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Fossils on Federal Lands: Current Federal Laws and Regulations

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ABSTRACT

This report provides a brief overview of current federal laws and regulations on the protection and removal of fossils from federal lands. It reviews the provisions of statutes of general application and compares the laws and regulations of the Bureau of Land Management, the National Park Service, the Forest Service, and the Department of Defense. The analysis notes areas that are unclear and discusses relevant penalties. The report will not be updated.

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Summary

Recent articles in the press have highlighted the issue of unauthorized removal of fossils and other paleontological materials from federal lands. Fossils can be highly valuable in the scientific sense, but increasingly there also is a lucrative market for fossils that fuels their unauthorized collection and removal. Improper excavation can impair or destroy the value of the resources for scientific analysis. On many of the federal lands, particularly in the West, scarce personnel may be responsible for vast acreage, a fact that can make protection of fossil and other resources difficult. In addition, the relevant laws are unclear in several respects.

This report provides a brief overview of current federal laws and regulations on the protection and removal of fossils from federal lands. It compares the laws and regulations of several of the principal federal land management agencies, namely the Bureau of Land Management (BLM), the National Park Service (NPS), the Forest Service (FS), and the Department of Defense (DOD), and discusses penalties.

Although particular statutes or executive actions may clearly protect fossils in particular areas, and although current general laws and regulations appear to *permit* the protection of fossils on federal lands, we are aware of no current general management statute that expressly *directs* such protection or regulation. Available protection may vary depending on whether the federal lands in question were or are a part of the public domain or were acquired under various authorities. Authority for federal agencies to allow the collection and disposal of fossils is unclear in several respects, due in part to uncertainties as to the application of significant statutes such as the Antiquities Act and the mining and mineral disposal laws to paleontological resources. The NPS is directed to protect National Park System resources and both the FS and BLM have general authority to protect resources and to regulate the use and occupation of the lands managed by them. DOD has much greater control over access to and use of its lands than do the multiple use agencies. The Antiquities Act applies to all the agencies, covers paleontological resources in some respects, but is ambiguous in others, and there is some question as to whether it is unconstitutionally vague as a basis of criminal prohibitions and penalties. The general theft provisions and trespass actions are available to protect fossil resources on federal lands.

Specific penalties associated with the provisions establishing offenses typically are quite low relative to the market and scientific value of many fossils. However, the general federal fine provisions make higher maximum fines available.

Because the legal protection of paleontological resources could be said to lack clarity, uniformity, and consistency, some have suggested that additional background and analysis from the relevant agencies and possible express legislative direction on these issues might be valuable.

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Introduction

Recent articles in the press have highlighted the issue of unauthorized removal of fossils and other paleontological materials from federal lands. Fossils can be highly valuable in the scientific sense, but increasingly there also is a lucrative market for the sale of fossils[1] that fuels their unauthorized collection and removal. Improper excavation can impair or destroy the value of the resources for scientific analysis. On many of the federal lands, particularly in the West, scarce personnel may be responsible for vast acreage, a fact that can make protection of fossil and other resources difficult.

This report provides a brief overview of current federal laws and regulations on the protection and removal of fossils from federal lands. It compares the laws and regulations of several of the principal federal land management agencies, namely the Bureau of Land Management (BLM), the National Park Service (NPS), the Forest Service (FS), and the Department of Defense (DOD), and discusses penalties.[2]

Each of the agencies discussed has a different body of law that governs its mission and duties, although there also are some relevant laws that apply to several or all of the agencies. In addition, different laws may apply to agency lands depending on whether the lands in question are "public domain" lands or "acquired lands."[3] Each of the four agencies has authorities that would *permit* the protection of fossils on the federal lands, but no current general management statute that *expressly directs* such protection or regulation could be identified. In addition, authority for their collection and disposal is unclear and significant statutes such as the Antiquities Act and the mining and disposal laws are ambiguous as to their application to paleontological resources.

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[1]The Tyrannosaurus rex skeleton known as Sue recently sold for over $8 million. NPR Morning Edition, September 1, 1998.

[2]The National Park Service and the Bureau of Land Management are in the Department of the Interior; the Forest Service is in the Department of Agriculture.

[3]In general, public domain lands are those the United States obtained from a foreign sovereign as opposed to those the United States "acquired" from a state or individual. Most BLM lands are public domain lands and many of the national forests and DOD lands in the West were reserved from the public domain. Typically different laws apply to public domain and acquired lands.

General Statutes

The Antiquities Act

The Antiquities Act of 1906[4] authorizes the President to declare "objects of historic or scientific interest" situated on lands owned or controlled by the government of the United States to be national monuments. Certainly paleontological materials can be of "scientific interest" and several national monuments have been created expressly to protect fossils and paleontological resources.[5] When fossils are included in a national monument, the applicable restrictions, prohibitions, and penalties are clear, because the general authorities applicable to the National Park System are available. In addition to these executive actions creating national monuments, some statutes have created national monuments in particular areas and expressly protected fossil deposits.[6]

Section 1 of the Antiquities Act penalizes any person who removes or destroys any "object of antiquity," regardless of which federal agency manages the lands or whether the actions are within a national monument or not. The wording is:

> Any person who shall appropriate, excavate, injure, or destroy any historic or prehistoric ruin or monument, or *any object of antiquity*, situated on lands owned or controlled by the Government of the United States, without the permission of the Secretary of the Department of the Government having jurisdiction over the lands on which said antiquities are situated, shall, upon conviction, be fined in a sum of not more than $500 or be imprisoned for a period of not more than ninety days, or shall suffer both fine and imprisonment, in the discretion of the court.[7] (Emphasis added.)

"Objects of antiquity" is not defined in the Act or in the implementing regulations.[8] Therefore, although fossils clearly can be protected by the President through their inclusion in a national monument under section 2 of the Act, it is not clear on the face of the statute whether their removal or injury as objects of antiquity can be punished under the criminal penalties of § 1 of the Act.

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[4]Act of June 8, 1906, ch. 3060, 34 Stat. 225, codified at 16 U.S.C. §§ 431-433.

[5]*E.g.,* Dinosaur National Monument, Proc. No. 1313, October 4, 1915, 39 Stat. 1752; Proc. No. 2290, July 14, 1938, 53 Stat. 2454; Pub. L. No. 100-701, 102 Stat. 4641 and Petrified Forest National Monument, Proc. No. 697, December 8, 1906, 34 Stat. 3266; Proc. No. 1167, July 31, 1911, 37 Stat. 1716; Proc. No. 1927, November 14, 1930, 46 Stat. 3040; Proc. No. 1975, November 30, 1931, 47 Stat. 2486; Proc. No. 2011, September 23, 1932, 47 Stat. 2532, now a national park — see Pub. L. No. 85-358, 72 Stat. 69, 16 U.S.C. § 119.

[6]*See, e.g.* Agate Fossil Beds National Monument, Act of June 5, 1965, Pub. L. No. 89-33, 79 Stat. 123; Florissant Fossil Beds National Monument, Pub. L. No. 91-60, 83 Stat. 101; Hagerman Fossil Beds National Monument, Pub. L. No. 100-696, 102 Stat. 4575 and Pub. L. No. 101-512, 104 Stat. 1923..

[7]16 U.S.C. § 433.

[8]43 C.F.R. Part 3. These are old regulations that were revised in 1954 without explanatory materials. 19 Fed. Reg. 8838 (December 23, 1954).

The legislative history of the Act is quite sparse and not helpful on the issue of fossils. The committee report is less than a half page in length and indicates only that the bill had the support of the Archaeological Institute of America, the American Anthropological Association, the Smithsonian Institution, and numerous museums.[9] The report language does not indicate that paleontological resources could not be protected under the Act (and, as noted above, fossils clearly can be objects of scientific interest that can be protected through the creation of a national monument), but neither the report nor the very brief comments on the floor indicate the intended scope of the phrase "object of antiquity"used in the enforcement section. The references to archaeological and anthropological (i.e. cultural) organizations might support the argument that "objects of antiquity" does not include paleontological objects.

However, section 3 of the Antiquities Act authorizes the Secretaries of the Interior, Agriculture, and the Army to issue permits for the gathering of objects of antiquity on lands under their jurisdiction and to publish regulations to carry out the Act.[10] One set of regulations currently applies to all three Secretaries and states that the Secretary of the Interior has jurisdiction over antiquities on all government lands other than those within the forest reserves, where the resources will be managed by the Secretary of Agriculture, and those on military reservations, where the resources will be managed by the Secretary of the Army.[11] The regulations reflect the statute and require a permit for the "gathering of objects of antiquity." These permits may be issued to "reputable museums, universities, colleges, or other recognized scientific or educational institutions, or to their duly authorized agents."[12] Objects of antiquity taken or collected without a permit or contrary to the terms of a permit may be seized.[13]

In the past, BLM and FS have issued permits for the excavation or collection of fossils under section 3 of the Antiquities Act as "objects of antiquity," but in recent times have looked to other authority for such collection because of a case in which a court found the phrase "object of antiquity" to be unconstitutionally vague.[14] A court in a subsequent case upheld a conviction involving destruction of ancient cultural artifacts from a national forest on the grounds that those facts clearly involved objects of antiquity.[15] Although the *Diaz* case could be seen as limited by its facts (it involved Antiquities Act criminal charges in a case involving modern masks), it has called into question criminal enforcement actions under the Act. Because paleontological materials are not clearly included in the wording of the

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[9]S. Rep. 3797, 59th Cong., 1st Sess. (1906). The statement on the Senate floor simply paraphrased the bill language, and the brief exchange on the House floor did not involve this issue. *See*, 40 CONG. REC. 7331 (remarks of Sen. Patterson) and 7888 respectively.

[10]16 U.S.C. § 432.

[11]43 C.F.R. § 3.1.

[12]43 C.F.R. § 3.3.

[13]43 C.F.R. § 3.16.

[14]United States v. Diaz, 499 F. 2d 113 (9th Cir. 1974).

[15]United States v. Smyer, 596 F.2d 939(10th Cir. 1979), *cert. denied*, Smyer v. United States, 444 U.S. 843 (1979).

statute and are not mentioned in its legislative history, the Act is regarded as possibly being ambiguous enough in this regard that a criminal enforcement action under the Act involving paleontological resources might not be successful.

Litigation over the bones of a Tyrannosaurus rex named Sue initially involved charges brought under the Antiquities Act and therefore provides an example of an instance when the "object of antiquity" language was applied to fossils. However, it is not clear what happened to this particular criminal charge in the ensuing sequence of litigation.[16]

Because the Archeological and Historic Preservation Act of 1974 directs that federal lands and lands on which projects are federally financed or licensed be surveyed for objects of scientific interest and that those "data" be protected. Agencies seem to use this act to include paleontological resources among "cultural resources" to protect them under the various statutes that direct protection of cultural and historical resources. But the agencies have moved away from reliance on the Antiquities Act for permitting and enforcement.

Arguably, on the one hand, the Act can be said implicitly to provide management authority for an agency to protect paleontological resources in order to preserve them for possible inclusion in a national monument or because they are impliedly included within "objects of antiquity." However, there is enough uncertainty as to this last point that it may be difficult to obtain a conviction under the criminal penalties section of the Antiquities Act.

Archaeological Resources Protection Act of 1979

The Archaeological Resources Protection Act of 1979,[17] applies to archaeological resources on all public lands and Indian lands, and in many ways has superseded the Antiquities Act in the area of regulation of archaeological resources. The Act specifically excludes nonfossilized and fossilized paleontological specimens, except those associated with human sites.[18]

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[16]A court reviewed the history of the litigation and noted that the Antiquities charge "seems to have long since been forgotten ...." United States v. Larson, 110 F.3d 620, 629 (8th Cir. 1997). The defendant in the *Larson* case ultimately was charged with theft of federal property, retention of stolen property and certain customs violations. The property in question by that time in this series of cases was crinoid fossils — a marine invertebrate — taken from Forest Service lands.

[17]Pub. L. No. 96-95, 93 Stat. 721, codified at 16 U.S.C. 470aa *et seq.*

[18]The regulations implementing the Act for the Department of the Interior are found at 43 C.F.R. Part 7; those of the Department of Agriculture are at 36 C.F.R. §296; and those of DOD are at 32 C.F.R. §229.

Archeological and Historic Preservation Act of 1974

The Archeological and Historic Preservation Act of 1974[19] provides for the survey, removal, protection, and preservation of significant scientific, prehistorical, historical, or archeological data that is threatened by any federal construction or any project, activity, or program that is federally licensed or receives federal assistance. This statute provides another means to consider and protect paleontological resources as part of other federal actions, and to protect paleontological resources along with "cultural resources," but does not authorize general disposal of such resources.

Criminal Theft Provisions

Another important general statute that might be applied to removal of fossils from federal lands is 18 U.S.C. § 641,[20] which prohibits the conversion, theft, sale, or disposal without authorization of any "thing of value" of the United States. A person who steals government property or receives stolen property knowing it to have been stolen can be fined under Title 18 or imprisoned for not more than ten years, or both; but if the value of the property does not exceed $1,000, the person shall be fined under Title 18 or imprisoned not more than one year, or both. In addition, 18 U.S.C. § 2112 provides that whoever robs or attempts to rob another of any kind of personal property belonging to the United States, shall be imprisoned not more than fifteen years.

Mineral Laws

Although at first glance it appears that the federal mining and mineral laws do not apply to fossils, this conclusion may not be warranted.

The Materials Act of 1947[21] provides for the sale and disposal of common mineral materials from public lands by the Secretary of the Interior and from national forests and certain other lands managed by the Secretary of Agriculture. In 1955, Congress provided that certain common varieties of certain minerals would be disposed of under the 1947 act. The mining laws provide for the development of "locatable" or hardrock minerals, such as gold, silver, copper, etc. Other minerals, such as coal, oil, and gas, may be developed through leases with the federal government. In 1955, Congress removed certain mineral materials from the operation of the mining laws and provided that they be disposed of under the separate system for disposal of mineral materials.[22] A 1962 act specified that "petrified wood" (i.e. mineralized vegetative material) is not a valuable mineral deposit within the meaning of the mining laws.[23] The relevant committee reports on

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[19]Pub. L. No. 93-291, 88 Stat. 174, 16 U.S.C. §§ 469a — 469c-2.

[20]Act of June 25, 1948, ch. 645, 62 Stat. 725, as amended.

[21]Act of July 31, 1947, ch. 406, 61 Stat. 681, codified at 30 U.S.C. § 601 *et seq*.

[22]Act of July 23, 1955, ch. 375, 69 Stat. 368.

[23]Act of September 28, 1962, Pub. L. No. 87-713, 76 Stat. 652, 30 U.S.C. § 611. The 1962 (continued...)

the 1962 Act indicate that the Solicitor of the Department of the Interior had concluded that petrified wood was locatable under the mining laws, and that Congress intended the 1962 legislation to eliminate petrified wood from the operation of the mining laws. Congress was concerned because the mining laws provide easy access to locatable minerals and some destructive methods, such as the use of "tractor plows," were being used to uncover deposits.[24]

The mining laws, principally the Mining Act of 1872[25] allow the development and patenting of lands containing valuable locatable minerals. One could argue that if petrified wood — mineralized vegetative material — can be disposed of under the Materials Act and was previously regarded as a locatable mineral, then perhaps common fossils — mineralized animal matter — may also be disposed of under the materials law, with more valuable fossils being locatable under the Mining Act.

The regulations of the BLM and FS recognize petrified wood as a disposable material, but do not address fossils.[26] The regulations of BLM (the agency with management responsibility for development of onshore federal minerals) on locatable minerals also do not address fossils.[27] No published opinions of the Solicitor of the Department of the Interior or the Attorney General could be found on this issue, and no court cases on whether fossils are locatable minerals under the mining laws. One 1915 Department of the Interior administrative case found fossils *not* to be locatable minerals on the grounds that they did not meet the usual tests, in that they are not: recognized as mineral by standard authorities; classified as a mineral product in trade or commerce; or a substance that possesses economic value for use in trade, manufacture, the sciences, or in the mechanical or ornamental arts.[28]

Trespass

In addition to any recourse the United States may have under particular statutes, the United States may also protect its property by bringing a trespass action for unauthorized use of its lands and resources.[29] Such suits would enable the United

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[23](...continued)
amendment defined "petrified wood" as used in that act and in the 1947 act, but the earlier act did not use the term. It appears from the committee reports that Congress intended petrified wood to be disposed of as a material.

[24]H.R.Rep. 2056, 87th Cong., 2d Sess. (1962) and S. Rep. 2037, 87th Cong., 2d Sess. (1962).

[25]Act of May 10, 1872, ch. 152, 17 Stat. 91, codified at 30 U.S.C. §§ 22 *et seq.*

[26]*See* 43 C.F.R. part 3600 and 36 C.F.R. §§ 228.40 - 228.67.

[27]43 C.F.R. 3812.1 defines locatable minerals as any recognized as such "by the standard authorities."

[28]Earl Douglass, 44 Pub. Lands Dec. 325 (1915).

[29]United States v. West, 232 F. 2d 694 (9th Cir. 1956), *cert. denied* 352 U.S. 834; Shannon v. United States, 160 F. 870 (9th Cir. 1908).

States to both restrain trespasses and to recover the reasonable value of the use of public land unlawfully appropriated.[30]

With these general statutes in mind, the following material discusses the particular agencies and their regulations.

Agency-Specific Statutes

National Park Service

One of the primary duties of the NPS is the protection of National Park System resources. The NPS is to "promote and regulate the use of the Federal areas known as national parks ... to conserve the ... natural and historic objects and wild life (sic) 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."[31] Therefore, NPS regulations can provide for the protection of park resources. One regulation provides:

> Except as otherwise provided in this chapter, the following is prohibited: ...
> (1) Possessing, destroying, injuring, defacing, removing, digging, or disturbing from its natural state:
> ...
> (iii) Nonfossilized and fossilized paleontological specimens, cultural or archeological resources, or the parts thereof ....[32]

The taking of some "natural products" for personal use is allowed under 36 C.F.R. §2.1(c), but this section begins by referring only to certain "fruits, berries, nuts, or unoccupied seashells" which may be gathered, and arguably the taking of fossils is not included here. The taking of "research specimens" of "plants, fish, wildlife, rocks, or minerals" may be allowed under 36 C.F.R. §2.5. Fossils are not expressly mentioned here, but may be included.

The penalties for violation of the regulations in part 2 vary depending on the type of National Park System unit and the degree of intent. The regulations are somewhat anomalous in that a knowing and willful violation may receive a lesser punishment than one that is not. The penalties stated in 36 C.F.R. § 1.3 are:

> (a) A person convicted of violating a provision of the regulations contained in Parts 1 through 7 ... 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 6 months, or both, and shall be adjudged to pay all costs of the proceedings.

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[30]Utah Power & Light Co. v. United States, 230 F. 328 (8th Cir. 1915), *modified on other grounds,* 242 F. 924 (8th Cir. 1917).

[31]16 U.S.C. §1.

[32]36 C.F.R. §2.1(a).

> (b) A person who knowingly and willfully violates any provision of the regulations contained in parts 1 through 5, 7 and 12 of this chapter, within any national military park, battlefield site, national monument, or miscellaneous memorial transferred to the jurisdiction of the Secretary of the Interior from that of the Secretary of War by Executive Order No. 6166, June 10, 1933, and enumerated in Executive Order No. 6228, July 28, 1933, shall be punished by a fine as provided by law, or by imprisonment for not more than 3 months, or by both.

There are also special regulations for many park units in 36 C.F.R., Part 7, but none of these contain provisions on fossils. Other local regulations may be provided at particular park units and individual management plans are developed for each park unit, which plans may address fossil removal.

Bureau of Land Management

The Bureau of Land Management is relevant to a discussion of paleontological resources for two reasons: it is a significant land managing agency and also is the manager of the onshore minerals of the United States. The principal statute governing the management of the federal public lands by the BLM is the Federal Land Policy and Management Act (FLPMA).[33] This statute does not specifically address fossils, but permits protection of fossils in several respects. One of the management policies required by FLPMA is to manage the lands 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 ...."[34] Also, the Secretary of the Interior is to issue regulations on the management, use, and protection of the public lands, the violation of which is punishable as a criminal offense,[35]and "regulations and plans for the protection of public land areas of critical environmental concern" are to be promptly developed.[36] In addition, the Secretary of the Interior is to "take any action necessary to prevent unnecessary or undue degradation of the lands."[37] These duties typically are carried out through land use plans for particular areas. As part of the planning process, FLPMA permits protection of fossil resources through the required inventory and planning processes or through protective designations for particular areas, such as research natural areas or areas of critical environmental concern.

Authority for the disposal of fossil resources is less clear than is the authority of the agency to protect such resources. FLPMA authorizes the Secretary to regulate the use, occupancy, and development of the public lands and this general authority might provide a basis to permit the collection of fossils. The intended authority with respect to this important resource could be clarified.

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[33]Pub. L. No. 94-579, 90 Stat. 2744, codified at 43 U.S.C. §§1701 *et seq.*

[34]43 U.S.C. §1701(8).

[35]43 U.S.C. § 1733.

[36]43 U.S.C. §1701(11).

[37] 43 U.S.C. §1732(b).

Current BLM regulations that regulate "rules of conduct" on the public lands prohibit, unless otherwise authorized, the removal or destruction of "any scientific, cultural, archaeological or historic resource, natural object or area."[38] Collection of "common invertebrate fossils" for noncommercial purposes is allowed.[39] Non-commercial disposal of mineral materials is listed separately, as though fossils are not to be regarded as mineral materials.[40] Collection of nonrenewable resources for commercial purposes may be done only after obtaining a contract or permit from an authorized officer under the regulations on mineral materials disposal.[41] If fossils are not to be regarded as mineral materials, then this authorization for commercial disposal would not apply. There are no specific penalties in the regulations for violation of these rules.

No regulations have yet been adopted for subpart 8363 on "Resource and visitor protection" or for subpart 9268.2 "Natural history resource management procedures."

Additional BLM rules may be posted at local sites affected.[42] State and local laws also may apply and may be enforced by the appropriate state and local authorities.[43] There also are separate regulations relating to the gathering of fossils from within the Fossil Forest Research Natural Area, New Mexico.[44]

Although FLPMA in 43 U.S.C. § 1733(a) authorizes the Secretary to promulgate regulations for the management, use, and protection of the public lands and provides statutory penalties for violations of such regulations, the penalty sections in the regulations apply only to violations of part 9260 and do not include the only FLPMA-related regulations that address fossil removal.[45] However, FLPMA also provides in § 1733(g) that the use of any portion of the public lands contrary to any regulation or order is unlawful and prohibited, so the statutory penalties set out in § 1733(a) appear to apply regardless of the omission of penalties

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[38]43 C.F.R. § 8365.1-5(a)(1).

[39]43 C.F.R. § 8365.1-5(b)(2).

[40]43 C.F.R. § 8365.1-5(b)(4).

[41]43 C.F.R. § 8365.1-5(c).

[42]43 C.F.R. § 8365.1-6.

[43]43 C.F.R. s 8365.1-7.

[44]43 C.F.R. § 8224. Gathering activities are allowed by special permits which may only be issued to institutions and individuals engaged in research, museum, or educational projects approved by the authorizing officer. Willful violations of these regulations relating to collection of petrified wood, motorized use, or paleontological resources are punishable by a fine of not more than $1,000 or imprisonment of not more than 12 months or both. Any person who willfully and without authorization collects or removes paleontological resources whose value is greater than $100 for which a permit was required shall be subject to a fine not to exceed $10,000, or imprisonment not to exceed 10 years, or both. Note, however, that these regulations apply to this specific area.

[45]43 C.F.R. § 9262.1.

in the implementing regulations.[46] These statutory penalties are that any person who knowingly and willfully violates a lawfully issued regulation shall be fined no more than $1,000 or imprisoned no more than twelve months or both.

A BLM representative has indicated that draft regulations on paleontological resources have been developed and may be proposed in the next few months.

In summary, BLM appears to have authority to *protect* fossil resources on the public lands under FLPMA, but agency regulations do not expressly provide this protection at present time. The Antiquities Act may also provide additional authority for fossil protection either if fossils are viewed as "objects of antiquity" the removal of which can be regulated, or if it is argued that the agency can protect fossil resources to preserve them for possible presidential designation as a national monument. But, as mentioned previously, a court case has cast some doubt on the efficacy of the Antiquities Act as the basis for criminal enforcement actions.

Authority for the *disposal* of fossils by BLM is less clear. Permits for the collection of fossils can be issued under the Antiquities Act. Permits may be authorized under the general management authority of BLM to regulate development of the public lands. Fossils may be a mineral material that can be sold under the Mineral Materials Act, but this is not stated in the statute or regulations and the structure of 43 C.F.R. § 8365(b)(2) and (4) lends support to the interpretation that fossils are not mineral materials. Fossils may be locatable minerals under the mining laws, but again this is far from clear and one administrative case concluded that fossils did not meet the tests for locatable minerals. An agency representative has indicated that BLM may publish proposed regulations on paleontological resources soon.

Forest Service

The principal statutes governing the management of the national forests are the Organic Act,[47] the National Forest Management Act (NFMA),[48] and the Multiple Use Sustained Yield Act,[49] none of which expressly mention fossils. The NFMA and Multiple Use Sustained Yield Act address timber production and other "multiple uses" of the forests, which are referred to as involving "various renewable surface resources,"[50] and arguably might not include fossils.

The Organic Act establishes the purposes of national forests as including the protection of the forest,[51] and the Secretary of Agriculture is authorized to regulate

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[46]BLM recently issued proposed regulations to consolidate prohibitions and penalties, 61 FED. REG. 57605 (November 7, 1996). These were later withdrawn in March, 1997.

[47] Act of June 4, 1897, ch. 2, 30 Stat. 34, codified 16 U.S.C. §§473 *et seq.*

[48] Pub. L. 94-588, 90 Stat. 2949, codified at 16 U.S.C. §§1601 *et seq.*

[49] Pub. L. No 86-517, 74 Stat. 215, codified at 16 U.S.C. §§528 *et seq.*

[50] 16 U.S.C. §531(a).

[51] 16 U.S.C. §§ 475, 551.

the use and occupancy of the forests.[52] This broad authority is similar to that of BLM under FLPMA. A violation of a law or regulation related to the forests is punishable by a fine of not more than $500 or imprisonment for not more than 6 months or both. The NFMA requires a multidisciplinary approach to planning for each forest unit, based on the resources of each forest.[53] Other statutes may also apply, depending on whether the forest in question was reserved from the public domain or was acquired under various acts. As a result, there may be differences in management authority with respect to fossils.

FS regulations provide for the disposal of mineral materials, citing many governing statutes pertaining to both public domain forests and National Forest System lands acquired under various statutes. Therefore, the issue of whether fossils are to be regarded as mineral materials, or locatable minerals, or mineral resources at all, as discussed above in the BLM section, is relevant to Forest Service managed lands as well. Because BLM is the onshore mineral managing agency for the federal government, if fossils are a locatable mineral resource, their preservation or disposal on public domain national forests would be managed by BLM, with the FS as the manager of the surface. If fossils are to be regarded as mineral materials, the FS could manage their sale and disposal. If fossils are neither locatable minerals nor mineral materials, it is not clear what the authority for their disposal from national forest lands is.

As noted, the Antiquities Act regulations in 43 C.F.R. § 3 apply to FS lands and may provide authority for protection of fossils, as discussed above. The general regulations of the Department of Agriculture on enhancement, protection, and management of the cultural environment define "cultural resources (heritage resources)" as including "objects" from the past.[54] In 1979 the FS proposed changes to the FS Manual to elaborate on and implement the departmental cultural regulations that stated: "Paleontological resources also are considered to fall within the authority of [the Antiquities Act]."[55] This Manual guidance was never finalized and is still in the process of being redrafted.

Other current FS regulations do not expressly address removal of paleontological objects or natural products. Special use permits issued under the regulations of the FS may encompass the removal of fossils, but it is not clear what authority exists for such disposal aside from the general authority to regulate the use of the forests, the permitting authority of the Antiquities Act or possibly the Materials Act, or the general management authority of the FS.[56]

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[52] 16 U.S.C. § 551.

[53] 16 U.S.C. §1604.

[54] 7 C.F.R. part 3100, 3100.42.

[55] 44 FED. REG. 54268, 54269 (September 18, 1979).

[56] 36 C.F.R. §251.50.

Department of Defense

Because access to defense lands is much more restricted than is access to parks or multiple use lands, managers are less likely to have to deal with fossil collection and vandalism problems. Neither statutory provisions relating to fossils on DOD lands, nor any general regulations that specifically address fossils could be identified.[57] However the discussion of the Antiquities Act and regulations discussed above apply to military reservations.[58] In addition, Army Regulations draw upon the authority to survey and protect scientific resources contained in the Archaeological and Historic Preservation Act to include paleontological resources as part of the "Integrated Cultural Resources Management Plans"[59] that in turn are integrated into land management plans for defense installations.

There also are regulations for the sale of mineral materials and the development of locatable minerals on DOD lands,[60] so the issues and ambiguities discussed above with respect to those topics also pertain.

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[57] In addition to the general Antiquities Act regulations at 43 C.F.R. part 3, there are Army regulations for environmental quality at 32 C.F.R. Part 650. These primarily address pollution control issues, but 32 C.F.R. §650.5 states that [h]istoric and cultural sites, structures, and *objects* under Army jurisdiction will be preserved, restored, and maintained for the benefit and enjoyment of future generations." (Emphasis added.) This regulation seems to emphasize historical objects rather than paleontological ones, but might permit regulation of fossils. Item (10) of the same regulation states: "An integrated, multiuse, natural resource, land management program will be conducted for forests and woodlands, fish and wildlife, open space, soil, water, vegetation, outdoor recreation, natural beauty, and increased public access and nonconsumptive utilization on lands under Army jurisdiction within the provisions of AR 405-80 and AR 420-74." This language could permit the protection of fossil deposits, but could be more express.

[58] 43 C.F.R. part 3.

[59] Section 2-6b of Army Regulation 200-4, Cultural Resources Management, Summary of Changes, October 30, 1997 (a draft regulation that is expected to be finalized soon) states: "Paleontological resources are scientifically significant fossilized remains, specimens, deposits and other such data from prehistoric, non-human life. The AHPA specifically provides for the survey and recovery of scientifically significant data which may be irreparably lost as a result of any alteration of the terrain from any federal construction projects, or federally licensed project, activity, or program. Any installation paleontological resource management requirements will be integrated into ICRMPs and will establish and include installation policy for limitation of collection and removal of paleontological resources. Known paleontological resources will also be addressed in any NEPA documentation prepared for actions that may impact or cause irreparable loss or destruction of such resources."

[60] 32 C.F.R. Part 189.

General Penalties

There are general federal criminal penalty provisions that are relevant to all the agencies. The general statutory penalty provisions for theft or conversion of federal property is a fine or imprisonment for not more than 10 years, or both. However, if the value of the property involved is $100 or less, the penalty is a fine or imprisonment for not more than one year, or both.[61]

Other general provisions provide for a range of maximum fines. Although other substantive sections of the United States Code may set out offenses and provide fines, usually these fines are lower than the fines available under the general sections. Under 18 U.S.C. § 3571, the maximum fine available shall be the *highest* amount of several alternatives stated, only one of which is the amount stated in the law setting forth the offense. If the amount available under § 3571 is higher than the amount set in the substantive section, the higher amount governs unless language is specifically included in the substantive section to exclude the operation of the general fines section.[62] The sections discussed earlier in this report that punish violations of regulations, etc. have not been amended to exclude the operation of the general penalties section.

In general, the range of fines for a violation by an individual would likely be from $5,000 to $100,000, depending on which statute is used to charge the offender.[63] However, another general provision indicates that if an individual derives

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[61] 18 U.S.C. § 641.

[62] 18 U.S.C. § 3571(e).

[63] 18 U.S.C. § 3571(b) provides that an individual who has been found guilty of an offense may be fined not more than the greatest of —

(1) the amount specified in the law setting forth the offense; [but see subsection (e) of this section for times when the specified amount is the maximum penalty]

(2) the applicable amount under subsection (d) of this section;

(3) for a felony, not more than $250,000;

(4) for a misdemeanor resulting in death, not more than $250,000;

(5) for a Class A misdemeanor that does not result in death, not more than $100,000;

(6) for a Class B or C misdemeanor that does not result in death, not more than $5,000; or

(7) for an infraction, not more than $5,000.

18 U.S.C. § 3559 classifies offenses according to the maximum incarceration available:

a Class A misdemeanor is one for which the potential prison sentence is one year or less, but more than six months;

a Class B misdemeanor is one for which the potential prison sentence is six months or less, but more than thirty days;

a Class C misdemeanor is one for which the potential prison sentence is thirty days or less but more than five days; and

an infraction is one for which five days or less or no imprisonment is authorized.

pecuniary gain from the offense, the fine assessed could be twice the gross amount of gain.[64] This could result in a higher fine than otherwise would apply.

Summary

In summary, although particular statutes or executive actions may protect particular areas, and although current general laws and regulations appear to *permit* the protection of paleontological resources on federal lands, we are aware of no general statute that *expressly directs* protection of such resources. The NPS is directed to protect National Park System resources and both the FS and BLM have general authority to protect resources managed by them and to regulate the use and occupancy of those lands. Available protection may vary depending on whether the federal lands in question were or are a part of the public domain or were acquired under various authorities. DOD has much greater control over access to and use of DOD lands than do the multiple use agencies. The Antiquities Act applies to all the agencies, clearly covers paleontological resources in some respects, but is ambiguous in others; and there is some question as to whether it is unconstitutionally vague as a basis of criminal prohibitions and penalties. The general theft provisions and trespass actions are also available to protect fossil resources on federal lands.

Aside from the permits authorized under the Antiquities Act, authority for agencies to allow the collection and disposal of fossils is less clear than is their authority to protect them; and the mining and mineral disposal laws are ambiguous as to their application to paleontological resources.

Specific penalties associated with the provisions establishing offenses typically are quite low relative to the market and scientific value of many fossils, and these penalty provisions typically have not been amended since the enactment of general criminal fines provisions. Absent specific language specifying otherwise, the general fine provisions make higher maximum fines available.

Because of the lack of clarity, uniformity, and consistency among the agencies and laws on the issues of protection and regulation of paleontological resources on the federal lands, some have suggested that additional analysis from the relevant agencies[65] and possible express legislative direction on these issues might be valuable.

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[64]18 U.S.C. § 3571(d) states that if "any person derives pecuniary gain from the offense, or if the offense results in pecuniary loss to a person other than the defendant, the defendant may be fined not more than the greater of twice the gross gain or twice the gross loss, unless imposition of a fine under this subsection would unduly complicate or prolong the sentencing process."

[65]One committee report on an appropriations bill for the Department of the Interior requests additional agency information. See S.Rept. 105-227 at 60 (1998), accompanying S. 2237.