MARICULTURE PROGRAM UPDATES

ALASKA FISHERIES
Development Foundation, Inc.

SEC MIDSESSION SUMMIT FEB 2024

ALEX HULLER
MARICULTURE DEVELOPMENT PROGRAM MANAGER

AFDF SUPPORTS THE GROWTH OF A SUSTAINABLE MARICULTURE INDUSTRY IN ALASKA

.... AND THERE IS A LOT HAPPENING

AFDF

MARICULTURE PROJECTS

ALASKA MARICULTURE CLUSTER : EDA BUILD BACK BETTER

RESEARCH + DEVELOPMENT

- JOINT INNOVATION PROJECTS
- SEAWEED TISSUE ANALYSIS
- DE-RISKING INVESTMENTS IN AQUATIC FARMING
- ANNUAL MARICULTURE CONFERENCE OF ALASKA (Sitka Feb 18-20)

GREEN ENERGY

MARICULTURE RESEARCH AND RESTORATION CONSORTIUM : EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL (EVOS)

ALASKA SEAWEED BIOMINING : ARPA-E DEPT. OF ENERGY

ALASKA PROCESSING INNOVATIONS IN KELP MEAL : DENALI COMMISSION + ALASKA BLUE ECONOMY CENTER

Joint Innovation Projects (JIPs)

15 projects awarded in 2023
13 projects awarded in 2024

INNOVATIONS IN PROCESSING - 13

INNOVATIONS IN FARMING - 5

INNOVATIONS IN MOORING SYSTEM TECHNOLOGY - 1

BOOSTING OYSTER GROWTH AT NURSERIES/FARMS - 2

SHELLFISH ENHANCEMENT - 3

DE-RISKING FARMING/ SITE SUITABILITY - 2

Chemical Testing Results

Nutrition
- Macronutrients
- Minerals

Safety
- Heavy Metals
- Iodine

Structure
- Amino Acids
- Fatty Acids
- Vitamins

Carbohydrates
- Alginate (Brown)
- Fucoidan (Brown)
- Carrageenan (Red)
- Ulvan (Green)

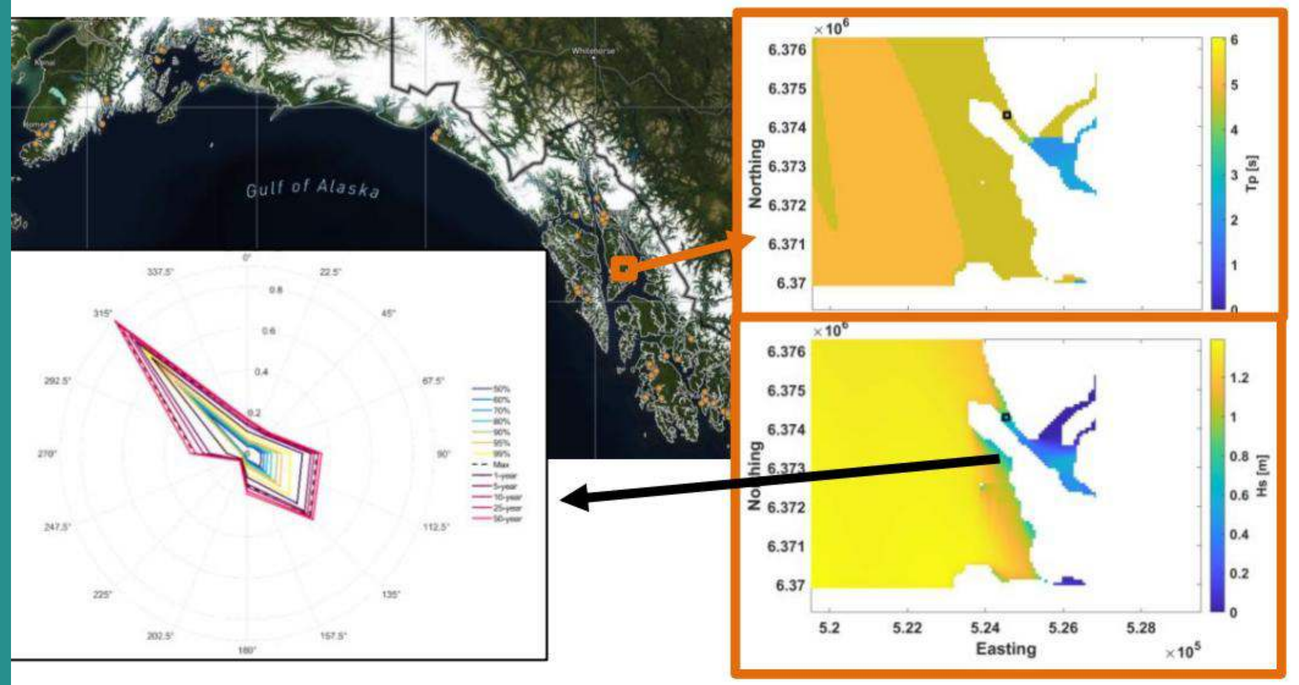
Energy
- Glucose
- Mannitol

Bioactives
- Pigments
- Flavonoids
- Phenolics

Methane Reduction
- Bromoform (Red)
- Phlorotannins (Brown)

Seaweed Tissue Analysis

- Celignis Lab Data Live - about 40 analytes on wild and farmed species
- Marine Biologics - Consulting on data, creating species profiles, industry reports, Market development recommendations



De-Risking Investments in Aquatic Farming

Kelson Marine: Validated Regional Ocean and Wave Simulations Integrated with Model-Based Engineering and Techno-Economic Analysis

- Regional characterization of currents, waves, and biogeochemistry
- Synthesizing and Communication of results

GREEN ENERGY

The Green Energy in Mariculture project is looking at how energy is used in shellfish and seaweed farming and processing across Alaska.

The goal is to develop a plan for the industry to expand while minimizing energy use and emissions. The Green Energy team will distribute best practice guidance for farmers that want to minimize energy use.

Led by Chandler Kemp and team @ UAF

BIOMINING

Assessments of Geochemistry, Concentration, and Scalability of Rare Earth Elements Recovery from Seaweeds

MAR RE-CON

Sustainable Mariculture Development for Restoration and Economic Benefit in the EVOS Spill Area

UAF/

WE’RE BUILDING A BRIDGE WHILE WE CROSS IT

CHALLENGES

- Creating a Shared Vision
- Capacity + Time (EDA)
- EDA Grant Procedures
- Scalability
- Transportation / Shipping
- Utility Cost
- Prices of Competing Markets

OPPORTUNITES

- Collaboration
- Transferable Skills/ Complementary Industries
- Funding
- Innovation
- Market Development + Expansion
- Strengthening Economic Resilience in Rural Coastal Communities
- Research + Education
- Equity