

Options for Managing Park Natural History Collecting and Collections: Overview

Ann Hitchcock, National Park Service, 1849 C Street NW (2251), Washington, D.C., 20240; ann_hitchcock@nps.gov

National Park Service (NPS) units have two options for long-term management of natural history specimens collected within park boundaries. Parks can manage collections in a NPS repository or lend them to a non-NPS repository. Park staff considers factors such as geographic proximity, available taxonomic expertise, potential for future use in research and park resource management, and storage requirements when deciding where to place collections. Most parks have management strategies that use both options to varying degrees. Within the parameters of established requirements, parks design unique management strategies that meet their individual needs, as illustrated by three case studies from Acadia, Death Valley, and Channel Islands national parks, which follow this paper.

With the advent of the NPS inventory and monitoring (I&M) initiative in 2001, collecting and specimen collections have increased dramatically. Forty-five percent of the current NPS natural history collections were added in the last five years. This rapid growth is pressuring parks to re-evaluate options and strategies for managing natural history collections.

Requirements

Permits to collect specimens that will be preserved, rather than consumed in analysis, designate an approved repository for those specimens. Both the permit applicant and the park staff participate in the process of identifying the repository. Each permit applicant should consult with the park curator to discuss the proposed collecting and a management strategy for specimens that will be permanently retained in a museum collection.¹ Based on that discussion, the applicant proposes management in a NPS repository or a non-NPS repository. If the applicant recommends a non-NPS repository, the repository must concur with the recommendation. The applicant must ensure that an official of the repository completes and signs a section of the application indicating the institution's willingness to accept the collected specimens on loan from the park, subject to the general permit conditions and restrictions and terms of NPS loan agreements.

Researchers seeking permits complete applications and repository agreements using

the web-based NPS Research Permit and Reporting System (RPRS). Reading and following the accompanying guidance is important to ensuring that the application is complete and will not be delayed by missing information.

During initial consultation, the curator explains requirements for preparing, identifying, cataloguing, and submitting specimens and associated records or copies. Associated records include such items as field notes, maps, photographs, and analytical data. Parks often post basic requirements on the park web site; however, requirements for each project may vary. Researchers can access NPS museum management policies and procedures on the web as follows:

- Director's Order #24, NPS Museum Collections Management: www.nps.gov/policy/DOrders/DOrder24.html
- NPS Museum Handbook: www.cr.nps.gov/museum/publications/handbook.html
- NPS museum loan form and conditions in "thumbnail" (pages 19–23): www.cr.nps.gov/museum/publications/MHII/mh2ch5.pdf
- NPS Automated National Catalog System User Manual: www.cr.nps.gov/museum/publications/ancs.html

Once the park issues a permit, designating the repository, the permittee must meet submission requirements for specimens and associated data, and use RPRS to complete the

required investigator's annual report, providing information on specimens collected.

NPS Repository Option

A decision to place specimens in an NPS repository offers several alternatives. The park staff may choose to manage collections in:

- The park where the specimens were collected;
- An adjacent park that manages park collections for the immediate geographic area; or
- A central repository that serves a large geographic area.

Under the alternative to manage collections in the park where they were collected, the specimens and associated data are a readily available reference for park staff making resource management decisions on an ongoing basis. Park staff may include botanists or zoologists who specialize in species found in the park. The collections are critical to their long-term scientific activities. In addition, non-NPS researchers have access to the collections during their own fieldwork in the park. They can use specimen vouchers, maps, and field notes to compare identifications and findings while their work is in progress. Though park-based management has many advantages, parks often do not have the essential expertise or the capability to serve as a research center, which is critical to responsible management of collections. In addition, park storage areas sometimes lack space and cannot accommodate a rapid growth in collections, such as the I&M initiative generates, without expansion.

Geographically clustered parks often will pool some of their resources. They may share such functions as purchasing, law enforcement, or resource management. When one park provides museum collections management functions for its neighbors, each park generally has its own exhibits and interpretive functions on site, but record-keeping, storage, and other management functions occur at the lead park. Each park, however, maintains a distinct catalogue of its collection, and specimens carry a label specific to the park where

they were collected. Generally, only the lead park has full-time museum management staff and resource management specialists, such as biologists. This alternative is especially appealing to small parks that do not have sufficient natural resource research activity to warrant an independent museum management operation for natural resource collections.

The concept of a centralized NPS repository for a wide geographic area is well established for NPS archeological resources, but only nascent for natural resource collections. The I&M initiative has formed 32 networks based on biogeographic commonalities. Increasingly, network offices are taking on the responsibility of developing a network-wide strategy to manage collections resulting from I&M activities. The network offices generally have an interest in making the collections centrally available. This option is especially appealing when a single study project or permit involves multiple parks. When developing multi-park strategies, the network staff must consult park research coordinators and curators to ensure that each park's specific needs are met by the centralized strategy.

NPS archeological centers serve as excellent models for providing centralized resource management, fieldwork, and collections management services for parks. These models can be extended to natural resource management functions and organization. Centers, such as the Western Archeological and Conservation Center in Tucson, offer parks archeological and collections management services. Park superintendents, who have responsibility for archeological sites and museum collections, have the option of asking a center to provide management services for these resources. This option appeals to parks that do not need a full-time archeologist, curator, or archivist. Centralization of these functions enables NPS to hire specialists rather than generalists, thereby applying the most appropriate expertise to each situation. Centers employ archeologists with knowledge of sites in the region, curators and conservators specializing in archeological artifacts, and archivists with experience in managing archeological

records. Center staff do project work, advise parks on on-going management of archeological sites, and provide long-term management of the archeological collections. These facilities are centers of excellence, attracting researchers and setting trends in archeological resources management.

Following this model, natural resource centers could provide a battery of biologists, paleontologists, and geologists to do project work and on-going resource management consultation in parks. In addition, centers could hire specialized curators, conservators, and archivists to manage the specimens and associated records. Though such an NPS center does not exist, the option is viable. To date, most networks seeking a centralized alternative to museum collections management for natural history collections have turned to a non-NPS repository option.

Non-NPS Repository Option

Non-NPS researchers often propose that the institution with which they are affiliated serve as the repository for specimens that they collect. Generally, these institutions are natural history museums or research centers, operated by non-profit organizations or state governments, or university museums. In 2001, 71% of NPS permits that authorized collection and retention of specimens designated non-NPS repositories. That year, permittees proposed that over 250 different repositories be used to manage their specimens.

Permit applicants propose repositories that will facilitate their on-going research. Often these repositories are centers for certain taxa and attract specialists who use the collections and associated documentation in their research. These specialists annotate the specimens and cite them in publications, thereby increasing their value to science and the park. When these facilities are near the park where the specimens originated, the park has all the benefits of easy access. When these facilities are distant, the benefit of easy access is lost. Many proposed repositories are in the mainstream of taxonomic research, but not all are. Some are unwilling to accept long-term NPS loans. Parks must consider these factors when

approving repositories.

Evaluating proposed repositories serially, in isolation, with each permit application, can result in dispersed park collections and an unmanageable number of repository loans. Most parks develop a relationship with certain repositories and designate those repositories when issuing permits. For example, the Santa Barbara Botanic Garden is the repository for the Channel Islands National Park herbarium.

Some I&M network offices have established agreements with non-NPS repositories. The South Florida/Caribbean Network has a contract with the Fairchild Tropical Garden to serve as the repository for botanical collections made under network auspices. The garden is cataloguing specimens and will make images and label data available, as appropriate, in its virtual herbarium on the web (www.virtualherbarium.org/). The network pays for these services.

The NPS chief curator has drafted a generic repository agreement that can be adapted for use at the national, regional, network, or park level to establish long-term relationships with non-NPS repositories. An agreement is helpful in detailing responsibilities and expectations of each party and in streamlining NPS management requirements, such as annual inventories and new loans to the repository with each addition of specimens. An umbrella agreement is essential to ensure consistency when more than one park has collections on loan to a single repository. Such agreements, when approved by contracting authorities, facilitate payment to the non-NPS institution for services. In addition, NPS can provide partner institutions with supplies and equipment to support maintenance of NPS collections. In establishing an agreement, all affected parties, including each park covered, must approve core features of the agreement, but parks can negotiate with the repository to append park-specific requirements as needed.

The NPS is one of many federal partners that has joined recently established Cooperative Ecosystem Studies Units (CESUs) in biogeographic regions throughout the country. These CESUs involve multi-

ple federal and non-federal partners that work together to address natural and cultural resources research, technical assistance, and education needs in an ecosystem without regard to administrative boundaries. Many CESU partners are logical and appropriate institutions to serve as collections repositories for parks. Though not yet used for this purpose, the CESU partnership can be a foundation for development of a repository agreement to serve parks in a biogeographic area.

Developing a Strategy for Park Natural History Collections Management

A well-crafted strategy that evaluates needs and options is essential to effective management of a park's natural history collection. All parks have a scope of collection statement listing laws, regulations, and policies that affect collection of natural history specimens in the park. It also states areas of emphasis and gaps in the collection. The management section names the repositories where natural history (and other) collections will be managed if outside the park. Parks typically develop strategies for managing natural history collections that involve more than one option or alternative. For example, a park with a botanist on staff may manage its own herbarium, while loaning zoological and paleontological collections to the state museum.

The park's collection management plan describes arrangements with each repository and identifies needed adjustments to management strategies. Repository agreements and information accompanying loan forms inform the repository of its rights and responsibilities in managing NPS collections. A selected repository generally meets or exceeds NPS preservation and protection standards. The repository agrees to comply with NPS documentation and reporting requirements, such as cataloguing, labeling, and annual inventories. At the same time, the park conveys various kinds of authority to the repository, such as making third-party loans or approving destructive sampling, that facilitate research and effective management in the repository. When a repository serves more than one park,

the parks, region, network, or Washington office should jointly develop a single agreement with the repository to achieve efficiency and consistency.

Three Case Studies

Because all parks are different, their strategies for managing natural history collections will be unique (within the parameters of NPS regulations and policies). Nevertheless, sharing commonalities, best practices, and experiences benefits parks, NPS and non-NPS repositories, and researchers. All involved in natural history collecting and collections management need to have a good working knowledge of NPS requirements and options for managing natural history collections. Acadia National Park, Death Valley National Park, and Channel Islands National Park apply NPS requirements through different approaches, yet have much in common.

Acadia National Park has 272,000 natural history specimens in its collections, which are managed by a curator, a museum technician, and many volunteers. The park curator and a botanist in the Department of Botany at the College of the Atlantic jointly manage the park's herbarium, which is stored at the college. The park directly manages its other natural history collections and, in addition, serves as the official repository for natural history materials collected under the auspices of the Northeast Temperate Network. In 2002, the park issued 13 permits to collect specimens that would be permanently retained. For the benefit of permitted researchers, the park posts its collections management requirements on the web.

Death Valley National Park manages most of its nearly 18,000 natural history specimens and their associated records in park facilities, though some are in non-NPS repositories. Researchers actively use the collection. The park's herbarium is listed in the Index Herbariorum, a worldwide index of public herbaria. The park has a curator, intermittent project-based assistants, and volunteers who manage the natural history specimens and associated resource management records. Researchers must follow park-specific condi-

tions when collecting, preparing, and documenting specimens before submitting them to the park. In 2002, the park issued 50 permits to collect specimens that would be permanently retained.

Channel Islands National Park maintains only a few of its natural history specimens on site, with most being curated at other institutions. The chief of cultural resources has oversight for the park's museum collection. The Santa Barbara Botanic Garden curates the park herbarium as part of its extensive collection of plant materials from the California central coast bioregion and the California islands. The Santa Barbara Museum of Natural History maintains the park's paleontological collections, including pygmy mammoth remains, and a number of other natural history specimens. In curating natural history specimens, partners first catalogue items using their own cataloguing system, and then the park assigns NPS catalogue numbers and imports the data into the NPS catalogue database. The park has provided storage cabinets and curatorial supplies to support its partners; the partners provide researcher access to the

collections. In 2002, the park issued 11 permits to collect specimens that would be permanently retained and housed at partner institutions.

In the papers that follow, a park research coordinator, two park curators, and a representative of a park partner institution share their experiences and practices in managing the natural history collections of Acadia, Death Valley, and Channel Islands national parks. Though every park is unique, the authors hope that other parks, partners, and researchers will benefit from and improve upon the best practices presented herein.

Endnote

1. The Code of Federal Regulations (36 CFR 2.5g) requires that (1) specimens placed in displays or collections bear official NPS museum labels and be catalogued in the NPS catalogue system; and (2) specimens and data derived from consumed specimens be available to the public and reports and publications resulting from a research specimen collection permit be filed with the superintendent.

