Alaska Mariculture Initiative

Why not Alaska?

Comparative case studies of successful mariculture industries & their potential relationship to a statewide strategic plan to develop the mariculture industry in Alaska

Presented to - North American Association of Fishery Economists
Julie Decker, Alaska Fisheries Development Foundation
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Since 1978

Mission - Turn challenges into opportunities for Alaska's seafood industry, while balancing economic benefits with sustainability principles

Current Projects:

1) Alaska Symphony of Seafood
2) Fishing Vessel Energy Efficiency Project
3) Sustainability certification (RFM & MSC)
4) Maritime Works
5) Salmon Protein Powder & Market Testing
6) **Alaska Mariculture Initiative**

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Alaska Mariculture Initiative

AMI - What is it?

A project to expedite the development of the mariculture industry in Alaska (funded by a NOAA grant).

Vision: Grow a $1 billion industry in 30 years

MADE IN ALASKA
MARICULTURE
ALASKA DIVISION of ECONOMIC DEVELOPMENT
ALASKA
ALASKA COMMERCE, COMMUNITY, AND ECONOMIC DEVELOPMENT

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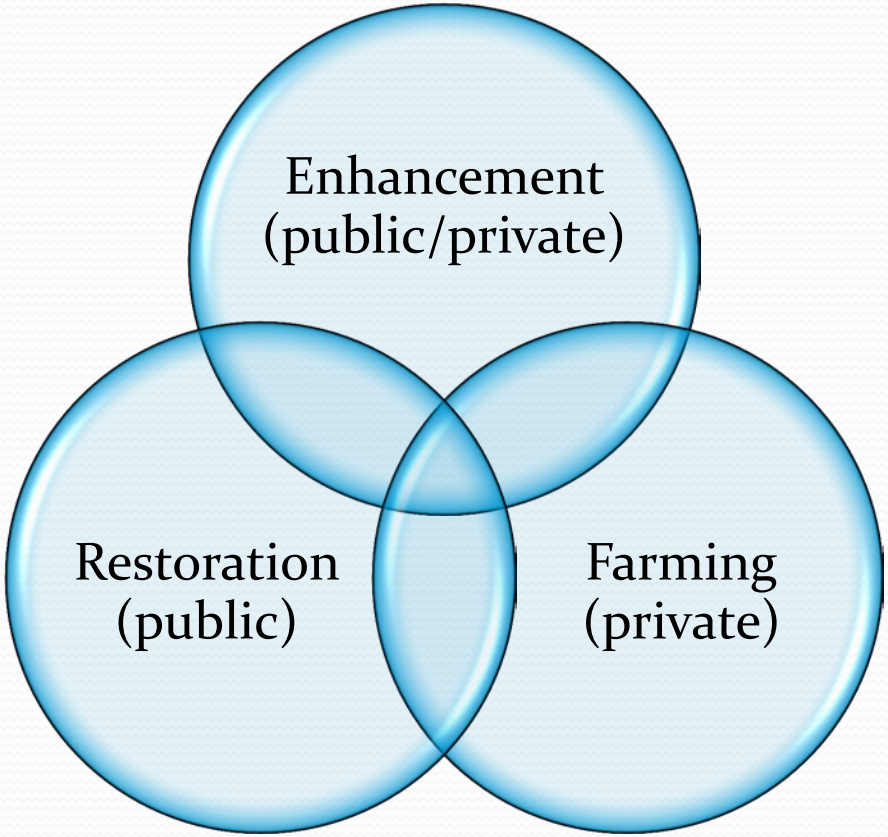
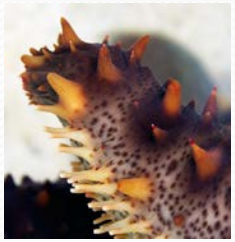
What does "mariculture" mean in Alaska?





Species in Alaska = indigenous shellfish + aquatic plants + Pacific oysters

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Goal #1:

- ***Expand stakeholder base, create partnerships, collaborate & increase capacity to be effective***

Goal #2:

- ***Develop a clear & comprehensive strategic plan***
  - Economic analysis – Phases I, II, III

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Economic Analysis

Phase I:

- Comparative case studies (9) which outline examples of successful mariculture industries in different regions of the world

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Economic Analysis

Phase II:

- 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

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Phase III:

- Analysis of the costs, benefits & economic impact of the final statewide strategic plan developed as part of the AMI, given implementation

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Economic Analysis

Contract awarded to the following Team:

Northern Economics (NE)

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Dan Cheney, Contributor

Maine Shellfish Research & Development

Carter Newell, Contributor
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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

Economic Analysis to Inform the Alaska Mariculture Initiative:

Phase 1 Case Studies

Prepared for

Alaska Fisheries Development Foundation

March 2015

Northern Economics

In association with

Pacific Shellfish Institute

Maine Shellfish Research and Development

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Economic Analysis: *Phase I – Case Studies*

Each case study includes:

1) Current status & economic impact of the industry
2) History & growth of the industry
3) Investment climate
4) Private & public investment & capitalization
5) Lead state agency support
6) Level of coordinated R & D
7) Regulatory process
8) Development strategies & key stakeholders
9) Coastal Zone Management Plans
10) Species present
11) Biophysical characteristics
12) Culture & processing technology
13) Cost/benefit analysis
14) Relevancy to Alaska
15) References

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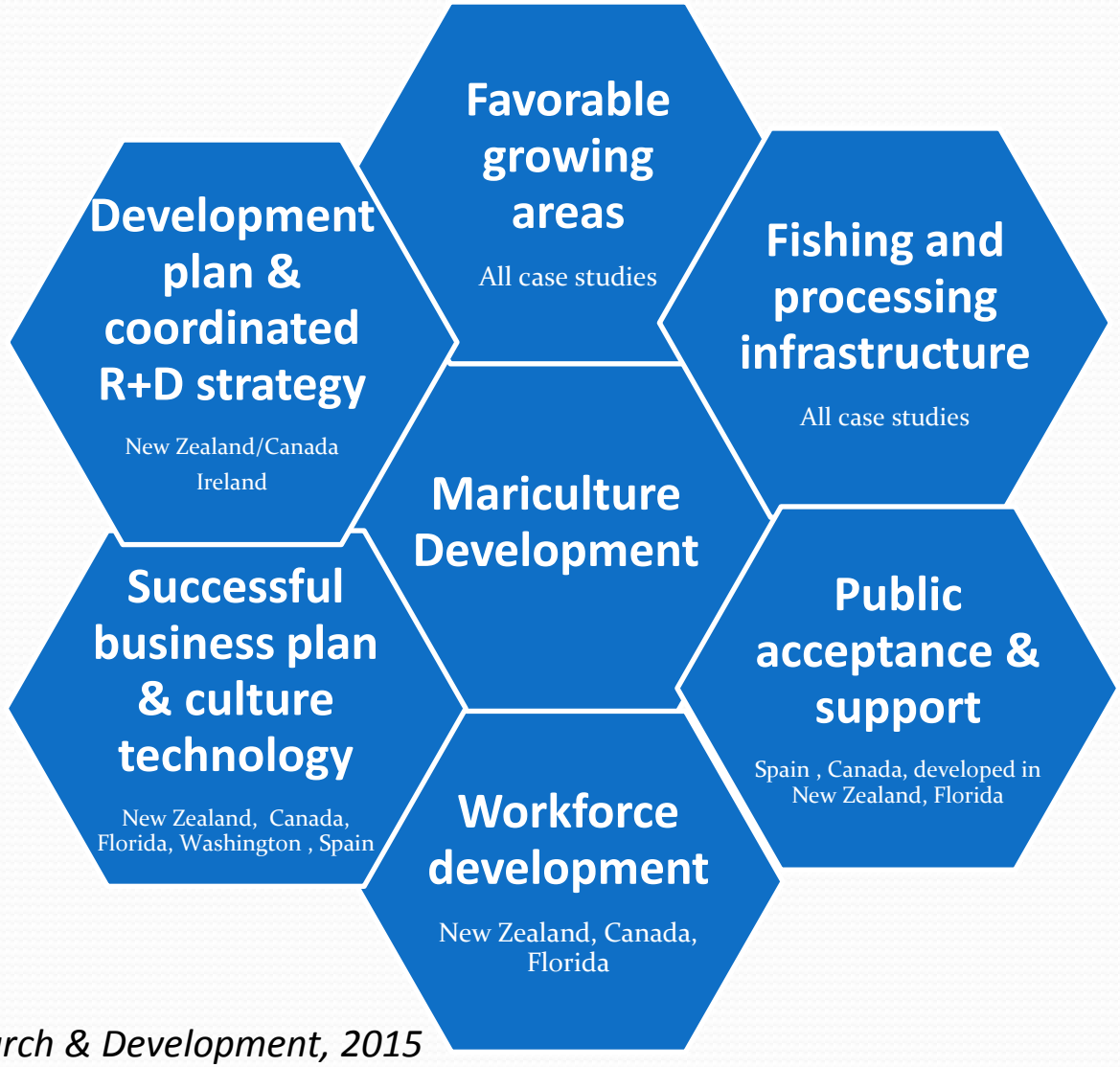
Key Elements in Mariculture Development



Source:
Maine Shellfish Research & Development, 2015

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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

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Critical Attributes, Case Study Areas Comparison with Alaska

Area	Industry growth capacity	Rapid growth rates	Workforce development	Stakeholder supported development	Large Capture Fisheries	Advanced culture technology	Public and private investment	Coordinated research and development	Market access
Alaska	x		Maritime Works	AMI	x		minimal	AMI	x
WA	new acreage limited			in progress	x	x	mostly private investment	x	export
FL	x	x	re-training program	x	x	x	x	new species development	x
Ireland	x	x	state agency support	x	x		x	new species development	
Spain	at capacity	x	small family enterprises	x	x	x	subsidies		x
PEI	at capacity	x	x	x	x	x	x	x	export
New Zealand	x	x	x	x	x	x	x	x	export
British Columbia	x	x		x	x		x	x	

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)

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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

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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

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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

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New Zealand - *Relevancy to AMI: A model of strategic planning*

- Government's Aquaculture Strategy & Five-Year Action Plan
- Clear direction from & integration of industry
- Scale/size of industry – target $1 billion (NZ$) by 2025
- 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

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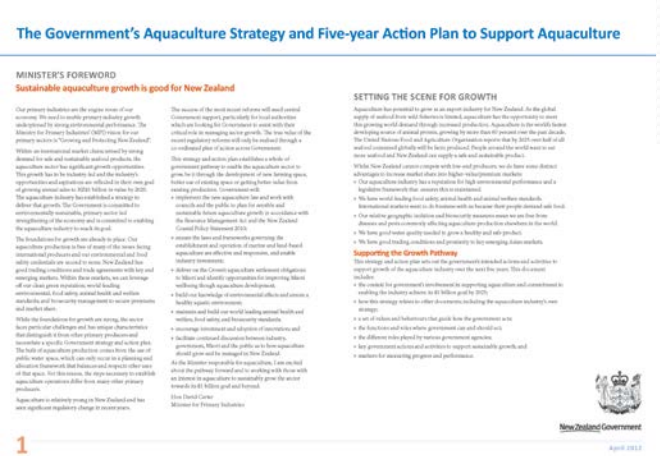
New Zealand – A Model Plan:

Government's Aquaculture Strategy & Five-Year Action Plan


The Government's Aquaculture Strategy and Five-year Action Plan to Support Aquaculture

MINISTER'S FOREWORD

Sustainable aquaculture growth is good for New Zealand

SETTING THE SCENE FOR GROWTH

Supporting the Growth Pathway

New Zealand Government

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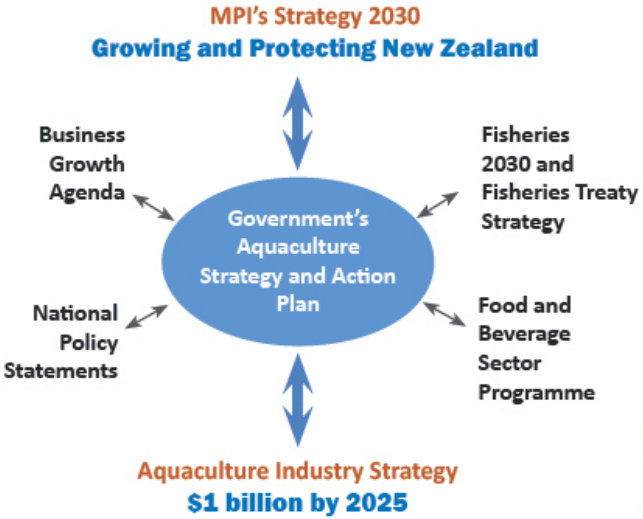

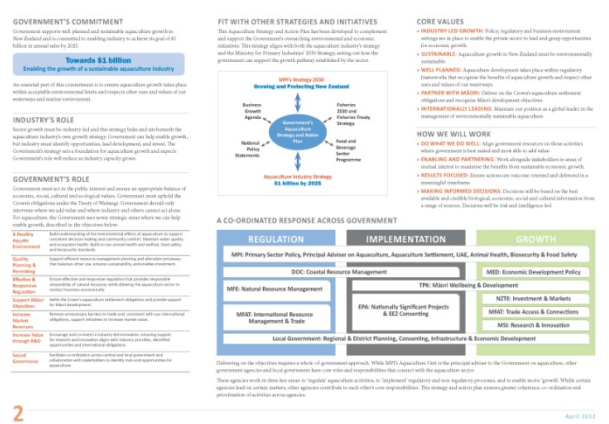
GOVERNMENT'S COMMITMENT

Towards $1 billion
Enabling the growth of a sustainable aquaculture industry

INDUSTRY'S ROLE

GOVERNMENT'S ROLE

FIT WITH OTHER STRATEGIES AND INITIATIVES

CORE VALUES

HOW WE WILL WORK

A CO-ORDINATED RESPONSE ACROSS GOVERNMENT

REGULATION | IMPLEMENTATION | GROWTH

2


The Government's Aquaculture Strategy and Five-year Action Plan Map

BY 2025 THE NEW ZEALAND AQUACULTURE SECTOR WILL HAVE SALES OF $1 BILLION PER ANNUM

INDUSTRY STRATEGY

TOWARDS $1 BILLION – FACILITATING THE GROWTH OF A SUSTAINABLE AQUACULTURE INDUSTRY

NATIONAL AQUACULTURE STRATEGY AND ACTION PLAN

GROWING AND PROTECTING NEW ZEALAND

MPI STRATEGY 2030

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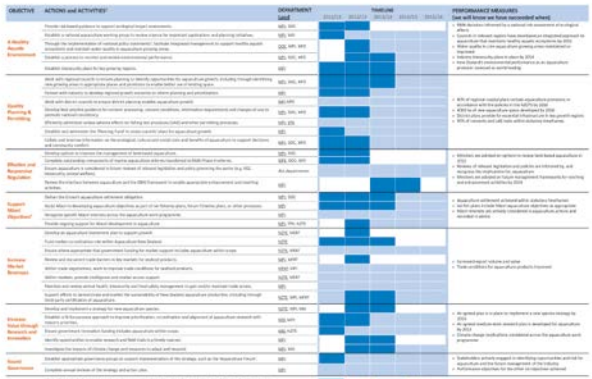
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Conclusion:
Why not Alaska (so far)?

- Negative public perception of aquaculture
  - Economic reasons – competition by farmed salmon
  - Environmental reasons – early stages of aquaculture
- Lack of coordinated planning by government agencies & industry
- Lack of 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

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Conclusion:
Why Alaska (in the future)?

- Already successful with salmon enhancement ($100-300 M / year)
- Large-scale existing seafood industry & infrastructure (processing facilities, vessels, overlapping skill sets, seafood markets, etc.)
- Pristine environment & availability of room for expansion
- ASMI - 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
- Recent demonstration of successful business model by AK Dept. of Commerce feasibility study
- Workforce - *Alaska Maritime Workforce Development Plan* (2014) & ***Maritime Works*** partnership (2015)
- AMI – creation of strategic plan & partnerships for implementation

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