

Task Agreement Number P15AC00701
Under
Cooperative Agreement P14AC00921
Between
The United States Department of the Interior
National Park Service
And
Regents of the University of New Mexico
DUNS No: 868853094
Contract and Grant Administrators,
Research Administration
MSC01 1247
University of New Mexico
Albuquerque, NM 87131-0001

CFDA: 15.945

Project Title: Establishing a Baseline for Bat Microbiota and Discovering Clues to Natural Defenses Against WNS in Bat Microbiota in Carlsbad Caverns National Park

Park Unit: CAVE

PI: Diana E. Northup, dnorthup@unm.edu, 505-277-5232

ATR: Renée West, renee_west@nps.gov, 575-785-3099

Amount of Federal Funds Obligated: \$132,700

Total Amount of Task Agreement Award: \$132,700

Funding source: NRSS

Period of Performance: (May 18, 2015 to July 31, 2016)

Student Involvement: (Yes)

Sensitive Information: (No)

ARTICLE I – BACKGROUND AND OBJECTIVES

Cooperative Agreement Number P14AC00921 was entered into by and between the Department of the Interior, National Park Service, (NPS), and Regents of the University of New Mexico (hereafter referred to as ‘Recipient’) for the purpose of providing research, technical assistance, and/or education, as described below. Unless otherwise specified herein, the terms and conditions as stated in the Cooperative Agreement will apply to this Task Agreement.

For performance under this task agreement, the regulations set forth in 2 CFR, Part 200, supersedes OMB Circulars A-21 (2 CFR 220), A-87 (2 CFR 225), A-110, and A-122 (2 CFR 230); Circulars A-89, A-102, and A-133; and the guidance in Circular A-50 on Single Audit Act follow-up. The recipient shall adhere to 2 CFR, Part 200 in its entirety in addition to any terms and conditions of the master agreement not superseded by 2 CFR

200, as well as the terms and conditions set forth in this agreement. In the event of a conflict between the original terms of the master agreement and 2 CFR, Part 200, relating to this task agreement, 2 CFR, Part 200 shall take precedence.

Project Title: Establishing a Baseline for Bat Microbiota and Discovering Clues to Natural Defenses Against WNS in Bat Microbiota in Carlsbad Caverns National Park

Project Description:

White-nose syndrome (WNS), caused by the fungus *Pseudogymnoascus destructans*, threatens bat populations throughout the U.S. Western bat populations provide an excellent opportunity to understand bats' external bacterial and fungal inhabitants and their potential to provide natural defenses against this newly emerging pathogen. Using next gen sequencing and microbial culturing techniques we propose to analyze bat microbiota across five or more bat species, and to isolate Actinobacteria for testing of anti-fungal activity against *P. destructans*. Actinobacteria are rich producers of antibiotics, including antifungals. In 2014, we netted bats in CAVE caves and surface sites. Five target species of bats were swabbed, including species very likely and less likely susceptible to WNS. Next gen sequencing performed on DNA from swabs suggests that bats caught on the surface versus those caught in the cave have different microbial communities. Some species of bats have many Actinobacteria present, and we have identified some isolates that show significant inhibition of *P. destructans* in our other sites. In learn more about the microclimate in which the bats roost and to test whether the microclimate is appropriate for the growth of *Pseudogymnoascus destructans*, we will install temperature/relative humidity loggers to gather data in roosting areas of Carlsbad Cavern and three backcountry caves that previously tested positive for the presence of close relatives of *P. destructans*. We will also photo-document this research to provide interpretive materials for CAVE's staff to promote public education and outreach on WNS and its impact on bats. Much remains to be learned about CAVE's bats, their microbiota, the microclimate of their roosting sites, and climate change impacts. This funding will allow us to expand our dataset to a statistically adequate level and to compare results from CAVE bats to our other four sites.

How does the project address public purpose in accordance with the Justification for Use of FA document.) The heart and soul of Carlsbad Caverns National Park (CAVE) is its bats. An exhibit of information and photos about white-nose syndrome (WNS) research will be one of the products of this research. Dr. Northup has been conducting WNS research in CAVE since 2011 and she will draw on her experience in conducting this research and the photos of her awarding-winning photographer colleague, Dr. Kenneth Ingham, to present this story to the visitors of CAVE. Beginning last year, she and Debbie Buecher, the bat biologist worked with Martha Merson who is working with the interpretive staff at CAVE through the iSWOOP program. Northup and Buecher will continue this work and will invite rangers to participate in field work during the research.

ARTICLE II – LEGAL AUTHORITY

54 U.S.C. §101702(a) Cooperative Agreements, Transfer of Services Appropriate Funds
54 U.S.C. §101702(b) Cooperative Agreements, Cooperative Research and Training Programs
54 U.S.C. §100703 Cooperative Study Units

ARTICLE III – STATEMENT OF WORK

A. Statement of work:

Background:

Since the winter of 2006-2007, white-nose syndrome (WNS) has spread north, south and west from Albany, New York, killing hibernating bats as it continues to move westward. At present *Pseudogymnoascus destructans*, a fungus likely from Europe and causal agent of WNS, and the disease itself, has been documented as far west as western Missouri and Arkansas, near the eastern Oklahoma border. Once in New Mexico, we believe that the disease will have an impact on 16 of the 27 bat species known to occur in the state.

Current research by Ms. Buecher has established the several caves in El Malpais National Monument, and other caves throughout New Mexico that possess appropriate microclimate conditions for the growth of *P. destructans*. Previous work by the Northup lab has shown that there are fungi present in the soil and guano samples from some of our sites in Carlsbad Caverns National Park that test positive for *P. destructans* using Lorch primers (Lorch et al. 2010), but are negative using the more accurate real time PCR (Minnis et al. 2013). We hypothesize that these represent close relatives of *P. destructans*. Using these findings as a guide, Dr. Northup and Ms. Buecher selected sites for the investigation of bat microbiota (bacteria and fungi) on roosting bats to investigate differences in bat species with different vulnerabilities to WNS. Dr. Northup has found that naturally occurring bacteria and fungi on the surfaces of bats' wings and fur vary among bat species. In addition, some bat species have a preponderance of *Actinobacteria*, the bacterial phylum from which two-thirds of naturally occurring antibiotics come (Bérdy 1985; Nett et al. 2009). Drs. Northup and Porrás-Alfaro are currently testing *Actinobacteria* cultured from twelve different bat species against *P. destructans* to determine if these bat *Actinobacteria* may serve as a natural defense against *P. destructans* (unpub. results). We believe that the western bats' microbiota composition may be different or greater in diversity and abundance when compared to eastern bat species that have been affected by WNS. Therefore, we propose to continue our novel research that investigates the natural occurring microbiota of bats from CAVE cave and surface roosting bats. This study will address five main objectives:

Objectives:

- Identify and describe the bacteria and fungi present within microbial communities among key bat species at Carlsbad Caverns National Park (CAVE).
- Isolate Actinobacteria that may have the potential to inhibit *P. destructans* growth from bats captured on the surface and in caves at CAVE.
- Test the potential of cultured Actinobacteria from bats to inhibit the growth of *P. destructans*.
- Research the metagenomics of bat microbiota to examine potential natural defenses that bats have to inhibit *P. destructans* growth.
- Record the work with photography of the science-in-action for a WNS exhibit.

Methods:

Objective 1: Identify and describe the bacteria and fungi present within microbial communities among key bat species at Carlsbad Caverns National Park.

Our previous bat sampling for microbiota (UNM-101) included 1 surface-caught *Corynorhinus townsendii* (COTO), 3 surface-caught *Antrozous pallidus* (ANPA), 6 cave-caught *Myotis thysandodes* (MYTH), 4 cave-caught and 1 surface-caught *Myotis velifer* (MYVE), and 5 surface-caught *Tadarida brasiliensis* (TABR). This year's focus will be on filling in additional bats in these species, while still balancing out captures as much as possible given our inability to predict which bats we will capture. We will also work to expand the number of species from which we swab to include other species we are catching in our other four field sites. Debbie Buecher will conduct all bat cave and surface captures and handling, which will be done during June 2015 and May-June 2016 expeditions to our CAVE study caves. In total we will swab 50 bats (mixture of cave- and surface-caught) during this year's WNS funding. Swabbing and bat handling will be done under UNM and NPS IACUC protocols issued to Northup and NM Game and Fish permits issue to Buecher. Swabs will be stored in RNA Later to preserve the DNA and transported on a combination of dry ice and a liquid nitrogen dry shipper to further ensure that the nucleic acids are preserved for extraction. The bacterial and fungal microbiota present on the bats will be identified by MR DNA who will do the DNA extraction and sequencing of the 16S rRNA gene (bacteria) and ITS genes (fungi). These sequences will be analyzed with the Qiime pipeline (Caporaso et al. 2010) and the R statistical package to provide information about what controls the diversity we observe on the bats. Our previous work is currently up on a well-known pre-print serve to obtain feedback before formal submission in about two weeks to a journal for consideration for

publication. These new results will also be incorporated into additional publications.

Objective 2: Isolate Actinobacteria that may have the potential to inhibit *P. destructans* growth.

Bats that are captured for microbiota swabbing will also be swabbed to inoculate three media that target Actinobacteria: humic acid vitamin agar (HV), Actinobacteria Isolation Agar (AIA), and gellum gum (GG). These media are supplemented with additional chemicals that enhance the ability of the media to target just Actinobacteria. The inoculated plates will be grown in the laboratory at 20 degrees Celsius until developed enough to pick individual colonies for isolation into pure subcultures. A selection of different morphologies will be selected, their DNA will be extracted and sequences and the resulting sequences will be clustered using BioEdit. Representative isolates will be chosen from each cluster for further testing against *Pseudogymnoascus destructans* at Western Illinois University (WIU) (we don't want to bring this deadly pathogen to New Mexico) by our colleague Dr. Andrea Porrás-Alfaro and her students. All isolates will be freezer stocked for long-term availability. The 50 swabbed bats will generate 150 parent plates, which will generate approximately 1000-1500 pure isolates for sequencing to identify the Actinobacteria present. These results will also be written up for publication.

Objective 3: Test the potential of cultured Actinobacteria from bats to inhibit the growth of *P. destructans*.

The representative isolates will be shipped to WIU for testing against *Pseudogymnoascus destructans* using a plate overlay technique developed and refined by our Azorean colleague, Dr. Lurdes Dapkevicius in her antibiotics from cave bacteria research. R2A medium is poured in the plates and the bat actinobacterium is inoculated into the center of the plate. After sufficient growth is observed, an overlay of fungal medium (richer) is poured over, allowed to harden, and a liquid suspension of *Pseudogymnoascus destructans* spores is poured on this. The plate is incubated for a few days and antifungal production that is effective against *Pseudogymnoascus destructans* is observed as a cleared zone of inhibition where no *P. destructans* can grow. We are currently entering into negotiations with other researchers to further explore the antifungal activity of these isolates.

Objective 4: Research the metagenomics of bat microbiota to examine potential natural defenses that bats have to inhibit *P. destructans* growth.

The same DNA that is extracted by MR DNA for Objective 1 will be used to generate 30 bat metagenomes. These metagenomes will give us insights into the kinds of

secondary metabolites (e.g., antifungals) that could be produced by the genes of the bacteria and fungi present on the bats. We will select bats from different bat species sampled at CAVE, which could include *Corynorhinus townsendii* (COTO), *Lasionycteris noctivagans* (LANO), *Myotis thysandodes* (MYTH), *Myotis velifer* (MYVE), and *Tadarida brasiliensis* (TABR). If sufficient DNA is returned we may even be able to reconstruct some genomes for some of the organisms present. The other genes will shed light on other capabilities that the bacterial and fungal members of the bat microbiota have, which could provide insights into roles that these microbiota serve on the bats. As part of this year's project we will analyze the metagenomes generated in 2014 for which there was not sufficient funding to conduct the analysis.

Objective 5: Record the work with science-in-action photography for a WNS exhibit.

Communicating about this research to the public is part of the NPS mission. One way to aid this communication is through stunning visual images showing the research as it occurs. In the photography aspect of this grant, Dr. Kenneth Ingham will record the research as it occurs, such as capturing the bats, swabbing them, processing the samples, and releasing the bats. In addition to bat-focused photos, Kenneth will also photograph the researchers as they work in the laboratory and field, providing a human component to the research. All photos will be provided to the CAVE staff as 21 megapixel jpegs during the project with tiff versions available upon request. These photographs will be used to prepare a photographic WNS research exhibit for CAVE and can be used as part of other exhibits or other interpretive materials to help explain the threat that white-nose syndrome poses to CAVE bats as the disease moves westward.

Animal Care and Use. Capture and handling of bats will follow the Fort Collins Science Center Standard Operating Procedure (SOP) SOP#: 2013-01 2001-01 (Ellison et al. 2013). Buecher has the permits from New Mexico Game and Fish that allow us to conduct these activities and Northup holds a University of New Mexico IACUC Protocol, as well as an NPS IACUC. We will follow current decontamination protocols established by the U.S. Fish and Wildlife Service to prevent any potential spread of *P. destructans* should it already be in New Mexico caves undetected.

Work Cited:

- Bérdy, J. 1985. *CRC Handbook of Antibiotic Compounds, Part II: Bacterial Metabolites*. Berdy, J., ed. CRC Press, Publisher.
- Caporaso, J.G., Kuczynski, J., Stombaugh, J., Bittinger, K., Bushman, F.D., Costello, E.K., Fierer, N., Pena, A.G., Goodrich, J.K., Gordon, J.I., Huttley, G.A., Kelley, S.T., Knights, D., Koenig, J.E., Ley, R.E., Lozupone, C.A., McDonald, D., Muegge, B.D., Pirrung, M., Reeder, J., Sevinsky, J.R., Tumbaugh, P.J., Walters,

- W.A., Widmann, J., Yatsunenko, T., Zaneveld, J., Knight, R. 2010. QIIME allows analysis of high-throughput community sequencing data. *Nature Methods* 7(5): 335-336.
- Lorch, J.M., A. Gargas, C.U. Meteyer, B.M. Berlowski-Zier, D.E. Green, V. Shearn-Bochsler, N.J. Thomas, and D.S. Blehert. 2010. Rapid polymerase chain reaction diagnosis of white-nose syndrome in bats. *Journal of Veterinary Diagnostic Investigation*. 22:224-230.
- Minnis, A.M., and D.L. Lindner. 2013. Phylogenetic evaluation of *Geomyces* and allies reveals no close relatives of *Pseudogymnoascus destructans*, comb. Nov., in bat hibernacula of eastern North America. *Fungal Biology* 117(9): 638-649.
- Nett, M., Ikeda, H., Moore, B.S. 2009. Genomic basis for natural product biosynthetic diversity in the actinomycetes. *Nat. Prod. Rep.* 26(11):1362-1384.

B. Project schedule and products:

Project start Date – May 18, 2015

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

Investigator's Annual Report (IAR) – March 31, 2016

Database, Collections/Specimens, Archives, and Maps provided to the NPS ATR or Technical Expert—June 30th, 2016.

Draft Final Report – May 15, 2016

Final Report – 31 July 2016

Project End Date – July 31st, 2016 (project reports/deliverables are due)

Final SF424 FFR must be submitted within 90 days of project end date.

C. Recipient agrees to:

- Provide reports as requested above.
- Provide a photo exhibit of WNS research science-in-action with appropriate text.
- Conduct a public and/or NPS personnel presentation concerning the proposed research and results obtained.

D. NPS agrees to:

- Assist with WNS fieldwork.

- Be involved in the development of the photographic exhibit of WNS research science-in-action.
- Utilize results and photos in providing interpretation to the public concerning WNS and the potential threat it poses to southwestern bats.
- Provide access to the Research Huts during the researchers' stay for field work.
- Encourage rangers to assist with WNS photography and fieldwork.
- Take the lead and work with researcher to prepare project summary and accounting reports for these funds, and provide them to BRD no later than November 1, 2015.

ARTICLE IV – TERM OF AGREEMENT

This Task Agreement will become effective on the date of final signature and extend through July 31, 2016.

ARTICLE V – KEY OFFICIALS

A. Key officials are essential to ensure maximum coordination and communication between the parties and the work being performed. They are:

1. **For the NPS:**

Agreement Technical Representative:

Renée West
Supervisory Biologist
National Park Service
Carlsbad Caverns National Park
3225 National Parks Hwy.
Carlsbad, NM 88220
Phone: 575-785-3099
FAX: 575-785-2317
renee_west@nps.gov

Awarding Officer:

Kelvin A. Delaney
Financial Assistance Officer
National Park Service
Intermountain Region
12795 W. Alameda Parkway
Lakewood, CO 80228

Phone: 303-969-2796
Fax: 303-969-2786
Email: kelvin_delaney@nps.gov

CPCESU Research Coordinator:

Todd Chaudhry, Ph.D.
Research Coordinator
Colorado Plateau Cooperative Ecosystem Studies Unit
National Park Service
Northern Arizona University
PO Box 15018
Flagstaff, AZ 86011
Phone: 928-523-6638
Email: todd_chaudhry@nps.gov

2. **For Recipient:**

Principal Investigator:

Name: Diana E. Northup, Ph.D.
Title: Visiting Associate Professor; Professor Emerita
Recipient Regents of the University of New Mexico
Office/Department Biology
Address MSC03 2020; 1 University of New Mexico
City, State Zip Albuquerque, NM 87131-0001
Phone 505-277-5232
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Albuquerque, NM 87131-0001
Phone (505) 277-7575
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B. **Communications** - Recipient will address any communication regarding this

Agreement to the Awarding Officer with a copy also sent to the ATR. Communications that relate solely to routine operational matters described in the current work plan may be sent only to the ATR

- C. **Changes in Key Officials** - Neither the NPS nor Recipient may make any permanent change in a key official without written notice to the other party reasonably in advance of the proposed change. The notice will include a justification with sufficient detail to permit evaluation of the impact of such a change on the scope of work specified within this Agreement. Any permanent change in key officials will be made only by modification to this Agreement.

ARTICLE VI – AWARD AND PAYMENT

- A. **Financial Assistance:** NPS will provide funding to Recipient in an amount not to exceed \$132,700.00 for the work described in Article III and in accordance with the approved budget (Attachment A). Any award beyond the current fiscal year is subject to availability of funds.
- B. Recipient shall request payment in accordance with the following:
1. **Method of Payment.** Payment will be made by advance and/or reimbursement through the Department of Treasury's ASAP system.
 2. **Requesting Advances.** Requests for advances must be submitted via the ASAP system. Requests may be submitted as frequently as required to meet the needs of the FA Recipient to disburse funds for the Federal share of project costs. If feasible, each request should be timed so that payment is received on the same day that the funds are dispersed for direct project costs and/or the proportionate share of any allowable indirect costs. If same-day transfers are not feasible, advance payments must be as close to actual disbursements as administratively feasible.
 3. **Requesting Reimbursement.** Requests for reimbursements must be submitted via the ASAP system. Requests for reimbursement should coincide with normal billing patterns. Each request must be limited to the amount of disbursements made for the Federal share of direct project costs and the proportionate share of allowable indirect costs incurred during that billing period.
 4. **Adjusting payment requests for available cash.** Funds that are available from repayments to, and interest earned on, a revolving fund, program income, rebates, refunds, contract settlements, audit recoveries,

credits, discounts, and interest earned on any of those funds must be disbursed before requesting additional cash payments.

5. **Bank Accounts.** All payments are made through electronic funds transfer to the bank account identified in the U.S Treasury ASAP system by the FA Recipient.
6. **Supporting Documents and Agency Approval of Payments.** Additional supporting documentation and prior Agency (NPS) approval of payments may be required when/if a FA Recipient is determined to be “high risk” or has performance issues. If prior Agency payment approval is in effect for an award, the ASAP system will notify the FA Recipient when they submit a request for payment. The Recipient must then notify the NPS Awarding Officer identified on the Assistance Agreement that a payment request has been submitted. The NPS Awarding Officer may request additional information from the Recipient to support the payment request prior to approving the release of funds, as deemed necessary. The FA Recipient is required to comply with these requests. Supporting documents may include invoices, copies of contracts, vendor quotes, and other expenditure explanations that justify the reimbursement requests.

ARTICLE VII – REPORTS AND/OR DELIVERABLES

- A. Specific projects or activities within this agreement will be tracked and reported by quarterly submission of a SF-425 Federal Financial Report (FFR) and quarterly submission of a Performance Report. A final SF-425 and Performance Report shall be submitted at the completion of the Agreement. The following reporting period end dates shall be used for interim reports: 3/31, 6/30, 9/30, 12/31. For final the SF-425 and Performance Report, the reporting period end date shall be the end date of the agreement. Interim reports shall be submitted no later than 30 days after the end of each reporting period. Annual and final reports shall be submitted no later than 90 days after the end period date. All reports shall be submitted via email to the NPS Awarding Officer with a copy to the NPS Agreements Technical Representative via email.
- B. An electronic version of the final report and separate abstract suitable for public distribution will be submitted by the Recipient to the ATR. The ATR will send the final report electronically to NPS’s Technical Information Center and carbon-copy the CESU Research Coordinator. Please send Catherine Kisluk at Technical Information Center (TIC) one hard copy and one digital copy of the final report and abstract. Mail the hard copy to: NPS Technical Information Center (TIC) 12795 West Alameda Parkway, Lakewood, Colorado 80228

Attn: Catherine Kisluk and email the digital version to catherine_kisluk@nps.gov and cc the CESU Research Coordinator.

If the report does not contain sensitive material, the Research Coordinator will send it to the host university for posting on the CESU website. If it does contain sensitive material, then a brief abstract must be supplied that will be posted on the CESU website.

ARTICLE VIII – MODIFICATION AND TERMINATION

This Task Agreement may be modified at any time, prior to the expiration date, by the mutual concurrence of the Recipient and the NPS. Modifications will be in writing, approved and signed by the NPS Awarding Officer and the Recipient's signatory official.

ARTICLE IX – GENERAL PROVISIONS

1. **OMB Circulars and Other Regulations.** The following Federal regulations are incorporated by reference into this Agreement (full text can be found at <http://www.ecfr.gov>):

- a) **Administrative Requirements:**

2 CFR, Part 200 – Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, in its entirety;

- b) **Determination of Allowable Costs:**

2 CFR, Part 200 – Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, Subpart E;

and

- c) **Audit Requirements:**

2 CFR, Part 200 – Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, Subpart F.

ARTICLE X – MINIMUM WAGES UNDER EXECUTIVE ORDER 13658(January 2015)

- (a) *Definitions.* As used in this clause—

“United States” means the 50 states and the District of Columbia.

“Worker”—

(1) Means any person engaged in performing work on, or in connection with, an agreement covered by Executive Order 13658, and

(i) Whose wages under such agreements are governed by the Fair Labor Standards Act (29 U.S.C. chapter 8), the Service Contract Labor Standards statute (41 U.S.C. chapter 67), or the Wage Rate Requirements (Construction) statute (40 U.S.C. chapter 31, subchapter IV),

(ii) Other than individuals employed in a bona fide executive, administrative, or professional capacity, as those terms are defined in 29 C.F.R. § 541,

(iii) Regardless of the contractual relationship alleged to exist between the individual and the employer.

(2) Includes workers performing on, or in connection with, the agreement whose wages are calculated pursuant to special certificates issued under 29 U.S.C. § 214(c).

(3) Also includes any person working on, or in connection with, the agreement and individually registered in a bona fide apprenticeship or training program registered with the Department of Labor's Employment and Training Administration, Office of Apprenticeship, or with a State Apprenticeship Agency recognized by the Office of Apprenticeship.

(b) *Executive Order Minimum Wage rate.*

(1) The Recipient shall pay to workers, while performing in the United States, and performing on, or in connection with, this agreement, a minimum hourly wage rate of \$10.10 per hour beginning January 1, 2015.

(2) The Recipient shall adjust the minimum wage paid, if necessary, beginning January 1, 2016 and annually thereafter, to meet the Secretary of Labor's annual E.O. minimum wage. The Administrator of the Department of Labor's Wage and Hour Division (the Administrator) will publish annual determinations in the Federal Register no later than 90 days before the effective date of the new E.O. minimum wage rate. The Administrator will also publish the applicable E.O. minimum wage on www.wdol.gov (or any successor Web site) and on all wage determinations issued under the Service Contract Labor Standards statute or the Wage Rate Requirements (Construction) statute. The applicable published E.O. minimum wage is incorporated by reference into this agreement.

(3) (i) The Recipient may request a price adjustment only after the effective date of the new annual E.O. minimum wage determination. Prices will be adjusted only if labor costs increase as a result of an increase in the annual E.O. minimum wage, and for associated labor costs and relevant subaward costs. Associated labor costs shall include increases or decreases that result from changes in social security and unemployment taxes and workers' compensation insurance, but will not otherwise include any amount for general and administrative costs, overhead, or profit.

(ii) Subrecipients may be entitled to adjustments due to the new minimum wage, pursuant to paragraph (b)(2). Recipients shall consider any Subrecipient requests for such price adjustment.

(iii) The Awarding Officer will not adjust the agreement price under this clause for any costs other than those identified in paragraph (b)(3)(i) of this clause, and will not provide duplicate price adjustments with any price adjustment under clauses implementing the Service Contract Labor Standards statute or the Wage Rate Requirements (Construction) statute.

(4) The Recipient warrants that the prices in this agreement do not include allowance for any contingency to cover increased costs for which adjustment is provided under this clause.

(7) The Recipient shall pay, unconditionally to each worker, all wages due free and clear without subsequent rebate or kickback. The Recipient may make deductions that reduce a worker's wages below the E.O. minimum wage rate only if done in accordance with 29 C.F.R. § 10.23, Deductions.

(8) The Recipient shall not discharge any part of its minimum wage obligation under this clause by furnishing fringe benefits or, with respect to workers whose wages are governed by the Service Contract Labor Standards statute, the cash equivalent thereof.

(9) Nothing in this clause shall excuse the Recipient from compliance with any applicable Federal or State prevailing wage law or any applicable law or municipal ordinance establishing a minimum wage higher than the E.O. minimum wage. However, wage increases under such other laws or municipal ordinances are not subject to price adjustment under this subpart.

(10) The Recipient shall pay the E.O. minimum wage rate whenever it is higher than any applicable collective bargaining agreement(s) wage rate.

(11) The Recipient shall follow the policies and procedures in 29 C.F.R. § 10.24(b) and 10.28 for treatment of workers engaged in an occupation in which they customarily and regularly receive more than \$30 a month in tips.

(c) (1) This clause applies to workers as defined in paragraph (a). As provided in that definition—

(i) Workers are covered regardless of the contractual relationship alleged to exist between the Recipient or Subrecipient and the worker;

(ii) Workers with disabilities whose wages are calculated pursuant to special certificates issued under 29 U.S.C. § 214(c) are covered; and

(iii) Workers who are registered in a bona fide apprenticeship program or training program registered with the Department of Labor's Employment and Training Administration, Office of Apprenticeship, or with a State Apprenticeship Agency recognized by the Office of Apprenticeship, are covered.

(2) This clause does not apply to—

(i) Fair Labor Standards Act (FLSA) – covered individuals performing in connection with contracts covered by the E.O., *i.e.* those individuals who perform duties necessary to the performance of the agreement, but who are not directly engaged in performing the specific work called for by the agreement, and who spend less than 20 percent of their hours worked in a particular workweek performing in connection with such agreements;

(ii) Individuals exempted from the minimum wage requirements of the FLSA under 29 U.S.C. § 213(a) and 214(a) and (b), unless otherwise covered by the Service Contract Labor Standards statute, or the Wage Rate Requirements (Construction) statute. These individuals include but are not limited to—

(A) Learners, apprentices, or messengers whose wages are calculated pursuant to special certificates issued under 29 U.S.C. § 214(a).

(B) Students whose wages are calculated pursuant to special certificates issued under 29 U.S.C. § 214(b).

(C) Those employed in a bona fide executive, administrative, or professional capacity (29 U.S.C. § 213(a)(1) and 29 C.F.R. § part 541).

(d) *Notice.* The Recipient shall notify all workers performing work on, or in connection with, this agreement of the applicable E.O. minimum wage rate under this clause. With respect to workers covered by the Service Contract Labor Standards statute or the Wage

Rate Requirements (Construction) statute, the Contractor may meet this requirement by posting, in a prominent and accessible place at the worksite, the applicable wage determination under those statutes. With respect to workers whose wages are governed by the FLSA, the Recipient shall post notice, utilizing the poster provided by the Administrator, which can be obtained at www.dol.gov/whd/govcontracts, in a prominent and accessible place at the worksite. Recipients that customarily post notices to workers electronically may post the notice electronically provided the electronic posting is displayed prominently on any Web site that is maintained by the Recipient, whether external or internal, and customarily used for notices to workers about terms and conditions of employment.

(e) *Payroll Records.* (1) The Recipient shall make and maintain records, for three years after completion of the work, containing the following information for each worker:

- (i) Name, address, and social security number;
- (ii) The worker's occupation(s) or classification(s);
- (iii) The rate or rates of wages paid;
- (iv) The number of daily and weekly hours worked by each worker;
- (v) Any deductions made; and
- (vi) Total wages paid.

(2) The Recipient shall make records pursuant to paragraph (e)(1) of this clause available for inspection and transcription by authorized representatives of the Administrator. The Recipient shall also make such records available upon request of the Contracting Officer.

(3) The Recipient shall make a copy of the agreement available, as applicable, for inspection or transcription by authorized representatives of the Administrator.

(4) Failure to comply with this paragraph (e) shall be a violation of 29 C.F.R. § 10.26 and this agreement. Upon direction of the Administrator or upon the Awarding Officer's own action, payment shall be withheld until such time as the noncompliance is corrected.

(5) Nothing in this clause limits or otherwise modifies the Recipient's payroll and recordkeeping obligations, if any, under the Service Contract Labor Standards statute, the Wage Rate Requirements (Construction) statute, the Fair Labor Standards Act, or any other applicable law.

(f) *Access.* The Recipient shall permit authorized representatives of the Administrator to conduct investigations, including interviewing workers at the worksite during normal working hours.

(g) *Withholding.* The Awarding Officer, upon his or her own action or upon written request of the Administrator, will withhold funds or cause funds to be withheld, from the Recipient under this or any other Federal agreement with the same Recipient, sufficient to pay workers the full amount of wages required by this clause.

(h) *Disputes.* Department of Labor has set forth in 29 C.F.R. § 10.51, Disputes concerning Recipient compliance, the procedures for resolving disputes concerning an Recipient's compliance with Department of Labor regulations at 29 C.F.R. § 10. Such disputes shall be resolved in accordance with those. This includes disputes between the Recipient (or any of its Subrecipients) and the contracting agency, the Department of Labor, or the workers or their representatives.

(i) *Antiretaliation.* The Recipient shall not discharge or in any other manner discriminate against any worker because such worker has filed any complaint or instituted or caused to be instituted any proceeding under or related to compliance with the E.O. or this clause, or has testified or is about to testify in any such proceeding.

(j) *Subcontractor compliance.* The Recipient is responsible for Subrecipient compliance with the requirements of this clause and may be held liable for unpaid wages due Subrecipient workers.

(k) *Subawards.* The Recipient shall include the substance of this clause, including this paragraph (k) in all subawards, regardless of dollar value, that are subject to the Service Contract Labor Standards statute or the Wage Rate Requirements (Construction) statute, and are to be performed in whole or in part in the United States.

ARTICLE IX – ATTACHMENTS

The following documents are attached and made a part of this Task Agreement:

- A. Detailed Budget
- B.
- C.

ARTICLE X - SIGNATURES

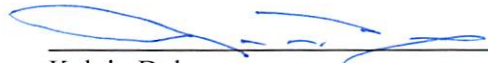
IN WITNESS WHEREOF, the parties hereto have executed this Task Agreement on the date(s) set forth below.

FOR RECIPIENT

Name
Title

Date

FOR THE NATIONAL PARK SERVICE



Kelvin Delaney
Awarding Officer

6.23.15

Date