

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

Yellowstone



Study#: YELL-08194

Permit#: YELL-2022-SCI-8194

Start Date: Jan 01, 2022

Expiration Date: Dec 31, 2022

Coop Agreement#:

Optional Park Code:

Name of principal investigator:

Name: Ms Michelle Toshack

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Name of institution represented:

Adventure Scientists

Additional investigators or key field assistants:

Name: Michelle Toshack

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Name: Joshua Theurer

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Study Title:

Wild and Scenic Rivers

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:

SR-Wild and Scenic section of the Snake River, SR-Wild and Scenic section of the Lewis River

Transportation method to research site(s):

vehicle, foot, possible boat on the Lewis River Channel

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

At the river sites, volunteers for Adventure Scientists will utilize a Hach probe to measure dissolved oxygen, pH, temperature, total dissolved solids, salinity, and conductivity. Field equipment will be attended at all times. Volunteers will collect both chemical and physical condition data, requiring them to: (1) access pre-selected field sites; (2) mark GPS coordinates and exact time of data collection; (3) deploy the Hach probe for the collection of basic parameters in situ; and (4) conduct a qualitative habitat assessment and take photos. They will also collect 1 L water grab samples from up to 5 locations 3 times per year to be analyzed for nutrients, metals, ion, and turbidity. On-site activity will take about an hour, with three sampling trips per summer through 2024.

Name of repository for specimens or sample materials if applicable:

Repository type: Will be destroyed through analysis or discarded after analysis

Objects collected:

water samples

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:

CONDITIONS SUBJECT TO PERMIT #8194

Please pay special attention to Yellowstone permit conditions #2, 3, 5, 6, and 8.

You may not violate Bear Management Area closures. Please plan your field season accordingly.

Work with the Curator's Office (yell_museum@nps.gov) at the end of each permit year to fulfill your curatorial responsibilities for all samples collected, even if they will be destroyed through analysis.

For all backcountry camping, contact the Central Backcountry Office (307-344-2160) at least 4 weeks prior to inquire about reservations.

At least one member of a field crew must be listed as a Co-Investigator on the permit.

Field crew members must travel on foot or horse. Boats are only allowed on Lewis Lake and along the Lewis River Channel.

Mountain bikes are not allowed.

You may not leave equipment unattended or use mechanized tools during fieldwork.

Field crew members must work in groups of 2-4 and wear life vests if entering deep or fast-flowing water.

To avoid transport of Aquatic Invasive Species, you must decontaminate all equipment, waders, and boots every time you travel between lakes, rivers, and streams. Felt sole waders and boots are banned in Yellowstone because they can carry microscopic organisms even after cleaning. Rubber sole waders and boots are allowed. You must clean (scrub to remove all mud, debris, and vegetation; SOAK in a 10%-minimum bleach solution for a minimum of 20 minutes; then allow to dry) all waders AND all equipment. Clothing that cannot be bleached must be washed in a washing machine using hot water. Equipment too large to soak in bleach (i.e. rafts) must be sprayed, scrubbed, heavily rinsed, and allowed to completely dry. A visual inspection for invasive crustaceans should be conducted before equipment is repacked.

CONDITIONS SUBJECT TO ALL YELLOWSTONE NATIONAL PARK PERMITS

1. You are responsible for the research activities of your staff. Ensure that field staff adhere to all conditions of your permit. Field staff must possess a copy of your permit at all times while in the field.

2. You are required to post your research trip itineraries online no later than the Sunday prior to your trip at <https://irma.nps.gov/rci/>. Once in the park, report all emergencies by calling 911.

3. You are required to have a Safety Plan on file that addresses the range of activities you will encounter while working in Yellowstone. All field staff must review the Safety Plan prior to beginning work. At a minimum, a safety plan shall cover a) training requirements and documentation that personnel have received appropriate training (e.g. bear safety, bear spray use, thermal area safety, fording streams); b) work party size (hiking in groups of 3 or more is recommended in bear country); c) safety equipment (e.g. bear spray for each person, rain gear, heat resistant gloves, extendable pole for sampling hot springs); d) trip itinerary with daily activities and travel patterns; e) worker check-in. Note: in addition to completing the online researcher check-in per Yellowstone Condition #2, it is advised that all field personnel designate an emergency contact (e.g. supervisor, co-worker) whom they will check-in with at the end of each field day or session. This designated emergency contact will know the trip details and will contact emergency services (911) and the Research Permit Office (307-344-2239) in the event field staff fail to make contact.

4. While conducting fieldwork, researchers are prohibited from possessing firearms (unless authorized by the Superintendent). Researchers are also prohibited from bringing firearms into government buildings or government vehicles (cars, boats, aircraft).

5. Unless authorized on your permit, you must conduct research out of public view. If you have obtained permission to work in public view, it will be noted in your permit-specific conditions.

6. If you are approved to collect specimens (either to be permanently retained or destroyed through analysis), contact the Yellowstone Curator's Office (307-344-2565) to report your collections annually. Specimens must be tracked and an inventory provided to Yellowstone (count, type, and location) by February 28th following the permit year. Prior to collecting specimens, a repository form must be completed and on file. Any permanently retained specimens must bear accession and catalog numbers, and include the required metadata per the NPS's catalog system.

7. All equipment left in the field, including plot markers, must be specifically authorized in advance. Label all equipment with your name, phone number, and the words "Research Study #XXXX." You must record equipment coordinates with GPS.

8. Your research permit does not authorize you to enter closed or restricted areas in Yellowstone. Examples include most service roads, carcass dump sites, bear management areas, thermal areas, some bird nesting areas, wolf den sites, and trout spawning areas.

9. Cultural resources must not be adversely impacted by your research activities. Ground disturbance (e.g. digging) must be specifically authorized in advance. Report any archeological findings (artifacts, historical trash, rock cairns) to the Research Permit Office.

10. The Permittee agrees to notify the Chief of Resources of Yellowstone National Park (YNP) of every subject discovery or invention that relates in any respect to research results derived from YNP research studies or use of any research specimens or other materials collected from YNP, or that may be patentable or otherwise protected under the intellectual property (IP) laws of the United States or other jurisdiction. Notification must occur within sixty (60) days of the time that an inventor or other agent of the Permittee reports such a subject discovery or invention to the person(s) responsible for patent or other proprietary rights matters in the Permittee's organization. Additionally, the Permittee agrees to notify the Chief of Resources of Yellowstone within thirty (30) days of filing any patent application or other IP claim in the United States or other country that relates in any respect to research results or other discoveries or inventions derived from YNP research studies or any research specimens or other materials collected from YNP. For

purposes of this paragraph, the term "subject discovery or invention" means any discovery or invention related to or derived from YNP research studies, or research specimens or other materials collected from YNP. All invention disclosures shall be marked as confidential under 35 U.S.C. Section 205.

11. Any use, including social media, websites, newspapers, periodicals, etc. of photos or videos from within closed areas or of research taking place in closed areas is prohibited without prior NPS approval. All filming associated with this permit must be reviewed and approved in advance by the park's Film Permit Office. A Film Permit may be required. Filming of certain research activities may be used for education in a classroom setting or on private educational platforms which are password protected and the footage must clearly state that the research was conducted under a Yellowstone Research Permit. For more information, contact Rachel_Cudmore@nps.gov or 307-344-2722.

12. Each year, you are required to submit electronic copies of journal articles, theses, and dissertations that result from your permit to the Research Permit Office.

13. You may not leave chemicals in the park, including in lab spaces, offices, or storage areas.

CONDITIONS SUBJECT TO ALL NATIONAL PARK SERVICE RESEARCH PERMITS

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.

THIS PERMIT SERVES AS YOUR GATE PASS THROUGH 12/31/22.

Summary of permitted field methods and activities:
see above

Recommended by park staff (name and title):

Chris Adams RPC

Reviewed by Collections Manager:

Yes No

Approved by park official:

[Signature]

Date Approved:

12/13/21

Title:

Chief, Yellowstone Center for Resources

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

Michelle Toshack

7 Dec 2021

(Principal investigator's signature)

(Date)

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