



Scott R. Mason
Executive Director

New Hampshire Fish and Game Department

11 Hazen Drive, Concord, NH 03301-6500
Headquarters: (603) 271-3421
Website: www.WildNH.com

APR 04 '22 PM 12:21 RCVD

TDD Access: Relay NH 1-800-735-2964
Fax: (603) 271-1438
Email: info@wildlife.nh.gov

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March 4, 2022

His Excellency, Governor Christopher T. Sununu
and the Honorable Council
State House
Concord, New Hampshire 03301

REQUESTED ACTION

Authorize the New Hampshire Fish and Game Department (NHFGD) to enter into a **Sole Source** Cooperative Project Agreement with the University of New Hampshire (UNH), Durham, NH, vendor code 315187, in the amount of \$60,000 to assist with tagging and monitoring of anadromous Rainbow Smelt from date of Governor and Council approval to December 31, 2023. 100% Federal Funds.

Funds are available in the following account for Fiscal Years 2022 and 2023, with the authority to adjust encumbrances between fiscal years within the price limitation through the Budget Office, if needed and justified.

03 75 75 753020-22880000-Marine Resources Program-Marine Fisheries Management

	FY 2022	FY 2023
20-07500-22880000-072-509073 Grants-Federal	\$30,000	\$30,000

EXPLANATION

This is a request to enter into a sole source Cooperative Project Agreement with the University of New Hampshire (UNH) with grant funds secured from the US Fish and Wildlife Service in the amount of sixty thousand dollars (\$60,000). The University of New Hampshire will assist with the program by using electronic tagging equipment and otolith collection and analysis to provide life history information for monitoring and restoration of the declining Rainbow Smelt *Osmerus mordax* resource in Great Bay Estuary. Adult anadromous Rainbow Smelt will be tagged with Passive Integrative Transponders (PIT) tags during the spring spawning season. During tagging smelt will be measured and scale samples taken. Continued monitoring of tagged smelt movements and locations over successive years will provide valuable information on movements, site fidelity, growth, and survivorship. Researchers at UNH have previously documented and established the protocols for inspecting recaptured fish otoliths to determine stock enhancements contribution to future population levels.

Sole source is being requested as this is an ongoing cooperative project between UNH and the Department, with facilities set up for established procedures in close proximity to both the Department's Region 3 office and Rainbow Smelt collection and tagging sites. UNH is also providing the required 25% funding match for the federal grant.

Respectfully submitted,

Scott R. Mason
Executive Director

Kathy Ann LaBonte, Chief
Business Division

REGION 1

629B Main Street
Lancaster, NH 03584-3612
(603) 788-3164
FAX (603) 788-4823
email: reg1@wildlife.nh.gov

REGION 2

PO Box 417
New Hampton, NH 03256
(603) 744-5470
FAX (603) 744-6302
email: reg2@wildlife.nh.gov

REGION 3

225 Main Street
Durham, NH 03824-4732
(603) 868-1095
FAX (603) 868-3305
email: reg3@wildlife.nh.gov

REGION 4

15 Ash Brook Court
Keene, NH 03431
(603) 352-9669
FAX (603) 352-8798
email: reg4@wildlife.nh.gov

COOPERATIVE PROJECT AGREEMENT

between the

STATE OF NEW HAMPSHIRE, **Fish and Game Department**

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, **Fish and Game Department**, (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 **12/31/23**. 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: **Monitoring of New Hampshire Rainbow Smelt Resources**

- 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: Kathy LaBonte
Address: NH Fish and Game Department
11 Hazen Dr.
Concord, NH 03301

Phone: 603-271-2741

Campus Project Administrator

Name: Kimberly Becker
Address: University of New Hampshire
Sponsored Programs Administration
51 College Road
Durham, NH 03824

Phone: 603-358-2443

- 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: Kevin Sullivan/Cheri Patterson
Address: NH Fish and Game Department
225 Main Street
Durham, NH 03824

Phone: 603-868-1095

Campus Project Director

Name: Nathan Furey
Address: University of New Hampshire
Department of Biological Sciences
38 Academic Way
Durham, NH 03824

Phone: 603-862-0675

- F. Total State funds in the amount of \$60,000 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 25 % 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. **F22AF00514 (NH F-61-R-25)** from **Department of Interior / Fish and Wildlife Service** under CFDA# **15.605**. 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, **Fish and Game Department** have executed this Project Agreement.

**By An Authorized Official of:
University of New Hampshire**

Name: Karen M. Jensen

Title: Director, Pre-Award Compliance

Signature and Date:

Karen Jensen

3/4/2022

**By An Authorized Official of:
NH Fish and Game Department**

Name: Scott R. Mason

Title: Executive Director

Signature and Date:

Scott R. Mason

**By An Authorized Official of: the New
Hampshire Office of the Attorney General**

Name: *Joshua Harrison*

Title: *Assistant Attorney General*

Signature and Date:

J. Harrison 3/31/2022

**By An Authorized Official of: the New
Hampshire Governor & Executive Council**

Name:

Title:

Signature and Date:

EXHIBIT A

- A. Project Title:** New Hampshire Rainbow Smelt Restoration
- B. Project Period:** March 1, 2022 - December 31, 2023
- C. Objectives:** This study has two major objectives regarding Rainbow Smelt
1. Assess contribution of stock enhanced Rainbow Smelt
 2. Monitoring of Rainbow Smelt via passive integrative transponder tagging
- D. Scope of Work:** Objective 1: Juvenile and adult Rainbow Smelt will be obtained by State biologists during the conduct of existing resource monitoring projects (e.g., smelt spawning survey and juvenile finfish seine survey) and retained for processing by the Campus. Otoliths (up to 100 per year, depending upon Rainbow Smelt availability) will be removed from Rainbow Smelt and depending on fish size (age), otoliths will either be embedded in epoxy or directly mounted to glass slides. Otoliths embedded in epoxy will be sectioned using a low-speed gravity-fed saw at Campus to generate a ~1-mm thick section for mounting. Otoliths mounted to slides will be polished until growth rings are visible under a dissection scope. Processed otoliths will then be viewed under a microscope with variable wavelength light to detect the presence of oxytetracycline-marked Rainbow Smelt. The proportion of captured Rainbow Smelt exhibiting oxytetracycline marks can be an indicator of success of previous stock enhancement efforts in Great Bay tributaries that was conducted in prior years.
- Objective 2: Campus will leverage existing resource monitoring (the spring spawning survey) to access spawning Rainbow Smelt to tag with Passive Integrative Transponder (PIT) tags. Rainbow Smelt captured from State fyke nets will be transferred into buckets and coolers for scanning of existing PIT tags and tagging untagged fish. Smelt will be scanned for existing PIT tags using handheld receivers or wands. Individual Rainbow Smelt will receive a PIT tag in the dorsal musculature, just posterior to the dorsal fin. A subset of smelt may be double-tagged (receive two PIT tags) to estimate tag retention. PIT-tagged smelt will be measured for fork length and total length, and scale samples will be taken. Individuals recaptured from previous years' efforts will also be measured to assess growth. UNH will coordinate tagging and recapture schedules with NHFG and the Coastal Research Volunteer program (New Hampshire Sea Grant) to distribute tags annually among spawning tributaries and throughout the spawning season, with up to 500 tags deployed annually.
- Information from PIT tags will be used to describe movements among spawning tributaries (within and between years), including site fidelity of spawning habitats among years. Integrating PIT tag data with size and age estimates will allow for quantifying growth. Assessing recapture rates among years, with sufficient sample size, can be integrated into mark-recapture models (such as Cormack-Jolly-Seber) to estimate annual survival rates.
- E. Deliverables Schedule:** This project will be initiated March 1, 2022. Fieldwork will be conducted March – April in each year of the contract. Lab and quantitative work will continue year-round each year. Campus shall submit an annual progress report in a format acceptable to the State due by

December 31, 2022. Campus shall submit an overall final report detailing activity and results of the project no later than 60 days after the Project Period end date, December 31, 2023.

F. Budget and Invoicing Instructions: Campus will request prior approval for purchase of any item of equipment costing \$5,000 or more. Campus will submit invoices to State on regular Campus invoice forms no more frequently than monthly and no less 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. Invoices shall also document cost share recorded during the period by category, as well as cumulative cost sharing through the end of the invoicing period. 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. Final payment is contingent upon receipt of the final report.

Budget Items	State Funding	Cost Sharing	Total
1. Salaries & Wages	25,662	1,334	26,996
2. Employee Fringe Benefits	9,649	501	10,150
3. Travel	0	0	0
4. Supplies and Services	12,308	0	12,308
5. Equipment	0	0	0
6. Facilities & Admin Costs	12,381	971	13,352
Unrecovered F&A		12,809	12,809
Subtotals	60,000	15,615	75,615
In Kind Contribution		4,385	4,385
Totals	60,000	20,000	80,000
Total Project Costs:			80,000

Detailed Budget Narrative

Budget Justification

Year 1 - Requests

Direct Labor (Salary, wages and fringe benefits)

Senior Personnel: None

Other Personnel: We request ~3.5 weeks of support (\$2,818) for Wells Costello of New Hampshire Sea Grant's Coastal Research Volunteer program to coordinate volunteer efforts related to the project. We request funds for a technician (\$9,000) to process rainbow smelt otoliths and assist in PIT tagging of rainbow smelt on spawning grounds.

Fringe benefits: Fringe is charged at the standard University of New Hampshire rate of 37.6% full fringe; 7.9% partial fringe and 37.6% for Post Docs. These rates result in a total \$4,444 requested in fringe in Year 1.

Other Direct Costs: No other direct costs are requested for Year 1.

Travel: No travel is requested.

Supplies: We request funds for passive integrative transponder (PIT) tags to implant in rainbow smelt on spawning grounds (\$2 per tag x 500 tags = \$1,000). We request \$3,360 for a PIT tag reader (Biomark HPR Plus) to identify individual tagged rainbow smelt and that can be paired with a portable antenna (Biomark BP Plus; \$1,838) that will facilitate identifying recaptured fish. We request \$500 for PIT tag needles, sterilization supplies, fish boards and various otolith processing supplies (epoxy, crystal bond, slides, polishing materials, etc.). We request \$250 for waders for field work to capture and tag smelt. To process rainbow smelt otoliths, we request \$500 for a saw blade (for low-speed gravity-fed saw in the Furey Lab), and \$100 for time on the fluorescing microscope at UNH's Instrumentation Center. In total, we request \$7,548 in supplies requested in Year 1.

Subcontract: There are no subcontracts in our proposal.

Indirect Costs (F&A)

Facilities and Administration is charged at 26% of the total costs of the project. This results in request of \$6,191 for F&A in Year 1.

Year 1 – Cost Share

Direct Labor (Salary, wages and fringe benefits)

Senior Personnel: Dr. Furey is providing 0.07 months of salary as cost share (\$657). Dr. Furey is responsible for organizing research, including field and laboratory efforts.

Other Personnel: None

Fringe benefits: Fringe is charged at the standard University of New Hampshire rate of 37.6% full fringe; 7.9% partial fringe and 37.6% for Post Docs. These rates result in a total \$247 in fringe provided as match in Year 1.

Other Direct Costs: Volunteers via the Coastal Research Volunteer program will assist in field work, including scanning of rainbow smelt, identifying and measuring fish, and data collection. 75 hours of volunteer time will be contributed to the project, resulting in \$2,160 in cost share.

Travel: None

Supplies: None

Subcontract: There are no subcontracts in our proposal.

Indirect Costs (F&A)

Facilities & Administrative (indirect) costs are calculated according to UNH's current negotiated rate agreement with the Federal government. For the proposed budget, an on-campus rate with a Modified Total Direct Costs base is applied. The applicable fiscal year rates, as shown on our Federal agreement are 51.5% (7/1/21-6/30/22), 52.5% (7/1/22-6/30/23), and 53.5% (7/1/23-until amended). As this project crosses fiscal years a composite rate is applied. The US Department of Health and Human Services is UNH's cognizant federal agency. This results in \$6,759 of F&A costs as cost share in Year 1.

Year 2 - Requests

Direct Labor (Salary, wages and fringe benefits)

Senior Personnel:

Other Personnel: We request ~4 weeks of support (\$3,544) for Wells Costello of New Hampshire Sea Grant's Coastal Research Volunteer program to coordinate volunteer efforts related to the project. We also request funds (\$10,300) for a technician to process rainbow smelt otoliths and assist in PIT tagging of rainbow smelt on spawning grounds.

Fringe benefits: Fringe is charged at the standard University of New Hampshire rate of 37.6% full fringe; 7.9% partial fringe and 37.6% for Post Docs. Thus, we request \$5,205 in fringe benefits in Year 2.

Other Direct Costs: None

Travel: None

Supplies: We request funds for passive integrative transponder (PIT) tags to implant in rainbow smelt on spawning grounds (\$2 per tag x 500 tags = \$1,000). We request \$1,660 for two PIT tag readers (Biomark HPR Lite) to identify individual tagged rainbow smelt. We request \$500 for PIT tag needles, sterilization supplies, fish boards and various otolith processing supplies (epoxy, crystal bond, slides, polishing materials, etc.). We request \$1,000 for waders for field work to capture and tag smelt. To process rainbow smelt otoliths, we request \$500 for a saw blade (for low-speed gravity-fed saw in the Furey Lab), and \$100 for time on the fluorescing microscope at UNH's Instrumentation Center. In total, we request \$4,760 in supplies requested in Year 2.

Subcontract: None

Indirect Costs (F&A)

Facilities and Administration is charged at 26% of the total costs of the project. This results in a request of \$6,190 for F&A in Year 2.

Year 2 – Cost Share

Direct Labor (Salary, wages and fringe benefits)

Senior Personnel: Dr. Furey is providing 0.07 months of salary as cost share (\$677). Dr. Furey is responsible for organizing research, including field and laboratory efforts.

Other Personnel: None

Fringe benefits: Fringe is charged at the standard University of New Hampshire rate of 37.6% full fringe; 7.9% partial fringe and 37.6% for Post Docs. This results in \$254 in cost share.

Other Direct Costs: Volunteers via the Coastal Research Volunteer program will assist in field work, including scanning of rainbow smelt, identifying and measuring fish, and data collection. 75 hours of volunteer time will be contributed to the project, resulting in \$2,225 in cost share.

Travel: None

Supplies: None

Subcontract: None

Indirect Costs (F&A)

Facilities & Administrative (indirect) costs are calculated according to UNH's current negotiated rate agreement with the Federal government. For the proposed budget, an on-campus rate with a Modified Total Direct Costs base is applied. The applicable fiscal year rates, as shown on our Federal agreement are 51.5% (7/1/21-6/30/22), 52.5% (7/1/22-6/30/23), and 53.5% (7/1/23-until amended). As this project crosses fiscal years a composite rate is applied. The US Department of Health and Human Services is UNH's cognizant federal agency. This results in \$7,021 of F&A costs as cost share in Year 2.

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 Requirements for Federal Awards issued by the Office of Management and Budget (OMB) at 2 CFR Part 200 in lieu of Circulars listed in paragraph above. The federal regulations applicable to Department of Interior, Fish and Wildlife Service recipients, subrecipients and contracors are listed by recipient type in the Service Financial Award Terms and Conditions posted on the Internet at <http://www.fws.gov/grants/>.**