

Alaska Mariculture Task Force

Mariculture Workforce Development Advisory Committee Recommendations June 19, 2017

The Alaska Mariculture Task Force Workforce Development Advisory Committee met four times between October 2016 and May 2017 to identify ways to support workforce development in the state's mariculture industry and develop recommendations to address challenges. Members and contributors included: Paula Cullenberg, Alaska Sea Grant, chair; Eric Wyatt, Blue Starr Oyster Co.; Jim Aguiar, Eagle Shellfish Farms; Myrna Gardner, Central Council Tlingit Haida Indian Tribes of Alaska (CCTHITA); John Kiser, Rocky Bay Oysters; Tomi Marsh, OceansAlaska; Reid Brewer, UA Southeast; Julie Decker, AFDF; Adam Smith and Christi Colles, Alaska Department of Natural Resources; Barbara Brown, Dept. of Labor and Workforce Development; Sam Rabung, Alaska Department of Fish and Game; Kirsten Shelton Walker, McDowell Group.

Objectives for Workforce Development

The group identified three objectives for workforce development in the mariculture industry:

1. Increase profits and business success for those already in the industry;
2. Ensure hatcheries and nurseries and farms have a skilled workforce to draw from;
3. Inform, recruit and retain new entries into the industry.

Alaska Mariculture Workforce Development Advisory Committee Recommendations:

1. Encourage the hire of a Mariculture Specialist.
2. Develop and circulate mariculture skill-building resources. Offer professional development to growers, available remotely and in-person.
3. Offer an intensive, hands-on "Introduction to Shellfish/Seaweed Farming" boot camp.
4. Develop a mariculture apprenticeship/mentorship program.
5. Participate in industry career awareness/career exposure activities.
6. Evaluate and track participant progress. Include mariculture workforce impacts in economic and employment analyses.

Alaska's Mariculture Workforce

Direct employment at aquatic farm operations in Alaska includes owners, partners, employees, interns and family members. Paid positions can include part time, full-time, seasonal and year round. Most operations include volunteers, family members or interns to help keep labor costs down. Hatchery and nursery operations generally use paid full-time and seasonal employees.

In 2015, 138 people were working at shellfish farms; 55 were paid employees. Paid positions, including laborers, participated in 3,500 workdays (average 63 days or 12-13 weeks) and total workdays (including non-paid owners, etc.) were 9,600.

Hatchery and nursery operations had 36 workers; 3,420 days of paid workers (average 95 days employment or 23 weeks). Eleven positions worked more than 150 days and 92% of the positions were reported as laborers. Overall seed supply employment opportunities grew in 2015 with an increase in number of workers and number of days working.

Workforce development is needed for new operators, workers at farms, and hatchery workers. Skills needed by mariculture operators include: growing, harvesting, processing, marketing, meeting regulations and financial management.

In 2014, the [Alaska Maritime Workforce Development Plan](#) for the state was published. Shellfish farmers surveyed during the development of the plan identified the following action steps to expand the workforce:

- Increase awareness about small business loans to support entrepreneurs, by providing information about what loans are available and points of contacts and other references that can provide access to capital.
- Provide access and support for financial management and business training.
- Explore the need for a program similar to the reduced loan fee incentive for an Alaska Housing Finance Corporation loan, linking financing to financial training.

Challenges to the shellfish/seaweed farming workforce, identified by the Advisory Committee include: remote and often isolated farm locations, intense work condensed into a small season, physically demanding and repetitive work, outdoor work in all weather, low wages if an employee and/or small business owner responsibilities.

The Advisory Committee identified the need to target key populations such as Alaskans used to weather conditions, veterans, fishermen, and rural youth to meet workforce needs. Since Alaska would like to see the mariculture industry grow, incentives and workforce development programs should be developed to encourage more Alaskans to follow this career pathway.

Current workforce training and education

Mariculture farmers in Alaska are not required to have any particular certification or training to operate their businesses. Hatchery workers often have some level of post-secondary education, although that requirement is not consistent in Alaska. However, training and professional development is a critical part of recruiting a quality workforce and ensuring self-employed farmers gain the most value from their businesses. Currently, there are some, but limited, opportunities for professional development and training in mariculture in Alaska, listed below. Some training is offered in other states and a brief overview is provided here.

Alaska Sea Grant (UAF) offers workshops, technical assistance and training for Alaskans on a wide range of coastal issues and hosts an aquaculture website which is a good resource site for beginning and current farmers. For many years, Ray RaLonde served as a statewide Aquaculture Specialist for the Alaska Sea Grant's Marine Advisory Program. RaLonde worked with the shellfish farming industry on training, permitting, researching best growout practices and market opportunities. He retired in October 2015 and his position has not been refilled due to budget restrictions.

UAS offers an occupational endorsement, a certificate and an associate degree in Fisheries Technology that targets technicians at salmon hatcheries or fisheries technicians at state or federal agencies. While the program has offered a shellfish farming class in the past, it currently has no directed program focused on mariculture.

Training materials developed both by RaLonde and by UAS' one class on shellfish farming are available as well as module outlines developed by shellfish farmer, John Kiser. As of this writing, there is no capacity to teach any shellfish or seaweed farming training classes in Alaska.

The Virginia Institute of Marine Sciences has an Oyster Aquaculture Training Program <http://www.vims.edu/research/units/centerspartners/abc/oat/index.php> Participants rotate through the stages of oyster aquaculture from the hatchery to field grow out operations. Brief classroom lectures on major topics provide background information. This program will also include field trips to other research facilities and industry sites.

The Oyster Aquaculture Training (OAT) program is funded by non-State private funding. It offers prospective shellfish aquaculturists an opportunity to learn about all aspects of oyster culture, from hatchery to field operations—essentially, it is oyster culture “boot camp.” In the past, many of these trainees have ended up in local businesses, and some have gone far afield. Consideration is afforded to all applicants who demonstrate a desire and aptitude for oyster aquaculture. The program draws from a national pool.

Maryland Extension has a broad suite of classes: <http://extension.umd.edu/aquaculture/educational-programs> Maine Sea Grant has extensive seaweed culture resources, other Sea Grant programs around the country have a range of aquaculture resource materials.

Roger Williams College, through instructor, Dale Leavitt also teaches a beginning shellfish growing class. In 2016, Leavitt offered the class via distance for the first time.

Alaska Mariculture Workforce Development Advisory Committee Recommendations:

- 1. Encourage the hire of a Mariculture Specialist.**

The Advisory Committee noted the lack of capacity dedicated to developing the shellfish/seaweed farming workforce in Alaska. A Mariculture Specialist would be a catalyst for workforce development including: fine-tuning training materials, develop and coordinate training opportunities to meet workforce objectives. The Committee recommends that the Mariculture Specialist be part of Alaska Sea Grant's Marine Advisory faculty due to Sea Grant's connections with industry and the ability to help direct industry-driven research.

2. Develop mariculture skill-building resources. Offer professional development to growers, available remotely and in-person.

Class curricula, training modules and skill building resources have been developed over the years in Alaska. However, some are out of date and somewhat difficult to assemble. These teaching materials need to be updated, loaded online and made available remotely, as professional development to farmers and advancement for farm workers throughout the year. Hands-on, in-person training should be made available to farmers at annual meetings and on site as resources permit. While recognizing that University credit or a degree is not needed to be successful in mariculture, the value of some sort of University "credentials" should be explored.

3. Offer an intensive, hands-on "Introduction to Shellfish/Seaweed Farming" boot camp.

The objective of the hands-on "boot camp" is to provide an intensive, real world exposure to mariculture as a career. While some participants will choose not to pursue mariculture, others may become a cohort of Alaskans who could either work on a farm or eventually start their own farms. The "boot camp" will be a partnership with Central Council of Tlingit and Haida Indian Tribes of Alaska, other tribal workforce programs, Alaska Sea Grant, growers and other partners.

4. Develop a mariculture apprenticeship/mentorship program.

Some progress has been made in developing a mariculture apprenticeship program in Alaska. A traditional apprenticeship program, sponsored by the Alaska Department of Labor and Workforce Development, requires a step-wise plan for advancement as well as a link to formal training program. This may or may not be possible on a small, potentially remote shellfish farm. An informal apprenticeship or mentorship program supported with tribal workforce funds or by other means such as gradual development of a farm site may also be developed and could prove more flexible for a small business owner. Without federal apprenticeship funds available, other resources will need to be available to support a program, i.e. favorable loan terms for example. Once developed, an apprenticeship/mentorship should link to the "boot camp" and result in some type of certificate of completion to document skills.

5. Participate in industry career awareness/career exposure activities.

Numerous high schools in coastal Alaska incorporate career awareness into their education programs. Mariculture as a career opportunity should be included. Information describing this career, the pros and cons of the job, potential earning and an educational pathway should be developed and shared with high schools as well as made available

more broadly online. Maritime Works and the University of Alaska's Fisheries, Seafood and Maritime Initiative both have websites developed to provide information on maritime careers. The Future Farmers of Alaska has had a mariculture strand intermittently, coordinated by Alaska Sea Grant and FFA. This structured hands-on mariculture career exposure as well as other hands-on programs should be encouraged.

6. Evaluate and track participant progress. Include mariculture workforce impacts in economic and employment analyses.

With Alaska's current small mariculture workforce, it should be simple to track the progress of participants in workforce training programs. This will enable the programs to be evaluated and improved. It will also enable Alaska to more fully understand and describe the workforce. Economic and employment analyses often underreport or leave out mariculture operators altogether due to lack of information. More clearly describing the workforce enables the true value for the industry to be described.

Potential Workforce Development partners: Central Council Tlingit and Haida Indian Tribes of Alaska, Haa Aani, Alaska Sea Grant, Alaska FFA, Alaska Shellfish Growers Association, University of Alaska Southeast Fishery Technology Program.