Mariculture

Increase the value of your seafood business
Mariculture

Several options:
1) get more money for your seafood (marketing)
2) fully utilize 100% of your catch (product development)
3) catch/produce more seafood (mariculture)

Increase the value of your seafood business
Mariculture

Increase the value of your seafood business

Presented at Pacific Marine Expo
Julie Decker, Alaska Fisheries Development Foundation
& Carter Newell, Maine Shellfish R&D
November 18, 2015

This presentation was prepared with funds from NOAA Award #NA14NMF4270058. The statements, findings, conclusions and recommendations are those of the authors and do not necessarily reflect the views of NOAA or the Dept. of Commerce.
Mission - Turn challenges into opportunities by applying research & development, while balancing economic benefits with sustainability principles

Areas of work:

1) 100% utilization of harvest
2) Byproduct development
3) Fishing vessel energy efficiency
4) Seafood sustainability certification
5) Maritime workforce development
6) Alaska Mariculture Initiative
What does mariculture mean in Alaska?

Mariculture species in Alaska = local shellfish + local aquatic plants + Pacific oysters
Mariculture in Alaska

Why?

Benefits:

**Economy**
provides jobs & commerce in rural, coastal communities

**Environment**
provides ecosystem services, i.e. nutrient and carbon removal

**Community**
compatible with traditions, cultures & skills in rural communities

**Industry**
compliments & expands on pre-existing renewable industry

**Food security**
increases access to local foods for Alaskans

**Sustainability**
provides a path to sustainable practices for supplying healthy food for the world – “Blue Solutions”
Mariculture:
How do fishermen & processors benefit?

1) Fishery enhancement for commercial harvest
2) Restoration of depressed stocks (not for harvest)
3) Aquatic farming as supplementary to fishing business
4) Environmental benefits
5) Supplemental to salmon hatcheries
Mariculture: How do fishermen & processors benefit?

Examples in Alaska for discussion:

Salmon enhancement

AKCRRAB Program – Alaska King Crab Research, Rehabilitation & Biology
Salmon Enhancement

Salmon Enhancement

• Initiated in 1970s, as stakeholder-driven, public/private partnership.

• Purpose:
  Recovery and support of Alaska’s salmon fisheries and fishing economy.
  Provide an economic engine to support and grow coastal communities.

• Designed to provide harvestable production that is supplemental to natural production.

• Constitutional mandate to manage for sustained yield; wild stocks have a priority in law.

• Enhanced production had to ensure that there is no significant adverse impact on natural stocks.

• To accomplish this, ADF&G developed a precautionary approach to hatchery production; hatchery locations, genetics & disease polices had to be designed with this goal in mind.

• *Alaska’s habitat is for the most part intact and natural production is finite and arguably at its maximum. The only way to increase salmon production is by increasing survival through the use of tools such as hatcheries.*
Salmon Enhancement

[Bar chart showing commercial harvest (in millions of salmon) from 1900 to 2010. Key events marked include Statehood 1959, Limited Entry 1973, FRED 1971, PNP Hatchery Program 1974.]

AFDF
Salmon Enhancement

Alaska fisheries enhancement program contribution to commercial common property fisheries, including number of fish harvested and the estimated exvessel value of hatchery-produced fish, 1987-2014.
Salmon Enhancement

Percentage of Hatchery Salmon in Statewide Commercial Common Property Harvest

- Annual Percent
- Average Percent

Gulf of Alaska red king crab stocks have NOT rebounded, without fishing pressure since 1980’s.

Pribilof Islands blue king crab stocks are the only federally overfished stock in the North Pacific.

Management affects regional bycatch of all commercial fish and crab stocks.
AKCRRAB

The 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
Alaska Mariculture Initiative

What is it?

An effort to expedite the development of mariculture in Alaska.
Alaska Mariculture Initiative

How?

Begin with a vision ... 

Grow a $1 billion industry in 30 years
Alaska Mariculture Initiative

Vision: Grow a $1 billion industry in 30 years

Is this possible in Alaska? YES!

Similar example:
Whitefish in Southwest Alaska

• Timeframe - began in early 1980’s
• Public/private R&D partnership with NOAA, AFDF & Trident Seafoods
• Similar scale, rural challenges
• Development in Alaska seafood
• Current value whitefish = $1 billion+
Alaska Mariculture Initiative

Economic Analysis: Phase I – Case Studies

Phase I: Comparative case studies (9) which outline examples of successful mariculture industries in different regions of the world.

Phase 2: Given the results of Phase I, develop a preliminary economic analysis, including a model or framework, to support & inform the development of Alaska’s statewide strategic plan.

Phase 3: Analysis of the costs, benefits & economic impact of a final statewide strategic plan developed as part of the AMI, given implementation.
Economic Analysis: Phase I – Case Studies

Critical Attributes in Case Studies

- Industry growth capacity
- Rapid growth rates
- Workforce development
- Stakeholder-driven development
- Large Wild Fisheries
- Advanced culture technology
- Public and private investment
- Coordinated R&D
- Market access
Alaska’s Mariculture Strengths

• Large-scale existing seafood industry & infrastructure (seafood markets, processing facilities, vessels, overlapping skill sets, etc.)
• Pristine environment & availability of room for expansion
• Alaska seafood already branded for high quality & price
• Existing marketing organization – ASMI
• Existing examples of stakeholder-driven successes
• Existing financing programs available through State & Federal gov
• Two existing shellfish hatcheries – Aluttiq Pride in Seward & OceansAlaska in Ketchikan
• Recognized workforce needs led to Alaska Maritime Workforce Development Plan (2014) & Maritime Works
Governor’s Mariculture Task Force

Coming soon!