

Mariculture Research and Training Center Concept Paper

DRAFT – August 25, 2020

Note: This whitepaper is conceptual in nature and will likely require flexibility during implementation in order to take advantage of timely opportunities related to funding and staffing availability.

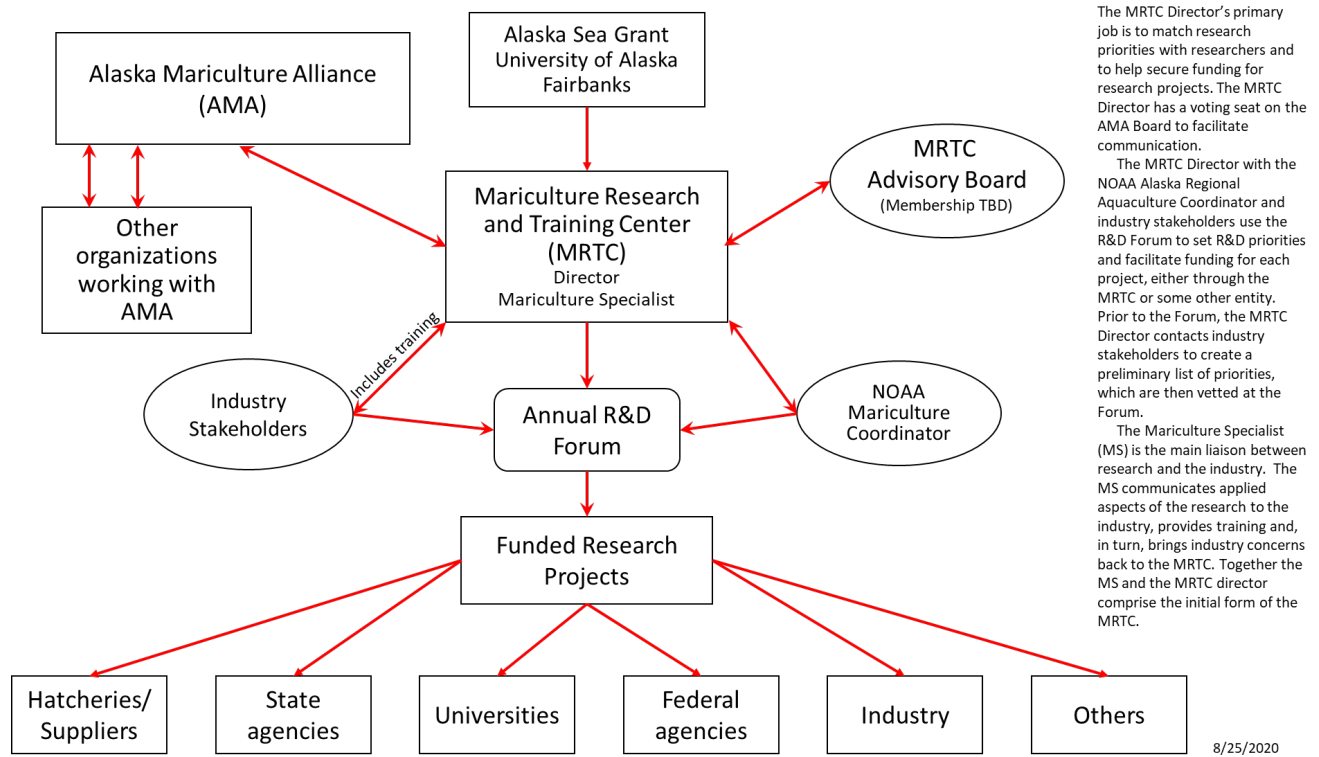
Alaska has the potential to become an international leader in mariculture as it has a number of strengths that can benefit mariculture development: clean and abundant waters, skilled laborers familiar with working on the water, an existing large-scale seafood industry with associated infrastructure, the Alaska Seafood Marketing Institute, engaged and supportive policymakers, and researchers with expertise in oceanography, marine sciences, and climate change.

In order to realize this potential, Alaska adopted the [Alaska Mariculture Development Plan](#) prepared by the Alaska Mariculture Task Force (MTF) in 2018, which is a statewide, comprehensive approach to accelerate the development of mariculture with the goal to grow a \$100 million industry in 20 years. In order to reach this goal, the Plan makes recommendations, including a number of priority recommendations which are intended to address systemic challenges for the industry and lay the foundation for future growth.

Specific to mariculture research and development (R&D), Alaska has historically not emphasized support for mariculture. For example, the University of Alaska does not have undergraduate or graduate degrees in mariculture, and participation by faculty and students in field research has been limited. In order to grow the industry, Alaska needs to build capacity in the research community with the intention to focus and coordinate research activities as well as provide workforce development training in order to enable growth of the mariculture industry.

With this in mind, the Plan includes a priority recommendation to implement the concept of a **Mariculture Research and Training Center** (MRTC) in order to address research needs in Alaska in a way that coordinates efforts and integrates industry leadership in order to reduce duplication and competition for funding, and strengthens the application of science to further industry growth.

Below is a diagram which illustrates the relationship of the conceived MRTC with other mariculture-related entities. (The diagram is intended to be instructive, but not prescriptive, particularly at the early stages of development of the industry.) Combined with communication with the Alaska Mariculture Alliance (AMA) and the outcomes of the Mariculture R&D Forums, the MRTC will not only organize the research community, but also will connect it with the industry, regulators, Alaska Native organizations and other stakeholders in Alaska, facilitating continual industry improvements and laying the foundation for the development of mariculture in Alaska.



Mariculture Research and Training Center (MRTC): an entity at the center of a formal network of facilities capable of doing mariculture R&D as part of their mission statements. The envisioned **MRTC** would be administered within the University of Alaska at Alaska Sea Grant, which is a partnership between the University and NOAA. The MRTC would include the various public and private research centers in Alaska, such as the NOAA's Alaska Fisheries Science Center, Little Port Walter, and Kodiak Lab, the UAS and UAF Labs in Juneau, UAF-CFOS, Kasitsna Bay Lab, Alutiiq Pride Shellfish Hatchery, OceansAlaska, Alaska Ocean Observing System, regional science centers, and others.

- **MRTC Mission Statement**

The mission of the Mariculture Research and Training Center is to

- 1) Coordinate research across disciplines (biology, engineering, economics, marketing, food sciences, etc.) for better success of industry development and to improve mariculture management;
- 2) Coordinate with the Alaska Mariculture Alliance in order to facilitate industry participation in setting priorities, in providing research platforms and in incorporating research results.

- **MRTC Objectives:**

- **Longer term objectives**
 - 1) Create the MRTC Advisory Board (AB) – Industry, Agencies, University, others.
Possible members:
Industry – Invertebrate farmer
Industry – Seaweed farmer
Industry – Hatcheries
Industry – Processors
University – Biology
University – Econ/Marketing
Regulators – ADF&G
Federal – NOAA Science Center
 - 2) Poll the AB, AMA and other industry stake holders to devise a list of near term research priorities.
 - 3) Help set research priorities by co-hosting along with the NOAA Alaska Regional Aquaculture Coordinator an annual R&D Forum using the preliminary priorities from 4).
 - 4) At the R&D Forum determine the final priorities and match funding sources with researchers.
 - 5) Develop partnerships in order to facilitate research proposal submissions based on the priorities from the R&D Forum and complete the research.
 - 6) Engage with industry to share research results and provide support to incorporate results within industry.
 - 7) Facilitate training (classes, webinars, workshops, etc.) to support expansion and technology transfer to the industry.

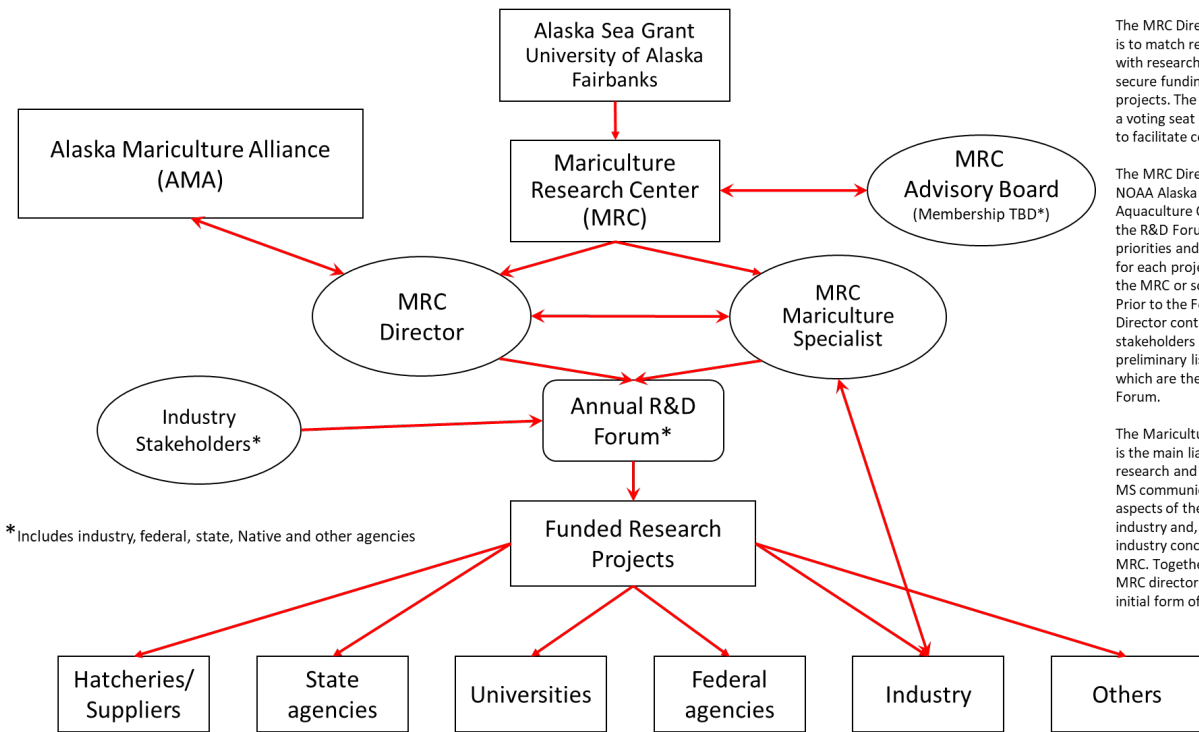
- **Near term objectives**
 - 1) Delineate the qualifications and duties for the MRTC Director and the Mariculture Specialist.
 - 2) Engage with UA to get it to have “skin in the game” with respect to the MRTC.
 - 3) Prepare proposals to fund the Mariculture Specialist and MRTC Director.
 - 4) Work with the AMA (MTF) to gain support for the MRTC from the state.

- **Staff:** ideally, the MRTC will utilize two staff positions hosted by Alaska Sea Grant; these may be less than full time positions initially. The **MRTC Director** will facilitate communication, coordination and cooperation with this network in order to meet the research priorities outlined in the Plan in a variety of fields from biology to food sciences to engineering to marketing. The MRTC Director will work closely with the NOAA Alaska Regional Aquaculture Coordinator to facilitate the development of these research priorities through organizing the annual Mariculture R&D Forum. The MRTC Director may also help write proposals to secure funding from eligible grant sources. The MRTC

Director will also provide “matchmaking” services for students and faculty with growers and other entities. The **Mariculture Specialist** will facilitate cooperative and applied research projects with industry, translate research results into practical improvements for industry, provide workforce training, and interact with other stakeholders.

- **Mariculture R&D Forum**: annual forum with industry leadership where priorities are discussed in cooperation and action plans are developed to achieve outcomes. Prior to the Forum, the MRTC along with the Alaska Mariculture Coordinator will canvas industry stakeholders to form a preliminary list of research priorities to be vetted at the Forum.
- **Funds**: financial support to achieve mariculture R&D priorities (i.e. human and physical resources) will come from a variety of sources including federal and state governments, and private sources (industry, NGO, North Pacific Research Board, EVOS funds, etc.). Funding for the MRTC staff should ideally be “hard” money to provide a long-term commitment and consistency from year to year.

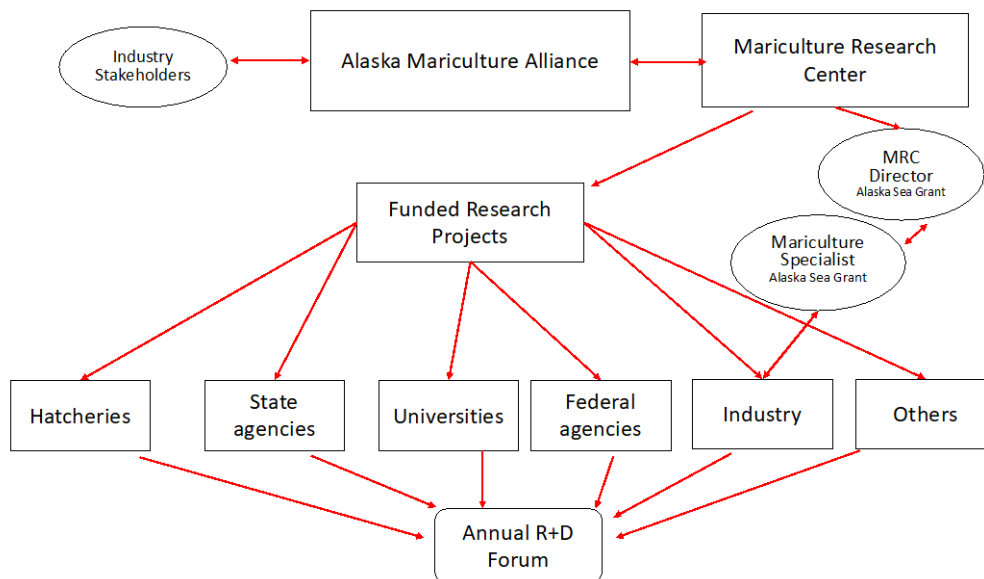
- These are the previous diagrams:



The MRC Director's primary job is to match research priorities with researchers and to help secure funding for research projects. The MRC Director has a voting seat on the AMA Board to facilitate communication.

The MRC Director with the NOAA Alaska Regional Aquaculture Coordinator use the R&D Forum to set R&D priorities and facilitates funding for each project, either through the MRC or some other entity. Prior to the Forum, the MRC Director contacts industry stakeholders to create a preliminary list of priorities, which are then vetted at the Forum.

The Mariculture Specialist (MS) is the main liaison between research and the industry. The MS communicates applied aspects of the research to the industry and, in turn, brings industry concerns back to the MRC. Together the MS and the MRC director comprise the initial form of the MRC.



AMA: composed of mariculture stakeholders; charged with facilitation of mariculture development in Alaska. More details TBD.

The MRC is the central entity for coordinating mariculture research. The MRC director along with others seeks funding for research priorities as determined by the Annual R&D Forum.

The Mariculture Specialist is the main liaison between researchers and industry. Together, the MRC Director and Mariculture Specialist comprise the initial staff of the MRC.

The boxes at the bottom are examples of entities that would carry out the funded research.

There are numerous funding possibilities and they are not listed here.

The Annual R&D forum provides feedback to AMA and MRC (arrows not shown).