



MAAIC
MAINE AQUACULTURE
INNOVATION CENTER

2025

ANNUAL REPORT





A letter from the Executive Director

This past year has been one of exciting transitions for the Maine Aquaculture Innovation Center (MAIC). It has been an honor to step into the role of Executive Director and to help guide the organization through a period of growth, reflection, and renewed momentum. With this transition, we also welcomed Emily Whitmore as our new Associate Director. Emily brings deep experience, thoughtfulness, and energy to MAIC's work, and I am grateful to partner with her as we move forward together.

As we look ahead, it is equally important to look back with gratitude. Chris Davis, who served as MAIC's Executive Director for more than 20 years, built the organization into a trusted partner for Maine's aquaculture community. His leadership helped shape MAIC's mission-driven approach to research, education, and industry support. While Chris is not quite retired, we are thrilled that he continues to play a vital role as our Innovator-in-Residence, sharing his expertise, institutional knowledge, and steady guidance during this transition. I also want to express my sincere gratitude to our Board of Directors for their unwavering support throughout our strategic planning process. Their guidance has been crucial as we align our efforts with the evolving needs of our stakeholders. I am especially grateful to our collaborators, without whom our work would not be as impactful. Together, we are paving the way for a sustainable and prosperous future in aquaculture, benefiting our communities and the planet.

MAIC has grown into a strong and dedicated team of eight, and I could not be more proud of the people who make this work possible. In addition to our existing team members Sydney Avena and Maya Pelletier, this year we welcomed Antoine Mier, Josh Richards, and Grace Adams-Kollitz, each of whom brings valuable skills and perspectives to our programs. We are also grateful for the contributions of educators Colleen Maker and Kristel Anuszewski, who have played an essential role in supporting our curriculum development efforts. Together, this team represents the creativity, collaboration, and commitment that define MAIC.

We are excited to share MAIC's first annual report. This report marks the beginning of an annual tradition that will provide a transparent overview of our programs, projects, and progress, and reflect the collective efforts of our staff, partners, and stakeholders.

Thank you for your continued support and partnership.

Anne Langston Noll

Executive Director

Maine Aquaculture Innovation Center



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OUR TEAM

ANNE LANGSTON NOLL
Executive Director

EMILY WHITMORE
Associate Director

CHRIS DAVIS
Innovator in Residence

SYDNEY AVENA
Applied Research & Industry Partnerships Manager

MAYA PELLETIER
Aquaculture Workforce & Education Manager

ANTOINE MIER
Aquaculture Workforce & Education Assistant

JOSH RICHARDS
Research Fellow

GRACE ADAMS-KOLLITZ
Project Assistant

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Pemaquid Mussel Farms and Pemaquid Oyster Co.

SARA RADAMAKER
American Unagi

ABOUT MAIC

The Maine Aquaculture Innovation Center (MAIC) was established in 1988 as one of the original Industry Outreach Centers under the Maine Science and Technology Commission (MSTC), created through LD 2193, *An Act to Establish the Maine Science and Technology Commission*. This legislative initiative marked a strategic effort by the Maine Legislature to stimulate industrial innovation and sector-specific research across the state. MAIC's creation responded directly to the growing need for coordinated support and sustainable development within Maine's aquaculture sector.

Throughout its history, MAIC has continuously adapted to the changing needs of Maine's aquaculture sector. MAIC continues to sponsor research, support infrastructure development, and play a pivotal role in education, public outreach, and strategic industry partnerships. Through the 2025–2030 strategic planning process, MAIC actively revisited its original legislative mandate to ensure that its future efforts align with its statutory purpose and the evolving needs of Maine's aquaculture community.



Our Vision: We envision Maine as a leader in sustainable aquaculture, advancing the production of aquatic species that benefits our communities and the planet.

Our Mission: We advance economically, environmentally, and socially sustainable aquaculture as an innovative and competitive solution that contributes to food and economic security, provides goods and services, sustains livelihoods for healthy Maine communities, and supports ecosystem conservation.



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EXECUTIVE SUMMARY

In 2025, MAIC structured its work across four program areas, enabling a focused and strategic approach to driving research, innovation, and development within Maine's aquaculture industry. Our 2025 report highlights major events, programs, projects, and accomplishments in each of the four program areas.

PROGRAM AREAS



Business Incubation & Support

Support the growth of new and existing aquaculture businesses through access to infrastructure, networks, tools, and expertise.



Applied Research & Development

Facilitate the development, dissemination, and adoption of applied research, innovative technologies, and practical tools that address pressing industry needs and emerging opportunities in aquaculture, ensuring alignment with real-world challenges and stakeholder priorities.



Education & Workforce Development

Help to develop a skilled and inclusive aquaculture workforce through education, training, and career pathways.



Knowledge Dissemination & Partnerships

Promote clear, consistent communication and knowledge sharing with and between partners and stakeholders to broaden awareness and deepen engagement.



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BUSINESS INCUBATION & SUPPORT

MAKING SENSE OF SENSORS: MONITORING ENVIRONMENTAL DATA ON AQUACULTURE FARMS

The 2024 Maine Aquaculture Research, Development and Education Survey highlighted an emerging need for aquaculture farmers; hyper local environmental data. In response, MAIC, in collaboration with the University of Maine and supported by the Nature Conservancy, have launched a pilot project getting monitoring systems on farms in Midcoast and Downeast Maine. Sixteen temperature and light sensors, as well as three conductivity, temperature, and depth sensors have been deployed on farms along the coast. The goal of the project is to test out different systems and learn more about what farmers need to make data-driven decisions.



EXPLORING LONG-TERM LOAN TO DMR OF A NAVIGATING ROV

In the late Spring, MAIC worked with the Maine Department of Marine Resources to purchase a DeepTrekker Pivot ROV to support site visits which are a necessary part of the aquaculture lease process. The addition of an ROV has nearly tripled the amount of site visits DMR is able to complete in a year and is estimated to save ~600 person hrs during the field season - time that can be redirected to other tasks that form part of a lease application review.

AQUACULTURE DEVELOPMENT AT SIPAYIK

This past year, MAIC had the privilege of helping to support the Sipayik Seaweed and Shellfish Collective; a community based organization formed and led by women tribal elders of Sipayik. With funding from the Northern Border Regional Commission, Maine Department of Economic & Community Development, World Wildlife Fund, and MAIC, we

supported Indigenous Knowledge Exchanges to the Shinnecock Kelp Farmers as well as attendance at the 2nd Indigenous Aquaculture Summit in Washington. The MAIC worked collaboratively with the Sipayik Collective of women, elders and youth to design and deploy their first seaweed farm. The farm is the first shallow, shore-accessible kelp farm in the state, and we are learning alongside the Collective the challenges and opportunities that this farm design presents. Special thanks to Nicole Potter, Paxton Shiers, and Ken Sparta for their support in making this project possible.



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BUSINESS INCUBATION AND SUPPORT PROGRAMMING IN 2025

BUSINESS INCUBATOR AT THE DARLING MARINE CENTER

In 2025, MAIC had two businesses as tenants in the aquaculture business incubator at the DMC. Charlie Walsh and Jon Steuber of Seascale LLC (*pictured*) tested their innovative gear design for bottom culture of Atlantic sea scallops. Ken Sparta of Spartan Sea Farms is experimenting with the tumble culture of dulse after returning from a Farmer to Farmer exchange trip to the West Coast in 2024.



COMMUNITY ENGAGEMENT GRANT PROGRAM

MAIC supported two community engagement events hosted by Maine aquaculture farmers this year. These events foster social license within communities by connecting aquaculture farmers with members of the public in a friendly and informal setting. Bombazine Oyster Company held their event in August 2025 for members of an adjacent landowners association, strengthening existing partnerships. Little Busters Oysters held their event in partnership with Two Maine Mermaids in October 2025 at a local park in Freeport. By partnering to host this event, and locating the event at a public park, Little Busters was able to engage with recreational waterfront users to educate about their aquaculture operation.

BUSINESS SUPPORT GRANT

In February 2025, MAIC introduced a new grant program that provides support to new and scaling aquaculture businesses in Maine. The goal of this program is to foster the growth of aquaculture businesses by granting up to \$5,000 for businesses looking to trial new aquaculture gear, species, or technology; continue market research efforts; or hire a subject matter expert in a consultant role. Two aquaculture businesses have taken advantage of this opportunity to date.

FARMER TO FARMER EXCHANGE PROGRAM



MAIC sponsored one Farmer to Farmer exchange in 2025. Shep Erhart of Maine Coast Sea Vegetables and Scott Lindell of the Woods Hole Oceanographic Institute traveled to Brittany, France to learn about product expansion and diversification of seaweeds. Lindell and Erhart met with producers, processors, and scientists in France and have brought back these international perspectives to Maine's seaweed industry.



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BUSINESS & ECONOMIC RESEARCH PROGRAM

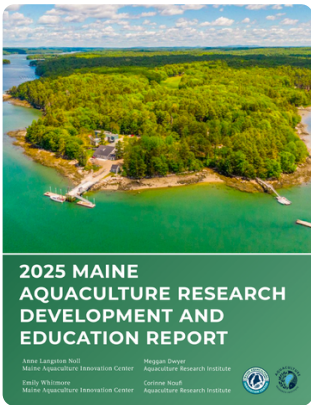
MAIC, in collaboration with the Atlantic Corporation, funds highly customized market research reports for aquaculture businesses looking to expand into new markets or develop new products. In 2025, we funded 5 businesses to take part in this program.

EQUIPMENT LENDING PROGRAM

MAIC is currently revamping our equipment lending library—a collection of sensors and other equipment that can be borrowed by industry members. We are inventorying gear and creating a streamlined process for lending with plans to relaunch the program this spring.

If you're interested in participating in any of these programs, you can find more information and how to apply [here](#).

APPLIED RESEARCH & DEVELOPMENT



MAINE AQUACULTURE RESEARCH DEVELOPMENT AND EDUCATION REPORT

During the summer and fall of 2024, MAIC, in partnership with the ARI, conducted our biennial industry survey to identify priority areas for research, development, and education. In response to back-to-back extreme weather events in January of 2024, this survey was adapted to focus on climate change impacts, adaptations, and research and development needs. The report was recently released and can be found on the MAIC website.

CRACKING THE SHELL: A Collaborative Approach to Developing Hatchery Production of the Atlantic Sea Scallop, *Placopecten magellanicus*

The Hatchery Implementation Team (HIT), an industry-research collaborative led by MAIC and the University of Maine, is in their fifth year of optimizing hatchery protocols for the Atlantic sea scallop. In 2025, the Aquaculture Research Institute and the Downeast Institute successfully set juvenile sea scallops for the first time, increasing the number of Maine hatcheries able to produce sea scallop spat from one to three! The HIT also distributed juvenile sea scallops produced by Mook Sea Farm to three Maine scallop farms. These hatchery-reared scallops are the first to be grown on commercial farms in Maine and have been thriving since their deployment in July 2025. Special thanks to our funders, the National Sea Grant Office, and our partners in this work - the University of Maine, Mook Sea Farm, the Downeast Institute, and the NOAA NMFS Milford Lab.



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EDUCATION & WORKFORCE DEVELOPMENT

AQUACULTURE IN SHARED WATERS



MAIC has continued to support Aquaculture in Shared Waters programming in 2025 with funding from a USDA Beginning Farmers and Ranchers Development Grant. This funding has allowed us to work with the Maine Aquaculture Association, Maine Sea Grant, Coastal Enterprises Inc., and the University of Maine to run an Aquaculture in Shared Waters Entry Level Training course with 34 students and an Aquaculture Bootcamp with 24 students. Both of these programs have engaged experts across the industry as paid instructors.

CELEBRATING AQUACULTURE IN WASHINGTON COUNTY

Communities and fishermen often have many questions about aquaculture practices in Maine. Community events are a platform to address misconceptions, answer questions about getting started in aquaculture, and showcase local farmers.

These gatherings also connect those curious about aquaculture with local and statewide organizations and resources. Three successful events took place in Washington County—one in Machias, one in Beals, and one in Eastport. These events were organized in collaboration with the Maine Center for Entrepreneurs, Cooke Aquaculture, the Maine Aquaculture Association, Washington Academy, and the Downeast Institute. Thanks to generous funding from the Northern Border Regional Commission, Maine Technology Institute, Maine Department of Economic & Community Development, Cooke Aquaculture, and MAIC, these events reached over 200 participants, fostering a deeper understanding of aquaculture in the community.



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HIGH SCHOOL PRE-APPRENTICESHIPS

Washington County Community College (WCCC) and MAIC are piloting an 8-week pre-apprenticeship program for current or recently graduated high school students. The pre-apprenticeship program aims to provide hands-on work experience in aquaculture, to teach critical skills and to introduce critical knowledge to prepare students for a career in aquaculture. In 2025 we supported 15 pre-apprentices working at 7 businesses in Washington and Hancock counties with funding from a Congressionally Directed Spending Award from the Department of Education and the Northern Border Regional Commission.



SEAWEED FARMING: BIOLOGY, METHODOLOGY, AND GLOBAL CONTEXT

Maine is a pioneer in the seaweed industry here in the United States. In this module we take a look at seaweed farming both here in Maine and globally.

Photo credit: Atlantic Sea Farms

AQUACULTURE LEARNING MODULE TRANSFER

The MAIC [Learning Modules](#) are a series of structured, digital educational modules designed to build aquaculture knowledge and workforce readiness across Maine's communities. Developed originally as iBooks as part of the Aquaculture in Shared Waters (AQSW) initiative, modules were transferred to the learning module website. These modules translate the expertise of Maine farmers, researchers, and aquaculture experts into accessible, self-paced learning resources available for free to new farmers, students, industry professionals, and community members.

AQUACULTURE K-12 CURRICULUM DEVELOPMENT

With support from a USDA NIFA-AFRI-PDAL grant, MAIC has continued efforts to bolster K-12 education in the workforce pipeline through 2025. Over the past year, our activities have included hosting farm field days, in-person workshops, and an immersive summer experience for teachers, as well as organizing virtual field trips for students. We have also created a new [bivalve curriculum](#) for 6th to 12th grades, which will include 15 new activities and six associated videos when finished. Over 80 educators have benefited from these aquaculture professional development opportunities this year.



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KNOWLEDGE DISSEMINATION & PARTNERSHIPS



MAIC MONTHLY WEBINAR SERIES

Launched in 2023, the MAIC Webinar Series is designed to connect stakeholders and the public to Maine's aquaculture industry through a monthly video series featuring presentations from researchers, industry experts, and aquaculturists. The series provides insights into new industry knowledge, research results, technologies, practical insights, and more. You can watch past recorded webinars [here](#) or on our YouTube channel!

FARMERS MAI-KIT: INTERACTIVE, LIVE-STREAMED COOKING CLASSES FEATURING MAINE CHEFS, FARMERS AND AQUACULTURE PRODUCTS

Supported by an eeBLUE Aquaculture Literacy Mini-Grant, the Farmers MAI-kit project promotes aquaculture literacy and strengthens connections between producers and the public through an interactive, virtual cooking series. The series pairs Maine chefs with aquaculture farmers to showcase locally grown seafood. Each episode featured a tasty recipe alongside a virtual farm tour and conversations about farming practices, sustainability, and the people behind the food. Watch our episodes featuring oysters, salmon, mussels and seaweed [here](#)!



MAINE AQUACULTURE RESEARCH, DEVELOPMENT & EDUCATION SUMMIT

The 6th Maine Aquaculture R&D&E Summit was held at the Maine Maritime Academy in Castine, Maine, on January 9th, 2025. Co-hosted by the University of Maine Aquaculture Research Institute and the Maine Aquaculture Innovation Center, the 2025 Summit focused on challenges and opportunities presented by a changing climate. Over 200 attendees from across Maine learned about the environmental changes impacting Maine's coastal ecosystems, their effects on aquaculture, and how the industry is adapting.



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MAINE WOMEN AND NON-BINARY IN AQUACULTURE NETWORK

Launched in spring 2024 and supported by the Nature Conservancy SOAR program, MAIC has helped to coordinate the Maine Women and Non-binary in Aquaculture Network. The network, now nearing 80 members, aims to strengthen relationships, expand knowledge sharing, and amplify women and non-binary voices in the industry. In addition to regional member gatherings, the network will be holding a state-wide meeting at NACE/MAS 2026. If you are interested in joining the network, please reach out to ewhitmore@maineaquaculture.org!



SCOTLAND SEAWEED EXCHANGE

In November, five MAIC members, along with a small group of farmers, researchers, and processors, traveled to Scotland to participate in the Scotland Seaweed Industry Association's (SSIA) annual meeting on collaboration and cooperation. The visit followed a reciprocal trip in which MAIC coordinated a three day tour of Maine's seaweed industry for five members of the SSIA. While in Scotland, the group visited key sites including a community seaweed farm on the Isle of Mull, Atlantic Mariculture, the Kilchoan Estate's seaweed and oyster restoration projects, and the Scottish Association for Marine Science, and two members were able to attend a supply chain workshop at the conference. The trip strengthened international partnerships and underscored shared challenges and opportunities between the Maine and Scottish seaweed sectors.



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LOOKING AHEAD — Events in 2026



Registration Open Now!

**Northeast Aquaculture
Conference & Exposition
and the
Milford Aquaculture Seminar**
will return to
Portland, Maine
Holiday Inn by the Bay
January 7-9, 2026

Learn more:
northeastaquaculture.org



NORTHEAST AQUACULTURE CONFERENCE & EXPOSITION / MILFORD AQUACULTURE SEMINAR

With an anticipated 600+ attendees, this year's joint NACE/MAS conference is set to feature an engaging program with 45 sessions covering finfish, sea vegetables, and shellfish farming, as well as a record number of posters in the Thursday Poster Session. We have the largest tradeshow we have ever hosted, showcasing leading aquaculture vendors from across North America, and on Wednesday, there will be seven informative workshops and four field trips to local aquafarms and research facilities.

AQUACULTURE IN SHARED WATERS

- AQSW 2.0 Shellfish: March 2026
- AQSW Bootcamp: May 2026
- AQSW Strong Bodies, Strong Minds: Spring 2026
- AQSW 2.0 Water Quality: November 2026
- AQSW 2.0 Seaweed: September 2026



AQUACULTURE K-12 CURRICULUM

- DEI Shellfish Field Day: January 30, 2026
- DEI Virtual Field Trip: January 6th, 2026
- Mussel Field Day: March, 2026
- Mussel Virtual Field Trip: April 2026
- Oyster Virtual Field Trip: May 2026
- Shellfish Teachers Camp: July 2026
- Aquaculture Teachers Workshop: November 2026



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MAIC's progress in 2025 was made possible through the support of our funders:



And thank you to all of our fantastic partners!



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