

**Award Number:** P14AC00304

**Project Number**: NAU-440

**CFDA #:** 15.944

**Park/NPS Unit:** Chaco Culture NHP and Southern Colorado Plateau Network

**Title of Project:** Chaco Culture NHP Dark Night Sky Public Education Video

**Administered through the:**  Colorado Plateau Cooperative Ecosystem Studies Unit Cooperative Agreement Number H1200-09-0005

**CESU Partner:** Northern Arizona University

**PROJECT CONTACTS:**

**Principal Investigator:** Dan Boone, Producer/Director, IDEA Lab at Bilby Research Center, P.O. Box 6013, Northern Arizona University, Flagstaff, AZ, 86011, 928-523-7266, Daniel.Boone@nau.edu

**Partner Administrative Contact*:***Cindy Judge, Office of Grants and Contract Services, Northern Arizona University, PO Box 4130, Flagstaff, AZ 86011. Phone: 928-523-6917,Cindy.Judge@nau.edu

**NPS Certified ATR:** Lisa Thomas, Program Manager, NPS-SCPN, P.O. Box 5765 Northern Arizona University Flagstaff, AZ 86011, Phone: (928)-523-9280, Fax: 928-523-2014, Email: Lisa\_Thomas@nps.gov

**NPS Technical Expert :** Christine Czazasty, Chief of Interpretation, Chaco Culture NHP, 1808 County Rd. 7950, Nageezi, NM 87037, Phone (505)-786-7014 x 263, Christine\_Czazasty@nps.gov

**FUNDING INFORMATION:**

**Amount Funded: $5288**

**NPS Account Numbers (amounts in parentheses):**

**PPIMCHCU00 PPMPSPD1Z.YM0000 ($2,500)**

**PPWONRADI5  PPMRSNR1Y.AM0000   ($2,788)**

**Fund Source (e.g., ONPS, FLREA, CRPP, CESU, etc.): ONPS, I&M**

[x] NPS Funding

[ ]  Is this funded using a reimbursable account number? If yes, IMR contracting needs a copy of the Interagency Agreement.

**PROJECT DATES:**

**Tentative Start Date:** April 10, 2014

***NOTE: This Task Agreement will become effective on the date of final signature or the effective date of the Award document, whichever is later.***

**End Date:** September 30, 2014

**NPS Administrative Contacts**

**CESU Coordinator:** Judy Bischoff, National Park Service/CPCESU, NAU P.O. Box 5765, Flagstaff, AZ 86011, 928-523-6638, Fax: 928-523-2014; judy\_bischoff@nps.gov

**Intermountain Region Administrative Contact:** Kelly Adams, Grants and Agreements Specialist, National Park Service, 12795 West Alameda Pkwy, Lakewood, CO 80228. Phone: 303-969-2303 Fax: 303-969-2992 Email: Kelly\_adams@nps.gov

**FEDERAL FINANCIAL REPORTS AND DRAWDOWN SCHEDULE:**

***Federal Financial Reports*** (Check as required for project based on spending plan, period of performance, risk, cooperator history, etc.)

{X} Quarterly { } Semi-annually { } Annually {X} Final

**Project SCHEDULE AND TECHNICAL REPORT DEADLINES:**

List all technical reports and products in sequential order as required in the scope (more lines and milestones can be added as needed):

*Project Start Date* -- March 15, 2014

*Technical progress reports –* {X} Quarterly { } Semi-annually { } Annually

(Check as needed from PI to monitor progress of specific project. Content should be addressed in the scope.)

*Raw digital files provided to the NPS ATR or Technical Expert* – June 30, 2014

*Draft Final Report* – June 30, 2014

*Final Report* – August 31, 2014

*Project End Date* – September 30, 2014

*Final SF425 FFR* must be submitted within 90 days of project end date

**PAYMENTS**

**2 CFR PART 215.22*:*** Cash advance (drawdown) to recipient organization shall be limited to the minimum amounts needed and be timed to be in accordance with the actual immediate cash requirements of the recipient organization in carrying out the purpose of the approved program or project. The timing and amount of cash advances shall be as close as is administratively feasible to the actual disbursements by the recipient organization for direct program or project costs and the proportionate share of any allowable indirect costs.

**2 CFR PART 215.25 (8)(e)(1):** Incur pre-award costs 90 calendar days prior to award or more than 90 calendar days with the prior approval of the Federal awarding agency. All pre-award costs are incurred at the recipient’s risk. (i.e. the Federal awarding agency is under no obligation to reimburse such costs if for any reason the recipient does not receive an award or if the award is less than anticipated and inadequate to cover such costs.)

**CESU REQUIRED PRODUCTS (may be different from those products required by the ATR – See Statement of Work for Products required by the NPS unit):**

The Principal Investigator will prepare a brief report abstract suitable for public distribution and two hard copies and an electronic version (in PDF file format) of the final report and mail all toJudy Bischoff, National Park Service, CPCESU, NAU P.O. Box 5765, Flagstaff, AZ 86011. Please be sure to include the project number (e.g.; NAU-###, UMT-###, UAZDS-###) and the P number on the cover page of the final report.

**PROJECT ABSTRACT:**

Because of its high quality dark night skies and its commitment to reducing light pollution and educating the public about the value of dark skies, Chaco Culture NHP has earned certification as an International Dark Sky Park by the International Dark-Sky Association. However, safeguarding this quality of dark night skies for the protection of wildlife and for future generations of humans will require continual public education and advocacy on the part of the park. The purpose of the first stage of this project is to generate the raw video footage of interviews, scenery, and activities during the day of the International Dark Sky Park commemoration, April 24, 2014, and the following day. When additional funding is procured, this raw footage will be transformed into a short educational video about the value of dark skies for wildlife and the human experience, and how dark skies have been utilized and celebrated at the park and in the region for centuries.

**SCOPE OF WORK**

**Chaco Culture NHP Dark Night Sky Public Education Video**

**Background and Need**

Chaco Culture NHP is considered by many to be one of the few best places in America to see the magnificent night sky in all its glory, undimmed by air pollution or pollution from artificial light. In fact, humans have been looking to the dark skies above Chaco for thousands of years. Many of the structures protected by the park were designed and built centuries ago by societies that had a deep appreciation and understanding of both the day and night skies. Because of the quality of darkness at the park and the park’s commitment to reducing light pollution and educating the public about the value of dark skies, Chaco Culture NHP has earned certification as an International Dark Sky Park by the International Dark-Sky Association. Chaco Culture NHP is the fourth US national park to earn that designation (following Natural Bridges NM, Big Bend NP, and Death Valley NP).

However, to keep the skies above Chaco Culture NHP dark in order to protect wildlife and preserve the human experience of the night sky will require continual public education and advocacy. The quality of dark skies over Chaco Culture NHP faces increasing threats from urbanization and energy development. The growth of cities like Albuquerque and Farmington, as well as along the I-40 corridor between Grants and Gallup, NM, has resulted in the increased size and intensity of light domes over cities and communities, obscuring stars in the night sky. Recently, with the advent of new drilling technologies, there has been renewed interest in oil and gas development in the San Juan Basin near the park. Such development would bring with it intensive artificial lighting, increased vehicle and construction traffic, both during the day and at night, and gas flares.

Chaco Culture NHP has had a very active astronomy program since 1988, which has included star parties with public telescope viewing, full moon interpretive walks, and lectures about archeoastronomy at Chaco, as well as special astronomy events that celebrate the special days of the solar calendar and special astronomical events, such as eclipse and meteor showers. In 2013, the park began a new Dark Skies Outreach and Education program, which when fully implemented will consist of four components:

* Dark Sky Weekly Interpretive Program
* Night Skies Traveling Trunk program – a portable educational kit focused on dark night skies that can travel to festivals, fairs, and educational facilities
* International Dark Sky Park portable exhibit featuring Chaco’s dark sky qualities and its designation as an International Dark Sky Park, and promoting its dark sky public programs.
* Annual Community Star Party - additional outreach star party to be held at a location outside of the park

This cooperative agreement will fund phase 1 of the development of a short (12 minute) educational video that explains the importance of dark skies to the natural world and human communities. It will highlight the International Dark Sky Park designation for Chaco Culture NHP, and what the park is doing to provide an example of what can be done to protect and preserve dark skies everywhere. This video is intended to be used for the Traveling Trunk Program, but can be used for other outreach activities as well.

Chaco Culture NHP is part of the NPS Southern Colorado Plateau Network (SCPN), which works with the park on natural resource inventory and monitoring efforts, as well as science communication projects. The SCPN collaborates with NAU and other CPCESU partners to implement long-term ecological monitoring across network parks, communicate science results to park audiences, and to assist park managers with integrating science information into park management.

The IDEA Lab is the research support arm of the Bilby Research Center at NAU. The Lab provides creative services, such as imaging and design, and editing, as well as administrative support services. Dan Boone and the IDEA lab are uniquely suited for this project because they have a 25-year history doing work on the Colorado Plateau, including work with archeological and cultural resources, as well as natural resources.

**Project Objective**

The purpose of this task agreement is to provide support for the first phase of the development of a science communication video at Chaco Culture NHP. This phase will involve videotaping the commemoration of Chaco Culture as an International Dark Sky Park, and the related presentations and activities that will take place to celebrate this designation.

The video will be about the protection of the dark skies over Chaco Culture NHP in order to

* preserve the dark sky viewing experience for present and future generations
* protect humans and wildlife from the harmful effects of light pollution and the disruption of circadian rhythms it causes
* reduce the unnecessary energy consumption and associated costs that are a result of light pollution.

**Statement of Work**

A two-man crew from NAU’s IDEA Lab at the Bilby Research Center will perform the work which includes the following:

* The IDEA Lab crew will travel to Chaco Culture NHP on April 23, 2014 and depart on April 26, 2012.
* While at the park, the crew will videotape International Dark Sky Park commemoration events and activities, interviews of key personalities, and footage of other areas in the park.
* The IDEA Lab will provide all the equipment necessary to perform this work (cameras, lights, etc.)

**Products:**

Final products for Phase 1 of this project will include

* Raw video clips of scenery at Chaco Culture NHP, activities related to the International Dark Sky Park Commemorations taking place during the period April 24–25, 2014, and interviews of key park personnel and local dignitaries. This video will be archived on a hard drive and backed up on a computer, ready to be pulled into editing software. Video clips can be provided for viewing, for example, a clip of the commemoration ceremony.
* A final report will be submitted that will summarize the process of preparing for the video shoot and the activities during the two shooting days. The report will also include the following addendums:
	+ A rough story board outline of the final product
	+ A shot list of the footage to be taken on site
	+ A list of any additional video footage, not on the shot list, that was taken at the site
	+ A video shooting schedule.
	+ A list of any desired follow up in terms of research and additional video that might be needed

**Substantial Involvement**

Chaco Culture NHP staff will provide guidance on the content of the video and the areas of the park to be videotaped. They will identify key figures to be interviewed and they will contribute to developing and review completed story boards and scripts before videotaping begins. They will facilitate arrangements at the park by providing accommodations for the film crew (in the form of a campsite, possible temporary secure storage site for equipment.

SCPN staff will provide coordination of logistics for the project prior to traveling to the park and while on site. In consultation with park staff, SCPN will develop the video script— conducting research, outlining, drafting, and editing.

**COOPERATIVE AGREEMENTS OR TASK AGREEMENTS INVOLVING COOPERATORS WORKING ON-SITE**

**Background**

In cooperative agreements or task agreements with universities where the university utilizes interns, student employees, research associates (RAs) or cooperators on-site (hereafter called “cooperator personnel”), these cooperator personnel sometimes work on government sites in close proximity to federal employees. It is illegal (without specific statutory authority) for federal employees to directly supervise the cooperator personnel or any university employees or for the students or other university employees to supervise federal employees. When cooperator personnel are working on an NPS site, it is important that there is a clear distinction between students and federal employees.

**Office Environment and Vehicles**

* The office space of the cooperator personnel and NPS personnel should be clearly labeled (Name and NPS or University affiliation on office or cubicle space).
* Cooperator personnel should be listed separately from NPS personnel in telephone lists, other identification or organizational rosters, and publication credits.
* Cooperator personnel should not receive “all-employee” e-mail or other communications intended for NPS personnel (unless it relates directly to the work the cooperator is doing for the NPS). When the e-mail does relate to the work being done, a copy of the same e-mail message should be sent to the University or cooperator’s supervisor.
* Cooperator personnel may use NPS e-mail systems when the communication relates directly to the work the cooperator is doing for the NPS. The e-mail addresses of the cooperator personnel must include a label associated with their NPS e-mail address that identifies the cooperator’s status (i.e., “Linda Webb, Cooperator” would be the label associated with the e-mail address, linda\_webb@contractor.nps.gov). Doing so clearly identifies this individual each time they send an e-mail message using the NPS system, and it identifies their status as a research associate, student intern or student employee in the e-mail directory.
* Unless stipulated in the agreement, cooperator personnel should not drive government vehicles.
* Unless stipulated in the agreement, cooperator personnel should not ride as a passenger in a government vehicle. When this is planned as part of the agreement, an appropriate amount of liability insurance should be negotiated.
* Prior written approval by the Park Superintendent or Center Manager must be obtained in order for a task to allow cooperator personnel to drive or ride in government vehicles.

**Supervision and Scheduling**

* Each task must specify the university’s/cooperator’s supervisor for the cooperator personnel.
* Unless stipulated in the agreement, NPS staff should not set hours for cooperator personnel, specify where the work should be done, or conduct performance appraisals. National Park Service staff may give performance feedback to the cooperator personnel supervisor.
* Cooperator personnel should report leave, scheduling, and other related issues to the university or cooperator’s supervisor, not to NPS employees. The supervisor of the cooperator personnel should then communicate with the NPS. National Park Service employees cannot directly supervise cooperator personnel on a day-to-day basis. Work should be given to the cooperator personnel (via the cooperator’s supervisor) on a “task basis.” Cooperators should work without NPS supervision to accomplish each task, although technical consultations and cooperation is permissible.
* The Cooperator will be responsible for any disciplinary action needed to correct student employee conduct or performance problems. The NPS agreements technical representative will inform the university/cooperator’s supervisor of any conduct or performance problems.
* The Cooperator will remove student employees from their positions if they fail to improve performance or address conduct issues.
* The NPS will review and provide feedback to students or interns regarding work assignments.
* The NPS will inform the cooperator of conduct or performance problems with cooperator personnel so that the university can counsel employees and correct the performance problems.
* The NPS will recommend to the cooperator dismissal of cooperator personnel based on conduct or performance issues.
* The Cooperator will hire students, interns or RAs to work on NPS tasks identified in the agreement. Hiring will be conducted in consultation with the NPS Agreements Technical Representative (ATR).
* The Cooperator will: pay students, interns or RAs for hours they have worked in support of the agreement.

**Representation and Communication**

* Cooperator personnel cannot in any way represent themselves to the public as NPS employees.
* Cooperator personnel are required to wear visible identification at all times.

**Other Issues**

* Cooperator personnel should not list an NPS affiliation on publications, but rather should list the cooperative agreement under which the work was performed.
* Cooperator personnel should not be invited to official NPS “social” events.
* Cooperator personnel will follow the local policy of the facility when federal facilities are closed due to early release for holidays, snow days, etc.