Phase II: Alaska Mariculture Industry Economic Analysis


Photo credit: NOAA David Csepp

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Prepared for:

Alaska Governor's Mariculture Task Force

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Scope of Work

- Alaska Mariculture Industry Today
- Opportunities and Challenges
- Economic Model
- Strategic Development Goals

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Alaska Mariculture Industry Overview

Current production

- Pacific oysters
- Blue mussels
- Geoducks
- Sugar kelp

Research and development

- King crab
- Sea cucumbers
- Abalone
- Clams
- Purple-hinged rock scallops
- Sea urchin
- Cockles

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Alaska Mariculture Industry Outlook

- Oyster and oyster seed inventory trending up
- Valuable geoduck inventory
- Mussels as supplementary income, potential for more
- Kelp production in 2017, more acreage in permit applications

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Economic Model

Alaska Oyster Production Goals

	Baseline	Year 5	Year 10	Year 20
Farm Inventory (# of oysters)	15,200,000	19,286,000	48,214,000	192,857,000
Annual Production (# of oysters)	1,165,518	4,500,000	11,250,000	45,000,000
Annual Revenue	$796,945	$3,000,000	$7,500,000	$30,000,000

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Economic Model

Alaska Oyster Hatchery Production Goals

	Year 5		Year 10		Year 20	
	Production	Revenue	Production	Revenue	Production	Revenue
Larvae	R&D	R&D	80,357,000	$24,000	321,429,000	$96,000
Seed Production (4-6 mm, in-state buyers)	10,000,000	$140,000	16,071,000	$225,000	64,286,000	$900,000
Seed Production (3-4 mm, out-of-state buyers)	20,000,000	$210,000	32,143,000	$338,000	128,571,000	$1,350,000

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Economic Model – Production & Revenue Goals

	Year 5		Year 10		Year 20	
	Annual Production	Annual Revenue	Annual Production	Annual Revenue	Annual Production	Annual Revenue
Farm Production						
Oysters (count)	4,500,000	$3,000,000	11,250,000	$7,500,000	45,000,000	$30,000,000
Mussels (lbs.)	176,000	$750,000	441,000	$1,875,000	1,765,000	$7,500,000
Geoduck (count)	99,000	$2,000,000	247,000	$5,000,000	988,000	$20,000,000
Kelp/seaweed (lbs., wet)*	1,200,000	$600,000	4,800,000	$2,400,000	19,200,000	$9,600,000
Kelp/seaweed value-added (lbs., dried)*	180,000	$381,000	720,000	$1,524,000	2,880,000	$6,096,000
Fishery Enhancement						
King crab (lbs.)					565,000	$5,650,000
Revenue Totals		**$6,731,000**		**$18,299,000**		**$78,851,000**

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Alaska Mariculture Production Goals

Species	Current production	20-Year Production Goal
Pacific oysters (count)	< 1 million	45 million
Geoducks (count)	Not available	988,000
Kelp (lbs./wet)	First harvest 2017	19.2 million
Kelp (lbs./dried)	-	2.9 million
Blue mussels (lbs.)	<3,000	1.8 million
Red king crab (lbs.)	-	1.8 million

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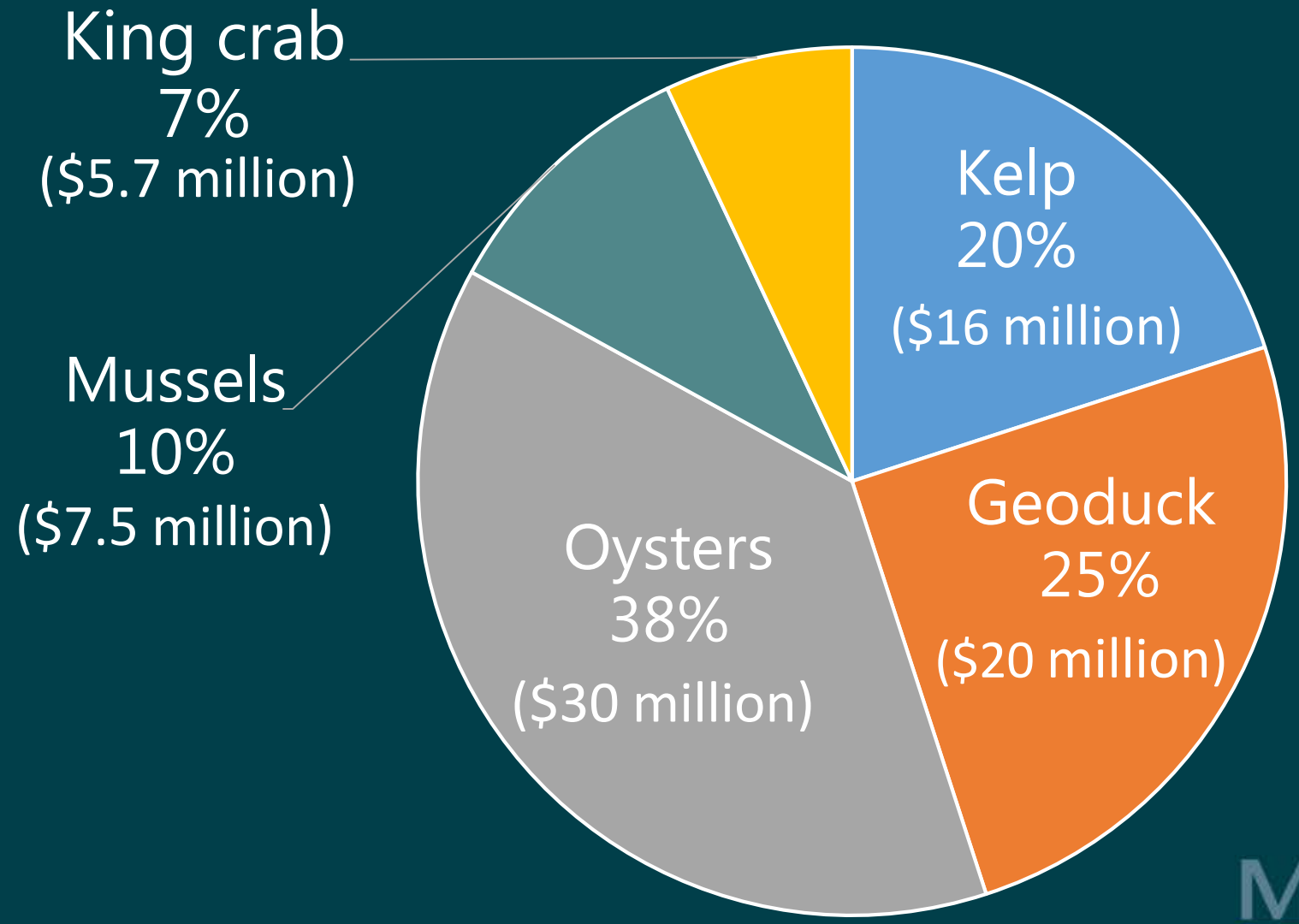
Twenty-Year Revenue Goals



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Economic Impact of Mariculture Development in Alaska

	Baseline	Year 5	Year 10	Year 20
Gross Revenue	$1,000,000	$6,700,000	$18,300,000	$78,200,000
Total Direct Employment		100	275	1,200
Total Direct Labor Income		$3,400,000	$9,100,000	$36,600,000
Direct, Indirect, and Induced Employment		135	365	1,600
Direct, Indirect, and Induced Labor Income		$4,400,000	$11,900,000	$47,600,000
Direct, Indirect, and Induced Output		$9,400,000	$25,600,000	$102,500,000

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How Do We Get There?

- Mix of private and public investment
- Mariculture Task Force plan completion and implementation
- Address high priority industry barriers

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Alaska Mariculture Industry Barriers

- Seed security
- Market development/access to markets
- Access to investment capital
- Operating cost control
- Regulations
- Information

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Seed Security

High Priority

- **In-state oyster seed hatchery R&D**
- **Kelp R&D on seed sources and strain selection**

- Reduce barriers to accessing out of state oyster seed
- Geoduck R&D on a dependable seed source
- King crab hatchery R&D
- Blue mussel hatchery R&D

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Regulatory Issues

High Priority

- **Continue to strive for an affordable, predictable, and reasonable regulatory environment**

- Develop regulations specific to seaweed
- Incorporate species grow-out periods
- Stabilize fees over the lifetime of leases
- Evaluate lease size and fee calculations
- Create options affordable insurance

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Operating Cost Control

High Priority

- **Improve access to Mariculture Loan Funds (including for hatcheries)**

- R&D for improved environmental testing and mitigation methods
- Operating costs are affected by addressing other barriers

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Market Access

High Priority

- **Value-added product form research and development**
- **Market development, research, and planning**

- Develop industry data sources
- Professional development/business planning services
- State-sponsored marketing of mariculture products

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