

An underwater photograph of a dense kelp forest. Sunlight filters through the water from the top right, creating a bright, hazy glow and illuminating the green and brown kelp fronds. The perspective is from below, looking up through the canopy of the kelp.

Innovation + Mariculture = \$



Mariculture: Recent Statewide & Local Developments

*Presented to:
Southeast Conference
September 20, 2017*

*Presented by:
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This presentation was funded in part from NOAA Award #NA14NMF4270058. The statements are those of the authors and do not necessarily reflect the views of NOAA or the Dept. of Commerce.

MADE IN ALASKA
MARICULTURE

ALASKA DIVISION of
ECONOMIC DEVELOPMENT

ALASKA
GROWTH TO OPPORTUNITY

ALASKA
DEPARTMENT OF
COMMERCE,
COMMUNITY,
AND ECONOMIC
DEVELOPMENT

AFDF





Alaska Fisheries Development Foundation, Inc.

A blue, multi-pointed starburst graphic with a white outline, containing the text 'Since 1978' in white. The starburst is positioned to the right of the main logo.

Since
1978

Mission - to identify problems common to the Alaska seafood industry & develop efficient, sustainable solutions that provide benefits to the economy, environment and communities

Creating Value

Areas of focus:

- 1) Alaska Symphony of Seafood (product development)
- 2) 100% Club (full utilization)
- 3) Sustainability certification (RFM, MSC, social responsibility)
- 4) Fishing vessel energy efficiency
- 5) Maritime workforce development
- 6) Mariculture development



A translucent, glowing blue crab with a yellowish-orange abdomen, set against a black background. The crab's legs and claws are also translucent and appear to have small, glowing spots. The overall appearance is ethereal and otherworldly.

What is **Mariculture**?

In Alaska, mariculture is...

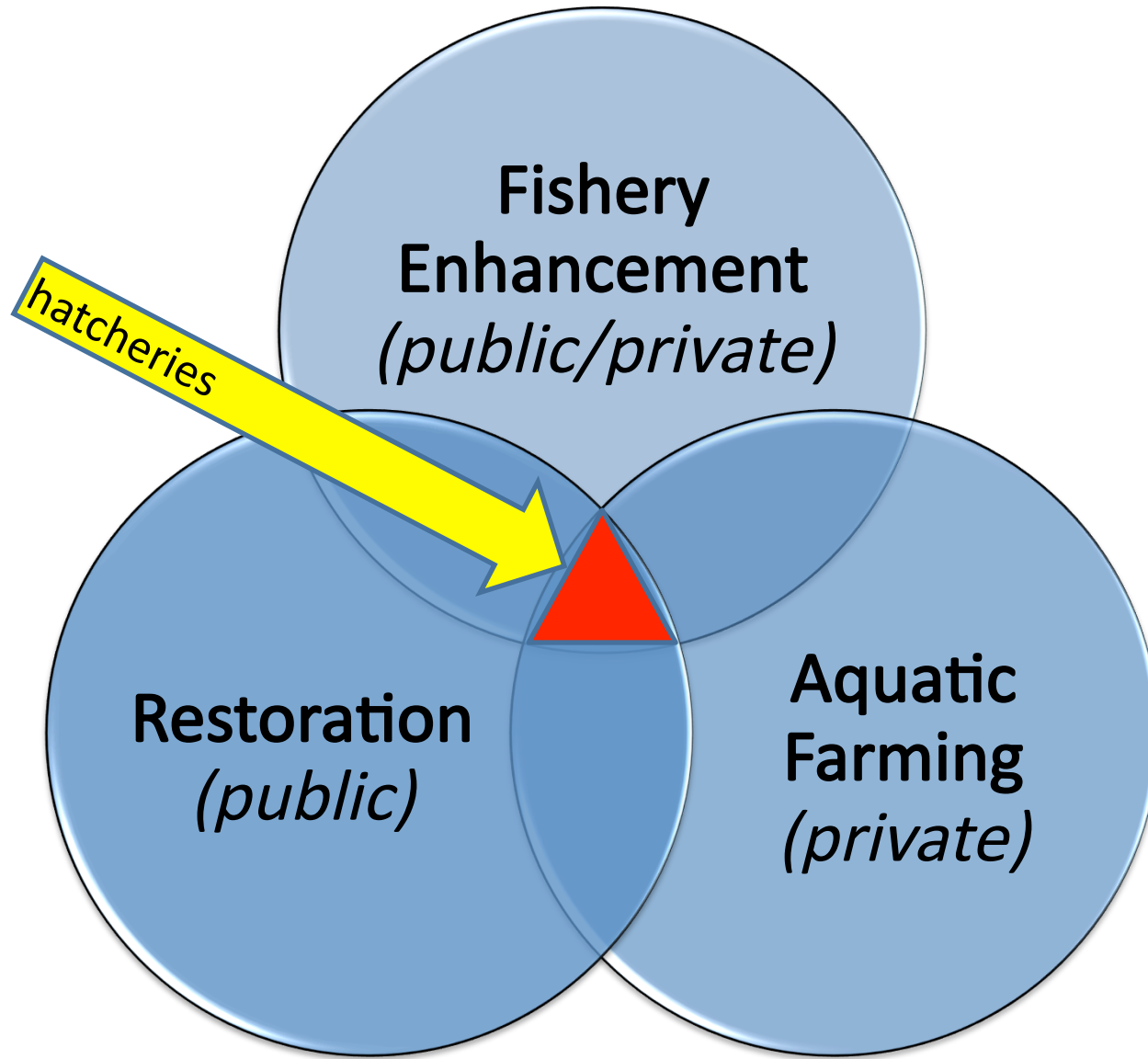


In Alaska, mariculture is...

*Species = local (shellfish + invertebrates + aquatic plants)
+ Pacific oysters*



Mariculture is...



Alaska Mariculture Task Force

[Administrative Order #280](#): Governor Walker established the Alaska Mariculture Task Force (AMTF) by AO #280 in 2016.

Directive - *“To develop a viable and sustainable mariculture industry producing shellfish and aquatic plants for the long-term benefit of Alaska’s economy, environment and communities.”*

Guiding Principles:

- 1) Definition: enhancement of wild fisheries & aquatic farming of shellfish & aquatic plants
- 2) Compatible with responsible & sustainable management of its seafood resources
- 3) Stakeholder-driven
- 4) **Benefits Alaskans**



Benefits to Alaskans: **Economic**



*Hump Island Oyster Co.
Wins 2016 Entrepreneur of the Year from
Ketchikan Chamber of Commerce*



Benefits to Alaskans:

Cultural

Connects Alaskans
with traditional
food sources,
harvesting
activities & skills

Benefits to Alaskans:

Food Security

Increases access to
local foods



Salmon hatchery – Prince William Sound

Commercial fishing vessels – Bristol Bay



Processing plant – Kodiak



Benefits to Alaskans: **Industrial**

- Compliments & expands existing \$6 billion seafood industry
- Builds on assets – vessels, plants, sustainable fisheries, salmon hatcheries, Alaska seafood brand & ASMI

Ocean Acidification in Alaska

Learn about it. Discuss it. Build support for State action.

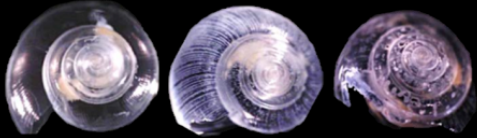
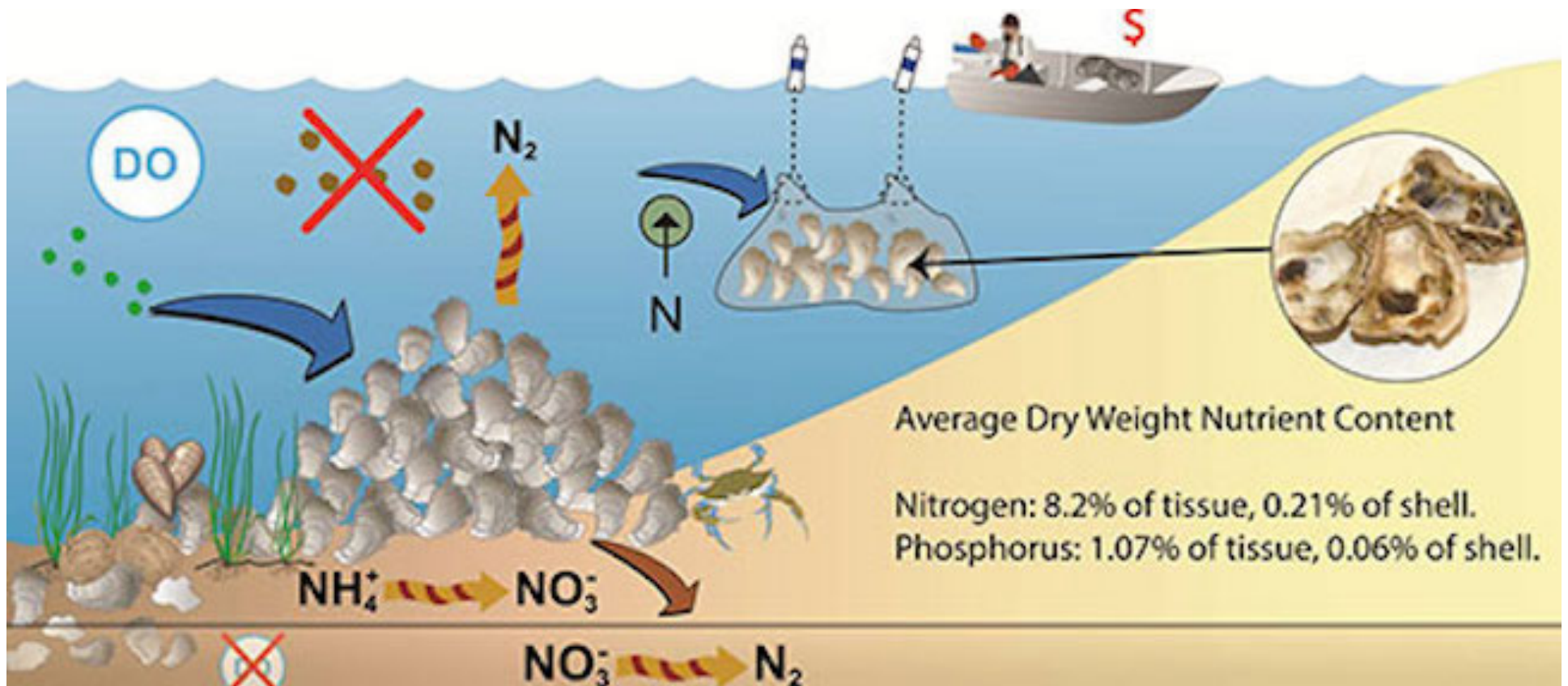


Photo by Shalita Busch

Benefits to Alaskans: Environmental

Potential climate change mitigation & habitat improvements through ecosystem services (ie. water filtration, carbon, nitrogen & phosphorus removal)



How to stay informed

Website:

<http://www.adfg.alaska.gov/index.cfm?adfg=amtf.main>

Listserve:

Sign up at the website

To automatically receive public notices, etc.



The screenshot shows the website for the Alaska Governor's Mariculture Task Force. At the top, there is a navigation bar with the Alaska Department of Fish and Game logo and a search box. Below the navigation bar, there is a breadcrumb trail: "ADF&G Home » Fishing » Aquaculture » Amtf". The main heading is "Alaska Governor's Mariculture Task Force Overview". There are several tabs: "Overview" (selected), "Task Force Members", "Task Force Meetings Information", "Advisory Committees", and "Reference Library". The "Overview" section contains a quote: "To provide recommendations to develop a viable and sustainable mariculture industry producing shellfish and aquatic plants for the long term benefit of Alaska's economy, environmental, and communities". Below the quote, there is a paragraph of text: "With encouragement from AFDF and the industry, Governor Walker created an Alaska Mariculture Task Force (AMTF). An [Administrative Order #280](#) was signed on February 29, 2016. The AMTF has been directed to create a comprehensive plan to boost the mariculture industry, which includes aquatic farming and enhancement of wild fisheries in Alaska. The recommendations developed by the AMTF will include details on public and private investments, regulatory issues, research and development needs, environmental changes, public education, and workforce development. Eleven AMTF members will be appointed by the Governor to develop the comprehensive recommendations. Advisory committees will also be established to assist the AMTF members with their mission. The AMTF meetings will be open to the public." To the right of the text is a photograph of several crates filled with Pacific oysters. Below the photograph is the caption: "Pacific oysters ready for Alaskan market." Below the text and photograph is a "Sign Up To Receive Messages" section with a text input field and a "Subscribe" button. Below the input field is a link: "Unsubscribe from this list". At the bottom right of the page, there are social media sharing buttons for Facebook (Like), Twitter, and Google+ (Share). At the bottom of the page, there is a footer with the text "Alaska Governor's Mariculture Task Force" and a link to "Overview".

August 2017

Alaska Mariculture Initiative Economic Analysis to Inform a Comprehensive Plan

PHASE II

Prepared for
Alaska Mariculture
Task Force



Prepared by
McDowell
GROUP

NEW Research Projects Funded:



McDowell Group completed
first draft; final
completed this fall.

Scope of analysis:

- ✓ Existing industry
- ✓ Opportunities & Challenges
- ✓ Economic Model for Growth
- ✓ Strategic Development Goals



NEW Research Projects Funded:



- 1) MaricultureMap - Development of a GIS Tool to Inform Mariculture Expansion in Alaska (partners: AFDF, APICDA, TNC)
- 2) Geoduck Spawning, Nursery Techniques, Seed Security and Technology Transfer (partners: OA, AP, SARDF, farmers, Metlakatla)
- 3) Fecal Coliform Research to Inform Improved DEC Water Quality Procedures (partners: PSI, farmers, DEC)



NEW Research Projects Funded: **U.S. Dept. of Energy (DOE)**



DOE's Advanced Research Projects Agency – Energy (ARPA-E)

9/19/2017 - announced \$22 million in funding for 18 projects, focus on technological challenges to growing and harvesting seaweed efficiently & cost-effectively; develop tools to enable US become a leading producer of seaweed helping to improve U.S. energy security and economic competitiveness.

Category 1 Project: University of Alaska Fairbanks , Mike Stekoll – Project Leader; Project Team includes AFDF, R&M Engineering, Ketchikan & Kodiak farmers, Blue Evolution. Year 1 = \$500K; Years 2-4 = \$4.5 million

*“...develop replicable scale model farms capable of the cost effective production of sugar kelp, a type of seaweed...a particular emphasis will be on the development of cost-effective harvesting methods based on technologies applied in **the commercial fishing industry...**”*

Category 2 & 5 Project: Same Project Team. Years 1-3 = \$3.7 million



NEW - *Tangible Indications of Industry Growth*

- 1) Mariculture bills (HB 76 & HB 128), sponsored by Rep. Ortiz & Sen. Stevens, moved through legislative process into final committee (S-Finance)
- 2) First commercial seaweed harvest
- 3) New seaweed products developed
- 4) OceansAlaska permitted for demonstration seaweed farm
- 5) OceansAlaska explores integration of public education
- 6) State receives new farm applications in 2017

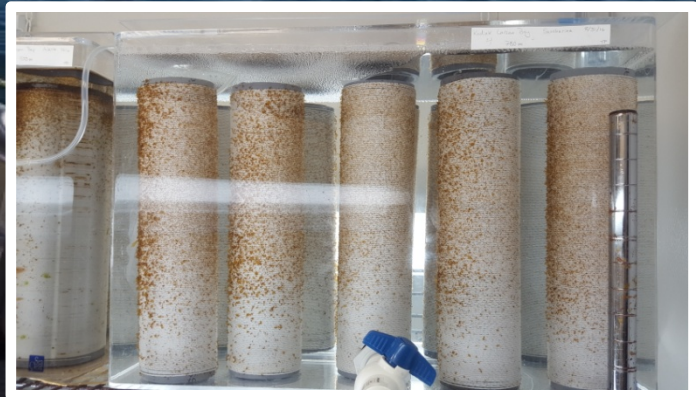


2017 1st commercial seaweed harvest in Ketchikan & Kodiak



*L: Stephanie Mangini, Kodiak Island Sustainable Seaweed, Sugar Kelp, 2017;
R: Hump Island Oyster staff, April, 2017*

2017 - 1st commercial seaweed harvest



Seaweed Products



Kelp is the new Kale!
Kelp smoothie cubes

Kelp salsa

Kelp pickles

Kelp pasta

Seaweed salad

See auction item!



Shellfish Hatchery



OceansAlaska
MARINE SCIENCE CENTER



2017 Statewide Farm Applications

| ADL | Name (Contact and Company) | Application Type | DNR Received | Acres | Location | Nearest Community | Region | Organisms to Be Cultured |
|--------|---|---|--------------|-------|--|---------------------------|--------|--|
| 107829 | Gregg Parsley, Shikat Bay Oysters, Inc | Amendment | 3/1/2017 | 6 | Shikat Bay | Naukati, POW | SE | Kelp (to be added) |
| 106998 | Ernieand Carol Gladsjo, Jihni Bay Oysters | Amendment | 4/20/2017 | 0.19 | Jihni Bay | Naukati, POW | SE | Pacific oyster currently, None to be added |
| 227591 | Carl R. Liebes, Early Tide Seafarms, LLC | Amendment | 4/27/2017 | 6 | Bear Cove, Kachemak Bay | Homer | SC | Pacific oyster currently, None to be added |
| 105346 | Greg McMillian, Keta Seafoods | Amendment | 5/1/2017 | 4 | Western shore of Peratrovich Island | Klawock, POW | SE | Kelp (to be added) |
| 107362 | Cornelis Bakker, Cornelis Bakker, Inc. | Renewal | 3/22/2017 | 2.8 | Black Island | Ketchikan | SE | Geoducks currently |
| 232720 | Erik O'Brien, Efficient Coastal Resources | New (Lease) & Amendment (Operation Permit) | 1/8/2017 | 198 | Larsen Bay | Larsen Bay, Kodiak Island | WE | Kelp (not specified) |
| 232715 | Greg and Weatherly Bates, Alaska Shellfish Farms | New | 1/9/2017 | 0.8 | Jakolof Bay , Kachemak Bay | Seldovia, Homer | SC | Pacific oysters |
| 232733 | Rob Baer, Alaska Ground Swell, LLC | New | 2/14/2017 | 10 | Onion Bay adjacent Raspberry Island | Port Lions, Kodiak Island | WE | Sugar and Ribbon Kelp |
| None | Bill Fejes, Polar Seafoods | New | 3/3/2017 | 15.23 | Northeast arm of Uganik Bay | Uganik, Kodiak Island | WE | Pacific oysters |
| 232746 | Nicholas Mangini, Kodiak Island Sustainable Seaweed | New (Lease) & Amendment (Operation Permit) | 3/13/2017 | 17 | Women's Bay | Kodiak | WE | Kelp (not specified) |
| 232885 | Mark Scheer, Premium Aquatics, LLC | New | 4/27/2017 | 318 | Bucarreki Bay, adjacent Madrea de Dios | Craig | SE | Pacific oysters, Kelp (not specified) |
| 232886 | Troy Denkinger, Silver Bay Seafoods | New | 4/28/2017 | 182 | Olga Pt, Krestof Sound | Sitka | SE | Pacific oysters |
| 232887 | Troy Denkinger, Silver Bay Seafoods | New | 4/28/2017 | 163 | Beehive Island, Nakwasina Sound | Sitka | SE | Pacific oysters |
| None | Tmi Marsh, OceansAlaska | New | 4/28/2017 | 22.96 | George Inlet | George Inlet, Ketchikan | SE | Sugar and Ribbon Kelp |
| 232900 | Garry White | New | 5/1/2017 | 4.13 | Siginaka Islands, Sitka Sound | Sitka | SE | Pacific oysters |
| 232894 | Alf Pryor, Dead Humpy Creations | New | 5/1/2017 | 50.85 | Near Woody Island Channel | Kodiak | WE | Sugar and Ribbon Kelp |
| 232893 | Roderick Jensen, Sustainable Alaska Farms Enterprise, LLC | New | 5/1/2017 | 24.35 | Simpson Bay | Cordova, PWS | SC | Pacific oysters |
| 232899 | Seawan Gehleach, Simpson Bay Oyster Company | New | 5/1/2017 | 14.35 | Simpson Bay | Cordova, PWS | SC | Pacific oysters |
| 232902 | Beau Perry, Premium Oceanic | New | 5/1/2017 | 34.9 | Middle Bay | Kodiak | WE | Sugar Kelp |
| 232909 | Alexander Schutz, PWS Enterprise LLC | New | 5/1/2017 | 15.25 | Cedar Bay | PWS | SC | Pacific oysters |

If all are permitted, the new apps (green) represent:

- ✓ 50% increase in numbers of farms
- ✓ 400% increase in numbers of acres
- ✓ Increases in oysters and seaweed
- ✓ Locations in SE, PWS, Homer & Kodiak
- ✓ Larger sizes increase economies of scale & profitability



*Thank you
for your
support!*



**SOUTHEAST
CONFERENCE**

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MARICULTURE

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ECONOMIC DEVELOPMENT

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