

## 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

Big Bend

Study#: BIBE-00619

Permit#: BIBE-2021-SCI-0022

Start Date: Apr 26, 2021

Expiration Date: Dec 31, 2023

Coop Agreement#:

Optional Park Code:

**Name of principal investigator:**

Name: Dr Jenelle Dowling

Phone: 4066243320

Email: projects@adventurescientists.org

**Name of institution represented:**

Adventure Scientists

**Additional investigators or key field assistants:**

Name: Jenelle Dowling PhD

Phone: 406-624-3320

Email: jenelle@adventurescientists.org

Name: Michelle Toshack

Phone: 406-624-3320

Email: michelle@adventurescientists.org

Name: Chase Philip

Phone:

Email: chase.r.philip@gmail.com

Name: Scott Walker

Phone:

Email: walkstx@gmail.com

**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:**

Research activities will take place in Big Bend National Park and data collection will occur in the Rio Grande Wild and Scenic 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 reached either by raft/kayak, or on foot.

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

Data will be collected. Specimens will not be retained.

No more than 6 trips per year would be conducted in Big Bend National Park/ Rio Grande Wild and Scenic River for this research. Researcher is responsible for obtaining any necessary camping permits, river use permits, etc.

**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:

BIG BEND NATIONAL PARK  
SCIENTIFIC RESEARCH AND COLLECTING PERMIT  
GENERAL CONDITIONS

This permit serves as park entrance fee waiver for researchers working on approved projects. Researchers are responsible for procuring, paying for, and complying with conditions of all other permits, such as camping permits, river permits, etc. Research activity is limited to the same conditions and locations available to the general public, unless otherwise specified in the permit.

-CARRY A COPY OF THIS PERMIT on your person at all times while conducting research in the park. A ranger may ask to see your permit at any time.

\*\*\*Copies of all data collected on National Park Service (NPS) units must be submitted to the park Museum Curator for archival. Data may be in digital form and must be submitted within 6 months after permit expiration. Required data include:

- Maps and coordinates
- Spreadsheets and other compiled data
- Field notes and datasheets
- Data analyses
- Photographs
- Publications, abstracts, papers, theses, dissertations

\*\*\*All specimens collected from NPS units remain the property of the federal government. Permanent specimen collections require approval of a loan agreement with an established repository facility (see Appendix A Form 10-741a). It is extremely important to catalog and report your specimens to the park in a timely manner. Discarding, moving, or sharing specimens with other facilities requires notification of the park Museum Curator. Researchers may be asked to report on specimen status during annual collections inventories.

- Form 10-741a, Application for loan agreements: <https://irma.nps.gov/DataStore/DownloadFile/601661>
- Terms and conditions of loan agreements: <https://irma.nps.gov/DataStore/DownloadFile/494489>

\*\*\* NPS research permits require submission of Investigator Annual Reports (IAR) at the end of each calendar year for the duration of the permit. Permittees are also highly encouraged to submit a Final Report after research completion.

IAR content standards: <https://irma.nps.gov/DataStore/DownloadFile/494280>

\*\*\*All equipment intended to remain in the field must be tagged or labeled in some form with Principle Investigator's name, phone number, and current permit number.

-Whenever possible, conduct research activity out of public view. If a visitor asks about your activity, politely explain that you are working under an approved permit and describe your project in layman's terms. Public support benefits all researchers.

-When hiking off-trail, disperse your group and avoid creating visible pathways or social trails.

-Avoid creating scars on scenic features. Do not paint, write, or make any marks (such as sample numbers) on rock outcrops.

\*\*\*Failure to comply with research permit conditions may result in suspension or revocation of current permits and/or exclusion from future permits.

#### **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.

No more than 6 trips per year would be conducted in Big Bend National Park/ Rio Grande Wild and Scenic River for this research.

Recommended by park staff(name and title):  
**DONALD CORRICK** Digitally signed by DONALD CORRICK  
Date: 2021.04.28 08:37:14 -05'00'

Reviewed by Collections Manager:

Yes  No

Approved by park official:

Date Approved:

5/4/21

Title:

Superintendent

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

*Jenelle Dowling*

14 May 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)**



## 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.