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New Hampshire Fish and Game Department

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February 19, 2020

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), vendor code 177867, in the amount of \$60,000 to assist with capture, culturing, and stocking anadromous Rainbow Smelt from date of Governor and Council approval to December 31, 2021. 100% Federal Funds.

Funds are available in the following account for Fiscal Years 2020 and 2021, 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

		<u>FY 2020</u>	<u>FY 2021</u>
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 culture and stock larval Rainbow Smelt *Osmerus mordax* into Great Bay Estuary in an effort to restore declining population numbers in recent years. Adult anadromous Rainbow Smelt will be captured using nets in Great Bay tributaries and spawned at the UNH Aquaculture Research Center. The larval Rainbow Smelt will be released into tributaries of Great Bay Estuary shortly after hatching. Researchers at UNH have previously documented and established the protocols for rearing larval smelt in hatchery conditions and will inspect recaptured fish to determine stock enhancement contributions 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 release sites. UNH is also providing the required 25% funding match for the federal grant.

Respectfully submitted,

Glenn Normandeau
 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
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REGION 3

225 Main Street
 Durham, NH 03824-4732
 (603) 868-1095
 FAX (603) 868-3305
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REGION 4

15 Ash Brook Court
 Keene, NH 03431
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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 **12/31/21**. 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: **Stock Enhancement of the New Hampshire Rainbow Smelt Resource**

- 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: 271.2741

Campus Project Administrator

Name: Karen Jensen
Address: UNH Sponsored Projects Administration
51 College Rd.
Durham, NH 03824
Phone: 862.2172

- 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
Address: NH Fish and Game Department
225 Main St
Durham, NH 03824
Phone: 868.1095

Campus Project Director

Name: David Berlinsky
Address: UNH Dept of Biological Sciences
38 Academic Way
Durham, NH 03824
Phone: 862.0007

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. F-61-R from US 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.

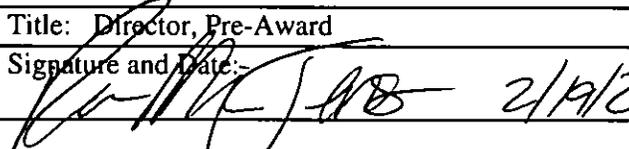
IN WITNESS WHEREOF, the University System of New Hampshire, acting through the **University of New Hampshire** and the State of New Hampshire, **Fish and Game Department** have executed this Project Agreement.

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

Name: Karen M. Jensen

Title: Director, Pre-Award

Signature and Date:

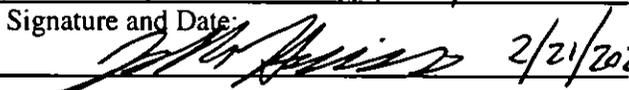
 2/19/20

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

Name: Joshua Harrison

Title: Assistant Attorney General

Signature and Date:

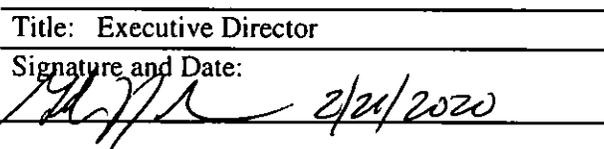
 2/21/2020

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

Name: Glenn Normandeau

Title: Executive Director

Signature and Date:

 2/21/2020

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

Name:

Title:

Signature and Date:

EXHIBIT A

- A. Project Title:** Stock Enhancement of the New Hampshire Rainbow Smelt Resource
- B. Project Period:** January 1, 2020 - December 31, 2021
- C. Objectives:** This study has 3 major objectives relative to Rainbow Smelt:
1. Grow out at least 500,000 Rainbow Smelt larvae annually from wild-caught broodstock and raise until approximately 3 days-post-hatch.
 2. Release the hatchery-reared Rainbow Smelt Larvae into tributary rivers of the Great Bay Estuary.
 3. Examine samples of Rainbow Smelt recaptured in existing NHFG monitoring programs for the presence of oxytetracycline marked otoliths to produce an estimate of population enhancement resulting from stocking.

D. Scope of Work:

Objective 1 - Adult female Rainbow Smelt will be obtained by NHFG biologists during the conduct of existing resource monitoring projects (e.g., smelt spawning survey, juvenile finfish seine survey) and by netting performed by UNH, and retained for use as broodstock by UNH. Broodstock will be kept at UNH Aquaculture Research Center for spawning and larval rearing activities. Anadromous, gravid smelt (n = 200-300) will be collected annually by fyke nets from tidal New Hampshire Rivers during their spawning migrations and transported in aerated freshwater to the University of New Hampshire's Aquaculture Research Center (ARC). Previous studies have shown that there is no genetic distinction among smelt returning to rivers in southern Maine and NH and therefore, if necessary to obtain sufficient numbers of broodstock, additional fish may be collected from Maine (Kovach et al. 2013). A health screening will be conducted on a subset of the broodstock for pathogens that have been detected in smelt (*Glugea hertwigi* and *Aquarevirus*). The broodstock fish will be strip-spawned, without hormone induction, using methods previously established at the University of New Hampshire (Ayer et al. 2005). Milt will be collected by abdominal massage into plastic transfer pipettes, pooled from 10- 12 fish and held on ice in glass beakers prior to spawning. Sperm motility will be confirmed by microscopic examination. Eggs will be stripped into a polystyrene plastic dish using slight abdominal pressure and fecundity calculated by determining the mass of the eggs and the mean number of eggs in three 1 g aliquots using a dissecting microscope. The eggs from each spawn will be fertilized with 200 mL of pooled milt and activated with 25 mL of non-chlorinated freshwater (NCFW). The gametes will be gently swirled for 3 min, poured slowly into a tannic acid solution (for de-adhesion; 150 ppm) and then swirled for an additional 10 min. The fertilized eggs will be pooled, sieved, disinfected, rinsed with NCFW and incubated in MacDonald hatching jars with NCFW and supplemental aeration at 10 °C. Fertilization success from all spawns will be verified with a dissecting microscope by examining 100 embryos for the presence or absence of cleavage 24 h post-fertilization.

Objective 2 – Hatched larvae will be enumerated, oxytetracycline-marked and released 48 -72 hours post-hatch. Upon reaching approximately 3 days-post-hatch, UNH will coordinate with NHFG

biologists the dates, times, and locations of release of the larvae. These activities may occur simultaneously with existing NHFG resource monitoring projects, or independently by UNH.

Objective 3 – Subsamples of Rainbow Smelt captured by NHFG biologists during existing resource monitoring activities will be retained for examination by UNH in the years following the initial release of hatchery-reared larvae. During examination, UNH will remove the otoliths from recaptured individuals and examine them under a microscope with a variable wavelength light to detect the presence of oxytetracycline marked fish. The proportion of fish subsample exhibiting oxytetracycline marked otoliths can be used as a measure of the success of stocking Rainbow Smelt as a method of population enhancement.

E. Deliverables Schedule: This project will be initiated January 1, 2020. Fieldwork will be conducted March 2020-December 31, 2021. Annual progress reports in a format acceptable to NHFG will be provided and shall be due by December 31, 2020 and January 31, 2022. The last annual progress report shall include an overall final report for the project.

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. Invoices shall also document amount and source of cost share recorded during the period, 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 and of the final report.

Budget Items	State Funding	Cost Sharing	Total
1. Salaries & Wages	16,810	4,830	21,640
2. Employee Fringe Benefits	1,344	2,174	3,518
3. Travel	2,000	0	2,000
4. Supplies and Services	26,000	0	26,000
5. Equipment	0	0	0
6. Facilities & Admin Costs	13,846	3,536	17,382
7. Unrecovered F&A	0	9,460	9,460
Subtotals	60,000	20,000	80,000
Total Project Costs:			80,000

G. Campus agrees to acknowledge the NH Fish and Game and US Fish and Wildlife Service and CFDA# 15.605 Sport Fish Restoration as the source of funding, and cite the applicable federal grant number in any publications or presentations that utilize the data resulting from this Project Agreement.

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:

2 CFR Part 200 Uniform Administrative Requirements

U.S. Fish and Wildlife Service Financial Award Terms and Conditions, as applicable, are available at this address: <https://www.fws.gov/grants/atc.html>