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National Park Service Biological Collections Forum

April 2, 2008, 9 am to 4 pm
Washington, DC

Notes

Prepared by Ellen Cull, Meeting Facilitator, Management & Organizational Consultant

The purpose of the forum was **to improve cooperation between the NPS and researchers and museum administrators in collecting, managing and providing access to biological specimens from national park system lands.**

The outcomes of the forum were:

- ✓ An **expanded understanding** among the NPS and researchers and museum administrators of the goals and concerns of the scientific and museum communities and of the National Park Service relative to park biological specimens,
- ✓ Identification of **mutually beneficial options** to improve collaboration and address current issues related to collection and management of and access to biological specimens from national park system lands, and
- ✓ Improved **partnership understanding and future relations.**

The list of participants in the forum is included as Attachment A.

Opening session

Director Bomar welcomed the group and made opening remarks, including the following. The full text of her remarks is included below as Attachment B.

- Our purpose today is to share information with each other, have good honest discussion and get to know one another.
- National Park Service has an awesome responsibility of caring for the nation's natural and cultural legacy.
- In order to carry out this responsibility, we rely on a host of others—concessioners, cooperating associations, friends groups, and many other partners.
- Among these partners are a host of social and natural scientists on whom we rely to give us data for informed resource management.
- Each year, many universities and museums partner to care for the biological collections. We want to be sure that they are cared for based on professional standards. We have recently developed a Park Museum Collection Storage Plan. Cooperative engagement of partner museums and universities is part of that plan.
- We in the Park Service want to encourage science in the parks through granting scientific research collection permits. If we are discouraging appropriate research projects, we want to fix that.
- Policies of the National Park Service often differ from those of other agencies that have less stringent legal protections. However, laws and policies can be changed if circumstances warrant. Change is never accomplished without first engaging in dialogue. I hope we all will speak freely. Shared leadership means speaking in plain

English about what we can do together and not being afraid to voice opinions and concerns.

- I've spent 17 years in the NPS in the field. I am not the traditional bureaucrat. I can be innovative and creative.
- I'm sure that we will find commonalities and opportunities to collaborate. I am serious about this group coming together again.

Deputy Secretary Scarlett made opening remarks and provided an overview of cooperative conservation, including the following points. The full text of her remarks is included below as Attachment C.

- For many Americans, national parks help define our identity as a nation and help keep a record of our history. Parks are also great natural expanses. There are 391 park units, of very different types, and 85 million acres. The story of nature is written on our park landscapes and is partly told through scientific research.
- The National Park Service has 124 million items in park collections, including 2.5 million biological specimens.
- The National Park Service mission is inspirational and succinct—to preserve these great places unimpaired for current and future generations. The mission is complex at the same time.
- One complexity is the management of scientific research and interface with scientists. There is a long list of questions to be answered.
- Parks are a foundation for exploring broader scientific questions to help us accumulate knowledge about the world. There are over 180 institutions with biological specimens from national park lands, over 300 with natural history specimens of all types, and over 2,000 permits issued [to collect specimens] in one year alone.
- Parks need science partnerships and many are flourishing.
- But we have to ask, are we inspiring science partnerships to the best of our ability, exploring synergies, inspiring research and welcoming researchers consistent with our role as stewards?
- The opportunity that this conversation presents is to explore how we work together to protect our parks and educate the nation. We affirm that these parks are the public's lands and resources.
- Cooperative conservation is the hallmark of 21st century conservation—a reflection of the management imperatives of a complex world to integrate and share knowledge across disciplines.
- Parks have to work with museums and universities to preserve scientific collections. Park facilities don't totally serve our needs. We need the help of partners.
- Parks offer the cradle of biological resources that inform us. At the same time, curating collections requires resources.
- Do we have processes that encourage science in parks and offer reasonable protections to park mission and lands while enhancing scientific knowledge?
- I have read e-mail exchanges between parks and researchers and museums. All assembled around this table and our colleagues share one common value—to assure that specimens are maintained in proper storage environments and are accessible

over decades. There are questions about continuity of collections and long-term access for research, as well as use of data.

- Does the uncertainty associated with impermanent loans limit research because the specimens can be recalled?
- Everyone wants proper labeling and stewardship of specimens. The questions we must ask are about the frequency of audits and the nature of reporting requirements. Are the current ones the best they can be?
- There is a key phrase raised in the Organic Act—the NPS may also grant privileges, leases and permits for the use of land...and no natural curiosities...shall be leased, granted or rented...so as to interfere with free access to the public. The question related to this is, can ownership be transferred with the equivalent of deed restrictions that allow free public access, or is ownership the only option? I have no answers and no pre-judgments.

Participants briefly described the experience and perspective they brought to the forum and their desired outcomes for the day.

- Hans-Dieter Sues: I am concerned about facilities and access to the specimens. I'm interested in working out a solution that benefits all parties.
- Robert Gropp: I would say the same things as Hans-Dieter Sues.
- Nancy Russell: In my park, there are hundreds of active research permits per year. I am interested in the issues of ownership and access. Can ownership be transferred? Should it be? In what circumstances? What is best for park resources? Collections? Science in general?
- Ann Hitchcock: I hope to lay to rest some of the urban myths that permeate both inside and outside the NPS relative to this dialogue, so we base our points and assertions on documented facts.
- Matt Patterson: We experience many challenges in curation. I hope we can find ways to care better for the specimens.
- Ellen Paul: Over the 10 years I have been involved in discussing this, I have come to firmly believe that there is a range of solutions that could serve the NPS, DOI, and the museum community. This meeting is a chance to get a good solid start on that.
- John Dennis: A lot of the discussion may focus on specimens as research tools. My interest is to encourage the understanding that they are also powerful resource management tools.
- Bob Reynolds: I am interested in seeing productive discussions on facilitating research on NPS lands, eliminating impediments to research and ensuring the proper care for museum specimens.
- Ron Wilson: I am here to listen and learn.
- Stephanie Stephens: The NPS is definitely culturally based and it would be nice to connect within the park the natural and the cultural worlds and continue to bridge gaps with the universities.
- Greg McDonald: Good science means replicability, meaning that those specimens are available to the next generation to examine. Our highest goal is to ensure that material is available to researchers and resource managers. We need to provide the highest level of quality control.

- Lori Breslauer: I'm here mainly to listen and try to understand the issues and ambiguities regarding ownership and the legal basis. Accessions at the museum are linked to title. If title can't be acquired, it's a problem. The Field Museum discourages long-term loans.
- Bill Stanley: I represent a number of people committed to best care for specimens and making sure they are available to everybody.
- Carol Butler: I am passionate about collections and making them available and accessible. I'm deeply interested in being part of the dialogue and learning more about the definition, practices, and policies and understanding what looks like variable practice within the NPS. I would like to be able to offer answers now or later regarding what the Smithsonian Institution does, how we provide access and respond to issues regarding proper stewardship in perpetuity for this national heritage.
- Keith Langdon: There's a good reason for the NPS policies as they were written, but is there a way to streamline them? We're concerned about our relationships with the scientists so we can get inventories done. How it gets resolved isn't as important as getting it resolved.
- Jim Solomon: Fundamentally, we have to look at what is best for the specimens. The variety of uses to which they can be put is innumerable. They are a resource waiting for people to ask questions. Our interest is in facilitating access that is as free and available as possible. We want to manage for the long-term and maximize information that can be derived from specimens. We want to provide the right kind of storage and access.
- Rich Rabeler: SPNHC's chief goal is preservation of the specimens. We're also very concerned about the long-term access to those specimens. Ownership has come up quite a few times—how does taking on someone else's collections fit into my bottom line? I'm also interested in learning about NPS positions. How do your needs fit into this puzzle?
- Scott Miller: I'm interested in finding the best resolution that meets the needs of both the NPS and the scientific community. I'm part of the Interagency Working Group on Scientific Collections. All representatives in this group have the responsibility to make sure we're meeting the needs of the public. Let's also remember the specimens that don't exist because they are not being collected because a growing sector of the science community is avoiding working in the national parks and going to state parks next door.
- Tom Olliff: I have different views based on the different roles I have in the park. As chief science advisor, I want to make the parks accessible to scientists. As the person who's in charge of the curation program, I'm very concerned about stewardship and access. As the person in charge of the compliance program, I know that there is a small, dedicated group of the public that will care deeply about this. As coordinator for benefits sharing, I'm concerned about the implications of ownership for that function. As park manager, I'm concerned about instances where scientists have not stored collections well. I want to solve this problem.
- Bert Frost: I want to better understand the legal complexities and ambiguities. I hope we will be able to craft good policy to get the guidance to the field and work with

partners so that they understand NPS policy. Ultimately, I hope to have the best protection and long-term preservation for the specimens.

- Mary Foley: We have to facilitate research in parks. NPS can't undertake all research. I'm interested in hearing what the impediments are.
- Larry Stevens: I represent a private museum very concerned with ownership and the fact that the NPS can request that their specimens be pulled and placed somewhere else. As a scientist, I know that parks are managed as fiefdoms with a lot of variation. More communication between the science community and the NPS would be very beneficial. Also, I would like to see an integrated database of all specimens and one single location for voucher specimens.
- Dan Odess: I oversee the park museum program. Regardless of what sort of decisions are made today about ownership, I want this group to recognize that, whether we do it ourselves or contract it out or give away stuff, there are tremendous costs with each course of action. We're in the early stages of a major biological collection effort in the NPS.
- Molly Ross: I'm here to help provide answers to legal questions. I hope we distinguish what is policy and what is law and be as creative on all sides as possible and look at how to address legal limits.
- Jon Jarvis: My region has been working on understanding the effects of global climate change to the NPS. A recurring theme is that some of our management assumptions will be challenged and that the NPS needs to accommodate science and research. The perception in the field is that we don't do a good job of that and are anti-research because of the administrative burden placed on scientists. I want to resolve some of those issues.
- Sue Masica: I plan to be doing a lot of listening and gaining a better understanding on a lot of the perspectives, to hear where there might be common understandings and agreement on mutual objectives and how law and policy might be changed to achieve them.

Director Bomar and Deputy Secretary Scarlett expressed their regrets at needing to leave the meeting after the opening session. Mary Bomar said she was sorry that we haven't done this sooner and that she wants the group to come together again. Lynn Scarlett added that to listen is to develop an inner silence. There's a shared goal here to serve the public well. We all affirm the profound importance of science and want excellence in process and care of collections.

The group agreed to the following ground rules for discussion:

- We seek first to understand the perspectives of all participants.
- Our primary focus is on dialogue that might lead us to identify mutually beneficial options to improve collaboration. In accordance with the direction of the Federal Advisory Committee Act (FACA), we are not making any decisions at this forum.
- In general, we understand that each person is giving his/her professional view. When representing a view formally stated by an organization, we make that clear.

Ownership of biological specimens collected on national park system lands: Need and interests

History of the issue—Ellen Paul, Ornithological Council

Ellen Paul made the following points:

- This issue predates the involvement of the Ornithological Council from 10 years ago.
- Sometime in the 1980s, the NPS realized that when museum scientists were taking specimens from the parks, it was difficult for the NPS to know where they were and how they were being maintained. We were in the dark ages when it comes to computer capacity.
- In 1984, the NPS promulgated a regulation to require that the specimens bear specific NPS labels and be cataloged in the NPS system. They talked about cataloging and not accessioning.
- Between the 1980s and a decade later, the issue of ownership did arise. The museum community began discussing the problems with the NPS. In 1993, the NPS Museum Management Program proposed that the NPS transfer ownership. There was a regulation drafted but I don't know what happened with it.
- I came on the scene in 1998, and started carrying the banner. We had a number of discussions regarding the legal issues and the policy and pragmatic issues. It was a long, slow process interrupted by the court decision that resulted in the NPS writing an Environmental Impact Statement (EIS) on benefits sharing. As a result, the discussions about specimen ownership were put on hold. Once the Draft EIS (DEIS) had been issued in 2006, I met with NPS staff. We were unable to resolve anything.
- About a year ago, I and Scott Miller went to Lynn Scarlett and asked that she elevate this discussion to the level of the DOI. We submitted a proposal that did not succeed. Then some magical force decided it was time to hold this meeting.
- This meeting gets all of us on the same wavelength.

Needs and interests of the NPS in ownership and related mission and policy—Jon Jarvis, Regional Director, Pacific West Region

Following is a summary of the points Jon Jarvis made. The full text of his remarks is included below as Attachment D.

- I've seen major improvement across the country in professionalism of curation and facilities as well as with universities and other repositories.
- We need to start on the common ground of the value of these collections.
- Where we diverge is that from the NPS standpoint, from a policy standpoint, we look at these specimens as a permanent record of the state of that park at a particular moment in time. That information becomes extraordinarily valuable in decision making, in fights in the court system or related to boundary development. You see many challenges to the NPS every day in the media—coral reef declines, for example. We turn to these specimens to look at what they say about this resource, as this unit of the NPS. Parks are the best of what we have in public lands.

- A perfect example most recently is the Grinnell resurvey in Yosemite replicating the work Grinnell did in 1915 to survey the Sierras from top to bottom. We're finding extraordinary changes that affect our thinking about how we view global climate change—some small mammals are now being found thousands of feet higher than they were in 1915.
- The NPS is unique in terms of its body of law. We're charged by Congress, the courts and the President to maintain these parks in perpetuity. We need this kind of information to do that. The specimens represent this essential knowledge about the biogeographic diversity and genetics of individuals and systems.
- Biological specimens also have monetary value. Prospecting and the trading of specimens add a layer of complexity to this issue and to the ownership issue.
- All of this has translated into an assertion of ownership. In a national park unit, everything is protected. Scientists have a unique authority to collect something that the general public cannot collect. It is a rare privilege to come into a unit of the NPS and collect and kill something that might otherwise be preserved. The NPS is conservative on this point.
- This conservatism has translated into an extraordinary administrative burden that is part of the problem and has put a pall on scientific work in the parks.
- I've canvassed the field and can confirm that the NPS hardly ever speaks with a common voice. There is dissent among the ranks. One employee has said that some NPS staff suggest to researchers that they say they are going to destroy the specimens through analysis to avoid the ownership issue.
- I need to know that our position is based on excellent science and that whoever is sitting in my seat a hundred years from now still has access to that information. Our focus should be on those future generations.

Discussion was:

- Ellen Paul: Most of the bird specimens Grinnell collected were stored at Berkeley. They have spent a lot of money to acquire software to make all the information related to the specimens available online. They have housed and curated the specimens all these years. Does their holding the specimens cause an impediment to NPS?
- Jon Jarvis: No, but you're talking about the University of California system which is top of the line in terms of facilities. And the Grinnell study is fairly unique—there have been few such surveys where a collection like that has been used independent of the NPS.
- Lori Breslauer: Private museums are also in the perpetuity business, charged with holding the collections in trust for future generations. We undergo a pretty stringent accreditation process that extends to all facets of operations, including how we house and preserve our collections. We have fungi collected in the late 1800s and are being used to assess environmental air quality.
- Greg McDonald: Based on our current count, the NPS deals with at least 280 outside repositories. In this room, we're dealing with the crème de la crème of our partner repositories. Not represented are cases where an individual professor has his own repository and is facing retirement and there is no commitment from the university to ensure long-term care of that collection. There's a phenomenal gradation here from

big universities and museums to “mom and pop” operations. The policy has to be flexible enough to work at multiple levels. One of the things we’re facing now is orphan collections because of changes in hiring practices and new people are not as collection-oriented as their predecessors.

- Bill Stanley: Many of the people in the American Society of Mammalogists are looking at the Grinnell survey and resurvey as a model. There are many repositories in the Society who are part of mom and pop operations. We have an accreditation program through the society and the NPS might think about contacting these societies if a collection looks like it’s going to be orphaned and you need to seek a new home. There are people thinking about these things.
- Tom Olliff: Berkeley has a good collections facility but to get into the collection you have to go through a process. One person has 20,000 specimens that have not been properly cataloged.
- Ellen Paul: When you have a problem like that, that would be the time to contact SPNHC or another national association to get into the act to bring pressure to bear. If you’re going to have to curate, store, identify, label and accession thousands of specimens each year, you’re not going to give priority to specimens you won’t have in perpetuity.
- Rich Rabeler: Institutions of the ilk that have accreditations with an association meet the gold standard in their businesses and have internal administrative processes if you have a problem. That may not be the case in the mom and pop shops. I understand the NPS issues there, but there might be a way to address that.
- Bob Reynolds: One issue for scientists is that specimens be available to all scientists and we need the ability to loan.
- Hans-Dieter Sues: AAM [American Association of Museums] accreditation requires safeguarding specimens as well as access. We must insist that the administration of each accredited institution makes sure that there is a field collection number system so you can retrieve the information.
- Scott Miller: There are also accounting rules under agencies for museums to show the processes they have in place for dealing with curatorial standards.
- Carol Butler: It’s valuable to hear that your interest is in the aggregate, not just the individual specimens. What is your level of satisfaction with the level of information you can retrieve when the information goes to various repositories? Are you able to gather up that aggregate view again?
- Jon Jarvis: A lot of it depends on personal relationships. The NPS has invested in the last 10 years to build a more robust data set about the resources we have, but we are still faced with making tough decisions on an almost daily basis. It’s a hit and miss game. It’s galling at times when you take a position on a resource and then find out that there was information about the resource you didn’t know existed.
- Larry Stevens: The discussion here makes good sense until you get to the topic of insects—the number of specimens and the complexity of identification. Are all types of specimens viewed the same way by the NPS? That’s part of our challenge. The challenge is having a national database of all species—that’s a long-term goal. The NPS is setting the gold standard for specimen protection. Those views are not shared by other agencies.

- Jon Jarvis: The NPS can't necessarily be lumped in with other federal agencies. The body of law is distinct. It is also the NPS culture and history to assert our ownership of certain things, like wildlife. The states think they own wildlife and we'll probably have to try that case 50 times. Every time we do, we win, but the message doesn't get out. This is in contrast to the US Forest Service or BLM, that don't assert ownership over wildlife. This is not only about insects, but also the emphasis on All Taxa Biological Inventories—we're going to need partners to help us maintain that. We have a capacity issue. We have extraordinary cultural collections and some of our policies are built around that responsibility. We are just facing this issue in terms of biological collections.
- Dan Odess: Part of the legacy of how the NPS Museum Management Program has evolved is that it has been focused on cultural collections. As a result of that, our staff expertise is much greater in curating cultural material than in natural history collections. Unless you get far into the weeds, those distinctions aren't that important. But when you get down to what you do with the insects, those distinctions are critical—in terms of how you design facilities, environmental controls, dealing with integrated pest management. It will be critical to draw on expertise outside the NPS.
- John Dennis: There's an irony in that a specimen becomes a cultural object once it is prepared and labeled by humans—it is no longer natural. The future is how we move forward in maintaining all these cultural objects, whether they came out of the human natural world or the rest of the natural world.
- Nancy Russell: From the field perspective, we're talking about the NPS but the reality in the field is that many parks are doing things very differently. So a researcher works with one park and one set of expectations and then works with another park with another set of expectations. I would imagine this is frustrating, because NPS policy is not being implemented the same across all units. We need to come up with something that is more standard so it is more even for researchers.
- Ellen Paul: There are scientists in museums who are fully aware of the restrictions and think that somehow magically those conditions don't apply or will go away. They know the score and there are side discussions and side agreements reached with NPS staff.

Needs and interests of researchers and museum administrators in ownership—Rich Rabeler, President-Elect, Society for the Preservation of Natural History Collections (SPNHC)

Following is a summary of the points Rich Rabeler made. The full text of his remarks is included below as Attachment E.

- The mission of SPNHC is to improve preservation, conservation and management of natural history collections to ensure their continuing value to society. Most members are people who deal with specimens day to day.
- As professionals, our concerns are what is best for the long-term preservation of the specimens and access for research.
- Specimen ownership is often considered a basic tenet. Museums assume that the items in a collection are owned by the institution and should be maintained to professional standards for maintaining them and making them available. This means

the right to freely loan to researchers, integrate them into collections and distribute duplicate specimens to other researchers through trade or gift.

- There is a cost to this curation—supplies, personnel, facilities.
- In many institutions, pressures to justify the operation and existence of natural history collections are increasing. Some institutions are being more cautious about the further acquisitions of collections. You're asked how many specimens are being used. Should an institution enter into an agreement to acquire specimens where ownership is not included? In the past, we would have been glad to take the material. But with scarcer resources, this will be less likely. Being big is no justification for being bigger. Outright ownership is seen by many as giving access to the specimens for further research. NPS specimens are subject to being recalled and to limitations on loans. The threat of recall is perceived as making access to the specimens more limited. I heard of one instance where NPS did recall a collection.
- One of the other issues that has come up is the status of older collections that have been made on NPS lands or on lands before they became NPS lands. In the most extreme version of the conversations I've heard, they would be considered to be owned by the NPS and be subject to recall. They've curated the specimens for many years, have been integrated into their collections and have been accessed by researchers for years. The institution has an investment.
- Many collections are making their collections data available online, making the data more accessible. Collections from NPS lands could be much more widely known this way. This comes at a price to the museums. Collections with Internet presence lead to more loan requests. There is a concern about putting these specimens from NPS lands on these web sites because they could be more susceptible to recall or regulation.
- Administrative burden is another issue. One individual suggested that the recording issues are more of an issue than acting as trustee. Institutions with multiple repository agreements are particularly aware of this. I understand the NPS desires to be adequately aware of and to properly curate collections, but there's a cost to us that adds to our burden.
- Research on NPS lands is actually being reduced by this administrative burden, for example due to the costs and requirements of getting a permit.
- The size of the collection for most museums prevents doing a regular inventory.

Discussion was:

- John Dennis: The presentation assumes that the NPS interest in managing specimens is not the same as all the other museums and managers and that it is okay for other institutions to require ownership but it is not okay for the NPS.
- Rich Rabeler: Why should the museum take care of something they don't own? That's the most simplistic way of saying it.
- John Dennis: I understand that, but that doesn't say why the NPS should give up its ownership.
- Bill Stanley: If the NPS had a museum in a park and I deposited five specimens there and took five back to the Field Museum, I would assume that the five I left belonged to the NPS and the five I took belonged to the Field Museum.

- Tom Olliff: The model seems to be that the museum that houses the collection is the one that owns them rather than the place they came from. From the NPS perspective, it's where they came from that determines ownership.
- Ellen Paul: People collect for different reasons. If you're doing an inventory for the NPS, you're asking one question. If you're collecting for a specific scientific question that you have, the specimens represent a collection of things that provide a cogent answer to that question or set of questions. It's physically put in one place for a biological reason. Disrupting a collection disrupts its biological integrity.
- Bob Reynolds: Jon Jarvis basically compared the NPS with the museums that I'm familiar with. I never thought about the NPS as a museum operation in the sense of natural history collections. I'm talking about an institution that has a dedicated staff to do research on those collections, to manage them, and support and facilitate the use of those by the scientific community. Do you have that same entity within the NPS providing those services to the scientific community?
- Dan Odess: Usually, we do not. There are 10 AAM accredited facilities. If you compare the typical NPS operation with a typical medium-sized natural history museum, we are not meeting the same standard of care or offering facilities to provide access. We often have staff with collateral duties. However, if you look at where the NPS was a decade ago, things are improving quite dramatically.
- Greg McDonald: If you look at individual parks, no, we do not have museums as you describe them. But as an aggregate we are a large museum with lots of satellites. We have museum management people in parks who care for collections and are responsible to make collections available. The one thing that many museums have is the luxury of specialists to deal with individual components of a collection. The NPS also has the added challenge that at many parks the primary collections are cultural and the curators are being forced to deal with natural history collections that are outside their expertise. That has driven our need to pursue partnerships. Our partners bring a diversity of skills that there is no way we can duplicate at the park levels. The big question is, if an institution is incurring costs to care for materials, what do they get out of it? As the NPS, we can provide funding and supplies to help care for that. It's up to the partner repositories to work with parks to tap into those resources.
- Dan Odess: In principle there are mechanisms that would allow the NPS to pay for staff.
- Bob Reynolds: Natural history museums are dedicated to fostering research on specimens and the administrative burden is getting those materials available as quickly as possible to a worldwide scientific community. I don't doubt that your intentions are the best, but are you committing the resources to make the materials available to the scientific community?
- Hans-Dieter Sues: Ownership is a multi-faceted beast. There's the physical safeguarding, but the NPS also has significant intellectual property interests. In the museum community, we grant contemporary Native American artists various rights. If we bring in collections from foreign countries, we sign material transfer agreements that limit what we can do. We have to come up with some system that respects the

legal rights of all of the entities. To talk about a monolithic concept of ownership isn't very helpful.

- Larry Stevens: I have great respect for the NPS and people trying to do their best, but the on-the-ground scene at most park locations is not very good. One park knocked the head off an insect specimen in the process of photographing it. I'm interested in that specimen because it's one of the last chances to see it. Some park collections for insects haven't been opened for 30, 40 or 50 years. How can we establish a more open scientific process that allows these valuable scientific specimens to be available to science?
- Ellen Paul: The concept and the word "ownership" seem to be a huge barrier. There are lots of specific things that can be done to address the issues on both sides. Let's talk about the underlying attributes and specific types of arrangements that can be made to satisfy each side and get rid of the concept of "ownership." For example, in terms of collections being developed to meet a park's inventory needs—if I suggest that the birds go to a particular museum, do parks have the ability to negotiate that agreement?
- Ann Hitchcock: Researchers can propose in the permit application where they'd like to have the specimens reside. As part of the permit application, you as the applicant take it to the proposed repository, which signs the agreement if it is willing to accept the specimens.
- Dan Odess: Yes, that's doable.
- Ellen Paul: I thought the park wanted to keep things all in one place.
- Ann Hitchcock: It's not only possible to have them in different places, it's common.
- Larry Stevens: There are some parks that require that all specimens and my original field notes be returned to them.
- John Dennis: They can ask for copies of your field notes, but not the original.
- Dan Odess: Most natural history museums are explicitly geared toward furtherance of knowledge and that is not part of how the NPS has thought of itself. And yet we recognize that there is a tremendous benefit to research and we want our decisions to be knowledge-based and we want knowledge to increase.
- Bob Reynolds: It truly would be an impediment to someone considering doing research if they were told their specimens were going into a collection that did not actively make those available.
- Ann Hitchcock: As a follow-up to Rich Rabeler's talk, I'd like to offer a couple of clarifications that may relate to urban myths. Some of you are aware of this first case as it was widely circulated on group mailing lists. It concerns the Sternberg Museum and NPS-permitted research by Jerry Choate. The permit designated the park collection as the repository. The specimens were loaned to the Museum for research. The park ranger, however, implied in conversation that the collections could go to the museum for ongoing curation. The Sternberg Museum was going to pack the specimens for a move to new facilities and they would not be accessible once packed. At this time the park asked for the collections to be returned. Jerry Choate was critical of the park's storage conditions, but they had, in fact, been improved. This was a recall of a loan, but the park was the designated repository on the permit. The second situation involved NPS claiming ownership of specimens collected before a park was

established. If lands were federal before the NPS acquired them and the other federal agency had not conveyed ownership, then the NPS as a federal agency would assume oversight for the federal property—that is ownership. But if the specimens had been conveyed by a federal agency to another party, then the other party would own them. And if the land had not been in federal ownership before it was established as a park, the NPS should not be claiming ownership of the pre-park collections. They would belong to the previous owner.

- Ellen Paul: These are public lands, not federal lands, owned by the American people.
- Matt Patterson: As part of the inventory and monitoring program, there is information that has ended up in a central repository and database that hasn't gone public because of the information about the location for threatened and endangered species, rare species and species that are potentially exploitable. Once the information is made available once, it's FOIA-able.

Ownership of biological specimens collected on national park system lands: Legal aspects

Following is a summary of the points made by Molly Ross, Office of the Solicitor, DOI. More complete notes of her remarks can be found in Attachment F, below.

- For the NPS, the concept of “in perpetuity” applies not just to specimens, but to the park and its resources and values. Jon Jarvis came at this by saying that the NPS looks at specimens as a permanent record for park areas. This is because NPS managers are place-based land managers. They have a responsibility to manage park lands, their resources and values, in perpetuity. For this reason, the toughest laws on preventing alienation of property apply to parks.
- I understand that this “ownership” word is a bugaboo that may be keeping us from coming to workable solutions.
- The NPS has a very challenging mandate—to preserve parks and their resources—when there are influences and activities beyond the NPS's control that affect parks.
- NPS's research mandate in the 1998 National Parks Omnibus Management Act is primarily for the benefit of the parks and park management.
- NPS is not alone among federal agencies in considering biological specimens to be federal property. For example, NOAA [National Oceanic and Atmospheric Administration] has recently announced with respect to the new Hawaii National Monument that any specimens taken will be federal property. The Fish and Wildlife Service believes specimens taken on national wildlife refuges are federal property, too, but has no written policy.
- As already noted, however, the NPS is different from other land-management agencies in some respects. Based on the NPS Organic Act, parks have been reserved for the specific purpose of preservation. This is different from BLM, for example, and the research institutions. You are most interested in the specimens. We are most interested in the locations. The Secretary has the highest duty of care for the parks. NPS land is excluded from the definition of property under the Federal Property and Administrative Services Act of 1949. Congress must specifically authorize the disposal of national park property.

- In 1978, the 1916 Organic Act was supplemented with even stronger language for resource protection—the so-called “Redwoods Amendment”—that requires specific direction from Congress to do something that would impair park resources or values.
- By the way, because it is two words in the 1916 NPS Organic Act, the “wild life” that must be preserved in parks refers to both flora and fauna.
- We have a common interest with museums in the value of science. The NPS has long been interested in education as well. In a 1918 letter establishing the first administrative policies for national parks, Secretary Lane said parks should provide education, including science classes, and establish museums with natural history collections.
- The Museum Act of 1955 more explicitly describes the NPS museum function and the ownership of museum objects.
- Title II of the National Parks Omnibus Management Act of 1998 addresses inventory, monitoring, management, and research in parks. It states that there are five purposes: to more effectively achieve the mission of the NPS, to enhance management and protection of national park resources, to ensure the appropriate documentation of resource conditions in the national park system, to encourage others to study the resources, and to encourage the publication and dissemination of studies. These purposes are all very heavily tied to the NPS mission. Title II also contains a provision for confidentiality of information relating to certain park resources: NPS has the ability to withhold information if disclosure would place the resources in jeopardy.
- NPS also has relevant policy guidance on this subject, including Management Policies, Director’s Orders, guidelines, the Museum Handbook, Benefits-Sharing EIS (in process).
- NPS permit conditions state that specimens are federal property. Ownership of research specimens was essential to the Government’s litigation position in the *Edmonds Institute* decision concerning benefits sharing for uses developed from specimens collected under permit in Yellowstone NP.
- NPS ownership in this context enables parks to share in the benefits derived from any commercial development of the research material.
- With respect to the issue of ownership and wildlife, there has been litigation over the years—mostly between states and the federal government—regarding who controls wildlife. The case law shows that the NPS has management authority over wildlife on park lands.
 - In 1969, in *New Mexico State Game Commission v. Udall* the State tried to require NPS to get a state permit to kill deer as part of a research study in Carlsbad Caverns National Park. The Tenth Circuit Court rejected the State’s argument and recognized NPS authority over wildlife captured in parks when such capture is determined necessary to NPS management of the park.
 - In *Kleppe v. New Mexico* (1976) the State had to return wild burros that the State had removed from public lands. The Supreme Court held that the Property Clause gives Congress the power to manage wildlife on federal lands notwithstanding State laws.

Once wildlife on NPS land is reduced to capture under the terms of a collection permit, NPS has ownership.

Discussion was:

- Ellen Paul: The property clause really refers to the land.
- Molly Ross: And appurtenances to the land.
- Ellen Paul: Douglas vs. Seacoast Products, 1977, says, “It is pure fantasy to talk of owning wild fish, birds or animals. Neither the states nor the federal government has possession . . . until they are reduced to capture.” A lot of the frustration that many of us have had is an assertion by NPS authorities that they are prohibited from transferring ownership. You’ve made a compelling case for the NPS being different in regard to statutory authorities, but there’s not clear-cut statutory prohibition.
- Molly Ross: I’m struck that the Federal Property Administrative Services Act excludes the NPS from the definition of “property” for disposal. You use the word “transfer,” but we usually use the word “convey” to indicate a change in ownership. The Museum Act makes a distinction between transfer and convey—there’s a lot of flexibility for transfer and loans, but I’m not prepared to answer today whether we could convey ownership of park resources. I’m comfortable with the position that we do retain ownership. The best solution would be to come up with other ways to resolve this issue unless there’s new legislation.
- Ellen Paul: There is a deaccession policy which suggests that there’s no total barrier. If I’m a scientist and I get a permit, certain restrictions apply. If I get a fishing permit, other restrictions apply and I can put that fish on the wall.
- Molly Ross: There is authorization to consume berries, nuts and mushrooms without a permit. And you can take uninhabited seashells for personal consumption.
- Nancy Russell: In terms of ownership are we really talking about things post-the 1984 CFR [36 CFR 2.5g]?
- Ann Hitchcock: The regulation dealt with cataloging and labeling and requirements for reporting. It does not address ownership. So, we go back to everything that Molly Ross laid out about ownership, and any permit or agreement language that applies to the specific situation.
- Molly Ross: The NPS used to do a lot of things that we have changed.
- Lori Breslauer: I’d like to throw into the mix a right of possession that might be a permanent right of possession if a museum closes its doors. Under the Antiquities Act, there’s a concept that things belong to the museum as long as its doors are open. If it were that they would be removed only for cause or upon agreement, we would be willing to consider restrictions on commercial use and sale. But if we have some sort of right to possess these items in perpetuity to care for them, that might work.
- Mary Foley: To whom might we convey? Might there be competition among repositories and museums? Do you want to be in that position?
- Larry Stevens: I can’t find the word “science” in the Organic Act and that’s probably why we’re here. It’s an add-on of basically 10 years ago.
- John Dennis: To me, doing science is a way of enjoying life, which is in the Organic Act.
- Larry Stevens: But a court will say that the agency doesn’t really have a mandate for it. Every scientist I know avoids working on NPS biological issues if they can. The burden of trying to do research and cope with collections is formidable.

- Carol Butler: At the National Museum of Natural History, we use the word “transfer” when we receive collections from federal agencies. What is the distinction between transfer and conveyance?
- Molly Ross: The connotation in my work on federal lands is that conveyance means ownership. You can transfer with all kinds of restrictions.
- Carol Butler: In day-to-day life, I get a letter from Bob Reynolds as the representative of USGS saying that he is transferring to us these six flying squirrels to be added to this collection.
- Ron Wilson: But there is specific authority for that under the Sundries Act.
- Molly Ross: The NPS recently conveyed some lands in DC where we actually conveyed from the US to DC some property. In the Museum Act, “convey” is used very particularly and applies to the ownership section.
- Ann Hitchcock: But both [transfers and conveyances] are deaccessions. We have deaccessioned historic objects and transferred them to the Smithsonian.
- Ellen Paul: The NOAA fisheries policy says “transfer.”
- Dan Odess: As a [non-NPS] museum curator in Alaska, I dealt with roughly a dozen federal agencies as well as states, tribes and private landowners. Somebody says the Antiquities Act might have some relevancy here. It reserves the federal ownership of archeological remains and all but the most obstreperous museum curators recognize that. I curated a collection with specimens belonging to all these different agencies. It seems complicated, but in reality it worked pretty well. When we would provide data for on-line databases, we would only say roughly where an archeological site was for sensitive things. We can use polygon locality data to protect information. Dealing with these day to day—some agencies wanted to be notified if we did anything with their collections and I would say that wasn’t realistic. I asked them to delegate authority to us to make decisions with respect to these collections. They would typically agree, or agree with some conditions. The end result was that I was able to say I needed some love or some cash to train some students, complete databases, etc. At the end of the day, the fact that the federal government still owned these collections in no way impacted the result or access. If push came to shove we had the weight of the federal government behind us. What aspects of that scenario do you see not working for the NPS? For the museums and researchers? One area where a lot of museums could benefit from the NPS is the whole benefits sharing piece, to draw on the NPS expertise.
- Bill Stanley: I’m impressed with how frank everybody is and the topics that have come out here. If we proceed with putting ownership aside and talk about permanent right of possession, I’m concerned about personalities, about the NPS wanting to come back and use the specimen for something else. I want to be able to accept a specimen deposited in The Field Museum collection so that The Field Museum is always and forever responsible for that specimen and we can ensure objective research. I want to be able to tell an NPS person who wants to withdraw an incisor from an NPS specimen that the person cannot because that’s not in the best interests of the specimen and science.

- Ellen Paul: The National Marine Fisheries Service is talking about what happens if an animal strands on a national seashore—neither NPS nor NMFS owns stranded marine mammals. NMFS is designated by Congress to manage the trust responsibility.
- Ellen Paul: What happened to the regulations that the NPS was about to promulgate in 1993 or 1994?
- Ann Hitchcock: It [36 CFR 2.5] was getting revised. It was never published for comment. In 2001, a package of regulations was being assembled to move up toward the Department, but NEPA compliance staff advised against moving ahead with this particular regulation while the benefits sharing EIS was underway. An attorney in the Solicitor's Office opined that superintendents do not have authority to convey ownership of public natural resources collected under permit.
- Tom Olliff: This was the whole CFR [36 CFR 2].
- Ann Hitchcock: Yes, it covers a lot of other topics.
- Sue Masica: The regulations are not dead in perpetuity, but nothing is happening on them.
- Molly Ross: There's case law that says no one owns wildlife while it's still alive, and Congress has said the NPS can retrieve it. Case after case has said the federal government has the power to regulate live animals. Four out of the five purposes for the NPS research program are tied to science-based management for the parks and to furtherance of scientific knowledge. On the other side, we are saying the best way to achieve that is through the kind of management that we can provide. Park management tends to be more focused on preservation.
- Scott Miller: The cultural and biological communities tend to approach the preservation issue differently. Biological specimens are more often used for extraction of new layers of information than are historic objects. There is new knowledge extracted from biological objects as new researchers arrive and new technologies are developed. Putting the biological specimens out into the biological science community means that information will get added to those specimens, which is in turn of value to the NPS management. If those specimens are in an archival storage mode they're out of the mainstream of the biological community.
- John Dennis: There's an assumption that all NPS biological specimens are archived and stored.
- Scott Miller: There are a few parks making the collections available, but I was responding to the NPS staff comment that there is a mentality of archiving.
- Dan Odess: The cultural collections are very much contributing to new knowledge and benefit the public through interpretation. That's an important aspect of this—that ongoing use for public enjoyment. We could argue that research is part of that. The distinction is that the museum program staff within the NPS have come at things because they've been told to from a preserve and protect approach and their knee-jerk reaction is going to be to do that. But there are often competing objectives in management activities.
- Ann Hitchcock: I think it's really the same in cultural and natural, maybe approached a little differently. There is an accretion of knowledge associated with the object or specimen. The natural resource side has formalized it with the concept of the annotation label.

- Keith Langdon: I'd like to talk about confidentiality. In the Smokies, we have sophisticated poachers who come from Europe to steal our beetles. We want to make sure our collections go to publicly accessible institutions. Bad guys are trying to use information on the web in different ways. Today's common species can be poached next year or in the next decade. We have to protect the location of that rare species forever. Some of the worst arguments I've had are about labeling locations for rare species. I'm curious how the museum community sees a way around this.
- Carol Butler: We have the same concerns. Our data access policy allows us to limit some of the information we put online. We have reserved the ability to limit providing some kinds of information. What we would need to do as a community is agree on the level of fuzzing we would do and some responsible methods for fuzzing and unfuzzing for legitimate research.
- Keith Langdon: A lot of the researchers I've talked to are adamant they want all information on the label because they don't trust computer databases. And we can't predict what information we may want to restrict. We think that we lose species in our park every year. We have a list of several hundred species we want to withhold locality data on.
- Matt Patterson: We worked with Fairchild Tropical Botanic Garden to put information online. Only NPS has full access. On a case-by-case basis NPS and Fairchild can give access to others through agreements. We can delegate the access allowance. The other challenge is that even releasing a species list by park can be a slippery slope. In considering point data versus polygon data, in small parks one can readily figure out where sensitive species are.
- Ellen Paul: The Fish and Wildlife Service does not have a FOIA exemption. Most evildoers are not getting information in museums off of [specimen] labels. In most cases the data are available elsewhere.
- Bob Reynolds: We restrict information at the National Museum. We found out that even though we were limiting data on turtles, all of this data was readily available in other scientific literature. Those evildoers who are young and sharp know how to find the information.
- Jim Solomon: With our database, we suppress a lot of the precise locality information. We work hard to know the people that come and use our collection. But this stuff is out there in the literature.
- John Dennis: The FOIA protection given to the NPS applies from 1998 on. There have been two court cases that did not involve the NPS and dealt with a listed or rare species, with information that another agency had in its possession. We argued and the judge accepted that, because of the wording in the FOIA exemption, it is a national park system resource and that the resource is the gene pool, and agreed that we could fuzz up the specific locations and some information about the nature. What we have learned from all that is that NPS has a statutory duty not to release specific location information about a national park system resource. Bringing in the population lets us generalize what is meant by "national park system resource." We are trying to develop guidance that keeps people in the NPS from releasing any information on these things and on developing confidentiality agreements that others will not release the information unless authorized.

- Dan Odess: One of the things that any policy we develop needs to incorporate is to hold confidential the name of the collector. There is a small but very militant animal rights or welfare group that has physically threatened people who collect birds.
- Hans-Dieter Sues: Museums already have a policy that only the names of dead collectors will be included in the records.
- Bob Reynolds: We couldn't figure out who was dead and picked 50 years as the time period within which we would not release names of collectors.
- John Dennis: The NPS Research Permit and Reporting System (RPRS) assumes all names and addresses are in the public domain.
- Scott Miller: The FBI takes threats of violence against scientists by radical animal rights groups very seriously.
- Molly Ross: Only if there is a verifiable threat can names and addresses be withheld.

Ownership of biological specimens collected on national park system lands: Options to improve collaboration related to ownership and associated issues and constraints

The group discussed options to improve collaboration related to ownership and associated issues and constraints.

- Ellen Paul: Permanent right of possession would address the concern about whether a specimen could be recalled, how much time and money you want to spend curating something you don't own, and the physical issues of segregating specimens. You tell the museum you possess it in perpetuity. You can include the right of reverter to prevent orphaning—if the museum decides to deaccession, the NPS has the first right of refusal. Everyone wants the maximum use of specimens to generate information for the NPS and everyone else; at this time and for the foreseeable future, the best way to achieve that is by keeping specimens in museums that have the staff, expertise, and resources.
- Carol Butler: In addition to the physical possession, there would be a right to move among museums subject to other legal restrictions and record-keeping requirements.
- Bill Stanley: We would treat these specimens like any others in our collection.
- Ellen Paul: That's not 100% true, because there would be the right of first refusal and record-keeping requirements that may be shared with NPS.
- Bill Stanley: I'm suggesting we treat these specimens like any others. If we thought they were going to be orphaned, we'd look for another institution to take them.
- Greg McDonald: How often does The Field Museum deal with ownership issues from other countries?
- Bill Stanley: We deal with it a lot and case by case.
- Keith Langdon: A lot of our authorities talk about managing resources. We might want to pull that incisor to look at mercury conditions, and you [Bill] are suggesting that The Field Museum could make that decision [whether we would be allowed to or not]. That makes me uncomfortable.
- Bill Stanley: I would get a proposal from you to do destructive sampling. You would have to convince us that it is in the best interests of science and that you could meet the criteria we would like to see met for destructive sampling.

- Greg McDonald: I'm concerned about what would happen if someone wanted to try something new with a specimen.
- Bill Stanley: I would suggest that you try it on our teaching collection and let you practice.
- Lindsay McClelland: We have representatives of a number of distinguished institutions in this room. Perpetuity is a long time and things happen to institutions. If we go down this road, we need to think about how we could get those specimens moved if the institution goes downhill.
- Bob Reynolds: We deal with destructive sampling on a weekly basis. We allow it if it will advance science. We determine how rare the sample is and how much it will impinge on our collection, provided that we can be convinced it will advance science.
- Nancy Russell: The description of permanent right of possession sounds like permanent loan.
- Ellen Paul: It removes the recall right. It has more teeth.
- Nancy Russell: How under this scenario does the information get transmitted back to the parks about those specimens? Now, with one keystroke I can get information on squirrels from my park.
- Bill Stanley: The method is already out there to do it via the web.
- John Dennis: The question is more specific—for that specimen, how does the park get new information?
- Carol Butler: It would be difficult to send you an alert, but you could have a practice to check the records periodically or we could send an announcement on a regular basis. It is not practical to notify parks of updates.
- Dan Odess: With modern databases, it would be pretty easy. You could do an automessage when the record is updated.
- Keith Langdon: Back to destructive sampling, there are a lot of smaller repositories. We should start off with the perfect world, and park people at the field level have thought we should have a synoptic collection. But if a park doesn't have a curatorial facility, there might be a way to organize local repositories for easy use. Parks need to think about depositing at several different resolutions.
- Ellen Paul: We're moving very fast into a lot of detail. When we enter into partnership, there's a certain amount of getting to know one another and building trust and the details can be worked out.
- Carol Butler: If I'm wearing my registrar's hat, my obligation to collections on loan to my museum is different from collections that have some degree of the "o" [ownership] concept attached to them. I have much more responsibility for things that have that flavor than things that have the loan flavor. If I'm thinking about what I'll spend money on enhancing, I'll prioritize to things that are more in the ownership category.
- Tom Olliff: With regard to benefits sharing, there's a constraint with regard to the NPS being able to retain some kind of interest. In Yellowstone, we'll always be haunted by the one that got away—*Thermus aquaticus*. The scientific process worked perfectly and has benefited all of us. Yet, this pharmaceutical company is making billions of dollars on this and it feels like the National Park Service should have benefited from it. The park kept the pool in the natural condition from the 1960s to 1976 so researchers could recollect a specimen of the species.

- Stephanie Stephens: The Park Service works slowly. We've been talking about this for 15 or 16 years or longer—by the time you get this document and get it through the Solicitor's Office. I'm trying to think about other things we can do now to move this along.
- Scott Miller: I don't see why under some arrangement that's a permanent right of possession the NPS couldn't retain intellectual property rights. In the art world, there are ways the intellectual property rights are separated from the ownership of the product. I haven't heard any museums saying they're not willing to do that.
- Molly Ross: Because of FACA we are not moving toward consensus.
- (Unattributed statement): This concept of right of possession is a concept from the Antiquities Act and NAGPRA. We're trying to get away from ownership to see possibilities. The concept is that it's closer to ownership but not ownership. What all this says is we're partners. If these concepts make sense and we can justify them on current authorities or seek new authorities, then we have to work out the details. We still have resource management needs.
- Greg McDonald: We need to define the terms. The Federal Accounting Standards Advisory Board (FASAB) has certain requirements. Would items with right of possession be exempt from these requirements? It seems to me we would look at anything going out on permanent right of possession being removed from the inventory.
- Scott Miller: When the Park Service talks about permanent loan, it's not what the museum community talks about. The Park Service talks about five-year renewable loans and the museum community talks about much longer term.
- Carol Butler: Permanent loans are a real nightmare in the museum world and are discouraged.
- Ron Wilson: We need to remember that the federal museum community, including NPS, is being impacted by mandates from the federal financial community. These include audit standards related to heritage assets mandated by the Federal Accounting Standards Advisory Board.ⁱ
- Ellen Paul: We should note that there are other issues that would need to be resolved related to this option—like retroactivity both in terms of existing collections and benefits sharing. Would these agreements cover what's already there? Second is that there has been no discussion of funding.
- Sue Masica: We need to be careful that we don't come to consensus or agreement; we've got good fodder. We'll work our way through the ideas. There may be other ideas out there.

Other options to improve collaboration

The group then discussed other options to improve collaboration and associated issues and constraints.

- John Dennis: Asked that Ann Hitchcock describe the generic repository agreement.
- Ann Hitchcock: When we realized that, with the exception of ownership, we could do everything else being proposed in the regulations in the 90s, we developed a generic

repository agreement that makes accommodation for a lot of the burdensome administrative issues. For example, it says that if the museum has an equivalent inventory process, it could substitute that process to address the Park Service inventory requirements. Collections get integrated into the museum's collections, the repository can do third-party loans, and the institution can make decisions regarding destructive analysis except for T&E species and certain other rare/highly significant specimens. The proposal is that the agreement starts at 25 years duration with the intention of renewing it, but putting things back on the table for discussion at the 25-year mark.

- Matt Patterson: We have an agreement with Fairchild Tropical Botanic Garden. They have a herbarium online with a digital copy of all herbarium sheets. We spent \$60,000 to scan, mount and label specimens and captured about 10,000 sheets. We've also worked with the [Florida] Museum of Natural History [University of Florida] on fish. The challenge of integrating NPS collections into a larger collection is when the museum reduces its collection, will it give priority to the NPS specimens for retention? Having a 25-year agreement keeps the relationship alive so that the people who come after us have a chance to work out a new agreement.
- Jim Solomon: If you keep the NPS collection segregated, it will not get the use because it's small and tucked in these cabinets. But there's a trade-off in terms of combining with the main collection. For example, just finding three botanical specimens out of 10,000 may be difficult.
- Nancy Russell: We developed a multi-park agreement with the Florida Museum of Natural History building off the generic agreement as a cooperative agreement because we wanted to be able to transfer funds. Our wet collection needed work to get it up to standards. We negotiated certain fee rates that apply in our agreement. We gave them the ability to do third-party loans. They have integrated our specimens into their collections. They have both NPS and their own tags on them. I coordinated with their IT staff to export the data from their database and incorporate it into the NPS database with minimal manipulation. We're in year three of the 25-year cooperative agreement, which will allow the renegotiation of some of those initial costs. The only thing we retained was the issue of destructive analysis. We would get their recommendation and that would factor into the decision for the superintendent to approve.
- Carol Butler: Ann Hitchcock and I have been having conversations about our shared interests and the constraints, including the issues of monitoring use and providing access and providing care. *What's been good about this dialogue is breaking it down into increments and being clear about definitions and being clear about the costs and responsibilities.*
- Ellen Paul: A couple of things might help foster partnership and trust no matter where we go with this. First is professional development. There's a lot of expertise in both the Park Service and the museum and research communities. Some of the specific ideas we could pursue are a consultation process, rotation of people back and forth between museums and Park Service, and museums offering training sessions, internships or professional development programs. What I'm hearing is that the repository agreements were generated in good faith with the purpose of solving a lot of

these problems. But sometimes the way they are perceived isn't positive—there's the impression that one park wants everything to go from its park to the designated repository.

- Nancy Russell: Our agreement does say that they are not the exclusive repository. The other thing we put in that allays the fear that we're going to recall collections is that we will bear the costs of the recall.
- Ellen Paul: There's still a perception that the NPS might try to recall specimens from other institutions to put them in the repository with which the NPS has an agreement.
- Greg McDonald: Those other institutions can have agreements with the NPS as well.
- Bert Frost: This goes back to the earlier comment about the level of trust. It seems like the repository agreement could be a mechanism that could work. What do other museum people think about that?
- Hans-Dieter Sues: An agreement like that doesn't exclude anything and people are free to negotiate their own agreements. I don't understand this concern.
- Ellen Paul: There's a museum with tons of new space that has been approached about a repository agreement. What will fill this space? It will come from other repositories in the region.
- John Dennis: Are you sure it's other museums and not the parks?
- Larry Stevens: The example Ellen is talking about is a federal facility in a different area than where the collections are now.
- Carol Butler: I don't think the Natural History Museum has this particular concern. In terms of repository agreements, the most worrisome issues are resources and fulfilling responsibilities and the administrative burden of tracking and reporting.
- Bob Reynolds: All of this sounds very reasonable and still I'm not surprised that many people in the museum community are scared about an agreement with any entity that might mean that the NPS would remove their specimens from their museum. There's always going to be a nagging fear that there's a potential for this.
- Bill Stanley: I agree with what Bob Reynolds said. If I had confidence in an agreement I signed with the Park Service, I wouldn't worry about the big warehouse down the street.
- Ann Hitchcock: The number of permits issued in 2007 designating non-NPS repositories was 534 (around 300 total repositories), and 296 park repositories, for a total of 830 out of 2,306 permits issued to collect specimens.
- Keith Langdon: At some level will this be taken on by networks?
- Greg McDonald: The park superintendent has the authority to sign off on agreements.
- John Dennis: Could that be delegated to someone in the network?
- Larry Stevens: Do you interact with the AAM and participate in accreditation and can that be used as a bridge for this discussion? Can they be involved in discussions about the repository agreement?
- Ann Hitchcock: We do have accredited parks. We had approached AAM about doing an overall approach to the NPS, evaluating our policies and handbooks and then being able to evaluate large numbers of individual parks. The AAM said that approach would break their system—they could not accommodate that kind of a concept. They can handle one or two parks a year.

- Ron Wilson: On an interim basis, DOI has used AAM accreditation to evaluate non-federal repositories where DOI collections are stored. But the auditors are saying we have to use our own process.
- John Dennis: The networks give a way to streamline the signing process.
- Hans-Dieter Sues: AAM is not the body to do this. It would make more sense for SPNHC and NSC Alliance [to develop a generic repository agreement with NPS].
- Dan Odess: I've been on the receiving end of having collections yanked out of repositories. It's not my experience that federal agencies do that lightly. It came down to the institutions that were housing the collections having dropped the ball. I'm not aware of any instance where any federal agency has arbitrarily withdrawn collections.
- Tom Olliff: My experience is that PIs have places they wish to put things and where things end up is really dependent on the PI.
- Nancy Russell: A lot of times they don't know we have our own repository. When there's a good scientific reason, I don't have a problem with it going somewhere else.
- Greg McDonald: A lot of times our PIs are from small departments. They're doing a great job with limited resources but they're never going to meet the requirements of accreditation.

Closing session

Themes / common ground

Sue Masica said that the Director regrets that she was unable to return. Sue listed the following as some of the themes and areas of commonality she heard through the day:

Macro:

- The importance of the dialogue and need to keep it going and engage others who are not at the table
- Need to engage NPS in this dialogue
- Mutual care/concern about the future and perpetuity
- Partners are definitely needed and trust and common language must be built (and perhaps even that NPS needs the scientific community more than it needs us).
- There is a question of competing for partners—not all partners are equal.

Micro:

- The importance of science (as with access, different motivations and drivers)
- Assuring access to the collections (although there are different reasons/needs for the access and implications thereof)
- Commitment to proper care for the collections
- Administrative burdens that can be made easier to reduce time and cost as well as address the disincentive factor
- Potential differences in capacity between "big name" and "mom and pop" museums
- Importance of knowing where the collections are

Continuing this effort to improve cooperation

Discussion and options related to continuing this effort to improve cooperation that were identified by participants are:

- We need to continue this conversation between the National Park Service and the museum community.
- We also need to talk within the NPS.
- Can we get this information out to partners who are not here to get their feedback and extend this discussion beyond those in this room?
- Circulating the notes and ideas more broadly would be fine.
- AIBS would be happy to talk about finding a productive way to circulate them.
- SPNHC already has a discussion session being planned next month and it's a joint meeting with NSC Alliance.
- Natural Resources in the NPS will circulate it within the NPS.
- Is the NPS interested in participating in these scientific communities and bringing these issues out into the open? NPS has presented sessions at AIBS and NSC Alliance conferences in the past.
- We might want to have listening sessions around the country of this nature to make it easier for parks and the museums. It would be nice if we could consider a small group of core people to go to each session to help to create the same kind of dialogue we've had here in different parts of the country.
- The DOI Museum Program hosts a booth at the AAM meetings and can distribute materials there the last week of April.
- We could have a listening session in the future at a SPNHC conference.

Closing statements

Participants made closing statements on their experience of the day and their hopes for the future:

- Bill Stanley: This has been an incredible discussion. I welcome having a national park museum in a national park. It's not museums vs. national parks. We are invested in making sure that the specimens go towards the best possible science so everyone else will have the information for the management of the parks, but if we have to put a different label or negotiate for use of those specimens, it becomes an incredible burden.
- Greg McDonald: The one thing we can all agree upon is that outside natural history museums provide a lot of specialized expertise that a lot of parks can't meet or afford. One of the things that I would like to see come out of this is to look at a funding initiative where we would have more funds to work with our partners providing these services.
- Stephanie Stephens: It's nice to see the passion inside and outside the NPS. We are in fact putting on a training class on curating natural history collections with the Museum of the North. I hope that the momentum continues on.

- Ron Wilson: I'm pleased to see the common goal of increasing research and reducing barriers. There's a lot of opportunity to reduce barriers within existing policies and guidance.
- Bob Reynolds: I learned a tremendous amount about the NPS and have a much better appreciation for the specific concerns that the NPS has. I was most impressed with Lynn Scarlett and Mary Bomar, who basically said, "If you people are open and honest, you can come up with good ideas." And we did that. The goals of the NPS and museums are extremely compatible, with the exception of some "o" issue and some semantics.
- John Dennis: I want to make sure that everybody remembers that specimens contribute to long-term resource management and benefit sharing as well as research. We can move forward if we focus on what we can do together.
- Matt Patterson: There are success stories of good relationships between the NPS and museums. I want to encourage the top tier of the scientific community to work with parks.
- Ann Hitchcock: First, I would like to thank Eastern National for providing the food for lunch and breaks. Second, having been a curator in non-NPS museums as well as in the national park system, I have long believed that there was much to be gained by partnerships among museums and parks and have worked for a long time toward that end. I am encouraged by the discussion today.
- Nancy Russell: I appreciate the communication today and hearing from the perspective of the other institutions. I like this approach to look for flexibilities of where we can work together to meet everyone's needs instead of getting stuck on the issue of ownership.
- Robert Groppe: This clarified a lot of interests from different groups and I heard a lot of opportunities and models. I found a recognition on the NPS side of concerns over finances in administering and maintaining collections and a willingness to work with us. The value of this kind of meeting also applies to how the science community and the NPS come together to leverage each other's resources and expertise.
- Hans-Dieter Sues: I was delighted to see a lot of open-mindedness about the issues and common interests and value in developing partnerships. We all want to make sure these things on public lands are safeguarded and made available to the general public—not just scientists. There are new opportunities to collaborate with electronic databases and if we're willing to face the issues and lower the barriers we can have productive partnerships. USDA and USGS have staff at NMNH–NPS could do the same. Send some people over to be in residence at the Smithsonian.
- Phil Sheridan: If Mary were here, she would have said, "Open up the tent and bring in the squeak of the wheel." She did this at Oklahoma City National Memorial, Independence NHP and the Northeast Regional Office. Bring in those people that have the greatest concerns. One thing she would be disappointed about would be if she found out this were the only meeting of the groups. I think she would support listening sessions.
- Sue Masica: The burden is on all of us to keep the conversation going, since Lynn and Mary move on in a few months.

- Dan Odess: I think there was a recognition that there is an intrinsic benefit to the NPS in research and there are additional benefits to partnerships for curation, like more effective management of natural history collections. I'm encouraged by the willingness to move forward and keep talking. There is some urgency to this. The earth is changing at ways and rates it hasn't done in the last 10,000 years and to the extent that current NPS policies and practices are inhibiting collections on park lands, we need to take down some of the barriers.
- Larry Stevens: The long-term conservation of specimens is such a burning issue. Communication with the external community to the NPS is something to cogitate on. It might be a reasonable strategy to have a FACA committee. There are issues of data management and accessibility we have not dealt with at all today. The NPS mission cannot be accomplished by focusing strictly on NPS lands. The policies of other land-managing agencies are often at odds with NPS policies. If the NPS could refrain from accessioning unidentified specimens, that would help us a lot.
- Mary Foley: Some action that we've taken has given the perception that we're doing something detrimental to the museum community. We need to dispel those myths and that's been a good outcome today.
- Bert Frost: Thanks to Ann Hitchcock, John Dennis, and Ellen Cull for organizing and to all for coming. I was amazed at how much common ground we do have. I thought there was a much broader expanse between our views. I don't see anything that can't be worked through with more conversation. I hope we can in a relatively short period of time put this issue to bed and work together in a constructive relationship.
- Tom Olliff: In my job of getting better science for resource management, ownership hasn't made the top 10 list of issues. It's interesting to hear the museum side of it.
- Scott Miller: I hope that some set of people get together and draft a sample agreement of some sort. A key element will be being very careful about the definition of about six words. There are a number of folks who are federal employees but part of the broader museum and herbarium community who could be brought in without violating FACA. One of the other tidal waves on the horizon is that NEON is moving forward and will result in a huge wave of specimens and biomaterials that will probably come from park lands. It would be nice to get ahead of that issue. There is probably a higher awareness of the importance and need for funding of scientific collections in the federal government today than there has been in the past 50 years.
- Rich Rabeler: I discovered so much commonality even in doing the introductions. We aren't as far apart as I perceived we were. I learned a lot about the NPS, the policies and the background behind them. The generic repository agreement sounds like it addresses a lot of the issues I've had. One of the things the research community did not appreciate is the importance of our research to your management decisions. We need to communicate that better to our people so we can see how we can work toward that. I think I can arrange this issue to come up at the American Society of Plant Taxonomists this year.
- Jim Solomon: I've learned a lot about the NPS and how it approaches collections and its needs. One of the things is that there needs to be more communication between parks and museums. Parks need to know how they can draw researchers in to provide information that parks can use. At the same time, researchers need to know

how they can work with the resources in parks to meet their own needs. We're an altruistic lot, but there are problems of funding to manage collections for institutions.

- Keith Langdon: The national park system and the museum community need to work together. We need to rapidly put the "O" word discussion behind us. This is a distraction. Funding for researchers to use the national park system is important, too.
- Carol Butler: I'm very heartened by what I heard here today and I'm inspired. One of the things I hope comes out of this meeting is a working group on how to make the information sharing piece work to address Tom Olliff's concern to know when the record changes. One of the other things I'm looking forward to is a discussion with Rich Rabeler and Hans-Dieter Sues about how to broaden the dialogue here and share what we've learned. The biggest aha moment for me today was realizing what your mission is. I was not clear on the resource management aspects of your mission and how that influences you. It makes me see how some of our aims are different and understand your perspective. It has reduced some of the us vs. them kind of thing. The other thing that I observed today is that part of what we're experiencing today is the culture change about how we think about the "o" word. We think about that in the museum world in terms of our relationship with international entities. Notions of ownership are changing and it's healthy to have a dialogue.
- Sue Masica: Nothing more needs to be said. You have all given a good summary.

**Attachment A:
Department of the Interior
National Park Service
Biological Collections Forum Participants
April 2, 2008**

Following is the list of those who attended the forum on April 2. The list is in alphabetical order and annotated for changes as of July 2008, and includes current e-mail.

Mary **Bomar**, National Park Service, Director (Mary_Bomar@nps.gov)

Lori **Breslauer**, The Field Museum, Assistant General Counsel
(lbreslauer@fieldmuseum.org)

Carol **Butler**, National Park Service, Smithsonian Institution, National Museum of National History, Chief of Collections (ButlerCR@si.edu)

John **Dennis**, National Park Service, Natural Resource Stewardship and Science, Deputy Chief Scientist (John_Dennis@nps.gov)

Mary **Foley**, National Park Service, Natural Resource Stewardship and Science, Acting Associate Director (Mary_Foley@nps.gov) (Northeast Region, Chief Scientist)

Bert **Frost**, National Park Service, Natural Resource Stewardship and Science, Deputy Associate Director (Bert_Frost@nps.gov) (Associate Director)

Robert **Gropp**, American Institute of Biological Sciences (AIBS), Director, Public Policy Office (rgropp@aibs.org)

Ann **Hitchcock**, National Park Service, Park Cultural Resources for Natural Resource Stewardship and Science, Curator and Special Assistant (Ann_Hitchcock@nps.gov) (Natural Resource Stewardship and Science, Curator)

Jon **Jarvis**, National Park Service, Pacific West Region, Regional Director
(Jon_Jarvis@nps.gov)

Keith **Langdon**, National Park Service, Great Smoky Mountains NP, Supervisory Biologist
(Keith_Langdon@nps.gov)

Sue **Masica**, National Park Service, Chief of Staff (Sue_Masica@nps.gov) (Regional Director, Alaska Region)

Greg **McDonald**, National Park Service, Park Museum Management Program, Senior Curator of Natural History (Greg_McDonald@nps.gov)

Scott **Miller**, Smithsonian Institution, Office of the Under Secretary for Science, Senior Program Officer (millers@si.edu)

Dan **Odess**, National Park Service, Park Cultural Resources Programs, Assistant Associate Director (Daniel_Odess@nps.gov)

Tom **Olliff**, National Park Service, Yellowstone NP, Chief, Yellowstone Center for Resources
(Tom_Olliff@nps.gov)

Matt Patterson, National Park Service, South Florida/Caribbean Inventory & Monitoring Network, Coordinator (Matt_Patterson@nps.gov)

Ellen Paul, Ornithological Council, Executive Director (ellen.paul@verizon.net)

Richard (Rich) Rabeler, Society for the Preservation of Natural History Collections, President-Elect (also Assistant Research Scientist, University of Michigan Herbarium) (rabeler@umich.edu)

Robert (Bob) Reynolds, American Society of Ichthyologists and Herpetologists (REYNOLDS@si.edu)

Molly Ross, Department of the Interior, Assistant Solicitor (MOLLY.ROSS@sol.doi.gov)

Nancy Russell, National Park Service, Everglades NP, Curator (Nancy_Russell@nps.gov)

Lynn Scarlett, Department of the Interior, Deputy Secretary (Lynn_Scarlett@ios.doi.gov)

Phil Sheridan, National Park Service, Assistant to the Director (Phil_Sheridan@nps.gov)

James (Jim) Solomon, Missouri Botanical Garden, Curator of the Herbarium (jim.solomon@mobot.org)

Bill Stanley, Field Museum, Negaunee Collections Manager, Mammals, Department of Zoology (also identified himself as representing the American Society of Mammalogists) (stanley@fieldmuseum.org)

Stephanie Stephens, National Park Service, Alaska Region, Regional Curator (Stephanie_Stephens@nps.gov)

Larry Stevens, Museum of Northern Arizona, Curator of Ecology and Conservation (lstevens@mna.mus.az.us)

Hans-Dieter Sues, Natural Science Collections Alliance (NSC Alliance), Vice President (also Associate Director for Research and Collections, Smithsonian Institution, National Museum of Natural History) (suesh@si.edu)

Ron Wilson, Department of the Interior, Interior Museum Program (Ronald_Wilson@nps.gov) (National Park Service, Park Museum Management Program, Chief Curator and Manager)

Also attending as resources were:

Bill Commins, National Park Service, Natural Resource Stewardship and Science, Information Technology Specialist (Bill_Commins@nps.gov)

Ellen Cull, Management & Organizational Consultant, Meeting Facilitator (ellencull@earthlink.net)

Lindsay McClelland, National Park Service, Natural Resource Stewardship and Science, Geologist (Lindsay_McClelland@nps.gov)

Attachment B:

**Comments by Director Mary A. Bomar
NPS Biological Collections Forum
2 April 2008**

Good morning and thank you all for participating in this forum on biological collections policy.

As you can probably imagine, I do a great deal of speaking, and I often talk about the awesome responsibility of the National Park Service in caring for the special places in our nation—the natural and cultural legacy of all Americans... a legacy that includes great collections as well, from 18th century artifacts and weapons to the biological specimen collections at parks.

I also talk about how the National Park Service does not manage these treasures alone... we rely on a host of others—concessionaires, cooperating associations, volunteers, park friends groups and many other partners—to care for our parks and provide the visitors with the experience they deserve.

The same is true for learning more about the parks and caring for their resources... We rely on a host of social and natural sciences to give us the data we need for informed resource management... Each year many museums and universities agree to partner with NPS to care for biological collections through the permitting system

We want to ensure that these biological collections are preserved according to generally accepted professional standards and we developed a service-wide Park Museum Collection Storage Plan in 2007. Cooperative engagement of partner museums and universities is part of that plan. And of course, we want to ensure that park biological collections are freely available for research and resource management purposes now and in the future.

We want to encourage science in the parks through granting scientific research and collecting permits and learning the results of permitted research—if we are discouraging significant numbers of appropriate research projects we want to fix the problem.

Congress has charged NPS with caring for some of the most, if not the most, protected areas in the federal estate. Policies for implementing that charge often differ from those of other federal agencies managing similar resources that have less stringent legal protections.

But as we all know, laws and policy can be changed when circumstances warrant, and that is why the founders of this nation provided for change, even in our own Constitution... But change is never accomplished without first engaging in informed dialogue, and I hope that today you will freely share your ideas with all of us.

A great mentor of mine taught me about the concept of shared leadership...And central to that is sharing ideas in a safe environment, where all ideas are welcome... I have used that concept through much of my career, whether dealing with the many groups with an interest in the Oklahoma City Memorial or those who wanted the Park Service to recognize slavery at the nation's first Executive Mansion—the President's House.

As long as we listen today, I am sure that we will find commonalities and opportunities that we had not previously recognized.

Attachment C:

Comments by DOI Deputy Secretary Lynn Scarlett National Park Service Biological Collections Forum

Welcome! I am pleased to initiate this conversation—a conversation about parks, science partnerships, and science specimens. Thank you all for your interest and enthusiasm for our parks and their nexus to science. I offer a special thanks to Ann Hitchcock and Sue Masica for helping shape this forum.

For many Americans, National Parks help define who we are as a Nation. Our identity is conjured up in the historical record our Parks preserve. Our identity is conjured up in the landscapes our parks keep whole for us to experience. So, too, are our parks great natural expanses rich in flora and fauna.

Our 391 park units encompass over 85 million acres. This aggregation of units and acres blurs the details of place. Our parks encompass deserts, forests, lakes, plains and grasslands, coral reefs, and estuaries. The story of nature is written on park landscapes. That story is told through poems and paintings and narratives. That story is also told through scientific research.

Consider a set of vital statistics associated with that scientific tale. National Park Service collections include 124 million items. Of these, some 2.5 million are biological specimens. These specimens include algae, fungi, plantae, protista, animalia, monera—I am not even sure what all that is, exactly.

Let me move from Latin to English. Our park collections include amphibians, reptiles, arthropods, insects, and mammals. Getting even more specific, our NPS collections include:

- Moths, moss, mussels, mice, midges, a mountain lion, and packrat middens;
- Bats, bees, butterflies, big horn sheep, beetles, bones, black flies, and birds, including Brewer's sparrow skins;
- Craneflies, cryptic fish, clams, even a crocodile.

We have lichens and lizards, frogs and ferns, ants and alligators. We have spiders, a sperm whale tooth, and smut-infested and smut-free beach grass. We have the wee i'iwi—a brilliantly colored Hawaiian bird that I have, in a bird banding effort, held in my hand.

The mission of our national parks—bequeathed by founders of the park system—is both inspirational and succinct. The parks preserve these great places unimpaired for current and future generations. This mission is succinct and inspirational—yet complex at the same time.

Among those complexities include the management of scientific research and the interface of parks with scientists. We face questions illuminated by scientists:

- How can we restore hydrological functioning of Everglades?
- What are the impacts of human action on wildlife?
- How is climate affecting picas in the Rocky Mountains?
- How is the condor faring in the Grand Canyon?
- Is West Nile virus on the move?
- What habitat does the Cape Sable seaside sparrow require?

These—and a multitude of other questions—require many minds, skills, and scientific professions. Parks are also the foundation for exploring broader science questions that build our knowledge of world around us.

Over 180 institutions have biological specimens on loan from the National Park Service. Over 300 have on loan natural history specimens. In 2007 alone, our park service issued over 2,000 permits to scientists and scientific institutions to collect specimens in parks. Our park scientists and curators do a spectacular job working with scientists around the world.

Our national parks need science partnerships—and many partnerships now flourish. Yet we must ask: Are we attracting science partnerships? Are we fully exploring synergies among park programs and those of our colleagues in universities, museums and other institutions? Are we inspiring research and welcoming researchers—consistent with our role as stewards and guardians of public lands and resources?

Knowing our park lands and waters is a prerequisite to managing them. Scientific information and analysis helps us understand: “How does the world work? And, what cause and effect relationships are at play?” These science endeavors also help people around the world understand better this magnificent world and its intricacies.

I thank the National Park Service for convening this forum. It offers an opportunity to explore how we work together—to protect parks, to know our parks, to educate a Nation. Through this forum, those gathered can explore how we can fulfill the scientific opportunities cradled within our parks, while affirming that these parks are the public’s lands and resources.

Cooperative conservation is a hallmark of our 21st century conservation future. Cooperative conservation is not just a bumper sticker phrase but is a reflection of management imperatives in a complex world. In the context of science, we need integration and sharing of

knowledge across disciplines. Parks cannot have specialists in every field at every place—we need to work with the universe of scientists around us.

Parks do not have advanced collections facilities everywhere for everything—our parks need to rely on museums, universities, and others to preserve scientific collections for the future. Curating collections requires resources—funds for physical space, storage containers and labeling, insurance, retrieval services for researchers, educators and others, inventorying, conservation reviews, and so on. For the world of science, parks offer a cradle of biological and other resources that can inform our knowledge of this planet.

Do we have processes that encourage science in parks and offer reasonable protections of park lands and the park mission while also enhancing scientific knowledge? I had a chance to read some dialogue between parks and museums and scientists. From that perusal, let me tease out several observations.

First, all—parks and researchers—want to assure specimens are maintained in proper storage environment. But questions arise regarding the continuity of collections and long-term access for research.

Second, all acknowledge the importance of accessibility of data and the value access to specimens to assure repeatability of scientific research over decades. Does uncertainty of impermanent loans interrupt research if collections are recalled back to parks?

Third, all want proper labeling and stewardship of specimens. But questions arise about the frequency and nature of reporting requirements.

Interesting discussions of law and policy are imbedded in the dialogue over these matters. There is one key phrase in Organic Act:

[NPS] may also grant privileges, leases, and permits for the use of land for the accommodations of visitors in the various parks, monuments...; and no natural curiosities, wonders, or objects of interest shall be leased, rented, or granted to anyone on such terms as to interfere with free access to them by the public.

A key question might be whether ownership can be transferred with the equivalent of “deed restrictions” requiring free public access.” Or is our only option a loan? If so, can loan provisions somehow assure the continuity and permanence of collections?

These are interesting and important questions. I thank all of you for taking part in this conversation.

Attachment D:

Biological Collections Forum
Jonathan B. Jarvis, Pacific West Regional Director
Washington DC
April 2008

Thank you, I think, for the invitation to open this discussion regarding the care, ownership and ultimate disposition of natural history collections from within units of the National Park system. I am sorry that I cannot remain with you for the full day, but I am speaking to the River and Trails Conference at the National Training Center tonight.

Before becoming a regional director or superintendent, I actually had a real job that required skills and an education: I was a biologist. As such, I not only collected things in the field, but if Ann Hitchcock remembers, I was a pilot tester of the ANCS, the NPS Automated National Catalog System around the mid 80's. As the park biologist and the curator at Crater Lake I cataloged bear skulls and elk droppings easily but struggled with the cataloging of thousands of filtered water samples from Crater Lake, tiny vials of water with a few dead rotifers in the bottom. These water samples were essential in major issues facing the park from geothermal drilling on the boundary and the decision to move major facilities off of the rim of the lake.

I also saw collections poorly maintained and subject to loss from theft or lack of interest. In recent years, I have also seen the professionalization of collections management in the service, the development of excellent new facilities and the building of better relationships with universities and other repositories.

As we embark on this day of discussion, I first want to talk about common ground. That ground is on the value of these precious items. No one in this room can dispute the importance of this physical permanent record of our national parks. We need the information that is contained within those bits of organic matter today and for future generations.

"When tinkering with nature, save all the parts" Aldo Leopold

Biological specimens collected in parks represent a permanent record of the state of a park's natural resources at the time of specimen collection. This specific linking to a point in time and space makes a contribution to resource management that is inherently different from the contributions specimens make to scientific or education institutions that treat specimens as stand-alone items to be used for scientific study, such as analysis of species variability throughout the geographic range of the species.

For the NPS charge under the Organic Act to conserve the park's "wild life" for the enjoyment of "future generations," the specimen is an integral part of a much larger picture of the park as a whole, linked directly to the date, time and location of its collection. Each specimen makes a unique contribution to understanding and managing the park as a whole. A perfect

example is the recent Joseph Grinnell "Resurvey" being conducted in Yosemite National Park, where scientists are returning to documented collection sites and comparing specimens collected today to those collected by Grinnell at the turn of the 20th century. This comparative record is essential to discovering and beginning to understand changes that have occurred in the park over that time.

In Yosemite National Park, there was a recent resurvey of the work pioneered by Biologist Joseph Grinnell and his colleagues in 1915. This time, armed with live traps instead of snap traps, the team resurveyed the small mammals of Lyell Canyon. They found significant changes in the populations of ground squirrels, pikas, Pinon mouse, and the alpine chipmunk. Some of them had moved up in elevation by 2000 feet since surveyed by Grinnell 100 years ago. These are indicators of global climate change. We all know too that these little creatures can only go so far up, until they are popped right off the top mountain into extinction.

The National Park Service as the only agency with a mission to maintain natural systems unimpaired for future generations. Our laws and regulations protect all things found within parks from destruction or removal. That being said, the NPS and Congress have long understood the value of long-term access to scientific collections. NPS collecting permits and curatorial processes, and its care for maintaining the historic biological record, may provide essential information of interest to the NPS and other agencies now and in the future. Because these collections document park resources at specific points in time, they become increasingly valuable for resource management through time as resource conditions change because of climate change and other factors.

Biological specimens represent an important source of knowledge about the natural history, biodiversity, and biogeography of the national park system, the historic genetic diversity of park populations, species propagation and restoration efforts in parks, and more. They are an important scientific and heritage asset that belongs to the American public.

Biological specimens have monetary value, especially those taken from units of the national park system that may be rare. Bio-prospecting, trading of specimens and E-bay sales to private collections are all complexities that, with respect to park biological specimens, NPS must closely manage. NPS achieves this ultimate control of specimens collected in parks by maintaining ownership.

Having said all that, I recognize there are different opinions in this room as to how we accomplish that. As a matter of fact, and I am sure you will be astonished, there are different opinions within the NPS.

Our PWR Regional Chief Scientist sent me the following message in preparation for this talk:

My key point, shared by most of the NPS scientists I know, is that it is not in the interest either of NPS or of science for NPS to be the owner or repository of most contemporary biological specimen collection in our units. All would be better served were they housed in

and ownership transferred to bona fide museums operated by universities or other research entities, where they would be accessible to scientists as well as NPS and where maximum information could be extracted from them. Certain stipulations about non-dispossession and access would be required, of course. NPS is simply not equipped curate these this efficiently, and our red tape frustrates and occasionally inhibits useful collection by others who could otherwise by providing information we need.

Another Field Biologist sent me this note: I have spoken with professionals from a few natural history museums and have been told point blank that they refuse to do any research in NPS lands because of this ownership issue. Their own institution rules demand that they have complete ownership of specimens housed in the museum, and in most cases the specimens are better off there than at a typical park service facility (including ours) for security, environment and researcher access. I also belong to the NHCOLL listserv, where NPS ownership of specimens has been a discussion topic within the last few months with individuals from different well-known museums and scientific organizations airing their frustrations with NPS policy. From speaking with other NPS employees who work with research permits and museum collections I have heard that it is suggested to researchers that they say in their permit application that they are destroying the specimens through analysis whether they are or not, so that the specimen ownership issue is avoided altogether.

As the Regional Director for the Pacific West, I see on a daily basis the need to understand and often defend the integrity of park resources. Never doubt there are those who like to challenge our assertions of resource impacts. Our biological collections are essential parts of the defense. Parks are here in perpetuity and we must ask ourselves every day what decisions are we making that contribute or detract from this stewardship responsibility.

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Attachment E:

NPS Presentation – 2 April 2008 - Richard K. Rabeler

Thank you for the invitation to speak on behalf of the Society. First, I would like mention a bit about SPNHC.

The mission of SPNHC is “Improving Preservation, Conservation, and Management of Natural History Collections to Ensure Their Continuing Value to Society.”

Our average member is a Collections Manager with training in one of the Biological Sciences with 6-10 years of collections experience; we also include many conservators and professionals involved in managing geology, anthropology, and archaeology collections among our ranks. While some of our members are collection administrators, many of our members are folks dealing with the specimens and the day-to-day issues surrounding their care and use – including accessioning, permits, housing, loans, etc.

We are an international society with members in 25 countries. Within the US, we have approximately 400 members affiliated with at least 200 museum and university collections.

The examples I present today are drawn from discussions with fellow SPNHC members. As professionals, our concerns focus on what is best for both the long-term curation of the specimens and access for research. My introductory comments are intentionally general - I am sure that my colleagues will be adding more specifics as the day progresses.

Specimen Ownership – why is it important?

It is a basic tenet that is often followed: items in a collection are owned by the institution and, as such, are to be maintained to professional standards for both preservation of the objects and to make them readily available to researchers.

In most cases, specimens acquired by a museum/university collection are assumed to have been both acquired legally (permits, MTAs, etc. satisfied) but also “deeded” to the museum so the museum acquires “outright ownership” of all of the specimens which are officially accessioned as part of their collections. This would also include the right to freely loan the specimens to researchers and integrate them into the collections, and, at least in the case of botanical collections, the right to distribute duplicate collections as gifts or exchange to other appropriate herbaria.

There is a cost for curation: supplies, personnel, facilities, etc; we are involved in, as one of my colleagues put it, “a continual balancing of resources.” For example, if one were to look at building new collections space, an estimate of \$300-600 /SF is not at all unreasonable. Individual cabinets for housing specimens cost 1-2 K each. In many institutions, pressures to justify the operation (and, in more extreme examples, even the existence!) of natural history collections are increasing. While some institutions welcome acquiring more specimens,

others are now being very cautious about further acquisitions. Being "big" is no longer seen by some administrators as a reason to continue past acquisition policies. Should an institution enter into an agreement to acquire specimens "with strings" and/or additional administrative requirements, especially if ownership is not included? While the museum community does want to cooperate with agency requests, this question might not be as positively answered as it once might have been.

Outright ownership is also seen as important by some for long-term access to the specimens for research. Much of the research use of specimens involves researchers requesting loans of a particular group of organisms from a number of museums, working on these loans for sometimes several years, and then returning them; the museums get the benefit of updated and authoritative determinations from a specialist. As I understand the current NPS policies, specimens at non-NPS repositories are considered "on loan" and subject to both restrictions as to being loaned to researchers and to possible recall by NPS. I have heard of one example where an NPS unit requested that a museum return specimens collected on NPS lands. The thought of a recall from our perspective is that it most likely would involve moving collections from a larger, well-established museum to an individual NPS facility which, due to various circumstances (either on the part of the park or individual researchers), may make it more difficult for the specimens to be accessed by the research community.

Status of older collections made on NPS lands is another important part of the "ownership" issue. Many institutions have collections made on NPS lands prior to NPS creation that are now classic localities where species were first described. In the broadest interpretation that I have heard, these collections could also be considered by NPS as "on-loan" and in danger of "potential" recall. As you might suspect, this possibility does not play well among museums – they have professionally curated the specimens for many years, the specimens are integrated into these collections, they serve as vouchers for many research studies, and they have been accessed by many researchers, etc.

One of the activities that many museum collections are actively pursuing is mobilizing the data from their collections via the internet through the various networking projects now underway (e.g., Ornis, Herpnet, or ultimately the Encyclopedia of Life). These efforts are widely hailed as making the data from collections more accessible to our colleagues in ecology and land management. From a positive standpoint, collections from NPS lands could be much more widely known. The loan activity at collections which have an internet presence often increases (tripled in one case!) but usually with no increase in staff or resources. But, one could also take a very pessimistic view that this would reveal other thought-to-be-legally-acquired collections from NPS lands that could be then subject to further review.

Other issues:

I want to mention two other issues that have also been brought to my attention that play into the attitude that some collections personnel take toward the NPS.

1. The additional administrative burden – the requirement that NPS specimens carry NPS accession numbers, be housed separately, and be subject to both periodic inventory and loan restrictions was noted by one colleague to be a major disadvantage of curating NPS collections. That individual noted that “to me, this is more of an issue than acting as a trustee of the collections”. Institutions which have multiple Repository Agreements are keenly aware of this; several of our members are in this position. While I can understand your desires to properly curate collections made on NPS lands, the present arrangements do add a “cost” to accepting these collections. In most large natural history collections, the size and activity of the collections makes the idea of a complete, periodic inventory of these collections impossible – there are simply not enough staff resources available to take on that task.

2. Is research on NPS lands actually being reduced by that administrative burden? I have heard this possibility expressed when a researcher discovers the costs and requirements when seeking a permit. The lands now under NPS control were set aside as special unique areas that should be biologically “well-known”. Will this result in an unintentional “knowledge gap” involving our park lands?

I want to thank you for the opportunity to present some of the issues from the “collections” side and look forward to discussing these and other points during the meeting.

Attachment F:

**Biological Collections Forum
Talking Points—Molly Ross
April 2, 2008**

NPS is a place-based Federal Land Manager with the highest duty of care to protect and preserve park resources and values for future generations.

NPS is focused on conserving our places, resources, and values, in perpetuity. NPS views specimens as part of a permanent record of these things. NPS supports research primarily to help NPS manage parks for the long-term.

NPS's governing statutes dedicate parks to preserving the resources and values of the units of the National Park System. Parks have been reserved for the purpose of preservation for current and future generations. Our mission is different from other federal agencies and even federal land managers, and very different from the mission of research institutions museums. Park lands have long been withdrawn, as a general rule, from the statutes that allow appropriation of land or minerals.

NPS Organic Act – to promote and regulate the use of park units by such means and measures as conform to the fundamental purpose to conserve (preserve) the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

Redwoods Amendment – The authorization of activities shall be construed and the protection, management, and administration of these [park] areas shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress.

Even among FLM's, parks are special. The Secretary has the highest duty of care to protect and preserve park resources and values—essentially, a statutory trust duty.

The Federal Property and Administrative Services Act excludes parks from its definition of "property" subject to the procedures that typically authorize federal agencies to dispose of surplus or excess property. Congress must specifically authorize the disposal of national park property.

Even though, my quick review this week with FWS experts and DOI lawyers who work with NOAA on the new large Hawaii NM in the northwestern islands of HI suggests that other federal agencies are most comfortable with, and have made clear, ownership of specimens collected in their areas. And internationally, Costa Rica,

Ecuador, Brazil, and the Convention of Biodiversity all use a state ownership of specimens approach.

Importance of education and science with respect to parks.

Lane letter—education; university and high school classes in science will find special facilities for their vacation period studies. Museums containing specimens of wild flowers, shrubs, and trees and mounted animals, birds, and fish native to the parks, and other exhibits of the character, will be established as authorized. [Museum Act in 1955.]

NPOMA Title II. Science for mgt, to achieve the mission of NPS. READ.

With this background, the scheme for research specimens – specimen collection permits—makes sense. And it makes all the more sense in an age where commercial use of those specimens is more likely and lucrative. Basis for the scheme: federal ownership of the specimens, access as necessary and appropriate to the specimens and the information derived, and potential for benefits-sharing if the specimens are commercially exploited.

Management Policies 2006 - 4.2.3: “Specimens that are not authorized for consumptive analysis remain federal property and will be labeled and catalogued into the NPS cataloging system...in accordance with applicable regulations (36 CFR 2.5).”

D.O. #24

Museum Handbook

These policies derive from the relevant laws, including the NPS Organic Act, as amended and supplemented, the Management of Museum Properties Act (“Museum Act”), and several other statutes (Antiquities Act, Historic Sites Act, ARPA, NAGPRA), and the NPS regulation on Research Specimens at 36 CFR 2.5

36 CFR 2.5 treat specimens as NPS museum objects or collections, and therefore subject to the Museum Act.

Permit terms and conditions state that specimens are federal property. That has long been NPS’s legal and policy interpretation. It was the Government’s litigation position in the Edmunds Institute decision concerning use of a Cooperative Research and Development Agreement for materials derived from specimens collected under a specimen collection permit at YELL.

Ownership and access are critical to NPS mission. Ownership is all the more important because of the possibility of commercial exploitation of the specimens.

Federal ownership. The U.S. holds title to park property on behalf of the American people and for the purposes Congress has expressed. For parks, Congress has made clear the fundamental purpose of parks, the role of research, the inapplicability of laws allowing private appropriation of park resources and property (e.g., FPASA, mining laws), the do's and don't's of museum management, etc.

Congress has authorized benefits-sharing.

End Notes

ⁱ Subsequent to the meeting, the following additional information was provided. Reporting is mandated by the Statement of Federal Financial Accounting Standards (SFFAS) # 29 "Heritage Assets and Stewardship Land" issued by the Federal Accounting Standards Advisory Board (FASAB). The implementation guide for SFFAS #29 (Federal Financial Accounting Technical Release 9) is posted at http://www.fasab.gov/pdffiles/hasltr9_final22008.pdf.