



P.O. Box 757220, Fairbanks, AK 99775-7220 | 907-429-8999 | tmsherdan@alaska.edu | www.uaf.edu

January 16, 2025

Martha Barberio
Economic Development Director
City of Valdez
212 Chenega Ave.
P.O. Box 307
Valdez, AK 99686

Dear Martha,

Thank you for the opportunity to serve the City of Valdez and its interests over the past year. We are grateful for the opportunity to collaborate with you and your staff and are proud of our accomplishments in 2024. Listed below please find Alaska Blue Economy Center's (ABEC) annual update to you and the City of Valdez (COV) as discussed in recent communications. Please feel free to use this information as you see fit. Using our contract's Scope of Work (attached) as a guide, I believe that we delivered strong results in all areas of our Basic Services during the 2024 calendar year, with highlights provided below:

TASK 1: ADVOCACY, FUND, AND PROJECT DEVELOPMENT.

Advocacy

- ABEC Director Sheridan is currently serving as a member of the [Alaska Mariculture Alliance](#) (AMA) Board of Directors' Executive Committee as its Secretary, and frequently participates in its supporting committee meetings;
- ABEC has advocated for and supported COV's role and interests at AMA, including Jeremy Talbott's contributions to the organization's Governance Committee;
- ABEC participates in and contributes to the Mariculture Workforce Committee as part of the [Alaska Mariculture Cluster](#) (AMC) with Prince William Sound College (PWSC), Teaching Through Technology ([T3 Alaska](#)), and others;
- In partnership with PWSC, T3, and others, ABEC contributed to the authorship of the [Mariculture Workforce Development Plan](#) for the AMC, which recommended the utilization of T3 to encourage secondary and post-secondary students to explore mariculture issues and potential careers in the field;
- ABEC continues to collaborate with PWSC in many facets of mariculture-related activities, including: the development of the Valdez T3 site/club, the development of a mariculture farm site in the vicinity of Valdez, the integration of mariculture into PWSC and T3 curriculum, and the development of a mariculture project within [Science Olympiad](#) (one of the largest K-12 STEM organizations in the US, hosted in Alaska at UAF);
- ABEC has conducted outreach and engagement with local, regional, and international stakeholders to educate and develop opportunities in and around Valdez, including:
 - ABEC presented at the January 17 City of Valdez Economic Diversification Commission meeting (online);
 - ABEC participated in and presented at the January 2024 [RISE-UP](#) gathering in Kona, HI;
 - ABEC presented to Valdez High School students and others attending a February 9 T3 event in Fairbanks (virtual);



P.O. Box 757220, Fairbanks, AK 99775-7220 | 907-429-8999 | tmsherdan@alaska.edu | www.uaf.edu

- ABEC addressed the February 13 Southeast Conference Midsession Summit in Juneau, AK;
- ABEC sponsored and presented at the February 2024 [Pacific Fisheries Technologists](#) Conference in Sitka, AK;
- ABEC hosted a booth and presented at the February 2024 [Mariculture Conference of Alaska](#) in Anchorage, AK;
- ABEC presented to representatives of the Naval Facilities Engineering Systems Command on March 5 regarding mariculture-related “nature-based solutions” utilizing Valdez-origin kelp;
- ABEC cooked and provided kelp pickle soup at the March 26 PWSC “Tasty Tuesdays” gathering in Valdez;
- ABEC presented with [Chugach Regional Resources Commission](#) (CRRC) and Prince William Sound Economic Development District at the March 27 AMC-sponsored “Mariculture Opportunity Workshop” in Valdez;
- ABEC presented at the March 28 Valdez High School T3 Club meeting in Valdez;
- ABEC presented at the March 5 [Southwest Alaska Municipal Conference](#) (SWAMC) annual conference in Anchorage, AK;
- ABEC presented to the [Senior Advisor for Climate Change to the Secretary of the Navy](#) and others on April 10 as follow-up on PWS mariculture as a “nature-based solution” for issues of interest to the Department of Defense (online);
- ABEC presented at the April 25 [Kenai Peninsula Economic Development District](#) (KPEDD) Industry Overview Forum in Soldotna, AK;
- ABEC organized and presented as part of a blue economy panel at the May 2024 [AIM Congress](#) investment conference in Abu Dhabi, United Arab Emirates;
- ABEC contributed to and presented as part of the May 18 [Innovate Cordova](#) event, which was hosted by Senator Murkowski highlighting Prince William Sound innovations and opportunities, including mariculture;
- ABEC presented to the T3 Summer (June) Cohort on June 19 (virtual);
- ABEC presented to and accompanied the T3 Summer (July) Cohort in Cordova and Valdez from July 11–18;
- ABEC presented to the City of Valdez City Council on July 16 in Valdez, AK;
- ABEC presented on mariculture opportunities in and around Valdez to representatives of [Cascadia Seaweed](#) on October 22 (virtual);
- ABEC presented on mariculture opportunities at the University of Maine as part of the November 2024 [ARCUS Bridging Arctic Gateways](#) initiative in Orono, ME;
- ABEC attended a “Blue Economy Meetup” at [Washington Maritime Blue](#) on November 20 in Seattle, WA;
- ABEC attended the “Investing in Seaweed Aquaculture: Addressing the Missing Middle” workshop on November 21 at [Pacific Marine Expo](#) in Seattle, WA.

Fund development

- ABEC’s December 2023 proposal to AMC (titled “A technical feasibility study on developing biostimulants and soil amendments through the combination of macroalgae and fish processing co-products”) for an agricultural-based feasibility study in partnership with City of Valdez, Valdez Fisheries Development Foundation, Prince William Sound College, [Chugach Alaska Corporation](#), Chugach Regional Resources Commission, [Native Village of Eyak](#), and [Calypso Farm and Ecology Center](#), was denied by Alaska Mariculture (Southeast Conference) in January 2024;



P.O. Box 757220, Fairbanks, AK 99775-7220 | 907-429-8999 | tmsherdan@alaska.edu | www.uaf.edu

- ABEC contributed to and supported a proposal to AMC (titled “Marine Agriculture Helping Terrestrial Agriculture”) led by Native Village of Eyak in collaboration with Prince William Sound College and Matanuska Experiment Farm. This proposal received broad support from the following entities: [Alaska Blue Economy Center](#); [Alaska Center for Energy and Power](#); [Alaska Center for Innovation, Commercialization, and Entrepreneurship](#); [Chenega Corporation](#); Chugach Alaska Corporation; Chugach Regional Resources Commission; [Cordova Chamber of Commerce](#); [Alaska’s Established Program to Stimulate Competitive Research \(EPSCoR\)](#); [Prince William Sound Economic Development District](#); [Prince William Sound Science Center](#); T3. Unfortunately, this proposal was not selected for funding.
- UAF’s Alaska Regional Collaboration for Technology Innovation and Commercialization (ARCTIC) program continues to support T3 site/club establishment in Valdez, along with other mariculture-related activities (T3 mariculture curriculum development);
- With input from and advocacy by ABEC, and with the support of The City of Valdez and Valdez Native Tribe, Valdez was chosen as a community of focus for the Alaska EPSCOR [Interface of Change \(IoC\) project](#);
 - Alaska EPSCoR IoC project awarded \$20M on April 10;
 - This project “...partners extensively with communities, industry, and agencies to co-produce research to determine the impacts of climate change on marine species important to Gulf of Alaska (GOA) coastal communities using research questions co-developed with the impacted groups;”
 - ABEC and partners will receive funding to support workforce and economic development in the project’s six focus communities, including Valdez;
 - Project runs from July 1, 2024, through June 30, 2029 (see presentation).

Project development

- ABEC has been very involved with T3 development in Valdez (see below);
- ABEC has been very involved with the Valdez Mariculture Park (mariculture farm site, see below);
- ABEC has been working to encourage the development of research capacity at UAF’s [Institute of Agriculture, Natural Resources and Extension](#) to encourage large-scale production of macroalgae in the vicinity of Valdez for [integration into agriculture applications](#);
- ABEC has been working to support the integration of PWS macroalgae into research at UAF’s [Automated Construction and Advanced Materials Lab \(ACAM\)](#) to encourage large-scale production of macroalgae in the vicinity of Valdez for integration into construction materials, such as [KelpCrete](#) and [SeaBrick](#).

TASK 2: T3 ALLIANCE PROGRAM ACTIVITIES

- T3 has established a T3 site at Valdez High School;
- Spring 2024 involved introducing students to T3, delivering “Makerspace” equipment, and supporting Katelyn Eisen, Valdez T3 Technology Program Coordinator, with program startup;
- T3’s Summer “Team Ocean” was in Valdez July 15–19, hosted by PWSC;
 - T3 was unsuccessful at recruiting Valdez students into the Summer 2024 program, and so associated City of Valdez funds to support Valdez student participation went unspent;
- Valdez T3 Technology Program Coordinator Eisen and Valdez High School teacher David Cronk attended the T3 Fall Teacher Training event in Fairbanks September 4–6;



P.O. Box 757220, Fairbanks, AK 99775-7220 | 907-429-8999 | tmsheridan@alaska.edu | www.uaf.edu

- Starting in Fall 2024, Valdez High School students now have “open T3 Makerspace time” incorporated formally into the school’s academic schedule;
- The Valdez High School T3 club is among the state’s most active clubs, with increasing and consistent participation;
- T3 hosted a kickoff event in Valdez on October 11, led by two T3 staff from Fairbanks;
 - T3 staff met with community members and school district administrators;
 - T3 staff delivered and installed new equipment for Valdez “Makerspace;”
 - T3 staff provided Coaches Eisen and Cronk with training for new equipment and technology;
 - T3 staff hosted a free BBQ for students and the community;
 - Valdez T3 students attended lectures and received training on growth mindset, mariculture, 3D printing, TinkerCAD, and laser cutting;
 - 18 Valdez High School students participated in the October 2024 kickoff event;
- ABEC is assisting PWSC with the development of ocean and mariculture-focused curriculum for integration into a Valdez T3 mariculture club, with PWSC leading this activity with both City of Valdez and UAF funding;
- Valdez High School will host a T3 STEAMfest in April 2025, with T3 students traveling to Valdez from Cordova, North Pole, and Seward;
- Valdez will again host a T3 summer program in 2025, with the hope that Valdez High School students will participate.

TASK 3: VALDEZ MARICULTURE PARK

- Sampling of prospective aquatic farm sites was conducted by PWSC students, faculty, staff, and supporters (with occasional participation by ABEC staff) from April 2023 through March 2024;
 - Sites in Port Valdez (Mineral Creek), Jack Bay, Sawmill Bay and Galena Bay were sampled for nutrients, salinity, turbidity, flow, and ice cover;
 - This sampling program provided PWSC students with a unique opportunity to engage with and conduct mariculture-related research, and has inspired their continuation in the industry;
 - Altogether, 258 samples were collected to inform site selection for a mariculture farm site;
 - City of Valdez support was utilized to secure vessel charters to allow for sampling of sites outside of Port Valdez, and in poor weather conditions;
 - City of Valdez support allowed for the hire and retention of a part-time faculty assistant position to help with field and lab work;
- Ultimately, the Port Valdez (Mineral Creek) site was chosen for a variety of reasons;
 - However, the information collected at all sites will help to inform future decisions regarding farm site development;
 - PWSC was chosen as the permittee, and PWSC faculty and staff worked with Valdez Native Tribe and Alaska Department of Fish and Game to acquire permits for a research farm site for both kelp and oysters;
 - PWSC successfully acquired the Mineral Creek mariculture farm permit in August 2024;
 - Selection of a research farm site allows for the further integration of mariculture into PWSC curriculum and provides an accessible platform for further development;
 - Research farms do not require annual lease fees, whereas commercial sites do;
 - Accessibility of the Mineral Creek site has allowed for integration into K-12 teacher professional development courses, and will also allow for easier integration into Valdez T3 club activities;



P.O. Box 757220, Fairbanks, AK 99775-7220 | 907-429-8999 | tmsheridan@alaska.edu | www.uaf.edu

- The first cohort of [PWSC's Marine Natural Resources Technician Program](#) commenced in spring 2024;
 - 15 students participated in the program and a semester-long Introduction to Mariculture course;
 - All students participated in a week-long workshop ("field week") at the [Alutiiq Pride Marine Institute](#) in Seward;
 - Several of these students traveled to Sitka in April to participate in a hands-on aquaculture lab course in partnership with the UAS Applied Fisheries Program;
 - City of Valdez mariculture funding is integral to the success of this program through the support of a part-time faculty assistant position that assists with field excursions, the field week, and lab work;
- Former PWSC student Calvin George is now employed as an assistant to [The Green Energy in Mariculture \(GEM\) project](#) at/through the UAF Bristol Bay campus;
- Former PWSC student Hannah Bogdan conducted research at the Mineral Creek mariculture site during the 2023/2024 academic year;
 - Bogdan presented on this work at the 2024 [Alaska Marine Science Symposium](#) (AMSS), and the 2024 [Kachemak Bay Science Conference](#);
 - Bogdan was the chosen graduation speaker for PWSC in 2024;
 - Bogdan has continued on to participate in the [UAS-Sitka Applied Fisheries Program's Alaska Aquaculture Semester](#) and [Alaska Dive Semester](#);
 - Bogdan's project benefitted from City of Valdez support through provision of transportation to the farm site, and utilization of City mariculture funds to support a summertime internship with the project;
- PWSC student Jane Churchill has continued Bogdan's research during the 2024/2025 academic year, and has added plankton sampling to their research protocol;
 - Churchill will present on this work at the February 2025 [Alaska Mariculture Conference](#) in Sitka;
 - Churchill's project benefits from City of Valdez support through provision of transportation to the farm site;
- PWSC student Sean Mueller worked to outplant kelp at the Mineral Creek mariculture site during the fall 2024 semester utilizing Native of Village of Eyak sugar and bull kelp;
 - Mueller had successful spore releases for both species, and was successful in starting a small research-scale mariculture hatchery at PWSC;
 - Mueller's projects benefit from City of Valdez support through provision of transportation to the farm site;
 - Mueller will present on this work at the January 2025 Alaska Marine Science Symposium;
- PWSC Assistant Professor Amanda Glazier will be presenting on this work and the City's generous support at the February 2025 Alaska Mariculture Conference in Sitka, and the [Aquaculture America](#) conference in New Orleans;

ABEC and its many partners, including/especially Prince William Sound College and T3, are proud of the work that we do on behalf of the City's interests, and are excited to continue this work in 2025. Thank you for the opportunity to be of service to the City of Valdez.

Sincerely,

Tommy Sheridan, Director
Alaska Blue Economy Center

America's Arctic University

UAF is an AA/EO employer and educational institution and prohibits illegal discrimination against any individual: www.alaska.edu/nondiscrimination/.