

To: Sean Stewart[s2stewar@blm.gov]; William (Allan) Bate[abate@blm.gov]; Matthew Betenson[mbetenso@blm.gov]; Cynthia Staszak[Cindy_Staszak@blm.gov]; Dana Backer[dbacker@blm.gov]
From: Backer, Dana
Sent: 2017-10-05T13:07:21-04:00
Importance: Normal
Subject: GCT permit - requesting input - is Thursday-today a possibility to discuss?
Received: 2017-10-05T13:07:35-04:00
[UT-17-030-08-B GST O'Brien permit.docx](#)
[UT-17-030-08 GST permit attachment details.docx](#)

Sean, Matt and Allan

Mary O'Brien with GCT has submitted a permit for two sets of comparative transects - one inside the fenced property of Johnson Canyon Lakes and a paired complement outside the private property on BLM managed land. The methods are point line intercept on 200 foot transect. Basically a grazed and ungrazed comparison.

The proposed study lacks scientific rigor because of the small sample size. Mary agreed and added language to the supporting documentation to say the "intent was not to accomplish statistical power." The proposed study is similar to studies the Monument conducts so it is hard to ask an applicant to raise to higher standards than we hold the Monument accountable to. In the past similar permits have been approved whether for student projects, information gathering, etc. but certainly not the norm.

In a conversation with Cindy yesterday, she had some concerns that (b)(5) DPP [REDACTED]

[REDACTED]. Cindy wanted to hear inputs from the range folks and know about the degree, if any, permittees were engaged.

In a conversation with Allan this morning, he suggested opening up the group to include permittees, BLM staff, USU and county extension agents and build upon the monitoring scope. I think this is an idea worth discussing.

Another thought is that there is plenty of literature available to suggest that the vegetation cover and diversity will be lower on grazed land vs. ungrazed land and that biocrusts will be more intact on ungrazed land. So the potential results of her study would not differ from what we already know.

I've attached the permit application and supporting documentation. If we could review this today that would be great otherwise we will have to wait until Allan returns some time after Oct 17th.

Thanks

Dana Backer
Science Program Administrator
Grand Staircase Escalante National Monument
Kanab, UT 84741
435-644-1257



**Scientific Research and Collection Permit
Grand Staircase-Escalante National Monument**

Applicant Names: Mary O'Brien /Grand Canyon Trust
Address: HC 64 Box 2604; Castle Valley UT 84532

Application Date: May 16, 2017

State Permit Number (if applicable): N/A **Federal Permit Number (if applicable):** N/A

1. Is the research covered by an assistance agreement with this office and/or other BLM offices? NO. If yes provide the number.

2. Description of research. Include as an attachment

As per a conversation with Matt Z and Mary O'Brien, Mary will get approximate UTM coordinates in the fall of 2017 and submit them to Science Program Coordinator. The archaeologist will then survey the area and complete appropriate reports to address any NHPA Section 106 concerns. Monitoring and t-post installation will occur in the spring.

3. Contact information

Phone: 435.259-6205

Fax: None

Cell: 541.556-8801 (no coverage in Castle Valley)

E-mail: maryobrien10@gmail.com

4. If collecting is authorized. Materials to be collected: Repository Name, Address, and Contact information
No collections required for this permit.

For GSENM office use only below this line.

GSENM Number: UT-17-030-08-B

Issue Date: October 15, 2017

Expiration Date: December 31, 2022

5. Specialist review complete? ☒ Yes ☐ No
Matt Zweifel - check

9. Curation agreement? ☐ Yes ☒ No
Attach

6. Complies w/ MMP? ☐ Yes ☒ No

10. Permit granted? ☒ Yes ☐ No

7. In WSA status? ☐ Yes ☒ No

11. Permit extension? ☐ Yes ☒ No

8. Special Stipulations? Attach ☐ Yes ☒ No
additional stipulations

Authorization. Permission is hereby given to the above named individual to collect material(s) specified in the approved research proposal, within the guidelines of permit stipulations outlined below.

By:
Cynthia Staszak
Monument Manager

Date

I have read and agree to the stipulations of this permit.

By:
Science Permittee Name

Date

STANDARD RESEARCH PERMIT STIPULATIONS

We ask that you follow all **Leave No Trace Principles** (<https://lnt.org>) and the following.

1. This permit may not be assigned to any other institution, group, or individual. Any modifications to the permit must be requested in writing to the Science Program Administrator.
2. This permit is valid only for the period specified. The permit may be suspended or modified at the discretion of the Monument Manager. Field work under this permit may be halted temporarily by either verbal or written notice from the Monument Manager or other Authorized Officer for violations of permit terms and conditions or for administrative purposes of the BLM.
3. All terms and conditions of this permit shall remain in effect, including reporting requirements, until all permit terms and conditions have been met, regardless of permit expiration date.
4. A copy of this permit must be carried by the individual in direct charge of field work during the course of all work conducted under permit.
5. This permit shall not be exclusive in character, and the Bureau of Land Management reserves the right to authorize other uses of the land during the tenure of this permit. Field work shall be carried out in such a manner as to not impede other legitimate uses of the Monument, except when a provision has been made by the Monument Manager or delegated representative.
6. The Department of Interior, including its bureaus and employees, shall be held blameless for any and all events, deeds, or mishaps, regardless of whether or not they arise from operations under this permit.
7. Field schedule must be coordinated with the Science Program Administrator or a designated representative in advance of field work.
8. The Monument Manager, and /or designated representatives shall have access to the study area during or after performance of field work, and shall have the right to inspect all materials removed.
9. Any stakes, flagging, or other temporary materials used to identify localities in the field shall be removed upon completion of field activity. No permanent survey monuments or markers shall be disturbed or removed during the course of field work.
10. Unless otherwise agreed, all costs shall be borne by the permittee, including costs of curation.
11. Interpreting and sharing the science conducted on GSENM with staff, volunteers and the public, is critical. There shall be a public outreach component for each research project. Recommendations or opportunities for public presentations, a field trip, or the something similar shall be coordinated with the Science Program Administrator.
12. Collections, if authorized, of materials acquired from public lands under the provisions of this permit remain the property of the United States Government and may be recalled at any time for use by the BLM. A designated repository for this project is not necessary. Any recall or transfer of material will be coordinated by BLM with the designated repository. Public display of material collected under this permit shall cite Grand Staircase-Escalante National Monument, Bureau of Land Management, Utah.

13. Grand Staircase-Escalante National Monument, and the BLM, Utah shall be cited in any report, publication, paper, news article, film, television program or other media, resulting from field work under this permit. Copies of such documents shall be provided to the Grand Staircase-Escalante National Monument Headquarters. To assist in producing the best possible science, you are encouraged to forward manuscripts for review to the Science Program Administrator prior to submitting them for publication.

14. Access to research site(s) is authorized only across BLM administered lands. Use of private lands or lands administered by another agency must be secured separately.

15. A report of all activities conducted under this permit shall be prepared by December 31 of each year during the tenure of the permit. This report will be submitted to the Monument Headquarters, in care of the Science Program Administrator. The report shall include a catalog of all specimens collected, if authorized, a description of work accomplished, results, copies of datasets (with FGDC compliant metadata for final reports) and any recommendations for future research or management activities.

16. For any collections that will be curated, a list of all specimens collected must be provided in the annual report to the Science Program Administrator. Each specimen must contain the following information: scientific name, description, collection location (latitude / longitude or UTM Zone 12, NAD83), collection number, and facility's accession number. Provide the curation facility, address, and a point of contact at the facility.

17. Pursuant to the Native American Graves Protection and Repatriation Regulations at 43 CFR 10.4, the permittee shall notify the Science Program Administrator or Monument Manager immediately upon the inadvertent discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony, with written confirmation. All work in the vicinity must and reasonable efforts shall be made to protect the remains pending BLM action. Activities may resume within 30 days of receipt of the written confirmation of notification unless the situation is resolved sooner.

18. Commercially provided services such as transportation, cooking and packing must be sought from outfitters authorized by the Monument. For a current list of outfitters, please contact Science Program Administrator at 435-644-1257 or dbacker@blm.gov.

19. Please be aware of current hunting activities and locations by visiting www.wildlife.ut.gov.

Camping

1. Overnight camping in the Monument requires a permit. Currently, permits are free of charge and may be obtained at Visitor Centers or at designated trailheads. Camping restrictions described in the GSENM Management Plan, p. 35, must be followed. The GSENM Management Plan is available on line https://www.blm.gov/nlcs_web/sites/style/medialib/blm/ut/grand_staircase-escalante/planning/monument_management.Par.83655.File.dat/GSENM%20Management%20Plan.pdf

2. No camping within 300 feet of an isolated water source (i.e., seep, spring, pond, rock pool, water pocket).

3. Permittee will maintain all premises to standards of repair, orderliness, neatness, and sanitation acceptable to the Monument. Camp areas will be regularly cleaned and no trash or litter will be allowed to accumulate.

Fire

1. Campfires are not allowed in the Escalante and Paria/Hackberry Canyons, No Mans Mesa, nor in archaeological sites, rock shelters and alcoves throughout the Monument.
2. In the Front country and Passage Zones, campfires are allowed only in designated fire grates, designated fire pits, or mandatory fire pans. Wood collection for campfires is not allowed. Burn all wood and coals to ash, put out campfires completely; leave cool ashes.
3. In the Outback and Primitive Zones campfires are allowed. Use an existing fire ring instead of building a new one. The use of fire pans is encouraged. Only dead and down wood can be collected. Burn all wood and coals to ash, put out campfires completely, scatter cool ashes, and restore the area to a natural condition before leaving.

Group Size Limits

1. Group size is limited to 25 people in the Passage and Outback Zones including guides.
2. Group size within the Primitive Zone is limited to 12 people and 12 pack animals including guides, however within the Paria River corridor in the Primitive Zone group size is limited to 25 people including guides.
3. Group size limits cannot be achieved by staggering individual groups along a single route by time or distance. Instead, individual groups must comply with group size limits by utilizing separate and unique routes, or by traveling from opposite ends of a single route. If traveling from opposite ends of a single route, groups may pass each other, however they cannot gather at a single location.

Wilderness Study Areas

1. Permittee is responsible for knowing the location of wilderness and wilderness study areas (WSA) comply with the restrictions that apply to such areas. Maps and information concerning restrictions are available at the Monument website

Transportation and Access

1. All machinery (street legal motorized vehicles, non-street legal all-terrain vehicles, dirt bikes etc.) that has been used outside the Monument must be cleaned prior to use in the Monument, to prevent the possible introduction and spread of noxious weeds.
2. Motorized or mechanized vehicles may pull off designated routes no more than 50 feet for direct access to dispersed camping areas in the Outback Zone, except in Wilderness Study Areas, endangered plant areas, relict plant areas and riparian areas.
3. Access onto the Monument will be along defined roads listed on the transportation map in the Grand Staircase- Escalante National Monument Management Plan.
4. Cross-country motorized travel on the Monument is prohibited. All motorized and mechanized (bicycles, deer carts) vehicles must stay on designated roads while traveling in the Monument.
5. Permittee shall not construct new trails, or maintain existing trails without written authorization from the Monument.

6. The permittee shall not use paint or flagging, or construct cairns to mark trails, unless specifically allowed by this permit.

Sanitation and Aesthetics

1. Burning and burying food waste are prohibited.
2. Utilize a portable self-contained toilet system when less than 300 feet from water sources, campsites, and trails. All human waste must be packed out and disposed of at a certified disposal site.
3. If a small portable toilet cannot be used, deposit solid human waste in catholes dug 4 to 6 inches deep at least 300 feet from water sources, camp, and trails. Cover and disguise the cathole when finished. Never dig a cathole under an overhang or shelter.
4. If camping in one location for multiple days, a trench may be dug to dispose of human waste. To dig a trench, start with a cathole dug 4 to 6 inches deep and expand it in one direction as additional people use it; soil dug from the trench should be used to cover the feces.
5. To wash yourself or your dishes, carry water 300 feet away from water sources and use small amounts of biodegradable soap. Scatter strained dishwater and pack out remaining food particles.

Supplemental Stipulations for Permittees using Riding or Pack Animals

1. Horses or other pack animals are not allowed in relict plant communities, archaeological sites, rock shelters, or alcoves. Sheep species will not be allowed for pack use.
2. Weed free hay, straw and non-germinable grains may be used to feed and bed livestock, or be placed in the bottom of stock carrying vehicles.

Purpose and objectives: Compare livestock ungrazed (Johnson Lakes Canyon ungrazed conservation easement) with livestock grazed GSENM sites over time. Permission for research on Johnson Lakes Canyon private property has been granted by landowners Richard and Susan Knezevich.

Methods/scope of work: Line point intercept on 200' transects (reading every 2' for 100 points along each transect). A t post is at either end of transects at Site 24; a rebar with red paint on its top is at 0', 100' and 200' of transects at Site 23.

Area of activity including map of sampling locations (include UTM's):

1. Site 23

A (Johnson Lks Cyn): 380943E 4108202N 200' to 381003E 4108194N
 B (GSENM BLM): 380921E 4108202N 200' to 280861E 4108208N

Site 23A begins 30' south of the JLC property fence, running 200' East approximately East West (though the TOPO! Map appears to indicate Site 23A is north of the property fence.

Site 23B begins 30' north of the road that is north of the property fence, running 200' West approximately East West.

First reading of transect: 5/07/2017

2. Site 24

A (Johnson Lks Cyn): 382463E 4108643N 200' to 382492E 4108694N
 B (GSENM BLM): 382570E 4108871N 200' to 382593E 4108926N

Site 24A begins south of the JLC property fence running SSW 200'.
 Site 24B begins north of the JLC property fence, running SSW 200'

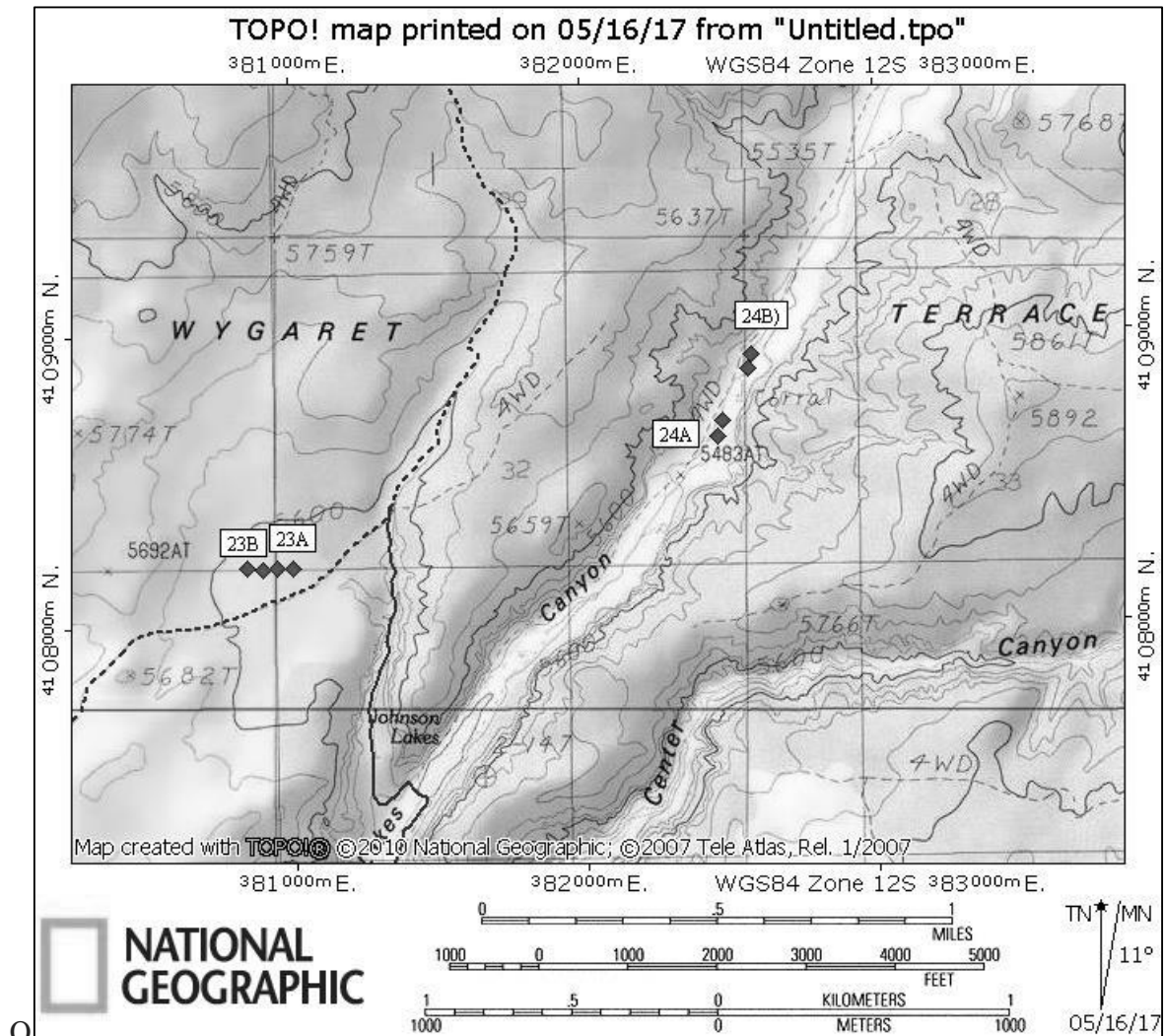


Fig. 1: Map of sites of transects 23A and 23B and 24A and 24B. Transect 23A is actually south of the 4WD road and the Johnson Lakes Canyon property fence, though the TOPO! map incorrectly places the 4WD road.

Dates of collection: No collection, but first reading of transect: 5/05/2017. Subsequent readings are planned for 2018 and beyond.

Names of individuals you would like on the permit: Mary O'Brien and Marc Coles-Ritchie, both of Grand Canyon Trust.

Vehicle identification (description, license plate): Variable, as 4WD rental or personal vehicles might be used.

Request for administrative road use: No request for administrative road use
Anything special requests such as use of outfitter or pack animals: No special request

Deliverables: A report with georeferenced photos at either end of each transect; percent cover of plant species and ground cover.

Public outreach and information dissemination. Grand Canyon Trust posts reports in the Resources Section of its website, which is open to the public and will send a report to BLM at Grand Staircase-Escalante National Monument.. Raw data sheets, Excel sheets, photos, are all available upon request.

**Scientific Research Permit Request:
Four Grand Canyon Trust Point Intercept Transects
On Grand Staircase-Escalante National Monument**

Purpose and objectives:

The purpose of our point intercept transects is to evaluate the trend of vegetation (species composition and cover) and ground cover (including light and dark cyanobacteria, mosses, lichen; and bare ground, litter, gravel and rock) inside Johnson Lakes Canyon (fenced in 2010 from cattle) and on BLM land (Grand Staircase-Escalante National Monument), which is grazed by cattle. This allows for separation of climate impacts (e.g., drought, heat, rain events) from climate impacts plus livestock grazing. Weather station data will be of assistance in understanding annual and long-term trends at these sites.

The Trust would like to request that two additional, similar pairs of transects (i.e., two sites inside Johnson Lakes Canyon and two sites nearby on GSENM land) be established in May 2018 at different (TBD) locations. If the BLM wishes, we would be glad to arrange for a particular date at which we would jointly select the sites.

The intention of the additional pair is not to accomplish statistical power, but instead to establish two more transect pairs in different vegetation types or soils.

In and of itself, these are a small number of transects (i.e., four pairs). However, since 2015, the Trust has established 22 additional transects within Johnson Lakes Canyon, where particular restoration activities have taken place, or there is interest on the part of landowners Susan and Richard Knezevich in tracking changes that occur without particular restoration activities having taken place. They are yielding additional information about trends within JLC.

In 2016, James Kennedy, a Trust intern, compared biocrust readings along transects (including light cyanobacterial cover) inside JLC with BLM Land Health Assessment sites on similar soils within GSENM that had been assessed in 2014 and 2015 by Trust staff and volunteers. A powerpoint presentation, *Biocrust Bounces Back: Soil Community Recovery in Southern Utah*, and his senior thesis at Whitman College, *Biocrust Bounces Back: Assessing Soil Crust Recovery in the Escalante Region*, have been sent to BLM and the report is again attached here. In part, this study is of interest, because the BLM does not, to our knowledge, currently include detection of light cyanobacterial crust in its assessments of biocrust within GSENM, though light cyanobacterial crusts are an early indicator of possible soil potential to develop later-seral biocrusts in the absence of physical disturbance.

The type of research represented by the JLC/GSENM plant and biocrust transects can be considered as “pilot” studies that may raise interest in more extensive research by the Trust or others in the future.

Methods/scope of work

In early May 2017, the Trust located two pairs of transects inside Johnson Lakes Canyon (JLC; a private inholding within GSENM) and nearby on comparable sites in the GSENM (see map, below). The method consists of annual, point intercept transects of 200' with points every 2', where up to three plants intercepted at each point are recorded as well as ground cover. Georeferenced photos are taken at 0', 100', and 200'.

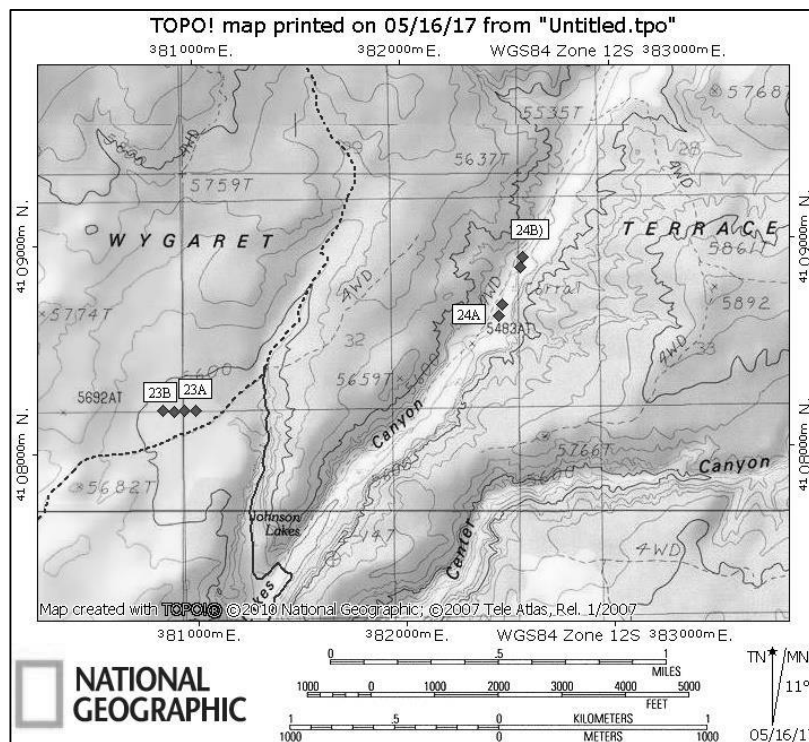
The intent is to repeat the point-intercept readings and photographs annually, so that in 3-5 years, it may be possible to distinguish vegetation and ground cover trends within and outside GSENM. These sites are arid *Ericameria* and *Artemisia* sites, and it may be that little change takes place during the coming years. The sites that have been paired with JLC are not heavily grazed by cattle. However, these transects do allow for separation of impacts of climate change (e.g., rising temperature, droughts) to be separated from the combination of climate change and any whatever livestock grazing does occur.

No collections are made; no requests for use of administrative roads are needed; and the only physical disturbance are the placement of three t-posts – at 0', 100' and 200' on each BLM transect, to enable accurate repetition when reading the point-intercept transect in future years.

Area of activity including map of sampling locations (include UTM's)

Transect ID	Beginning Easting (NAD 83 UTM)	Beginning Northing (NAD 83 UTM)	End Easting (NAD 83 UTM)	End Northing (NAD 83 UTM)
JLC 23A	380943	4108202	381003	4108194
BLM 23B	380921	4108201	380861	4108208
JLC 24A	382463	4108643	382492	4108694
BLM 24B	382570	4108871	382593	4108926

The two additional specific BLM sites (paired with two sites near the boundary of Johnson Lakes Canyon) would be selected in spring of 2018, and will require field observation to determine similarity of vegetation condition and soils. We would provide the BLM with the transect site UTM information or, if desired by the BLM, we could arrange to (1) suggest the specific sites for review by the BLM before installation of the two t-posts at the end of each of the 2 BLM transects; and/or (2) meet in the field on the day of selection of the four new transects.



Map of BLM transects (23B and 24B) in relation to Johnson Lake Canyon transects (23A and 24A)

Collection dates

We are making no collections.

Dates of activity on the Monument

We will be reading the current transects and establishing two new BLM transects during May 1-June 30, 2018, and will read the transects annually thereafter.

Names of individuals you would like on the permit

Mary O'Brien, Gisela Kluwin, Vera Markgraf, Mimi Trudeau

Vehicle identification (description, license plate)

Grey 1999 Toyota 4-Runner, X94 5BW (Utah)

Request for administrative road use

No administrative roads need to be used

Anything special requests such as use of outfitter or pack animals

No special requests

Deliverables

Annual compilation of data, photographs, and notes into a report

Public outreach and information dissemination

Grand Canyon Trust makes all reports, photos, and data available to the public and government agencies. The 2017 data are baseline data, and the data over time will be most valuable, so it would not seem useful to propose public outreach at this time, although if the BLM wishes the Trust to offer a tour of the transect sites, we would be glad to comply. The Trust will provide BLM with the data and photos as they are compiled each year, and BLM is free to disseminate these data within the agency and to any interested parties. However, as noted above, the data will become most meaningful after 3-5 years.

The Trust offered both a field tour and a presentation regarding biocrusts at the 25th Anniversary Science Symposium. We offered a presentation at the Colorado Plateau Science Symposium in Flagstaff on Sept. 12, 2017 regarding our light cyanobacteria surveys in GSENM, JLC, and Canyons of the Ancients National Monument. We will certainly wish to reach out to the public after 3-5 years of reading transects inside and outside JLC and GSENM.