Fisheries, Seafood, Maritime Initiative

(FSMI) 2023 Annual Report

UNIVERSITY of ALASKA
Many Traditions One Alaska

University of Alaska | Supporting the Maritime Workforce

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The University of Alaska's Fisheries, Seafood and Maritime Initiative supports Alaska's maritime workforce and economy by delivering education, training, and research.

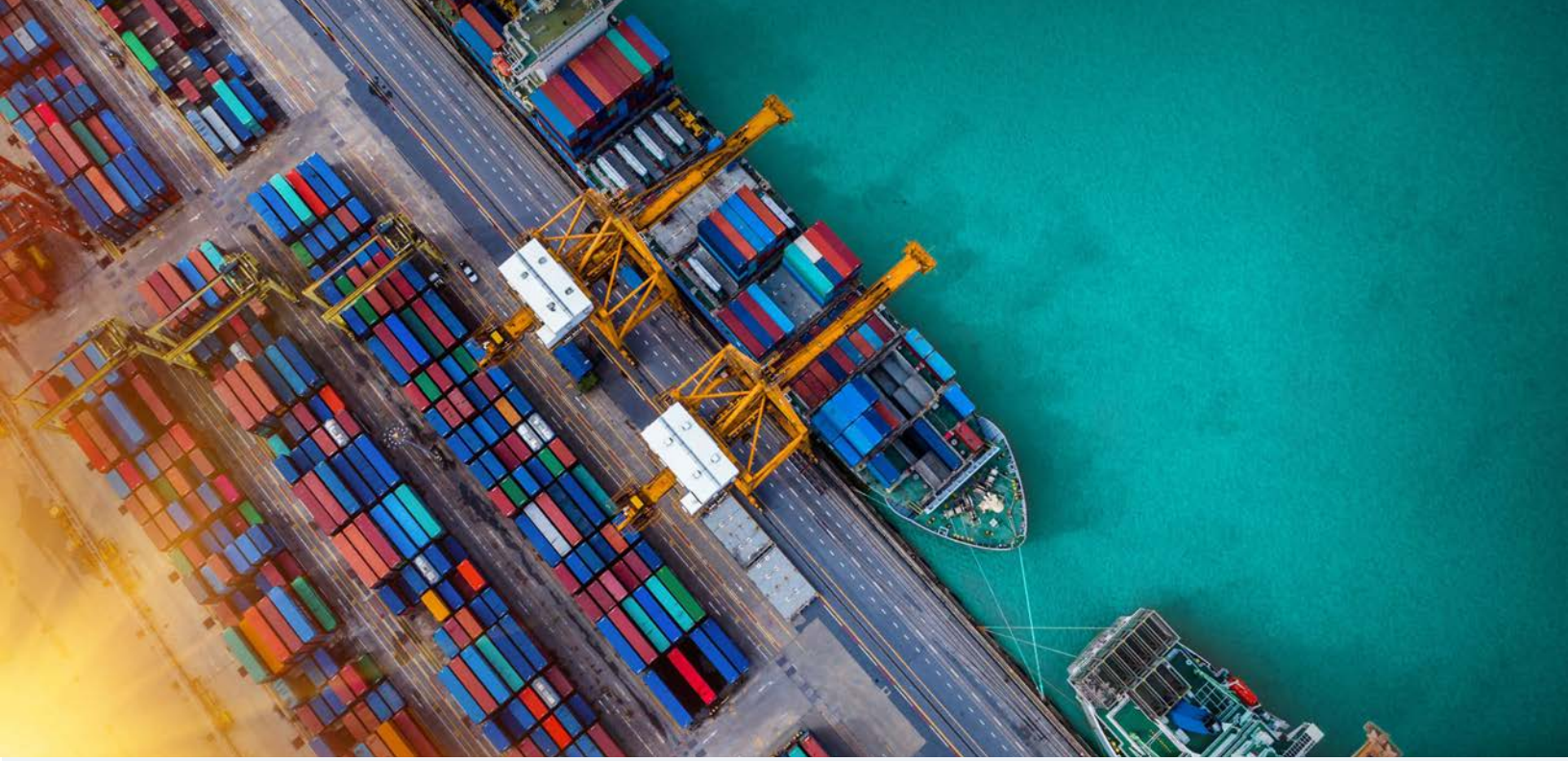
The Importance of Alaska's Maritime Industry

Alaska's maritime industry plays a crucial role in the state's economy and infrastructure. Alaska boasts 34,000 miles of coastline, coastal borders on three seas, and more inland water than any other state - all pointing to the critical role of Alaska's maritime industry. With annual production of over half the nation's commercial seafood, Alaska's fisheries play a crucial role in meeting the nation's seafood needs. Additionally, Alaska is rich in other natural resources including oil, gas, minerals, and timber; the maritime industry is vital for transporting these resources to domestic and international markets. As the Arctic continues to open, Alaska has the potential to become an important hub for Arctic shipping routes. Even in the aftermath of COVID-19, including labor shortages, inflation, and other economic issues, Alaska's maritime sector remains vitally important to the state's economic well-being.

Alaska will continue to need a skilled workforce to fill the maritime jobs that will help reinvigorate, sustain, and grow the state's economy.

Fisheries, Seafood and Maritime Initiative and Maritime Works supports Alaska's maritime workforce and economy by delivering education, training, and research

The Fisheries, Seafood, and Maritime Initiative (FSMI), with Maritime Works, helps strengthen the maritime workforce and economy by supporting the efforts of four active working groups and coordinating a variety of key partners. As seen in Figure 1, FSMI leadership includes the University of Alaska, the Alaska Vocational Technical Center, and Maritime Works at the Alaska Safety Alliance. FSMI continues to be committed to engaging maritime industry members to drive the effort to support Alaska's workforce and economy by delivering education, training and research. Each working group is focused on one of the maritime sectors identified in the 2014 Alaska Maritime Workforce Development Plan and supported by the subsequent 2020-2025 Action Agendas (AMEC and Alaska's Seafood Future). The working groups include: Marine Occupations and Support Industries; Research, Enhancement, and Management;Seafood Harvesting and Processing; and this year, a fourth working group was added to support the emerging Mariculture industry. Further, the Maritime Occupations and Support



Industries, also known as the Alaska Maritime Education Consortium (AMEC) added two subcommittees: the Afloat Subcommittee and the Ashore Subcommittee. All groups meet regularly to review workforce and training needs, collaborate to develop and deliver training that is responsive to industry needs, and address challenges to make training more accessible for Alaskans to obtain maritime certifications and employment in Alaska's maritime industry.

Key FSMI/Maritime Works partnerships include affiliate partners of the Alaska Maritime Education Consortium, Alaska Research Consortium, and Southeast Conference, in addition to the myriad of industry and non-profit stakeholders in Alaska. Training organizations and industry came together to develop and publish the Alaska Maritime Workforce Development Plan in 2014, and they continue to nurture and expand their partnerships to address the growing workforce needs of Alaska's maritime industry. This report highlights recent activities and outcomes of FSMI and its partners.

For more information, please see the FSMI website at www.alaska.edu/fsmi.

Investments and Outcomes

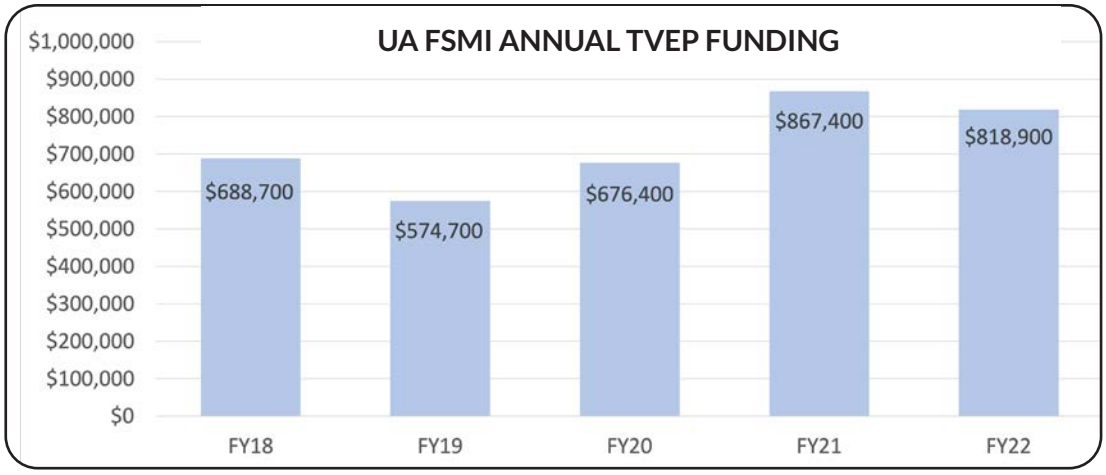
Technical Vocational Education Program (TVEP)

Over the last five years, UA has invested an annual average of $725K from the Technical Vocational Education Program (TVEP), in addition to other funding sources, into FSMI programs to support the implementation of the Alaska Maritime Workforce Development Plan.

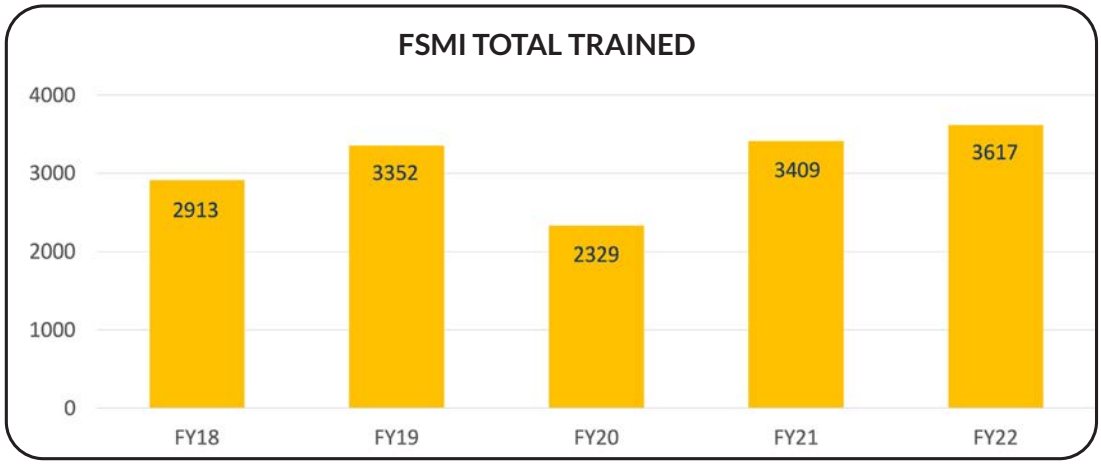
Investment examples include funding program development, expansion, and delivery of maritime workforce training, varying from short, focused workshops to degree programs. Many result in industry recognized credentials, from the American Boat and Yacht Council (ABYC) or National Center for Construction Education and Research (NCCER) certifications to United States Coast Guard (USCG) licensure. The funds also supported ongoing FSMI coordination and investment in industry-identified workforce initiatives.

In FY22, the University of Alaska has invested $818,900 from the Technical Vocational Education Program (TVEP) in addition to other funding sources, into FSMI programs to support the implementation of the Alaska Maritime Workforce Development Plan.

AVTEC also received separate TVEP funding, not reflected below, that helps support their Alaska Maritime Training Center.



In FY22, the University system trained 3,617 students. The number of FSMI program completers has seen an upward trend since the devastating drop in students due to the COVID-19 pandemic in 2020.



FY20 was the first year AVTEC numbers started being reported in the figure above. In FY22, AVTEC trained 478 students and UA trained 3139 students, indicating that completion numbers quickly recovered to pre-pandemic levels.

Capital Budget Grant

In addition to TVEP investments, the University of Alaska received a one time $2 million capital budget grant in FY22 from the Alaska State Legislature to be invested over the next four years. These investments are funding a variety of activities, including student scholarships, equipment upgrades, seed funding to establish several outboard motor maintenance training centers, maritime staff/faculty training and development, and investments in vessel maintenance and repair courses across several UA campuses and AVTEC.

Alaska Workforce Innovation Grant

Maritime Works received $250,000 in one-time funding from the Alaska Department of Labor to purchase equipment to establish a Marine Technician Training (MTT) program, using Yamaha Motor Company equipment and curriculum. This grant also provides funding for career awareness and outreach, including expenses related to creating four career micro-videos. Finally, this grant provides funds for Experience Maritime, a high school maritime career camp to take place in Anchorage, Seward, and Sitka in 2024.

Employment Outcomes

The Alaska Department of Labor and Workforce Development operates AVTEC, Alaska's only state-operated postsecondary vocational training center. AVTEC houses the Alaska Maritime Training Center, which provides all maritime training for the Department of Labor and Workforce Development.

The University of Alaska (UA) is the state's only public higher education institution and consists of three separately accredited universities and thirteen community campuses throughout the state. Multiple campuses in coastal communities provide access to maritime training in the southwest, gulf coast, and southeast economic regions of Alaska.

The following table breaks down employment outcomes for the students that completed various afloat and ashore programs across the state. This includes the percentage of individuals that found employment, as well as changes in their wages one year after graduation.

FY 2020 Maritime Programs	% Employed 1 Year After Graduation	Wages % Change
AVTEC Afloat Pathways	75%	8%
UAF Bristol Bay Campus Ashore Pathways	55%	83%
UAS Ketchikan		
Afloat Pathway	80%	-11%
Ashore Pathway	70%	16%
UAA Prince William Sound		
Afloat Pathway	62%	12%
Ashore Pathway	91%	222%

Also according to UA's 2023 Transportation Workforce Report, over the past 3 years, 86.9% of UA graduate maritime technicians work in Alaska within one year of graduation, and see an 84.2% wage growth 10 years after graduation. These outcomes are helping to fill the highest demand occupations in Alaska's transportation industry, who hired 1799 sailors and marine oilers and 633 captains, mates and pilots of water vessels over the past three years.[1]

The Fisheries and Marine Science report found that 68.5% of all UA fisheries management graduates are working in Alaska within one year of graduating, and experience 85.1% wage growth in 10 years. Alaska's fisheries and marine science industry hired 798 life, physical and social science technicians, 434 environmental scientists and specialists, 389 wildlife biologists, 226 biological technicians, 151 forest and conservation technicians.[2] These occupations require postsecondary education and include all hires, not just UA grads.

FSMI Working Group Highlights

Alaska Maritime Education Consortium (AMEC)

AMEC's mission is to collaborate to prepare Alaskans for afloat and ashore careers that will support and strengthen the maritime workforce. Recent highlights include:

- The late Congressman Don Young advocated for more marine technicians in remote areas of Alaska. In August of 2022, AMEC, a partnership between the University of Alaska and the Department of Labor and Workforce Development, established an agreement to implement a comprehensive Yamaha marine technician training (MTT) program to be delivered throughout the state and specifically in remote regions. The agreement was signed by University of Alaska President Pitney, former Dept. of Labor and Workforce Development Commissioner Ledbetter, and Yamaha U.S. Maritime Business President Speciale. Governor Dunleavy was present to recognize the partnership and its importance in helping to expand maritime training in Alaska.

1 https://www.alaska.edu/research/wd/2023%20Transportation%20UA%20Workforce.pdf
2 https://www.alaska.edu/research/wd/2023%20Fisheries%20and%20Marine%20Science%20UA%20Workforce%20Report%20Final.pdf

- AMEC strategically identified three sites that would initially stand up or expand existing Yamaha marine technician programs. These include UAF Bristol Bay Campus in partnership with Alaska Sea Grant, UAS Ketchikan Campus, and UAA Prince William Sound College. In 2023, additional funding made possible a fourth training site in Southcentral Alaska, at the UAA Kenai Peninsula Campus in partnership through AVTEC. Through partnership with Yamaha, AMEC members are able to purchase equipment and supplies at dealership rates.
- Prince William Sound College (PWSC) hosted instructor training to launch the MTT program, and AMEC successfully trained 11 instructors, representing 5 of 6 economic regions in Alaska to become certified MTT Instructors.

▶ Alaska is dependent on maritime transportation. The Alaska Marine Highway System, the state's largest nonmilitary-vessel-operating employer, is among many employers that rely on a skilled maritime workforce.Other high-demand industry sectors include seafood harvesting, seafood processing, natural resource exploration, and tourism. To address the needs of the industry, upgrades to maritime training equipment at UAS Ketchikan and AVTEC will advance online and hybrid U.S.Coast Guard (USCG) training programs to ad. Both training providers will leverage these investments to continue delivering USCG-approved classes required for vessel operations in addition to contracted training sessions for various maritime employers.

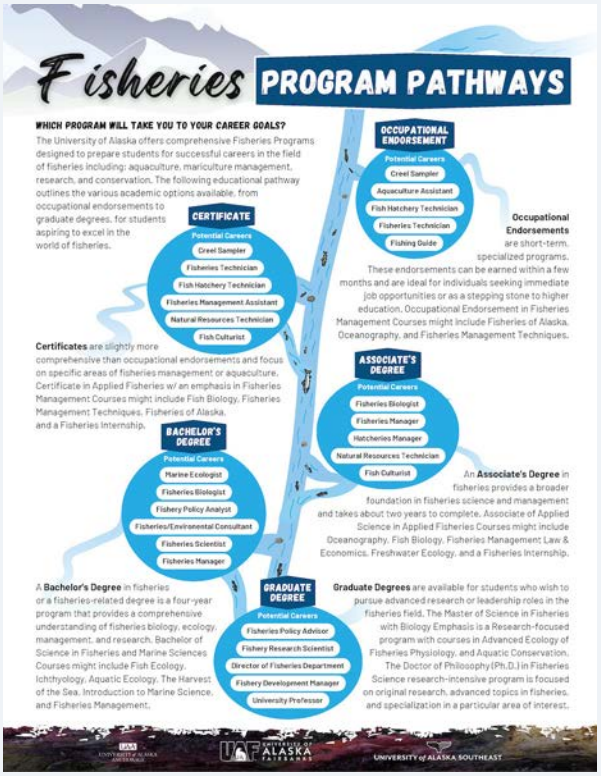
- UAS Ketchikan is completing complete upgrades to their USCG approved fire-field that include the manufacturing and shipment of live-fire trainers, a smoke generation and controls system, a gas detection system, temperature monitoring, ventilation fans and controlling electronics, PLC computer controls, connections from fire prop equipment to fire simulator equipment, and training and operation manuals.
- AVTEC is purchasing fire turnout gear, curriculum, a damage control trainer, refill/recharge of portable fire extinguishers, calibration gas, replacement hoods, and Self-Contained Breathing Apparatus (SCBA) masks and servicing.

Seafood Harvesting and Processing (SHP)

The SHP Working group aims to: 1) provide training for seafood harvesters in skills that increase value and encourage new entry and 2) provide training for seafood processors, leading to equity and access to higher paying and skilled positions, particularly for underserved populations and in underserved communities. Recent highlights include:

- In 2023 the SHP working group launched microvideos to expand awareness of priority seafood processing careers, which include : plant manager, electrician, refrigeration technician and quality controller.
- In June 2023, UAF Alaska Sea Grant (ASG) facilitated seafood processing trainings for 89 supervisors in Naknek and Dillingham.
- Working group members are developing crew curriculum and continue development of a seafood harvester apprenticeship program.
- UAF ASG purchased seafood harvesting crew supply kits, training gear, and personal protective equipment for a crew class delivered at the UAF Bristol Bay Campus.
- Refrigeration Operator was identified as one of the twenty-three priority occupations in the Alaska Maritime Workforce Development Plan in 2014 and reaffirmed by Alaska's Seafood Future Action in 2021. UAF ASG will leverage these investments to address long standing workforce needs in partnership with Alaska Research Consortium (ARC) who obtained a federal appropriation to develop an Ammonia Refrigeration Operator program. ARC is working with iWorkWise to develop a three-level program consisting of computer-based learning modules and a 40-hour face-to-face intensive class scheduled for delivery at the Kodiak Seafood Marine Science Center where UAF ASG will help with the hands-on training.
    - In Fall of 2023, ARC launched this Ammonia Refrigeration Training Program, training 30 operators in Level 1/Assistant Operator 1 program. In fall of 2024, ARC will offer Level 2/Assistant Operator 2, followed by Level /Operator training in fall of 2025.
    - The SHP working group supported these efforts through funding and managing repairs on an existing walk-in freezer that can be utilized until additional funding

is raised for purchase of an ammonia refrigeration unit. They also purchased a Reverse Osmosis water machine. These equipment upgrades support other ASG courses to enhance training for seafood processors.



Research Enhancement and Management (REM)

The Alaska Department of Fish and Game (ADF&G) and other fisheries and management employers rely on an educated workforce in priority occupations that can be difficult to recruit. These include fish and wildlife technicians, fish and shellfish culturists, fishery biologists, fishery biometricians, and hatchery managers. The REM working group focuses on expanding awareness and developing a workforce for these occupations to help employers recruit and retain local talent. Recent highlights include:

- In 2023, a Fisheries Scholarship was awarded to 18 UA students, including UAA, UAS, and UAF students in fisheries or related fields. Awards totaled $24,500 to be allocated between Fall 2023 and Spring 2024 academic semesters for students pursuing a myriad of fisheries related programs, including Applied Fisheries, Marine Biology, Fisheries and Marine Sciences, and Biological Sciences.
- The working group created a Career Pathways document outlining the various academic options available, from occupational endorsements to graduate degrees, to increase awareness of options for for students pursuing education and career advancement in fisheries.

Mariculture Working Group

Alaska Mariculture Cluster was developed by the Southeast Conference, funded by a US Department of Economic Development Administration Build Back Better Regional Challenge. The goal of this group is to help develop a $100 million mariculture industry over the next 20 years. Recent highlights include:

- As a part of this effort, the Mariculture Working Group was established as a fourth working group of FSMI to identify workforce demands of this emerging industry.
- In December of 2023, the working group completed a final draft of the Mariculture Workforce Development Plan. This plan aims to: develop a responsive workforce that enables the mariculture sector to become a substantial contributor to the state's economy; guide Alaska's workforce to discover and prepare for a range of employment opportunities in the sector; and increase the number of Alaskans working in the sector. This workforce plan will be presented at the 2024 Mariculture Conference of Alaska in February, 2024.
- The group is working to establish micro-credentials for mariculture offerings to demonstrate student competencies and pathways across programs. Mico-credentials will include digital badges or certificates that provide students with a record of achievement.

Student Spotlights

Lysette Doran

Lysette Doran

Lysette Doran completed PWSC's Marine Service Technology OEC and completed two certifications from Yamaha, various certifications from Briggs and Stratton, and a state approved boater safety certification. Lysette has a job opportunity at a Yamaha dealership in her hometown of Fairbanks at "Boat Shop". This opportunity was presented to her on PWSC's Fairbanks field trip where we toured dealerships. Her next step is completing the Marine Natural Resources Technician OEC at PWSC at which point she will likely pursue a maritime career.


Matthew Moore (middle), with his spouse and daughter

Matthew Moore

Matthew Moore is a lifelong Alaskan and Seward resident with aspirations of becoming a captain in the maritime industry. Matthew has a degree in Outdoor Recreation and Biology. He is working to add maritime certifications to his training, and recently completed the Operation of Uninspected Passenger Vessels (OUPV) course at AVTEC. He was awarded an Alaska Safety Alliance Training Scholarship for his maritime training in 2023.


Annika Sullivan

Annika Sullivan

Annika came to UAS Sitka after graduating from UCSB to participate in the Alaska Aquaculture Semester. She received a scholarship from Minorities in Aquaculture (MIA) and UAS and she hopes to work at an oyster farm this summer. "Before this program, I was not sure what I wanted to do with my bachelors degree, but now I know I would like to work at a farm or hatchery and continue my education in graduate school in the future."


Isaiah Faso-Formosoand his service dog and "lab" assistant Erebus.

Isaiah Faso-Formoso

Isaiah is a UA Fisheries Scholarship recipient. Isaiah currently a Biology major at UAA, with a plan to transfer to UAS to complete his studies in the Ocean and Fisheries Sciences Program. Isaiah is an Eagle Scout, and completed an internship with the Alaska Department of Fish and Game, where he studied the Unalakleet fish weir and created an informational document about its operation. He also did an internship with NOAA.

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