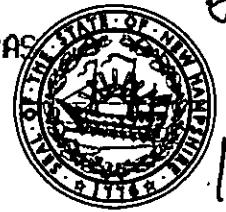




The State of New Hampshire MAY 21 '19 AM 10:18 DAS
Department of Environmental Services



Robert R. Scott, Commissioner

May 14, 2019

His Excellency, Governor Christopher T. Sununu
and The Honorable Council
State House
Concord, NH 03301

REQUESTED ACTION

Authorize the Department of Environmental Services to enter into a **SOLE SOURCE** agreement with the University of New Hampshire, Durham, NH, (VC #177867-B046) in the amount of \$50,000 to complete the *Algal Classification Index for Stream Assessments* project, effective upon Governor and Council approval through June 30, 2020. 100% General Funds.

Funding is available in the account as follows:

| | |
|---|----------------|
| | <u>FY 2019</u> |
| 03-44-44-442010-1000-102-500731 | \$50,000 |
| Dept. Environmental Services, Pollution Control Program, Contracts for Program Services | |

EXPLANATION

This agreement is **SOLE SOURCE** because the University of New Hampshire (UNH) Department of Civil and Environmental Engineering has the unique technology and skills necessary to analyze environmental DNA (eDNA). Further, it has a mature eDNA research program that evaluates the molecular composition of organisms in surface waters and will be completing the field work portion of the project. These services and expertise are unavailable elsewhere in the nearby area. The product delivered by this project will explore the possibility of utilizing eDNA as a rapid and cost-effective analytical test for determining the types of algae in the state's rivers and streams.

Algae are present in all rivers and streams, but the types that occur are indicative of water quality conditions. The state is in the process of furthering its development of numeric water quality criteria for nutrients in rivers. A necessary component of this effort is the inclusion of a biological response indicator. Algae are the most commonly used indicator and respond directly to the availability of nutrients. Typically, microscopic analysis of water samples is necessary to identify the types of algae present. Microscopic analyses are expensive (\$400-500 per sample) and the accuracy of the identification is dependent on the individual performing the analysis. Conversely, eDNA samples cost less than \$50 per sample and have a much higher accuracy rate.

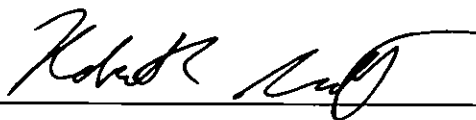
A final report will be prepared that summarizes the methods, results, and recommendations for future applications in order to evaluate the utility of this technique as a tool for assessing the biological condition of the state's rivers.

His Excellency, Governor Christopher T. Sununu
and The Honorable Council

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The agreement has been approved by the Office of the Attorney General as to form, execution, and content.

We respectfully request your approval.

A handwritten signature in black ink, appearing to read "Robert R. Scott", is written above a horizontal line.

Robert R. Scott, Commissioner

COOPERATIVE PROJECT AGREEMENT

between the

STATE OF NEW HAMPSHIRE, DEPARTMENT OF ENVIRONMENTAL SERVICES

and the

University of New Hampshire of the UNIVERSITY SYSTEM OF NEW HAMPSHIRE

- A. This Cooperative Project Agreement (hereinafter "Project Agreement") is entered into by the State of New Hampshire, **Department of Environmental Services**, (hereinafter "State"), and the University System of New Hampshire, acting through **University of New Hampshire**, (hereinafter "Campus"), for the purpose of undertaking a project of mutual interest. This Cooperative Project shall be carried out under the terms and conditions of the Master Agreement for Cooperative Projects between the State of New Hampshire and the University System of New Hampshire dated November 13, 2002, except as may be modified herein.
- B. This Project Agreement and all obligations of the parties hereunder shall become effective on the date the Governor and Executive Council of the State of New Hampshire approve this Project Agreement ("Effective date") and shall end on **6/30/20**. If the provision of services by Campus precedes the Effective date, all services performed by Campus shall be performed at the sole risk of Campus and in the event that this Project Agreement does not become effective, State shall be under no obligation to pay Campus for costs incurred or services performed; however, if this Project Agreement becomes effective, all costs incurred prior to the Effective date that would otherwise be allowable shall be paid under the terms of this Project Agreement.
- C. The work to be performed under the terms of this Project Agreement is described in the proposal identified below and attached to this document as Exhibit A, the content of which is incorporated herein as a part of this Project Agreement.

Project Title: Algal Classification Index for Stream Assessments - 2019 New Hampshire Pilot Project

- D. The Following Individuals are designated as Project Administrators. These Project Administrators shall be responsible for the business aspects of this Project Agreement and all invoices, payments, project amendments and related correspondence shall be directed to the individuals so designated.

State Project Administrator

Name: Ted Diers
Address: Department of Environmental Services
29 Hazen Drive, PO Box 95
Concord, NH 03301
Phone: 603-271-3289

Campus Project Administrator

Name: Cheryl Moore
Address: University of New Hampshire
Sponsored Programs Administration
51 College Rd. Rm 113
Durham, NH 03824-3585
Phone: 603-862-1992

- E. The Following Individuals are designated as Project Directors. These Project Directors shall be responsible for the technical leadership and conduct of the project. All progress reports, completion reports and related correspondence shall be directed to the individuals so designated.

State Project Director

Name: David Neils
Address: Department of Environmental Services
29 Hazen Drive, PO Box 95
Concord, NH 03301
Phone: 602-271-8865

Campus Project Director

Name: Alison Watts
Address: University of New Hampshire
Gregg Hall, 35 Colovos Road
Durham, NH 03824
alison.watts@unh.edu
Phone: 603 862-0585

F. Total State funds in the amount of \$50,000 have been allotted and are available for payment of allowable costs incurred under this Project Agreement. State will not reimburse Campus for costs exceeding the amount specified in this paragraph.

Check if applicable

Campus will cost-share 0 % of total costs during the term of this Project Agreement.

Federal funds paid to Campus under this Project Agreement are from Grant/Contract/Cooperative Agreement No. _____ from _____ under CFDA# _____. Federal regulations required to be passed through to Campus as part of this Project Agreement, and in accordance with the Master Agreement for Cooperative Projects between the State of New Hampshire and the University System of New Hampshire dated November 13, 2002, are attached to this document as Exhibit B, the content of which is incorporated herein as a part of this Project Agreement.

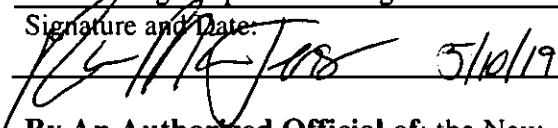
G. Check if applicable

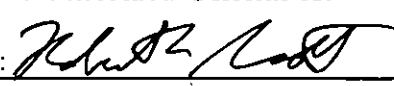
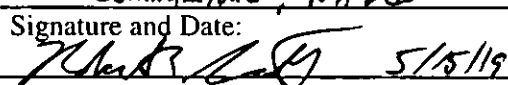
Article(s) _____ of the Master Agreement for Cooperative Projects between the State of New Hampshire and the University System of New Hampshire dated November 13, 2002 is/are hereby amended to read:

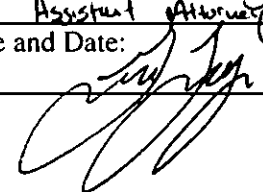
H. State has chosen **not to take** possession of equipment purchased under this Project Agreement.
 State has chosen **to take** possession of equipment purchased under this Project Agreement and will issue instructions for the disposition of such equipment within 90 days of the Project Agreement's end-date. Any expenses incurred by Campus in carrying out State's requested disposition will be fully reimbursed by State.

This Project Agreement and the Master Agreement constitute the entire agreement between State and Campus regarding this Cooperative Project, and supersede and replace any previously existing arrangements, oral or written; all changes herein must be made by written amendment and executed for the parties by their authorized officials.

IN WITNESS WHEREOF, the University System of New Hampshire, acting through the University of New Hampshire and the State of New Hampshire, _____ have executed this Project Agreement.

By An Authorized Official of:
University of New Hampshire
Name: Karen M. Jensen
Title: Manager, Sponsored Programs Administration
Signature and Date:  5/10/19

By An Authorized Official of:
Name: 
Title: Commissioner, NH DES
Signature and Date:  5/15/19

By An Authorized Official of: the New Hampshire Office of the Attorney General
Name: Gordon P. Landry
Title: Assistant Attorney General
Signature and Date:  5/17/19

By An Authorized Official of: the New Hampshire Governor & Executive Council
Name: _____
Title: _____
Signature and Date: _____

EXHIBIT A

- A. Project Title:** Algal Classification Index for Stream Assessments - 2019 New Hampshire Pilot Project
- B. Project Period:** 05/01/2019 - 06/30/2020
- C. Objectives:** Several New England states have developed algal bioassessment methods for wadeable streams (e.g. Maine, Connecticut). Algal communities and indicator species are correlated with land use, water chemistry, and other watershed metrics to identify ecosystem indicators relevant to local conditions. NHDES currently collects water quality and ecological data at long term reference sites at streams throughout the state, and is interested in incorporating molecular-based algal assessments into the states monitoring program. This pilot project will collect algal and water quality samples as an extension of NHDES' annual stream sampling.
- D. Scope of Work:** Task 1: Site selection and sampling design NHDES will provide a list of candidate sites, including water quality and other relevant watershed information. Data will be reviewed, and sites will be visited to assess suitability for algal collection (accessibility, substrate, canopy cover).

Task 2: Field sampling and lab preparation (at the NHDES Jody Connor Limnology Center) Algae will be collected under a protocol currently in use by Maine DEP; biomass will be scraped from multiple stones collected on a transect across the river. Where possible we will coordinate with NHDES water quality sampling. At locations where this is not possible, we will collect water samples as well as biomass. All samples will be conveyed to the Jody Connor Limnology Center (JCLC) in Concord, NH. Samples will be analyzed by JCLC staff or by a contract lab. UNH student interns may assist with water quality analysis. Algal samples will be split and preserved for molecular and traditional taxonomic analysis. Water quality analyses are not included in this scope.

Task 3: Results and Recommendations. The final report will summarize the methods, results, and recommendations for future applications.

E. Deliverables Schedule:

| | | |
|---|-----------------------------------|---------------|
| Task 1. Site selection and sampling design | Deliverable: Sampling plan | June 1, 2019 |
| Task 2. Field sampling (staff and supplies) | Deliverable: Field work completed | Sept 15, 2019 |
| Task 3. Results and Recommendations | Deliverable: Final report | June 30, 2020 |

- F. Budget and Invoicing Instructions:** Campus will submit invoices to State on regular Campus invoice forms no more frequently than monthly and no less frequently than quarterly. Invoices will be based on actual project expenses incurred during the invoicing period, and shall show current and cumulative expenses by major cost categories. State will pay Campus within 30 days of receipt of each invoice. Campus will submit its final invoice not later than 60 days after the Project Period end date.

Budget

Project Title: Algal Classification Index for Stream Assessments

Project Director: Alison Watts
Project Period:

Start Date:
05/01/2019

End Date:
06/30/2020

| Budget Items | State Funding | Cost Sharing if required) | Total |
|-----------------------------|---------------|---------------------------|--------|
| 1. Salaries & Wages | 27,634 | 0 | 27,634 |
| 2. Employee Fringe Benefits | 5,667 | 0 | 5,667 |
| 3. Travel | 1,000 | 0 | 1,000 |
| 4. Supplies and Services | 5,382 | 0 | 5,382 |
| 5. Equipment | 0 | 0 | 0 |
| 6. Facilities & Admin Costs | 10,317 | 0 | 10,317 |
| Subtotals | 50,000 | 0 | 50,000 |
| In Kind Contribution | | 0 | 0 |
| Total Project Costs: | | | 50,000 |

EXHIBIT B

This Project Agreement is funded under a Grant/Contract/Cooperative Agreement to State from the Federal sponsor specified in Project Agreement article F. All applicable requirements, regulations, provisions, terms and conditions of this Federal Grant/Contract/Cooperative Agreement are hereby adopted in full force and effect to the relationship between State and Campus, except that wherever such requirements, regulations, provisions and terms and conditions differ for INSTITUTIONS OF HIGHER EDUCATION, the appropriate requirements should be substituted (e.g., OMB Circulars A-21 and A-110, rather than OMB Circulars A-87 and A-102). References to Contractor or Recipient in the Federal language will be taken to mean Campus; references to the Government or Federal Awarding Agency will be taken to mean Government/Federal Awarding Agency or State or both, as appropriate.

Special Federal provisions are listed here: None or **Uniform Guidance issued by the Office of Management and Budget (OMB) in lieu of Circulars listed in paragraph above.** .