

**APPLICATION GUIDELINES  
FOR  
RESEARCH AND COLLECTING  
PERMITS**

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Grand Canyon National Park

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# APPLICATION PROCEDURES AND REQUIREMENTS FOR SCIENTIFIC RESEARCH AND COLLECTING PERMITS



## United States Department of the Interior National Park Service

### **POLICY AND GENERAL REQUIREMENTS**

The National Park Service (NPS) is responsible for protecting in perpetuity and regulating use of our National Park areas (parks, monuments, battlefields, seashores, recreation areas, etc.). The NPS has a research mandate to enhance management using the highest quality science and information, and superintendents recognize that timely and reliable scientific information is essential for sound decisions and interpretive programming. We welcome proposals for scientific studies designed to increase understanding of the human and ecological processes and resources and all proposals that show the potential for public benefit.

#### **When is a permit required?**

A Scientific Research and Collecting Permit is required for most scientific activities pertaining to natural resources or social studies in National Park System areas that involve fieldwork, specimen collection, and/or have the potential to disturb resources or visitors. When permits are required for scientific activities pertaining solely to cultural resources, including archeology, ethnography, history, cultural museum objects, cultural landscapes, and historic and prehistoric structures, other permit procedures apply. The park's Research and Collecting Permit Office or Headquarters can provide copies of NPS research-related permit applications and information regarding other permits. Collection of information from the public when federal funds are used may require approval from the Office of Management and Budget.

NPS superintendents may authorize their staff to carry out official duties without requiring an NPS research and collecting permit. All other research and data collection in a park requires a Scientific Research and Collecting Permit and will be allowed only pursuant to the terms and conditions of the permit.

#### **Additional required permits and agreements**

Other federal or state agency permits may be required before NPS staff can process an application for a Scientific Research and Collecting Permit. It is the responsibility of the principal investigator to provide NPS with copies of such permits when they submit an application. Examples include U.S. Fish and Wildlife Service threatened and endangered

species permits and migratory bird permits. Applicants are encouraged to contact park staff to determine if additional permits may be required in conjunction with a proposed study.

Separate agreements between the investigator and NPS are required when proposed studies or collected specimens are intended to support commercial activities.

### **Who may apply?**

Any individual may apply if he/she has qualifications and experience to conduct scientific studies or represents a reputable scientific or educational institution or a federal, tribal, or state agency.

### **When to apply?**

We recommend that you apply at least 90 days in advance of your first planned field activities. Projects requiring access to restricted locations or proposing activities with sensitive resources, such as endangered species or cultural sites, usually require extensive review and can require 90 days or longer for a permitting decision. Simple applications can often be approved more quickly.

### **Where to apply?**

Mail all application materials to Research and Collecting Permits, Resource Management Office, at the NPS area in which you plan to work. Addresses for NPS areas are listed on the NPS Internet web site ([www.nps.gov](http://www.nps.gov)) and may be contained in application materials provided by the park.

### **Study proposals**

Applications for Research and Collecting Permits must include a research proposal. Proposals must include, as appropriate, all elements outlined in the attached *Guidelines for Study Proposals*.

### **Review of proposals**

Each proposal will be reviewed for compliance with National Environmental Policy Act (NEPA) requirements and other laws, regulations, and policies. The superintendent may also require internal and/or external scientific review, depending on the complexity and sensitivity of the work being proposed and other factors. You can expedite review of your proposal by providing photocopies of existing peer reviews, or by providing names, mailing addresses, and email addresses of persons that you wish to recommend to review your proposal. Specific details about the review process may be included with the application materials provided by that park.

## **Facilitating a favorable decision**

The superintendent makes a decision to grant a research and collecting permit based on an evaluation of favorable and unfavorable factors, and on an assessment of perceived risks and benefits. While park managers will work with applicants to arrive at a mutually acceptable research design, there may be activities where no acceptable mitigating measures are possible and the application may be denied.

It is neither possible nor desirable to anticipate or list all acceptable research activities or review efforts needed. However, the type and magnitude of the proposed research can provide indications. For example, a single visit for a non-manipulative research project will often require a relatively simple proposal and the permitting decision should be relatively fast. A highly manipulative or intrusive investigation, however, with the potential to affect non-renewable, rare, or delicate resources, needing detailed planning or logistics, would receive more extensive review. Some of the predisposing factors that influence permitting decisions are outlined below.

## **Favorable factors**

The proposed research:

- contributes information useful to an increased understanding of park resources, and thereby contributes to effective management and/or interpretation of park resources; provides for scheduled sharing of information with park staff, including any manuscripts, publications, maps, databases, etc., which the researcher is willing to share;
- addresses problems or questions of importance to science or society and shows promise of making an important contribution to humankind's knowledge of the subject matter;
- involves a principal investigator and support team with a record of accomplishments in the proposed field of investigation and with a demonstrated ability to work cooperatively and safely, and to accomplish the desired tasks within a reasonable time frame;
- provides for the investigator(s) to prepare occasional summaries of findings for public use, such as seminars and brochures;
- minimizes disruption to the park's natural and cultural resources, to park operations, and to visitors;
- discusses plans for the cataloging and care of collected specimens;
- clearly anticipates logistical needs and provides detail about provisions for meeting those needs; and
- is supported academically and financially, making it highly likely that all fieldwork, analyses, and reporting will be completed within a reasonable time frame.

# Unfavorable factors

The proposed research:

- involves activities that adversely affect the experiences of park visitors;
- shows potential for adverse impact on the park's natural, cultural, or scenic resources, and particularly to non-renewable resources such as archeological and fossil sites or special-status species (the entire range of adverse impacts that will be considered also includes construction and support activities, trash disposal, trail conditions, and mechanized equipment use in sensitive areas);
- shows potential for creating high risk of hazard to the researchers, other park visitors, or environments adjacent to the park;
- involves extensive collecting of natural materials; requires substantial logistical, administrative, curatorial, or project monitoring support by park staff; or provides insufficient lead time to allow necessary review and consultation;
- is to be conducted by a principal investigator lacking scientific institutional affiliation and/or recognized experience conducting scientific research; and
- lacks adequate scientific detail and justification to support the study objectives and methods.

## **Park response**

The principal investigator should receive notice of the approval or rejection of the application by written correspondence via mail, electronic mail, or facsimile. If modifications or changes in the proposed research or collecting would make the proposal acceptable, the park may suggest them at this time. If the application is rejected, the applicant may consult with the appropriate NPS Regional Science Advisor to clarify issues and assess the potential for reconsideration by the park. If the proposed study is approved by the park, you will receive a copy of the permit that must be signed and returned to the park via mail or fax. An approved permit is considered valid when copies containing all required signatures are received by the park. A copy of the permit must be carried at all times while performing research in the park.

## **Permit stipulations**

*General Conditions* (requirements and restrictions) will be attached to all Research and Collecting Permits issued. These conditions must be adhered to by permit recipients. Additional Park-specific Conditions may also be included that address unique park resources or activities. An NPS permit is valid only for the activities authorized in the permit. The principal investigator must notify the NPS in writing of any proposed changes. Requests for significant changes may necessitate re-evaluation of the permit conditions or development of a revised proposal.

## **Access permit requirements**

Some NPS areas require access permits for off-road travel, camping, and other activities. Access to many areas is limited and popular destinations can be booked several months in advance. Please contact the park's Research and Collecting Permit Office to obtain information on any needed access permits.

## **RESEARCH PRODUCTS AND DELIVERABLES**

Researchers working in NPS areas are required to complete an NPS Investigator's Annual Report form for each year of the permit, including the final year. The NPS maintains a system enabling researchers to use the Internet to complete and submit the Investigator's Annual Report. NPS staff will contact permit holders near the beginning of each calendar year to request the report and explain how to access and use the system. Investigator's Annual Reports are used to consistently document park research accomplishments. Principal investigators are responsible for the content of their reports. NPS staff will not modify reports received unless requested to do so by the principal investigator responsible for the report. All or some of the information provided may be available to the public.

Park research coordinators may request copies of field notes, data, reports, publications and/or other materials resulting from studies conducted in NPS areas. Additional deliverables may be required of studies involving NPS funding or participation.



# GUIDELINES FOR STUDY PROPOSALS

## United States Department of the Interior National Park Service

Your proposal should include each of the required information items listed below, in enough detail that an educated non-specialist can understand exactly what you plan to do. If you have already prepared a relevant proposal for a funding application, work plan, formal agreement, or similar document, then your original proposal may partially or completely satisfy NPS proposal requirements. You should compare your original proposal to these guidelines to be certain that you have provided all the required information. If additional information is required, you can provide it in a cover letter or supplement to your proposal, as appropriate. If a required topic does not apply to your proposed study, simply list the topic and write “not applicable.”

The length of your proposal depends primarily on the complexity of the work planned. In some cases, a proposal may consist of a couple of pages for a study expected to have no significant impact on park resources or visitor experiences. However, proposals for lengthy or complex research problems, for extensive collecting, and for work with special status species or sensitive cultural resources are typically longer, more detailed, and well organized. Incomplete, disorganized, or illegible proposals may be returned for revision.

### I. INTRODUCTION

- A. **Title**
- B. **Date of proposal**
- C. **Investigators** - Provide the name, title, address, telephone number, FAX number, email address, and institutional affiliation of the principal investigator and the name and affiliation of all additional investigators listed in the proposal.
- D. **Table of contents** - Recommended for long or complicated proposals.
- E. **Abstract** - Provide a brief summary description of the proposed project. Include up to five keywords that can be used by the National Park Service to quickly identify the proposal subject (for example, microbiology, geology, ecology).

- II. **BACKGROUND** - Summarize the proposed project by describing in general the problem or issue being investigated as well as any previous pertinent research.

- A. **Statement of issue** - Describe the importance and relevance of the issue to be investigated to science and to the park. Provide relevant background information that clarifies the need for the project and why it is valuable for the research and/or collecting to be conducted in the park as opposed to areas outside the park.
  - B. **Literature summary** - Summarize the relevant literature regarding the issue, problem, or questions that will be investigated.
  - C. **Scope of study** - Describe the overall geographic and scientific scope of the project.
  - D. **Intended use of results** - Describe how the products will be used, including any anticipated commercial use.
- III. **OBJECTIVES/HYPOTHESES TO BE TESTED** - Describe the specific objectives of the proposed project. Where appropriate, the objectives should be stated as specific hypotheses to be tested.
- IV. **METHODS** - Describe how the proposed methods and analytical techniques will achieve the study objectives or test the stated hypothesis/question. Provide pertinent literature citations.
- A. **Description of study area** – Clearly describe the study area in terms of park name(s), geographic location(s), and place names. You should provide maps, park names, or geographic coordinates as appropriate. Indicate whether your work will take place in an area designated or managed as “wilderness” by the National Park Service.
  - B. **Procedures** - Describe the proposed study design that addresses the stated objectives and hypotheses. Explain the methods and protocols to be employed in the field and laboratory.
  - C. **Collections** - Describe the type, size, and quantity of specimens or materials to be collected, sampled, or captured, and your plans to remove them from the collecting site. Describe existing collections of similar specimens and why additional collecting is necessary. Provide scientific nomenclature where possible. Provide information on all other applicable federal or state permits where required.
  - D. **Analysis** - Explain how the data from the study will be analyzed to meet the stated objectives or test the hypotheses. Include any statistical

techniques or mathematical models necessary to the understanding of the analysis.

- E. **Schedule** - Provide a schedule that includes start of project, approximate dates or seasons of fieldwork, analysis, reporting, and completion dates.
- F. **Budget** - Briefly outline the expenses associated with this project and identify your expected funding source(s). Include the anticipated costs pertaining to the cataloging of collected and permanently retained specimens or materials.

## V. **PRODUCTS**

- A. **Publications and reports** - Describe the expected publications or reports that will be generated as part of this study.
- B. **Collections** – Describe the proposed disposition of collected specimens or materials. If you propose that the NPS lend the specimens or samples to a non-NPS institution for long-term storage, identify that institution and give a brief justification for this proposal.
- C. **Data and other materials** - Describe any other products to be generated as part of the project, such as, photographs, maps, models, handouts, exhibits, software presentations, raw data, GIS coverage, or videos, and the proposed disposition of these materials. If data is to be collected from the public as part of this study, provide a copy of the data collection instrument (survey, questionnaire, interview protocol, etc.).

VI. **LITERATURE CITED** - Include full bibliographic citations for all reports and publications referenced in the proposal.

VII. **QUALIFICATIONS** - Provide a background summary or curriculum vitae for the principal investigator and other investigators listed in the proposal. Identify their training and qualifications relevant to the proposed project and their ability to conduct field activities in the environment of the proposed study area. Describe previous research and collecting in NPS areas, including study and permit numbers if available.

VIII. **SUPPORTING DOCUMENTATION AND SPECIAL CONCERNS** - Provide information on the following topics where applicable. Attach copies of any supporting documentation that will facilitate processing of your application, such

as other required federal and state permits, copies of peer reviews, letters of support and funding commitments, and certifications. Collection of information from the public when federal funds are used may require approval from the Office of Management and Budget.

- A. **Safety** - Describe any known potentially hazardous activities, such as electro-fishing, rock climbing, scuba diving, whitewater boating, aircraft use, wilderness travel, wildlife capture, handling or immobilization, use of explosives, etc.
- B. **Access to study sites** - Describe the proposed method and frequency of travel to and within the study site(s). Explain any need to enter restricted areas. Describe duration, location, and number of participants for planned backcountry camping.
- C. **Use of mechanized and other equipment** - Describe any field equipment, markers, or supply caches by type, number, and location. You should explain how long they are to be left in the field. Explain the need to use these materials in restricted areas and the alternatives that were considered.
- D. **Chemical use** - Identify chemicals and hazardous material that you propose using within the park. Indicate the purpose, method of application, and amount to be used. Describe plans for storage, transfer, and disposal of these materials and describe steps to remediate accidental releases into the environment. Attach copies of Material Safety Data Sheets.
- E. **Ground disturbance** - Describe the type, location, area, depth, number, and distribution of expected ground-disturbing activities, such as soil pits, cores, stakes, or latrines. Describe plans for site restoration of significantly affected areas.

*Proposals that entail ground disturbance may require an archeological survey and special clearance prior to approval of the study. You can help reduce the extra time that may be required to process such a proposal by including identification of each ground disturbance area on a USGS 7.5-minute topographic map.*

- F. **Animal welfare** - If the study involves vertebrate animals, describe your protocol for any capture, holding, marking, tagging, tissue sampling, or other handling of these animals (including the training and qualifications of personnel relevant to animal handling and care). If your institutional animal welfare committee has reviewed your proposal, please include a

photocopy of their recommendations. Describe alternatives considered, and outline procedures to be used to alleviate pain or distress. Include contingency plans to be implemented in the event of accidental injury to or death of the animal.

- G. **NPS assistance** - Describe any NPS assistance needed to complete the proposed study, such as use of equipment or facilities or assistance from staff.
  
- H. **Wilderness “minimum requirement” protocols** - If some or all of your activities will be conducted within a location administered by the NPS as a designated, proposed, or potential wilderness area, your proposal should describe how the project adheres to wilderness “minimum requirement” and “minimum tool” concepts. Refer to the park’s wilderness management plan for further information.

## **PERMITS and DOCUMENTATION REQUIRED FOR RESEARCH AND COLLECTING**

### **I. GENERAL PERMITS**

- **Research and Collecting Permit:** Required for studies and specimen collecting within NPS areas.
- **Certificate of Insurance:** Required for studies and specimen collecting within NPS areas. Requirements include written proof of general liability and accidental injury/death insurance covering all individuals participating in field studies (employees and volunteers). For legally self-insured entities, including Federal and state agencies, a signed statement by a knowledgeable authority indicating self-insurance and Workers Compensation coverage of employees and volunteers will suffice. Other applicants should provide a photocopy of their current certificate of insurance. Certificates of insurance, which list the insured organization and the limits of coverage, can be obtained from your insurance agency. Approval for certain activities may be denied on the basis of insufficient insurance (\$1 million general liability coverage is recommended).

### **II. PERMITS FOR ARCHAEOLOGIC STUDIES:**

- **Archaeological Resources Protection Act Permit (ARPA Form DI-1927):** Required for archaeology or cultural resource studies.
- **Assessment of Effect on Cultural Resources (Form 10-58):** Required for review of archaeological site location data and site surveys without collection or excavation.

**III. PERMITS NEEDED FOR ACCESS TO RESTRICTED LOCATIONS:** The Research Office is your first point of contact for all of the following permits. We must be notified at least **45 days** in advance. Application forms are available in either electronic or hard copy formats.

- **Aviation Permit:** A Flight Request Form is required prior to each aircraft use within the Grand Canyon National Park Special Flights Rules Area.
- **Backcountry Use Permit:** Required for all overnight camping. Also required for any off-river camping in Grand Canyon National Park during river trips.
- **Cave Permit:** Required prior to each cave trip.
- **River Trip Permit:** Required prior to each research river trip below Lees Ferry. This permit authorizes river travel and camping on sand bars along the river.

## PERMITS ISSUED OR REQUIRED BY OTHER AGENCIES

### GENERAL

- **Bird Banding and Salvage Permit (USFWS)** : Required for capture, tagging, or marking of live birds and for salvage of dead specimens.
- **Endangered Species Permit:** NPS permits for work with endangered species are only valid when attached to a current U.S. Fish and Wildlife Service permit. If your work will involve endangered species, please provide a photocopy of your USFWS permit with your application for an NPS Scientific Research and Collecting permit.
- **Migratory Bird Scientific Collecting Permit (USFWS):** For taking of migratory birds, nests or eggs.
- **Native Plant Collecting Permit (State Department of Agriculture):** To transport native plants protected under state laws.
- **OMB Survey Approval (Federal, Office of Management and Budget):** For federally supported public surveys (e.g., visitor surveys).
- **Scientific Collecting Permit (State Game and Fish Department):** To collect and transport fish and wildlife protected under state laws.

### ACTIVITIES ON FEDERAL OR NATIVE AMERICAN LANDS ADJOINING NPS AREAS

- **Federal Lands (USDA Forest Service, Bureau of Land Management):** Contact the responsible land management agency regarding activities on Federal lands outside park boundaries.
- **Native American Lands:** Contact the tribes directly regarding permits for activities on Native American lands. (Navajo Tribal Lands are located along the left or east side of the Colorado River beyond the canyon rim or outside NPS jurisdiction, and upriver of the confluence of the Little Colorado and Colorado Rivers. Havasupai Tribal Lands are located on the left or south side of the canyon outside the boundary and jurisdiction of the National Park Service, including Havasu Canyon upstream of Beaver Falls. Hualapai Tribal Lands are located along River Mile 165 through River Mile 273 on the left or south side of the canyon above the historical high water line.)

Park-specific Conditions

GRAND CANYON



NATIONAL PARK

## CLOSED AREAS

The following areas are closed to camping:

- Redwall Cavern
- River Mile 47 (above high water line)
- Little Colorado River confluence with Colorado River
- Phantom Creek and Phantom below 3600 feet
- Elves Chasm
- Manuel River Drainage
- Havasu Creek
- Matkatamiba Canyon below Redwall Formation
- Grandview historic mining district
- Dripping Springs
- Clear Creek drainage from the Colorado River to the first major side canyon from the east, except for river parties at the Colorado River
- Page Spring
- Deer Spring
- Phantom Ranch (except for designated sites)
- All limestone caves in Redwall Formation
- The Basin Use Area
- Manzanita Use Area
- Uncle Jim Point
- Transept Use Area
- Long Jim Use Area
- Deer Creek Falls
- Shinumo Creek

From: Grand Canyon National Park Compendium of Closures and Use Restrictions  
September 1998

## RESTRICTED AREAS

**Contact appropriate authorities before entering any restricted area.**

**Anasazi Bridge**, River Mile 43, right bank: Closed except by permission of the GRCA Cultural Resources Program Manager.

**Furnace Flats archaeological site** - River Mile 71.0 to River Mile 71.3 right bank: Closed except by permission of the GRCA Cultural Resources Program Manager.

**Caves and mine shafts or adits** are restricted to persons and activities specified in NPS permits, including but not limited to:

**Bass Mine**, River Mile 111 (Hakatai Canyon): The area surrounding the mine, talus slope, and camp is closed except by permission of Park Superintendent (asbestos hazard, requires approved safety plan).

**Hance Mine**, along trail from River Mile 77.0, right bank to and including Hance Mine: Closed except by permission of Park Superintendent (asbestos hazard, requires approved safety plan).

**Hopi Salt Mine**, River Mile 62.0 to River Mile 62.5, along the left bank of the Colorado River: Closed except by permission of the GRCA Cultural Resources Program Manager.

**Orphan Mine**, South Rim: Restricted access (radon and collapse hazards, requires approved safety plan).

**Maricopa Point**, Ecologically Sensitive Area

**Note:** Official notice of closed areas and activity restrictions in Grand Canyon National Park is included in the Superintendent's Compendium of Closures and Restrictions, the Backcountry Management Plan (9/88) and the Colorado River Management Plan (9/89). A summary of backcountry use restrictions for Grand Canyon National Park is also included in the Backcountry Trip Planner available from the Backcountry Office, Grand Canyon National Park, P.O. Box 129, Grand Canyon, AZ 86023. Other areas may be closed through placement of conspicuous signs or through notices posted at the Backcountry Office or Lees Ferry when warranted for the protection of park resources or visitor safety. An approved research authorization does not convey or imply license to cross lands owned or managed by other entities. Boundaries of Grand Canyon National Park and Glen Canyon National Recreation Area are depicted on the official maps and guides issued by the respective areas. For information about adjacent areas outside the boundaries of Grand Canyon National Park and Glen Canyon National Recreation Area, contact the tribe or agency having management authority.

# **WILDERNESS RESEARCH PROGRAM AND THE MINIMUM REQUIREMENT DECISION PROCESS FOR GRAND CANYON NATIONAL PARK**

## THE WILDERNESS ACT OF 1964

The Wilderness Act of 1964 recognized the value and use of wilderness to science by stating that "scientific use" is one of the "public purposes" of wilderness equal to recreational, scenic, education, conservation and historical uses. This statement is tempered in the NPS Director's Order and Resource Manual #41, *Wilderness Preservation and Management*, by the requirement that parks with wilderness manage Suitable, Study Area, Proposed, Recommended, and Potential wilderness to preserve their wilderness character and values undiminished, and make decisions in expectation of eventual wilderness designations.

What are "wilderness characteristics and values? For the National Park Service they are:

- Primeval character and influence
- Natural conditions (including the lack of human-made noises)
- Cultural resource protection
- Outstanding opportunities for solitude
- Opportunities for primitive and unconfined recreational experience
- Preservation of wilderness in an unimpaired condition

Section 4(c) of the Wilderness Act says "except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act...there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area." These are referred to as "prohibited uses." By this language, Congress acknowledged that even though certain activities are prohibited, there are times when exceptions to these prohibitions will need to be made. However, it should not be viewed as blanket approval to conduct projects or allow activities without an analysis of the project and its impacts.

The National Park Service must apply the minimum requirement concept to all administrative activities that affect the wilderness resource and character. The aim is to minimize impacts and guide management actions in wilderness. Activities authorized under a Research and Collecting permit at Grand Canyon National Park are treated as administrative activities.

## RESEARCH IN GRAND CANYON NATIONAL PARK

While NPS and the Wilderness Act acknowledge that wilderness provides opportunities for scientific understanding not available in other, less protected areas, acquiring scientific information often involves activities that can affect wilderness resources and values. Thus, despite the wide recognition of the value of science, concerns are often voiced over the potential impacts of scientific activities in wilderness areas.

Since 1996 Grand Canyon National Park Research Office has reviewed new research proposals under an evolving wilderness Minimum Requirement decision process. The minimum requirement concept enables us to examine and document whether a generally prohibited activity or use is necessary to manage the area "as wilderness", and if it is, to determine the least intrusive equipment or practice that will achieve both research and wilderness management objectives.

Ninety percent of Grand Canyon National Park is Proposed Wilderness. Approximately 100 ongoing research projects take place each year, mostly within the Proposed Wilderness. About half of these studies are implemented by the U.S. Geological Survey under the mandate of the Grand Canyon Protection Act, and have strong support from the Glen Canyon Dam Adaptive Management Work Group, a committee of 25 federal, state, tribal, and non-government organizations. Every research proposal submitted to the Grand Canyon National Park Research Office is subject to the following 4-step proposal review process:

#### Step 1: Proposal Review

When a research proposal is received in the Research Office at Grand Canyon National Park, it is reviewed using the "GRCA Research Proposal Checklist." This checklist follows the **Study Proposal Guidelines** developed by the NPS and available on the web to all prospective investigators. Although the guidelines do not specifically address wilderness concerns, the factors it does consider address many of the issues of greatest concern to wilderness managers: safety, access to study sites, use of motorized or other equipment, use of chemicals and ground disturbance. Some questions asked during review process:

1. Is the information needed to properly manage resources in the park, or supplement information?
2. Is it supported through qualified peer review?
3. Is it supported through qualified park review?
4. Can objectives be accomplished safely, legally, and with negligible effects to resources, visitor experiences, and park operations?
5. Are properly trained and equipped emergency services available in case of an accident?
6. Is it covered by current environmental compliance, or would additional compliance be needed -- NEPA (CE, EA, EIS), NHPA (AE), ESA (EA)?

#### Step 2: Scientific Activities Review

The logistics, methods, and techniques used to accomplish the research are scrutinized through a **Wilderness Impact Matrix** to identify prohibited uses, activities, or adverse impacts to park resources in Wilderness. Potential effects are arranged in a matrix in order of increasing impact. Activities with potential impacts "above the line" are re-examined to determine if the impacts can be reduced.

#### Step 3: Wilderness Review

If prohibited uses or activities are identified, a **Minimum Requirement Analysis** is completed. This is a two-part process that documents:

1. Part One: Whether the project or activity is necessary to meet the minimum requirements for the administration of the area. This is the first and most important

question to answer and is dependent on the researcher to demonstrate the benefits of his research to the park.

2. If Part One successfully answered, then Part Two: Minimum Tool, is completed:  
*Which tool or method should be used to complete the project that results in the least impact to the physical resource or wilderness value?*

A word about minimum tools: There isn't an all encompassing definition but generally defined they include a variety of primitive and non-motorized devices such as hand saws, axes, shovels, and certain tools that give a mechanical advantage such as wedges, block and tackles, and winches. The defining characteristic is the reliance on human or animal power. RM 41 also recognizes several common appliances as allowable minimum tools, including shavers, clocks, flashlights, camping stoves, batteries, cellular phones, GPS units, and others.

Investigators should also be aware that there are some activities in wilderness that the NPS cannot and will not approve. For example, GRCA would be unlikely to approve building a road to a geologic locality for excavation purposes (such as fossil recovery). Besides being a prohibited use, the impacts would be considered permanent.

Step 4: The Research and Collecting permit is issued with stipulations consistent with the MRA recommended and approved alternative.

In summary, the impacts of scientific activities in wilderness are of great concern to the national parks and others who manage wilderness. The Minimum Requirement Analysis was developed at Grand Canyon National Park as a guide for evaluating proposals, as well as a guide for scientists in finding ways to reduce or mitigate the impacts of their proposed activities. Variations of this Minimum Requirement process are in place at other national parks with wilderness lands.

Improved understanding and communication between national park managers and scientists are essential for the development of research in which the best possible science is conducted with the minimum possible impact. Researchers who are considering working in a national park should submit a pre-proposal or make a phone call to discuss their idea and proposed methodology with appropriate park personnel. This will give both parties an opportunity to identify potential issues of concern and to discuss mitigating actions or alternative methods before funding and fieldwork schedules are locked in place. Early discussion should focus on the benefits of the research and options for minimizing and mitigating impacts.

## **NON-DISCLOSURE POLICIES CONCERNING SENSITIVE RESOURCE INFORMATION QUESTIONS AND ANSWERS**

### **What are the non-disclosure policies regarding specific location information about caves, cultural sites, special status species, and other sensitive resources within Grand Canyon National Park?**

Service policies require that specific site location information about rare and valuable resources *shall not be included* in reports for public distribution. Other information identifying the specific or approximate location of sensitive resources should also be omitted from reports for public distribution. Such information includes, but is not limited to:

- 1) Descriptions of the route to the site
- 2) Geographic coordinates (map or GPS)
- 3) River mile notation
- 4) Inclusion of specific location maps
- 5) References to map features or aerial photos,
- 6) Reference to or photos of cave entrances, adjacent landmarks and other distinct topographic features (watershed, drainage, mesa, plateau, historic landmarks etc).

### **What kind of information can be included in research reports?**

Grand Canyon National Park can provide researchers with a permanent and unique site identification number (catalogued in the Grand Canyon National Park resource inventory system) to serve the same purpose as the site name in the scientific literature.

To meet federal non-disclosure requirements, sensitive resource sites should be referenced only by park inventory number, park name, county, state, and geologic formation, and provide basic location descriptions needed for research reports. We recommend that elevation and geomorphic descriptors related to sensitive sites be included only when relevant to the topic of the study. Also, information about other sensitive resources that are fortuitously discovered within or near the research site (fossils, historic or archaeological relics, rare mineral types, etc.) should be omitted from reports for public distribution, unless fully relevant to the project objectives and approved by the park. Any new resource discoveries made in the course of your research should be reported to park management.

### **What about bibliographic references?**

The Service recognizes that it may be appropriate to cite previously published articles, even though they refer to sites by name or provide other detailed site information. We encourage researchers to consider the benefits of maintaining site confidentiality in the selection of references as well as in the text of their reports. However, we recognize that previous work at a given site is often highly pertinent to a publication, and we do not intend to restrict the choice of bibliographic citations for scientific publications. Additional information about the specific legal basis for non-disclosure of sensitive site information data is available on request. The Research Office would be pleased to provide additional information, and to review information contained in draft research reports.

## **SENSITIVE RESOURCES**

### **FEDERAL RESTRICTIONS REGARDING RELEASE OF INFORMATION ABOUT SPECIFIC LOCATION**

Section 207 of the 1998 National Parks Omnibus Act includes legislative language protecting location information about certain resources from FOIA requests:

#### **CONFIDENTIALITY OF INFORMATION.**

Information concerning the nature and specific location of a National Park System resource which is endangered, threatened, rare, or commercially valuable, of mineral or paleontological objects within units of the National Park System, or of objects of cultural patrimony with units of the National Park System, may be withheld from the public in response to a request under section 552 of title 5 United States Code, unless the Secretary determines that --

- (1) disclosure of the information would further the purposes of the unit of the National Park System in which the resource or object is located and would not create an unreasonable risk of harm, theft, or destruction of the resource or object, including individual organic or inorganic specimens; and
- (2) disclosure is consistent with other applicable laws protecting the resource or object.

Cave locations are protected by section 5 of the Federal Cave Protection Act of 1988 (16USC 4301) which states that:

(a) **IN GENERAL.**- Information concerning the specific locations of any significant cave may not be made available to the public under section 552 of title 5, United States Code, unless the Secretary determines that disclosure of such information would further the purposes of this Act, and would not create a substantial risk of harm, theft, or destruction of such cave.

(b) **EXCEPTIONS.** - Notwithstanding subsection (1), the Secretary may make available information regarding significant caves upon written request by Federal and state government agencies or bona fide educational and research institutions. Any such written request shall at a minimum:

- (1) describe the specific site or area for which information is sought;
- (2) explain the purpose for which such information is sought; and
- (3) include assurances satisfactory to the Secretary that adequate measures are being taken to protect the confidentiality of such information to ensure the protection of the significant cave from destruction by vandalism and unauthorized use.

For regulatory implementation of the cave provisions, see 43 CFR 37.12, which imposes some additional protections, by, for example, prohibiting DOI employees from releasing information that could be used to determine the location of any significant cave, and requiring recipients of cave location information to provide written assurances that they will maintain the confidentiality of the information.

## **FOSSIL, ROCK AND MINERAL COLLECTING QUESTIONS AND ANSWERS**

### **What is the goal of paleontological research at Grand Canyon National Park?**

The goal of the paleontological research program at Grand Canyon National Park is to advance a more complete understanding of the history of life on earth, while preserving opportunities for future scientific discovery and public appreciation of fossil materials in their original setting whenever possible. Long term preservation of fossil resources, by careful consideration of all appropriate means, is inherent in this goal. The management of Grand Canyon National Park recognizes the scientific importance of fossil deposits and promotes their conservation through scientific documentation, physical protection, and law enforcement.

### **How may I obtain a permit for paleontological research?**

A Research and Collecting permit is necessary for scientific studies of paleontological resources in Grand Canyon National Park. All research proposals will be reviewed by park resource management and research program staff prior to a permit being issued. Studies that involve excavation of significant subsurface fossil deposits, or require removal of any fossils by means other than simple hand tools (e.g., hand pick and trowel) will also undergo external peer review to weigh potential scientific benefits against potential resource damage, before a permit is issued. Peer review will also be required for any studies involving excavation or collection of vertebrate fossils, vertebrate trackways, or cave sedimentary deposits believed to contain significant fossil materials. All fossil and mineral materials collected are to remain the property of the National Park Service and be catalogued in the NPS collection, except when authorized for consumptive analysis.

### **May I collect rare specimens that I did not plan to encounter and were not identified in my proposal? (Serendipitous collecting)**

Occasionally, vertebrate fossils and trackways will also be discovered in the course of other resource surveys and research. These should be thoroughly documented by photography and field notes, with copies provided to the park natural resource program manager and senior scientist promptly upon return from the field. The decision to recover such specimens should not be made lightly. *Such fossil discoveries are to be left in-situ, except when specifically authorized under a valid and current research and collecting permit or when all of the following conditions are met:*

1) The discovery team includes individuals having professional training in paleontology or closely related fields of science (geology, archaeology) and are authorized by permit or other specific federal authority to collect similar fossil types in this National Park. (Evidence of such authority should always be carried in the field and should be displayed to park staff on request.)

2) The fossils are recognized by expert authorities as being profoundly important to science by nature of their rare occurrence or their exceptional state of preservation, and are definitively recognized as not being human remains. (Protection and recovery of human remains are covered under other authorities.)

3) The fossils are determined to be at imminent risk of damage or loss due to rapid erosion, weathering, construction activity, or theft. For example, a fossil in soft sediments might be determined to be at risk if it were exposed by recent flooding, bank collapse, or unauthorized digging, but not if it is encased in hard bedrock on a remote hilltop. The determination of imminent loss involves a serious professional judgment based on 1) the potential to mitigate the immediate risk of loss or damage by slightly moving it out of harms way (e.g., off trail or out of the river) and b) the remoteness of the location, which affects both the probability of theft and the likelihood that park resource professionals could return and find the site again to recover the item later.

4) Sufficient personnel, equipment, supplies, funding, and commitment are available to professionally document the location, safely recover and preserve the specimen.

5) A federally authorized depository has already been identified and has indicated its willingness to assume long-term responsibility for curation of such specimens according to accepted professional standards as outlines in the NPS Museum Handbook and other sources.

6) The individuals agree to notify park management about finds promptly on their return from the field, to consult with the park museum curator about specimen disposition, to provide clear copies of all relevant field notes and photographs, and to comply with any applicable requirements regarding nondisclosure of sensitive resource site to unauthorized persons.

## SHORT-NOTICE FLOOD CONTINGENCY PLANS QUESTIONS AND ANSWERS

Researchers who plan to launch a river trip in the event of a Beach Habitat Building Flow (BHBF) or a Beach Habitat Maintenance Flow (BHMF) should include a **Contingency Plan for a BHBF Event** with their research proposal. Glen Canyon Dam gives roughly 30-days notice of a BHBF; therefore, it is important that all researchers provide us with their plan of action well in advance of such an event. The park will not allow activities that have not been reviewed in the proposal; therefore, extra trips or extra activities or equipment will not be approved for use during a BHBF unless identified in the initial research proposal.

### **What should the contingency plan include?**

1) Describe what you plan to do. For instance, let us know if you plan to use one of your already scheduled river trips, or if you would add one more trip in the event of a BHBF.

2) Consider the wilderness issues that would need to be addressed because of:

- motorized vehicles

- motorized boats

- sport boats

- cableways

- aircraft overflights

- visitor impacts

- Threatened and Endangered species

All of the above would require a Minimum Requirement analysis by the Research Office. There is not enough time to go through this process within the 30-day period before a BHBF, making approval unlikely for wilderness variances. This is an important reason for getting your plan approved along with your proposal.

## **NPS HELICOPTER USE FOR TRANSPORTING RESEARCH EQUIPMENT QUESTIONS AND ANSWERS**

### **1. Does the park helicopter make routine flights to Phantom or elsewhere?**

No. There is no set schedule, but routine flights to Phantom Ranch average 2-3 per week. The helibase usually has 3-10 days advance notice of routine flights. There is no charge for the flight. There are also non-routine flights, such as med-evacs or other emergencies.

### **2. How should you arrange to have equipment carried on a helicopter?**

Contact the research office and explain what equipment needs to be taken down, and the date.

### **3. What is the general procedure for researchers to follow?**

Get the equipment to the helibase in advance. There are shelves in the hanger with labels for locations the helicopter goes to. These shelves are checked before every flight and whatever is there is taken. There is also a refrigerator and a freezer available. Equipment may be placed on the shelves in an unofficial capacity (no pre-arrangement), but there is no guarantee when the stuff will get to its destination.

Notify Phantom Ranch Ranger Station (520) 638-2331 that this equipment will be arriving on a particular date. (Once it is unloaded from the helicopter, the pilot and crew no longer take responsibility for it.) The rangers will see that the equipment is put on holding shelves for the researcher to pick up.

To have equipment carried out of Phantom, the same system operates. Have the equipment placed on the "out-going" shelves for the helicopter that is flying out. At the helibase, the equipment will be placed on holding shelves for the researcher to pick up.

### **4. How should the equipment be prepared for the flight?**

The equipment should be secured in such a way that nothing will get loose, fall apart, or otherwise get broken or lost. Everything must be clearly labeled with researcher's name, and the destination. The most important piece of information is the weight. A scale is there and the weight of the article must be marked in a prominent place.

### **5. Are there any restrictions on the type of equipment that the helicopter will carry?**

No flammable or hazardous material can be transported. One exception is chainsaw gas, if it is properly contained. The main restriction is weight.

## USING STOCK ANIMALS

NPS stock animals may be available for researchers to use for transporting equipment from the South Rim to Phantom Ranch. Weight limits are 60 lbs per mule. Please contact the Research Office if you need to make arrangements. Arrangements can also be made with other stock animal outfitters. Please contact the Research Office for a list of suggested outfitters.

Please be advised that certain trails are too dangerous or sensitive for pack animals. If you propose to use mules in an area not listed below, please provide details to the Research Office so your request may be submitted for consideration. If activities require a variance from current management plans, a Minimum Requirement is needed.

Stock are permitted on the following designated trails within the **proposed wilderness**:

Cape Solitude  
Fort Garrett  
Brady Hollow  
Kanab Plateau

Tiyo Pint  
Uncle Jim  
Whitmore  
Cove

Stock are permitted on the following **nonwilderness** trails and roads:

South Bass Trailhead Road  
Havasupai point Road  
North Bass Trailhead Road

Point Sublime Road  
Arizona Trail  
Cross-Canyon Corridor

\*(AMFAC, the Grand Canyon Concessioner, also has mules available for transportation to Phantom. However, these are costly and typically not used for research purposes).