



**Department of
Environmental
Conservation**



Long Island Sound Study Announcement

REQUEST FOR PROPOSALS

Economic Feasibility of Commercial Nutrient Bioextraction in the Long Island Sound

Release Date: September 24, 2021

NEIW PCC, in cooperation with the Long Island Sound Study, the New York State Department of Environmental Conservation and its partners, is inviting proposals for an economic study on bioextraction within the Long Island Sound. The purpose of this project is to determine the feasibility of commercial operations using seaweed and/or shellfish in the Long Island Sound (New York and Connecticut) for the express purpose of bioextraction, and with the understanding that there are already existing and successful aquaculture industries in New York for shellfish and in Connecticut for shellfish and seaweed for food products. The results of the project will make recommendations about the most economically viable species and markets (including non-food product uses) for bioextraction and help inform the development of a local bioextraction industry.

This request for proposals (RFP) includes information on:

- I. Overview**
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I. Overview

NEIWPCC

NEIWPCC is a regional commission that helps the states of the Northeast preserve and advance water quality. We engage and convene water quality professionals and other interested parties from New England and New York to collaborate on water, wastewater, and environmental science challenges across shared regions, ecosystems, and areas of expertise. Our mission is to advance clean water in the Northeast through collaboration with, and service to, our member states. NEIWPCC's vision is for clean and sustainable water throughout the Northeast. We base our work on the core values of leadership, collaboration, education, service, and science.

The Long Island Sound Study

The Long Island Sound Study (LISS) is a federally authorized and funded partnership of the US Environmental Protection Agency (EPA), the states of Connecticut and New York, and multiple federal, state, and local agencies, academic institutions, environmental groups, and businesses. Established in 1985, the program is dedicated to restoring and protecting Long Island Sound, designated by Congress as an estuary of National Significance. It is guided by the mission, goals, and strategies of its Comprehensive Conservation and Management Plan ([CCMP](#)) originally written in 1994, substantially revised in 2015, and updated in 2020. The CCMP's collaborative actions to restore and manage Long Island Sound are implemented through four focal themes: 1) Clean Water and Healthy Watersheds; 2) Thriving Habitats and Abundant Wildlife; 3) Sustainable and Resilient Communities; and 4) Sound Science and Inclusive Management.

The Long Island Nitrogen Action Plan Bioextraction Initiative

The Bioextraction Initiative was launched in 2018 by the New York State Department of Environmental Conservation (NYSDEC), under their Long Island Nitrogen Action Plan (LINAP). LINAP is an environmental initiative focused on how to best reduce nitrogen loading to groundwater and surface water through technical, management, and regulatory/policy actions. Nitrogen pollution is a leading cause of water quality impairment on Long Island. The Bioextraction Initiative is a sub-initiative within LINAP that is carried out by the NYSDEC, in partnership with NEIWPCC, with funding provided by LISS. Its goal is to improve the quality of coastal and marine waters in New York and Connecticut by removing excess nitrogen through the cultivation and harvest of seaweed and shellfish. The Bioextraction Initiative will provide information, including economic information, to help decision makers with the guidelines needed to facilitate seaweed and shellfish farming and harvest operations in their coastal waters.

General Information

LISS has identified excessive amounts of nitrogen as the dominant water quality problem for the Long Island Sound – it causes reductions in dissolved oxygen levels, contributes to harmful algal blooms and the loss of tidal wetlands and seagrasses, and has adverse impacts on the region’s economy, which benefits from recreation, tourism, and fishing/aquaculture. Nutrient bioextraction, or bioharvesting, is the process of removing excess nutrients from coastal waters through the growing and harvesting of shellfish and/or seaweed. As they grow, the shellfish and seaweed incorporate nutrients from the water into their tissue, and those nutrients are removed from the water when the shellfish and seaweed are harvested. Because nutrient bioextraction is a nitrogen removal strategy, it may be most applicable in impaired waterbodies, rather than in the clean, highly-monitored waters that are certified for shellfishing. Growing and harvesting shellfish and seaweed can be used for restoration purposes, but without having a market for the product, this approach has been very limited. Finding a market driver would make the use of bioextraction a much more feasible tool to address nutrient pollution. This effort is to explore market options (both food and non-food products) in support of expanding the utility of bioextraction.

Note that this project addresses newly emerging markets for alternative species, used for the express purpose of bioextraction, which in some cases, may not have been commercially cultivated before, and is not expected to include locally well-established commercial aquaculture and wild harvest industries, many of which have very long and storied histories of economic success as food products. Although it is true that those species also “bioextract” nutrients from the water, these existing aquaculture industries have been doing so since they were established, and therefore should not be part of this current discussion – they may be thought of as more of a baseline upon which nitrogen removal through bioextraction will be built.

The report generated from this project should include a summary of an investigation into the following species and uses (not all uses may be appropriate for all species).

Species	Uses
<ul style="list-style-type: none"> • <i>Saccharina latissima</i> (Sugar Kelp) • <i>Geukensia demissa</i> (Ribbed Mussels)¹ • <i>Gracilaria tikvahiae</i> • Wild harvest of native species <ul style="list-style-type: none"> ○ <i>Sargassum filipendula</i> ○ <i>Ulva</i> species ○ <i>Cladophora</i> species in the <i>Cladophoraceae</i> family • Wild harvest of invasive species <ul style="list-style-type: none"> ○ <i>Sargassum muticum</i> 	<ul style="list-style-type: none"> • Human Consumption • Fertilizer for food products • Fertilizer for non-food products • Animal Feed • Cosmetics • Pharmaceuticals • Biofuels

II. Project Goal

¹ *Please note that there are other shellfish species that have been studied for their bioextractive capabilities, including *Crassostrea virginica* and *Mercenaria mercenaria*, however because they are edible species with existing markets and industries, they do not need to be considered here; they are not currently sanctioned and will not be sanctioned in the future to be cultivated in impaired waterbodies because of the human health implications that would have.

The goal of this project is to determine the feasibility of commercial bioextraction operations using seaweed, algae and/or shellfish in the Long Island Sound (New York and Connecticut), taking into account legal/regulatory, biological/physical, and other barriers, and make recommendations about the most economically viable species and markets for commercial bioextraction. This report will serve the larger Bioextraction Initiative by focusing future technical and regulatory efforts on species that are most likely to have success in the region, from both an economic and environmental standpoint, with the ultimate goal of removing excess nitrogen from, and improving water quality in, Long Island Sound. This project addresses newly emerging markets for alternative species, used for the express purpose of bioextraction, which in some cases, may not have been commercially cultivated before, and is not expected to include locally well-established commercial aquaculture and wild harvest industries, many of which have very long and storied histories of economic success as food products.

III. Scope of Work

Tasks in this funding opportunity will involve the identification of markets for, and cultivation costs of, potential bioextraction species and an evaluation of the overall economic viability of bioextractive activities within the Long Island Sound. The final product will be a comprehensive report that will identify capital and operating costs for shellfish and seaweed species grown for bioextraction at different scales and for different end uses, and the market potential for the variety of whole and extractive products that might be derived from species grown for bioextraction.

As the project progresses, NEIWPC and NYSDEC may request additional tasks associated with those outlined below from the Consultant(s), with additions made to the budget, as appropriate.

Project Tasks

*Please note that all task deliverables should be submitted in draft format for review and comments; final deliverables should address all comments. Time for review should be accounted for in any submitted timelines.

Task 1:

Using the *Selected Summaries of Nutrient Bioextraction Peer-Reviewed Journal Articles* (found at <https://www.dec.ny.gov/lands/120992.html>) as a starting point, collect additional background information on the shellfish and seaweed species listed under “General Information” that can be utilized for commercial bioextraction purposes, referencing research projects that have been published since the *Selected Summaries* document was written, examples from other local bioextraction efforts, and how other states and/or countries allow for the use of those species. There should be a focus on the collection of nitrogen removal rate information, where available, as that will allow for a determination of which species are most effective at bioextraction. Some nitrogen removal rate information has previously been collected (table below) but should be expanded on with this task; values should be reported in consistent units so that rates are directly comparable. Additional background information should include, but is not limited to, economic information, data on a species’ potential to accumulate heavy metals or other toxins, and information about physical requirements or accepted farming strategies.

Collected Nitrogen Removal Rate Information:

Species	Reference Value	Location	Source
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<i>Gracilaria tikvahiae</i>	94 kg N ha ⁻¹	Bronx River Estuary	Kim et al. (2014) ²
<i>Gracilaria tikvahiae</i>	28 kg N ha ⁻¹	Long Island Sound (LIS)	Kim et al. (2014)
<i>Saccharina latissima</i>	180 kg N ha ⁻¹	Bronx River Estuary	Kim et al. (2015) ³
<i>Saccharina latissima</i>	67 kg N ha ⁻¹	LIS – Fairfield, CT	Kim et al. (2015)
<i>Saccharina latissima</i>	38 kg N ha ⁻¹	LIS – Brandford, CT	Kim et al. (2015)
<i>Geukensia demissa</i>	1.7x10 ³ g m ⁻²	Bronx River Estuary	Galimany et al. (2017) ⁴
<i>Geukensia demissa</i>	7-13 mg N per mussel	Narragansett Bay, RI	Hudson et al. (2016) ⁵

Economic references and projects that should be acknowledged when writing this report:

- Island Institute – *Edible Seaweed Market Analysis*
- Work done by Dr. Charles Yarish at UConn, including
 - *Opportunities, challenges, and future directions of open-water seaweed aquaculture in the United States*, Kim, Stekoll, and Yarish, 2019 Phycologia, Vol. 58.
- National Sea Grant Seaweed Hub, including the recently funded *Business and Economic Planning for Seaweed Aquaculture Systems in the United States* funded through NOAA Sea Grant
- National Sea Grant Law Center’s Best Practices for Regulating Seaweed as Human Food project

At a minimum, deliverables will include:

- A brief summary of findings for each shellfish and seaweed species listed above, with reference to studies published since the *Selected Summaries of Nutrient Bioextraction Peer-Reviewed Journal Articles* was released with a comparable measure of the species’ effectiveness at removing nitrogen, where available, and other relevant findings.
- All relevant supporting documentation generated as part of this task

Task 2:

Identification of existing and potential realistic markets for shellfish and seaweed used for bioextraction within the Long Island Sound, as determined by Task 1, including whole and extractive products. For the purposes of this investigation, it should be assumed that all raw materials are grown within the Long Island Sound, but that the marketing and/or sale of these products/materials is not limited to the Long Island Sound watershed. Part of this market investigation should include identification of local/regional barriers for particular markets and should include information about legal/regulatory barriers.

At a minimum, deliverables will include:

- A table (example below on page 7), showing the species of interest, markets identified, and whether a particular species is appropriate to be used in a particular existing or potential market, or whether it is not a viable use of the species (for example, ribbed mussels as food for

² Kim, J. K., Kraemer, G. P. & Yarish, C. 2014. Field scale evaluation of seaweed aquaculture as a nutrient bioextraction strategy in Long Island Sound and the Bronx River Estuary. *Aquaculture* 433:148-156.

³ Kim, J. K., Kraemer, G. P. & Yarish, C. 2015. Use of sugar kelp aquaculture in Long Island Sound and the Bronx River Estuary for nutrient extraction. *Mar. Ecol. Prog. Ser.* 531:155-166

⁴ Galimany, E., Wikfors, G. H., Dixon, M. S., Newell, C. R., Meseck, S. L., Henning, D., et al. (2017). Cultivation of the Ribbed mussel (*Geukensia demissa*) for nutrient bioextraction in an urban estuary. *Environ. Sci. Technol.* 51, 13311–13318. doi: 10.1021/acs.est.7b02838

⁵ Hudson, Robbie. et al. “Ribbed Mussel Nutrient Bioextraction Pilot Project.” 2016, Kingston, RI.

human consumption); the table should also include information about potential/likely barriers for using a particular species (e.g., if a species is considered a nuisance species), and any other information that the Consultant(s) feels would be useful to inform the use of the listed species. The markets listed in this table should include both whole and extractive products, and the table may be expanded based on the Consultant's input, with approval from the NEIWPC and NYSDEC.

- Detailed information on the species/market pairs identified in the table that includes at least the following information, plus any other information that the consultant feels is relevant to determining realistic existing and potential markets for bioextractive species.
 - Existing Market:
 - Yes or No
 - Where does this market exist (states, regions within the US, countries).
 - Companies that use this species (Company names), and list of products/names.
 - Information about the structure of the existing market (what products are sold and at what price, what is the potential for these products to compete in this market, are there barriers to entry, what impact would introducing these products have on the price).
 - Information about business structures for companies that do sell this product (in addition to making/selling product, do they also farm, harvest, process, etc., or are other aspects handled by different entities).
 - Restrictions on where the species can be grown. Reference shellfish growing area classifications, where applicable.
 - Restrictions on the use (or sale) of species for that particular purpose by a regulating agency.
 - Any space limitations on where this species can be grown, or certain areas/environments that are suitable for this species, based on their physical characteristics.
 - Seasonality associated with this product that may affect feasibility (including both growth of the species and consumption of the product). If so, explain.
 - Relevant, existing access programs for mariculture in the Long Island Sound. For example, NYSDEC has very limited Temporary Marine Area Use Assignments and only allows off-bottom shellfish cultivation.
 - Potential Market:
 - Products on the market that use closely related species.
 - Restrictions in New York State or Connecticut against growing and/or selling this product.
 - Physical/chemical characteristics of this species that make it unsuitable for this particular use.
 - Seasonality associated with this product that may affect feasibility (including both growth of the species and consumption of the product). If so, explain.
 - Potential or existing barriers to this market, and what is needed to address them.
 - If there are no existing or potential markets for this species/market pair, please explain why.
- All other relevant supporting documentation generated as part of this project.

Species	Markets									Barriers	Comments
	Human food, fresh	Human food, dried	Fertilizer, food crops	Fertilizer, non-food	Animal Feed	Cosmetics	Pharmaceuticals	Biofuels	Other Uses		
<i>Saccharina latissima</i>	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market		
<i>Geukensia demissa</i>	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market		
<i>Gracilaria tikvahiae</i>	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market		
<i>Sargassum filipendula</i> (wild)	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market		
<i>Sargassum muticum</i> (wild)	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market		
<i>Ulva</i> (wild)	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market		
<i>Cladophora</i> (wild)	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market	Existing Potential No Market		

In the above table, please identify whether the species/market pair in question has existing, potential, or no potential markets, based on the information gathered (as defined in the second deliverable for Task 2). The “Human Food” uses for *Geukensia demissa* have been greyed out because it is known that they are not appropriate for such a purpose due to their taste. The “Barriers” and “Comments” section of this table should include high-level information, where needed, regarding specific species that are relevant across all markets. An example of this might be that *Gracilaria tikvahiae* is known to pick up more contaminants than other seaweed species, or that *Saccharina latissima* is not yet approved for commercial cultivation in New York State.

Task 3:

The collection of existing economic information on the capital and operating costs for shellfish and seaweed species that can be grown or wild-harvested on a commercial scale for bioextraction. This should include economic information on existing markets, the market price of products, own-price, and cross-price elasticities (if they exist), as well as the costs of standard farming or collection techniques/strategies, equipment costs, processing costs, risks, leasing fees or cost of acreage for cultivation (if known), etc., with acknowledgement to the type of infrastructure that is currently used for such businesses.

At a minimum, deliverables will include:

- A matrix of the consultant’s own design that shows each realistic bioextractive product, expected capital and operating costs associated with each product, expected market price for such products, whether each product is considered to be economically feasible, using a realistic profit margin for this type/size of business (Perdue Extension and Illinois-Indiana Sea Grant recommend a 15% profit margin for aquaculture businesses due to the high risk nature of the industry), the ability to compete in this market, and any other information that will be useful for determining economic feasibility, based on the Consultant’s knowledge and expertise (and other assumptions that they are using to determine feasibility). This process should be completed for each market/species pair identified as having an existing market in Task 2 and should be written in a way that is understandable to readers without a background in economics.
- All other supporting documents generated as part of this task.

Task 4:

The development of a comprehensive report, including components from Tasks 1-3, and recommendations for species and/or products that have the greatest market potential for the Long Island Sound, with special consideration for the species that have the greatest nitrogen removal benefits. The true goal of this project is to develop a pathway for bioextraction projects to become self-sustaining and profitable commercial operations by identifying the species with the greatest potential, and any barriers that may need to be overcome. The work represented in this RFP (Phase 1) will evaluate the economics for existing markets for bioextractive species within the Long Island Sound, assess the capital and operating costs within these markets and make recommendations about the most feasible potential markets for bioextractive species based on the information gathered. Phase 2, *not represented in this RFP*, will involve a focused analysis of those species/potential markets that are most realistic and have the greatest potential for being economically feasible. This will include the expected processing costs for scaling of operations, expected costs of research and development of products, etc. It will also include an estimation of the cost per pound of nitrogen removal for the recommended species that takes into account the expected market price for these products, which will allow for a comparison to the cost per pound of nitrogen removal for other nitrogen mitigation strategies. It is anticipated that the contractor selected for this RFP (Phase 1) may also complete Phase 2 of the project.

At a minimum, deliverables will include:

- A comprehensive written document that compiles the deliverables from Tasks 1-3, analyzes and summarizes the information collected in Tasks 1-3, and makes a recommendation of the most appropriate existing and potential markets for bioextractive products in the Long Island Sound. Please allow for four weeks between draft submission and final submission for appropriate review.
- All other supporting documentation generated as part of this project.

Anticipated Project Meetings*

Meeting Type	Purpose	Potential Participants
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Kickoff Meeting	To introduce the Consultant and summarize the work scope, timelines, etc.	NYSDEC, NEIWPC, LISS, CT DEEP ⁶ , DA/BA ⁷ , CT & NY Sea Grant, Consultant, and other stakeholders as identified by the NYSDEC project manager
As needed (or weekly)	To answer questions and guide project direction, as needed	NYSDEC project manager, and others as needed
Monthly/Internal	To update progress, address issues	NYSDEC project manager, NEIWPC, Consultant, other stakeholders as needed/appropriate
Upon Completion of a Task and associated deliverable	To summarize work and present deliverables	NYSDEC, NEIWPC, LISS, CT DEEP, DA/BA, CT & NY Sea Grant, Consultant, and/or other stakeholders as identified by the NYSDEC project manager
Project Wrap-Up Meeting	To present final report, summarize results, etc.	NYSDEC, NEIWPC, LISS, CT DEEP, DA/BA, CT & NY Sea Grant, Consultant, and other stakeholders as identified by the NYSDEC project manager

*Meetings will be virtual for this project.

Desired Outcome

A comprehensive report that will inform the development of a bioextraction industry in the Long Island Sound (New York and Connecticut).

IV. General Guidelines for Applicants

Eligibility

Applicants who are eligible to submit proposals in response to this RFP include: private non-profit organizations and institutions; for-profit organizations; and academic or educational institutions.

Schedule

Project timelines should be submitted as part of a complete application; applications will be judged on whether timelines are realistic (see Section VII). The table below describes the expected timeline for the application and selection process.

The schedule* for this RFP is as follows:

Proposals Due to NEIWPC	October 29, 2021 12:00 PM EST (noon)
Applicants Notified of Funding Decisions	November 26, 2021
Detailed Project Work Plans Due	December 17, 2021
Project Start Date	January 10, 2022

*Schedule is subject to change.

⁶ CT DEEP – Connecticut Department of Energy and Environmental Protection

⁷ DA/BA – Connecticut Department of Agriculture/Bureau of Aquaculture

Funding

There is \$100,000 available for this project and it is anticipated that one successful consultant will be chosen. Applicants should submit a realistic proposed budget based on the tasks above. Awarded funds may be used for expenses specifically related to the proposed project, including wages and consultant fees. Expendable and non-expendable equipment directly related to the proposed project may qualify for funding, but requires pre-approval (prior to proposal submission) by NEIWPC and must be justified in the proposal. Indirect costs are allowed, but must be in line with the following procedures: Applicants with a valid Negotiated Indirect Cost Rate Agreement with their cognizant federal agency must use that rate, and must provide documentation of the negotiated rate. Applicants that do not have a Negotiated Indirect Cost Rate Agreement may charge a maximum indirect rate of 10 percent of direct costs.

Match

Although cost share or match is not required, projects providing non-federal cost share or match will receive favorable consideration over projects without cost share or match.

Cost share or match can be satisfied with cash or in-kind services, or a combination of both. Cash contributions are those funds used to purchase goods or services associated with the project. In-kind contributions represent the value of non-cash contributions provided by the applicant. Any contributions must be clearly explained in the proposal and must be documented.

Deliverables

The primary deliverables for this project will be the following, submitted in draft form in Microsoft Word format for review by project partners and approval by the project manager (See Contact Information in Section IX, and refer back to the Scope of Work in Section III for more detailed descriptions of deliverables), and all final reports delivered both in Microsoft Word and Adobe .pdf format upon approval by the project manager:

1. **Quarterly reports** delivered to the NEIWPC project manager no later than the 10th day of January, April, July, and October during the duration of the project, or at the end of the project if that occurs before one of the EPA reporting deadlines just mentioned, using the format provided by the NYSDEC project manager.
2. **Summary report of Task 1** including:
 - a. A brief summary of findings for each shellfish and seaweed species listed in this RFP, with reference to studies published since the release of *Selected Summaries of Nutrient Bioextraction Peer-Reviewed Journal Articles*, and nitrogen removal rates
3. **Summary report of Task 2** including:
 - a. A table, showing the species of interest, markets identified, and whether particular species is appropriate to be used in a particular existing or potential market, or whether it is not a viable use of the species
 - b. Detailed information on the species/market pairs identified in the table that includes at least the information listed under Task 2 on page 6 of this RFP
4. **Summary report of Task 3**
 - a. A matrix with the information listed in the Scope of Work, Task 3 above completed for each market/species pair identified as having an existing market in Task 2
5. **Final report**, that compiles all other deliverables, analyzes, and summarizes the information collected in Tasks 1-3, and makes recommendations on the most appropriate existing and potential markets for bioextractive products in the Long Island Sound
6. **Project team calls and meetings** as described in the Scope of Work above

In addition to the deliverables listed here, all other relevant supporting documentation should be submitted to the NYSDEC project lead. All deliverables should be electronic and sent to the NYSDEC project lead and NEIWPC. NEIWPC and NYSDEC will disseminate documents to project stakeholders as appropriate.

Deliverables, Ownership, and Credit Due

All materials, software, maps, studies, reports, and other products or data, regardless of physical form or characteristics, produced as a result of this solicitation and funded, in whole or in part, under an agreement with NEIWPC shall be made available to NEIWPC, NYSDEC, and the U.S. EPA in the formats in which it is stored or maintained. NEIWPC, NYSDEC, and the U.S. EPA shall have an unrestricted right to use any materials, software, maps, studies, reports, and other products or data generated using assistance funds or specified to be delivered. The contractor shall not obtain, attempt to obtain, or file for a patent, copyright, trademark, or any other interest in any such materials, software, maps, reports, and other products or data without the express, written consent of NEIWPC and subject to any other approvals required by state or federal law. Reports and other deliverables will credit NEIWPC, NYSDEC, and U.S. EPA for any work completed under the grant award.

Insurance Requirements

NEIWPC requires its contractors to maintain Workers Compensation and General Liability insurance. More details will be provided to applicants selected for funding. Note this applies for all contractors, including sole proprietors. If you cannot provide proof of insurance, please do not apply for this funding opportunity.

V. Proposal Requirements

Proposals must include a (1) cover letter, (2) title page with abstract, (3) narrative with citations, (4) timeline, (5) budgets (both overall and task-based budget formats), (6) budget justification, (7) description of qualifications, and (8) letters of commitment or support. Page limits for each of these components are provided in the individual descriptions below. Proposals that do not contain all of the information requested and/or do not meet the format requirements will be eliminated from consideration. Pages that exceed the maximum number specified for each section will not be reviewed.

All full proposals submitted to NEIWPC must have a budget that falls within the \$100,000 limit.

Cover Letter

Please include a one-page cover letter, printed on official letterhead, and signed by an authorized representative of the lead agency, firm, or institution, with each proposal. The cover letter must state that:

- You are applying for funds under this program.
- You acknowledge that funding is provided on a reimbursement basis.

Title Page

For your convenience, an electronic version of the title page is available as a Microsoft Word document at <http://neiwpc.org/about-us/working-with-neiwpc/>. The title page must adhere to the format provided in Appendix A and include all of the following information, using a maximum of one single-spaced, one-sided, typed 8.5" x 11" page with 11-point font and 1-inch margins:

- Project Name: Use the exact project name as it appears throughout the proposal.
- Primary Investigator Name and Contact Information: Provide the name, title, and affiliation of the primary investigator, as well as mailing address, phone number, and email address.

- Financial Contact Name and Contact Information (if applicable): Provide the name, title, and affiliation of the individual responsible for financial/contractual negotiations (if different from primary investigator), as well as mailing address, phone number, and email address.
- Project Partners (if any): Provide the names, titles, affiliations, for each of the additional investigators or support staff who will significantly contribute to the project (if any).
- Funds Requested: Provide the amount of money you are requesting from NEIWPCC for the project.
- Matching Funds: Provide the amount of matching funds you and/or your partners will be contributing to the project (if any).
- Federal Tax Identification Number (FID)
- DUNS Number⁸: A DUNS number is a unique, non-indicative 9-digit identifier that verifies the existence of a business entity globally. Contractors must provide NEIWPCC with a DUNS number to comply with an administrative condition of NEIWPCC's EPA grant (individuals are exempt).
- Certified Disadvantaged Business Enterprise (DBE): Indicate if your organization is a DBE.
- Abstract: The abstract must accurately describe the project being proposed and include: (1) the objectives of the project, (2) the methodology to be used, and (3) the expected outputs and outcomes of the project and how it addresses this RFP, including environmental benefits to Long Island Sound. **The abstract must fit within the title page.**

Proposal Narrative

The proposal narrative must not exceed 5 consecutively numbered, single-spaced, typed 8.5" x 11" pages with 11-point font and 1-inch margins. The 5-page narrative must include all of the following information:

- **Problem Description:** Briefly describe the project and its relevance to LISS CCMP Implementation Action WW-25 This section can also include brief background or introductory information.
- **Objectives:** Outline how the project will achieve the goal of this RFP.
- **Methodology:** Outline the project's design and describe the methods and techniques that will be used to meet the project's goal and tasks.
- **Expected outputs and outcomes:** Describe the project's expected outputs and outcomes, and list and describe each of the specific deliverables and end-products.
- Briefly discuss the **process to be used to evaluate the effectiveness and success** of the project.
- **Roles and Responsibilities:** Define the roles and responsibilities of all project participants.
- **Citations:** Include references as appropriate within the proposal narrative.

Timeline

Provide a detailed timeline for meeting identified tasks and completing deliverables, including the final report. All timelines should be stated in terms of Month #1, #2, #4, etc. rather than specific dates, e.g., "March 5, 2022." Although the project start date is anticipated to be on or about January 10, 2022, this date may change based on the time the actual agreement is established. The timeline must be no more than one 8.5" x 11" page with 1" margins and 11-point font.

Budget

The project budget must be provided in two formats:

⁸ Obtaining a DUNS number is free for all entities doing business with the Federal government. Under normal circumstances the DUNS number is issued within 1-2 business days when using the web form process (<http://fedgov.dnb.com/webform>).

First, provide a complete, detailed budget using the format provided in Appendix B. For your convenience, an electronic version of the budget form is available at <http://neiwpc.org/about-us/working-with-neiwpc/>. The budget must be no more than one 8.5" x 11" page with 1" margins and 11-point font. Along with this budget, provide a brief justification (one page maximum) for the proposed costs in terms of meeting project objectives. Include an explanation of how indirect costs are calculated. Justify subcontracts, if any. Identify and describe current and pending financial resources (including the source) for non-federal cost share or matching funds that are intended to support the project. Entities intending to use a Negotiated Indirect Cost Rate must provide documentation of their rate. This documentation does not count toward the page limit.

Second, prepare a budget that is broken down by project tasks, as shown in Appendix C. For your convenience, an electronic version of the budget form is available at <http://neiwpc.org/about-us/working-with-neiwpc/>. As you develop this budget, keep in mind that contractual payments will be made based on this budget. This budget must be no more than two 8.5" x 11" pages with 1" margins and 11-point font. Matching funds should not be included in the task-based budget.

Qualifications

The applicant chosen for this project should possess the academic and/or professional expertise and certifications in the relevant subject areas, and have a strong track record in delivering projects of this nature and facilitating successful working relationships with municipal and state government. Applications must include identification of an economist as the project leader or support staff. Applicants must be able to demonstrate extensive experience in the economics of aquaculture. Applicants should have experience and capacity to conduct and manage effective stakeholder meetings. Attention to detail in documenting qualifications that meet the scoring requirements (Section VII below) is strongly advised. The qualifications section, including resumes, CVs, descriptions of past projects, etc. must not exceed 3 pages.

Letters of Support

Projects undertaken in partnership with other organizations, particularly where the partner will provide a service or action must include support letters from each partner stating their specific commitments. If your project includes matching funds and the match is to be provided by partners, letters of commitment for the match from those partners must be included. General "letters of support" should not be included with the application.

VI. Submission Process

Proposals must be submitted by no later than **12:00 PM EST (noon) on October 29, 2021**. No late submissions will be considered. Applicants **must submit their proposals electronically** through the NEIWPC website. Unless prior approval is given, proposals received through e-mail, postal delivery, or any other delivery method will not be accepted.

To submit your proposal, go to <http://neiwpc.org/about-us/working-with-neiwpc/contractor-proposal-submissions/> and follow the instructions provided for uploading your file(s). It is highly preferred that the proposal and all supporting information are submitted as a single PDF document. This requires Adobe Acrobat or similar Adobe product (the free Adobe Reader does not allow the conversion of documents into PDF format), or a scanner. If multiple files are to be submitted, you will need to create an archive file (.zip, or .rar) containing all of the files you wish to submit. The file name should be in the following format: "LISS Bioextraction_NAME OF YOUR ORGANIZATION." Once you have clicked the "submit" button, please allow adequate time for your submission to process and do not hit the back button or close your browser window. The process is not

considered complete until you have reached the confirmation page. If submitted successfully, you will receive an email from NEIWPCCC (mail@neiwpc.org) with the subject line "RFP Submission Confirmation" confirming your submission. For questions regarding submission of proposals, contact Jordan Bishop, NEIWPCCC, jbishop@neiwpc.org, (978) 349-2524.

VII. Proposal Evaluation Process

NEIWPCCC/NYSDEC will screen all proposals to ensure that they meet all requirements of this RFP. If a proposal is found to be incomplete, the proposal will be eliminated from the competition and NEIWPCCC/NYSDEC will notify the applicant. To be considered complete, proposals must include all components described in Section V. Pages in excess of the limits specified for each component will not be reviewed. Complete and eligible proposals will be reviewed by a panel composed of scientists, economists, and managers from NEIWPCCC/NYSDEC and partner agencies.

Submitted proposals will be judged according to the following criteria:

1. (30 points) Knowledge and Experience: Evaluators will consider the qualifications, experience, and expertise of the project team. Preference will be given to those with economic experience related to the aquaculture industry.
2. (25 points) Performance Capability: Ability of the applicant to accomplish the proposed project on schedule with quality given its history of past performance, facilities, and resources. Evaluators will assess the ability of the proposed team to complete project tasks effectively and on time.
3. (25 points) Addresses Desired Outcomes in a Reasonable Timeframe: Degree to which the proposal can accomplish the desired outcomes within specific reasonable timeframe(s) and demonstrates an understanding of the relationship of the expected results/benefits to addressing this RFP's topic.
4. (20 points) Appropriateness of the Proposed Budget: Clarity and adequacy of the proposed budget to accomplish project objectives; vague or inflated budgets will not be competitive.

VIII. Notification of Awards

Award notification to applicants is expected by November 26, 2021. Award recipients may be asked to submit a revised work plan, timeline, and budget at this time. Projects cannot start until the contract is signed by both parties and all mandatory documentation, including proof of General Liability Insurance and Worker's Compensation, is received by NEIWPCCC. NEIWPCCC will not pay for expenses incurred prior to the contract start date. Payment for costs incurred will be on a reimbursement basis per the contract payment schedule and contingent upon completion of quarterly progress reports and project deliverables.

IX. Contacts

NEIWPCCC and NYSDEC will accept questions about this RFP by email or phone through October 25, 2021.

For information regarding the application process, contact **Jordan Bishop**, the NEIWPCCC Project Manager:

Jordan Bishop

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650 Suffolk Street, Suite 410
Lowell, MA 01854
978-349-2524
jbishop@neiwpc.org

For information regarding the RFP topic, contact **Kristin Kraseski**:

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