
Project Information

5. **Park(s) For Which Research is to be Conducted:** Great Smoky Mountains National Park

6. **Survey Dates:** June 31, 2014 TO On-going

7. **Type of Information Collection Instrument (Check ALL that Apply)**

Mail-Back Questionnaire	On-Site Questionnaire	Face-to-Face Interview	Telephone Survey	Focus Groups
<input checked="" type="checkbox"/> Other (explain) An online instrument accessible via the GRSM website.				

8. **Survey Justification:** *Social science research in support of park planning and management is mandated in the NPS Management Policies 2006 (Section 8.11.1, "Social Science Studies"). The NPS pursues a policy that facilitates social science studies in support of the NPS mission to protect resources and enhance the enjoyment of present and future generations (National Park Service Act of 1916, 38 Stat 535, 16 USC 1, et seq.). NPS policy mandates that social science research will be used to provide an understanding of park visitors, the non-visiting public, gateway communities and regions, and human interactions with park resources. Such studies are needed to provide a scientific basis for park planning, development.*

The Great Smoky Mountains National Park (GRSM) is one of the most visited National Parks in the system with more than 9 million visitors annually. Of those visitors, approximately 8% (n=800,000) fish for brook, brown or rainbow trout in one or more of the over 2,000 miles of streams (Papadogiannaki 2009). GRSM allows for the harvest of not only non-native brown and rainbow trout, but also allows the harvest of native brook trout. Although many anglers' fish throughout GRSM waters, previous studies indicate as many as 82% of anglers do not harvest fish (Kulp *et al. in press*).

Annual monitoring surveys of GRSM streams currently indicate no impacts due to angling under the current angling restrictions. However, as angling trends change over time, angler harvest may potentially impact native brook trout populations. Therefore, GRSM would like to collect creel and harvest data to better understand use patterns in park streams that are not currently monitored or have population or creel data.

9. **Survey Methodology:** (Use as much space as needed; if necessary include additional explanation on a separate page.)

(a) Respondent Universe:
The potential respondent universe for this study will be visitors 18 years and older, who participate as anglers while visiting GRSM.

(b) Sampling Plan/Procedures:
The park is open to angling 365 days a year. There will be no attempt to randomize or stratify this sample. We are solely interested in gathering data about the type and location of all fish captured at GRSM. We are not interested in comparing visitor characteristics or behaviors (other than catch

and release of fish).

A self-administered on-line survey will be used to collect the information for this study. The instruction for completing the survey will be given to each visitor upon receiving the GRSM Fishing Guidelines and Regulations. Each person fishing in GRSM is required to obtain a copy of the guidelines and regulations.

The survey is intended to be completed on-line any time after the fishing trip.

(c) Instrument Administration:

The Creel Survey will only be available electronically via the GRSM website. The completed survey will automatically be transferred to the GRSM fishery biologist via email. The fishery biologist will review the information and enter the data into the MS Access angler creel database.

Information to be collected will include:

1. Date
2. Location fished.
3. State where the fishermen is from
4. Distance from the Park (within 50 miles)
5. Time started
6. Time ended
7. Hours fished
8. Catch and release
9. Number of fish released
10. Number of fish kept
11. Species and length of fish kept
12. Was Interview conducted in the field?

The data from the surveys will be added to the GRSM fisheries Access database after being reviewed for quality control and quality assurance.

(d) Expected Response Rate/Confidence Levels:

Approximately 800,000 visitors participate as anglers each year. We believe that 40% (n=320,000) of will be contacted and that 26% (n=83,200) will actually complete the on-line survey.

Number of Potential Contacts	Expected Response Rate	Expected Number of Annual Responses	Margin of Error +/- %
320,000	26%	83,200	5%

(e) Strategies for dealing with potential non-response bias:

To address non-response bias we will include a “field interview” code on the survey. This will be completed by all anglers contacted in the field by GRSM seasonal staff. The staff will randomly survey 30 anglers per month for four months during the sampling period. The staff will ask the anglers if they are aware of the online survey. If they are aware, we ask them to complete the survey and ask that they check the “field interview” box to acknowledge that they were interviewed by GRSM seasonal while on-site. If they indicate that they are not aware of the online survey, we will ask them to complete and ask that they check the “field interview” box to acknowledge that they were interviewed by GRSM seasonal while on-site. At the end of the four month period, we will assess non-bias response by comparing local and non-local anglers to determine any bias in the collection.

Questions:

1. “Are you aware of our online angler creel survey form?”
If **YES**, go to Step 2.
If **NO**, the staff will tell the angler about the online survey and inform them of the two ways they could access that survey 1) by using the link located with our information they received along with the fishing regulations or 2) by searching ‘creel survey’ on the GRSM website. Go to Step 2.
2. Ask the angler to complete the survey and to indicate that they were interviewed in the field by checking the appropriate box on survey.

(f) Description of any pre-testing and peer review of the methods and/or instrument (recommended):

The on-line instrument was beta tested by the GRSM web manager, fish biologist and seasonal bioscience technicians. The time to complete the on-line survey about 3 minutes. Each survey that was submitted was successfully sent to a special *GRSM Angler Creel mailbox* via email.

10 **Burden Estimates:** We expect that the initial contact time of 1 minute will be used to navigate the webpage and read the instruction. An additional 2 minutes will be needed to complete the survey (a total of three minutes). We anticipate that at least 40% of all anglers (n=320,000) will hear about the online survey during the year, however we estimate only 26% will actually respond to the survey (n=83,200). The total burden for this collection is 4,162 hours.

Total Number of responses	83,200	Time to complete and return surveys (mins)	3	Estimated burden (hours)	4,160
Total Number visitors contacted in the field	120	Time to complete on-site contact (mins)	2	Estimated burden (hours)	2
Total Burden 4,162					

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11. **Reporting Plan:** An annual report will be produced summarizing the online survey and angler creel results using the NPS Natural Resources Data Series (NRDS) report format (<http://www.nature.nps.gov/publications/nrpm/index.cfm?tab=2#reports>). The summary report will be posted as a link to the angler creel survey site so anglers can see how that year's data compares to previous years data. The results will also be reported via numerous public meetings regularly conducted by the GRSM fishery biologist. A copy of the report will be submitted to the NPS Social Science Division as required by the NPS Programmatic Approval Process.
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REFERENCES CITED

Kulp, M.A., S.E. Moore and D. Sanders. *In press*. Biological Evaluation and Angler Response to Brook Trout Fishing and Harvest in Populations Closed for Over 25 Years in Great Smoky Mountains National Park. *North American Journal of Fisheries Management*.

Papadogiannaki, E., D. Eury and S.J. Hollenhorst. 2009. Great Smoky Mountains National Park Visitor Study, Summer 2008. Park Studies Unit Visitor Services Project Report 205. University of Idaho. NPS D-629. 89 pages.