

FISHERIES, SEAFOOD, MARITIME INITIATIVE (FSMI) 2024 ANNUAL REPORT

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.



SUSTAINING ALASKA: THE VITAL ROLE OF THE MARITIME INDUSTRY



Alaska's maritime industry is a cornerstone of the state's economy and infrastructure. With 34,000 miles of coastline, borders on three seas, and more inland water than any other state, Alaska's maritime industry remains indispensable. Alaska produces a significant portion of our nation's commercial seafood annually, playing a critical role in meeting the country's seafood demand. Furthermore, Alaska's natural resources, including oil, gas, minerals, and timber, depend on the maritime industry for transport to both domestic and international markets. As Arctic shipping routes become more viable, Alaska is poised to become a strategic hub for these emerging global trade pathways.

Alaska's maritime sector faces significant challenges, including labor shortages, inflation, closed fisheries, and falling seafood prices. Despite these obstacles, the sector continues to adapt and thrive, reaffirming its vital importance to the state's economic resilience. Recent data reveals an 8% decline in fishing jobs in 2023, bringing employment in the sector to its lowest level since 2001. Addressing these challenges is critical to ensuring the long-term sustainability of Alaska's maritime economy.

Looking forward, Alaska will require a well-trained workforce to sustain and grow the maritime industry, ensuring the sector remains a key driver of the state's economic development.

Fisheries, Seafood and Maritime Initiative and Maritime Works supports Alaska's maritime workforce by coordinating key partnerships to deliver 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 Workforce 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: Alaska Maritime Education Consortium; Research, Enhancement, and Management; Seafood Harvesting and Processing; and in 2023, a fourth working group was added to support the emerging Mariculture industry. The Alaska Maritime Education Consortium (AMEC) includes 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.

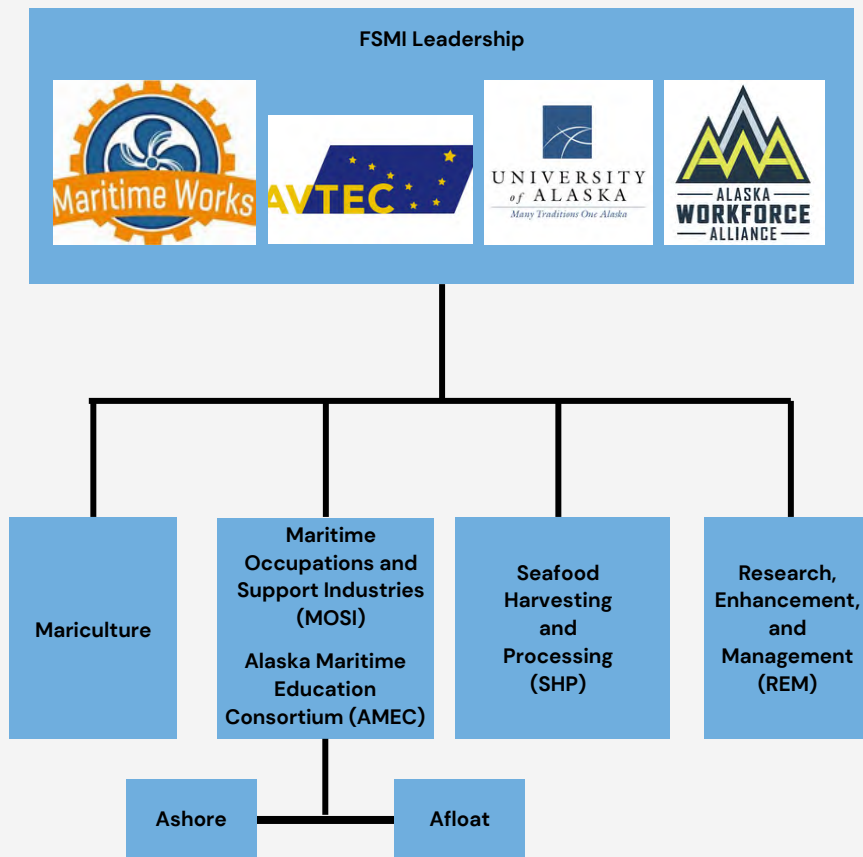


Key FSMI/Maritime Works partnerships include the Alaska Marine Highway System/Department of Transportation, the Alaska Research Consortium, Southeast Conference, and the myriad of industry and non-profit stakeholders in Alaska. This report highlights recent activities and outcomes of FSMI and its partners. In 2025, FSMI working groups, along with industry partners, plan to publish the 2025-2030 Action Agenda update.

Maritime Works is managed by the Alaska Workforce Alliance (AWA) to grow awareness of the career opportunities, improve workforce readiness among Alaskans, and support sustained industry engagement. In Fall of 2024, the AWA was established as a new subsidiary of the Alaska Safety Alliance. AWA partners with state agencies, industry leaders, and communities to implement workforce strategies that align with Alaska’s economic needs and opportunities.

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

FISHERIES, SEAFOOD, MARITIME INITIATIVE CHART



INVESTMENTS AND OUTCOMES

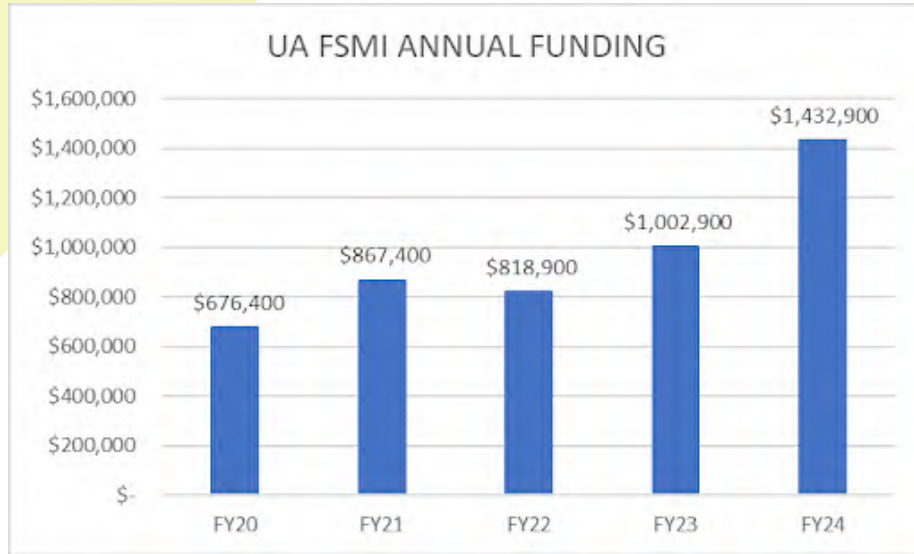
Technical Vocational Education Program (TVEP)

The University of Alaska (UA) has significantly increased its investment in maritime workforce development, underscoring its commitment to this critical industry and the jobs it supports. In FY24 alone, UA invested \$1,432,900 from the Technical Vocational Education Program (TVEP) into FSMI programs to advance the Alaska Maritime Workforce Development Plan. Over the last five years (FY20-FY24), UA has invested an annual average of \$960K from TVEP. Again, this marks a substantial rise from the previous five-year average (FY16-FY20) of \$662,000.

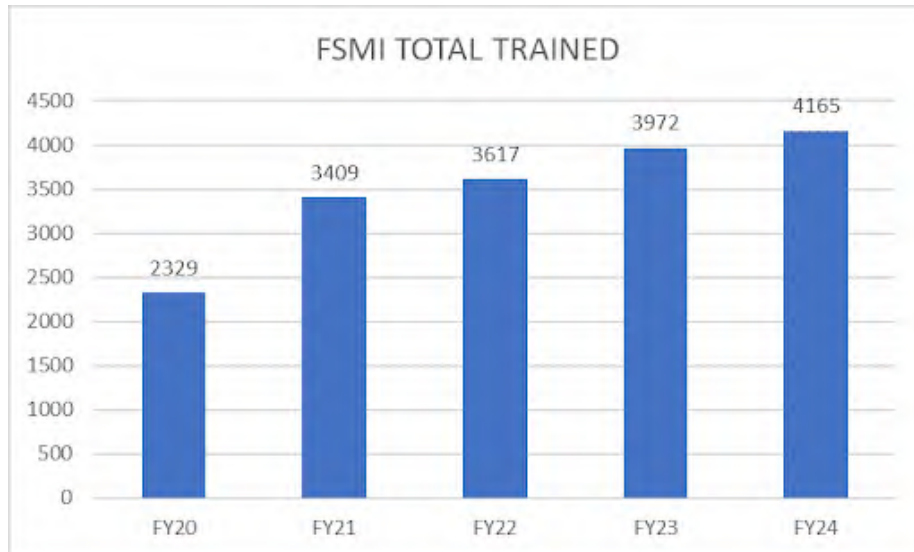
Investment examples include funding program development, expansion, and delivery of maritime workforce training, varying from short, focused workshops to degree programs. Many result in industry recognized credentials, such as National Center for Construction Education and Research (NCCER) certifications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

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

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FSMI trained 4,165 students in 2024 and 3,972 students in 2023. The number of FSMI program completers has consistently trended upwards since 2020, when the COVID-19 pandemic severely impacted student enrollment. These numbers include the array of individuals that completed the wide range of maritime training in the fields of ashore and afloat maritime transportation, seafood harvesting, seafood processing and fisheries. They include degree completers as well as those who completed non-credit short courses, and reflect over 250 different classes at AVTEC and UA locations across our state. There may be student duplication in these numbers.





Capital Budget Grant

In addition to these investments, the University of Alaska received a one time \$2M capital budget grant in FY22 from the Alaska State Legislature to be invested over 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. This program will impact hundreds of workers across Alaska’s blue economy.

Alaska Marine Highway System Maritime Exploration Program

In this next fiscal year, the Alaska Department of Transportation will invest \$300K with the University of Alaska Fairbanks and Maritime Works to conduct maritime career awareness in coastal communities and several intensive training sessions for high school students with an interest in the Alaska Marine Highway System’s ashore and afloat careers.

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 program completion.

FY 2023 Maritime Pathways	% Employed 1 Year After Graduation	Wages % Change
AVTEC Afloat Pathways	76%	23%
AVTEC Ashore Pathways	85%	21%
UAS Ketchikan Afloat Pathways	82%	21%
UAS Ketchikan Ashore Pathways	73%	1%
UAS Sitka Afloat Pathways	60%	-3%
UAS Sitka Ashore Pathways	57%	-5%
UAF Bristol Bay Afloat	76%	6%
UAF Bristol Bay Ashore	49%	8%
UAA Prince William Sound Ashore Pathways	55%	16%



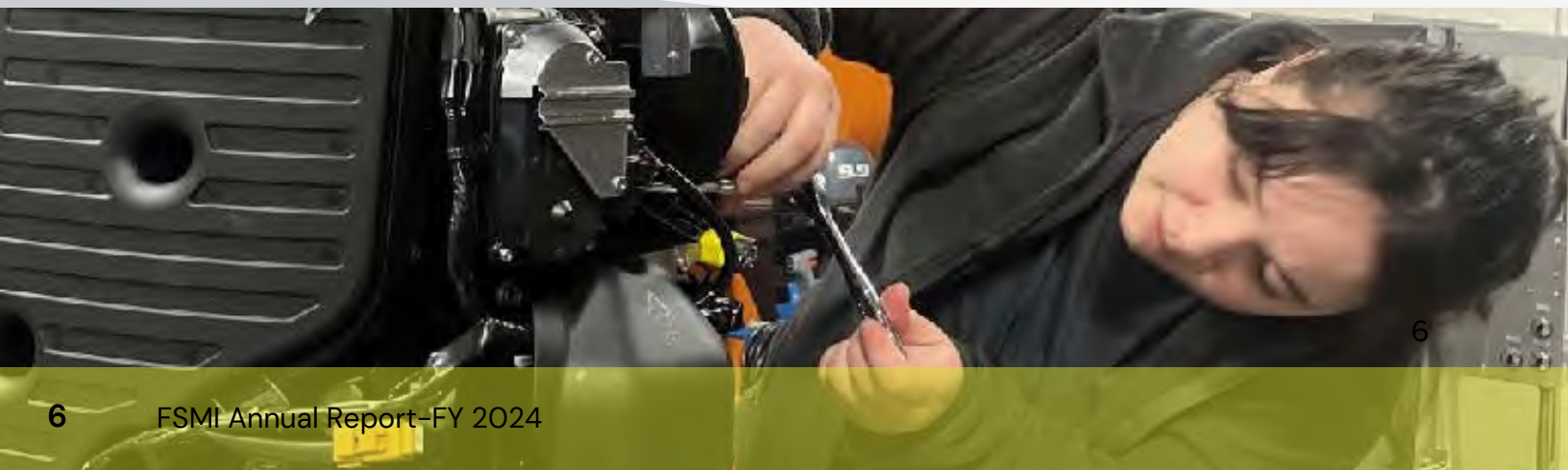
FSMI WORKING GROUP HIGHLIGHTS

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:

- In 2024, AMEC was once again designated as one of 27 nationwide Centers of Excellence for Domestic Maritime Workforce Training and Education (CoE) by the U.S. Department of Transportation's Maritime Administration (MARAD). Authorized under the National Defense Authorization Act of 2018, CoE programs assist the maritime industry in gaining and sustaining a well-trained labor force while enhancing diversity in the industry. AMEC was previously designated as a CoE in 2021. "The CoE designations recognize the high standard of maritime education and training provided by the designated community and technical colleges and maritime training centers. These institutions play vital roles in our nation's maritime industry by providing the training and skills students need to begin and advance careers afloat and ashore," said Acting Maritime Administrator Lucinda Lessley. AMEC's CoE includes six academic institutions:
 - Alaska Vocational Technical Center (AVTEC), Seward, AK
 - University of Alaska Fairbanks, Bristol Bay Campus, Dillingham, AK
 - University of Alaska Anchorage, Kodiak College, Kodiak, AK
 - University of Alaska Anchorage, Kenai Peninsula College, Homer, AK
 - University of Alaska Anchorage, Prince William Sound College, Valdez, AK
 - University of Alaska Southeast at Ketchikan, Ketchikan, AK
- AMEC expanded its affiliate partners across the state of Alaska, onboarding school districts, tribal organizations, and postsecondary programs to join in our collaborative mission to prepare the maritime workforce in Alaska. At the end of 2024, AMEC included 6 partners, and 17 affiliate partners.
- AMEC's Yamaha Maintenance Certification Program (MCP) continued to grow in 2024, with 65 students earning certifications. In partnership with the Yamaha U.S. Marine Business Unit, AMEC launched the Yamaha MCP program in 2022 to enhance marine service training in Alaska. Given the high commercial use and logistical challenges in Alaska, Yamaha outboard motors are often replaced rather than repaired. To address this gap, the Yamaha MCP program is equipping Alaskans with the skills needed to maintain and service the boats and engines that sustain the state's maritime economy. Students begin with the Introduction to Outboard Systems (ITOS) course, offered at various AMEC sites. They then progress through MCP levels 1-4, combining classroom instruction with hands-on laboratory experience. The curriculum covers the concepts, operations, service, and maintenance of both 2-stroke and 4-stroke outboard engines. Prince William Sound College (PWSC) hosted an ITOS/MCP Level 1 instructor training over the summer 2024. Kenai Peninsula College (KPC), in collaboration with PWSC, hosted an MCP Level 1-4 instructor training in January of 2025, training 12 instructors from Soldotna, Valdez, Juneau, Wasilla, and Utqiagvik.
- UAS Ketchikan is working on the early stages of developing a Junior Engineer program to include an occupational endorsement, and reduce sea time requirements for Coast Guard credentialing. This program will make it possible for an individual with little to no experience to begin a maritime career at a step beyond the QMED level.



- In addition to offering many courses for mariners, AVTEC Maritime conducted contract training for various entities including fire and safety training, ship simulation, and youth engagement programs. AVTEC Maritime continues to upgrade and improve equipment including the three-bridge Ship Simulator, Lifeboat, Gravity Davit, and Fire Training Facility. AVTEC Maritime continues to renew approved courses with the National Maritime Center. Further, AVTEC is reviewing opportunities for online training for mariners.
- With the support of AMEC, Maritime Works sponsored Experience Maritime—a hands-on, two-day career exploration program for high school students interested in jobs on and around the water. Open to youth ages 15 and older, the program provided immersive experiences in Alaska’s maritime industry through field trips, industry tours, and networking opportunities with maritime professionals. Experience Maritime was held in Anchorage, Seward, Sitka, and Unalaska, serving over 50 students with intensive maritime career exposure. Participants engaged in activities such as vessel tours, maritime safety simulations, and visits to shipyards and seafood processing facilities. Sponsored by grant funding, Experience Maritime was offered at no cost to students, helping to inspire the next generation of Alaska’s maritime workforce. This program was made possible with the support of the Transportation Institute, which provided staffing instructional support
- In 2024, the AMEC launched 5 microvideos to expand awareness of priority maritime occupations, which include captain, first mate, able seaman, marine engineer, and vessel maintenance.



Seafood Harvesting and Processing

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:

- The SHP working group is composed of UAF Alaska Sea Grant Marine Advisory Program agents that provide training and technical assistance to support the seafood industry. In 2024, Alaska Sea Grant held 42 seafood industry training and events, providing training to 470 people.



- Refrigeration Operators and BAADER Techs were identified as priority occupations in the Alaska Maritime Workforce Development Plan in 2014 and reaffirmed by Alaska’s Seafood Future Action in 2021.
 - Following the success of the 2023 training, ARC, in partnership with SeaGrant, hosted a full class of Level 2 Professional Ammonia Refrigeration Operator (ProAROE) training in the fall of 2024. Plans are underway to host a Level 3 Operator training in fall of 2025.
 - ARC hosted a BAADER Basic and Advanced Technician training led by BAADER personnel. The training provides Alaska’s seafood processing workforce with essential skills as the industry increasingly adopts automated processing technology.
- Alaska Sea Grant is moving forward with plans to acquire an ammonia refrigeration unit to enhance training opportunities for seafood processors. While navigating the complexities of multiple processes required for this acquisition, they will use funding from Maritime Works and actively explore additional financial support to facilitate the purchase in the coming year.

- Alaska Sea Grant supported the seafood harvesting industry transition and adaptation to a changing seafood market. Trainings held this year included the AK On-Board Crew Class, Alaska Young Fishermen’s Summit (AYFS), Business of Fishing workshops, online Introduction to Starting and Operating a Seafood Direct Marketing Business class, and AMSEA Onboard Drill Conductor Training.

Research, Enhancement, and Management (REM)

The Research, Enhancement, and Management (REM) working group supports strategies that help develop a skilled workforce for federal and state agencies managing Alaska’s waters and aquatic resources, as well as public and private non-profit hatcheries. Employers like the Alaska Department of Fish and Game (ADF&G) and NOAA Fisheries face challenges in recruiting qualified professionals, including fish and wildlife technicians, fisheries biologists, and biometricians. The REM Working Group aims to raise awareness and strengthen workforce development to support recruitment and retention of Alaskan talent in these critical fields.

Recent highlights include:

- The REM working group began awarding Fisheries Scholarships to students in 2023 for students pursuing fisheries and related programs. Recipients ranged from certificate students to PhD students. By the end of 2024, REM awarded a total of 35 scholarships, 18 in 2023 and 17 in 2024. Post-award recipient surveys revealed 100% of respondents agreed or strongly agreed that the fisheries scholarship helped them achieve their academic goals. Recipients reported that the scholarship helped ease the stress of academic life, helped with degree/goal attainment, and boosted their confidence. The REM working group is tracking the students through degree completion and employment to evaluate outcomes.
- In 2024, the Research, Enhancement, and Management (REM) Working Group made significant progress on drafting articulation agreements between UAS Juneau and UAS Sitka’s fisheries programs; facilitating smoother academic pathways for students. Initial steps were taken to develop a fisheries-focused website, aimed at providing centralized resources and information. Additionally, the Fisheries Pathway document was widely shared and utilized within the UA community, supporting career awareness and education in the field.



Mariculture

Alaska Mariculture Cluster was developed by the Southeast Conference, and funded by a U.S. Department of Economic Development Administration Build Back Better (BBB) Regional Challenge. The goal of this group is to help develop a \$100M mariculture industry over the next 20 years.

Recent highlights include:

- Many working group members coordinated and attended the 2024 Mariculture conference in Anchorage. This event gathered 200 Mariculture enthusiasts including farmers, researchers, and industry professionals, to discuss the advancement of mariculture in the state. The event highlighted progress and innovation in Alaska’s mariculture sector, discussed topics to help farmers enhance operations, and supported education and training programs to develop a skilled mariculture workforce.
- In 2024, Alaska Sea Grant members of the mariculture working group members hosted multiple mariculture training events, including the Seaweed Genetics Workshop, Seaweed Stabilization Workshop, and Kelp Business Planning and Marketing Workshop, Kelp Hatchery Operations and Oyster Hatchery Operations workshops, and Alaska Seaweed Handling and Processing Workshop.
- Alaska Sea Grant completed the Alaska Kelp Farming Manual and developed tools for kelp farm business planning, with training set for early 2025. Additionally, a new Alaska Sea Grant Fellow based in Kodiak started updating an Oyster Cultivation Manual in August 2024.

- UAS Applied Fisheries program established a shellfish hatchery online course in addition to a mariculture business and marketing course, and completed a wet lab teaching space at the Sitka Sound Science Center. UAS students harvested sugar kelp and bull kelp, used tissue for the Alaska Fisheries Development Foundation seaweed analysis project, and collected data to share with labs. They have also begun planning for a commercial kitchen.

- UAA Prince William Sound College trained the first cohort of 15 BBB grant-funded students as Marine Natural Resources Technicians, earning Occupational Endorsement Certificates. They held a small engine repair class in McGrath, provided professional development for Alaskan teachers on marine ecology, mentored several interns, collaborated with UAF's Teaching Through Technology (T3) program, and supported a myriad of mariculture student research projects.



STUDENT SPOTLIGHTS



Genoa Sullaway

Genoa Sullaway is a PhD candidate with the University Alaska Fairbanks College of Fisheries and Ocean Science. She is a UA Fisheries Scholarship recipient, and traveled to the Alaska Chapter of the American Fisheries Society Conference in Seward in March of 2024 to present a poster about her research on environmental impacts to Western Alaska Chum salmon abundance. “My ultimate career goal is to be a research scientist and conduct research that informs ecosystem-based fisheries management in the rapidly changing Northern Pacific Ocean ecosystem.”

Kacy Burke

AVTEC Alumni Kacy Buke is a Master Mariner with Edison Chouest Offshore (ECO). After completing training at AVTEC, Kacy Burke started as an Ordinary Seaman with ECO, working in various locations from Alaska to Florida. Over time, Kacy progressed to become the highest-ranking officer onboard, responsible for the entire vessel. He is currently on the MV FORTE, an 11,000-hp tug. “As Master, I’m fully responsible for all aspects of the vessel. I was able to take classes my senior year of high school at AVTEC. I graduated in May of 2013 and was well on my way to a lucrative career only 1 month out of high school.”



Jordan Hawkseil

Jordan Hawkseil participated in the Aquaculture Semester at the University of Alaska Southeast (UAS) in Sitka. This immersive, field-based program helped Jordan gain practical skills in sustainable ocean farming. “Working at the farm gave me hands-on experience with every step of oyster cultivation, from flipping bags to deploying innovative technologies like the FLUPSY (Floating Upweller System). This experience, especially with guidance from farmer Eric Wyatt with Blue Starr Oyster Co., has solidified my passion for mariculture and my goal of owning an oyster farm one day.”



Grace Lee

Grace Lee has spent the last 13 years as co-operator of their family commercial fishing business based in Cordova Alaska. Looking to take their family fishing business to the next level through direct marketing, Grace enrolled in the Alaska Sea Grant Business of Fishing course. “This course gave me the jumpstart I needed to refine my business strategy for commercial fishing from refining financial approaches to understanding permitting and processes required for Direct Marketing. This course provided invaluable information and was led by knowledgeable professionals in the field.”

