

**NPS
PROJECT SUMMARY**

**Cooperative Ecosystem Studies Unit
Cooperative Agreement Modification**

FUNDING AGENCY: **National Park Service**

MODIFICATION NO.: **[CESU info only]**

COOPERATIVE AGREEMENT NO.: **H1200-04-0002H1200-04-0002**

FUNDING AMOUNT: **\$ 11,000.00**

INVESTIGATORS' Contact Information: **Britton Mace, Ph.D., Southern Utah University, Dept. of Psychology, 351 W. Center St, GC 308, Southern Utah University, Cedar City, UT 84720. email: mace@suu.edu; phone: 435.865.8569**

PROJECT TITLE: **Visitor Experiences and Expectations of the Bryce Canyon National Park Soundscape- Phase I**

EFFECTIVE DATES: **Immediate upon finalization of this agreement and ending on December 31, 2007.**

PROJECT ABSTRACT: This Task Agreement by and between the National Park Service (NPS) and Southern Utah University (SUU) is carried out through the Colorado Plateau Cooperative Ecosystem Studies Unit (CPCESU) and Joint Ventures Agreement for the purpose of mutual assistance in conducting a project entitled "Visitor Experiences and Expectations of the Bryce Canyon National Park Soundscape." This project will result in Bryce Canyon National Park gaining knowledge of the relationship between the soundscape environment (natural and artificially altered) and visitor enjoyment. This project will also provide a clear understanding of what factors are important in managing soundscapes within the park.

As part of the Soundscape Management Plan at Bryce Canyon, visitor experiences and expectations of the ambient auditory environment are of special importance. The soundscape of the park is viewed as a resource having preservation value in and of itself; a resource to be experienced and appreciated by visitors. Park visitors come with expectations of seeing, hearing, and experiencing phenomena associated with a specific natural environment, such as Bryce Canyon. Soundscapes may vary in their character from day to night, from season to season, and by changes in the number of visitors who directly or indirectly introduce additional sound into the environment. The key analysis issue has been determining what levels and types of sound are appropriate or acceptable for different management areas throughout a park. If the justification for preserving natural sound is to minimize the impact of noise on visitor enjoyment, then information is also needed on how different types of visitors react to unnatural, as well as natural, sounds in parks.

The psychoacoustical approach combines elements of the psychological (social scientific) and the acoustical (physical measurement) methods. In acoustical research, this correlation is called a dose-response function, the dose (or physical energy) usually being the loudness of a sound and the response being the reaction of people to it, which has typically been measured as annoyance. There are many challenges when using the dose-response method in field settings, especially in parks. Furthermore, visitor response is not limited to annoyance, the traditional metric. There are many other variables (such as solitude, tranquility, naturalness, freedom, and even scenic beauty) that are affected by the soundscape of the park, including individual human produced noise events. For these reasons, data is needed on how the visitor experience is affected by the soundscape beyond the dose-response protocol if viable management alternatives are to be developed at Bryce Canyon.

Phase I entails participating in a workshop with park staff, applying for a research permit, developing the survey instrument and methodology, developing a work plan, submitting the survey instrument to OMB, and submitting a brief final report of Phase I. This phase will lay the groundwork for visitor surveys, analysis and the phase II of the project. The project scope of work addresses both phases.

Agency Representative:

Ron Hiebert, NPS
Research Coordinator
CPCESU
Northern Arizona University
P.O. Box 5765
Flagstaff, AZ 86011-5765
Tel: (928) 523-0877
Fax: (928) 523-8223
Ron.Hiebert@nau.edu

Agency Administration Representative

Lynell Wright
Budget Analyst
Intermountain Region – Budget & Finance
P.O. Box 25287
12795 W. Alameda Parkway
Denver, CO 80225-0287
Tel: (303) 969-2654
Fax: (303) 969-2794
Lynell_Wright@nps.gov

Investigator:

Britton Mace, Ph.D.
Dept. of Psychology
351 W. Center St, GC 308
Southern Utah University
Cedar City, UT 84720
Phone: 435 865 8569
mace@suu.edu

Partner Admin. Contact:

Valarie Cheeseman
Director of Sponsored Research and Grants
Administration Building, 304C
Southern Utah University
351 West University Blvd.
Cedar City, UT 84720
(435) 865-8175
(435) 586-5475 fax
cheeseman@suu.edu

List of Key Words: Cultural resources - Protocols / Reference Materials, management, miscellaneous

Key Official from National Park - Include contact information @ Specific Park or NPS Office:

Kristin Legg, Bryce Canyon NP, Chief of Resource Management

PO Box 640201, Bryce Canyon, Utah 84764 Tel: 435-834-4900 Fax: 435-834-4102. Kristin_legg@nps.gov

Annual Report Received:

Final Report Received:

Publications on File:

*This Modification is subject to all the provisions included in the Cooperative Agreement, **dated 6/18/04.***

Attach any supporting material as necessary.