Alaska Mariculture Initiative

Why not Alaska?

Economic case studies of successful mariculture industries & their potential relationship to a statewide strategic plan to develop the Alaskan industry

Presented to the Alaska Shellfish Growers’ Association
Julie Decker, Alaska Fisheries Development Foundation & Carter Newell, Maine Shellfish R&D
November 20, 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
Alaska Mariculture Initiative

What is AMI?

A project to expedite the development of the mariculture in Alaska.
Alaska Mariculture Initiative

What does mariculture mean in Alaska?

Species in Alaska = native shellfish + aquatic plants + Pacific oysters
Alaska Mariculture Initiative

How?

Begin with a vision ... 

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

Goal #1:
• Expand stakeholder base, create partnerships & increase capacity to be effective

Goal #2:
• Develop a clear & coordinated strategic plan
  • Utilize economic info in order to inform the strategic plan
Alaska Mariculture Initiative

Target Stakeholders & Agencies
Governor’s Mariculture Task Force

Important achievement & coming soon!

Governor Walker is interested in developing mariculture in Alaska

- He has agreed to create a Mariculture Task Force with public & private members
- Direct the Task Force to create a coordinated, deliberate & solutions-oriented plan to develop the industry
- Also agreed to engage federal agencies & private investors with interest & resources to help
- Gov’s staff is working to appoint the Task Force members through an Administrative Order
- Will hold organizational meeting first while the technical details of creating the Task Force are finalized
Mariculture Task Force

How can shellfish farmers interact with Task Force?

• ASGA member on the Mariculture Task Force
• ASGA member can communicate to/from the Task Force & keep other ASGA members updated
• ASGA may consider recommendations of prioritized needs for farmers to provide Task Force
• AFDF will also regularly provide info regarding the Task Force to ASGA Board & on AFDF website
• The Task Force will be a process of information gathering, analysis & collaboration
Alaska Mariculture Initiative

Other Updates

1) **AFDF website** includes info related to mariculture development plans:  [www.afdf.org](http://www.afdf.org)

2) **OceansAlaska updated business plan** available & provided to ASGA Board

3) **Legislation** being drafted by ADF&G - *Invertebrate & Aquatic Plant Enhancement & Restoration* – provides authority for ADF&G to allow and manage these activities, similar to salmon enhancement

4) **Discussion of changes to Mariculture Revolving Loan Fund (MRLF)** – would allow up to $2M of MRLF to be accessed by non-profit shellfish hatcheries; ASGA supported similar draft legislation in 2013; just in discussion stage now; *what is ASGA position?*
Alaska Mariculture Initiative

Economic Analysis

Contract awarded to the following Team:

Northern Economics (NE)
- Katharine Wellman, Project Manager
- Doug Schug, Contributor
- Terri McCoy, Editor

Pacific Shellfish Institute (PSI)
- Bobbi Hudson, Contributor
- Andy Suhrbrier, Contributor
- Dan Cheney, Contributor

Maine Shellfish Research & Development
- Carter Newell, Contributor
- Anne Langston, Contributor
Alaska Mariculture Initiative

Economic Analysis

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

**Phase 2:** Given the results of Phase I, develop a preliminary economic model/framework to support & inform the development of Alaska’s statewide strategic plan (*cash match collected, EDA grant submitted, not started yet*)

**Phase 3:** Analysis of the costs, benefits & economic impact of a final statewide strategic plan developed as part of the AMI, given implementation (*cash match collected, EDA grant submitted, not started yet*)
Alaska Mariculture Initiative
Economic Analysis: Phase I – Case Studies

1) Alaska - salmon enhancement
2) Alaska - King crab restoration & enhancement
3) Washington – geoduck farming
4) Florida – hard shell clam farming
5) Ireland – seaweed farming
6) Spain – mussel farming
7) Prince Edward Island (CN) – mussel farming
8) New Zealand – mussel farming
9) British Columbia – First Nations shellfish aquaculture
Alaska Mariculture Initiative

Economic Analysis: *Phase I – Case Studies*

**Key Elements in Mariculture Development**

- **Development plan with Coordinated R+D strategy**
  - New Zealand/Canada/Ireland

- **Successful business plan and culture technology**
  - New Zealand, Canada, Florida, Washington, Spain

- **Favorable growing areas**
  - All case studies

- **Fishing and processing infrastructure**
  - All case studies

- **Workforce development**
  - New Zealand, Canada, Florida

- **Public acceptance and support**
  - Spain, Canada, developed in New Zealand, Florida

**Source:**
*Maine Shellfish Research & Development, 2015*
Alaska Mariculture Initiative

Economic Analysis: Phase I – Case Studies

Key Elements for Growth

- Experimentation by early entrepreneurs
- Existence of wild fisheries and markets
- Seed grants
- Breakthroughs in culture technology
- Development of successful business models
- Successful marketing
- R+D support for culture bottlenecks, financing
- Strategic partnerships
- Fishermen training
- Improvements in efficiency
- Development of new products
- Clear articulation of development goals by industry
- Continued R+D support
- Workforce development

Source: Maine Shellfish Research & Development, 2015
Alaska Mariculture Initiative

Economic Analysis: *Phase I – Case Studies*

Critical Attributes, *Case Study Areas Comparison with Alaska*

- 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
Spain - mussels: 
*Relevancy to AMI*

- Represents world-leader (#2) in large-scale mussel production (400 million lbs annually)
- Raft cultivation may be applicable to AK where increased protection from predators is necessary
- Wild fishery infrastructure provided backbone
- Small, family-owned businesses
- Establishment of areas/zones for large-scale development
- Strategic planning efforts (& potential pitfalls)
Prince Edward Island (CN)-mussels: Relevancy to AMI

- Demonstrates effective shellfish aquaculture development strategy
- Efficient production & processing sector
- Importance of involving local growers
- Strong government policy support (National Fisheries Act & DFO’s Aquaculture Policy Framework)
- Successful coordinated R & D support by government
- Existence of established seafood industry provides backbone
British Columbia & First Nations: Relevancy to AMI

- Positive impact of public investments in aquaculture planning & development
- Similar stakeholder groups
- Physical environment very similar to Alaska
- Similar species could be grown in Alaska
- Demonstrates ability to meet challenges of remote operations, transportation, workforce, which parallel Alaska
Cedar Key (FL) – hard clam: *Relevancy to AMI*

- Demonstrates ability to train & employ commercial fishermen, utilizing existing skill sets & resources (vessels, etc.)
- Success was not dependent on big national/statewide gov. strategy
- Success was built on local community & stakeholder driven approach
- Utilized flexible & nuanced regulatory policy
- Intelligent technical & scientific support
- Financial support provided for beginning farmers
- Existing infrastructure (roads, power & communication) supported rapid expansion
- Large # of nearby researchers, hatcheries & nurseries aided development
New Zealand: 
Relevancy to AMI

• A model of strategic planning:
  • Government’s Aquaculture Strategy & Five-Year Action Plan
• Clear direction from & integration of industry
• Workforce development efforts
• Development of profitable business model
• Wild fishery infrastructure provided backbone
• Promote sustainability (environmental, economic & social)
• Improvements in public understanding & support
• Marketing efforts
Conclusion: Why not Alaska (so far)?

- Lack of coordinated planning by government agencies & industry
- Lack of advocacy & coordination by industry
- Lack of recognition of benefits to existing seafood industry
- Lack of successful business model in Alaska
  - Lack of consistent supply & quality of seed
  - Remote sites & high costs of operation
  - Lack of trained workforce
  - Slower growth for some species
- Lack of focus on sustainability issues
- Negative public perception of aquaculture (economic & environmental concerns)
Conclusion: Why Alaska (in the future)?

- Large-scale existing seafood industry & infrastructure (seafood markets, processing facilities, vessels, overlapping skill sets, etc.)
- Recent demonstration of successful business model by AK Dept. of Commerce *Alaska Shellfish Farm Size Feasibility Study*
- Pristine environment & availability of room for expansion
- Alaska seafood already branded for high quality & price
- Financing provided to farmers by $5M AK Mariculture Revolving Loan Fund
- Improvements in access to seed – OceansAlaska in Ketchikan
- Recognized workforce needs led to *Alaska Maritime Workforce Development Plan (2014)* & “Maritime Works” industry group
What are some things we can get out of coordination with the Government and University:

- Better match between what is available and what we need (revolving loan example)
- Reallocation of existing resources with an industry development focus (marine sciences focus on coastal Alaska as mariculture growing area, water quality databases, HAB’s)
- Streamlining regulatory environment
- Vocational training and workforce development
- Development of new species and technologies
- Coastal economic development and sustainability
- Communication and extension