A Farm for Every Fisherman?

Diversifying your Business through Mariculture

Pacific Marine Expo

November 19, 2016

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Introductions

Presented by:

Julie Decker
Alaska Fisheries Development Foundation

Tomi Marsh
OceansAlaska

Mark Scheer
Williams Kastner

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A Farm for Every
Fisherman…
for real?


What is Mariculture in AK?
Finfish Farming
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Allowable Species in Alaska

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

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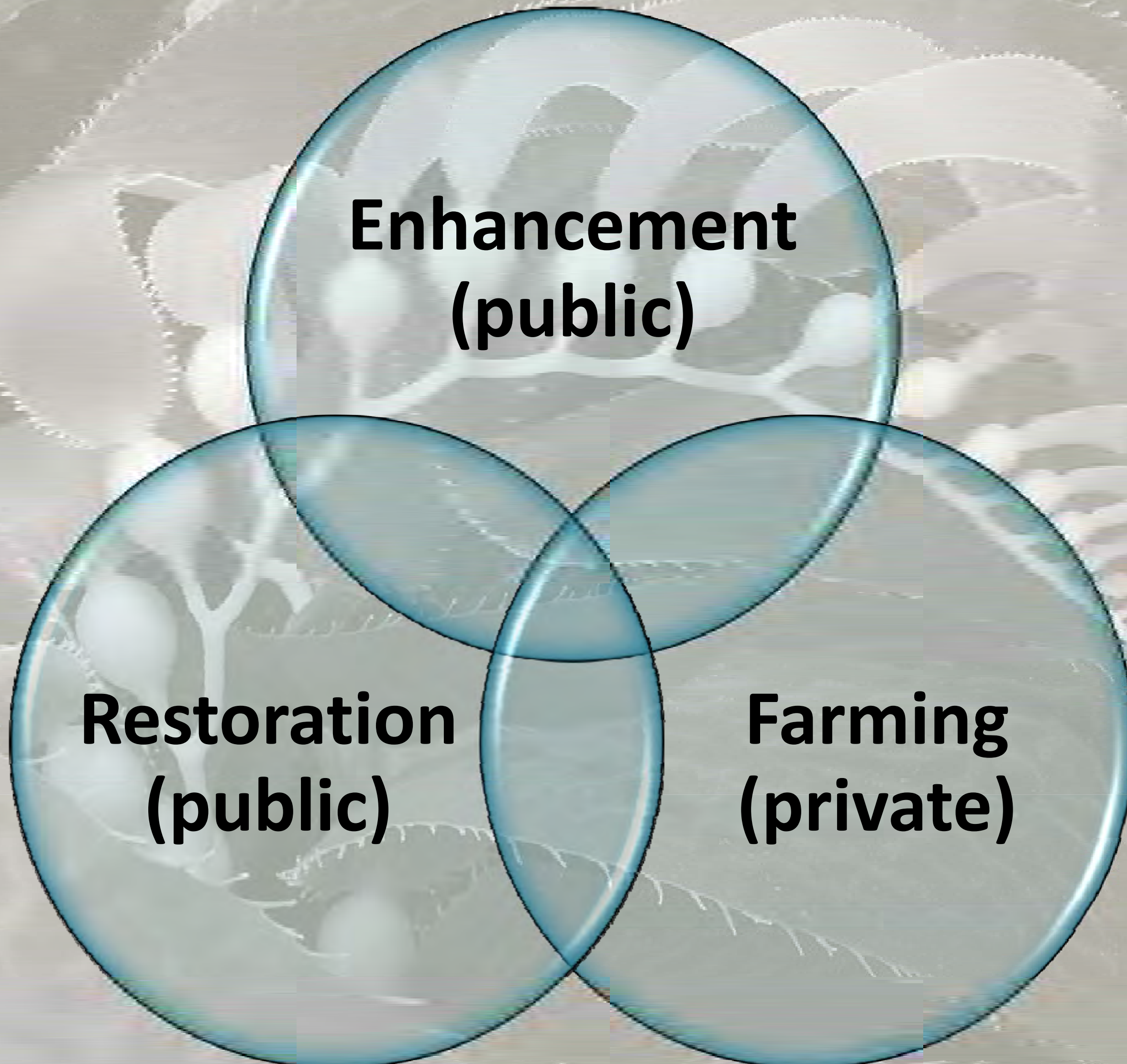
What does mariculture mean in Alaska?



Current Mariculture Activities

- ✓Alaska Mariculture Task Force
- ✓AKCRRAB
- ✓Alaska Sea Grant –
  Pilot Seaweed Project
- ✓OceansAlaska

Alaska Mariculture Task Force

- **Governor Walker** established on Feb. 26, 2016 by Administrative Order #280
- **Directive**: *"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, environment and communities."*
- **March 1, 2018** – deadline to complete work

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Alaska Mariculture Task Force
How to stay informed

NEW!

Mariculture Task Force website
& listserve:

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

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Alaska Governor's Mariculture Task Force

- Overview
- Task Force Members
- Task Force Meetings Information
- Advisory Committees
- Reference Library
- Related Links
  - Aquatic Farming
- Sign up for information
  - Email Subscription

ADF&G Home » Fishing » Aquaculture » Amtf

Alaska Governor's Mariculture Task Force

Overview

Overview | Task Force Members | Task Force Meetings Information | Advisory Committees | Reference Library

Overview

"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".

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.

Pacific oysters ready for Alaskan market.

Sign Up To Receive Messages

Please enter your email address to receive messages about the Alaska Mariculture Task Force.

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Unsubscribe from this list

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Alaska Department of Fish and Game
P.O. Box 115526
1255 W. 8th Street

AKCRRAB Goal =

Rehabilitation of depressed king crab stocks in Alaska

Focus = red king crab in Kodiak &
blue king crab near Pribilof Islands

Activities since 2006:
- Hatching & rearing at Alutiiq Pride hatchery
- Experimental releases near Kodiak (2 yrs)
- Planning releases near Pribilof Islands

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Alaska Sea Grant Project: Beginning of Seaweed in Alaska

Partners:

- Ocean Approved
- OceansAlaska
- Maine Shellfish Research & Development
- Pacific Shellfish Institute
- Alaska Shellfish Growers Association (10+ Alaska farmers)
- Alaska Fisheries Development Foundation
- Premium Oceanic

View Ocean Approved video:
https://www.youtube.com/watch?v=Zw4IiPujXWo

Mariculture Activities: *OceansAlaska*

- Non-profit hatchery located in Ketchikan
- Hatchery & nursery facility for oyster seed & seaweed seed
- Supporting sea cucumber research project with SARDFA
- Burke-o-lator provides real-time info for pH, salinity & temp

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Seaweed Benefits

✓Seaweeds provide nurseries for marine life
✓Improve water quality
✓Uptakes excess CO2 & nutrients (ie. nitrogen & phosphates)
✓Mitigates pollution
✓Gives off O2 to help with dead zones

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Seaweed Project

- ✓ADF&G permitted project
- ✓Follows ADF&G genetic policies
- ✓Seaweed spores are seeded onto twine
- ✓Seeded lines can provide seasonal crops
- ✓Global seaweed production is valued at $12 billion
- ✓Supplements traditional foods & food security
- ✓Fast growing; annual harvest
- ✓Seasonality fits with AK fisheries

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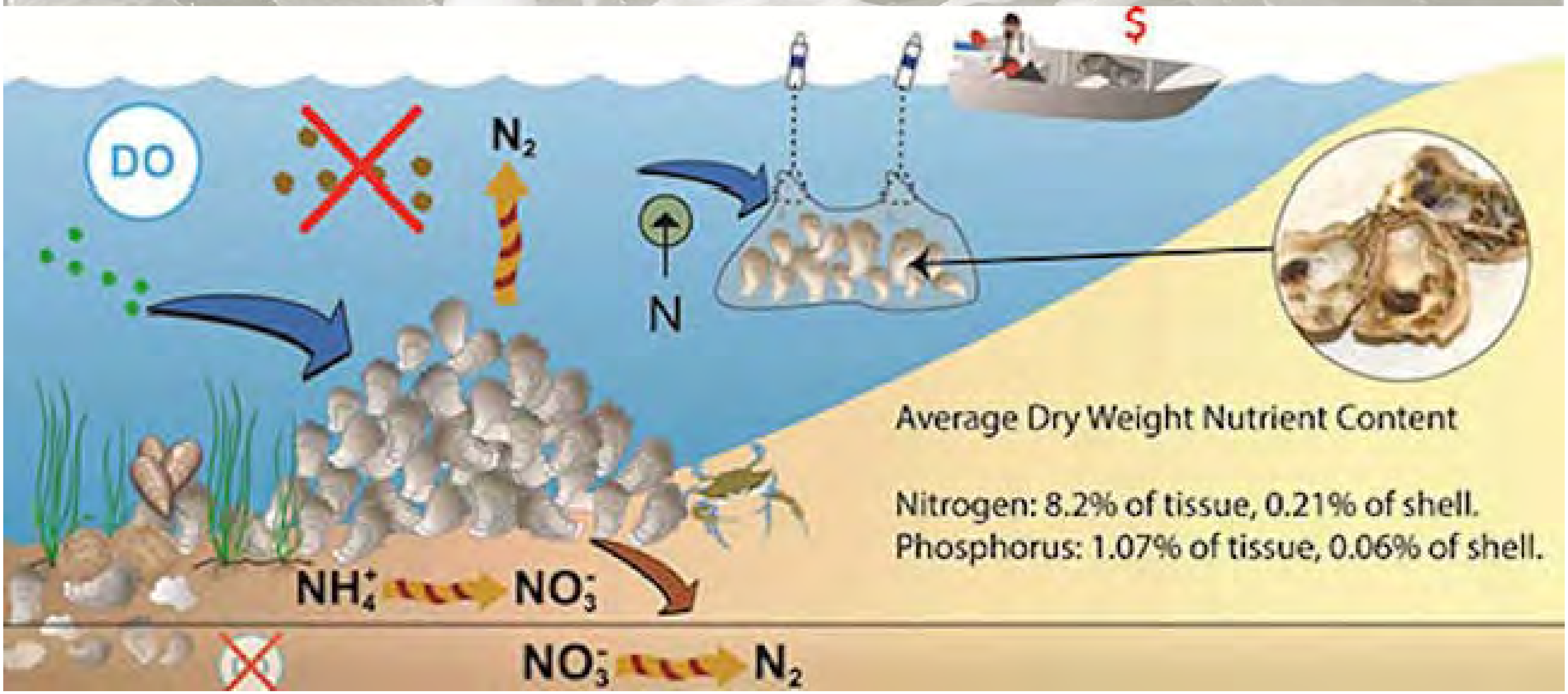
Oysters at OceansAlaska

✓Clams, mussels, oysters natural cleaners
✓Pharmaceuticals, herbicides, pollution can be filtered by bi-valves



Sea Cucumbers at OceansAlaska

- Vacuum cleaners of the ocean
- Important to ecosystem
- Function as earthworms as recycler of waste

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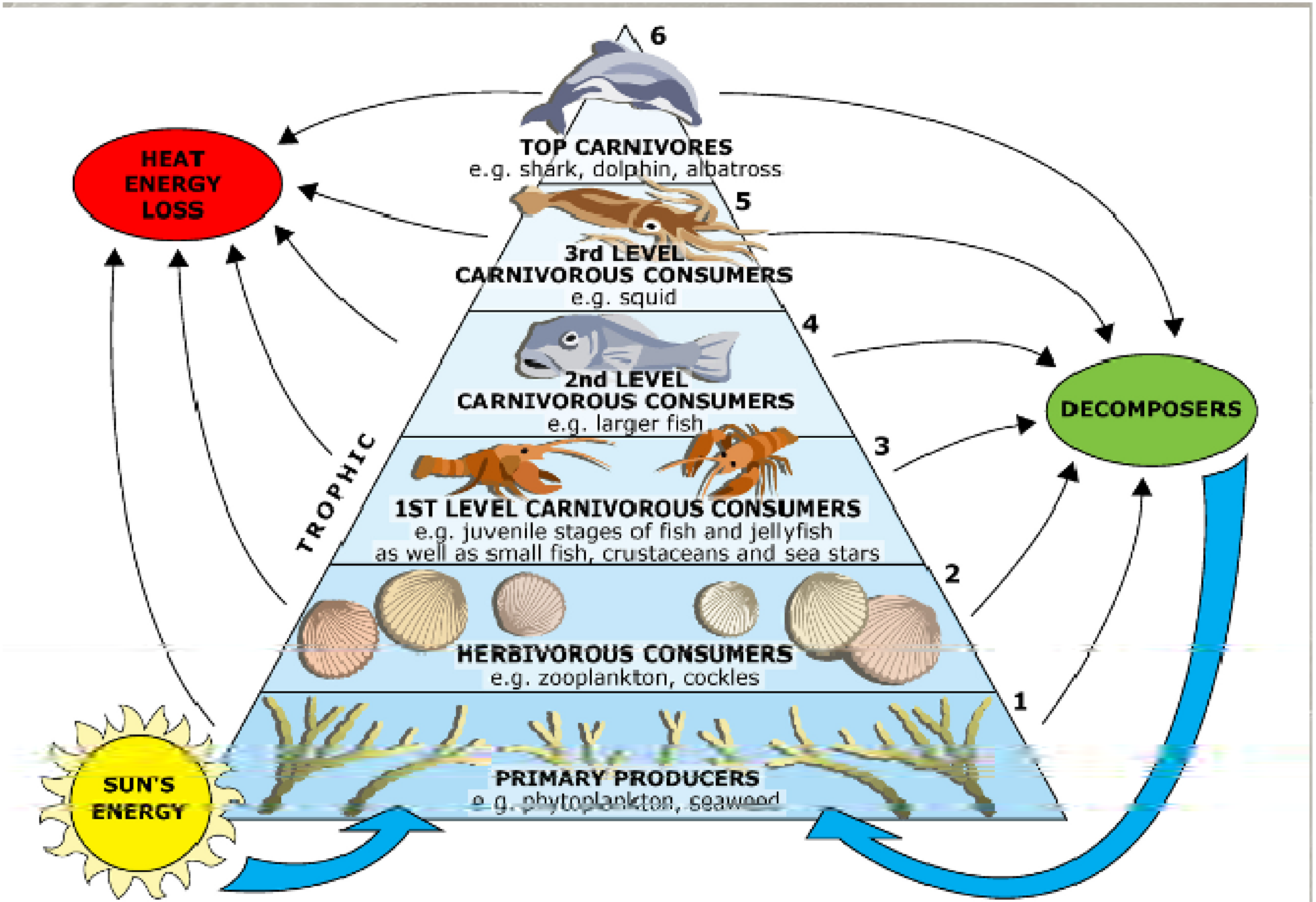
6
5
4
3
2
1
HEAT ENERGY LOSS
TOP CARNIVORES
e.g. shark, dolphin, albatross
3rd LEVEL CARNIVOROUS CONSUMERS
e.g. squid
2nd LEVEL CARNIVOROUS CONSUMERS
e.g. larger fish
1ST LEVEL CARNIVOROUS CONSUMERS
e.g. juvenile stages of fish and jellyfish as well as small fish, crustaceans and sea stars
HERBIVOROUS CONSUMERS
e.g. zooplankton, cockles
PRIMARY PRODUCERS
e.g. phytoplankton, seaweed
TROPHIC
DECOMPOSERS
SUN'S ENERGY

Mariculture Benefits Fisheries and Communities

Mariculture:

How do Fishermen & Processors Benefit?

1) Economic diversification
2) Fishery enhancement for commercial harvest
3) Environmental benefits & ecosystem services
4) Supplemental & complementary to salmon hatcheries
5) Restoration of depressed stocks (not for harvest – but can allow additional harvest)
6) Aquatic farming is supplementary to fishing & processing business - additional volume & species to sell

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Mariculture:
How do Fishermen & Processors Benefit?

View Pemaquid Oyster Company video:

http://www.saveur.com/article/video/pemaquid-oyster-farm-waldoboro-maine

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Mariculture:
How do Fishermen & Processors Benefit?

Aquatic farming is supplemental & complementary

Diversify fishing & processing
- Additional species & volume to harvest
- Additional species & volume to process
- Use of vessels & plants during shoulder seasons

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Mariculture:

How do Fishermen & Processors Benefit?

What would the economic impact be if 0.3% of Alaska's coast was developed for oysters?

35,000 miles of coast X 0.003 = 105 linear miles of coast

105 linear miles x 640 acres/sq. mile = 67,200 acres

67,200 acres / 4 = 16,800 acres

16,800 acres X 80,000 oysters/acre/year =

1.3 billion oysters/year

1.3 billion oysters/yr X $0.50/oyster = **$650 million/year**

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Mariculture:

How do Fishermen & Processors Benefit?

The current ex-vessel value of Alaska seafood is $2-3 billion annually.

What would an additional $650 million annually mean to the seafood industry and coastal Alaska?

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Mariculture is Complementary to Alaska's Seafood Industry

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Websites to find out more about Mariculture in Alaska

Alaska Fisheries Development Foundation

www.afdf.org

Alaska Sea Grant

https://seagrant.uaf.edu/map/aquaculture/

ADF&G – Mariculture Task Force

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

OceansAlaska

www.oceansalaska.org

OceansAlaska

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Alaska Mariculture Task Force Update

Presented by:

Julie Decker
Alaska Fisheries Development Foundation

Alaska Shellfish Growers' Association

December 9, 2016

MADE IN ALASKA
MARICULTURE

ALASKA DIVISION of ECONOMIC DEVELOPMENT

ALASKA

ALASKA DEPARTMENT OF COMMERCE, COMMUNITY, AND ECONOMIC DEVELOPMENT

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Alaska Mariculture Task Force

- Feb. 26, 2016 - Gov. Walker established the Alaska Mariculture Taskforce (AMTF) by **Administrative Order #280**

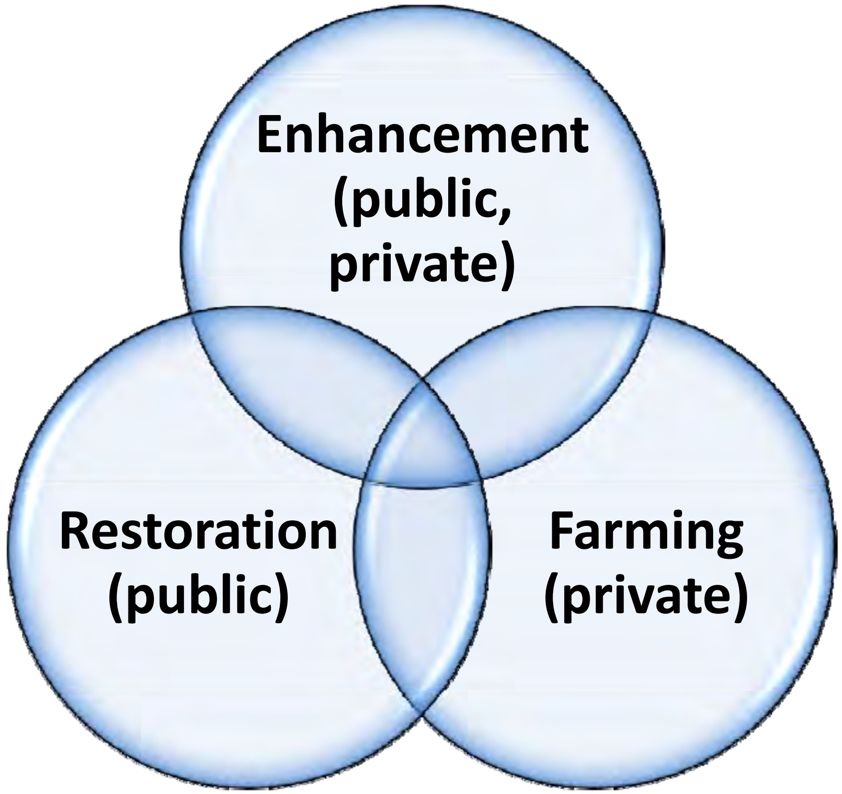
- **Direction** - *"To provide recommendations to develop a viable and sustainable mariculture industry producing shellfish and aquatic plants for the long-term benefit of Alaska's economy, environment and communities."*

- ***Mariculture is defined as*** enhancement of wild fisheries & aquatic farming of shellfish & aquatic plants. Mariculture does not include finfish farming, which is not legal in Alaska.

What does mariculture mean in Alaska?

MARICULTURE ≠ FINFISH FARMING







Mariculture species in Alaska =

(local shellfish + invertebrates + aquatic plants) + Pacific oysters

Alaska Mariculture Task Force

Benefits for Alaskans

(1) **<u>economic</u>** - providing jobs and commerce in coastal communities;

(2) **<u>environmental</u>** - improving the local ecosystem in various ways, such as habitat improvement, carbon removal, or countering ocean acidification;

(3) **<u>cultural</u>** - compatible with traditions, cultures, and skills in rural communities;

(4) **<u>industrial</u>** - complements and expands our existing renewable seafood industry, which is Alaska's largest private sector employer;

(5) **<u>food security</u>** - increasing access to local foods for Alaskans.

Alaska Mariculture Task Force - *Guiding Principles*

The ***development of the mariculture industry will***:

a) Be compatible with Alaska's reputation as a world leader in responsible and sustainable management of its seafood resources;
b) Be stakeholder-driven;
c) Coordinate and integrate with those entities conducting ocean monitoring in order to inform research & management of changing ocean conditions;
d) Include analysis of successful models that may be applicable to Alaska.

Alaska Mariculture Task Force
11 Members

- Commissioner Chris Hladick, Chair, ADCCED
- Julie Decker, Vice Chair, AFDF
- Sam Rabung, ADF&G
- Michael Stekoll, macroalgae researcher, UAS
- Paula Cullenberg, Alaska Sea Grant Representative
- Jeff Hetrick, Aluutiq Pride Hatchery
- Eric Wyatt, Aquatic farmer, OceansAlaska Hatchery
- Angel Drobnica, APICDA
- Heather McCarty, AKCRRAB
- Kate Sullivan, SARDFA
- Christopher Whitehead, Sitka Tribe

→ Barbara Blake, liaison to Gov/Lt. Gov's Offices

Alaska Mariculture Task Force
Advisory Committees

Five advisory committees, aligned with essential elements in AO

- ***Investment and Infrastructure*** (Chairs Hetrick & Drobnica)
- ***Regulatory Issues*** (Chair Rabung)
- ***Research, Development, and Environmental Information*** (Chair Stekoll)
- ***Public Education and Marketing*** (Chair McCarty)
- ***Workforce Development*** (Chair Cullenberg)

Alaska Mariculture Task Force
Advisory Committees

<u>Expectations of ACs:</u>

Work cooperatively for the benefit of the entire State of Alaska

ACs will adhere to AO #280, including guiding principles and deadline (March 1, 2018)

Chairs have the responsibility of calling and organizing meetings

Membership in the ACs will be at the discretion of the Chairs

Communication between the ACs and the TF will flow through the Chairs

<u>Purposes of ACs:</u>

Each AC will assist the TF in addressing the essential element referred to in the AC name for purposes of integration and inclusion in the final comprehensive plan.

Each AC will provide a connection to stakeholders and act as a two-way flow of communication between stakeholders and the TF.

Alaska Mariculture Task Force
Advisory Committees

<u>Scope of Work</u> – ACs and Chairs should use this as a general guide for their work:

Timeline – provide short-term or most urgent recommendations to the TF by Nov. 9, 2016, and full recommendations to the TF by March 1, 2017.

Conduct situational assessment relevant to each AC

- Identify & utilize existing resources (information/orgs/Phases 2 & 3 eco analysis)
- Identify opportunities or desired outcomes
- Identify problems
  - Identify current or historic problems, impediments, obstacles, or needs
  - Identify past efforts to address problems
  - Identify why past efforts have failed
  - Identify information needs

Identify solutions/strategies and new resources (info/orgs/$)

Recommend implementation plan

- Identify who, what, when, where, how, funding & prioritization
- Think in phases: Phase 1 (1-10 yrs), Phase 2 (10-20 yrs), Phase 3 (20-30 yrs)

Recommend evaluation plan which tracks continued progress

Alaska Mariculture Task Force
Current status

- Next TF meeting – January 11th in Juneau
- Advisory Committees (ACs) are holding meetings
  - Chairs present summarize issues raised
- Soliciting stakeholder input – ASGA prez & tonight's reception
- Providing opportunity for experts to present
- Draft strategic plan, including timeline
- AFDF received EDA funding (work with TF & ACs, complete Phases 2 & 3 economic analysis, help draft comprehensive plan)

Alaska Mariculture Task Force

How to stay informed

Website:

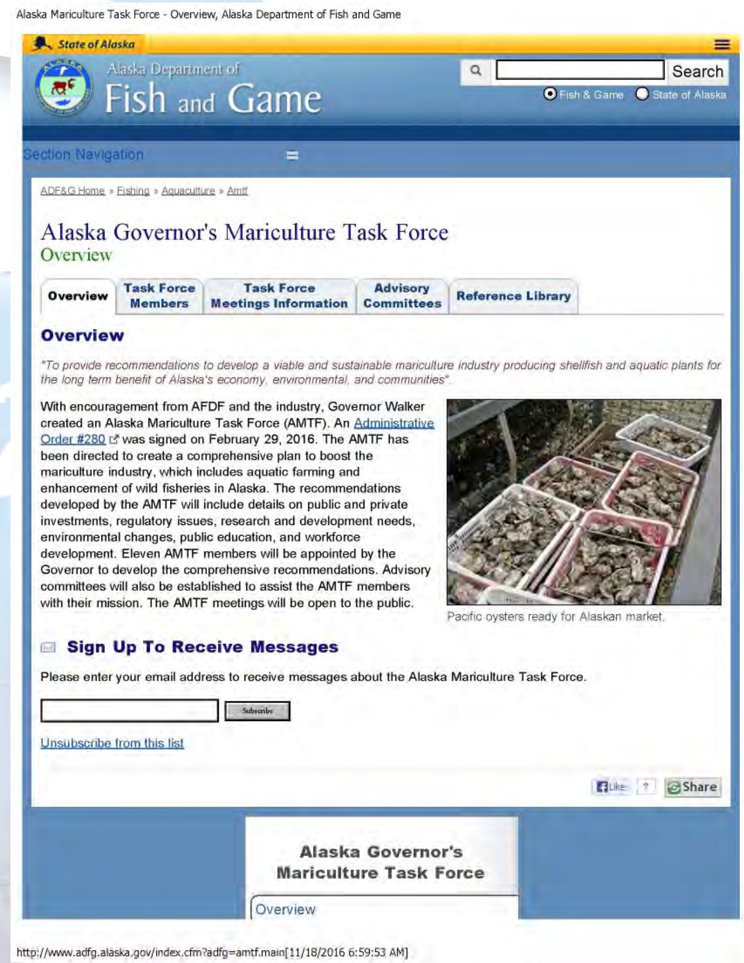
Alaska Governor's Mariculture Task Force

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

Listserve:

automatically receive public notices, etc.

Sign up at the website!



Alaska Mariculture Task Force
How to stay informed

Also, reference documents at AFDF's website:

http://www.afdf.org/projects/current-projects/alaska-mariculture-initiative/

…or ask Julie Decker for a flash drive

Related Mariculture Activities

- Alaska Sea Grant seaweed pilot project
- Alaska Sea Grant updated website
- Stekoll's Sea Grant funded seaweed project
- Sea cucumber research in Ketchikan (spring/summer 2016)
- AKCRRAB
- ARPA-E Macroalgae as Fuel –
  - future presentation by Marc Von Keitz in Alaska
- AFDF presentations at SEC, UFA & Pacific Marine Expo (Seattle)
  - *A Farm for Every Fisherman?*
- Discussions with new interested investors

The Beginning of Seaweed in AK

Alaska Sea Grant Pilot Project

Partners:

Ocean Approved (ME)

Maine Shellfish Research & Development

Pacific Shellfish Institute (WA)

OceansAlaska (Ketchikan)

Alaska Shellfish Growers Association (10+ Alaska farmers)

Alaska Fisheries Development Foundation

Premium Oceanic

https://www.youtube.com/watch?v=Zw4IiPujXWo