

**SCIENTIFIC RESEARCH AND  
COLLECTING PERMIT**

Grants permission in accordance with the attached  
general and special conditions

United States Department of the Interior  
National Park Service

Missouri



Study#: MNRR-00096

Permit#: MNRR-2022-SCI-0002

Start Date: Jan 01, 2022

Expiration Date: Dec 31, 2023

Coop Agreement#:

Optional Park Code:

**Name of principal investigator:**

Name: Ms Michelle Toshack

Phone: 4066243320

Email: projects@adventurescientists.org

**Name of institution represented:**

Adventure Scientists

**Additional investigators or key field assistants:**

Name: Michelle Toshack

Phone: 406-624-3320

Email: michelle@adventurescientists.org

Name: Joshua Theurer

Phone: (406) 451-1504

Email: joshua@adventurescientists.org

**Study Title:**

Wild and Scenic Rivers -- Missouri River (NE, SD)

**Purpose of study:**

We will conduct a nationwide water quality monitoring study on Wild and Scenic River (WSR) segments across 40 states on federal lands. This project will update the water quality status of the majority of rivers across the National Wild and Scenic River system (NWSRS). Adventure Scientists is prepared to provide advisory data to support federal and state agencies in their efforts to implement the Clean Water Act (CWA), which include TMDLs (total maximum daily loads) as well as 303(b) and 303(d) listings. Adventure Scientists has designed the project to meet the priorities and standards of a variety of stakeholders and to ensure data can improve agencies' decision-making capacity. In addition, state water quality agencies have expressed that regular monitoring of all surface waters improve their management ability, which includes updating assessments of impaired waters and collecting data on waters identified as having a good status but with no data to verify those conditions. The multi-level and inter-agency relationships that develop during the life of the project should allow us to better coordinate across groups in response to water quality issues in the NWSRS.

Several states require repeat monitoring and minimum data points to determine the status of surface waters, including rivers, in order to comply with the CWA. Therefore, Adventure Scientists is planning for four years of data collection (until fall/winter 2022) to enable the collection of sufficient data for river segments with significant data gaps/needs (e.g., unassessed and unknown waters). At full scale, volunteers may be deployed in 40 states.

**Subject/Discipline:**

Water Quality

**Locations authorized:**

Research activities will take place in designated Wild and Scenic portions of the Missouri River. Exact points for data collection are to be determined, and will be marked by volunteers when collecting data.

**Transportation method to research site(s):**

Sampling locations will be accessed on foot where possible, or by kayak or raft if necessary.

**Collection of the following specimens or materials, quantities, and any limitations on collecting:**

**Name of repository for specimens or sample materials if applicable:**

NPS General Conditions for Scientific Research and Collecting Permit (available at the RPRS HELP page) apply to this permit. The following specific conditions or restrictions, and any attached conditions, also apply to this permit:

1. Because much of the property within the MNRR boundary is not publicly owned, it is the researchers responsibility to ensure they have permission to be on any property they visit or conduct research on.

2. Threatened and Endangered Species

Federally listed species occur within the Park. These include the threatened piping plover (*Charadrius melodus*) and the endangered interior least tern (*Sterna antillarum*), pallid sturgeon (*Scaphirhynchus alba*), Higgins eye (*Lampsilis higginsi*), and scaleshell (*Leptodea leptodon*). It is the researchers' responsibility to ensure that they do not disturb or "take," as defined by ESA, these species.

Each species has critical dates for nesting, spawning, brood rearing, etc. For example,

pipng plovers and least terns nest and forage on and near sandbars from April through August. Most, but not all, sandbars that are being used by these birds are roped off with endangered species restriction signs placed by monitoring crews. Even though the research may not focus on least terns and piping plovers, actions such as pulling a seine onto the sandbar, taking lunch/rest breaks, or allowing pets to run free could disturb or harm these species.

**3. Aquatic Work;**

All equipment must be free of zebra mussels or other aquatic nuisance species. Decomtamination procedures include; visual inspections, removal of plants, shells, etc., and a hot water rinse of 140°F or out of water for at least 5 days.

**4. Reports;**

The permittee is required to submit an Investigator's Annual Report and copies of final reports, publications, and other materials resulting from the study. An annual report will be provided to the NPS by December 31 of each year of the study unless other arrangements are made. The annual and final reports, and other pertinent materials, will be sent to:

NPS, MNRR

Attn: Resource Division, RPRS

508 East 2nd Street

Yankton, SD 57078

(605) 665-0209

Copies of field notes, databases, maps, photos, and/or other materials may also be requested. The permittee is responsible for the content of reports and data provided to the National Park Service.

**5. Other Permits:**

This permit does not negate or replace other permits that may be required from local, state or other federal agencies.

6. Compliance with NHPA and NEPA was completed for this project PEPC #106221. This a a recurring study sponsored by NGP I&M Network.

**7. Volunteers:**

Please include in your report the total number of volunteers, hours volunteered, and note the number of volunteers under the age of 35.

**Summary of permitted field methods and activities:**

This project empowers Adventure Scientists' volunteer network with the tools, technology, and guidance to collect water quality data across over 13,000 miles of WSRs managed by USFS, BLM, and NPS. Adventure Scientists will leverage its volunteer communities of whitewater rafters and kayakers as well as backpackers, mountain bikers, day-hikers, and trailrunners to collect the necessary data. We will launch the project's first phase as a small-scale nationwide effort, with priority given to the nearly 4000 river miles of unassessed and unknown water quality managed by your agencies. These rivers span 16 of 40 states with WSRs. In the second project phase, Adventure Scientists intends to expand the project scope by prioritizing river segments with significant data gaps as well as those with identified impairments under the CWA. We will also incorporate previously collected data throughout the rivers managed by these three federal agencies.

We will focus on parameters that can be collected via field instruments or observations. Volunteers will deploy Hach probes that monitor dissolved oxygen (DO), pH, temperature, total dissolved solids (TDS), salinity and conductivity. Field equipment will be attended at all times by the volunteer and the volunteer will not be installing or leaving any equipment in the field. While in the field, volunteers will collect both chemical and physical condition data, requiring volunteers to: (1) access pre-selected field sites; (2) mark GPS coordinates and exact time of data collection; (3) deploy a data logger/sensor for the collection of basic parameters (temp, DO, pH, conductivity, TDS, salinity) in situ; and (4) conduct a qualitative habitat assessment and take photos.

**Recommended by park staff(name and title):**

Carolyn Campbell SRM Program Manager

**Approved by park official:**

**Title:**

Superintendent

**Reviewed by Collections Manager:**

Yes  No

**Date Approved:**

2/22/22

I Agree To All Conditions And Restrictions Of this Permit As Specified  
(Not valid unless signed and dated by the principal investigator)

Michelle Toshack

(Principal investigator's signature)

17 Feb 2022

(Date)

**THIS PERMIT AND ATTACHED CONDITIONS AND RESTRICTIONS MUST BE CARRIED AT ALL TIMES WHILE  
CONDUCTING RESEARCH ACTIVITIES IN THE DESIGNATED PARK(S)**



## GENERAL CONDITIONS For SCIENTIFIC RESEARCH AND COLLECTING PERMIT

United States Department of the Interior  
National Park Service

- 1. Authority** - The permittee is granted privileges covered under this permit subject to the supervision of the superintendent or a designee, and shall comply with all applicable laws and regulations of the National Park System area and other federal and state laws. A National Park Service (NPS) representative may accompany the permittee in the field to ensure compliance with regulations.
- 2. Responsibility** - The permittee is responsible for ensuring that all persons working on the project adhere to permit conditions and applicable NPS regulations.
- 3. False information** - The permittee is prohibited from giving false information that is used to issue this permit. To do so will be considered a breach of conditions and be grounds for revocation of this permit and other applicable penalties.
- 4. Assignment** - This permit may not be transferred or assigned. Additional investigators and field assistants are to be coordinated by the person(s) named in the permit and should carry a copy of the permit while they are working in the park. The principal investigator shall notify the park's Research and Collecting Permit Office when there are desired changes in the approved study protocols or methods, changes in the affiliation or status of the principal investigator, or modification of the name of any project member.
- 5. Revocation** - This permit may be terminated for breach of any condition. The permittee may consult with the appropriate NPS Regional Science Advisor to clarify issues resulting in a revoked permit and the potential for reinstatement by the park superintendent or a designee.
- 6. Collection of specimens (including materials)** - No specimens (including materials) may be collected unless authorized on the Scientific Research and Collecting permit.

The general conditions for specimen collections are:

- Collection of archeological materials without a valid Federal Archeology Permit is prohibited.
- Collection of federally listed threatened or endangered species without a valid U.S. Fish and Wildlife Service endangered species permit is prohibited.
- Collection methods shall not attract undue attention or cause unapproved damage, depletion, or disturbance to the environment and other park resources, such as historic sites.
- New specimens must be reported to the NPS annually or more frequently if required by the park issuing the permit. Minimum information for annual reporting includes specimen classification, number of specimens collected, location collected, specimen status (e.g., herbarium sheet, preserved in alcohol / formalin, tanned and mounted, dried and boxed, etc.), and current location.
- Collected specimens that are not consumed in analysis or discarded after scientific analysis remain federal property. The NPS reserves the right to designate the repositories of all specimens removed from the park and to approve or restrict reassignment of specimens from one repository to another. Because specimens are Federal property, they shall not be destroyed or discarded without prior NPS authorization.
- Each specimen (or groups of specimens labeled as a group) that is retained permanently must bear NPS labels and must be accessioned and cataloged in the NPS National Catalog. Unless exempted by additional park - specific stipulations, the permittee will complete the labels and catalog records and will provide accession information. It is the permittee's responsibility to contact the park for cataloging instructions and specimen labels as well as instructions on repository designation for the specimens.
- Collected specimens may be used for scientific or educational purposes only, and shall be dedicated to public benefit and be accessible to the public in accordance with NPS policies and procedures.
- Any specimens collected under this permit, any components of any specimens (including but not limited to natural organisms, enzymes or other bioactive molecules, genetic materials, or seeds), and research results derived from collected specimens are to be used for

scientific or educational purposes only, and may not be used for commercial or other revenue - generating purposes unless the permittee has entered into a Cooperative Research And Development Agreement(CRADA) or other approved benefit - sharing agreement with the NPS. The sale of collected research specimens or other unauthorized transfers to third parties is prohibited. Furthermore, if the permittee sells or otherwise transfers collected specimens, any components thereof, or any products or research results developed from such specimens or their components without a CRADA or other approved benefit-sharing agreement with NPS, permittee will pay the NPS a royalty rate of twenty percent(20 %) of gross revenue from such sales or other revenues. In addition to such royalty, the NPS may seek other damages to which the NPS may be entitled including but not limited to injunctive relief against the permittee.

**7. Reports** - - The permittee is required to submit an Investigator's Annual Report and copies of final reports, publications, and other materials resulting from the study. Instructions for how and when to submit an annual report will be provided by NPS staff. Park research coordinators will analyze study proposals to determine whether copies of field notes, databases, maps, photos, and / or other materials may also be requested. The permittee is responsible for the content of reports and data provided to the National Park Service

**8. Confidentiality** - - The permittee agrees to keep the specific location of sensitive park resources confidential. Sensitive resources include threatened species, endangered species, and rare species, archeological sites, caves, fossil sites, minerals, commercially valuable resources, and sacred ceremonial sites.

**9. Methods of travel** - Travel within the park is restricted to only those methods that are available to the general public unless otherwise specified in additional stipulations associated with this permit.

**10. Other permits** - The permittee must obtain all other required permit(s) to conduct the specified project.

**11. Insurance** - If liability insurance is required by the NPS for this project, then documentation must be provided that it has been obtained and is current in all respects before this permit is considered valid.

**12. Mechanized equipment** - No use of mechanized equipment in designated, proposed, or potential wilderness areas is allowed unless authorized by the superintendent or a designee in additional specific conditions associated with this permit.

**13. NPS participation** - The permittee should not anticipate assistance from the NPS unless specific arrangements are made and documented in either an additional stipulation attached to this permit or in other separate written agreements.

**14. Permanent markers and field equipment** - The permittee is required to remove all markers or equipment from the field after the completion of the study or prior to the expiration date of this permit. The superintendent or a designee may modify this requirement through additional park specific conditions that may be attached to this permit. Additional conditions regarding the positioning and identification of markers and field equipment may be issued by staff at individual parks.

**15. Access to park and restricted areas** - Approval for any activity is contingent on the park being open and staffed for required operations. No entry into restricted areas is allowed unless authorized in additional park specific stipulations attached to this permit.

**16. Notification** - The permittee is required to contact the park's Research and Collecting Permit Office (or other offices if indicated in the stipulations associated with this permit) prior to initiating any fieldwork authorized by this permit. Ideally this contact should occur at least one week prior to the initial visit to the park.

**17. Expiration date** - Permits expire on the date listed. Nothing in this permit shall be construed as granting any exclusive research privileges or automatic right to continue, extend, or renew this or any other line of research under new permit(s).

**18. Other stipulations** - This permit includes by reference all stipulations listed in the application materials or in additional attachments to this permit provided by the superintendent or a designee. Breach of any of the terms of this permit will be grounds for revocation of this permit and denial of future permits.