



**National Park Service
U.S. Department of the Interior**

NOTICE OF INTENT TO AWARD

This Funding Announcement is not a request for applications. This announcement is to provide public notice of the National Park Service's intention to fund the following project activities without full and open competition.

ABSTRACT	
Funding Announcement	P14AS00170
Project Title	DEVELOPMENT AND TESTING OF INSTRUMENTATION AND SOFTWARE TO MONITOR THE SENSORY ENVIRONMENT
Recipient	Colorado State University
Principle Investigator / Program Manager	Dr. Azimi-Sadjadi
Total Anticipated Award Amount	\$385,259.00
Cost Share	None
New Award or Continuation?	Continuation of Cooperative Agreement P14AC00728
Anticipated Length of Agreement	From date of award until 2/28/2016
Anticipated Period of Performance	From date of award until 2/28/2016
Award Instrument	Cooperative Agreement
Statutory Authority	16 USC 1(g); 16 U.S.C. §1a-2(j), and 16 USC§5933
CFDA # and Title	15.945 Cooperative Research & Training Programs Resources of NPS
Single Source Justification Criteria Cited	(2) Continuation
NPS Point of Contact	June Zastrow 303-987-6718 june_zastrow@nps.gov

OVERVIEW

Noise is pervasive pollutant in protected natural areas. Data collected by CSU Research Associates in 22 National Park units (Lynch et al. 2011) show that noise is audible about one quarter of the time (hourly median value across all hours and sites), and some wilderness sites can have hourly noise audibility levels exceeding 50%. Surveys of the American public have documented the vital importance of acoustical environments as a reason for protecting natural areas, as well as the critical role that acoustical conditions play in determining the quality of visitor experience. Noise has also been shown to be an important factor in wildlife ecology (Barber et al. 2010, Benítez-López et al. 2010, Francis et al. 2009). Ecological light pollution is an emerging concern for wildlife management (Longcore and Rich 2004).

The NPS needs instruments capable of autonomous data collection and processing for periods of one year or more. Some of these instruments need the capacity to acquire, process, and wirelessly transmit data summaries and operational status. No viable commercial options exist. This research and development project is exploring technological options to meet these needs. In tandem with the hardware development, this project is investigating options for automatic processing of acoustical data, to cope with the larger volumes of data that continuous monitoring systems will generate. Prior projects funded by NPS have significantly reduced the cost, size, weight, and complexity of sound level monitoring systems for acoustical surveys of park conditions lasting up to one month.

This project conducted in collaboration with Colorado State University researchers will pursue a variety of potential products. This is not an exhaustive list.

- Acoustical monitoring instrument designed for indefinite deployments, with array processing and wireless communication capabilities.
- Systems for monitoring and displaying vehicle noise levels for transportation monitoring, which will be used in cumulative impacts analyses in air tour management plans.
- Systems for maintaining synchronized timing across widely separated instruments,
- Ultrasonic monitoring capabilities.
- Instruments for measuring variation in sound propagation.
- Advanced signal processing algorithms for automatic detection and classification of different man-made and natural acoustic events from the collected data.

This project will advance scientific understanding and engineering capabilities to support more effective management of public lands and to provide a higher quality experience for visitors. The research activity is intended to address several public interests: expanding scientific capabilities for monitoring sensory environments, promoting collaborative conservation working groups consisting of academic professionals and natural resource managers, furthering the education and career development of university students and research staff, providing opportunities for project participants to produce peer-reviewed papers and outputs for scientific conferences reporting these research results, stimulating interdisciplinary research and education at CSU by promoting interactions between the Warner College and the College of Engineering. This promotion of interdisciplinary activity may extend to hosting scientific workshops or conferences, though none is planned at this time.

RECIPIENT INVOLVEMENT

1. Appoint the Principal Investigator (PI),
2. Enable the PI to oversee this project and coordinate activity by the faculty research team to execute the following tasks:
 - i. Work with the NPS SME to identify research tasks and develop a schedule for their execution,
 - ii. Work with the NPS SME to recruit engineers, research associates, temporary hourly, and student hourly personnel to fill vacancies,
 - iii. Serve as the supervisor for CSU research associates on this project, working with the NPS technical expert to coordinate their efforts,
 - iv. Oversee education of and research by CSU students,
 - v. Organize regular meetings with the NPS SME and CSU project participants to discuss ongoing research and development efforts, evaluate progress, and develop plans for the next phase of work,
 - vi. Prepare and submit Investigator's Annual Report to the NPS ATR and Awarding Officer,
 - vii. Optionally present results at scientific conferences,
 - viii. Oversee translation of research results into peer-reviewed papers,
3. Provide workspaces for project participants,
4. Fully acknowledge the NPS in any published or formally presented material developed or derived from this Task Agreement. NPS will not necessarily participate in authoring scientific papers; this decision will emerge from the collaborative effort by a consensus conclusion that NPS personnel have made substantive intellectual contributions to the results,
5. Submit a project final report, and collaborate with the NPS, in a thirty-day wrap-up period to close out the agreement.

NATIONAL PARK SERVICE INVOLVEMENT

Substantial involvement on the part the National Park Service is anticipated for the successful completion of the objectives to be funded by this award. In particular, the National Park Service will be responsible for the following:

1. Provide financial assistance to Colorado State University as provided in Article VI. Award and Payment, which includes the budget as Attachment A, in this Task Agreement.
2. The SME will perform the following tasks:
 - i. Work with the PI to identify research tasks and develop a schedule for their execution.

- ii. Offer routine opportunities for discussion and technical consultation with the CSU postdoctoral and research associates.
 - iii. Provide acoustical data and NPS equipment as appropriate for research.
 - iv. Participate in regular meetings to discuss project results and plans.
 - v. Participate in data analyses as appropriate.
 - vi. Participate in drafting scientific manuscripts, as appropriate. Provide scientific reviews of draft scientific papers that are produced.
3. Fully acknowledge the PI and Colorado State University in any publication or formal presentation that refers to material developed or derived from this Task Agreement.
 4. Collaborate with Colorado State University, as appropriate, in a thirty-day wrap-up period following submission of the final report.
 5. Inform the PI of the specific activities required to comply with the NPS “Interim Guidance Document Governing Code of Conduct, Peer Review, and Information Quality Correction for National Park Service Cultural and Natural Resource Disciplines,” and with any and all subsequent guidance issued by the NPS Director to replace this interim document.

SINGLE-SOURCE JUSTIFICATION

DEPARTMENT OF THE INTERIOR SINGLE SOURCE POLICY REQUIREMENTS
Department of the Interior Policy (505 DM 2) requires a written justification which explains why competition is not practicable for each single-source award. The justification must address one or more of the following criteria as well as discussion of the program legislative history, unique capabilities of the proposed recipient, and cost-sharing contribution offered by the proposed recipient, as applicable.
In order for an assistance award to be made without competition, the award must satisfy one or more of the following criteria: (1) Unsolicited Proposal – The proposed award is the result of an unsolicited assistance application which represents a unique or innovative idea, method, or approach which is not the subject of a current or planned contract or assistance award, but which is deemed advantageous to the program objectives; (2) Continuation – The activity to be funded is necessary to the satisfactory completion of, or is a continuation of an activity presently being funded, and for which competition would have a significant adverse effect on the continuity or completion of the activity; (3) Legislative intent – The language in the applicable authorizing legislation or legislative history clearly indicates Congress’ intent to restrict the award to a particular

recipient of purpose;

- (4) Unique Qualifications – The applicant is uniquely qualified to perform the activity based upon a variety of demonstrable factors such as location, property ownership, voluntary support capacity, cost-sharing ability if applicable, technical expertise, or other such unique qualifications;
- (5) Emergencies – Program/award where there is insufficient time available (due to a compelling and unusual urgency, or substantial danger to health or safety) for adequate competitive procedures to be followed.

The National Park Service did not solicit full and open competition for this award based the following criteria:

(2) CONTINUATION

SINGLE SOURCE JUSTIFICATION DESCRIPTION:

THIS IS A NOTICE OF INTENT TO AWARD

This is a Task Agreement (P14AC1166) under Cooperative Agreement (P14AC00728) in the amount of \$385,259.00 with a period of performance from date of award until 02/28/2016.

"This proposed project between Colorado State University and the National Park Service is authorized to go through the Rocky Mountains CESU at the negotiated overhead rate of 17.5% because it passes the test of substantial involvement by the NPS, public purpose and consistency with the mission of the CESU Network".

Also, on the SF 424 forms that the partner sponsored programs office fills out for each project, requires a CFDA number - 15.945, which is the number associated with the CFDA Title: COOPERATIVE RESEARCH AND TRAINING PROGRAMS - RESOURCES OF THE NATIONAL PARK SERVICE (CESU).

STATUTORY AUTHORITY

16 U.S.C. §1g authorizes the NPS to enter into cooperative agreements that involve the transfer of NPS appropriated funds to state, local and tribal governments, other public entities, educational institutions, and private nonprofit organizations for the public purpose of carrying out National Park Service programs.

16 U.S.C. §1a-2(j) Cooperative research and training programs authorizes the NPS to enter into cooperative agreements with public or private educational institutions, states, and their political subdivisions, for the purpose of developing adequate, coordinated, cooperative research and training programs concerning the resources of the national park system. Pursuant to such agreements, the cooperator may accept from or make available to the NPS technical and support staff, financial assistance for mutually agreed upon research projects,

supplies and equipment, facilities, and administrative services relating to cooperative research units as the Secretary deems appropriate (research projects subject to Federal Acquisition Regulation excluded).

Modified 5/31/05 – Agreement Handbook Memorandum Number 2

16 U.S.C. §5933 Cooperative agreements The Secretary is authorized and directed to enter into cooperative agreements with colleges and universities, including but not limited to land grant schools, in partnership with other Federal and State agencies, to establish cooperative study units to conduct multi-disciplinary research and develop integrated information products on the resources of the National Park System, or the larger region of which parks are a part.