

MADE IN ALASKA

# MARICULTURE







# ***Alaska Mariculture Initiative Phase 2***

*Presented to:  
**Commonwealth North -  
Food Security Group**  
July 23, 2020*

*Presented by:  
**Julie Decker, AFDF &  
Mariculture Task Force***





***Mission - to identify opportunities common to the Alaska seafood industry & develop efficient, sustainable outcomes 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) **Alaska Mariculture Initiative**





## Today's Presentation:

- 1) *What is mariculture?*
- 2) *Why mariculture?*
- 3) *Mariculture Task Force*
- 4) *Recent Developments & Projects*
- 5) *Questions & answers*

Photo credit: Seagrove Kelp



A translucent, spiny marine crustacean, possibly a hermit crab, is shown against a black background. The creature has a pale, yellowish-orange body and several long, spiny legs. It is positioned in the upper half of the frame, with its legs spread out. The text "What is Mariculture?" is overlaid in white at the bottom.

**What is Mariculture?**

**In Alaska, mariculture is NOT...**



**Finfish Farming**

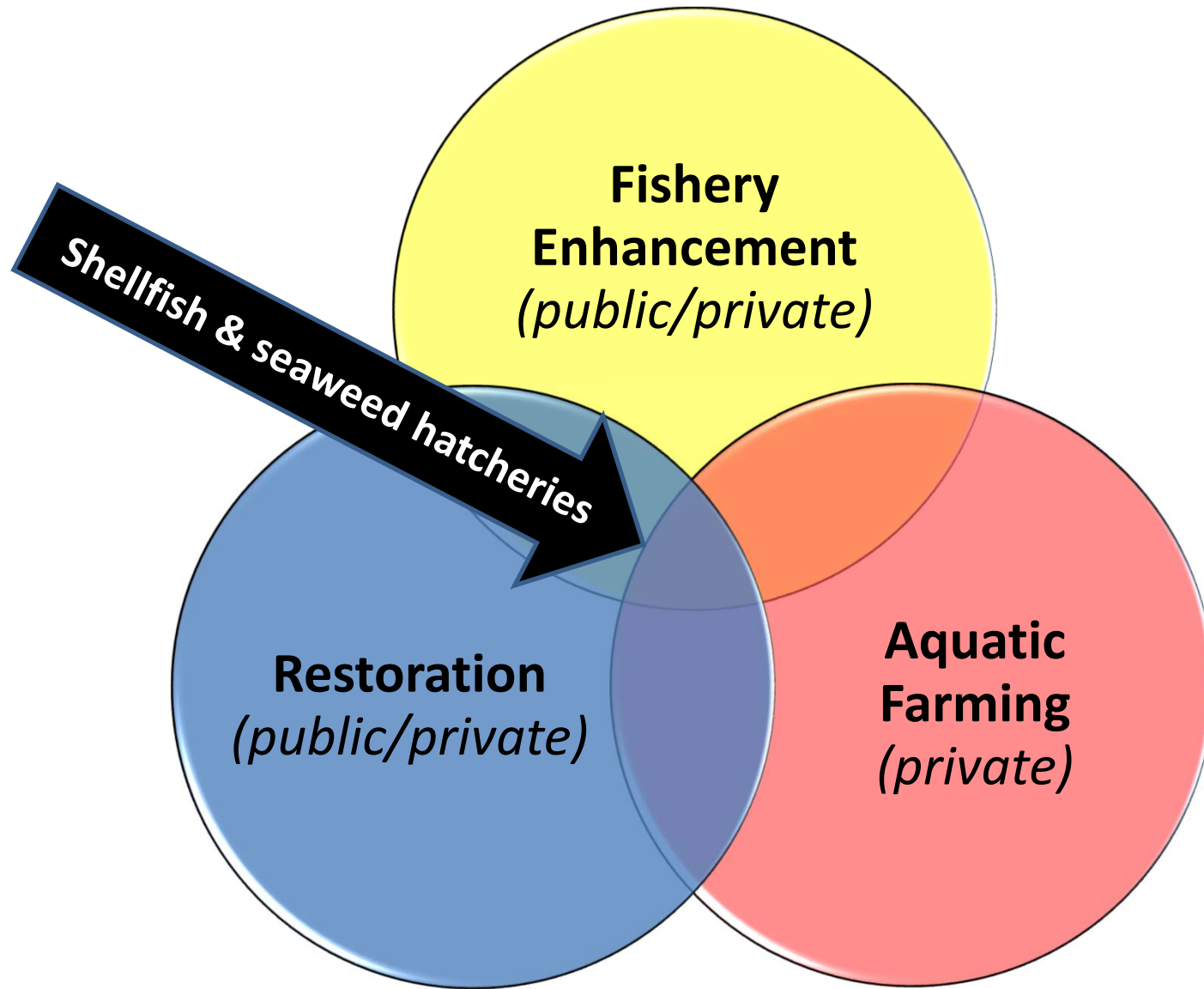
*Finfish farming is prohibited by Alaska Statute 16.40.210.*



**Mariculture is...**  
**enhancement, restoration and farming**  
**of shellfish and seaweeds.**

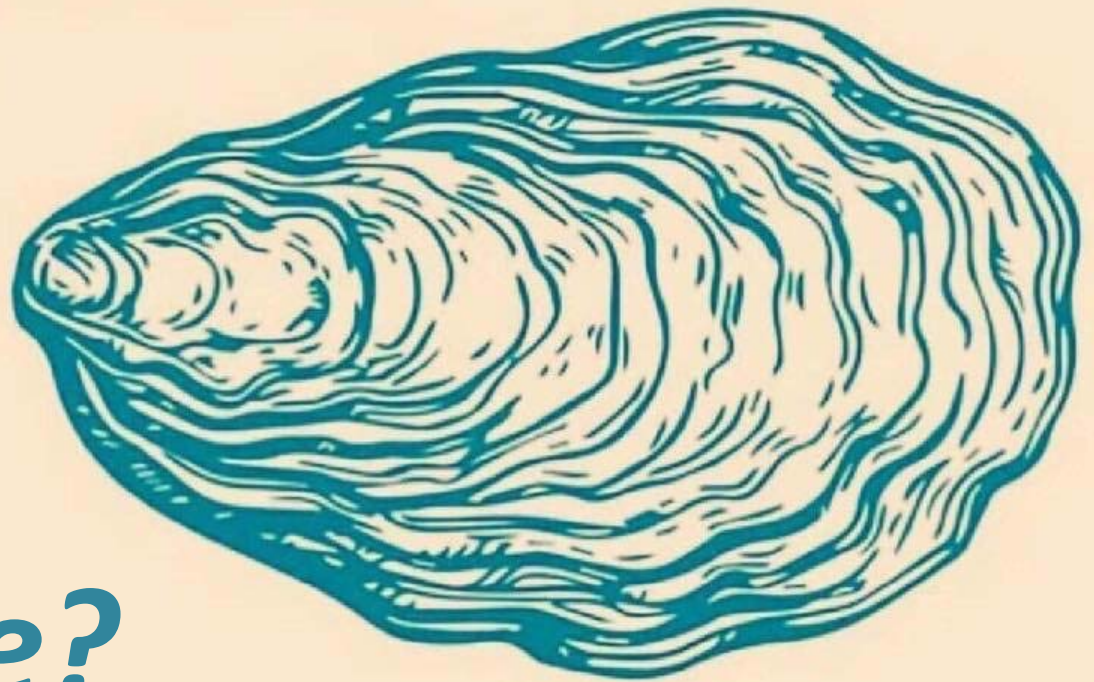
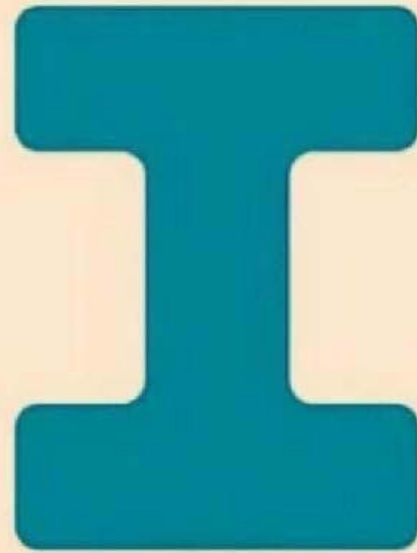


# *Mariculture is...*





***Why  
Mariculture?***

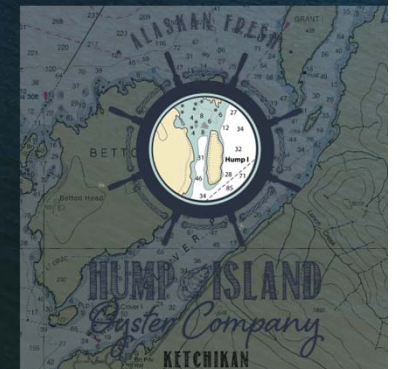




# Opportunities & Benefits: **Economic**



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







## Opportunities & Benefits:

### **Food Security**

Increases access to  
local foods

## Opportunities & Benefits:

### **Cultural**

Connects Alaskans  
with traditional food  
sources, harvesting  
activities & skills



*Salmon hatchery – Prince William Sound*

*Commercial fishing vessels – Bristol Bay*



## Opportunities & Benefits: **Industrial**

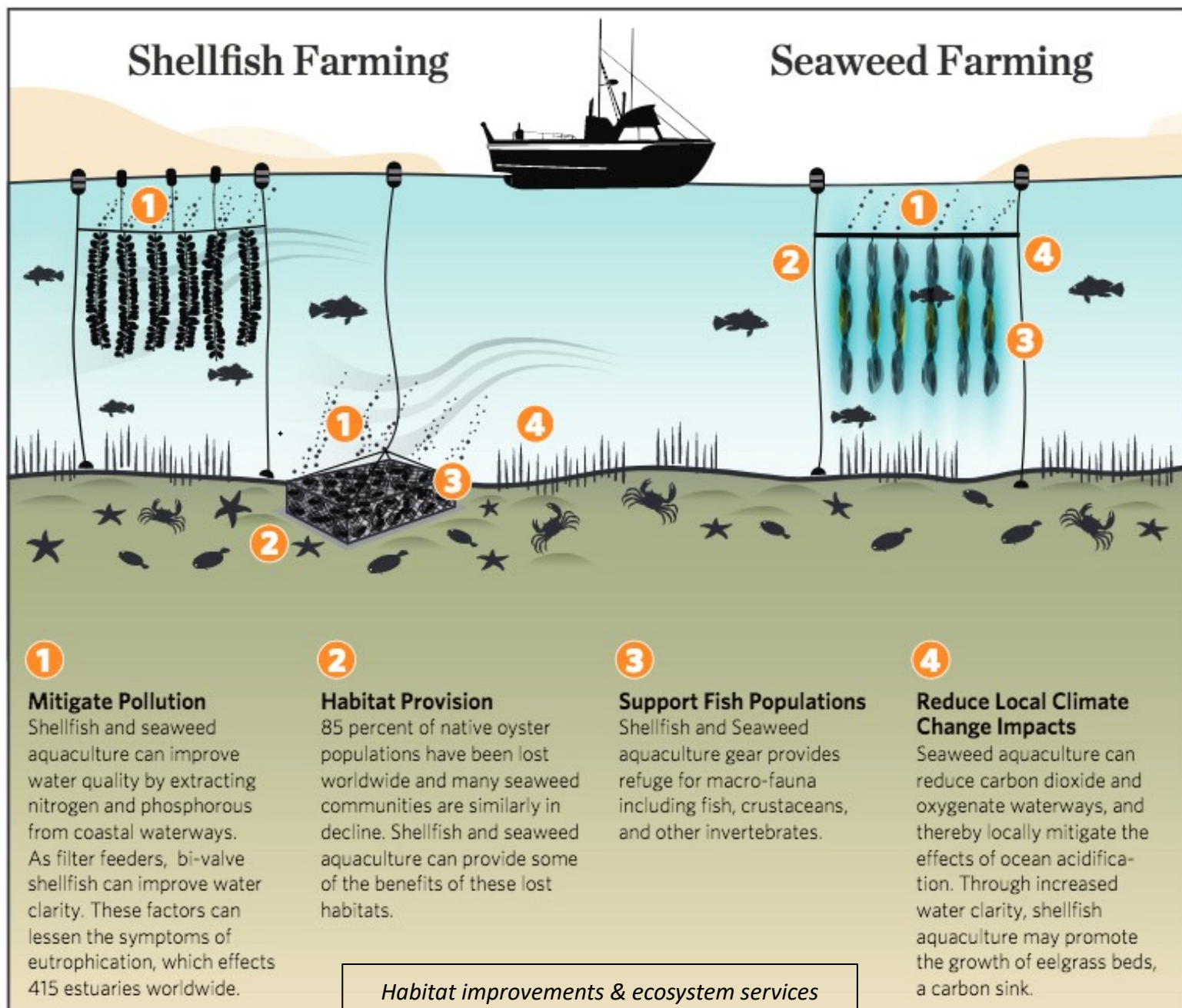
- Compliments & expands existing \$6 billion seafood industry
- Builds on assets – vessels, plants, sustainable fisheries, salmon hatcheries, Alaska seafood brand & ASMI

*Processing plant – Kodiak*





# Opportunities & Benefits: Environmental





# Opportunities & Benefits:

## Environmental

Growing shellfish and seaweed does NOT require:

- Land
- Fresh water
- Feed
- Fertilizer

# ***Mariculture Task Force***

**Administrative Orders:** By request of industry leaders, Governor Walker established the Alaska Mariculture Task Force (MTF) by **AO #280 in 2016** and extended it by **AO #297 in 2018**.

**AO #297 Directive** – *“...The Task Force shall make recommendations to present to the Governor by May 1, 2021, along with a report regarding progress toward the Plan's goal to grow a \$100 million mariculture industry in 20 years.”*

- ✓ Mariculture Task Force (11 members)
- ✓ 5 Advisory Committees (15+)
- ✓ Webpage on ADFG website
- ✓ Completed 2-yr comprehensive planning process in 2018
- ✓ Included iterative economic analyses
- ✓ Includes dozens of recommendations, in eight categories
- ✓ Includes five priority recommendations







# Collaborative Planning Process



PACIFIC  
SHELLFISH  
INSTITUTE

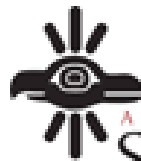


arpa.e  
CHANGING WHAT'S POSSIBLE

Blue Evolution  
BACK TO THE SOURCE



DNFUUDE



SEALASKA



ALASKA CHAMBER





# Alaska Shellfish Farm Size Feasibility Study



## KEY FINDING

- *“Regardless of farm type, larger farm size scenarios demonstrated better short and long term profitability than smaller farm sizes...new entrants into the Alaska shellfish farming industry should consider investments in medium and large scale farms.”*

**Completed by:**



**ALASKA**  
NORTH TO OPPORTUNITY





## Economic Analysis to Inform the Alaska Mariculture Initiative: Phase 1 Case Studies

Prepared for  
Alaska Fisheries  
Development  
Foundation

March 2015



In association with  
Pacific Shellfish Institute

Maine Shellfish Research and Development

This publication was prepared with funds from Award #NA14NMF4270058 from the National Oceanic and Atmospheric Administration, U.S. Department of Commerce. The statements, findings, conclusions and recommendations are those of the authors and do not necessarily reflect the views of NOAA or the Department of Commerce.

## KEY FINDING

Six key elements for successful  
mariculture development:

- 1) Pre-existing seafood industry
- 2) Public acceptance & support
- 3) Favorable growing areas
- 4) Existing development plan w/  
coordinated R&D strategy
- 5) Successful business plans &  
growing technology
- 6) Workforce development

Funded by:





August 2017

# Alaska Mariculture Initiative Economic Analysis to Inform a Comprehensive Plan

## PHASE II

Prepared for  
Alaska Mariculture  
Task Force



Prepared by  
**McDowell**  
GROUP

## ECONOMIC FRAMEWORK

- Six primary species
- 5, 10, 20, 30, 40, 50 yr targets
- Annual production & value
  - Total economic output:
    - = \$100 million in 20 years
    - = \$275 million in 30 years
    - = \$445 million in 40 years
    - = \$570 million in 50 years

*not adjusted for inflation*

***“Growth from the current \$1 million industry to almost \$6 million in five years...may be the most difficult phase along the trajectory...” McDowell Group***

**Funded by:**



# ALASKA MARICULTURE DEVELOPMENT PLAN



STATE OF ALASKA  
MARCH 23, 2018

## *Completed in 2018*

*Also available at: [www.afdf.org](http://www.afdf.org)*

IN BRIEF

## Alaska Mariculture Development Plan

2018



*"Aquatic plants and shellfish present a significant and sustainable economic opportunity for coastal Alaska communities...I support this comprehensive plan and commit the State of Alaska to work in partnership with stakeholders and agencies toward its implementation."*

*—Governor Bill Walker*

*"This plan is intended to increase profitability, expand participation, and provide coordination...the Task Force members remain committed and are enthusiastic about expanding Alaska's mariculture industry."*

*—Alaska Mariculture Task Force*



# *Alaska Mariculture Development Plan*

## VISION

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Develop a viable and sustainable mariculture industry producing shellfish and aquatic plants for the long-term benefit of Alaska's economy, environment and communities.

## GOAL

Grow a \$100 million mariculture industry in 20 years.

# *Mariculture: Legislative*



**HB 76 signed into law; amended Mariculture Revolving Loan Fund**

**HB 41 stuck in S-Finance when session was recessed early in 2020 for COVID**



# *Mariculture: Latest Developments*

## *Demonstration Farm*

- ✓ OceansAlaska in Ketchikan permitted seaweed demo farm
- ✓ Collaboration with Seagrove Kelp, Metlakatla & local schools





# *Mariculture: Latest Developments*

## *Tourism*

**Tourism partnership between Hump Island Oyster Company (Ketchikan) and Princess Cruises.**





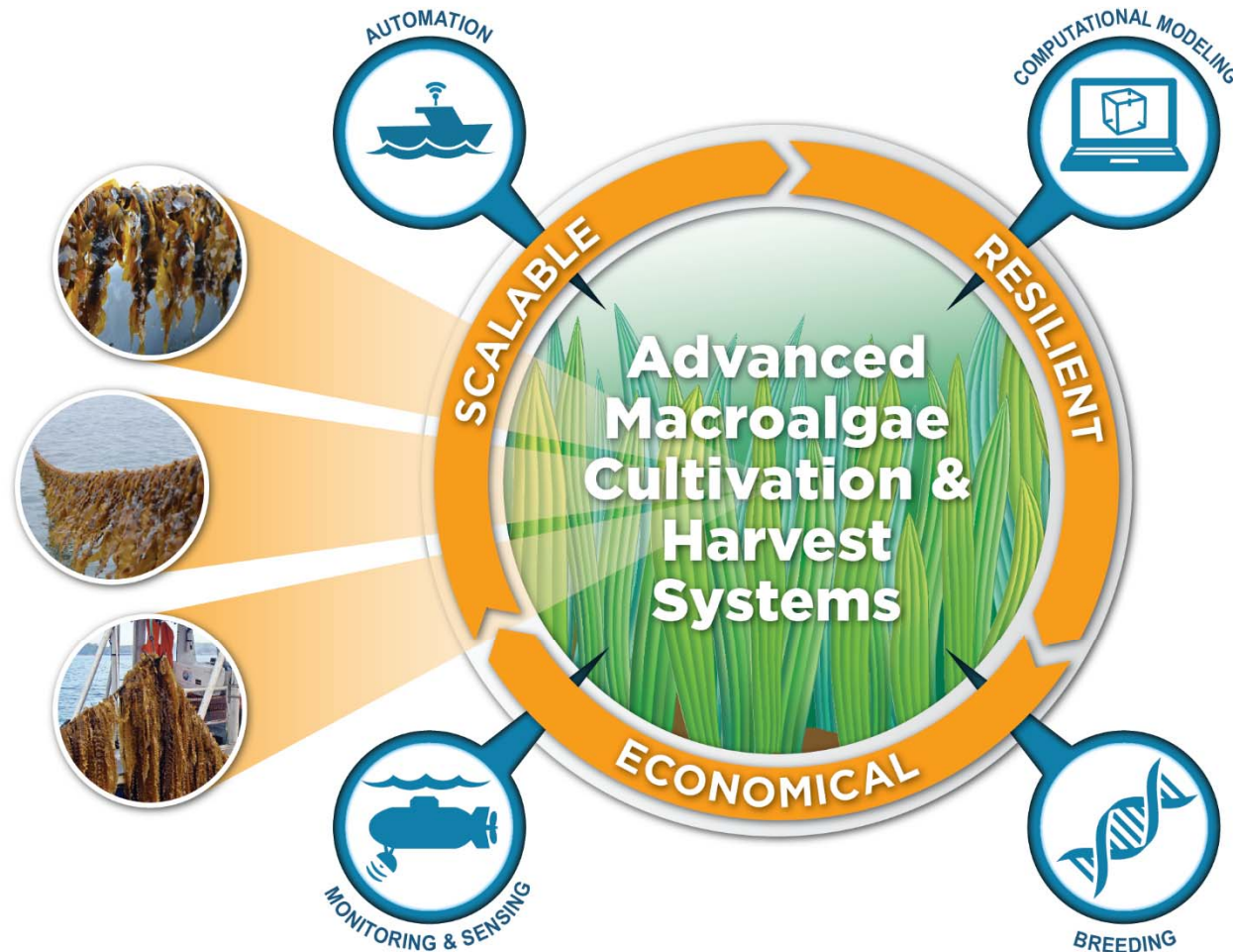


# *Mariculture: Latest Developments*

## *Kodiak Seaweed Cluster*

- ✓ BE/NOAA/seaweed hatchery
- ✓ Blue Evolution & Ocean Beauty processing seaweed
- ✓ Trident developing products
- ✓ New farm sites on Kodiak Is.
- ✓ Part of ARPA-E Team

# *Demo farm and vessels in Kodiak*



## **Macroalgae Biomass:**

**No Land**

**No Freshwater**

**No Fertilizer**

MARINER creates new biomass production opportunities for the vast ocean resources of the United States.

Photos copyright (top to bottom):  
Daria Barbour/National Geographic; The Island Institute; Bren Smith/Huffington Post

**ARPA-E 2020:** *UAF Team receives \$2.5 M to focus on growing and harvesting seaweed efficiently & cost-effectively.*



# New Food Products



*Kelp Beer from Kodiak!*





**2020**

**Grand Prize Winner**

*Also, winner of Retail category & Juneau  
People's Choice*



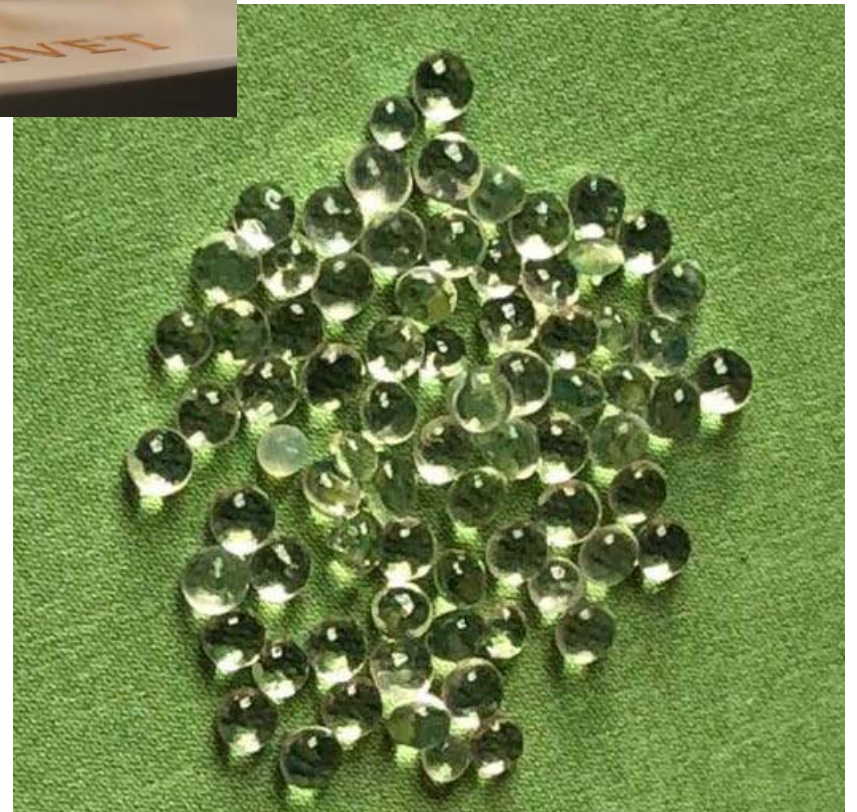
***Also, new partnership announced between Barnacle Foods & Sealaska***





kelp THE WORLD™

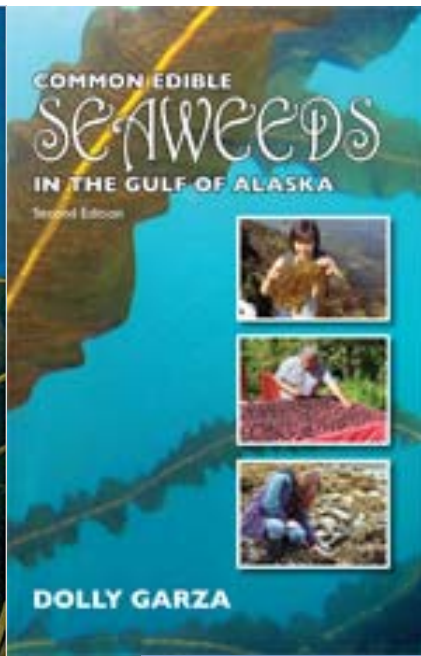
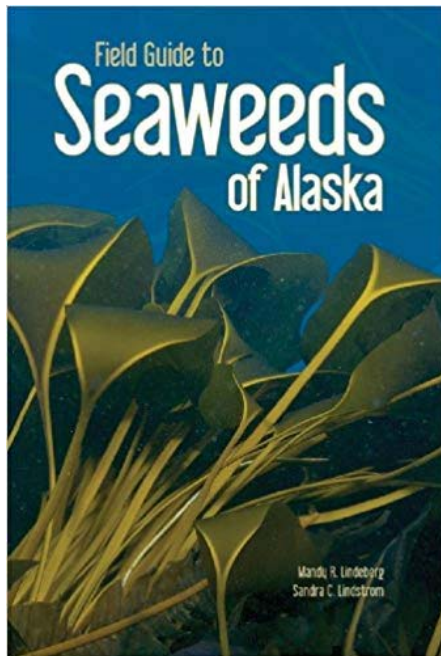
*Seaweed as Bio-Plastic*











**MORE  
In 2021!**

## Seaweed Farm Start-Up Workshops Held in Kodiak, Ketchikan & Sitka



### Seaweed Farming in Alaska



Gary Freitag  
Alaska Sea Grant Marine  
Advisory Program  
Ketchikan, Alaska  
gary.freitag@alaska.edu  
907.228.4031

**SEAgram**

ALASKA SEA GRANT  
MARINE ADVISORY PROGRAM  
JAN 49 2017  
<https://doi.org/10.4071/SEA.2017>

### Kelp Farming Manual A Guide to the Processes, Techniques, and Equipment for Farming Kelp in New England Waters

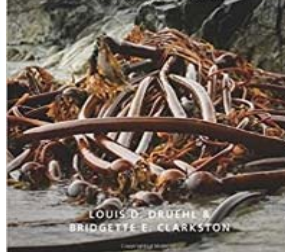


Katie Flavin  
Nick Flavin  
Bill Flahive, PhD

*Ocean  
APPROVED*  
CHANGING THE WORLD ATLANTIC

### PACIFIC SEAWEEDS

A GUIDE TO COMMON SEAWEEDS  
OF THE WEST COAST  
UPDATED AND EXPANDED EDITION



LOUIS D. DRETHLE  
BRIDGETTE E. CLARKSTON

**AFDE**

# ***Mariculture: New Farm Applications 2017-2020***

- 400% increase in annual new farm applications to DNR:
  - Pre-2017=1 to 4; 2017=16; 2018=14; 2019=12; 2020=17
  - 2,100+ acres of new farms = ~\$200,000 of new revenue to state in annual lease fees
- Scale of farms increasing from mom-&-pop/family farms to medium-scale:
  - Premium Aquatics approved 127-acre farm site near Craig/Klawock
  - Silver Bay Seafoods approved 182-acre farm site near Sitka for oysters
  - Plans for \$5-10 million initial investments are developing
- Alaska seafood processors are taking interest in processing and farming
  - Silver Bay Seafoods, Trident Seafoods, Ocean Beauty Seafoods
- Clusters of development emerging in multiple regions of the state:
  - Ketchikan/POW/Sitka, PWS, Homer, Kodiak, Sand Point
- New interest by CDQ Groups and Alaska Native Corporations
- Fishermen interested in diversifying into seaweed farming
- New companies buying seaweed and developing new products



The logo is a dark green circle containing the text "Seagrove" in a white serif font, a stylized green wavy line below it, and "KELP CO." in a smaller white serif font at the bottom.

Seagrove

KELP CO.

Questions?

