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*Federal Management and Protection of Paleontological  
(Fossil) Resources Located on Federal Lands: Current Status  
and Legal Issues*

Douglas Reid Weimer, American Law Division

November 8, 2004

**Abstract.** Paleontological [fossil] resources are of great interest to scholars, dealers in rare objects, and legislators. Large tracts of land under federal management possess valuable fossil resources, many of which remain unexcavated. Concern has developed over the protection and management of these resources, some of which have been subject to theft and/or vandalism. There is no comprehensive statute or management policy for the protection and management of fossils on federal lands. Federal authority may derive from a number of statutes relating to the protection of public properties. There is no consistent and dispositive body of caselaw which provides guidance for the regulation and control of fossil resources located on federal property. Pending federal legislation is intended to provide for the uniform management and protection of paleontological resources on federal lands.

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# CRS Report for Congress

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## **Federal Management and Protection of Paleontological (Fossil) Resources Located on Federal Lands: Current Status and Legal Issues**

**November 8, 2004**

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# Federal Management and Protection of Paleontological (Fossil) Resources Located on Federal Lands: Current Status and Legal Issues

## Summary

Paleontological [fossil] resources are of great interest to scholars, dealers in rare objects, and legislators. Large tracts of land under federal management possess valuable fossil resources, many of which remain unexcavated. Concern has developed over the protection and management of these resources, some of which have been subject to theft and/or vandalism.

There is no comprehensive statute or management policy for the protection and management of fossils on federal lands. Federal authority may derive from a number of statutes relating to the protection of public properties. There is no consistent and dispositive body of caselaw which provides guidance for the regulation and control of fossil resources located on federal property. Pending federal legislation is intended to provide for the uniform management and protection of paleontological resources on federal lands.

As there is not consistent federal regulation of fossil resources, a variety of not necessarily consistent definitions exist for such key terms as “paleontological resource,” “fossil,” “federal lands,” and other related terms.

Several federal agencies have management authority for the protection of fossil resources on the lands under their jurisdictions. Four agencies within the Department of the Interior exercise such authority: Bureau of Land Management, Bureau of Reclamation, Fish and Wildlife Service, and National Park Service. The U.S. Forest Service, an agency of the Department of Agriculture, has certain fossil management responsibilities. In addition, the U.S. Geological Survey is responsible for inventorying certain federal lands and resources. The Department of Defense and the Smithsonian Institution also have some fossil management responsibilities. The authorities and responsibilities of these agencies are examined in the report.

Agency enforcement and prosecution policies differ greatly. The policies and practices of the National Park Service (NPS) have been examined in more detail in this report than those of other agencies. NPS law enforcement personnel take action against persons involved in fossil theft-destruction following an analysis and determination of the appropriate penalties by the U.S. Attorney’s Office. Each incident is considered on a case-by-case basis. This report will be updated.

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# Federal Management and Protection of Paleontological (Fossil) Resources Located on Federal Lands: Current Status and Legal Issues

## Background and Introduction

The United States possesses a unique paleontological (fossil) legacy. It is one of the few countries in the world to possess fossilized remains of several species of dinosaurs, and rich fossil repositories of ancient plants and other animals also exist.<sup>1</sup> America's paleontological resources are a great heritage and the management of these resources is a significant responsibility.

Fossils are elements of the human environment. Although they are not crucial to existence, like water and air, they offer intangible gifts to imagination and curiosity in the same ways that art and music enrich our lives. They remind us who we are, and how we might have come to be. Unlike archaeology, which seems near and familiar because we are studying ourselves, paleontology offers a pilgrimage to deep time. It lets us study what natural systems were like before human influence.<sup>2</sup>

Large tracts of land under federal management<sup>3</sup> possess valuable fossil resources, many of which remain unexcavated. Concern has developed over the protection and management of these resources, some of which have been subject to theft and/or vandalism.

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<sup>1</sup> Report of the Secretary of the Interior, *Fossils on Federal and Indian Lands*, May 2000 at 23. Prepared at the request of Congress by several consulting federal agencies: Fish and Wildlife Service, Forest Service, National Park Service, Bureau of Land Management, Bureau of Reclamation, U.S. Geological survey, as well as the Smithsonian Institution. The report is available online at [<http://www.doi.gov/fossil/fossilreport.htm>](cited to afterward as "Interior Report").

<sup>2</sup> *Id.* at 24.

<sup>3</sup> See CRS Report RL32393, *Federal Land Management Agencies: Background on Land and Resources Management*, coordinated by Carol Hardy Vincent (Updated Aug. 2, 2004)(cited to afterward as "CRS Report RL32393"). The federal government owns 672 million acres (30%) of the nearly 2.3 billion acres of land in the United States. (CRS Report RL32393 at 2).

At the request of Congress, the Secretary of the Interior prepared a report in 2000 on the topic: *Fossils on Federal and Indian Lands*, (“Interior Report”),<sup>4</sup> which outlined the scientific, cultural, and historical value of America’s fossil resources. This report remains the definitive source and authority concerning the management of fossils located on federal lands.<sup>5</sup>

Currently there is only limited and scattered authority for federal management and protection of fossil resources on federal lands.<sup>6</sup> Indeed, the existing federal statute that broadly protects archaeological resources, the Archaeological Resources Protection Act of 1979 (“ARPA”),<sup>7</sup> specifically excludes fossil resources from the scope of its coverage, unless the fossil is an integral part of the human archaeological resource or site.<sup>8</sup> And while other federal laws may provide some protection for fossil resources, there is no uniform and comprehensive legislation for their regulation. As there is no comprehensive management and/or protection legislation, the role of law enforcement personnel in the protection of fossils often is not clearly defined. Also, for various reasons, the availability of law enforcement personnel may be limited.

Nor has a consistent and dispositive body of caselaw developed concerning the regulation and control of fossil resources located on federal property. The extant cases do not necessarily provide clear case precedent; in part, because the few cases have tended to be subject specific, and are not necessarily applicable to broader protection, regulation, management, and marketing issues.<sup>9</sup>

Efforts have been undertaken in the past several years to enact laws to manage and protect paleontological resources on federal lands.<sup>10</sup> These legislative efforts continue in the 108<sup>th</sup> Congress. On July 17, 2003, the Senate passed S. 546, the “Paleontological Resources Preservation Act.” The bill would permit “casual collecting,” specifically defined by the bill as the gathering of “a reasonable amount of common invertebrate and plant paleontological resources for noncommercial

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<sup>4</sup> See note 1.

<sup>5</sup> See CRS Report RL32586, *Paleontological Resources Preservation Act: Proposal for the Management and Protection of Fossil Resources Located on Federal Lands* by Douglas Reid Weimer at 6-8 (Sept. 14, 2004)(cited to afterward as “CRS Report RL32586”).

<sup>6</sup> *Id.* at 3-6.

<sup>7</sup> Pub. L. 96-95, 93 Stat. 721 (1979), codified at 16 U.S.C. §§ 470aa to 470mm.

<sup>8</sup> 16 U.S.C. § 470bb. The various federal land management agencies have reiterated this limitation in their regulations which implement ARPA. For instance, this limitation appears pursuant to: Tennessee Valley Authority (18 C.F.R. § 1312.3); International Boundary and Water Commission (22 C.F.R. § 1104.2); Office of Navajo and Hopi Indian Relocation (25 C.F.R. § 700.805); Department of Defense (32 C.F.R. § 229.3); Forest Service, Department of Agriculture (36 C.F.R. § 296.3); and Office of the Secretary of the Interior (43 C.F.R. § 7.3(a)(4)).

<sup>9</sup> CRS Report RL32586 at 9.

<sup>10</sup> *Id.* at 10-11.

personal use”<sup>11</sup> upon certain federal lands under certain conditions. The bill has been referred to two House committees.<sup>12</sup> H.R. 2416<sup>13</sup> is the companion bill to S. 546 and has not emerged from committee.

## The Concept of “Paleontological Resource” and Other Related Terms

The absence of a uniform regime to regulate paleontological resources on federal lands is evidenced in the absence in federal law of precise, uniform definitions of key terms. Various federal regulations and administrative guidelines do define “paleontological resource” within certain specific contexts. The following discussion demonstrates the varied definitions among different federal entities. In Forest Service regulations, for instance, a specific definition is provided.

*Paleontological resource* means any evidence of fossilized remains of multicellular invertebrate and vertebrate animals and multicellular plants, including imprints thereof. Organic remains primarily collected for use as fuel such as coal and oil are Paleontological Resources, but are excluded from the prohibition under the rule.<sup>14</sup>

In addition, a specific federal regulatory definition for paleontological resources has been promulgated by the Forest Service for the management of the Hell’s Canyon National Recreation Area. This definition differs from the Forest Service’s general definition, in that it is much broader in scope. “*Paleontological resources*’ means any remains, trace, or imprint of a plant or animal that has been preserved in the Earth’s crust prior to the Holocene epoch.”<sup>15</sup> “Holocene epoch” is not defined by the regulation.

The Management Handbook of the National Park Service sets out a definition for such resources:

**Paleontological/paleoecological resources** — resources such as fossilized plants, animals, or their traces, including both organic and mineralized remains in body or trace form. Paleontological resources are studied and managed in their paleoecological context (that is, the geologic data associated with the fossil that provides information about the ancient environment).<sup>16</sup>

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<sup>11</sup> S. 546, 108<sup>th</sup> Cong., 1<sup>st</sup> Sess., § 2(1) (2003).

<sup>12</sup> The bill was received in the House on July 18, 2003, and referred to the Committee on Resources and the Committee on Agriculture. It has not been reported from committee.

<sup>13</sup> 108<sup>th</sup> Cong., 1<sup>st</sup> Sess. (2003).

<sup>14</sup> 36 C.F.R. § 261.2.

<sup>15</sup> 36 C.F.R. § 292.41.

<sup>16</sup> Management Policies at 130. See Department of the Interior Management Handbook [http://www.nps.gov/policy/mp/policies.html].

The Interior Report, while not defining the term “paleontological resources,” defines “paleontology” as “a science dealing with the life of past geological periods as known from fossil remains.”<sup>17</sup>

Likewise, there also does not appear to be a uniform definition for the term “fossil.” Within the context of the Bureau of Land Management’s recreation program, a definition is provided for the exclusive use of fossil resources at the Fossil Forest Research Natural Area in New Mexico. It should be noted that this definition specifically excludes certain “energy minerals,” such as coal and oil.

(B) *Fossil* means the remains or trace(s) of an organism or assemblage of organisms which have been preserved by natural processes in the earth’s crust. The term does not mean energy minerals, such as coal, oil and gas, oil shale, bitumen, lignite, asphaltum and tar sands, even though they are of biologic origin.<sup>18</sup>

As noted above, federal statutes and regulations may distinguish paleontological resources from archaeological resources and/or cultural resources.<sup>19</sup> ARPA provides a very specific definition for the term “archaeological resource” and specifically excludes paleontological resources from the definition. Nonfossilized and fossilized paleontological specimens, or any portion or piece thereof, shall not be considered archaeological resources, under the regulations under this paragraph.<sup>20</sup>

The term “federal lands” has various meanings within the body of federal laws.<sup>21</sup> For the purpose of this report, federal lands includes 1) lands controlled or administered by the Secretary of the Interior, except Indian lands; and 2) National Forest System lands controlled or administered by the Secretary of Agriculture.<sup>22</sup> This report also considers certain lands administered by the Department of Defense and the role of the Smithsonian Institution in the management of paleontological resources.

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<sup>17</sup> Interior Report at 38.

<sup>18</sup> 43 C.F.R. § 8224.0-5. The term “traces” probably does not mean “imprints,” and might mean “bits” or “pieces” of the ancient creature. The meaning of the term seems ambiguous.

<sup>19</sup> The Native American Graves Protection and Repatriation Act (NAGPRA) does not specifically include or exclude paleontological resources. NAGPRA gives specific definitions to “cultural items” (25 U.S.C. § 3001(3)) and other terms such as “associated funerary objects.” (25 U.S.C. § 3001(3)(B)). It would appear that for NAGPRA to be applicable to a paleontological object, the object would have to be closely associated with funerary objects or practices, sacred objects, or the cultural patrimony of a particular group of people.

<sup>20</sup> Implementing regulations are located at 43 C.F.R. Part 7 (Department of Interior); 36 C.F.R. § 296 (Department of Agriculture; and 32 C.F.R. § 229 (Department of Defense).

<sup>21</sup> For example, a specific definition exists within the context of the Native American Graves Protection and Repatriation Act (NAGPRA)(25 U.S.C. § 3001(5)).

<sup>22</sup> This concept of “federal lands” is utilized in the pending paleontological protection legislation: S. 546, 108<sup>th</sup> Cong., § 2(3) (2003); H.R. 2416, 108<sup>th</sup> Cong., § 4(3) (2003).



## Current Federal Agency Authority and Practices for the Management and Protection of Fossil Resources

Although there is no comprehensive federal statute concerning the regulation, management and protection of fossil resources on federal lands, portions of certain general laws may apply to fossil protection in limited circumstances, but the coverage here remains uncertain at best.<sup>23</sup>

Several federal entities have legislatively mandated fossil management responsibilities. Four agencies of the Department of the Interior have significant fossil management responsibilities: Bureau of Land Management, Bureau of Reclamation, Fish and Wildlife Service, and National Park Service.<sup>24</sup> The U.S. Forest Service, an agency of the Department of Agriculture, also has fossil management responsibilities. In addition, the U.S. Geological Survey, an agency of the Department of the Interior, is responsible for inventorying certain federal land and fossil resources. Through its ownership of various military entities, the Department of Defense has fossil resources to manage. While the Smithsonian Institution is not a land management entity, as discussed below, it is responsible for the management of a large and valuable collection of fossil resources, many of which were removed from federal lands. The authorities, responsibilities, and functions of the various federal entities are summarized below.

**Bureau of Land Management (BLM).** The BLM manages 262 million acres of land (plus 300 million additional acres of subsurface mineral resources) in federal ownership, planning for their future use through inventory and land use planning procedures, and managing the lands for multiple use and sustained yield. BLM's primary statutory authority for the management of public lands is the Federal Land Policy and Management Act (FLPMA).<sup>25</sup> Although FLPMA does not address fossil resources specifically, fossil protection is allowed. One policy established by FLPMA is that public lands are to be managed in a manner that will "protect the quality of scientific, scenic, historical, ecological, environmental,...and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition...."<sup>26</sup> The Secretary of the Interior is authorized to issue management regulations, the violation of which may be punishable as a criminal offense.<sup>27</sup> The Secretary also may ask the Attorney General to seek civil injunctions or other appropriate orders. In addition, state and local laws may be enforced on BLM lands by the appropriate state and local officials.<sup>28</sup>

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<sup>23</sup> See CRS Report RL32586 at 3-6.

<sup>24</sup> See CRS Report RL32393 at 24.

<sup>25</sup> Pub. L. 94-579, 90 Stat. 2744, codified at 43 U.S.C. §§ 1701 to 1784.

<sup>26</sup> 43 U.S.C. § 1701(8).

<sup>27</sup> 43 U.S.C. § 1733.

<sup>28</sup> 43 C.F.R. § 8365.1-7.

BLM regulations generally prohibit the removal or destruction of “any scientific, cultural, archaeological or historic resource, natural object or area.”<sup>29</sup> This regulation does not specifically refer to fossil resources. However, these would appear covered within the abovementioned general prohibitions. BLM regulations permit the collection of “common invertebrate fossils” for noncommercial purposes.<sup>30</sup> No specific penalty exists for the violation of these rules, but the general criminal enforcement for violation is available.

Separate regulations address mining operations on BLM managed lands. Extensive criteria and exceptions are provided for assessing lands for coal mining purposes.<sup>31</sup> These regulations restrict mining in locations designated as “natural areas,” and generally require lessees to avoid, minimize, or repair damage to scientifically significant paleontological resources.<sup>32</sup> Other regulations promulgated pursuant to surface mining reclamation may be applied which deem certain lands to be unsuitable for mining.<sup>33</sup> Under the BLM’s Wilderness Review Program, certain criteria are established for mining operations.<sup>34</sup> Definitions promulgated pursuant to this program include “paleontological values” within the concept of the “environment.”<sup>35</sup> Regulations require a mining plan to be filed with detailed plans of proposed mining operations.<sup>36</sup>

At certain BLM managed sites, additional rules may be imposed,<sup>37</sup> and site-specific regulations have been promulgated concerning the collecting of fossils at the Fossil Forest Research Natural Area in New Mexico.<sup>38</sup>

The Department of the Interior has reported that because the BLM administers some 262 million acres of federal land, detailed inventories to locate or identify fossils are impractical except on a case-by-case basis.<sup>39</sup> The BLM has a professional staff of paleontologists from other land management agencies to develop and provide

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<sup>29</sup> 43 C.F.R. § 8365.1-5(a)(1).

<sup>30</sup> 43 C.F.R. 8365.1-5(b)(2).

<sup>31</sup> 43 C.F.R. § 3461.5.

<sup>32</sup> 43 C.F.R. 3591.1.

<sup>33</sup> 30 C.F.R. § 762.11. An area may be deemed unsuitable for mining if the operations would effect “. . . fragile of historic lands in which the operations could result in significant damage to important historic, cultural, scientific, or esthetic values, or natural systems....” (30 C.F.R. § 762.11(b)(3)).

<sup>34</sup> 43 C.F.R. § 3802.3-2. The regulation specifically mentions cultural and paleontological resources and procedures to be followed if such resources are discovered and/or disturbed.

<sup>35</sup> 43 C.F.R. § 3802.0-5(b).

<sup>36</sup> 43 C.F.R. § 3809.401.

<sup>37</sup> 43 C.F.R. § 8365.1-6.

<sup>38</sup> 43 C.F.R. § 8224. The Fossil Forest Research Natural Area is managed by the BLM 943 U.S.C. § 1785).

<sup>39</sup> Interior Report at 39.

training and to provide interagency functions. BLM law enforcement officers are available to work with paleontologists in preventing damage to this resource.<sup>40</sup>

**Bureau of Reclamation (BOR).** The function of the BOR is to develop, manage, and protect water and related resources in an environmentally and economically sound manner in the best interest of the American public.<sup>41</sup> Pursuant to this function, regulations have been promulgated on public conduct on BOR land and projects. Although fossil protection or management is not expressly dealt with by regulation, there are specific prohibitions against trespass, tampering, and vandalism.<sup>42</sup> The terms trespass, tampering, and vandalism are rather broadly drafted, and appear to apply to fossils. Criminal penalties are provided for the violation of the regulations.<sup>43</sup>

The Department of the Interior has reported that fossils are probably among the natural resources that the BOR is mandated to protect and preserve and that a permit is required to collect any kind of fossils on BOR administered properties.<sup>44</sup>

**Fish and Wildlife Service (FWS).** The conservation, protection and enhancement of fish, shellfish, and wildlife and their habitats for the continuing benefit of the American people is the mission of the FWS.<sup>45</sup> As part of this mission, the FWS oversees extensive lands that are administered as part of the National Wildlife Refuge System.<sup>46</sup>

Besides sustaining fish and wildlife and their habitats, national wildlife refuges protect other important resources, which may include fossils. Regulations have been promulgated concerning the removal of “objects of antiquity”<sup>47</sup> and “valued objects,” which include “mineral specimens.”<sup>48</sup> Provision is also made in regulations to prevent the “destruction, injury, defacement, disturbance, or the unauthorized removal of any public property including natural objects....”<sup>49</sup> As the covered objects are rather broadly defined, it appears that fossils are among the class of protected

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<sup>40</sup> *Id.*

<sup>41</sup> 43 U.S.C. §§ 371 to 373.

<sup>42</sup> 43 C.F.R. § 423.3.

<sup>43</sup> 43 C.F.R. § 423.10.

<sup>44</sup> Interior Report at 39.

<sup>45</sup> Fish and Wildlife Act of 1956, Act of Aug. 8, 1956, ch. 1036, 70 Stat. 1119, codified at 16 U.S.C. § 742a. See also 16 U.S.C. § 668dd.

<sup>46</sup> Interior Report at 39. 16 U.S.C. § 668dd.

<sup>47</sup> 50 C.F.R. § 27.62.

<sup>48</sup> 50 C.F.R. § 27.63.

<sup>49</sup> 50 C.F.R. 27.61.

objects in the wildlife refuge. Refuge managers are provided with enforcement authority<sup>50</sup> and there are criminal penalty provisions in the regulations.<sup>51</sup>

**U.S. Geological Survey (USGS).** The USGS is authorized to examine the “geological structure, mineral resources, and products of the national domain.”<sup>52</sup> Within its “inventory” authority, the USGS is apparently able to examine and to inventory fossil resources. However, the statute and the regulations make no specific references to fossil remains. Utilizing this inventory authority, the USGS maintains a National Paleontologic Data Base, which is an Internet data base management system of certain paleontological resources located on federal lands.<sup>53</sup> However, it is not possible to determine the comprehensiveness of the inventory in the Data Base in relation to the total number of fossil resources located on federal lands, as many of these resources are yet to be discovered, and hence, not subject to inventory.

The USGS employs about fifty research paleontologists for advisory services. A portion of their professional responsibility is to supply paleontological expertise in land management decisions, as well as to develop and maintain the Data Base.<sup>54</sup>

**National Park Service (NPS).** The NPS is mandated to “promote and regulate the use of the Federal areas known as national parks . . . to conserve the . . . natural and historic objects and wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.”<sup>55</sup>

It has been reported that the NPS has management responsibilities for 155 national parks (or other management units) that possess recognized fossil resources.<sup>56</sup> The nature of these fossil resources varies greatly; some resources may be exposed, while others may be buried deep beneath the earth’s surface.

Pursuant to its statutory mandate, the NPS has promulgated regulations that specifically protect fossil resources, as follows.

Except as otherwise provided in this chapter, the following is prohibited:

...

(1) Possessing, destroying, injuring, defacing, removing, digging, or disturbing from its natural state:

...

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<sup>50</sup> 50 C.F.R. § 28.21.

<sup>51</sup> 50 C.F.R. § 28.31.

<sup>52</sup> 43 U.S.C. § 31(a).

<sup>53</sup> See [<http://pubs.usgs.gov/of/2001/of01-223/wardlaw.html>].

<sup>54</sup> Interior Report at 41.

<sup>55</sup> 16 U.S.C. § 1.

<sup>56</sup> Email from Julia F. Brunner, NPS, Geologic Resources Division, Denver, CO to Douglas Weimer, CRS (March 25, 2004).

(iii) *Nonfossilized and fossilized paleontological specimens, cultural or archaeological resources, or the parts thereof.*<sup>57</sup>

The regulations have specific penalty provisions:

(a) A person convicted of violating a provision of the regulations. . . within a park area not covered in paragraphs (b) or (c) of this section, shall be punished by a fine as provided by law, or by imprisonment not exceeding six months, or both, and shall be adjudged to pay all costs of the proceedings.

(b) A person who knowingly and willfully violates any provisions of the regulations contained in parts 1 through 5 and 12 of this chapter, within any national military park, battlefield site, national monument . . . shall be punished by a fine as provided by law, or imprisoned for not more than three months, or by both.<sup>58</sup>

The fossil management policies of the NPS appear to be highly developed. The NPS publishes a comprehensive handbook, entitled *Management Policies*,<sup>59</sup> that provides extensive guidance for the management of fossil resources on NPS lands. Section 4.8.2.1, “Paleontological Resources and Their Contexts” requires that paleontological resources be “protected, preserved, and managed for public education, interpretation and scientific research.” Park superintendents are required to inventory fossil resources and to monitor newly exposed fossils. Significant resources are to be collected or have on-site stabilization. The NPS is required to encourage and assist the academic community in conducting paleontological field research in accordance with the terms of a scientific research and collecting permit. Guidance is set out on other pertinent actions, including the exchange of fossils with museums and public institutions, the prohibition of the sale of paleontological specimens and parts, and limitations on the purchase of fossils.<sup>60</sup> All NPS construction projects in areas with potential paleontological resources must be preceded by a preconstruction surface assessment. If fossil occurrences are noted, or when the site may yield fossil resources, the resources will be collected and cared for prior to the initiation of the construction disturbance. The areas of potential paleontological resources must also be monitored during construction projects.<sup>61</sup>

In addition to these management policies and activities, the NPS also protects fossil resources from destruction generally, and may bring an enforcement action under the National Park System Resource Protection Act.<sup>62</sup> The act authorizes a civil action to recover costs and damages to NPS resources. The scope of coverage is very broad. Under the act, “‘park system resource’ means any living or non-living

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<sup>57</sup> 36 C.F.R. § 2.1(a)(emphasis added).

<sup>58</sup> 36 C.F.R. § 1.3.

<sup>59</sup> See [<http://www.nps.gov/refdesk/mp/>].

<sup>60</sup> NPS Management Handbook at § 4.8.2.1.

<sup>61</sup> *Id.*

<sup>62</sup> Pub. L. 101-337, 104 Stat. 379 (1990), codified at 16 U.S.C. §§ 19jj to 19jj-4.

resource that is located within the boundaries of a unit of the National Park System, except for resources owned by a non-Federal entity.”<sup>63</sup>

The National Park Service also administers the National Natural Landmark Program (“Program”).<sup>64</sup> The Program identifies and preserves natural areas that best illustrate the biological and geological character of the United States.<sup>65</sup> Although the definitional section does not specifically mention fossil resources, references are made to “geological features.”<sup>66</sup> The natural landmark selection criteria do make reference to fossils, so that presumably fossil resources may receive some protection from the National Natural Landmark Program.<sup>67</sup>

Federal regulations provide for the curation of federally owned and administered archaeological collections.<sup>68</sup> Reference is made to paleontological specimens that are found in direct physical relationship with a prehistoric or historic resource.<sup>69</sup>

As the NPS appears to have the most developed and comprehensive fossil management policies and the most direct and continuous contact with the public, the fossil enforcement and penalty policies and practices of the NPS are examined in more detail later in this report.

**Forest Service (FS).** The FS, an agency within the Department of Agriculture, manages lands in the National Forest System, which includes national forests and other lands. The statutes on management of the national forests are silent concerning fossils.<sup>70</sup> However, under the Organic Act, the Secretary of Agriculture is authorized to regulate the use and occupancy of the national forests.<sup>71</sup> A violation of a law or regulation related to the resources of the national forests is punishable by a fine of not more than \$500, or imprisonment for not more than six months, or both.

The Forest Service has promulgated various regulations on protection of paleontological resources on Forest Service lands. On these lands, persons are prohibited from “excavating, damaging, or removing any vertebrate fossil or removing any paleontological resource for commercial purposes without a special use

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<sup>63</sup> 36 C.F.R.. § 19jj(d).

<sup>64</sup> 36 C.F.R. § 62.

<sup>65</sup> 36 C.F.R. § 62.1.

<sup>66</sup> 36 C.F.R.. § 62.2.

<sup>67</sup> 36 C.F.R. § 62.5.

<sup>68</sup> 36 C.F.R. § 79.

<sup>69</sup> 36 C.F.R. § 79.4(a)(1)(x).

<sup>70</sup> Organic Act, Act of June 4, 1890, ch. 2, 30 Stat. 34, codified at 16 U.S.C. §§ 473 to 482; National Forest Management Act, Pub. L. 94-599, 90 Stat. 2949, codified at 16 U.S.C. §§ 1601 to 1614; and the Multiple Use Sustained Yield Act, Pub. L. 86-517, 74 Stat. 215, codified at 16 U.S.C. §§ 528 to 531.

<sup>71</sup> 16 U.S.C. § 551.

authorization.”<sup>72</sup> Certain lands may be closed by special order for the protection of “objects or areas of historical, archeological, geological, or paleontological interest.”<sup>73</sup> The administrator(s) of certain Forest Service lands may issue regulations for the “protection of objects or places of historical, archaeological, geological or paleontological interest.”<sup>74</sup>

Additionally, the Forest Service has regulations on cave resources. The term “cave resources” has been defined to include paleontologic resources.<sup>75</sup> Criteria are provided for a determination of “significant” caves under the management of the Forest Service. Among the criteria listed for such designation are “paleontologic resources with potential to contribute useful educational or scientific information.”<sup>76</sup>

In the regulations establishing the Hell’s Canyon National Recreation Area, standards of compatible land use and development provide for the protection of significant historic, archaeological, paleontologic sites.<sup>77</sup>

**Department of Defense (DOD).** Since the lands under the management of the DOD tend to have more restricted public access than do other federal lands, such as national parks, DOD land managers may have less need to deal with the issues of fossil collection, destruction, and removal.<sup>78</sup>

Regulations have been promulgated to protect paleontological resources discovered during construction projects undertaken by the Department of the Army.

Installation commanders and District Engineers are authorized to expend funds appropriated for Army activities for the survey and salvage of scientific, historic, archeological and paleontological resources which are being or may be irreparably lost or damaged as a result of those Army activities.<sup>79</sup>

Regulations also provide guidelines and criteria for evaluation and utilization of Army lands for off-road vehicle (“ORV”) use. Certain lands which may not be designated for ORV use include those which “contain archeological, historical, petroglyphic, pictographic, or paleontological values....”<sup>80</sup>

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<sup>72</sup> 36 C.F.R. § 261.9(i).

<sup>73</sup> 36 C.F.R. § 261.53(c).

<sup>74</sup> 36 C.F.R. § 261.70(a)(5).

<sup>75</sup> 36 C.F.R. § 290.2.

<sup>76</sup> 36 C.F.R. § 290.3(c)(3)(iii).

<sup>77</sup> 36 C.F.R. § 292.23(a)(6).

<sup>78</sup> On the other hand, protection of fossils on such lands may be needed because of the potentially destructive nature of military exercises which may be conducted on these lands.

<sup>79</sup> 32 C.F.R. § 650.192(f).

<sup>80</sup> 32 C.F.R. § 656.8(a)(2)(v).

Specific regulations have also been promulgated concerning water resource development projects administered by the Army Corps of Engineers. They contain prohibition against the destruction, injury, defacement or other injury to public property, including paleontological resources, except under certain specific circumstances.<sup>81</sup>

**Smithsonian Institution (Smithsonian).** While the Smithsonian is not a land manager, it is given statutory authority for the management of fossil resources in its collection and/or custody; more than 50% of these resources were obtained from federal lands.<sup>82</sup> The National Museum of Natural History, which is part of the Smithsonian, is the custodian of fossil resources. This stewardship is intended to “ensure the protection and conservation of fossil evidence of past forms of life, and to make evidence available for scientific studies, both now and in the future.”<sup>83</sup> The Department of Paleobiology<sup>84</sup> is the repository for one of the world’s largest collections of fossils, which includes more than 40 million lots (groupings) of fossils representing 480 separate collections. It is mandated by statute that “[a]ll collections of rocks, minerals, soils, fossils and objects of natural history, archaeology and ethnology, made by the National Ocean Survey,<sup>85</sup> the United States Geological Survey, or any other parties for the Government of the United States, when no longer needed for investigations in progress shall be deposited in the National Museum.”<sup>86</sup>

The Smithsonian is also statutorily mandated to cooperate with state institutions for the continuation of paleontological research on certain endangered lands:

The Secretary of the Smithsonian Institution is authorized to cooperate with any State, educational institution, or scientific organization in the United States for continuing paleontological investigations, and the excavation and preservation of fossil remains, in areas which will be flooded by the construction of Government dams or otherwise be made unavailable for such investigations because of such construction; *Provided*, That such investigations and activities shall not duplicate nor affect adversely similar operations being conducted by the Department of the Interior in cooperation with the Smithsonian Institution.<sup>87</sup>

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<sup>81</sup> 36 C.F.R. § 327.14(a).

<sup>82</sup> Interior Report at 41. Information is not readily available as to what portion of the fossils were collected prior to the enactment of the Antiquities Act and what portion of the fossils were collected under the permit procedures implemented by the Antiquities Act following its enactment in 1906, or under other authorities.

<sup>83</sup> Interior Report at 41.

<sup>84</sup> The Department of Paleobiology is responsible for the management of new fossil finds, the care and maintenance of collections, and public information and outreach.

<sup>85</sup> Predecessor to the National Ocean Service.

<sup>86</sup> 20 U.S.C. § 59.

<sup>87</sup> 20 U.S.C. § 78.



## Agency Enforcement Practices: National Park Service as a Case Study

Enforcement and prosecution procedures vary among the different land management agencies. The National Park Service (NPS) is the focus of this section due to the availability of information on its practices. The NPS has made available reports on law enforcement activities, specific incidents, and statistics concerning the protection of fossil resources.

Discussion with NPS personnel identified problems involving enforcement.<sup>88</sup> Foremost is the lack of a uniform and comprehensive paleontological enforcement statute and/or a specific legislative mandate to protect fossils. Another issue is the valuation of fossil resources that have been damaged, stolen, and/or lost. Apparently, because of the uniqueness of many fossil resources, it is difficult to estimate a market price for individual items.<sup>89</sup>

NPS personnel have outlined the procedures followed when an incident concerning a fossil resource occurs on NPS lands.<sup>90</sup> If an unauthorized person is found removing or otherwise handling protected fossil resources, the NPS law enforcement personnel make a report of the incident (“incident report”), which is forwarded to the park superintendent. The incident report is then forwarded to the appropriate U.S. Attorney’s Office. At this point, the U.S. Attorney makes the decision, often in consultation with the park superintendent and park personnel, to issue a citation, impose a fine, bring a civil action for damages,<sup>91</sup> and/or seek criminal prosecution. Factors which may be taken into consideration in determining the appropriate penalties include value of the resources; damage to the resources; prior offenses; use of heavy and/or power tools; and the caseload of the U.S. Attorney. The circumstances surrounding each incident are reviewed upon a case-by-case basis. On many occasions, a civil citation with a monetary fine is issued to the offender. In other cases, the U.S. Attorney may choose to bring a criminal action against the alleged offender. One option may be to prosecute under 36 C.F.R. 2.1, which deals with the preservation of natural, cultural, and archaeological resources on national park lands. As previously stated, this regulation specifically prohibits:

(1) Possessing, destroying, injuring, defacing, removing, digging, or disturbing from its natural state:

. . .

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<sup>88</sup> Telephone conversation between Douglas Weimer, CRS, and Greg McDonald, paleontological program coordinator, NPS (March 22, 2004).

<sup>89</sup> Telephone conversation between Douglas Weimer, CRS, and Vincent Santucci, Chief Ranger, Division of Interpretation, Recreation, and Resource Management, NPS (March 22, 2004).

<sup>90</sup> Telephone conversation between Douglas Weimer, CRS, and Dennis Burnett, Chief Law Enforcement Ranger, Law Enforcement & Emergency Services, NPS (March 29, 2004).

<sup>91</sup> Presumably, the civil action would be brought under the NPS authority under the National Park System Resource Protection Act. See 16 U.S.C. § 19jj(d).

(iii) Nonfossilized and fossilized paleontological specimens, cultural or archeological resources, or the parts thereof.<sup>92</sup>

Another enforcement option is provided under the general property theft statute, 18 U.S.C. §§ 461- 462.<sup>93</sup>

It also appears that a civil action may be brought in the appropriate U.S. district court by the U.S. Attorney's office under the National Park System Resource Protection Act<sup>94</sup> against person(s) who may be liable for damage to NPS property.<sup>95</sup> An action for general trespass under state law might be possible, under certain circumstances. However, state law may not apply to all NPS lands, and state trespass laws vary. Applicability depends upon the factual circumstances of the incident, the NPS lands involved, and the appropriate state trespass law.

As many of these prosecutions and civil actions do not have formal written opinions, or are otherwise settled through payment of a fine or other settlement mechanism, it is difficult to formulate a comprehensive overview of the success or failure of the prosecutions which have been brought against persons who have damaged and/or removed paleontological objects from NPS property.

## Conclusion

There is no uniform guidance on managing paleontological resources on federal lands. Penalty provisions and their enforcement also vary among management agencies. These problems have led the Department of the Interior and some Members to look more closely at adopting legislation that would provide for the uniform management and protection of paleontological resources on federal lands. Such legislation is currently pending.

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<sup>92</sup> 36 C.F.R. § 2.1(a)(1)(iii).

<sup>93</sup> Such an action was pursued in *United States v. Jones*, 607 F.2d 269 (9<sup>th</sup> Cir. 1979).

<sup>94</sup> 16 U.S.C. §§ 19jj to 19jj-4. It does not appear that there is specific precedent in applying these provisions to the recovery of damage to fossil resources.

<sup>95</sup> 16 U.S.C. § 19jj-2.