MAINE AQUACULTURE INNOVATION CENTER

STRATEGIC PLAN

2025 - 2030

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About MAIC: Our Organizational History

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.

MAIC was founded with a clear legislative mandate to assist in developing economically and environmentally sustainable aquaculture opportunities in Maine. Its initial objectives included:

- Sponsoring and facilitating innovative research and development projects in aquaculture, including food, pharmaceuticals, and other products derived from aquatic systems.
- Investing in the enhancement of aquaculture capacity and infrastructure within Maine.
- Serving as an educational resource to increase public visibility and acceptance of aquaculture.
- Encouraging and supporting strategic alliances to promote research, technology transfer, and the commercialization of aquaculture research.
- Promoting environmentally and economically sustainable aquaculture practices.

These objectives established MAIC as a leader in advancing sustainable aquaculture, supporting both industry growth and environmental stewardship in Maine, and positioned MAIC as a central organization for advancing research, supporting business incubation, fostering education, and building industry partnerships. While its structure and funding mechanisms have evolved over time, these founding goals have continued to guide MAIC's work.

In 1991, MAIC was formally incorporated as an independent nonprofit organization, which provided it greater operational flexibility and the ability to engage in a wider range of partnerships. Today, MAIC remains administratively tied to the Maine Department of Economic and Community Development (DECD) through the Centers for Innovation Program, which provides core annual funding. This funding underpins many of MAIC's programs and activities, and is reauthorized periodically through the legislature.

In addition to this core funding, MAIC also receives business incubation support through a separate, competitive RFP process that occurs approximately every three years. These funds enable MAIC to operate and invest in aquaculture business incubation services—including managing facilities at the Darling Marine Center and the Center for

Cooperative Aquaculture Research—and to provide site selection tools and oceanographic instrumentation to Maine aquaculture enterprises.
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.

MAIC Vision, Mission and Values

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.

Our Values

MAIC is centered around seven core values that guide our decisions and shape our impact:

Innovation

We are future-focused, always seeking innovative, science-informed solutions to today's aquaculture challenges across a range of species. We encourage creative ideas and understand the importance of testing new approaches, methods, products or solutions that create real-world impact.

Collaboration

We believe in the power of working together. Our inclusive, team-based approach encourages shared responsibility, open dialogue, and mutual accountability across staff, board, and partners.

Community

We are rooted in the communities we serve, guided by their needs and committed to supporting sustainable livelihoods, ecosystem health, and high-value products.

Resilience

We are solution-oriented and approach challenges with determination, flexibility, and grit. We support, adapt, evolve, and foster partnerships in pursuit of our goals.

Respect

We honor the unique expertise of our team, board and partners - fostering a culture of listening, learning, and mutual respect, while developing strong, dependable relationships both internally and externally. Our work is enriched by a wide range of lived and professional experiences and driven by the belief that a broad range of perspectives leads to better outcomes.

Responsiveness

We make informed decisions with agility—responding to the needs of the

aquaculture community in real time. We embrace change with flexibility and creativity, ready to pivot when needed to meet emerging challenges and opportunities.

Transparency
We operate with integrity and clarity, fostering open communication and decision-making that builds trust both within our organization and with the communities we serve.

MAIC's Core Principles

Our strategic plan is built on three core principles that form the foundation of our work. This trifecta—grounded in real-world relevance, strengthened by practical infrastructure and training, and amplified through collaboration—ensures MAIC continues its leadership role in driving innovation, building capacity, and fostering sustainable aquaculture.

1. Serving Industry Needs

MAIC remains deeply committed to real-world relevance, with every program and initiative designed to tackle the current challenges and opportunities within Maine's aquaculture sector. Since its inception in 1988, MAIC has supported over 400 applied research projects focused on critical areas such as site selection, disease detection, the cultivation of emerging species, and market development. These initiatives directly address the pressing needs of the industry, empowering farmers to optimize their operations, innovate solutions, avoid costly errors, and scale sustainably. Through collaborations with farmers and academic researchers, MAIC ensures its efforts are aligned with the ever-evolving demands of the aquaculture industry.

2. Catalyzing Innovation & Growth

From early-stage entrepreneurs to established operations, MAIC provides clear pathways to economic sustainability and growth through tailored programming.

- **Business Incubators**

  In collaboration with the University of Maine, the Maine Center for Entrepreneurs, and the Downeast Institute, MAIC provides targeted entrepreneurial support tailored to the aquaculture sector. These incubators act as living testbeds for innovative cultivation methods and products, offering essential services such as business planning, funding access, and connections to university resources.

- **Research & Development**
  MAIC provides grants and funding for innovative applied research projects that address challenges in the aquaculture sector. MAIC conducts research and development through a collaborative approach that involves partnerships with academic institutions, industry stakeholders, and government agencies. Research and development projects conducted or coordinated by MAIC are funded with external or internal funding.
- **Education & Training**
  MAIC empowers industry, students, and communities with the knowledge and skills to succeed through webinars, workshops, conferences (including the Northeast Aquaculture Conference & Exposition, and biennial Maine Aquaculture Research, Development & Education Summit), and educational resources.

3. Cultivating Partnerships

MAIC's impact is strengthened by working with our partners. We work hand-in-hand with a diverse network of partners to execute our mission and to serve Maine's aquaculture industry, including:

- Academic institutions
- Community groups
- Educators
- Federal and state agencies
- Industry members & associations
- International organizations
- Municipalities
- Nonprofits
- Working waterfront use

These collaborations enable MAIC to leverage resources, share expertise, and coordinate on strategic initiatives.

MAIC Strategic Goals & Key Actions

Goal A: Advance Innovation and Applied Research to Strengthen Maine's Aquaculture Industry

MAIC facilitates 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.

Key Actions:

1. Fund, coordinate and/or conduct applied research that responds to industry needs.

2. Act as a liaison between researchers and industry members to maximize alignment and industry outcomes.

3. Facilitate the integration of applied research to the aquaculture industry.

Goal B: Strengthen Aquaculture Development By Supporting New and Existing Businesses

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

Key Actions:

1. Strengthen facilities within Maine's aquaculture business incubator ecosystem.

2. Support Maine's aquaculture business entrepreneurship and development ecosystem, including new and scaling aquaculture businesses.

3. Provide access to resources and tools for responsible site planning and permitting.

4. Cultivate national and international collaborations to promote innovation and business development.

Goal C: Expand the Workforce Development and Education Pipeline

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

Key Actions:

1. Continue to support the *Aquaculture in Shared Waters* program.
2. Guide people toward training and workforce development opportunities.
3. Collaborate with partners to coordinate and/or conduct K-gray education, training and workforce development programming.

Goal D: Elevate MAIC's Communication and Visibility

MAIC promotes clear, consistent communication with partners and stakeholders — including tribal, municipal, and state agencies — to broaden awareness and deepen engagement.

Key Actions:

1. Strengthen storytelling and public communication that highlight MAIC's unique contributions.
2. Engage with key partners and stakeholders, including tribal, municipal, and state agencies.

Goal E: Steward MAIC's Organizational Structure, Governance and Long-term Financial Health

MAIC fosters a resilient and mission-driven organization through effective governance and financial health.

Key Actions:

1. Strengthen organizational efficiency and compliance with best practices.
2. Promote short and long-term financial health.
3. Maintain healthy organizational culture.

Appendix A: Maine Aquaculture Innovation Center Board & Staff

Board Members

Brian Beal	Downeast Institute
Sebastian Belle	Maine Aquaculture Association
Deb Bouchard	UMaine, Center for Aquaculture
Damian Brady	UMaine, Darling Center
Gef Flimlin	Rutgers Cooperative Extension
Alicia Gaiero	Nauti Sisters Sea Farm
Greg Lambert	Cooke Aquaculture
Marcy Nelson	Kennebec River Biosciences
Carter Newell	Pemaquid Mussel Farms
Sara Rademaker	American Unagi

Staff Members

Anne Langston-Noll	Executive Director
Emily Whitmore	Associate Director
Sydney Avena	Applied Research and Industry Partnerships Manager
Maya Pelletier	Education & Workforce Development Program Manager
Antoine Mier	Workforce Program Assistant
Chris Davis	Innovator in Residence
Joshua Richards	Research Fellow
Grace Adams-Kollitz	Project Assistant

Appendix B: Summary of External and Internal Engagement

June 2025

Overview

This is a summary of key findings from stakeholder engagement conducted to inform the Maine Aquaculture Innovation Center (MAIC) strategic planning process.

Between February and June 2025, 16 one-to-one interviews and 4 focus groups were held with MAIC staff, board, and partners for a total of 28 individuals engaged via Zoom. The original list of stakeholders was developed with MAIC staff and board members. Attempts were made multiple times to connect with individuals, but scheduling was often challenging and made particularly more difficult as the spring field season advanced. While there was more limited direct input from the aquaculture industry, many of the board members are industry members or representatives. A list of the individuals interviewed is in the Appendix.

The interviews followed an initial introduction to the strategic planning process and then a series of open-ended questions. The interview format and questions can be found in the Appendix. Conversations were tailored to the individual or focus group and were recorded using AI and written notes. The interview summaries were analyzed to identify common themes with a focus on identifying MAIC's major strengths and assets, areas for improvement, opportunities in the next 3-5 years and external threats to executing the mission of organization.

Combined Perspectives from Staff, Board, and External Stakeholders

Key Strengths and Assets

1. **Strong Leadership & Team Culture**
    - Highly skilled, respected, and collaborative staff with a culture of learning and transparency.
    - Leadership is open, flexible, and transparent; staff culture described as "non-siloed" and mutually supportive.
    - High-quality, cross-functional teamwork despite small staff size.
    - Team recognized for strong organizational ability and credibility.
    - Annie viewed as passionate, creative and a key asset.

2. **Trusted & Collaborative Partner**
    - Deep relationships with educational institutions (K-12, community colleges), research institutions (GMRI, Sea Grant, ARI), and rural communities.
    - Trusted as a neutral facilitator, connector, and technical partner.

- Credibility among partners as “go-to people to talk to” and recognized for including all sectors in their work.
- Broad and effective external network with aquaculture organizations.
- Strong ties with Washington County Community College and SCEC.

3. **Respected Education, Outreach & Research Activities**
    - Strong reputation in workforce development, including programs like *Shared Waters*.
    - Recognized capacity for integrating social science research and stakeholder-informed insight into aquaculture challenges.
    - Conduit for transferring technical knowledge to farmers.
    - R&D Summit highlighted as a successful convening and connection between industry and researchers.
    - NACE conference is recognized as a signature event that MAIC is uniquely able to organize and keep profitable.
    - Recognized as connecting the aquaculture industry to broader environmental and societal needs.

4. **Flexible & Responsive**
    - A nimble operational model enables rapid response to industry needs and small-scale funding opportunities.
    - Supporting gear development and innovative, community-focused research are seen as key functions.
    - Ability to identify key bottlenecks from a technical point of view and then sponsoring research to solve those problems.

5. **Fundraising Capabilities & Finances**
    - Excellent record of successful, collaborative grant writing and securing diverse funding sources.
    - Lean, non-profit status allows for low administrative costs, competitive budgets and ability to serve as a partner for larger projects.
    - Current strong financial reserve.

Areas for Improvement

1. **Communication & Visibility**
    - Stakeholders confused about MAIC's unique role versus similar organizations.
    - Under-recognized in collaborative projects and lacks consistent external messaging.
    - Needs clearer articulation of mission, goals, and impacts.

2. **Board Engagement & Governance**
    - Board lacks generational diversity and more entrepreneurial voices; not consistently engaged and informed about MAIC's work.
    - Opportunities missed in governance leadership, guidance, and external representation.
    - Founder influence still impacts flexibility and evolution.

3. **Technical Capacity & Applied Focus**
    - Need for deeper technical expertise to work credibly with growers and researchers as staff transition and needs increase.
    - Oceanography/modeling expertise for site selection and monitoring or engineering background may be useful added capacity.
    - Stay focused on real-world, applied problem solving and away from academic framing.
    - May have gaps in capacity to deliver workforce development at scale.

4. **Staff Sustainability & Connection**
    - Staff burnout and retention challenges are a risk due to workload and scale of expectations.
    - Potential expertise loss during personnel transitions.
    - Geographic spread limits face-to-face collaboration and challenges cohesive organizational culture.

Opportunities for Growth

1. **Workforce & Education Expansion**
    - Deepen work in Washington County to increase aquaculture career pathways.
    - Broaden reach of municipal, non-farmer, and youth engagement in coastal communities.
    - Support the next generation of aquaculture scientists through k-12 education.

2. **Innovation & Tech Transfer**
    - Lead on shared infrastructure (processing, incubation), secondary processing, and biorefineries.
    - Promote adoption of new tech (e.g., automated sorters, whale-safe gear, AI).
    - Use summits and mini-grants to stimulate innovation and cross-sector learning.

3. **Business Incubation & Support**

- Lean into business incubation and support through spaces like the Darling Marine Center.
- Help small farms transition from startup to sustainable operations.

4. **Species & Sector Development**
    - Expand support for new sectors within Maine's aquaculture industry, such as hard clams, mussels, and scallops, which have significant potential for growth.
    - Advance non-food seaweed markets (e.g., skincare, bioproducts).
    - Collaborate on tribal aquaculture efforts to support aquaculture efforts.

5. **Policy, Social Science & Community Insight**
    - Serve as a neutral, science-based expert to inform permitting, leasing, and regulatory reform.
    - Maintain social science research and communication work on public trust and acceptance of aquaculture to improve stakeholder engagement efforts and community acceptance.
    - Educate the public and legislature about climate change's impact on aquaculture, offering strategies to adapt and build storm-resistant aquaculture practices.

External Challenges

1. **Funding Uncertainty**
    - Reliance on competitive grants and limited long-term funding.
    - Need to diversify revenue and strengthen financial resilience.

2. **Regulatory & Political Environment**
    - Complex, slow permitting and leasing processes hinder innovation and investment.
    - Requires system-wide coordination and consistent communication with agencies.
    - Climate impacts pose risks to growing conditions, species viability, and spatial planning.

3. **Public Perception & Industry Dynamics**
    - Opposition to aquaculture is growing and well-organized.
    - Must navigate carefully between education as neutral position versus perceived advocacy.
    - Industry consolidation threatens opportunities for small and new entrants.
    - Need for proactive strategies on business succession, land/sea access, and climate resilience.

4. **Organizational Focus & Clarity**
    - Risk of duplicating efforts or stepping into advocacy roles already covered by others.
    - Importance of clarifying MAIC's niche to avoid overlap with similar institutions and enhance partnerships.

Summary

MAIC has a long history and strong reputation as a connector, funder, and innovator in Maine's aquaculture sector. Participants emphasized the organization's strengths in fostering collaboration, securing resources, and responding nimbly to industry needs. MAIC is highly regarded for its current programming and expertise. Suggestions were also made for MAIC to expand its impact—by deepening partnerships, clarifying its distinct role, and increasing visibility. There was a consistent request for more targeted support for small and emerging businesses, as well as applied research and technical assistance. Notable areas of attention include enhancing board engagement, diversifying funding, and evaluating programmatic focus to ensure alignment with industry priorities. Finally, external challenges such as permitting complexities, misinformation, and climate impacts were flagged as critical issues that MAIC is well-positioned to help address through its trusted relationships and convening power.

List of Interviewees

MAIC Board Members

Sebastian Belle	Maine Aquaculture Association
Brian Beal	Downeast Institute
Deb Bouchard	UMaine, Aquaculture Research Institute
Gef Flimlin	Rutgers Cooperative Extension
Greg Lambert	Cooke Aquaculture
Marcy Nelson	Kennebec River Biosciences
Alicia Gaiero	Nauti Sisters Sea Farm
Aurora Burgess	Atlantic Sea Farms

MAIC Staff

Anne Langston-Noll	Executive Director
Emily Whitmore	Associate Director
Sydney Avena	Special Projects Assistant
Maya Pelletier	Education & Workforce Development Program Manager
Antoine Mier	Workforce Program Assistant
Chris Davis	Innovator in Residence

External Partners and Stakeholders

Sam Belknap	Island Institute
Denise Cilley	Sunrise County Economic Council
Annie Fagan	Maine Sea Grant
Kohl Kanwit	Maine DMR
Emily Lane	Maine Center for Entrepreneurs
Madison Maier	Hurricane Island Center for Science and Leadership
Charlotte Mace	Maine DECD
Carolyn Merriam	Houlton Band of Maliseet Indians
Dana Morse	Maine Sea Grant
Krista Rosen	Cold Current Kelp
Nichole Sawyer	Washington County Community College
Dianne Tilton	Downeast Institute
Meredith White	Atlantic Aqua Farms
Gayle Zydlewski	Maine Sea Grant