

**ILLEGAL TRAFFICKING OF ARCHAEOLOGICAL RESOURCES;  
PROTECTION OF PALEONTOLOGICAL RESOURCES; AND  
DESIGNATE CERTAIN WATERWAYS IN PUERTO RICO**

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**HEARING**

BEFORE THE

SUBCOMMITTEE ON NATIONAL PARKS

OF THE

COMMITTEE ON

ENERGY AND NATURAL RESOURCES

UNITED STATES SENATE

ONE HUNDRED SEVENTH CONGRESS

SECOND SESSION

ON

**S. 2598**

TO ENHANCE THE CRIMINAL PENALTIES FOR ILLEGAL TRAFFICKING OF ARCHAEOLOGICAL  
RESOURCES, AND FOR OTHER PURPOSES

**S. 2727**

TO PROVIDE FOR THE PROTECTION OF PALEONTOLOGICAL RESOURCES ON FEDERAL LANDS,  
AND FOR OTHER PURPOSES

**H.R. 3954**

TO DESIGNATE CERTAIN WATERWAYS IN THE CARIBBEAN NATIONAL FOREST IN THE COMMON-  
WEALTH OF PUERTO RICO AS COMPONENTS OF THE NATIONAL WILD AND SCENIC RIVERS  
SYSTEM, AND FOR OTHER PURPOSES

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JULY 23, 2002  
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**ILLEGAL TRAFFICKING OF ARCHAEOLOGICAL  
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CERTAIN WATERWAYS IN PUERTO RICO**

**TUESDAY, JULY 23, 2002**

U.S. SENATE,  
SUBCOMMITTEE ON NATIONAL PARKS,  
COMMITTEE ON ENERGY AND NATURAL RESOURCES,  
*Washington, DC.*

The subcommittee met, pursuant to notice, at 2:30 p.m., in room SD-366, Dirksen Senate Office Building, Hon. Daniel Akaka presiding.

**OPENING STATEMENT OF HON. DANIEL K. AKAKA,  
U.S. SENATOR FROM HAWAII**

Senator AKAKA. The hearing of the Subcommittee on National Parks will come to order.

Good afternoon, everyone. I want to thank all of the witnesses and all of those of you in the audience for your interest in today's hearing.

The purpose of this afternoon's hearing before the Subcommittee on National Parks is to receive testimony on three bills pending before the subcommittee. The bills that we are considering today include S. 2598, to enhance the criminal penalties for illegal trafficking of archeological resources; S. 2727, to provide for the protection of paleontological resources on Federal lands; and H.R. 3954, to designate certain waterways in the Caribbean National Forest in the Commonwealth of Puerto Rico as components of the National Wild and Scenic Rivers System.

I am pleased to see this bill, which recognizes the importance of our country's tropical resources and extends the designation of wild and scenic rivers to the Caribbean.

The other two bills before us today would protect the extensive assemblage of clues to our heritage and biological past found in fossils and archeological resources. Senator Leahy's S. 2598 would strengthen and rationalize criminal penalties for theft or damage to cultural and archeological resources, particularly those relating to Native American cultural items.

I would like to take a moment to make a brief statement about S. 2727, the Paleontological Resources Preservation Act. I am co-sponsoring this legislation with Senators Inouye and Feinstein to protect and preserve the Nation's important fossil record for the benefit of our citizens. Vertebrate fossils are threatened by a grow-

ing commercial market which is being supplied in part by the illegal collection of fossil specimens.

This bill establishes a national policy for preserving and managing paleontological resources found on Federal lands. It provides uniformity to the patchwork of statutes and regulations that currently exist. And it ensures that the public will have educational and scientific access to this part of the geological and biological past.

I would like to emphasize that this bill in no way affects the archeological or cultural resources under the Archeological Resources Protection Act of 1979 or the Native American Graves Protection and Rehabilitation Act. They are exempted. This bill covers paleontological remains, such as dinosaurs and mammoths, on Federal lands only.

S. 2727 is based on seven principles outlined in the May 2000 report entitled, "An Assessment of Fossil Management on Federal and Indian Lands," which was prepared by the Department of the Interior, the U.S. Forest Service, and the Smithsonian Institution.

The bill finds that fossil resources on Federal lands are an irreplaceable part of the heritage of the United States. It affirms the principle that reasonable access to fossil resources should be provided for scientific, educational, and recreation purposes.

While the bill provides for casual or amateur collection of invertebrate fossils, it also protects vertebrate fossils under a system of permits. The penalties and criminal provisions in the measure are modeled after ARPA and reflect the need to provide a strong disincentive to those who would steal such resources from Federal lands. Fossils are too important to be left within the general theft provisions and they are too valuable to the education of our children for us not to ensure public access.

I look forward to hearing the testimony of our witnesses on this topic. I also look forward to working with the bills' sponsors and with Senator Thomas, as we consider all three of these bills.

Our witnesses this afternoon will be Christopher Kearney, Deputy Assistant Secretary for Policy, Management and Budget for the Department of the Interior; Elizabeth Estill, Deputy Chief for Programs and Legislation, U.S. Forest Service; and Dr. Richard Stucky, president of the Society of Vertebrate Paleontology from the Denver Museum of Nature and Science.

At this time, I would like to call on Senator Thomas for any opening statement you have.

[A prepared statement from Congressman Acevedo-Vilá follows;]

PREPARED STATEMENT OF HON. ANÍBAL ACEVEDO-VILÁ, RESIDENT COMMISSIONER,  
PUERTO RICO

I want to thank Chairman Akaka and Ranking Member Thomas for including H.R. 3954—The Caribbean National Forest Wild and Scenic Rivers Act of 2002 on the agenda today and I welcome this opportunity to testify and work with the Subcommittee to enact this legislation.

Earlier this year, I introduced H.R. 3954 with great pride. The Caribbean National Forest, commonly known in Puerto Rico as El Yunque, is the only tropical rain forest within the U.S. National Forest System. El Yunque is a natural wonder and unique resource that we must preserve and protect forever. El Yunque is the only managed rain forest on earth, and with this distinction comes heightened responsibility in my opinion, to fully protect this important resource. The enactment of this bill will help ensure that the natural integrity of El Yunque is reserved for the 1 million annual visitors to the CNF for generations to come.

H.R. 3954 would preserve and protect three rivers that flow within the boundaries of El Yunque. It is the intent of the Wild and Scenic Rivers Act of 1968 to preserve rivers and sections thereof to protect the water quality of such rivers and to fulfill other vital national conservation purposes. It is within this intent that I have introduced this bill, and I am fully committed to the preservation of these beautiful rivers. While there are additional rivers within El Yunque that have received wild and scenic designation recommendations, the areas of these rivers are covered under H.R. 3955 through wilderness designation, or are within the existing Bano de Oro Natural Area. Therefore, I have followed recommendations to focus on rivers running outside of the proposed El Toro Wilderness Area and outside of existing natural areas.

The three rivers that would be designated under this act were all recommended for inclusion under the National Wild and Scenic Rivers System by the revised land and resource management plan for the CNF, approved April 17, 1997. This management plan was the basis for the introduction of this bill, and I ask for your support during its consideration.

The three rivers include the Rio Mameyes, the Rio Icacos, and the Rio de La Mina. All three have outstanding characteristics and make up an integral part of the experience when visiting the forest.

The Rio Mameyes offers outstanding scenic, biological and recreational values to visitors. It flows over large boulders and numerous waterfalls, forming enjoyable pools. Trails run along gorges that descend through the forest. The water quality along the upper segment is optimum, with no interference from human encroachment.

The Rio Mameyes provides important habitat for the Puerto Rican Parrot and Puerto Rican Boa, both endangered species. Furthermore, the endangered Broad-winged and Sharp-shinned Hawks, and the threatened Peregrine Falcon, are also known to use this area. The Mameyes system enjoys the highest natural aquatic diversity and species richness of any forest watershed. The Mameyes remains the only uninterrupted, free flowing river in Puerto Rico.

The Rio de la Mina is judged as eligible based on its outstanding scenic, recreation, biological and historic values. Like the Mameyes, the Rio de La Mina descends over boulders and waterfalls, forming rapids and pools. Trails parallel the river and provide for numerous recreation areas, including picnic areas that are among the most popular tourist destinations within the CNF. The most spectacular waterfalls in the forest exist along the Rio de la Mina. These falls, known as La Mina Falls, play an important role in promoting Puerto Rico as a prime vacation destination. The water quality is good within the proposed designation area. The Rio de la Mina also provides habitat for endangered animal and plant species.

The Rio Icacos is judged as eligible based on its outstanding scenic, historic, cultural and ecological values. The Rio Icacos has some of the most varied terrain of any of El Yunque's rivers. Near the headwaters, the gradient is less steep than further downstream where it also descends over boulders and waterfalls. In the upper section, the streambed exhibits a unique sandy bed due to its origin in the upper, flatter section. The palm forest is very striking along the bank, more so than in any other area of the forest. Water quality is high within the proposed designation area. Endangered animal and plant species are present within the proposed area.

With the support of this Subcommittee and of the Senate as a whole, these wild and scenic river designations in El Yunque can become a reality this year. I encourage all of my colleagues to visit Puerto Rico and to spend worthwhile time visiting the Caribbean National Forest. Puerto Ricans take great pride in El Yunque, and I assure you it is worth the trip to visit. With your support, we can help protect the pristine natural wonders of El Yunque forever.

Senator THOMAS. I really do not have one. I have glanced at it. I am interested in hearing about these bills. I would just say I think there needs to be some identification of what some of these items are, so that if you are going to enforce these proposals, I think we have to make it clear what it is we are enforcing. That is a very general observation.

So I look forward to hearing the comments. Thank you, sir.

Senator AKAKA. Thank you very much, Senator Thomas.

We will include all of the written statements in the record in their entirety. So I ask the witnesses to please feel free to summa-

alize your remarks. So please proceed with your testimony on all of the bills. And then we will turn to questions.

So may I ask you to deliver your testimony in order of Mr. Kearney, Ms. Estill, and Dr. Stucky? Thank you.

**STATEMENT OF CHRISTOPHER KEARNEY, DEPUTY ASSISTANT SECRETARY FOR POLICY, MANAGEMENT AND BUDGET, DEPARTMENT OF THE INTERIOR**

Mr. KEARNEY. Thank you, Mr. Chairman. I will give the testimony on S. 2598 first, followed by S. 2727, if that is all right.

Thank you for the opportunity to present the Department's views on S. 2598, the Enhanced Protection of our Culture Heritage Act of 2002. The Department generally supports the enhancement of statutory penalties for cultural resource crimes. However, it is unclear whether this bill will, in all instances, strengthen cultural heritage protection.

S. 2598 would propose to change the statutory penalties for illegal trafficking under the Archeological Resources Protection Act, ARPA, for embezzlement and theft from Indian tribal organizations, and for illegal trafficking in Native American human remains and cultural items under the Native American Graves Protection and Repatriation Act. It is unclear whether S. 2598 would strengthen ARPA.

Currently, ARPA, as read in conjunction with 18 U.S.C. 3571, provides for a graduated system that allows for a citation of Class A misdemeanor, as well as a Class D or E felony, depending on the value of the resource and whether or not the offense is a first or subsequent offense.

As currently drafted, the bill would eliminate such a graduated system and instead provide only the option to charge an ARPA offense as a Class C felony. Although increasing maximum fines and imprisonment terms would seem to strengthen ARPA, eliminating the option to charge a crime as a misdemeanor in fact may result in fewer prosecutions. The U.S. Attorneys' Offices may be reluctant to prosecute a case if the defendant's conduct was not so egregious as to normally warrant felony prosecution. And similarly, juries may be reluctant to hold the defendant responsible if a felony conviction appears overly harsh in a particular case.

Thus, the Department supports strengthening the maximum penalties while retaining a graduated system that will provide the U.S. Attorney's Office with the discretion to charge a defendant with the type of violations ARPA provisions and S. 2598 intends to address.

Also, although the heading appears to apply only to illegal trafficking under ARPA, the subsection amended would actually cover other crimes under ARPA as well. We would like the opportunity to further review the bill and to work with the committee and the U.S. Department of Justice to craft appropriate language that would more clearly accomplish our mutual goals.

As you know, earlier this year the Department expressed its support for the establishment of a sentencing guideline for the protection of cultural heritage resources. After a 2-year review, the U.S. Sentencing Commission had found that existing sentencing guidelines inadvertently—or inadequately, rather, covered a variety of

offenses involving the theft, damage to, destruction of, or illicit trafficking in cultural resources, including national memorials, et cetera. And then it submitted the report—I apologize for that.

Because individuals, communities, and Nations identify themselves through intellectual, emotional, and spiritual connections to places and objects, the effect of cultural resources crimes sometimes transcends mere monetary considerations. Consequently, the commission transmitted to Congress on May 1, 2002, a proposed guideline amendment that takes into account the transcendent value of these irreplaceable resources and punishes in a proportionate way the particular offense characteristics associated with the range of cultural resources. These amendments will take effect on November 1, 2002, unless Congress passes legislation disapproving them.

Mr. Chairman, that concludes my statement. I would be pleased to answer any questions on this that you may have. As I say, we look forward to working with the committee to address the mutual goals and the issues that we have raised in the testimony on this bill.

Senator AKAKA. Thank you very much.

[The prepared statement of Mr. Kearney follows:]

PREPARED STATEMENT CHRISTOPHER KEARNEY, DEPUTY ASSISTANT SECRETARY FOR POLICY, MANAGEMENT AND BUDGET, U.S. DEPARTMENT OF THE INTERIOR ON S. 2727 AND S. 2598

Mr. Chairman, thank you for the opportunity to present the Department of the Interior's views on S. 2727. The Department supports the purpose of S. 2727 to protect paleontological resources on federal lands, but would like an opportunity to more fully review the bill. We have some general concerns about some of the legislative provisions and would like to follow up in writing with specific recommendations to address these issues.

S. 2727 adopts the recommendation of a report submitted to Congress in May 2000, titled "Fossils on Federal and Indian Lands" (the Interagency Fossil Report). Concerned about the lack of unified policies and standards for the management of fossils on federal lands and the resulting deterioration and loss of fossils, Congress directed the Bureau of Indian Affairs, the Bureau of Land Management, the Bureau of Reclamation, the Fish and Wildlife Service, the Forest Service, the National Park Service, the Smithsonian Institution and the U.S. Geological Survey to develop a report assessing the need for a unified federal management policy. During development of the report, three major themes emerged from the public comments received.

First, a majority of people who commented viewed fossils on federal lands as part of America's heritage. Second, they recommended that vertebrate fossils continue to be protected as rare and within the ownership of the federal government. Third, they supported the involvement of amateurs in the science and enjoyment of fossils, including the continuing availability of most plant and invertebrate fossils for recreational collection on lands managed by the Bureau of Land Management and the Forest Service. To meet these and other goals, the report recommended the establishment of a framework for fossil management, analogous to the Archeological Resources Protection Act of 1979 (ARPA).

Fossils are non-renewable resources which, with the exception of microfossils and those that make up commercially-developed minerals, such as coal, oil, and gas, are relatively rare and have significant scientific, educational and recreational values. Federal lands, the majority of which are in the western part of the United States, contain a rich array of plant, invertebrate and vertebrate fossils. For more than a century, land management agencies have managed fossils within their unique missions.

These agencies have protected all vertebrate fossils, requiring permits for their excavation and removal, with the stipulation that the resources remain in federal ownership in perpetuity.

In recent years, public interest in fossils has grown rapidly and with this interest, the commercial value of fossils also has increased. The unfortunate consequence has been a loss of fossils from federal lands, through theft and vandalism, and from the

United States itself, through international trafficking. These crimes reduce scientific and public access to scientifically significant and instructive fossils and destroy the contextual information critical for interpreting the fossils.

S. 2727 would provide a unified federal policy to ensure that scientifically significant fossils on certain federal lands are inventoried, monitored, protected, and curated consistently, while accommodating the agencies' distinct missions. As we understand it, the bill, in large measure, reflects the current practice of agencies in the management of fossils on federal land. Streamlining the practices of the various land management agencies into a unified approach will enhance overall management of fossils on federal lands by reducing public confusion and improving collaboration and cooperation among agencies, scientists, and the public.

Under the agencies' existing regulations and policies, vertebrate fossils may only be collected with a permit for scientific and educational purposes. S. 2727 would codify this collection policy and standardize the permitting requirements among the various agencies, as recommended in the Interagency Fossil Report. It would ensure that these fossils are retained as public property and curated in suitable repositories for current and future generations of scientists and the public to study and enjoy.

Scientists use the information from specimens in repository collections to build on our understanding of the history of life on Earth. Millions of visitors enjoy the displays offered by public repositories of their most spectacular and educational fossils, many originating from federal lands.

One exception to the permitting requirements under S. 2727 is for casual collection of certain paleontological resources for scientific, educational and recreational uses. This important exception would authorize the Secretary to allow the public to casually collect common invertebrate and plant fossils without a permit on certain federal lands. The casual collection of such fossils can be an important component of the public's enjoyment of some federal lands and is generally consistent with scientific and educational goals.

S. 2727 would codify the land managing agencies' existing prohibition on commercial fossil collecting from federal lands. By prohibiting such collecting, this legislation ensures that vertebrate fossils on federal lands, a rich part of America's heritage, remain in public hands, that they not be bought or sold, and that the federal government not have to use taxpayer funds to purchase fossils found on lands that it owns.

S. 2727 would provide specific protection by prohibiting the excavation, damage, transport or sale of paleontological resources located on federal lands. Criminal penalties for these acts would be set by classification, following fine and imprisonment penalties imposed under federal law.

Keeping an appropriate inventory and monitoring are crucial components of fossil management. S. 2727 would provide the Secretary with the flexibility to keep an inventory and monitor exposed fossils based on the site-specific geology and paleontology of their management units. The exposure of fossils by erosion varies, based on the type of rock in which they are found and local climate. Some fossils remain exposed at the surface for decades or centuries, while others weather away soon after exposure depending on the nature of their preservation.

S. 2727 would balance the need for public access to fossils with the recognition that the unlimited disclosure of certain information about particularly significant fossils can lead to the theft or vandalism of those fossils. In the National Parks Omnibus Management Act of 1998, Congress authorized the National Park Service to withhold information about the nature and specific location of paleontological resources in park units unless certain criteria were met. S. 2727 would extend this same authority to the other federal land managing agencies.

As noted above, the Department has several concerns with the bill as drafted. First, it is not clear whether the bill's definition of "federal lands" was intended to include Indian lands. While we would support legislation that addresses the management and collection of paleontological resources on Indian lands, the framework established by this bill is not appropriate for paleontological resources located on Indian lands. For example, the bill would vest with the Secretary the authority to manage and protect paleontological resources and develop plans for keeping an inventory, monitoring, and use of paleontological resources on federal lands. Similarly, the Secretary would be authorized to issue permits for collection of paleontological resources or allow casual collecting of certain resources. Finally, the bill provides that certain paleontological resources collected remain the property of the United States. These and other provisions do not officially recognize the sovereign authority of Indian tribes and the role of individual Indians in managing their own land and resources. For this reason, the Department believes that Indian lands must be separately defined, and a permitting and management regime must be developed that is consistent with the principles of tribal sovereignty and the government-to-govern-

ment relationship. We look forward to working with the Committee and Indian tribes in crafting appropriate provisions.

The Department also would like to further review and possibly refine several of the definitions, including the definitions of "paleontological resource," "casual collecting," and "person." For example, we recommend deleting the provision that specifies that paleontological resources do not include energy minerals. This provision is redundant of the provision in the savings provision in Section 14(1) that states that this Act will not affect activities permitted under the federal mineral development laws.

The definition, as written, also is confusing since energy minerals are not the only type of developed federal mineral that could contain fossil materials. Some minerals that are locatable under the Mining Law of 1872 contain fossil materials, such as marble, chemical-grade limestone, and gypsum. The Department also disposes through sales contracts mineral materials that may contain fossil materials. Finally, even if the federal minerals that Congress has authorized for development and disposal under other laws do not contain fossil materials, the mining or development activities themselves may disturb other materials that contain paleontological materials. Since we understand that the purpose of the savings provision in Section 14 is to make certain that this Act will not affect federal mineral development in any way, we strongly urge the Committee to adopt the amendments that we will propose to clarify its intent.

In addition, the Department recommends another amendment that would provide assurance that this Act will not affect other uses such as federally permitted grazing and timber activities. Ensuring that federal mineral development and certain other permitted activities are not subject to this Act should be a critical component of this bill.

The Department would like to further review penalty and forfeiture provisions to make certain that the system outlined in the legislation is the best way to ensure that the Department's goals are met in the most efficient and effective way.

Finally, the Department suggests amending Section 14 so that the Act does not create a third-party right of action. Such actions can be costly and duplicative and can compromise law enforcement priorities. Once the Department has had the opportunity to review these and other issues in the bill, we will provide the Committee with our suggested amendments. We look forward to working with the Committee on this important bill.

As the prices of fossils rise, the federal land managing agencies will be under increasing pressure to both protect scientifically significant fossil resources and to ensure their appropriate availability to the general public. S. 2727 would create a single legislative framework for paleontological resource management that will facilitate sharing of resources, personnel and partnership opportunities across agency lines.

S. 2598

Mr. Chairman, thank you for the opportunity to present the Department of the Interior's views on S. 2598, Enhanced Protection of Our Cultural Heritage Act of 2002. The Department generally supports the enhancement of statutory penalties for cultural resource crimes, however, it is unclear whether this bill will, in all instances, strengthen cultural heritage protection.

S. 2598 would propose to change the statutory penalties for illegal trafficking under the Archaeological Resources Protection Act (ARPA; 16 U.S.C. 470ee), for embezzlement and theft from Indian tribal organizations (18 U.S.C. 1163), and for illegal trafficking in Native American human remains and cultural items under the Native American Graves Protection and Repatriation Act (NAGPRA; 18 U.S.C. 1170).

It is unclear whether S. 2598 would strengthen ARPA. Currently, ARPA, as read in conjunction with 18 U.S.C. 3571, provides for a graduated system that allows for citation of a Class A misdemeanor as well as a Class D or E felony, depending on the value of the resource and whether or not the offense is a first or subsequent offense. As currently drafted, S. 2598 would eliminate such a graduated system, and instead provide only the option to charge an ARPA offense as a Class C felony. Although increasing maximum fines and imprisonment terms would seem to strengthen ARPA, eliminating the option to charge a crime as a misdemeanor, in fact, may result in fewer prosecutions. U.S. Attorneys Offices may be reluctant to prosecute a case if the defendant's conduct was not so egregious as to normally warrant felony prosecution. Similarly, juries may be reluctant to hold a defendant responsible if a felony conviction appears overly harsh in a particular case. Thus, the Department supports strengthening the maximum penalties, while retaining a graduated system that will provide the U.S. Attorneys Office with the discretion to charge a defendant

with an offense that more appropriately fits the conduct involved. In addition, it is unclear what type of violations the ARPA provision in S. 2598 intends to address. Although the heading appears to apply only to illegal trafficking under ARPA, the subsection amended would actually cover other crimes under ARPA as well. We would like an opportunity to further review the bill and to work with the Committee and the U.S. Department of Justice to craft appropriate language that would more clearly accomplish our mutual goals.

Earlier this year, the Department expressed its support for the establishment of a sentencing guideline for the protection of cultural heritage resources. After a two-year review, the United States Sentencing Commission had found that existing sentencing guidelines inadequately covered a variety of offenses involving the theft of, damage to, destruction of, or illicit trafficking in cultural resources, including national memorials, archeological resources, national parks, and national historic landmarks. Because individuals, communities, and nations identify themselves through intellectual, emotional, and spiritual connections to places and objects, the effect of cultural resources crimes sometimes transcends mere monetary considerations. Consequently, the Commission transmitted to Congress on May 1, 2002 a proposed guideline amendment that takes into account the transcendent value of these irreplaceable resources, and punishes in a proportionate way the particular offense characteristics associated with the range of cultural resources crimes. These amendments will take effect on November 1, 2002, unless Congress passes legislation disapproving them.

Though most Americans may think of looting as a crime that takes place during times of civil unrest, the Department has come to know better. Surprisingly, cultural resource crimes occur frequently and have been occurring with increased frequency on our federal lands. One Bureau of Land Management archeologist in Utah estimates that 80 percent of the surface artifacts at one site have disappeared within the last two to three years. We have seen a shift in the type of looter who commits these crimes. Countless magazine and newspaper articles and television shows discussing cultural resources has led to a dramatic drop in offenses committed by "the casual looter," a recreationist who picks up an artifact while hiking or damages an archeological site. Although this type of theft and damage still occurs, these incidents are uncommon. A more recent trend is the theft and damage of cultural resources by "professional looters," hard-core looters who sell the resources for monetary gain and often have criminal histories, usually drug-related or violence-related. Professional looters educate themselves about the locations of archeological sites and the kinds of artifacts and grave goods that may be found at those sites. Many of them are technology savvy, using Global Positioning Systems (GPS) and conducting extensive computer research to locate specific sites.

In order to maximize the impact of our law enforcement efforts, we have joined forces with other federal agencies to educate law enforcement officers regarding the pervasive criminal activity. Until we are able to completely deter such criminal conduct, we must work hard to use the criminal and civil enforcement tools at our disposal to diminish the looting of our national and Indian treasures. In working closely with the Department of Justice, United States Attorneys, and federal law enforcement officials, we have found that effective prosecutions under ARPA and NAGPRA receive positive publicity and raise the public awareness of the seriousness of these crimes. We believe that such prosecutions can have a positive deterrent effect.

Mr. Chairman, that concludes my statement. I would be pleased to answer any questions you or other members of the Committee may have.

Senator AKAKA. Ms. Estill.

**STATEMENT OF ELIZABETH ESTILL, DEPUTY CHIEF,  
PROGRAMS AND LEGISLATION, FOREST SERVICE**

Ms. ESTILL. Okay. Mr. Chairman, thank you very much, and members, for allowing us the opportunity to be here today. I am Elizabeth Estill, the Deputy Chief for Programs and Legislation for the USDA Forest Service.

I am planning to provide comment on two of these bills, on S. 2727, the Paleontological Resources Preservation Act, and H.R. 3954, the Caribbean National Wild and Scenic Rivers Act. And I will summarize our comments on both of those in that order.

National Forests and Grasslands contain an enormously valuable array of fossils. Unified guidelines for paleontological resource

management and special protection for vertebrate paleontological resources are greatly needed. People's legitimate interest in fossils is at an all-time high. Unfortunately, so is the amount of illegal activity, such as theft and vandalism.

USDA supports the purpose of S. 2727 to establish a comprehensive national policy for preserving and managing paleontological resources on Federal lands. The Department has concerns about one provision and would like to work with the committee with written comments to address this issue.

We, the Forest Service, currently manage paleontological resources under a patchwork of laws that do not specifically address unique characteristics or provide adequate management and protection of the resource, including the Organic Administration Act of 1897, the Archeological Resource Protection Act of 1979, and the Federal Cave Resources Protection Act of 1988.

The latter two statutes only protect certain kinds of paleontological resources where they are associated either with archeological resources or cave resources. So our management strategies and our protection strategies are also patched together. And they are not as consistent, nor are they as effective, as we would like.

Between 1991 and 1996, a period when I was the regional forester responsible for this particular area, a full one-third of all fossil sites inventoried on the Oglala National Grassland in Nebraska were found to have been vandalized. In addition to the market value of the fossils—and we are talking many millions of dollars—valuable data was lost to science and to the public.

In 1996, in a case involving theft on a National Forest in California, which was prosecuted under civil authority by the Department of Justice, it was pointed out that more specific statutes and regulations related to theft of Federal fossils truly were needed.

S. 2727 directs the Secretary of the Interior and the Secretary of Agriculture to manage and protect paleontological resources using scientific principles. The bill recognizes the nonrenewable nature of fossils and defines paleontological resources as "fossil remains preserved in or on the Earth's crust." If enacted, the bill would establish noncommercial collection provisions, including permit requirements for scientific and educational purposes using uniform and consistent data and criteria.

S. 2727 recognizes that paleontological resources are Federal property and that the fossil, as well as the associated field data and other records, will be preserved and made available to the public. S. 2727 is also important to the Forest Service because it recognizes casual collecting of invertebrate and plant fossils for recreational, noncommercial use as a valid public activity on National Forests.

S. 2727 provides for uniform criminal penalties for all the Federal managing agencies. Currently there is a real mixture of sentencing laws, regulations, and guidelines that has created some confusion for U.S. attorneys and magistrates.

Mr. Chairman, paleontological resources, especially vertebrate fossils, are heritage resources. They are evidence of the past history of life on Earth. They provide opportunities for the public to learn more about ancient Earth ecosystems and the development of life from research and study of these resources.

The Forest Service is committed to their protection while providing opportunities for research, education, and recreation. The Paleontological Resources Protection Preservation Act would help secure the authority of the Forest Service to manage and protect all paleontological resources on National Forest System lands.

With regard to H.R. 3954, the Caribbean National Forest Wild and Scenic Rivers Act of 2002, H.R. 3954 amends a section, actually section 3(a), of the Wild and Scenic Rivers Act to designate three rivers in Caribbean National Forest in the Commonwealth of Puerto Rico as components of the National Wild and Scenic River System.

The segments to be designated by H.R. 3954 include 4.5 miles of the Rio Mameyes, 2.1 miles of the Rio de la Mina, and 2.3 miles of the Rio Icacos. All three of these stream segments were recommended for inclusion in the Wild and Scenic River System through the revision of the Caribbean National Forest and Luquillo Experimental Forest Plan.

To cut to the chase, the Department supports H.R. 3954.

And this concludes my statement. I would be happy to answer any questions.

Senator AKAKA. Thank you very much.

[The prepared statement of Ms. Estill follows:]

PREPARED STATEMENT OF ELIZABETH ESTILL, DEPUTY CHIEF, PROGRAMS AND LEGISLATION, FOREST SERVICE

Mr. Chairman and members of the subcommittee, thank you for the opportunity to be here today. I am Elizabeth Estill, Deputy Chief for Programs and Legislation, USDA Forest Service. I will provide the Department's comments on two bills: S. 2727 Paleontological Resources Preservation Act, and H.R. 3954 Caribbean National Forest Wild and Scenic Rivers Act.

Unified guidelines for paleontological resources management and special protection for vertebrate paleontological resources are greatly needed on National Forest lands. Forest users, amateurs and scientists alike, are demanding opportunities for recreation, education, interpretation, and the scientific study of fossils. As these legitimate demands increase so does the amount of illegal activity such as theft and vandalism. Therefore, clearly defined, consistent penalties to deter theft and vandalism of fossils from federal lands are also needed. USDA supports the purpose of S.2727 to establish a comprehensive national policy for preserving and managing paleontological resources on Federal lands. However, the Department has concerns about some of the legislative provisions and would like to provide the committee with written comments to address these issues.

The Forest Service currently manages paleontological resources under a patchwork of laws that do not specifically address the unique characteristics or provide adequate management and protection of the resource. These laws include the Organic Administration Act of 1897, the Archaeological Resource Protection Act of 1979, and the Federal Cave Resources Protection Act of 1988. The later statutes only protect paleontological resources when they are associated with archeological resources, or when they occur in caves, respectively. Between 1991 and 1996, a full one-third of all fossil sites inventoried in the Oglala National Grassland in Nebraska were found to have been vandalized, and as a result, valuable data was lost to science and to the public. In 1996, a case involving fossil theft on National Forest System lands in California, which was prosecuted under civil authority by the Department of Justice and ultimately settled out of court, pointed out the need for more specific statutes and regulations related to theft of federal fossils.

S. 2727 directs the Secretary of the Interior and the Secretary of Agriculture to manage and protect paleontological resources using scientific principles. The bill recognizes the non-renewable nature of fossils and defines paleontological resources as fossilized remains preserved in or on the Earth's crust. The bill goes on to separate these resources from archeological resources, covered under the Archaeological Resources Protection Act (ARPA), cultural resources, covered under statutes such as the National Historic Preservation Act and the Native American Graves Protection and Repatriation Act (NAGPRA) and mineral resources.

If enacted, the bill would establish non-commercial collection provisions including permitting requirements for scientific and educational purposes using uniform and consistent criteria. S. 2727 recognizes that paleontological resources are federal property, and that the fossil as well as the associated field data and other records will be preserved and made available to the public. S. 2727 is also important to the Forest Service because it recognizes casual collecting of invertebrate and plant fossils for recreational, non-commercial use as a valid public activity on National Forests for which a permit may not be required where the collecting is in compliance with land management statutes and with the act.

S. 2727 provides for uniform criminal penalties for all the federal managing agencies for theft and damage of paleontological resources. Currently, there is a complex mix of sentencing laws, regulations and guidelines that has created confusion for United States attorneys and magistrates. For example, for the Forest Service, a first offense is a Class B Misdemeanor, punishable for not more than 6 months imprisonment, or \$5,000 fine, or both. For the Bureau of Land Management (BLM), it is a Class A Misdemeanor, which is punishable for not more than 1-year imprisonment, or \$100,000, or both [18 USC 3571]. The penalties defined in S. 2727 are consistent with proposed recommendations of the U.S. Sentencing Commission for increased penalties for cultural heritage resources.

Mr. Chairman, paleontological resources, especially vertebrate fossils, are heritage resources. They are evidence of the past history of life on Earth. They provide opportunities for the public to learn more about ancient Earth ecosystems and the development of life from research and study of these resources. The Forest Service is a steward of these heritage resources and is committed to their protection while providing opportunities for research, education, and recreation. The Paleontological Resources Preservation Act would help secure the authority of the Forest Service to manage and protect all paleontological resources on National Forest System lands.

#### H.R. 3954 CARIBBEAN NATIONAL FOREST WILD AND SCENIC RIVERS ACT OF 2002

H.R. 3954 Caribbean National Forest Wild and Scenic Rivers Act amends Section 3(a) of the Wild and Scenic Rivers Act (16 U.S.C. 1274(a)) to designate three rivers in the Caribbean National Forest in the Commonwealth of Puerto Rico as components of the National Wild and Scenic River System. The segments to be designated by H.R. 3954 include 4.5 miles of the Rio Mameyes, 2.1 miles of the Rio de la Mina, and 2.3 miles of the Rio Icacos. All three stream segments were recommended for inclusion in the Wild and Scenic Rivers System through the revision of the Caribbean National Forest/Luquillo Experimental Forest Plan. H.R. 3954 would allow, subject to the Secretary's discretion, installation and maintenance of data collection and transmission facilities, construction and maintenance of structures to allow monitoring of threatened and endangered species, and construction and maintenance of trails for research facilities, consistent with protecting the characteristics of the river that merited its designation as a wild, scenic, or recreation river.

The Department supports H.R. 3954.

Mr. Chairman, this concludes my statement. I would be happy to answer any questions from you and the other Members of the Subcommittee.

Senator AKAKA. Dr. Stucky.

#### **STATEMENT OF RICHARD STUCKY, Ph.D., PRESIDENT, SOCIETY OF VERTEBRATE PALEONTOLOGY, AND VICE PRESIDENT, DENVER MUSEUM OF NATURE AND SCIENCE**

Dr. STUCKY. Thank you, Mr. Chairman. I am absolutely honored to have the privilege of presenting this testimony before your committee. I am the president of the Society of Vertebrate Paleontology, which represents 2,100 different professional scientific paleontologists, amateur paleontologists, and commercial paleontologists. I am also the vice president of the Denver Museum of Nature and Science. It has 1.5 million visitors per year and sees 400,000 children, school children, who enjoy the dinosaurs at our museum.

My testimony is in support of S. 2727. Dinosaurs and paleontology are the windows through which most young children get their first interest and introduction to science. Heightened interest in the media has absolutely raised the public interest in dinosaurs

and in the history of life and has inspired greater curiosity. Fossils from our public lands represent a significant national resource. Of 1.8 million vertebrate fossils in public museums and private museums surveyed in 1991, 49 percent of those specimens came from public lands.

This greater curiosity, the specimens we have on public lands and so on, have also unfortunately led to a black market trade in fossils. S. 2727—and I know you have reviewed some of these things, but I wanted to review those as well—has no impact whatsoever on private property or on private lands. It does not change any aspect, any current aspect, of the access to fossil on public lands by amateurs, educators, professionals, or hobbyists. Amateurs and educators will still be able to engage in hobby collecting. It does not require any kind of public investment to collect or curate specimens.

What the bill does is it codifies into uniform guidelines for collecting fossils from all different types of Federal lands. It inspires greater cooperation among educators, amateurs, the general public, and land managers and professional scientists. It also provides for stronger penalties for violations of the act. And it raises the ethical awareness of the value of this significant national treasure.

Why should we have the Paleontological Resources Preservation Act? First of all, fossil theft and vandalism. Fossils are a nonrenewable resource that is the only record of the history of life on our planet. Each fossil represents a unique snapshot of past life. Because fossils are nonrenewable, their loss or destruction is irreversible. And once taken out of their original context, the scientific significance or the educational significance is lost.

Significant fossils on public lands are a national treasure owned by all people. And they should become a part of our national heritage. Preservation and study of fossils with educational and scientific values is the real goal of this legislation. Since the inception of the high interest in fossils in the 1970's, theft and vandalism has become much more common. A number of cases have been prosecuted, but many fossils have been stolen, vandalized and lost forever from our public record.

One of our volunteers at our museum reported that they had found an area where the specimens, dinosaur specimens, partial skeletons, had been bulldozed in order for somebody to come and pick fragments up so that they could be sold as just curios, dinosaur bone curios.

On the national parks between 1995 and 1998, there were 731 cases of fossil theft or vandalism. And we have heard about the one-third of all fossil sites in Oglala National Grasslands being pilfered.

In my personal experience, I found places where graveyards of turtles have been totally destroyed by individuals, where skeletons of an animal, where the skull had been removed for some vandal to take off to put in their collection. In some cases, fossils have absolutely been fabricated to make them much more valuable on the market.

Fines are very small right now for the values of specimens that are so large. A scientific and educationally valuable fossil may sell for thousands, if not millions, of dollars. Even a fossil fish or a tur-

tle shell may sell for up to \$5,000, a dinosaur skull, \$100,000, or one dinosaur skeleton has actually sold for over \$7 million. Fines levied today are a mere slap on the wrist for the specimens that are worth so much money.

The risk of capture and conviction on the part of thieves and vandals is very, very small. S. 2727 raises the penalties. It will not prevent ongoing theft, but it will raise the ethical awareness and standards in order to minimize the loss of this valuable resource.

Support for the basic principles of the bill have been endorsed by a number of groups, including the Western Interior Paleontological Society, one of the largest amateur societies in the country, and the Natural Science Collection Alliance, which is an organization that consists of museum and public and private repositories that hold our specimens.

The Paleontological Society and the Society of Vertebrate Paleontology together represent 90 percent of all paleontologists, as well as a number of amateurs. And together they have provided a joint statement that supports the underlying principles of the bill.

In addition to the many amateurs and professional scientists who support the principles, the American people are in support. In a random survey of 300 people conducted by an individual in a national public marketing firm, 85 percent of the American public that were surveyed agreed that fossils of animals with backbones are a part of the national heritage and should be protected.

One important suggestion on S. 2727 is that the definition of public lands should be expanded to include lands administered by the Army Corps of Engineers. There are many valuable resources and projects going on on these lands. The bill raises the awareness of the value of significant fossils and their importance to our national heritage. It will inspire new cooperative partnerships on the part of amateurs, the public, professional scientists, educators, and land managers. It raises the ethical standard for preserving our national heritage. It promotes better practice in the scientific enterprise, which has been so important to the economic prosperity of our country.

And I would be very happy to answer any questions that you all might have.

Senator AKAKA. Thank you.

[The prepared statement of Dr. Stucky follows:]

PREPARED STATEMENT OF RICHARD STUCKY, PH.D., PRESIDENT, SOCIETY OF VERTEBRATE PALEONTOLOGY, AND VICE PRESIDENT, DENVER MUSEUM OF NATURE AND SCIENCE

I'm very honored to testify in support of S. 2727, The Paleontological Resources Preservation Act. A heightened public interest in dinosaurs and paleontology has given paleontologists an unprecedented opportunity to share with the public the excitement of recent advances in this fascinating science that records the history of life on our planet. Dinosaurs and fossils are now the window through which most young children get their first introduction to science, inspiring a life-long interest in science. While it is gratifying that the public has become more interested in the history of life on our planet, and while paleontologists have been eager to share this knowledge, heightened visibility has also led to the increased commercialization and vandalism of fossils. This has led to a black market trade in fossils from foreign countries (in violation of export laws) and to the theft of fossils from public and private lands in the United States.

There are several points that should be made regarding S. 2727. First, the bill does not change any current aspect of access to fossils on public lands on the part

of amateurs, educators, or professional scientists. It does codify into uniform guidelines current land management authority and practice. What it does do is increase the awareness of the cooperative spirit of amateurs and professionals and provides for stronger penalties for those who would destroy or steal valuable fossils from our public heritage. The bill has no impact on private lands or on privately owned fossils. The bill essentially raises the ethical awareness and standards for preserving fossils that come from public lands. The legislation would adopt the basic principles endorsed by an interagency report requested by Congress published in 2000, "Report of the Secretary of Interior: Fossils on Federal and Indian Lands."

We do need stronger penalties for theft and vandalism to fossils from public lands. Sadly, some of the most egregious cases of theft and vandalism have occurred on federal lands belonging to all Americans.

In 1991, the BLM discovered an illegal commercial collection taking place on federal land. The BLM contacted the Museum of the Rockies at Montana State University Bozeman and asked them to collect the specimen and hold it in the public trust. As a result of this, the most complete *Allosaurus* ever found, which this commercial collector intended to sell to a private collector overseas, belongs to all the people of the United States. As a result of careful analysis of injuries sustained by this dinosaur and preserved in the bones, this particular specimen has yielded a treasure trove of information about how *Allosaurus* lived. The commercial collector, who had attempted to steal this fossil and the information it tells all of us, was never prosecuted.

Unfortunately, the American people were much less fortunate in the case of another *Allosaurus* find. In a case filed in court last fall prosecutors alleged that an *Allosaurus* skeleton was stolen from federal land southeast of Freemont Junction, Utah and sold to a Japanese buyer for \$400,000. BLM official stated at the time of the filing of the complaint that "Because it was crudely collected, we have lost any chance to study the way the skeleton lay in the ground, how it was buried, what happened to it after death, and other plants or animals that may have been buried with it. We have lost a priceless piece of America's natural heritage." According to allegations in the still pending civil complaint, Barry James was contacted in 1991 by Rocky Barney of Richfield, Utah. Barney told James he had found what appeared to be an *Allosaurus* on federal land. Barney asked James if he would be interested in buying the *Allosaurus*. James told Barney he would be interested in buying the fossil and offered advice on how to excavate the dinosaur. James privately told Brown that while it was illegal to remove a fossil from federal land, it was worth the risk. If caught, they would only receive a "slap on the wrist," the complaint charges. (BLM, 2001)

The escalating commercial value of fossils has created a situation where the limited penalties that exist are not sufficient to deter illegal collecting. In the Report "Fossils on Federal and Indian Lands" it was noted that "the fines currently imposed on fossil thieves are usually low compared to the lost resources. For example, one man who had stolen fossils from a national park over a period of years was fined a total of \$50." (Babbitt, 2000 p. 29)

In many cases the theft which is occurring is so widespread and occurring so rapidly that we don't even know what is being lost. In a study commissioned by the Forest Service, it was found that almost one-third of the paleontological sites surveyed in the Oglala National Grassland showed evidence of unauthorized collecting. In 1999, the National Park Service identified 721 documented incidents of paleontological resource theft or vandalism, many involving multiple specimens, in the national parks between 1995 and 1998. (Babbitt, 2000 p. 28)

The increased commercial market for fossils has sometimes led to distortion of the fossil record. In some cases fossils have been altered in order to inflate their commercial value. And we have lost significant specimens from further scientific investigation and exhibit, making it harder for people to see and examine for themselves the authentic objects in our museums. It's critical that scientifically significant fossils from federal lands, i.e. that portion of the fossil record that belongs to all the people, remain in the public domain so that everyone—children and adults, amateur and professional paleontologists may benefit from this irreplaceable resource.

The fossil record is our only way of learning about past life on our planet, and it's important for all Americans to have the opportunity to learn from this record. I've talked with many scientists in various disciplines, and it's amazing how many first became interested in Science through their interest in dinosaurs and other fossils. For this reason we're happy to see that S. 2727 calls for the establishment of a program to increase public awareness about the significance of paleontological resources. As we confront important public policy issues including climate change and the extinction of species the fossil record provides a critical historical basis to help guide our decisions.

I'd like to share a little bit of information with you about how paleontological research is done and why this legislation is essential to ensuring maximal public benefit from this research.

Many kinds of fossils, including those of most vertebrates, are rare for several reasons. Many organisms are not readily preserved as fossils because they do not have hard parts. Only rather unusual sedimentary rock environments preserve soft parts long enough to become fossilized. Also, organisms can only be preserved where sediments accumulate at a fairly high rate. Most organic remains are not buried fast enough to contribute to the fossil record. Vertebrate fossils are much less common than invertebrate and plant fossils across all sedimentary rocks. Although we are fortunate to have some exceptions, spectacular deposits of diverse and complete organisms are rare over the history of the earth. The majority of fossil vertebrate species are extremely rare or are represented by a single unique specimen. For these reasons the chances of any vertebrate becoming a fossil are very small. Thus, individual vertebrate fossils are extremely valuable as bearers of information about the past. Furthermore, fossils of extinct groups are not renewable. More fossils will be discovered and collected, but always from a finite supply. Importantly more than 99% of all life forms that have ever lived on earth are extinct and are only known by fossils.

The rocks in which the fossils are found provide information about the environment of preservation and its climate, the age of the fossils, position in a historical sequence, and paleogeographic location. Fossil assemblages provide information about ecological interactions and communities.

A fossil collected without this information has lost much of its value, and we know little more than that this animal lived and died. In contrast, when contextual data are collected and studied, we begin to understand how the animal lived and its place in the balance of nature. As paleontologists and geologists learn more ways to interpret ancient environments and ecological communities from fossil assemblages in their original context, this information becomes more and more valuable and important. These contextual data allow us to bring these animals to life for 10s of millions of visitors to our museums and to the many young children who have hands-on experience with original specimens.

The understanding of evolutionary processes and relationships comes primarily from comparing the skeletons from different animals to each other. In order to do this; researchers must be able to compare new specimens with those previously unearthed. Oftentimes a new analysis many years later shows our earlier understanding was incomplete or mistaken. For example, when Dr. John Ostrom was doing research on *Deinonychus*, a dinosaur similar to the *Velociraptors* popularized in Jurassic Park, he found that a specimen thought to be a carnivorous dinosaur was actually the extremely rare early bird *Archaeopteryx*. Ostrom's research was critical in establishing the link between dinosaurs and birds that proud young dinosaur aficionados lecture their parents about. Only when specimens are properly collected and curated in public institutions can researchers access these specimens in order to make these comparisons. And when these comparisons and interpretations are made, education and the general public greatly benefit by having access to this new interpretive knowledge through media reports, books, and the Internet.

Several years ago, the Society of Vertebrate Paleontology (SVP) added a Statement of Ethics to its bylaws to help the society and its members handle ethical issues such as those raised by increasing commercialization. Ted Vlamis, a fellow SVP member and amateur paleontologist, summarized the SVP Ethics Statement and a subsequent Joint Position Statement by the Paleontological Society as follows: "The SVP Ethics Statement contains several principles that are particularly noteworthy for their public policy implications. It begins by recognizing that vertebrate fossils are usually unique or rare, and that they are part of our natural heritage. The Ethics Statement assigns to vertebrate paleontologists the responsibility of ensuring that pertinent detailed contextual data are recorded when vertebrate fossils are collected and notes that collection and preparation should be done by properly trained personnel. The importance of proper curation and the assurance of access for future researchers are recognized by the Ethics Statements' provision that scientifically significant vertebrate specimens should be curated and accessioned in institutions charged in perpetuity with conserving fossil vertebrates for scientific study and education. The Ethics Statement further recognizes the responsibility of paleontologists to expeditiously disseminate information to other paleontologists and to the general public. Perhaps the most important part of the SVP Ethics Statement from a public policy perspective is the conclusion that "The barter, sale, or purchase of scientifically significant vertebrate fossils is not condoned unless it brings them into, or keeps them within, a public trust" (SVP, 1994).

In order to ensure that the SVP's public policy recommendations and initiatives regarding fossils on federal lands were also reflective of the wider paleontological community, the SVP initiated a dialogue with the Paleontological Society. Together these two scientific societies include over 2500 individuals, representing more than 90% of professional paleontologists and a very large proportion of amateur paleontologists. This dialogue culminated in 1999 when the two societies issued the joint position statement *Paleontological Resources on U.S. Public Lands*. The PS-SVP joint statement advocates public policy which, like the SVP Ethics Statement, recognizes that fossils are part of our scientific and natural heritage. It goes on to find that fossils on public lands belong to all the people of the United States and that, as such, they need special protection, and should not be collected for commercial purposes. The joint statement concludes that the two societies strongly support actions which "protect fossils on public lands as finite natural resources; encourage responsible stewardship of fossils for educational, recreational, and scientific purposes; promote legitimate access to, and responsible enjoyment of, paleontological resources on public lands by the public and amateur paleontologists for personal use, and by the professional paleontological community, including professional paleontologists from outside the U.S.; and bring fossils from public lands into public institutions where they are available for purposes of education and scientific research" (PS and SVP, 1999). (Summary from Vlamis, 2001)

The SVP had a survey of American public opinion conducted by Mktg, Inc., a market research firm that has conducted over 10,000 studies since its founding in 1979. This telephone survey of 300 American adults analyzed people's responses both to a hypothetical situation involving the discovery of a fossil, and to a series of more general questions pertaining to fossils. A random calling program was utilized which gave every telephone in the US the same probability of being called. The survey results have an accuracy rate of +/- 7%.

Several key points are worth noting, which demonstrate public support for the principles embodied in S. 2727. 85.3 percent agreed with the statement that that "Fossils of animals with backbones are part of our national heritage and should be protected in much the same way that archeological remains (human artifacts) are now protected"; and, 88.0 percent agreed that "If laws are created to restrict the collection of fossils on public lands, the only people who should be allowed to collect them are people with appropriate skills for doing so and with a permit for that purpose. All the fossils that they find should go into museums and universities prepared to protect them" (Vlamis, 2001). The American people want our national heritage preserved as a national treasure.

The membership of the SVP includes amateur as well as professional paleontologists, and fostering cooperation between these groups is a major mission of the SVP. We're pleased that S. 2727 puts no new restrictions on amateur fossil collecting on federal lands—everything an amateur collector can legally do today would still be legal after the passage of S. 2727. At my own institution, the Denver Museum of Nature and Science, we enjoy substantial cooperation among our scientists and amateurs. Our more than several hundred amateur volunteers devote over 30,000 hours each year of their time to our institution. They have collected literally thousands of specimens from public lands that have allowed our collections to grow significantly, enabling more scientific study and public awareness of paleontology. Last year alone more than a dozen of our volunteers either published a scientific paper on fossils in a scientific peer-reviewed journal or presented a paper at an annual meeting of a professional scientific society. Some of these amateurs also published on an entirely new dinosaur species previously undiscovered.

In a poll taken in 1991 of America's major museums, more than 49% of the 1.8 million specimens of fossil dinosaurs and vertebrates in their collections were from public lands. Of the overall total, amateurs had donated more than 100,000 specimens to museums and significantly less than 1% of the specimens came from commercial collectors (Stucky and Ware, 1991).

One small but important suggestion we would make for improving S. 2727 would be to expand the definition of "Federal lands" to include lands administered by the Army Corps of Engineers. There is a great deal of important research occurring on these lands, and they are very accessible to poachers.

I spoke earlier of some major problems that are occurring because of the lack of a law like S. 2727. I'd like to conclude by telling you about one example of the kind of cooperation between federal agencies and paleontologists. Dinosaur paleontologist Jack Horner of the Museum of the Rockies at Montana State University, Bozeman, is in the fourth year of a field study in the Charles M. Russell National Wildlife Refuge in eastern Montana. To date eight *Tyrannosaurus rex* skeletons have been discovered. The field study is yielding valuable information about this most famous of the dinosaurs and the environment in which it lived. The work of the Museum

of the Rockies has made it possible for the National Museum of Natural History, Smithsonian Institution, to collect one of these specimens. Thus, our National Museum will be able to display an actual specimen of this celebrated American dinosaur for the first time. The passage of S. 2727 will foster more and more opportunities like this and inspire the long-term preservation of these priceless national resources.

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## APPENDIX 1

## SOCIETY OF VERTEBRATE PALEONTOLOGY BY-LAWS ON ETHICS

## Article 9. Statement of Ethics

Several goals for the Society of Vertebrate Paleontology follow from its mission statement (Constitution Article 1): to discover, conserve, and protect vertebrate fossils and to foster the scientific, educational, and personal appreciation and understanding of them by amateur, student and professional paleontologists, as well as the general public. Fossil vertebrates are usually unique or rare, nonrenewable scientific and educational resources that, along with their accompanying contextual data, constitute part of our natural heritage. They provide data by which the history of vertebrate life on earth may be reconstructed and are one of the primary means of studying evolutionary patterns and processes as well as environmental change.

It is the responsibility of vertebrate paleontologists to strive to ensure that vertebrate fossils are collected in a professional manner, which includes the detailed recording of pertinent contextual data (e.g. geographic, stratigraphic, sedimentologic, taphonomic).

It is the responsibility of vertebrate paleontologists to assist government agencies in the development of management policies and regulations pertinent to the collection of vertebrate fossils, and to comply with those policies and regulations during and after collection. Necessary permits on all lands administered by federal, state, and local governments, whether domestic or foreign, must be obtained from the appropriate agency(ies) before fossil vertebrates are collected. Collecting fossils on private lands must only be done with the landowner's consent.

Fossil vertebrate specimens should be prepared by, or under the supervision of, trained personnel.

Scientifically significant fossil vertebrate specimens, along with ancillary data, should be curated and accessioned in the collections of repositories charged in perpetuity with conserving fossil vertebrates for scientific study and education (e.g. accredited museums, universities, colleges, and other educational institutions).

Information about vertebrate fossils and their accompanying data should be disseminated expeditiously to both scientific community and interested general public.

The barter, sale, or purchase of scientifically significant vertebrate fossils is not condoned unless it brings them into, or keeps them within, a public trust. Any other trade or commerce in scientifically significant vertebrate fossils is inconsistent with the foregoing, in that it deprives both the public and professionals of important specimens, which are part of our natural heritage.

## APPENDIX 2

## JOINT POSITION STATEMENT BY THE PALEONTOLOGICAL SOCIETY AND THE SOCIETY OF VERTEBRATE PALEONTOLOGY ON PALEONTOLOGICAL RESOURCES ON U.S. PUBLIC LANDS

The Paleontological Society and The Society of Vertebrate Paleontology are committed to increasing scientific knowledge, educational benefits, and appreciation of

the natural world based on fossils—for everyone—child or adult, the general public, or amateur or professional paleontologists. Fossils are an invaluable part of our scientific and natural heritage. They yield detailed information about the history of life and of our planet, and provide lessons for the modern world and our future.

Many important fossil localities occur on U.S. public lands and belong to all people of the United States, including future generations. The Society of Vertebrate Paleontology and The Paleontological Society therefore support the development of policies and practices that can be used by different federal agencies to regulate the collection of fossils on U.S. public lands in an appropriate, clear, and consistent manner.

Many fossils are common (for example, many non-vertebrate fossils) and should be allowed to be collected—in a responsible way—by any amateur or professional paleontologist, thus allowing them to experience and benefit from the excitement of discovery, recovery, identification and study. In particular, because of the benefits that derive from increased public appreciation of fossils, it is important that the participation of amateurs in paleontology is not discouraged by Federal policies and practices.

Other fossils are rare (for example, many vertebrate fossils and some non-vertebrate fossils), and require special protection, especially from destruction by vandalism or commercial exploitation. In particular, because of the dangers of overexploitation and the potential loss of irreplaceable scientific information, commercial collecting of fossil vertebrates on public lands should be prohibited, as in current regulations and policies. The commercial collecting of other paleontological resources on U.S. public lands should be strictly regulated by permit through the appropriate land management agencies. Regulations and policies regarding the collection of paleontological resources from U.S. public lands should be strictly enforced.

In this context, the Council of The Paleontological Society and the Executive Committee of the Society of Vertebrate Paleontology strongly support actions that:

- protect fossils on public lands as finite natural resources;
- encourage responsible stewardship of fossils for educational, recreational, and scientific purposes;
- promote legitimate access to, and responsible enjoyment of, paleontological resources on public lands by the public and amateur paleontologists for personal use, and by the professional paleontological community, including professional paleontologists from outside the U.S.; and
- bring fossils from public lands into public institutions where they are available for purposes of education and scientific research.

Senator AKAKA. Thank you very much. We both have questions for you.

In case I am wrong, Mr. Kearney, I do not believe you had any comments on S. 2727.

Mr. KEARNEY. Yes, sir, I do. Inadvertently, I did not go on to that statement when I completed my first one. So I absolutely do, yes, sir. Thank you very much.

Senator AKAKA. Well, we look forward to having that one.

Mr. KEARNEY. Thank you. And I do.

Senator AKAKA. Now my first question is for the two administration witnesses, and that concerns S. 2727. As your testimony notes, this bill incorporates the recommendations from the report both of your agencies submitted to Congress a few years ago. I want to make sure that I understand the administration's position on this bill.

My understanding is that the administration supports the fundamental concept of the bill in establishing a comprehensive policy for protecting fossil resources on Federal lands. But you have a few technical concerns with some definitions in the bill. Is that correct, Mr. Kearney?

Mr. KEARNEY. Well, yes, sir. As we said in our testimony, we generally support the purposes of the bill. We would like an opportunity to more fully review it and submit some of the specific suggested changes and improvements that we have regarding it and

put those in writing, matters relating to the savings clause as it relates to mineral rights and grazing, for example, some of the definitions. Yes, sir, that is correct.

Senator AKAKA. Ms. Estill.

Ms. ESTILL. That is correct. We have one sticking point that we would like to work through in writing that has to do with the amount of fines and the use of those funds once collected.

Senator AKAKA. I have a question for all of you. Under S. 2727, there is broad authority for the casual collector to pick up invertebrate fossils. Is this exemption too broad so that it might encourage small scale or clandestine excavation? Do you have any suggestions to improve the wording of this exemption? For example, should the bill differentiate between surface and subsurface casual collecting?

Mr. Kearney.

Mr. KEARNEY. That is certainly something we would be happy to take a look at in preparation for the hearing. It was not a focus of our concern. However, there is one point I would take the opportunity to raise with respect to that provision. The Park Service does not currently allow for casual collection. Rather, all of their collection is by permit, and we would like to ensure in the clarification, as we work through the legislation, that that is continued and preserved with respect to their existing practice.

Senator AKAKA. Ms. Estill.

Ms. ESTILL. The Forest Service currently does allow casual collecting by amateurs without permit, but there is not anything that really formally recognizes this activity. We see S. 2727 formally allowing it, and we see that as a good thing for the casual collector.

In terms of how much is enough and how much is too much, I thought it was fairly clear that it did not allow ground disturbing activities. So it would have to be those that are lying on the surface, and you would not allow the digging out without permit. But we would be happy to work with you on that, too.

Senator AKAKA. Dr. Stucky.

Dr. STUCKY. I think as currently stated the bill is fairly comprehensive and direct. I do think that it recognizes on the part of land managers that some current practice in terms of restricting some excavation, major excavation, could occur.

I also think that it is very important to emphasize, though, that in terms of the amateur collector, you know, invertebrate fossils are a major part of the hobby collecting and so on. So we would be very supportive of amateurs collecting invertebrate fossils.

Senator AKAKA. Let me ask: Senator Thomas, do you have any questions?

Senator THOMAS. Well, I do. Of course we now have a vote pending.

But what you just said, Doctor, is what I think everybody is for, preserving these things and so on. But how do you define these things? I have a letter here from a group in Wyoming that protests the proposed legislation which would prohibit rock hounding on our public lands. Much of Wyoming was once an inland sea; much exposed geology there. All vertebrate fossils are not as rare as your legislation suggests.

At any rate, she says, "Do not take rock hounding away from us."

How are we going to define this? And how are you going to enforce it? I am all for it, but I am very skeptical of how you decide where you stop, where you begin. If it is just underground work, maybe so. If it is laying on the surface, who is going to say whether that is—how do you define these things?

Dr. STUCKY. First of all, I do not think the legislation changes any practice as it currently occurs on public lands today.

Senator THOMAS. But it does. There is none practically. How many prosecutions have you had?

Dr. STUCKY. I know from my standpoint, I have some idea about the—

Senator THOMAS. Tell me.

Dr. STUCKY. There have been perhaps a dozen prosecutions; you know, the number of places where there have been specimens taken from public lands, though, 731 cases on national park lands over 5 years.

Senator THOMAS. But you have—it has been against the law. I mean, you have been able to fine? How many times have they been fined? You have to be able to prove it and so on. And I just am not sure. This seems like it is awfully broad. And I am all for it, but how are you going to enforce it? I have already watched the Forest Service, for instance, try to enforce staying on the highway. You cannot do it. You do not have enough people.

Dr. STUCKY. You really can. I mean, the law essentially raises an ethical standard in terms of how we should protect our national heritage. I think that is a really important distinction.

For one thing, there is the ability on the part of the land manager and most people, and certainly most hobbyists, to recognize the difference between a significant vertebrate fossil and invertebrate fossils and fossil plants. They occur in different kinds of rocks, for the most part. And they are fairly easy to recognize based upon commonly understood anatomy by the amateur collectors.

Senator THOMAS. And you do not think they understand it now?

Dr. STUCKY. Yes, I do think they do.

Senator THOMAS. Then what difference is this going to make?

Dr. STUCKY. Essentially for those who are taking those specimens from public lands that are, you know, worth a lot of money and essentially stealing them from the public lands; when you have specimens like the *Allosaurus* that is in my testimony that was taken, virtually taken, from public lands and worth millions of dollars and taken from our public treasury.

Senator THOMAS. If I were in that gang and I could get \$7 million for it, I would not worry about the \$100,000 you are going to fine me.

Dr. STUCKY. For most people, it will represent an ethical standard.

Senator THOMAS. I understand. I just think it is so broad that it distresses me a little bit. I think there needs to be more definition of what it is you are preserving, where it is you are preserving it, and those kinds of things. And I think this lady has a point. I do not want to be afraid to go out and look for rocks somewhere on the BLM in Wyoming.

Ms. ESTILL. The point is well taken. I think that what—in response to your question about how many have we prosecuted in the Forest Service on the National Grasslands, it is 6, which is not a whole lot.

Senator THOMAS. No, it is not.

Ms. ESTILL. And part of the problem is that the laws that we currently operate under really are not very broad in the treatment of paleontological resources. We have the one that sort of protects archeological resources, if they are tied in with people, if they are tied in with archeological resources. So maybe a cave bear that is associated with people or with a cave, because the Cave Act also protects fossils that are associated with a cave.

But those fossils of dinosaurs are not covered by either, unless the dinosaur happens to be living in a cave. So we have been—we have run into an issue of having difficulty in prosecuting cases, because there is this fuzzy space. And one of the things that we like about this bill is that it does help to clear up that fuzzy space.

In terms of the average, you know, a person that likes to go out and collect fossils, we sort of feel like this strengthens their ability to do it on national forests and grasslands. Right now, it is kind of wishy-washy and very much sort of a line officer call. This actually puts into statute that it is permissible without permit for a recreational user to go out and collect invertebrates and plants.

Senator THOMAS. You are familiar with, I guess it is BLM land, but out around Kemmerer, Wyoming in the Fossil Buttes, they have been enforcing this for years, not only the Federal agencies, but also the local agencies.

At any rate, well, I agree with you. I just think maybe we need to take a look at this and see if we cannot define things a little more clearly, so that people are comfortable with what they can do and what they cannot do and so on.

Ms. ESTILL. Right.

Senator THOMAS. Thank you, Mr. Chairman. I am ready to go vote.

Senator AKAKA. Do you have any further questions?

Senator THOMAS. No, sir, I do not.

Senator AKAKA. As you can tell, we have a vote that is pending at the present time.

Let me ask you another question, Mr. Kearney. In your testimony, you raise the general question about the forfeiture and criminal penalty provisions of S. 2727.

Mr. KEARNEY. Yes, sir.

Senator AKAKA. Do any of you have any specific comments or suggestions about these provisions?

Mr. KEARNEY. As we indicated in the testimony, we would like to make—we would like to work with the committee and submit to you in writing some additional suggestions or ways to make sure that it achieves its intended purpose.

Senator AKAKA. Yes. I understand that fossils collected currently under permit are considered government property and must be deposited into an approved repository. Could you explain the criteria or requirements for the becoming an approved repository?

Mr. KEARNEY. I would be happy to provide that with you in writing for our purposes, Senator. I am not immediately familiar with what those criteria are.

Senator AKAKA. Do any of you have any other comments to make about any of the bills?

Ms. Estill.

Ms. ESTILL. No, sir.

Senator AKAKA. I have a few questions remaining. Understand also that we have two votes pending, which will take some time. So what I will do is, if we need to, submit the questions for you. But I want to thank you so much for coming to this hearing. Your responses have been helpful to us. And I want to thank you again for being here.

With that, the hearing record will remain open for 2 weeks. If anyone wishes to submit additional comments or materials to be included in the record, you may do so during that time.

Thank you again for being here.

The hearing is adjourned.

[Whereupon, at 3:05 p.m., the hearing was adjourned.]