will result in no significant impact on BLM-administered lands. In the course of developing the proposed definition, BLM considered areas of disturbance as low as zero and as high as 5 acres. Some bureau personnel expressed concern that any disturbance to the land, however small, is not negligible. Because PRPA requires the bureaus to allow casual collection and to define negligible disturbance, BLM inferred that the area must be greater than zero. Conversely, 5 acres is the area of public lands managed by BLM that may be disturbed by exploration conducted in the context of mining operations, for which only Notice to the BLM is required, but not approval of a mining Plan of Operations, under BLM’s surface management regulations at 43 CFR Part 3809. *See* 43 CFR 3809.21. Casual collecting of paleontological resources by the public requires neither a permit, nor notice to the BLM; therefore, in order the disturbance associated with casual collecting to be considered “negligible,” the BLM determined that the area must be less than 5 acres.

In 1985, the BLM implemented a two square meter guidance for geological surveys conducted by the U.S. Geological Survey because it would not trigger further analysis under the National Environmental Protection Act (NEPA) of 1969 (BLM IM 86-84). While developing paleontological surface collecting limits the BLM paleontology program considered adopting the two square meter limit that had been adopted for the U.S. Geological Survey, but found defining two square meters to be problematic (an area of two square meters is actually 1.414 meters on a side). BLM management reduced the proposed two square meter limit for paleontological survey permits to one square meter. One square meter was adopted by the BLM for the limit on paleontological survey and collecting permits authorized under FLPMA, has been standard since the early 1990’s, and is currently in effect (BLM 8270 manual and guidance).

Casual collecting activities are not anticipated to cause adverse impact to paleontological or other natural or cultural resources. However, if the BLM is aware that a paleontological resource may be depleted, the bureau may take action to prevent further depletion of the resource, either by closing the area to casual collection, or by limiting or restricting the definition of reasonable amount or negligible disturbance for that area.

Law enforcement personnel have suggested that bureau-wide regulatory standards that are measurable and understandable would assist both officers and the public in understanding what amounts may, or may not, be collected. Because the public is more familiar with English measurements than metric, negligible disturbance would be limited to one square yard, rather than one square meter. Because metric measurements are the standard for scientific investigation, one square meter would continue to be used as the minimum area of disturbance for collection under a paleontological permit, unless a larger area is specifically authorized. For the purpose of

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enforcement, one square yard and one square meter would be assumed to be approximately equal in area. Thus, the area of disturbance for both casual collection and permitted collection would be limited to the same area, unless a different area of disturbance is specifically authorized.

Socioeconomic Effects of Proposed Action:

BLM believes that the proposed definition of “reasonable amount” is readily measurable, is consistent with agency practice and public understanding, and will have minimal or no socioeconomic effects.

In 1982 BLM considered allowing the collection of fossil and hobby minerals in “limited quantities” of 25 lbs/day (FR Notice, August 17, 1982). Prior to 1982 collecting common invertebrate and plant paleontological resources was not allowed without a permit. The 1982 proposed rule was never implemented, but this figure has been used as an informal “rule of thumb” over the years. BLM field personnel have come to associate this measure of hobby collecting as consistent with the concept of “casual use” as it applies to the public lands. “Casual use” is distinct from authorized uses of public lands that require a lease, permit, or easement from BLM, and is defined at 43 CFR § 2920.0-5(k) as, *any short term non-commercial activity which does not cause appreciable damage or disturbance to the public lands, their resources or improvements, and which is not prohibited by closure of the lands to such activities.*

This general definition of “casual use” is also consistent with the definition of “casual use” that is specific to the management of surface resources in the context of mining on the public lands, where similar collecting of non-renewable resources is authorized. In that regard, “casual use” is defined at 43 CFR § 3809.5, to include, *the collection of geochemical, rock, soil, or mineral specimens using hand tools; hand panning; or non-motorized sluicing... Casual use does not include...operations in areas where the cumulative effects of the activities result in more than negligible disturbance.*

25 pounds per person per day is also equivalent to the 25 pounds per person per day that is the limit for the free use of petrified wood (43 CFR S 3622 – Free Use of Petrified Wood). While the casual collection of common invertebrate and plant paleontological resources and the free use collection of petrified wood are authorized by separate authorities, 25 lbs/day is a consistent number that the public, agency personnel, and law enforcement can easily apply. Bureau law enforcement personnel that have been consulted are in favor of having similar limits for the two resources because it will result in more clarity for everyone.

Similarly, the proposed definition of “negligible disturbance” is straightforward and readily measurable, and therefore should have minimal socioeconomic impacts. One square yard is roughly equal to one square meter. The area was established in common usage for paleontology permits issued by the BLM under the authority of the Federal Land Policy and Management Act (FLPMA) and therefore makes sense as a starting point for both permitted activities and casual collecting authorized under PRPA. The proposed definition uses one square yard instead of one square meter because the general American public is more familiar with the former unit. However, the bureau would consider one square meter to be roughly equal to one square yard for the purposes of authorizing both the permitted and casual collection of paleontological resources.

**C. Effects of Alternative 1: No Action/No Definition of “Reasonable Amount” or “Negligible Disturbance” in the Proposed Regulations**

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Under this alternative, the proposed regulations would not define the terms “reasonable amount” or “negligible disturbance” for casual collecting on BLM-administered lands. BLM would manage the amounts of fossils subject to casual collecting, and the allowable disturbance for casual collecting, under its existing regulations and guidance under FLPMA.

Environmental Effects of Alternative 1:

Not defining “reasonable amount” or “negligible disturbance” in the proposed regulations would result in confusion over how many resources may be collected or how much disturbance would be allowable to an area. Possible negative effects would be depletion of paleontological resources and environmental damage to certain areas. Law enforcement would have no measurable basis for determining allowable collecting vs. prohibited actions. Cumulative impacts and damage to BLM-administered lands could also have negative impacts on other resources such as cultural resources, plant communities, wildlife, and waterways. Allowing casual collection of paleontological resources without defining “reasonable amount” and “negligible disturbance” may cause the bureau to be in violation of federal statutes, including, but not limited to, NEPA, FLPMA, and PRPA.

Socioeconomic Effects of Alternative 1:

The public, bureau staff, and law enforcement would not have a clear understanding of “reasonable amount” or “negligible disturbance.” With unchecked casual collecting, BLM would not be able to comply with many other provisions of PRPA or its other mandates under both FLPMA and NEPA. Possible depletion of resources or cumulative damage to areas could result in reduced opportunities for future collectors, and reduced enjoyment of certain BLM areas by other visitors.

**D. Effects of Alternative 2: Variable Definitions of “Reasonable Amount” and a Metric-Based Measurement for “Negligible Disturbance”**

Under this alternative, the term “reasonable amount” would include volumetric and numeric components in addition to a weight component, as follows:

***Reasonable amount*** means a maximum of 100 pounds per year per person. The maximum daily amount of common invertebrate or plant paleontological resources that may be collected per person is the following or combination of the following, as long as the total amount does not exceed 25 pounds:

- (i) 2 quarts by volume of small hand samples (3x3x3 inches or less) including any associated rock, clay, or soil; or
- (ii) 25 pounds by weight of larger specimens (larger than 3x3x3 inches) including any associated rock, clay, or soil.

or

***Reasonable amount*** means a maximum of one gallon by volume or 25 pounds by weight, and generally includes not more than five specimens of any one fossil variety. For rock slabs containing fossils, the amount is limited to a slab that can be hand-carried by one person with minimal effort. The authorized officer may modify the amount that is reasonable or establish a period of time for collection as needed on a case-by-case basis to preserve fossil-bearing locations.

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This alternative also would define “negligible disturbance” with the metric system, as follows:

***Negligible disturbance*** means little or no change to the surface of the land and causing minimal or no effect to other resources. In no circumstance can the disturbance exceed 1 square meter per person. For groups, each square meter of disturbance must be separated by at least 10 meters.

Environmental Effects of Alternative 2:

BLM believes that the definitions included in this alternative would have minimal environmental impacts, similar to the proposed action, because in most cases it would not cause a common resource to be depleted. Impacts under this alternative would be less than the impacts that would occur under Alternative 1.

Socioeconomic Effects of Alternative 2:

BLM believes that the definitions included in this alternative would be confusing to the public and to law enforcement, and would be difficult for compliance and enforcement. Because of these problems, socioeconomic impacts would be greater under this alternative than under the proposed action. However, socioeconomic impacts under this alternative would probably be less than the impacts of Alternative 1, since this alternative would provide the public and law enforcement with at least some parameters for casual collecting whereas Alternative 1 would provide no parameters.

Hobby collectors that belong to “rockhound” or fossil clubs would need to modify their practices if collection were limited to only 5 specimens of any one fossil type, and sometimes a small rock may contain multiple fossils that cannot reasonably be separated in the field.

The inclusion of the amount that can be carried by one person with minimal effort is based on an assumption about what a normal person is able to carry. Yet the specific amount might vary if the person is a child, a young adult, an elderly adult, or an athletic adult. BLM believes that this focus may detract from the real issue for BLM management, which is how much collecting may be allowed without depleting the resource.

This alternative would necessitate an educational campaign by the BLM, or possibility additional signage at known or designated collecting sites in addition to more routine monitoring. This definition would be somewhat problematic for law enforcement to enforce because of the numerous possibilities for compliance or noncompliance.

**E. Alternative 3: Definition of “Reasonable Amount” Would Depend on Amount of Surface Disturbance**

Under this alternative, “reasonable amount” and “negligible disturbance” would be defined qualitatively with respect to one another, as follows:

***Reasonable amount*** means an amount that results in only negligible disturbance from surface collection or with the use of non-powered hand tools.

Environmental Effects of Alternative 3:

The quantity of common invertebrate and plant paleontological resources that can be casually collected would not be defined by a specific amount, but would be directly related to the amount of disturbance the collection of specimens would cause. This definition would likely be non-enforceable and would therefore have effects similar to Alternative 1. Paleontological

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resources would be more quickly depleted than Alternative 2. More intense monitoring of the levels of surface disturbance would be needed by BLM staff. This definition would be problematic for law enforcement to enforce because there is not a specific quantity that may not be collected, and the amounts would continue to be variable depending on the region and/or field office.

Socioeconomic Effects of Alternative 3:

This definition would have the same socioeconomic effects as Alternative 1. Paleontological and other resources would be more quickly depleted than Alternative 2, and as a result, future recreational opportunities would be limited.

“Rockhounds” and incidental collectors would not have to be concerned with any specific specimen limit. They would only have to remember that any collecting that is done must not cause more than negligible disturbance. An educational campaign would be needed by the BLM to explain the level of disturbance that is permissible at collecting sites.

**F. Cumulative Effects**

Under the proposed action and all alternatives, casual collecting is limited to common invertebrate and plant paleontological resources, collection from the surface causing negligible disturbance, and by using non-powered hand tools such as geologic hammers or trowels. These factors limit the cumulative impact of casual collecting. By additionally providing clear and measurable definitions for the other factors that define casual collecting (reasonable amount and negligible disturbance), the proposed action will likely have minimal cumulative effects on BLM-administered land. Casual collecting is already allowed on BLM-administered land, but the proposed action will provide clarity and scope in order to reduce its cumulative impacts.

In addition, the proposed rules authorize BLM to close areas or otherwise lessen the adverse impacts of casual collecting by reducing the amounts that can be collected, locations, timing, and other factors. The ability to close or limit casual collection on a case-specific basis will also reduce cumulative impacts.

**VIII. Tribes, Individuals, Organizations, or Agencies Consulted**

*Government-to-Government Consultation*

Because of the specific character of the proposed rule (that it is largely procedural in character, does not apply on tribal lands or to tribal resources or assets, and does not represent a significant change from current management of paleontological resources), the bureaus have determined that tribal notification will be conducted in concert with the publication of the proposed rule under PRPA in the *Federal Register*.

*Section 7 of the Endangered Species Act*

BLM has determined that promulgation of the two definitions discussed in this EA will have no effect on listed species or critical habitat, and that therefore, no consultation is required under the regulations implementing section 7 of the Endangered Species Act. The BLM and the FWS have conferred at the staff level, and determined that the rulemaking itself would have no effect on listed species or designated critical habitat.

*Section 106 of the National Historic Preservation Act*



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The Department of the Interior has determined that rulemaking under PRPA is not the type of activity that has the potential to cause effects on historic properties pursuant to 36 CFR § 800.3(a)(1), although individual future actions (e.g., opening or closing specific areas to casual collection) could require compliance with section 106 for that specific action. A letter from the Advisory Council for Historic Preservation, dated December 6, 2010, confirms that promulgation of regulations under PRPA, including these definitions, does not require further consultation under section 106 of the NHPA pursuant to 36 C.F.R. § 800.3(a)(1). DOI therefore believes that there is no further consultation obligation under section 106 of the NHPA for adoption of the proposed the definitions of reasonable amount and negligible disturbance.

**IX. List of Preparers**

This document was prepared by Lucia Kuizon, retired Bureau of Land Management Paleontologist, Division of Cultural and Paleontological Resources and Tribal Consultation; Julia Brunner, National Park Service regulatory affairs specialist, Geological Resources Division; and Scott Foss, Bureau of Land Management Paleontologist, Division of Cultural and Paleontological Resources and Tribal Consultation.

**XI. Conformance**

The proposed rulemaking and this supplemental environmental assessment conform with existing laws.