

Project Title: Development of Consumer Education Materials on Seafood and Aquaculture [Progress Report]

Total Funds Committed: \$225,505

Initial Project Schedule: September 1, 2021-August 31,2022 [Extended to August 31, 2023]

Current Project Year: September 1, 2021-August 31, 2022

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Extension Liaison: Lauren Jescovitch (Michigan State University/Michigan Sea Grant)

Industry Liaison: Paul Damhof, Simply Shrimp, LLC

Project Objectives

*Objective #1-*Compile and evaluate readily available resources related to (1) adult consumer education and (2) youth engagement in US aquaculture.

Objective #2- Develop, facilitate, and disseminate adult consumer education materials and programming on seafood and aquaculture.

Objective #3- Develop, facilitate, and disseminate youth educational materials and programming on seafood and aquaculture.

Project Summary

Fish is recognized as a healthy source of protein, beneficial fats, and micronutrients leading the FDA to recommend that adults eat fish up to three times a week. Americans, however, are eating roughly half the recommended amount of seafood. This deficit could be filled by sustainable aquaculture production, reducing our dependence on dwindling wild fisheries. There is, however, substantial consumer confusion surrounding aquaculture and its sustainability, the health benefits of consuming farm-raised fish, and how to prepare and cook fish at home. The overarching goal of this project is to educate the general public about aquaculture and increase the ability of consumers to make informed decisions about aquaculture products through the development of clear, objective, and evidence-based educational materials and engagement activities for both adults and youth (addressing a need repeatedly identified at the 2020 NCRAC listening sessions). We will engage communities through online educational content (e.g., videos), high school and community education curricula, and outreach workshops that educate communities about the health and sustainability of aquaculture. The majority of these materials (as well as detailed templates and protocols for engagement activities) will be made available for future use by educators and extension personnel throughout the NRC.

Anticipated Benefits

Our project will increase consumers' understanding of aquaculture and its potential to provide healthy, local food in a sustainable manner. Creating an aquaculture literate public will increase the acceptance of aquaculture as a source of food, increase consumer demand for aquaculture products, and thereby benefit the aquaculture industry.

Project Progress

Objective 1-A literature review of K-12 and adult nonformal education materials has been completed and the most useful materials will be posted. A survey with 22 questions about aquaculture consumer education has been created with University IRB approvals. The aquaculture consumer education survey was administered from June 22,2022, through July 22,2022, to people in the Great Lakes region working with aquaculture and to the broader aquaculture extension. There were 122 respondents to the survey, but the data were cleaned for a total of 92 usable participant responses. Data coding and analysis is ongoing and will guide curriculum and module development.

Preliminary survey findings suggested participants were primarily serving in extension/outreach roles (42%) with the remainder distributed across research, industry, regulation, and other areas (such as consulting, and government as a non-regulator). Over 45% of respondents reported 20 or more years working in or with aquaculture. Respondents were predominantly white (93%) men (71%). Of those who were female (29%), 83% were between 25 and 30 years old with aquaculture experience ranging between one and nine years. Of the different types of fish products or topic areas, participants worked most frequently with food products (78%), stocking (48%), and ornamental products (21%); others included aquaponics or endangered species, bait, and fee-fishing.

Most participants responded that consumers have heard about aquaculture before, but cannot define it or teach it to someone else. As analysis is underway using this preliminary data and the hope is this preliminary data discussion can help frame current efforts on-going in the work of outreach and teaching consumers about aquaculture.

Objective 2 -Various resources are being consolidated for adult learning on aquaculture that can be used during programming. Collaborated with Taste the Local Difference (a Michigan local food marketing firm) to develop and administer a two-page magazine article defining aquaculture. Over 100,000 magazines were printed and the article is available online for free. A rack card defining aquaculture in the Great Lakes region has been developed. These were distributed at the Minnesota State Fair in 2022 and will be supplied to Sea Grant programs across the region to be modified and used in programming. Additionally, one pilot program was implemented on August 3, 2022 for adult education which included a farm tour, fee-fishing to catch fish, and a hands-on learning opportunity during which participants learned how to process and cook fish. More programs will be developed using Objective 1 findings.

Objective 3- The 7th annual Aquaculture Challenge competition (2021-22) was held and a number of teams entered the competition from many different states. New to the competition this year was a cooking challenge, where teams demonstrated a seafood dish. The 8th year of the competition will kick off October 31, 2022.

A K-12 teacher workshop at Lake Superior State University was hosted and attended by nine Michigan teachers. The two-day workshop covered aquaponics background information, several hatchery tours and included hands on activities to take back to the classroom. Teachers also built an aquaponics system they were able to take with them. Plans are underway for a second workshop in February 2023.

Outreach Overview

The results have been extended through the following methods.

- 1) Information was distributed through an article through Taste the Local Difference (A Michigan local foods marketing firm) defining aquaculture and available for free online and through more

than 100,000 printed magazines.

- 2) A rack card defining aquaculture was distributed to > 200 attendants at the Minnesota State Fair and available to all Great Lakes Sea Grant programs for modification and use for programming.
- 3) One adult education pilot program aimed at teachers was delivered in August 2022.
- 4) Information was extended to both teachers and students through the Aquaculture Challenge.
- 5) Information was delivered through a K-12 teacher workshop at Lake Superior State University.

Targeted Audiences

Targeted audiences are people of all ages who consume and may consume seafood. K-12 students and teachers are being reached through classroom lessons, the Aquaculture challenge, and professional development workshops.

Outputs/Impacts

- 1) Workshop to adults re: how to fish, what fee-fishing is, and how to cook fish in Watersmeet, MI August 3, 2022.
- 2) Teacher workshop at Lake Superior State University in September 2022.

Impacts Summary

Relevance. —Americans are eating roughly half the recommended amount of seafood and most of the seafood we do eat (> 60 %) is imported. There is substantial consumer confusion surrounding aquaculture and its sustainability, the health benefits of consuming local, farm-raised fish, and how to prepare and cook fish at home. This lack of consumer education is a barrier to aquaculture industry growth.

Response. — We are increasing the ability of consumers to make informed decisions about aquaculture products through the development of clear, objective, and evidence-based educational materials and engagement activities for both adults and youth. We engage learners through online educational content, high school and community education curricula, and outreach workshops that educate communities about the health and sustainability of aquaculture. We will make these materials available for future use by educators and extension personnel throughout the north central region.

Results. — The results are still in progress.

Recap. —Project is still in progress.

Publications, Manuscripts, Workshops, and Conferences

See the Appendix for a cumulative output for all NCRAC-Funded activities.