

Natural History Specimen Collection, Cataloging, and Deposition for Multiple Park Projects Standard Operating Procedure

Revision Log

Revision	Description of Change	Author	Effective Date
1.0	Changed title to refer specifically to multi-park projects	G. Sanders, J. Sherald, P. West, D. Sealy	02/02/2007
1.1	Made changes suggested by curators	G. Sanders	06/22/2007

Purpose

The collection of biological specimens is necessary to properly document species occurrences and to provide an important educational, scientific and research resource. Given the importance of biological collections it is imperative that the specimens are properly collected, cataloged and stored. The purpose of this document is to provide NPS staff (both regional and park based), cooperators and contractors with guidance on how to collect and process voucher specimens collected as part of regional (multi-park) projects.

Scope and Applicability

The standards described in this procedure pertain to all multi-park projects involving biological specimen collecting activities within the National Capital Region; however, parks are encouraged to apply the standards described herein to all projects taking place in a single park unit. Any individual (regional and park NPS staff, contractors or cooperators) who might be collecting biological voucher specimens for a project taking place in the National Capital Region must follow these standards and procedures. This guidance should be used in conjunction with the NPS Museum Handbook and all other NPS regulations and policies.

This document does not describe the procedure for preparation or curation of voucher specimens. Voucher preparation and curation are activities that require great skill and professional knowledge that varies by taxa and even by species. Curation should be addressed in detail through the scope of work and budget for each project. Researchers can review NPS guidance on preparing specimens in the NPS Museum Handbook Part I, Appendix T (<http://www.cr.nps.gov/museum/publications/MHI/AppendixT.pdf>).

Definitions and Acronyms

NCR – National Capital Region

RPRS – Research Permit and Reporting System – must be used by PI's or project leaders to obtain a permit from each park involved in a study.

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ANCS – Automated National Catalog System – software used to track all NPS Voucher specimens.
Maintained by park and regional curators.

Reference Specimen – A specimen collected during a field study for the purpose of identification. These specimens are often destroyed during the identification process but can be maintained to assist in the identification process of future specimens. It is not intended for such collections to be permanently maintained. The collection of these specimens should be documented in the project report and if certain specimens are reserved to assist with future identification, these specimens should remain in NPS control.

Voucher Specimen – A specimen collected during a field study with the intention of retaining it permanently in a collection. Such specimens must be labeled properly and entered into the NPS National Catalog.

Specimen Lot – One or more objects/specimens of the same type or species collected at a single site on the same date and covered by a single record in the accession file.

Project Manager – NPS employee who manages the project and is responsible for coordinating with the principle investigator/researcher.

Reference Documents

- Code of Federal Regulations (2003), Title 36 (<http://www.access.gpo.gov/nara/cfr/page1>)
- National Park Service (2000) Director's Order 24, NPS Museum Collections Management (<http://www.nps.gov/policy/DOrders/DOrder24.html>)
- National Park Service (2003) Museum Handbook (<http://www.cr.nps.gov/museum/publications/handbook.html>)
- National Park Service Natural Resource Management Reference Manual #77 (draft: <http://www.nature.nps.gov/RM77/>)
- Research Permit and Reporting System Frequently Asked Questions (2004, <http://science.nature.nps.gov/research/ac/html/RPRSFAQ>).
- DOI Departmental Manual, Park 411
- National Park Service Management Policies (Chapter 4)

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Procedures and General Requirements

Research Permit and Reporting System

Principle investigators must obtain a research permit from NPS prior to beginning any scientific study on a national park. The National Park Service has developed the Research Permit and Reporting System (RPRS: <http://science.nature.nps.gov/research/ac/ResearchIndex>) to help streamline this process.

The purpose of the RPRS system is to help investigators: (1) apply for permission to conduct natural resource, cultural resource, or social science field work within a specific unit of the National Park System, (2) review permit application requirements and field work restrictions before applying for permission to conduct a study, (3) review the objectives and findings of previously conducted scientific studies before formulating plans for new studies, (4) grant permission to conduct studies within parks (5) provide an avenue for submitting annual accomplishment reports, and (6) search and review the types of research activities park managers are most interested in attracting. The RPRS system also provides links (Admin. Docs.) to information on the general conditions, guidelines and procedures granted and expected of the permittee under the permit.

It is imperative that investigators (including NPS staff and non-NPS personnel) provide detailed information regarding the project when requesting a permit through the RPRS system. This is especially true when describing specimen collection. Park staff (especially natural resource managers and park curators) must review these requests carefully to ensure that the collection procedures indicated by the investigator are adequate and acceptable to the park.

The permit application must specify:

- what kinds of specimens will be collected and whether those specimens will be exhausted during the investigation or permanently retained.
- the maximum number of a single species they plan to collect.
- the overall number of specimens they expect to collect.
- funding available to catalog and label specimens according to NPS procedures.
- the proposed repository must be identified for specimens that will be retained (e.g. listing "other institution" is not acceptable). If a non-NPS institution is chosen as the repository for the specimens, it must be confirmed in advance that the proposed institution will accept the specimens on long-term loan and that they meet NPS museum standards for housing museum collections.
 - This information should be confirmed by forwarding the non-NPS repository the research permit application. An authorized representative for that repository must sign the permit application thereby confirming that their institution meets NPS standards.

To facilitate the permit approval process, it is required that the applicant contact the park resource manager ([Appendix 1](#)) and discuss the details of specimen retention, what data will be collected from specimens, how specimens or records will be submitted, and the proposed repository for biological collections. It is also very important that the park natural resource managers and park curators communicate with each other throughout

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this process to ensure that the proposed collections fall within the park's Scope of Collections and that the investigators understand the collections guidelines. *Specimen Collections and Guidelines*

Upon successful completion of the RPRS application process and approval of the research permit, investigators commence with their research activities and begin specimen collection. To the extent that specimen collection may impact a population, it is important to weigh the destructiveness of sampling against the value of the information gained, especially when collecting rare species. Photographs, sound recordings, or specimen fragments should be considered as alternatives to collecting biological specimens.

The preparation and cataloging of specimens to NPS standards is the responsibility of the principle investigator (permittee) and must follow the guidelines outlined in 36 CFR and the Museum Handbook, Part I (Appendix T) and Part II (Chapters 3 & 4 and Appendix H), NPS Management Policies, RM77, Natural Resource Reference Manual #77, and Director's Order 24 for Museum Collections. This includes:

- Proper specimen preparation
- Proper specimen storage until specimens are transferred to NPS
- Proper labeling of the specimen in accordance with Director's Order #77 which states that NPS specimen labels:
 - Become a permanent record and identify the specimen as belonging to the NPS irrespective of where it is being stored.
 - Provide data that are essential to the identification of the specimen.
 - Must be completed by the collector before cataloging the specimen (this includes adding the NPS Catalog and Accession numbers to the label).
 - A list of the appropriate NPS labels can be found in [Appendix 2](#).
- Researchers/principle investigators should enter all specimen information into the project database (if one has been prepared for the project) or into an Excel spreadsheet specifically formatted for specimen information (NHEXPORT.xls). Entering the specimen data in this manner will help facilitate the transfer of specimen information into the NPS Cataloging Database (ANCS+). Both the database and spreadsheet will be accompanied by documentation to assist the research when entering data.

Cataloging Specimens

- Park curators are responsible for providing the numbers (accession and catalog numbers) required by the NPS Automated National Catalog System (ANCS+) for the voucher specimens collected in their parks as well as the documentation. Four catalog numbers are usually set aside for 1) field notes 2) lab notes 3) photographs (other than specimen photographs) 4) final report. If a park does not have a curator then the National Capital Region Museum Resource Center (hereafter MRCE) will provide the numbers.
- Studies that require multiple specimens will be assigned one accession number for each park (ANCS+) and will have individual catalog numbers assigned to each specimen.
- Upon completion of the field work, but prior to the completion of the project or delivery of the collected specimens, researchers must provide the project manager with the number of specimens that were collected in each of the parks included in the project.

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- The project manager must then request an accession number and the proper number of catalog numbers from each of the parks.
 - Curators are expected to provide the requested numbers to the project manager within five to seven days of the request. It is imperative that the numbers are received in a timely manner to ensure that the specimens are processed quickly and can be transferred and archived appropriately.
 - Researchers/cooperators must enter all of the specimen information including the NPS accession and catalog numbers into the project database (if one has been provided) or the ANCS Excel spreadsheet. Either the ANCS spreadsheet or a project database will be provided to the investigator(s) at the onset of the project.
- All documents relating to the accession must contain the accession number(s) ie. reports, maps, databases, photographs, etc.
 - In cases where multiple specimens of the same species or object are collected at a single site on the same date, accessioning the group as a lot is an option. The lot would receive a single catalog number that covers all of the items in the grouping. The investigator must consult with park personnel to ensure that accessioning multiple specimens as lots is acceptable. If approved, the investigator will be required to provide detailed documentation for the specimens accessioned in the lot.
 - The principal investigator must provide each park with a project database/Excel spreadsheet upon project completion containing detailed information related to each voucher specimen collected. The information should describe whole or partial specimens, audio recordings, photographs and must include (at least) the following fields of information for each specimen:
 - Park Code
 - Scientific Name (following Integrated Taxonomic Information System convention)
 - Taxonomic Serial Number (TSN, according to ITIS)
 - Common Name
 - Specimen Description (e.g. complete specimen or skull)
 - Locality
 - Latitude/Longitude or UTM X/UTM Y, Zone (for UTM coordinates)
 - Geographic Datum
 - Habitat Description
 - Collected By
 - NPS Accession Number
 - NPS Catalog Number
 - Collector's Specimen Number
 - Collection Date
 - Item Count
 - Specimen Condition
 - Preservation method
 - Indicate if specimen is rare, threatened or endangered
 - Identified by and date if identified by someone other than collector
 - Formation (for paleo/geo specimens)
 - Period/System (for paleo/geo specimens)
 - Other supporting information may be required as determined by the individual needs of each project.

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- All voucher collections should be accessioned along with a copy of the final project report as well as other project documentation such as copies of the research/collecting permits and the research/project proposal.
- The park curators are responsible for uploading/entering the catalog information into the ANCS+ system. The preformatted database/Excel files should expedite this process by allowing the curators to import the information directly into the ANCS+ database.

Voucher Repositories

In order to increase the efficiency of processing and tracking voucher specimens, the MRCE will be identified as the repository for ALL biological specimens. Accessioning the collection as a whole in one repository will greatly increase the efficiency of voucher processing, simplify collection management and the accountability of collections and enable researchers to access specimens from multiple parks at a single location.

When depositing specimens at the MRCE, the NPS project manager must

1. Call the MRCE and make an appointment to drop off the specimens.
2. Indicate what exactly is being deposited and the number of specimens.
3. Indicate the condition of the specimens (e.g. are they stored in solution, are photographs or are the study skins.).
4. Indicate that the specimens have been cataloged (i.e. have the appropriate information been entered into ANCS+ for each specimen).
5. The MRCE should provide the depositor with a receipt of property form (Form DI-105) documenting the transaction. A copy of that form will be sent to the park curator.
6. Indicate how many linear feet of documentation will accompany the accession.

Other Repositories

There are cases when the use of repositories other than MRCE is appropriate:

- In the case that a park wishes to maintain certain collections, that park can request to have the vouchers transferred from MRCE to the park as long as the park has the proper facilities to house and maintain the specimens.
- Often, repositories other than the parks or MRCE are identified as sensible locations for certain types of collections. Note all voucher specimens collected on NPS lands are the property of the National Park Service, regardless of the final repository and as such any non-NPS institution must agree that any NPS specimens in their possession will remain NPS property.

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- It is highly recommended, although not mandated, that when a non-NPS institution is identified as the most appropriate repository, the multi-park specimen collection be maintained as a single unit and not split into smaller collections with some located at parks and other at the alternate repository.
- Any time NPS collections are loaned to other agencies or institutions, NPS Form 10-127 (NPS Outgoing Loan Agreement) must be completed and 10-127a (which describes the terms and conditions of the loan agreement) must be attached. All long-term loan agreements will be processed and tracked by park curators. Refer to Chapter 5 of the NPS Museum Handbook, Part II for additional information regarding loan agreements.

NOTE: Please refer to the permitting section of this document for additional requirements involved with the permitting process when a non-NPS institution is designated as the specimen repository.

Responsibilities

- Principle Investigator: Submit applications for research or collecting permits as soon as possible to ensure that processing does not delay the start of field work. Work with the park research coordinator or resource management staff – keeping them apprised of all park visits and research activities. The PI is also responsible for ensuring that all of their staff have copies of this SOP and of the research/collection permit and are aware of the specifics of these documents. Follow all rules and regulations applicable to voucher specimen collection on NPS property as outlined above. This includes making sure that all specimens are properly prepared including mounting, labeling, cataloging, and storage until they are turned over to the NPS. If questions arise, project staff should contact the NPS project manager with questions regarding permitting or specimen collection. Any deviations from the guidelines described above (or in the contract/cooperative agreement) must be approved in advance by the project manager and in conjunction with park research coordinators and/or curators.
- Park Resource Manager and Park Curator: Work with the principle investigator to issue research or collecting permits and to stay informed about all park visits and research activities. It is imperative that park personnel in charge of permitting and curation ensure that all research and collecting permits are completed properly. This includes making sure that the permit meets the requirements of 36 CFR 2.5:

36 CFR 2.5: Field data, objects, specimens, and features obtained for preservation during inventory, monitoring, research, and study projects, together with associated records and reports, will be managed over the long term within the museum collection. Specimens that are not authorized for consumptive analysis will be labeled and cataloged into an appropriate cataloging system in accordance with applicable regulations.

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- Accomplishing this requires that the natural resource management staff and park curatorial staff communicate with each other to ensure that both are in agreement on how specimens will be collected and processed. The importance of this cannot be understated.
- Park curators will be expected to provide numbers within five (5) to seven (7) days of the request. This is vital in order to ensure that biological specimens are processed and stored properly prior to them degrading.
- Park personnel are expected to communicate all problems relating to the project to the project manager. Park curators are responsible for ensuring that all of the specimen information submitted by investigator is entered into ANCS+ upon completion of the project. This will involve importing the specimen information stored in the project database or specimen spreadsheet into ANCS+. The investigator and the project manager are responsible for ensuring that this information is accurate.
- NPS Project Manager: Provide all applicable project requirements and product specifications to the principle investigator at the beginning of all contracts or cooperative agreements (prior to the start of fieldwork). These materials include SOPs, databases, etc. The project manager is also responsible for ensuring that the PI receives training or orientation on any project materials. They must work with the project scientist, park resource management, and curatorial staff to ensure good communication and coordination throughout each project. The project manager is responsible for ensuring that all voucher specimens collected during a project are properly deposited at the MRCE and that the associated data is accurate and properly formatted for importing into ANCS+.
- NCR Museum Resource Center (MRCE): Receive and maintain all voucher specimens collected. In conjunction with park curators, coordinate and track all outgoing loan agreements involving vouchers specimens with other agencies or institutions. Arrange for the transfer of voucher specimens to the park in which the specimens were collected if the park desires to house the specimens and has the proper facilities to do so.

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Appendix 1. Contact information for Resource Manager/Curators at each National Capital Region park.

Park	Resource Manager/Curator	Work Phone	E-mail
NCR	Pam West	301 342-0706	pam_west@nps.gov
MRCE	Tyra Walker	301 341-0704	tyra_walker@nps.gov
ANTI	Ed Wenschof/	301-432-6236	ed_wenschof@nps.gov
	Alann Schimdt	301-432-5124	allan_schmidt@nps.gov
CATO	Becky Loncosky/	301-416-0536	becky_loncosky@nps.gov
	Sally Griffin	301-663-9399	sally_griffin@nps.gov
CHOH	Scott Bell	301-714-2224	p_scott_bell@nps.gov
	Marian Creveling	301 341-0709	marian_creveling@nps.gov
GWMP	Brent Steury	703-289-2541	brent_steury@nps.gov
	Mary Troy	703-235-1535	mary_troy@nps.gov
HAFE	Bill Hebb/	304-535-6223	bill_hebb@nps.gov
	Nancy Hatcher	304-535-6163	nancy_hatcher@nps.gov
MANA	Bryan Gorsira	703-754-1859	bryan_gorsira@nps.gov
	Jim Burgess	703 361-0426	jim_burgess@nps.gov
MONO	Andrew Banasik	301-662-3515	andrew_banasik@nps.gov
	Tracey Shives	301 662-3515	tracey_shives@nps.gov
NAMA	Steve Lorenzetti	202-485-9680	steve_lorenzetti@nps.gov
	Gloria Swift	202-426-6924	gloria_swift@nps.gov
NACE	Susan Rudy	202-690-5167	steven_syphax@nps.gov
	Mike Antonioni	202-692-6049	mike_antonioni@nps.gov
PRWI	Paul Petersen	703-221-3406	paul_e_petersen@nps.gov
	Judy Volonoski	703 221-2176	judy_volonoski@nps.gov
ROCR	Ken Ferebee	202 895-6221	ken_ferebee@nps.gov
	Perry Wheelock	202-895-6011	perry_wheelock@nps.gov
WOTR	Duane Erwin/	703-255-1822	duane_erwin@nps.gov
	Marian Creveling	301 341-0709	marian_creveling@nps.gov

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Appendix 2. List of NPS specimen labels and their associated NPS Form Number.

NPS Forms #	Label Title
500	Vertebrate Wet Specimen Label
501	Vertebrate Specimen Label
502	Skull Vial or Box Label
503	Invertebrate Specimen Label
504	Geology Collection
505	Paleontology Label
506	Wet Plant Specimen Label
507	Invertebrate Label
508	Egg Box Label
509	Insect Label
510	Annotation Label
511	Mineral Collection Label
512	Herbarium Collection Label