

Multi-state Hatch project: W1197 Advancing Aquatic Food Product Sustainability: Improving Quality, Utilization and Safety.

Meeting Location: LSU AgCenter Seafood Processing and Demonstration Laboratory, Jeanerette, Louisiana

Meeting Date: June 11, 2025

ATTENDEES

In-person: Sam Chang (Mississippi State University), Alexander Chouljenko (North Carolina State University), Michael Ciaramella (Cornell University), Christina DeWitt (Oregon State University), Eugene Evans (New York Department of Agriculture), Razieh Farzad (University of Florida), M.P. (Michael) Hayes (Louisiana State University), Angela Hunt (Oregon State University), Taozhu Sun (Virginia Tech), Evelyn Watts (Louisiana State University), Doug Guillory (Rice Land Crawfish), Jason Guidry (Guidry's Catfish and Ocean Select).

Virtual: Gulsun Akdemir (University of Maine), Cathy (Chengchu) Liu (University of Maryland), Denise Skonberg (University of Maine), Michael Qian (Oregon State University), Jim Vinyard (University of Alaska), Wilmore Webley (University of Massachusetts Amherst).

Meeting Introduction: Evelyn introduced the meeting, provided an agenda, and outlined the purpose of the project, which focuses on advising aquatic food product sustainability, improving quality, utilization, and safety. She emphasized the importance of collaboration and potential projects.

SUMMARY OF MINUTES OF ANNUAL MEETING

Meeting Purpose: Evelyn explained that the project aims to advise on aquatic food product sustainability, focusing on improving quality, utilization, and safety. The project meets annually to discuss progress and future plans.

Project History: Evelyn provided a brief history of the project, mentioning that it started three years ago in Newport, OR, and had a meeting last year in California. The focus this year is to work on the topic ideas developed in previous meetings.

Collaboration Importance: Evelyn emphasized the importance of collaboration among participants, including identifying potential projects and collaborators from their networks and universities.

Funding Sources: Evelyn mentioned the need to identify potential funding sources, including local, state, and nationwide grants, to support the projects discussed.

Participant Introductions: Participants shared their names, affiliations, and areas of expertise. This helped in understanding the diverse backgrounds and expertise present in the meeting. Participants included professors, extension specialists, and researchers from various universities and organizations, each with specific expertise in areas such as seafood safety, water quality, microbiology, and food science. There were also participants from regulatory agency and local industry partners.

Breakout Room Instructions: Evelyn explained the breakout room process, assigning leads to each room and outlining the main objectives, which included identifying potential projects, collaborators, and funding sources. Each group was assigned a lead. The topics for each breakout room included best practices across the supply chain, promoting seafood consumption, bio circular economy, and collaboration with small businesses.

Breakout Session Summaries: Each breakout lead provided an overview of their group's discussion and outcomes. All leads will send a brief summary of their session discussions to Evelyn for inclusion in the final report. (Wilmore, Michael C., Razieh, Christina)

Future Meetings and Leadership: The group decided to nominate Michael C. as the chairman for the upcoming year, with the next meeting to be held in New York. Exact date and location will be determined based on participants post meeting survey. They also discussed the importance of having a leader for each project to ensure progress.

Nomination for 2026 Chair of the Project: Michael Ciaramella.

Evelyn W., representative of LSU, nominated Michael C., representative of Cornell, for the position of 2026 Chair for the Project (Multi-state Hatch project: W1197 Advancing Aquatic Food Product Sustainability: Improving Quality, Utilization and Safety). Michael C. accepted the nomination. Sam Chang, representing the University of Mississippi, seconded the nomination. There were no additional nominations. The vote was unanimous with no opposition.

Location of next meeting: During Aquatic Food Conference in New York (Date and Locations TBD).

ACCOMPLISHMENTS

Short-term outcomes: Participants split into four breakout groups to discuss potential collaboration and identification of funding.

Output: This project identified opportunities for collaboration on research and outreach initiatives, as well as potential funding sources; including local, state, and national grant to support the proposed activities.

Activities: Individuals in each breakout group shared their current research/outreach focus areas on aquatic foods, and discussed potential areas for collaboration, potential projects, and sources of funding.

- **Best Practices Across Supply Chain:** Wilmore, Taozhu, and Michael Q. discussed digital monitoring, predictive maintenance, and climate-proofing the aquaculture value chain. They emphasized the importance of supply chain control, transparency, and resilience to climate change.
 - **Digital Monitoring:** The group discussed the importance of digital monitoring and predictive maintenance in the supply chain, from acquiring fish to delivery to consumers. This includes transportation and temperature recording to ensure product quality.
 - **Supply Chain Transparency:** The group emphasized the need for transparency in the supply chain, suggesting the use of QR codes to provide consumers with detailed information about the product's origin and handling.
 - **Climate-Proofing:** The group discussed strategies for climate-proofing the aquaculture value chain, including seasonal management, dynamic stocking calendars, and temperature-controlled facilities to buffer against climate extremes.
 - **Resilient Species:** The group highlighted the importance of selective breeding for heat tolerance and diversifying species to enhance resilience and reduce dependency on a single product.
 - **Funding Sources:** Potential funding sources discussed included NOAA fisheries and aquaculture grants, NSF smart manufacturing initiatives, and USDA grants. Collaborations with AI and material science experts were also suggested.
- **Promoting Seafood Consumption:** Michael C., MP Hayes, and Cathy developed a comprehensive plan to address PFAS and heavy metals in aquatic foods. They outlined six projects, starting with developing testing methods and ending with extensive outreach and education programs.
 - **Testing Methods:** The group proposed developing matrix-dependent validated testing methods for PFAS and other contaminants in aquatic foods, assessing existing methods, and identifying gaps to develop new methods.

- **Contaminant Distribution:** The group planned to explore the distribution of PFAS and heavy metals in various seafood commodities, considering geography, species, and water quality impacts on contamination levels.
- **Public Health Implications:** The group aimed to study the implications of contamination on public health, comparing across commodities and providing data for regulatory agencies to develop thresholds and standards.
- **Source Tracing:** The group intended to trace and understand the sources of contamination, which could help in developing effective mitigation strategies.
- **Mitigation Strategies:** The group discussed developing mitigation strategies for removing contaminants from the environment and food, including processing methods, harvest area closures, and consumption advisories.
- **Outreach and Education:** The final project involved extensive outreach and education programs, including workshops, guidance documents, and resources for consumers and industry on seafood safety and contamination mitigation.
- **Collaborators and Funding:** The project involves a range of faculty members and engages various stakeholder networks. Participants include research and extension groups, associations such as alligator farmers, oyster farmers, fishing associations, shrimp processors associations, and state regulatory agencies responsible for establishing standards. Data collection efforts are designed to support the development of food safety standards and thresholds. Potential funding sources identified included USDA equipment grant program, SIRF, NOAA SG, other USDA opportunities, and industry.
- **Bio Circular Economy:** Razieh, Denisse, Angee, Sam, and Evelyn's group focused on the challenges and opportunities in using byproducts for higher value products like collagen. They discussed the need for better industry coordination, economic data, and pilot studies to demonstrate the feasibility of these projects.
 - **Industry Coordination:** The group identified the need for better industry coordination and supply chain integration to effectively use byproducts for higher value products like collagen.
 - **Economic Data:** The group discussed the lack of clear economic data on the collagen market, specifically for seafood sources, and the need to gather this data to support industry decisions.

- **Regulatory Barriers:** The group highlighted technical and regulatory barriers for producing medical-grade collagen and the need to address these challenges to facilitate market entry.
- **Pilot Studies:** The group emphasized the importance of conducting pilot studies to demonstrate the feasibility and return on investment for seafood processors to add steps for collagen extraction.
- **Collaborators and Funding:** Potential collaborators included economists, social scientists, and medical researchers for clinical trials. Funding sources discussed included USDA, NIH, and industry associations.
- **Collaboration with Small Businesses:** Christina, Jim, and Alexander's group discussed how to support small businesses and entrepreneurs with their research challenges. They explored funding opportunities like the Sustainable Agriculture Research Education (SARE) funds and local economic development funds.
 - **Small Business Support:** The group discussed the need to support small businesses and entrepreneurs with their research challenges, focusing on short-term projects that can provide quick solutions.
 - **SARE Funds:** The group explored the potential of Sustainable Agriculture Research Education (SARE) funds to support projects involving small producers, processors, and harvesters in the seafood industry, including value-added.
 - **Economic Development Funds:** The group discussed leveraging local and state economic development funds to support small businesses in the seafood industry, emphasizing the need for better knowledge and relationships to access these funds.
 - **Specialty Crop Grants:** Leverage or create a grant program similar to Specialty Crop Grants specifically for seafood. Seafood is as diverse as specialty crops but lacks large commodity commissions. How to initiate efforts that would support local and regional development for the seafood industry through such a program.
 - **Future Actions:** The group proposed inviting SARE leads to future meetings to discuss funding opportunities and conduct training on accessing local economic development funds.

Action Items:

- **Breakout Session Summaries:** Send a brief summary of the breakout session discussions to Evelyn for inclusion in the final report. (Wilmore, Michael C., Razieh, Christina)

- **Final Report Preparation:** Compile the final report based on the breakout session summaries and meeting notes. (Evelyn, Christina, Michael C.)
- **Virtual Meeting Scheduling:** Conduct a poll to determine availability for a virtual meeting in October to discuss project leads and next steps. (Evelyn)
- **Regional SARE Discussion:** Initiate discussions with regional SARE leads about funding opportunities for seafood industry projects. Bring in leads of each regional SARE for next hatch project meeting. (Evelyn, Christina, Michael C.)
- **Economic Development Funds Training:** Organize a training session to understand how to access local economic development funds for stakeholder benefit. (Evelyn, Christina, Michael C.)
- **Next Meeting Planning:** Plan the next Hatch meeting to be held in conjunction with the Aquatic Foods Conference in New York. (Michael C., Evelyn)

IMPACTS

Impact Statement for W1197: The multi-state Hatch project W1197, launched in 2024, is driving transformative change in the aquatic food sector by addressing critical challenges in sustainability, safety, and resource utilization. Through a robust national collaboration among land-grant universities, researchers, and industry stakeholders, the project is advancing innovative solutions that promise significant economic, environmental, and social benefits.

Key achievements include the development of rapid pathogen detection methods, climate-resilient aquaculture practices, and technologies for real-time quality assessment. The project has also made strides in upscaling seafood byproducts into high-value products, such as functional proteins and collagen, contributing to a bio-circular economy. Stakeholder engagement has been central, with industry partners identifying priorities like automation, water conservation, and full resource utilization.

The project's intended impacts are far-reaching:

- *Economic:* Enhancing profitability through value-added products and improved processing efficiency.
- *Environmental:* Reducing waste and improving sustainability via wastewater management and chitin conversion technologies.
- *Social:* Empowering consumers and industry through education on seafood safety and sustainable practices.

In addition, collaborative breakout sessions have expanded the project's scope by identifying strategic opportunities for innovation and funding. These include initiatives to improve supply chain transparency, address contaminants like PFAS and heavy metals, and support small businesses through targeted grants and training. The proposal to create a seafood-specific grant program modeled after Specialty Crop Grants reflects a growing commitment to regional development and equity in funding access.

Looking ahead, W1197 aims to position the U.S. aquatic food industry as a global leader in sustainability and innovation. By extending shelf life, mitigating emerging toxins, and adapting technologies to environmental change, the project lays the foundation for a resilient, efficient, and consumer-conscious seafood system.

Publications