

SCOMM

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FISCAL NOTE

STATE OF ALASKA
2008 LEGISLATIVE SESSION

Fiscal Note Number: _____
 Bill Version: HB 257
 () Publish Date: _____

Identifier (file name): HB257-DFG-CF-02-12-08 Dept. Affected: Fish and Game
 Title: Transfer Aquatic Farming to DNR RDU: Commercial Fisheries
 Component: Headquarters Fisheries Management
 Sponsor: Representative Harris
 Requester: House Fisheries Committee Component Number: 2171

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
	FY 2009	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
OPERATING EXPENDITURES							
Personal Services	(180.7)	180.7					
Travel	(12.7)	12.7					
Contractual	(23.2)	23.2					
Supplies	(5.4)	5.4					
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	(222.0)	222.0	0.0	0.0	0.0	0.0	0.0

CAPITAL EXPENDITURES							
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CHANGE IN REVENUES ()							
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FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF	(222.0)	222.0					
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	(222.0)	222.0	0.0	0.0	0.0	0.0	0.0

Estimate of any current year (FY2008) cost: _____

POSITIONS

Full-time	(2.0)	2.00					
Part-time							
Temporary							

ANALYSIS: (Attach a separate page if necessary)

This fiscal note reflects the transfer of two positions and associated funding out of the Department of Fish and Game. These positions, and the duties for which they are responsible, are transferred in this legislation to the Department of Natural Resources.

Prepared by: Cynthia Pring-Ham, Mariculture Coordinator Phone 465-6150
 Division: Division of Commercial Fisheries Date/Time: 2/12/08 2:00 PM
 Approved by: Tom Lawson, Director Date: 2/12/2008
Division of Administrative Services, Department of Fish and Game

FISCAL NOTE

STATE OF ALASKA
2008 LEGISLATIVE SESSION

Fiscal Note Number: _____

Bill Version: _____

HB257

() Publish Date: _____

Identifier (file name): **HB257-DNR-CP&L-02-13-08**

Dept. Affected: **Natural Resources**

Title **Transfer Aquatic Farming to DNR**

RDU **Resource Development**

Component **Claims, Permits & Leases**

Sponsor **Rep. Harris**

Requester **H FSH**

Component Number **2460**

Expenditures/Revenues

(Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	FY 2009	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Personal Services	180.7		180.7	180.7	180.7	180.7	180.7
Travel	12.7		12.7	12.7	12.7	12.7	12.7
Contractual	23.2		23.2	23.2	23.2	23.2	23.2
Supplies	13.4		5.4	5.4	5.4	5.4	5.4
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	230.0	0.0	222.0	222.0	222.0	222.0	222.0

CAPITAL EXPENDITURES

CHANGE IN REVENUES ()

FUND SOURCE

(Thousands of Dollars)

1002 Federal Receipts								
1003 GF Match								
1004 GF		230.0		222.0	222.0	222.0	222.0	222.0
1005 GF/Program Receipts								
1037 GF/Mental Health								
Other Interagency Receipts								
TOTAL		230.0	0.0	222.0	222.0	222.0	222.0	222.0

Estimate of any current year (FY2008) cost: _____

POSITIONS

Full-time	2		2	2	2	2	2
Part-time							
Temporary							

ANALYSIS: (Attach a separate page if necessary)

This fiscal note reflects the transfer of two positions and associated funding from the Department of Fish and Game. These positions, and the duties for which they are responsible, are transferred in this legislation to the Department of Natural Resources.

DNR assumes that computers and specialized equipment required by these positions would be transferred, and that lease space costs are included in the Contractual Services line item transfer. One-time funding of an estimated \$8.0 would be required in the first year to cover costs associated with moving, phone and computer set up, and office furniture.

Prepared by: **Melanie Lesh, Special Assistant/Legislative Liaison**

Division: **Commissioner's Office**

Approved by: **Tom Irwin, Commissioner**

Natural Resources

Phone **465-4730**

Date/Time **February 13, 2008**

Date **February 13, 2008**

FISCAL NOTE

STATE OF ALASKA
2008 LEGISLATIVE SESSION

Fiscal Note Number: _____

Bill Version: _____

HB 257

() Publish Date: _____

Identifier (file name): HB257-DNR-AG-01-14-08

Dept. Affected: Natural Resources

Title: Transfer Aquatic Farming to DNR

RDU: Resource Development

Component: Agriculture Development

Sponsor: Representative Harris (By Request)

Requester: House Fisheries Committee

Component Number: 455

Expenditures/Revenues

(Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	FY 2009	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Personal Services	112.2		114.2	116.2	118.2	120.2	122.2
Travel	5.0		5.0	5.0	5.0	5.0	5.0
Contractual	11.5		11.5	11.5	11.5	11.5	11.5
Supplies	4.0		4.0	4.0	4.0	4.0	4.0
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	132.7	0.0	134.7	136.7	138.7	140.7	142.7

CAPITAL EXPENDITURES								
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CHANGE IN REVENUES ()								
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FUND SOURCE

(Thousands of Dollars)

1002 Federal Receipts								
1003 GF Match								
1004 GF	132.7		134.7	136.7	138.7	140.7	142.7	
1005 GF/Program Receipts								
1037 GF/Mental Health								
Other Interagency Receipts								
TOTAL	132.7	0.0	134.7	136.7	138.7	140.7	142.7	142.7

Estimate of any current year (FY2008) cost: _____

0.0

POSITIONS

Full-time	1		1	1	1	1	1
Part-time	1		1	1	1	1	1
Temporary							

ANALYSIS: (Attach a separate page if necessary)

One Development Specialist I and one half time Administrative Clerk II will be required to maintain this program. There are 45-50 active shellfish farms throughout the State and 12 operations are currently registered with the Alaska Grown certification program. Travel to remote locations will be necessary as well as meetings with the Department of Fish and Game and the Department of Natural Resources, Division of Mining Land and Water. Unique marketing programs that are not currently being produced by the Division of Agriculture would have to be developed.

Prepared by: Franci Havemeister, Director

Division: Agriculture

Approved by: Tom Irwin, Commissioner

Natural Resources

Phone 761-3866

Date/Time January 14, 2008

Date January 14, 2008

FISCAL NOTE

STATE OF ALASKA
2008 LEGISLATIVE SESSION

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OPERATING EXPENDITURES	FY 2009	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
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Supplies	(5.4)	5.4					
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	(222.0)	222.0	0.0	0.0	0.0	0.0	0.0

CAPITAL EXPENDITURES								
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CHANGE IN REVENUES ()								
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FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts								
1073 GF Match								
1004 GF	(222.0)	222.0						
1005 GF/Program Receipts								
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Other Interagency Receipts								
TOTAL	(222.0)	222.0	0.0	0.0	0.0	0.0	0.0	0.0

Estimate of any current year (FY2008) cost: _____

POSITIONS

Full-time	(2.0)	2.00						
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Temporary								

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 Division: Division of Commercial Fisheries
 Approved by: Tom Lawson, Director
Division of Administrative Services, Department of Fish and Game

Phone 465-6150
 Date/Time 2/12/08 2:00 PM
 Date 2/12/2008



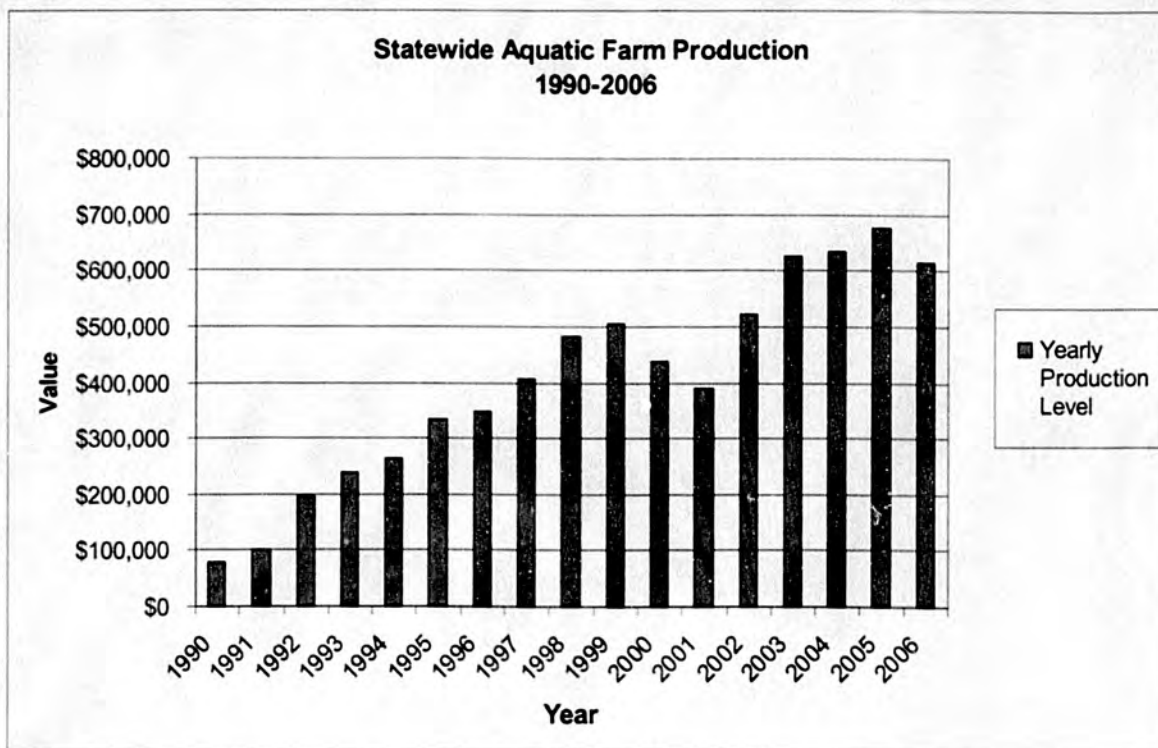
Alaska Aquatic Farm Program

Status and Production

Currently, there are 63 farm sites, one hatchery, and 4 nurseries approved to operate in the state. Total acreage permitted for aquatic farming is 330 acres, an increase from 290 acres permitted in 2006.

Table 1 shows historical statewide aquatic farm production in Alaska. Based on 2006 data which is most complete, production totaled \$614,843 with production almost evenly divided between southcentral and southeast Alaska. Peak production for the industry was in 2005 and totaled \$676,045. Over 79% of the production came from the sale of Pacific oysters and the remaining 21% was predominately for littleneck clams sales. Littleneck clam production went up 6% from FY 2005 totals.

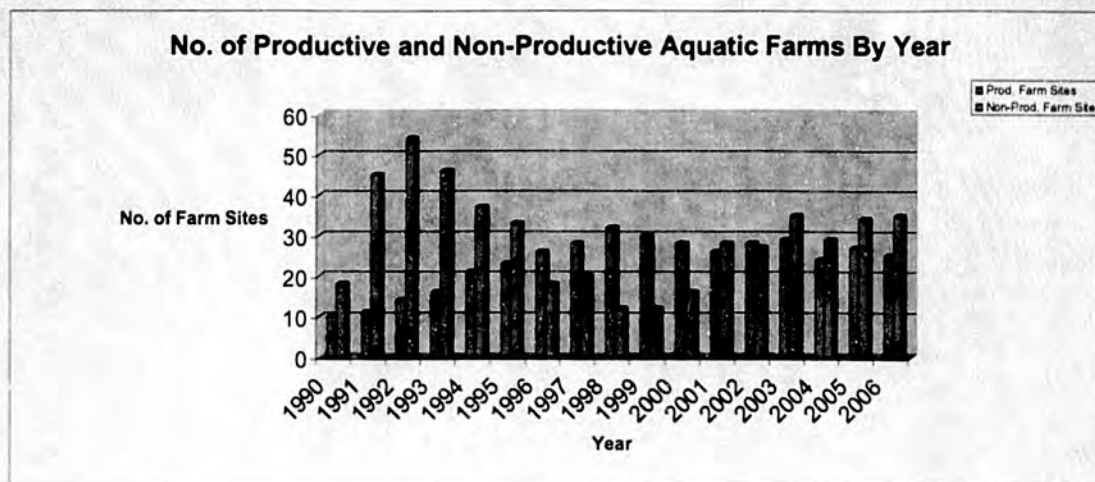
Table 1:



Based on annual reports submitted to the department thus far for calendar year 2007, the overall production estimates for 2007 are anticipated to be lower than 2006. Reports for 15 farms are still outstanding. Preliminary farm data reports for the calendar year 2007, shows 47% of the 63 permitted farms reported some level of production activity compared to 42% at the end of 2006 based on 60 permitted farms.

Table 2 shows the number of farms that had production and non-production since 1990. The percentage of active farm sites has been consistently in the 40-50% range since 2000 and peaked at 73% in 1999.

Table 2:



Note farms are required to show increases in production over a five year period. DNR requires that by the 5th year, the lease holder must meet a commercial-use requirement for production that is equivalent to \$3,000 per acreage up to \$15,000 maximum.

In water inventory for Pacific oysters at aquatic farm sites at the end of 2006 was 8,902,721 and was valued at \$3,828,170. This is 8% decrease from 2005 inventory which was 9,68,7442. The inventory estimate was based on farm gate values of an average 0.43/oyster. The reduced inventory was probably due to number of spat availability, quality of spat received, and mortalities due to hard winter.

Aquatic farm employment in 2006 showed 71 people were employed at farm sites totaling 2,848 days of work. This was an increase from the 2005 aquatic farm employment which had 60 people and 2439 days of work.

Permitting

In Fiscal Year 2007, ADF&G staff issued 3 new operation permits, 6 operation permit renewals, amended 11 operation permits, completed transfer of 1 permit to a new permit holder, and conducted 26 site inspections to determine compliance with permit conditions.

In addition, ADF&G has completed 99% of all the aquatic farm sites operating under a current aquatic farm site operation permit. In comparison, over half of the operation permits were expired in 2003. This renewal effort provided current permits for 35 farm sites.

There are currently 5 applications that are pending due to the need for more information from the applicants and the need for biomass surveys.

Staff issued 78 transport permits, 10 acquisition permits and 2 fish resource permits for enhancement research projects.

Certification

Four Pacific oyster seed suppliers were certified in 2007, three of which are in the Lower 48 (Lummi, Coast, and Kona Coast). Pacific oyster seed stock supplies were not adequate to meet demands of the farmers this last year.

Hatchery

The number one goal of the shellfish industry is the availability of high quality seed for farmers use. The Mariculture Program has been working with Jeff Hetrick, Alutiiq Pride Shellfish Hatchery Manager, for over a year to develop a Hatchery Management Plan which includes details on anticipated seed production and transport to farms, disease control measures, planned brood stock acquisition and schedule, specific and anticipated breeding practices to maintain and improve genetic fitness. This Management plan is similar to what is required of the Alaska salmon hatcheries and will help in planning for future activities the hatchery plans to do and ensures that hatchery operations are producing spat from native species with sufficient genetic diversity.

Mariculture Development Zones

Before the passage of HB 208, the ASGA and the Alaska Marine Advisory Program worked with ADF&G, ADNR, ADEC, ADGC, the Southeast Conference, the Alaska Cooperative Extension Service, and numerous other organizations, were working on designation of Mariculture Development Zones with an overall purpose of improving rural economies through the expansion of an environmentally sound mariculture industry. ADF&G is working with Ray Ralonde, Alaska Marine Advisory Program Aquaculture Specialist to resurrect this important effort in the coming years.



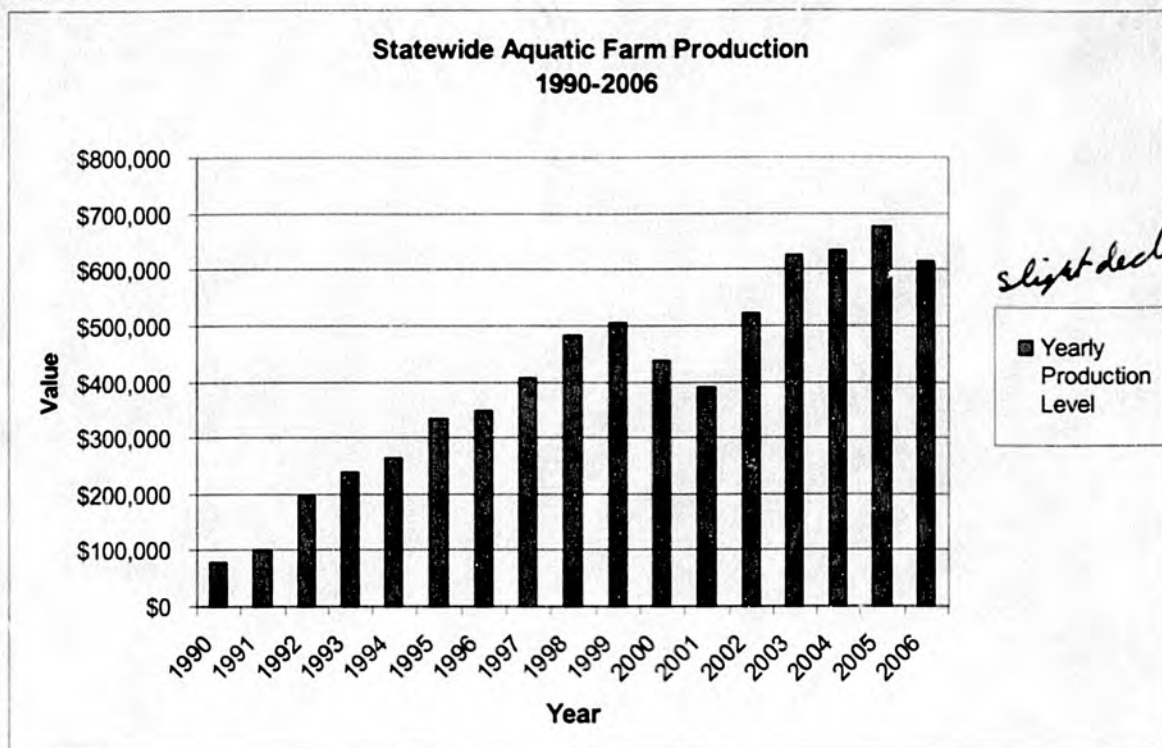
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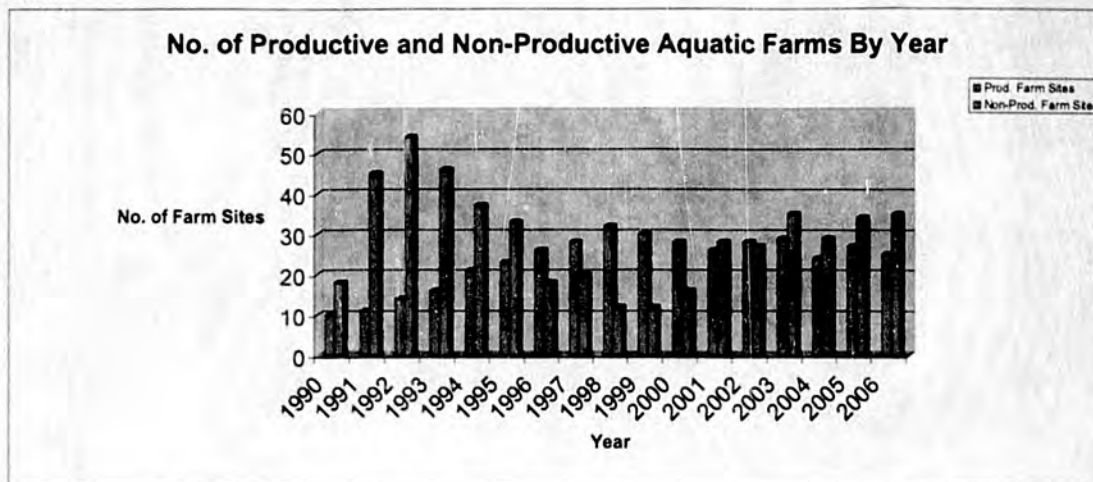
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25-LS0676K
Kane
2/13/08

CS FOR HOUSE BILL NO. 257()

IN THE LEGISLATURE OF THE STATE OF ALASKA
TWENTY-FIFTH LEGISLATURE - SECOND SESSION

BY

Offered:
Referred:

Sponsor(s): REPRESENTATIVE HARRIS BY REQUEST

A BILL**FOR AN ACT ENTITLED**

1 **"An Act directing the Department of Natural Resources to administer and supervise**
2 **promotional and marketing work for aquatic farm products."**

3 **BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:**

4 *** Section 1.** The uncodified law of the State of Alaska is amended by adding a new section
5 to read:

6 **SHORT TITLE.** This Act may be known as the Alaska Shellfish Mariculture
7 Development and Marketing Act.

8 *** Sec. 2.** AS 03.05.010(a) is amended to read:

9 (a) The commissioner of natural resources shall

10 (1) direct, administer, and supervise

11 (A) promotional and experimental work, extension services,
12 and agricultural projects for the purpose of promoting and developing the
13 agricultural industry within the state including such fields as horticulture,
14 dairying, cattle raising, fur farming, grain production, vegetable production,

and development of other agricultural products; and

(B) promotion and marketing of aquatic farm and hatchery products;

(2) procure and preserve all information pertaining to the development of the agricultural industry and disseminate that information to the public;

(3) assist prospective settlers and others desiring to engage in the agricultural industry in the state with information concerning areas suitable for agriculture and other activities and programs essential to the development of the agricultural industry in the state;

(4) review the marketing, financing, and development of agricultural products inside the state including transportation, with special emphasis upon local production, and negotiate for the marketing of agricultural products of the state with federal and state agencies operating in the state;

(5) regulate and control the entry into the state and the transportation, sale, or use inside the state of plants, seeds, vegetables, shell eggs, fruits and berries, nursery stock, animal feeds, remedies and mineral supplements, fertilizers, and agricultural chemicals in order to prevent the spread of pests, diseases, or toxic substances injurious to the public interest, and to protect the agricultural industry against fraud, deception, and misrepresentation; in this connection the commissioner may require registration, inspection, and testing, and establish procedures and fees; and

(6) regulate the farming of elk in a manner similar to the manner in which the commissioner regulates domestic animals and livestock, to the extent that is appropriate.

* Sec. 3. The uncoded law of the State of Alaska is amended by adding a new section to read:

ALASKA GROWN LOGO APPLICABLE TO AQUATIC FARM PRODUCTS.
Under AS 03.05.010 - 03.05.100, to implement AS 03.05.010(a)(1)(B), enacted by sec. 2 of this Act, the Department of Natural Resources shall extend its proposed program regulations (11 AAC 32.200 - 11 AAC 32.270 or as may be renumbered) establishing and authorizing the use of the "Alaska Grown" logo to the production of aquatic farms and hatcheries.

25-LS0676/K
Kane
2/13/08

CS FOR HOUSE BILL NO. 257()

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-FIFTH LEGISLATURE - SECOND SESSION

BY

**Offered:
Referred:**

Sponsor(s): REPRESENTATIVE HARRIS BY REQUEST

A BILL

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13 agricultural industry within the state including such fields as horticulture,
14 dairying, cattle raising, fur farming, grain production, vegetable production,

1 and development of other agricultural products; and

2 (B) promotion and marketing of aquatic farm and hatchery
3 products;

4 (2) procure and preserve all information pertaining to the development
5 of the agricultural industry and disseminate that information to the public;

6 (3) assist prospective settlers and others desiring to engage in the
7 agricultural industry in the state with information concerning areas suitable for
8 agriculture and other activities and programs essential to the development of the
9 agricultural industry in the state;

10 (4) review the marketing, financing, and development of agricultural
11 products inside the state including transportation, with special emphasis upon local
12 production, and negotiate for the marketing of agricultural products of the state with
13 federal and state agencies operating in the state;

14 (5) regulate and control the entry into the state and the transportation,
15 sale, or use inside the state of plants, seeds, vegetables, shell eggs, fruits and berries,
16 nursery stock, animal feeds, remedies and mineral supplements, fertilizers, and
17 agricultural chemicals in order to prevent the spread of pests, diseases, or toxic
18 substances injurious to the public interest, and to protect the agricultural industry
19 against fraud, deception, and misrepresentation; in this connection the commissioner
20 may require registration, inspection, and testing, and establish procedures and fees;
21 and

22 (6) regulate the farming of elk in a manner similar to the manner in
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29 this Act, the Department of Natural Resources shall extend its proposed program regulations
30 (11 AAC 32.200 - 11 AAC 32.270 or as may be renumbered) establishing and authorizing the
31 use of the "Alaska Grown" logo to the production of aquatic farms and hatcheries.

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STATE OF ALASKA
2008 LEGISLATIVE SESSION

Fiscal Note Number:

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HB 257

() Publish Date:

Identifier (file name):

HB257-DFG-CF-02-12-08

Title

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Dept. Affected:

Fish and Game

RDU

Commercial Fisheries

Component

Headquarters Fisheries Management

Sponsor

Representative Harris

Requester

House Fisheries Committee

Component Number

2171

Expenditures/Revenues

(Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

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CAPITAL EXPENDITURES								
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CHANGE IN REVENUES ()								
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FUND SOURCE

(Thousands of Dollars)

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Part-time								
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Prepared by: Cynthia Pring-Ham, Mariculture Coordinator

Division: Division of Commercial Fisheries

Approved by: Tom Lawson, Director

Division of Administrative Services, Department of Fish and Game

Phone 465-6150

Date/Time 2/12/08 2:00 PM

Date 2/12/2008

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Dept. Affected: **Natural Resources**

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RDU: **Resource Development**

Component: **Claims, Permits & Leases**

Sponsor: **Rep. Harris**

Requester: **H FSH**

Component Number: **2460**

Expenditures/Revenues

(Thousands of Dollars)

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Supplies	13.4		5.4	5.4	5.4	5.4	5.4
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
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CAPITAL EXPENDITURES							
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CHANGE IN REVENUES ()							
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FUND SOURCE

(Thousands of Dollars)

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1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	230.0	0.0	222.0	222.0	222.0	222.0	222.0

Estimate of any current year (FY2008) cost: _____

POSITIONS

Full-time	2		2	2	2	2	2
Part-time							
Temporary							

ANALYSIS: (Attach a separate page if necessary)

This fiscal note reflects the transfer of two positions and associated funding from the Department of Fish and Game. These positions, and the duties for which they are responsible, are transferred in this legislation to the Department of Natural Resources.

DNR assumes that computers and specialized equipment required by these positions would be transferred, and that lease space costs are included in the Contractual Services line item transfer. One-time funding of an estimated \$8.0 would be required in the first year to cover costs associated with moving, phone and computer set up, and office furniture.

Prepared by: Melanie Lesh, Special Assistant/Legislative Liaison

Division: Commissioner's Office

Approved by: Tom Irwin, Commissioner

Natural Resources

Phone 465-4730

Date/Time February 13, 2008

Date February 13, 2008

FISCAL NOTE

STATE OF ALASKA
2008 LEGISLATIVE SESSION

Fiscal Note Number: _____

Bill Version: **HB 257**

() Publish Date: _____

Identifier (file name): **HB257-DNR-AG-01-14-08**

Dept. Affected: **Natural Resources**

Title: **Transfer Aquatic Farming to DNR**

RDU: **Resource Development**

Component: **Agriculture Development**

Sponsor: **Representative Harris (By Request)**

Requester: **House Fisheries Committee**

Component Number: **455**

Expenditures/Revenues

(Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
		FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
OPERATING EXPENDITURES							
Personal Services	112.2		114.2	116.2	118.2	120.2	122.2
Travel	5.0		5.0	5.0	5.0	5.0	5.0
Contractual	11.5		11.5	11.5	11.5	11.5	11.5
Supplies	4.0		4.0	4.0	4.0	4.0	4.0
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	132.7	0.0	134.7	136.7	138.7	140.7	142.7

CAPITAL EXPENDITURES							
-----------------------------	--	--	--	--	--	--	--

CHANGE IN REVENUES ()							
-------------------------------	--	--	--	--	--	--	--

FUND SOURCE

(Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF	132.7		134.7	136.7	138.7	140.7	142.7
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	132.7	0.0	134.7	136.7	138.7	140.7	142.7

Estimate of any current year (FY2008) cost: _____

0.0

POSITIONS

Full-time	1		1	1	1	1	1
Part-time	1		1	1	1	1	1
Temporary							

ANALYSIS: (Attach a separate page if necessary)

One Development Specialist I and one half time Administrative Clerk II will be required to maintain this program. There are 45-50 active shellfish farms throughout the State and 12 operations are currently registered with the Alaska Grown certification program. Travel to remote locations will be necessary as well as meetings with the Department of Fish and Game and the Department of Natural Resources, Division of Mining Land and Water. Unique marketing programs that are not currently being produced by the Division of Agriculture would have to be developed.

Prepared by: **Franci Havemeister, Director**

Division: **Agriculture**

Approved by: **Tom Irwin, Commissioner**

Natural Resources

Phone **761-3866**

Date/Time **January 14, 2008**

Date **January 14, 2008**

FISCAL NOTE

STATE OF ALASKA
2008 LEGISLATIVE SESSION

Fiscal Note Number: _____
Bill Version: HB 257
() Publish Date: _____

Identifier (file name): HB257-DFG-CF-02-12-08 Dept. Affected: Fish and Game
Title: Transfer Aquatic Farming to DNR RDU: Commercial Fisheries
Sponsor: Representative Harris Component: Headquarters Fisheries Management
Requester: House Fisheries Committee Component Number: 2171

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
		FY 2009	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
OPERATING EXPENDITURES							
Personal Services	(180.7)	180.7					
Travel	(12.7)	12.7					
Contractual	(23.2)	23.2					
Supplies	(5.4)	5.4					
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	(222.0)	222.0	0.0	0.0	0.0	0.0	0.0

CAPITAL EXPENDITURES							
-----------------------------	--	--	--	--	--	--	--

CHANGE IN REVENUES ()							
-------------------------------	--	--	--	--	--	--	--

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF	(222.0)	222.0					
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	(222.0)	222.0	0.0	0.0	0.0	0.0	0.0

Estimate of any current year (FY2008) cost: _____

POSITIONS

Full-time	(2.0)	2.00					
Part-time							
Temporary							

ANALYSIS: (Attach a separate page if necessary)

This fiscal note reflects the transfer of two positions and associated funding out of the Department of Fish and Game. These positions, and the duties for which they are responsible, are transferred in this legislation to the Department of Natural Resources.

Prepared by: Cynthia Pring-Ham, Mariculture Coordinator
Division: Division of Commercial Fisheries
Approved by: Tom Lawson, Director
Division of Administrative Services, Department of Fish and Game

Phone 465-6150
Date/Time 2/12/08 2:00 PM
Date 2/12/2008



Alaska State Legislature

HOUSE OF REPRESENTATIVES

Alaska State Capitol Juneau, Alaska 99801-1181

March 19, 2008

John Hilsinger, Director
Division of Commercial Fisheries
AK Dept. of Fish & Game
PO Box 115526
Juneau, Alaska 99811-5526

Dear Mr. Hilsinger,

As the legislators who are the prime-sponsors of HB257, we worked cooperatively with your department and the administration to change language in the original version of the bill. At our request, the House Special Committee on Fisheries removed all provisions within the original bill that would have transferred mariculture management from your agency into another.

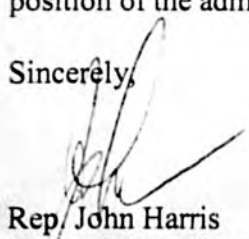
Based upon your testimony in committee hearings on the bill, we were assured that you and your division would work toward resolving the longstanding management issues concerning geoduck farming. A request was also made that descriptions of this effort be put in writing in order for interested legislators to follow the progress.

We also were copied with a very specific and substantial proposal put to you in writing by an organization representing geoduck farmers. This proposal seemed well documented and offered some practical solutions.

As we head into the final weeks of the regular legislative session, HB257 is scheduled for hearings. Before final passage of this bill is considered, we would greatly appreciate a written response to the proposal mentioned above. It was also our understanding that a response would be provided to a request that lawsuits be stayed while a solution is being established. What is the status of this offer?

Please let us know as soon as possible what you are doing to resolve this longstanding issue. In order to accomplish our work within the 90-day session limit, it is important that we know the position of the administration so that we can act accordingly.

Sincerely,


Rep. John Harris
Speaker of the House


Rep. Paul Seaton, Chairman
House Fisheries Committee

STATE OF ALASKA

DEPARTMENT OF FISH AND GAME DIVISION OF COMMERCIAL FISHERIES

SARAH PALIN, GOVERNOR

P.O. BOX 115526
JUNEAU, AK 99811-5526
PHONE: (907) 465-6150
FAX: (907) 465-4168

March 20, 2008

Mr. Paul Fuhs
Paul Fuhs Professional Service
P.O. Box 20664
Juneau, AK 99801

Re: Response to Geoduck Management Resolution

Dear Mr. Fuhs:

Thank you for your letter and information packet of February 14, 2008, providing specific proposals for managing geoduck wild stock on aquatic farm sites and replacement of wild stocks harvested. I understand that these suggestions are to help address specific concerns from Pac Alaska and to aid geoduck farmers in general to improve efficiency of their operations. I share your interest in the development of the shellfish mariculture industry in Alaska including geoduck farming. However, some aspects of shellfish farming pose legal issues, both constitutional and statutory, which determine the extent to which the state may allow farmers to take and sell wild geoducks, which are a common property resource. The Alaska Department of Fish and Game (ADF&G) has worked with farming interests to address some of the legal issues that confront development of the industry while seeking solutions that are within the confines of the law. ADF&G has attempted to accommodate the industry with cost saving alternatives for subtidal surveys and the security deposit and has provided geoduck farmers with an early return option for financial securities provided to the state. With this in mind, I appreciate the opportunity to provide a response to your proposals.

You offered a proposal for managing geoduck wild stock on aquatic farm sites that states: "After applying cultivation techniques identified by the department and allowing a five year period for 'further growth and propagation', the remaining stocks become aquatic farmed product". This activity would be inconsistent with both current statutory and constitutional provisions. The Superior Court decision in *Alaska Trademark Shellfish, LLC v. State*, 1KE-00-211 CI (Ketchikan Superior Court July 18, 2001) authorized the state to allow farmers to select sites that contained some wild stock so long as the sites did not have commercially significant quantities on them. Allowing aquatic farmers to select sites with commercially significant amounts of wild geoducks and to sell geoducks for private gain would violate the "no exclusive right or special privilege of fishery" clause in the Alaska Constitution because the farmer would be the only one to eventually

harvest and sell commercially significant amounts of a public resource. Under the logic of your proposal, we would apparently also be able to allow farm sites in areas where there are commercially significant amounts of wild geoduck stocks and allow farmers to harvest and sell them later, as long as some "cultivation" took place. We don't think the state constitution allows that interpretation.

Harvesting and selling wild stock geoducks from a farm site in excess of the significance limit is also not allowed by statute. AS 16.40.100(b)(2) only authorizes the harvest and sale of an "insignificant population." To correct any mistaken issuance of a permit on a site where the wild stocks exceed an insignificant population, AS 16.40.100(f) allows, after a best interest finding, the harvest by the farmer of excess wild stocks, with payment of compensation to the state; there is no other provision for disposition of commercially significant stocks.

Permit conditions for subtidal aquatic geoduck farms provide the permit holder 5 years within which to harvest the insignificant amounts of wild stock geoducks found on the site at the time of permitting. ADF&G thinks this preparation activity which is used to clear the area for planting of hatchery-produced geoduck seed is a fundamental step in on-bottom subtidal aquatic farming of geoducks. Although we would expect that farmers would be able to harvest a very high percentage of the insignificant wild stock on their site by repeatedly harvesting throughout the 5-year window, we also understand that even with the best harvesting practices there may still be some wild stocks remaining on the farm site after this time period. As you noted, subsequent harvest of even a small number of these wild geoducks mixed in with farmed animals raises enforcement questions.

As an alternative, I would like to suggest a possible solution to the concerns over the small quantities of geoduck wild stock remaining on the farm site that may have been missed or overlooked during the 5-year harvest period. The proposal is summarized below.

On a farm site that has been determined by the ADF&G to support an insignificant quantity of wild stock geoducks (less than 2,000 pounds per acre), the permit holder may harvest wild stock geoducks after the 5-year harvest period specified in the permit as long as the total harvest of wild stock geoducks is no more than 2,000 pounds per acre and the wild stock geoducks do not exceed 5% of the combined weight of wild and farmed geoducks being harvested at any one time. For example, if the permit holder harvested 9500 lbs. of hatchery-produced geoducks on their farm site, the permit holder would be able to harvest 500 lbs. (5% of the total of 10,000 lbs.) of geoduck wild stock remaining on that farm site. The geoduck wild stock harvested in this manner would have to be kept in separate containers from the hatchery-produced geoducks harvested from the farm site and each of these containers marked with the farm site permit ID, the area, and date of harvest. If harvest of wild stock geoducks occurs from more than one farm site, the geoducks would have to be kept in separate containers and each container marked with the farm site permit ID, the area and date of harvest. The harvest of these 5% of geoduck wild stock would still fall under the same reporting and fish ticket requirements as for all wild stock harvested on a subtidal geoduck farm site (5 AAC 41.270).

As you noted in your proposal, ADF&G will know when geoducks are being harvested from each farm site because the Alaska Department of Environmental Conservation will require Paralytic

Shellfish Poisoning sample testing to be completed prior to any geoducks sales. Given an insignificant (less than 2,000 pounds per acre) initial population and an expected harvest of at least 80% to 90% of the wild geoducks during the first five years, this allowance should adequately provide for any remaining wild geoducks mixed in with farm production.

You also offered a second proposal for the replacement of wild stock harvested. ADF&G has an obligation to ensure that the statutory provision for reseeding is upheld to ensure restoration of geoducks equivalent to the wild stock that originally existed on a farm site. There are different options to achieving this. One is to require restoration at the end of the tenure of the farm and then to take legal action against those who fail to perform; the other is to require a bond in advance which could go towards paying the cost of reseeding at the end of the farm site tenure and hold that bond for the duration of farming activities. The former option penalizes the public in the event an unscrupulous operator leaves without reseeding. The latter option ties up money for the duration of the farm site.

ADF&G worked closely with industry to develop a third "early release" option that looks out for the public interest while not tying up the money for so long. Under the early release option, farmers can regain the money set aside in a certificate of deposit for reseeding after meeting certain performance measures that show evidence to ADF&G that besides having a shellfish transport permit for spat and a receipt for having purchased spat, the farmer is following best farming practices on their farm site. Best farming practices include: planting hatchery-produced geoducks and growing them to a viable stage, deployment of predator exclusion materials, monitoring, and other farming husbandry activities. The requirement to show best farming practices in addition to a receipt for spat and a shellfish transport permit is a reasonable requirement to protect the public's interest in seeing the area reseeded.

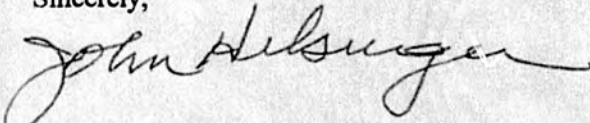
ADF&G has further reduced the burden of this option by reducing the security amount by 50% to accommodate the needs of the industry to keep administrative startup costs low. ADF&G believes that the early release option should allow farmers to regain their money within 3 years of obtaining a permit for the average sized farm site of 6 acres. At this point in time, ADF&G personnel have not received any requests for this early release option, nor has any of the required information been provided to the ADF&G. As part of the review associated with granting an early release request, a site inspection would need to be completed. We understand there has been some confusion on the interpretation of wild stock restoration security regulation and plan to clarify the regulations soon.

The financial well being of the aquatic farmers is an important consideration for ADF&G. That is why we have made accommodations described above. We also expect that the farmers will fulfill their obligation to farm their permitted farm sites and not simply harvest wild geoducks. The state must find a way to maximize utilization of shellfish resources including geoducks while upholding its obligation as the steward of the resource for the citizens of Alaska. I hope you find that the proposal offered in this letter a responsible approach to meeting the farmers' concerns with regard to small numbers of wild geoducks remaining on the on the site after the

March 27, 2008

5-year harvest period. We also look forward to working with the geoduck farmers, Alaska Shellfish Growers Association, and the Southeast Alaska Regional Diver Fisheries Association to identify more potential farm sites for subtidal geoduck farms.

Sincerely,

A handwritten signature in cursive script, reading "John Hilsinger". The signature is fluid and extends to the right.

John Hilsinger
Director

Cc:
Representative Seaton
Speaker Harris
Senator McGuire

Process: Remarks – Q&A

Product: Participants know background on current sites and relation to fishing areas

10:30 am

Topic: Break

10:45 am

Topic: Overview of Commercial Geoduck and Sea Cucumber Dive Fisheries Locations and Recon Surveys

Person(s): Flip Pryor and Scott Walker

Process: Remarks – Q&A

Product: Participants know background on commercial fishery

11:30

Topic: Geoduck Mariculture Development Zones

Discuss potential areas and zone concept, potential conflicts and concerns, and obtain user comments, outline the process and determine steps to be taken.

Person: Gary Freitag

Process: Facilitated work session to identify potential geoduck mariculture development zones and potential farm sites

Product: Participants understand process of developing ideas

12:00 pm

Topic: Working lunch – Continue Geoduck Mariculture Development Zones

1:00 pm

Topic: Continue Geoduck Mariculture Development Zones

Discuss potential areas and zone concept, potential conflicts and concerns, and obtain user comments, outline the process and determine steps to be taken.

Person: Gary Freitag

Process: Facilitated work session to identify potential geoduck mariculture development zones and potential farm sites

Product: Master list of suggestions placed on maps

3:15 pm

Topic: Break

3:30 pm

Topic: Current and future strategies for application process and farm sites

Multiple applications from one entity

Multiple sites on applications

Excessive applications

Significance of wild stock

Wild vs. farmed differentiation

Reseeding

Other species

Pre-existing wild stock as farm product

Others

Person(s): Cynthia Pring-Ham

Process: Remarks – Q&A

Product: List of continuing issues and potential solutions

4:45 pm

Topic: Review Results and discuss future meetings

Person(s): Gary Freitag

Process: Facilitated review of suggestions and discussion of where we go from here

Product: Participants know resulting suggestions

Adjourn 5:00 pm

DRAFT AGENDA
GEODUCK INDUSTRY/ADF&G MEETING
KETCHIKAN
APRIL 15, 2008

ADFG Office 2030 Sea Level Dr, Suite 207 Conference Rm

Stakeholders: ADF&G, Aquatic Farm Operation Permit Holders (Geoduck farm sites), ASGA, SARDFA, and DNR.

Goal: Work cooperatively together to assist the Alaska mariculture industry to work toward resolving farm siting controversies with other user groups so that the industry can grow in a responsible, stable, and sustainable manner in an attempt to improve the economic development opportunities for Alaskans in coastal communities.

Objectives:

- Determine areas suitable for potential geoduck farm sites, discuss potential conflicts, seek comments from stakeholders, and get stakeholder agreement on site locations.
- Provide stakeholders information on site selection criteria, limits on multiple sites/applications, existing regulatory framework to protect the common property resources, and concessions made to geoduck farmers to reduce risks and financial outlay.

Meeting Outcome: Identify potential farm site areas, obtain concurrence from stakeholders on concept of development zones, and identify next steps to be taken.

Facilitator: Gary Freitag

8:30 am

Topic: Introduction

Goal, Objectives, and Outcome for meeting

Ground rules

Future perspective of where we want to be

PNP/Mariculture Restructuring and how it fits

Person(s): Gary Freitag, John Hilsinger, and Rodger Painter

Process: Remarks – Q&A

Product: Participants understand meeting format, goals, and desired outcome

9:15 am

Topic: Overview of Existing Information on Areas Surrounding Existing Geoduck Farm Areas

Location of permitted, pending, denied, and available sites including HB 208; department survey data; special commercial dive harvest data; farmer wild stock harvest data.

Person(s): Cynthia Pring-Ham

Strategic Plan for
OceansAlaska
Marine Science Center

Tipping the Balance
Removing the Barriers

“Growing a Sustainable Shellfish
Industry in Coastal Alaska”



Executive Summary:

The "Tipping the Balance – Bringing Alaska's Shellfish Industry to the Takeoff Point" report issued by OceansAlaska Marine Science Center in 2006 documented the growth potential of the Alaskan shellfish industry. The report called for a strategic plan to define solutions to barriers restricting the fledging shellfish aquaculture industry in coastal Alaska and the development of an organization capable of implementing the strategic plan.

The Alaska Department of Commerce provided funding for a year long project of stakeholders to develop a strategic plan for the shellfish industry. Three major conferences, stakeholder meetings and public input have resulted in the issuance of this report, "Tipping the Balance- Removing the Barriers". The Strategic Plan is grounded on a sustaining vision –

"Alaska has a strong and sustainable shellfish industry that supports vibrant coastal communities."

The OceansAlaska Marine Science Center will provide leadership for the shellfish industry on several fronts:

- **Education And Training** – Provide quality education, training and outreach to existing owners, entrepreneurs and employees involved or wishing to be involved in the industry.
- **Research And Development** – Conduct research, development and training in the development of species diversity and synergies of multi-species culture on farms in Alaska and promote the economic viability of the shellfish industry in an ecologically sustainable manner.
- **Product Development And Markets** – Assist the shellfish industry in opening new markets and developing potential alternate methods of delivery by promoting techniques to enhance and expand product diversification and improve industry access to new markets.



Kachemak Bay - site of many Alaska oyster farms

OceansAlaska has created an eleven member Council of shellfish stakeholders that will implement the Strategic Plan. The OceansAlaska Marine Science Council met in Ketchikan December 11-12 for its first organizational meeting and focused on next steps to move the shellfish industry forward and enhance the sustainable economies of Coastal Alaska communities:

- Hiring an Executive Director to lead the organization and strategic plan
- Developing collaborative relationships and MOU with other agencies
- Development of the OceansAlaska George Inlet facility site.
- Support to the industry for construction and startup of the Homer Shellfish Processing Plant.
- Initiation of an EDA Grant application for a Shellfish Facility for education, training and development programs.
- Design, funding and construction support for a Prince of Wales shellfish processing facility.
- Evaluation of options, project design and funding acquisition for projects to alleviate the shellfish broodstock limitations that restrict industry growth.

Acknowledgements

Report Contributors:

John Sund, Terry Gardiner, Brad Slama, Deb Daisy

State of Alaska Financial and Program Support:

Department of Commerce, Community and Economic Development provided grant funding for the project.

OceansAlaska Marine Science Center



OceansAlaska Marine Science Center Board Meeting

Program Support:

Alaska Department of Fish and Game

Alaska Department of Natural Resources

Institute for Social and Economic Research

Alaska Sea Grant Program

Conference Facilitators:

Glenn Haight, Quentin Fong, Sunny Rice, Christi Bell, Linda Ketchum and Tomi Marsh.

Table of Contents

Executive Summary	Page 1
Acknowledgements	Page 2
Table of Contents	Page 3
Strategic Plan - Removing the Barriers	Page 4 – 6



Strategic Plan 2007	Page 7 – 12
Council Structure and Balance	Page 13 – 15
Implementation - Next Steps	Page 16 – 17

Appendix

Schedule of Meetings	Page 18
Conference Attendees	Page 19
Stakeholder - Small Group and Individual Meetings	Page 20 – 21
Project Staff	Page 22 – 23
Active Aquatic Farm Permit Holders	Page 24
References	25
Appendix A: OceansAlaska Marine Science Center Operating Budget	Page 25
Appendix B: Constraints to Shellfish Culture and Enhancement.....	Page 26
Appendix C: Funding Sources.....	Page 28

Strategic Plan – “Removing the Barriers”

The OceansAlaska Marine Science Center completed a report “*Tipping the Balance – Bringing Alaska’s Shellfish Industry to the Takeoff Point*” in 2006. The report investigated relevant case studies of shellfish and aquaculture successes in other areas of the world. A central finding of this feasibility report was that Alaska’s shellfish industry has the potential to grow from \$ 7 million to \$ 50 million after a sustained and coordinated research and development program is implemented to remove industry constraints .

Table 1. Alaska Shellfish Potential

	Current*	5 Year	10 Year	15 Year	20 Year
	Exvessel / Exfarm Value	Exvessel / Exfarm Value	Exvessel / Exfarm Value	Exvessel / Exfarm Value	Exvessel / Exfarm Value
Wild Harvest	\$6,752,600	\$10,562,500	\$14,652,500	\$18,600,000	\$19,100,000
Farm Harvest	\$ 624,549	\$ 4,168,000	\$10,870,000	\$22,590,000	\$31,420,000
Total Shellfish	\$7,377,149	\$14,730,500	\$25,522,500	\$41,190,000	\$50,520,000

*Current year is defined as the year a systematic research and development plan and funding are put in place.
Source: Current data is from Alaska Department of Fish and Game, Division of Commercial Fisheries, 2004.

The report showed how research, development, demonstration and training programs are needed to propel growth of Alaska’s coastal shellfish industry. The OceansAlaska’s report recommended development of a research priority setting process as a next step to developing a strategic plan for the shellfish industry:

“Initial research priorities for the R&D division will be critical. The Center will use priority-setting processes that have been successfully established by research and development organizations and industries in and outside of Alaska. The initial process will take one year and be completed before the commencement of construction of Center facilities.”

Following the results of the feasibility analysis and business plan development for OceansAlaska, The Alaska Department of Commerce, Community and Economic Development provided funding in January of 2007 for the development of a strategic plan. The shellfish strategic plan can be utilized by industry and government agencies to prioritize funding for research, development and training projects supporting and assisting the growth of the shellfish industry. The results of this year long project are provided in this report

“Tipping the Balance-Removing the Barriers ”.

Stakeholder Driven

The research and development priority setting process was directed by John Sund, Project Manager for OceansAlaska. The University of Alaska Institute of Social and Economic Research (ISER) supplied facilitation services for the conferences. University of Alaska Sea Grant staff supplied support services and expertise to the conferences and overall project.



Stakeholders roll up their sleeves for a two day
Conference workshop

The strategic planning process has been driven by a broad array of stakeholders representing all aspects of the shellfish industry in coastal Alaska – industry, community leaders and government agencies. Fifty-four different stakeholders attended the three major planning conferences. An additional forty-three stakeholders – shellfish farmers, fishermen, state agency representatives, federal agency representatives, municipal leaders, educators, environmental groups and others were interviewed and consulted by OceansAlaska to develop the strategic plan.

Figure 1. Southeast Alaska Aquatic Farm Sites.

Alaska Department of Fish and Game, Division of Commercial Fisheries, Annual Mariculture Report. 2003.

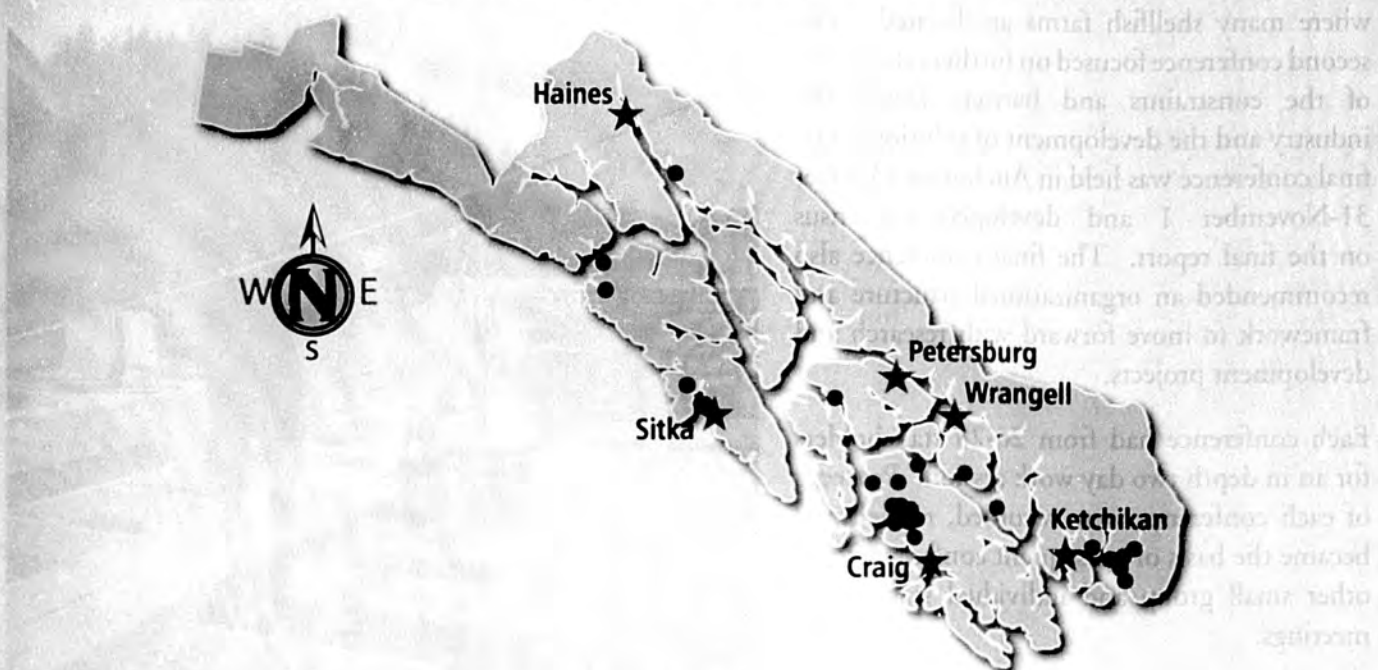
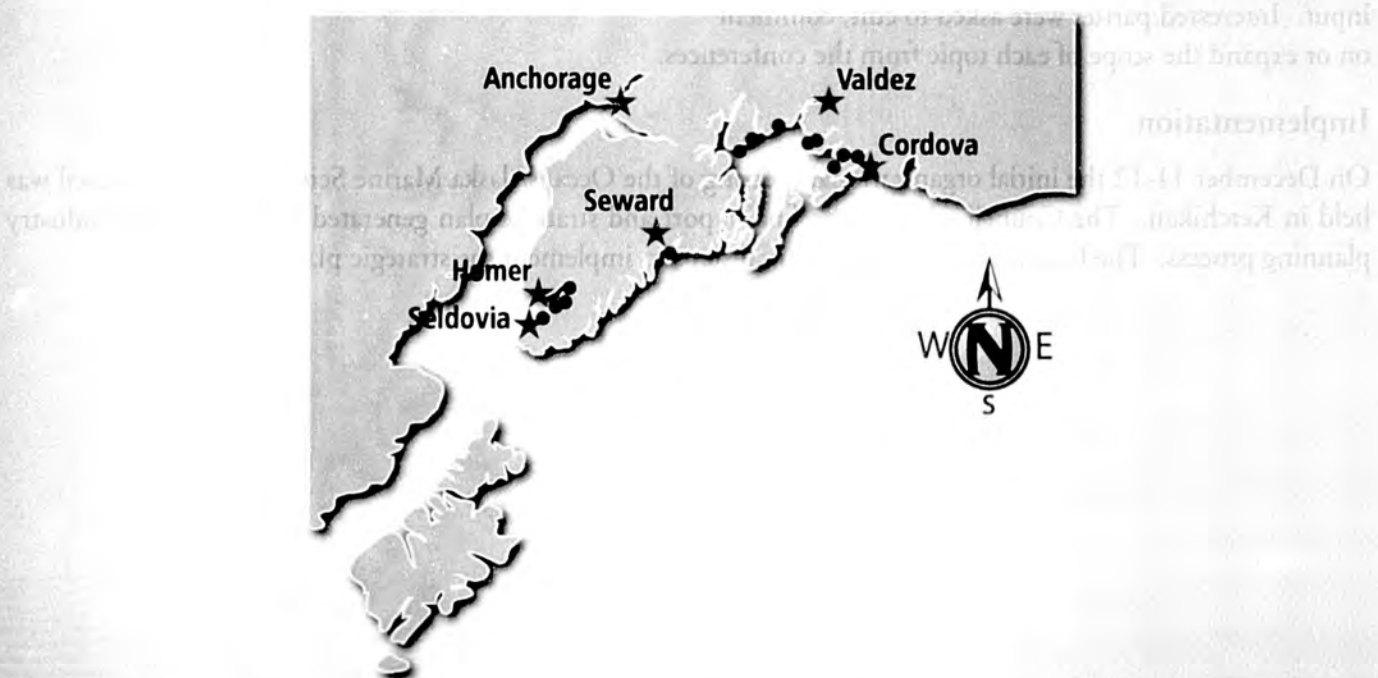


Figure 2. Southcentral Alaska Aquatic Farm Sites.

Alaska Department of Fish and Game, Division of Commercial Fisheries, Annual Mariculture Report. 2003.



Planning Process

The first planning conference was held in Ketchikan for two days, February 27-28. The first conference launched the strategic planning process and focused on defining constraints and barriers to expanding and maturing the shellfish industry in Alaska. The second conference was held May 1-2 on Prince of Wales Island at Craig where many shellfish farms are located. The second conference focused on further refinement of the constraints and barriers facing the industry and the development of solutions. The final conference was held in Anchorage October 31-November 1 and developed consensus on the final report. The final conference also recommended an organizational structure and framework to move forward with research and development projects.

Each conference had from 26-28 stakeholders for an in depth two day work session. Proceeds of each conference were recorded, refined and became the basis of subsequent conferences and other small group and individual stakeholder meetings.

After each conference a synopsis of the proceedings was posted on the OceansAlaska website to gather further stakeholder and public input. Interested parties were asked to edit, comment on or expand the scope of each topic from the conferences.

Implementation

On December 11-12 the initial organizational meeting of the OceansAlaska Marine Science Center Council was held in Ketchikan. The Council adopted the final report and strategic plan generated by the shellfish industry planning process. The Council also launched initial steps to implement the strategic plan.



Oyster farm on Prince of Wales Island

Strategic Plan 2007

Shellfish Marine Science Center

Vision

Alaska has a strong and sustainable shellfish industry that supports vibrant coastal communities.

Purpose

To support the growth of the Alaska shellfish industry through research, development and training.

Values

- **Stewardship** - of natural resources
- **Accountability** - directed by industry, community and government stakeholders
- **Responsiveness** - addressing industry needs
- **Leadership** - in the sustainable development of the Alaska shellfish industry
- **Innovation and Continuous Learning** - proactively developing, applying, and sharing new ideas and concepts in Alaska.



Alaska coastal communities are dependent upon their marine resources

Long Term Goal

To be an internationally respected research, development, and education organization.

Strategic Direction

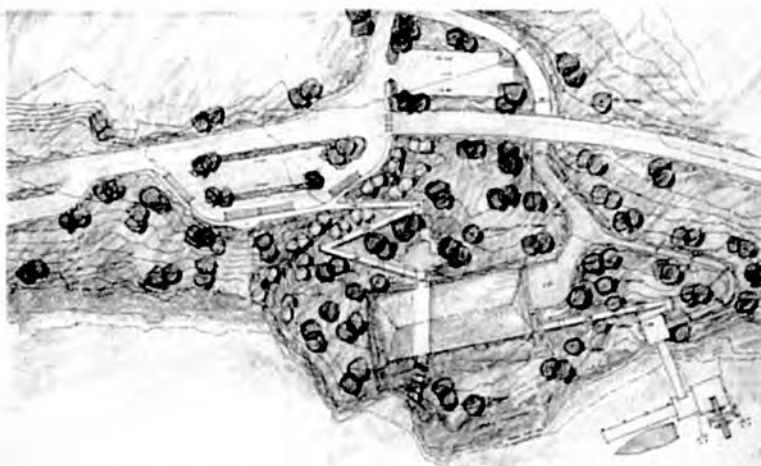
- **Education And Training** - Provide quality education, training and outreach to existing owners, entrepreneurs and employees involved or wishing to be involved in the industry.

Short Term Goal: Develop and staff a year-round working demonstration farm adjunct to the research center to demonstrate best practices in shellfish husbandry, with in-depth, hands-on educational and training opportunities for industry participants.

- **Research And Development** - Conduct research, development and training in the development of species diversity and synergies of multi-species culture on farms in Alaska and promote the economic viability of the shellfish industry in an ecologically sustainable manner.

Short Term Goal: Provide research opportunities that seek to address solutions to a consistent and adequate supply of healthy seed and brood stock for the industry and other users.

- **Product Development And Markets** - Assist the shellfish industry in opening new markets and developing potential alternate methods of delivery by

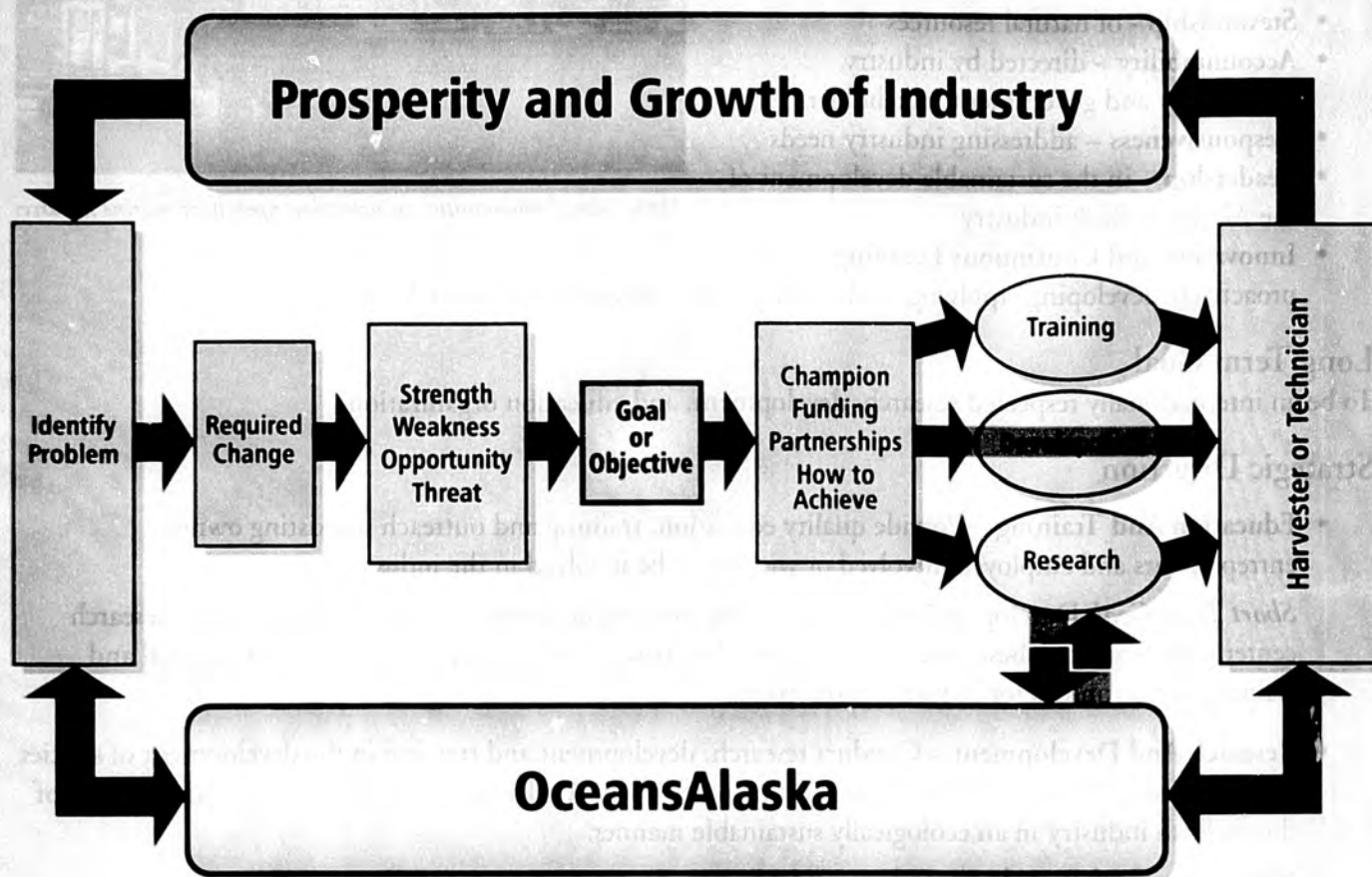


Oceans Alaska Marine Science Center site development plans

promoting techniques to enhance and expand product diversification and improve industry access to new markets.

Short Term Goal: Investigate opportunities to solve transportation and processing hurdles through innovative techniques while maintaining safety and quality.

The following logic model was used by planning attendees to determine the flow of information from industry participants to and through OceansAlaska to find solutions to industry-wide problems, thereby removing barriers to healthy growth and economic prosperity throughout the industry.



Program Goals and Strategies

I. Shellfish Mariculture Education and Training

With the objective of encouraging growth of the shellfish mariculture industry in Alaska, it is of the utmost importance to provide quality education, training and outreach to existing owners, entrepreneurs and employees involved or wishing to be involved in the industry, while keeping in mind the regional differences in needs and immediate priorities.

1.1 Goal – Develop and staff a year-round working demonstration farm adjunct to the research center to demonstrate best practices in shellfish mariculture husbandry, with in-depth, hands-on educational opportunities for industry participants.

- Develop best practice techniques, spat production, predator control and harvest methods for greater production efficiencies.
- Promote a structure to explore, research and develop recommendations for mechanized technology to improve efficiency and productivity of shellfish farms.
- Create a mentorship database to pair experienced farmers/businessmen with newcomers; mentoring, which could include business planning, water quality testing, gear technology and site selection techniques, might be reimbursed with cash payment from a funding source, advanced training scholarships or sweat equity repayment from student farmer.
- Assist in development of internships between partnering educational, research and institutional mariculture centers to further shellfish mariculture knowledge. A resource handbook, with shellfish emphasis, would be developed from existing University of Alaska curricula handbooks as well as a FLUPSY guide.
- Development of the current, inclusive and scientifically accurate best-practices techniques for Alaskan shellfish mariculture to be archived and available for public knowledge.



After the hatchery produces the geoduck spat, the Geoduck Nursery grows the clams to a larger size.

1.2 Goal – Develop educational programs and tools for current best practice culture, harvesting, marketing techniques, site selection and navigation of government permitting processes specific to Alaska.

- Provide on-site workshops at the research center, in rural communities and at intra-state sites; develop exchange programs with partnering marine and educational institutions through research center facilitation.
- To further industry knowledge and technology, develop continuing education programs and seminars with input from government, educational and industry; these programs may be achieved through distance delivery methods as they become available and would focus on basic research into natural patterns of species, Biology of species education, basic farming techniques, and poly culture.
- Develop and maintain a comprehensive database with peer review for start-up requirements, education, training, funding sources and opportunities for the Alaska shellfish mariculture industry.

- Conduct an economic model and analysis of the several development alternatives including state-owned hatchery facilities, combination of state and private industry-owned facilities and independently owned/operated industry-run facilities.
- Conduct community and youth outreach to raise awareness and understanding of the industry, tied in to existing events where possible (e.g. Sea Week, science fairs).

1.3 Goal – Work with existing business development organizations on local, state and federal levels to raise the business acumen of participants and educators in the Alaska shellfish mariculture industry.

- Develop comprehensive business plan models specific to shellfish species to promote better business development and management.
- Actively promote and assist in development of basic business education seminars, programs and workshops to aid industry participants in sustaining best business practices and management to promote individual revenue growth. Initial needs might be focused on cost and revenue projections, grant writing/management for individuals and corporate entities.
- Explore and identify options for assistance with cost and revenue projections, grant writing/management for individuals and corporate entities and meeting matching funds for private farmers or cooperatives program is implemented to remove industry constraints.

II. Shellfish Mariculture Research and Development

To encourage the growth of the industry through Native species diversity and synergies of multi-species culture on farms in Alaska, research and development of shellfish mariculture and marketing techniques would be promoted to enhance the economic viability of the shellfish industry in an ecologically sustainable manner.

2.1 Goal – Provide research opportunities which seek to address solutions to a consistent and adequate supply of healthy seed and brood stock in a hatchery setting for the industry and other users.

- Maintain and encourage growth of brood stock program.
- Nursery development (in coordination with the proposed demonstration farm), including expansion of research into species cultivated in a FLUPSY and/or other nursery techniques as well as continued research on current species and reliable cost/benefit analysis.
- Develop protocols for improving survivability from seed to harvest (quality and robustness of seed carries over to harvest).
- Research alternative energy sources.
- Research the ability to develop private seed/spat culture.



The FLUPSY - Floating Upweller System to accelerate shellfish growth

2.2 Goal – Promote research projects dedicated to industry-specific shellfish mariculture which promote best practices in culture and technology, regardless of species

- Develop research programs which encourage species and product diversity to include: increased market penetration, best practices in areas such as site selection and growing methods, shelf life of products, maximizing of farm unit labor output through mechanization, gear development and value-added products.
- Promote and build partnerships worldwide for the sharing of research and information to aid in production and industry growth, accomplished through development of an annual conference in Alaska, an industry newsletter, formal interactive website and information exchange programs.
- Identify industry driven scientific and other research priorities as well as communicate regularly with like minded research entities to limit duplication of effort and encourage research and development partnering – Oceans Alaska in essence acts as a glue agent between industry and agencies conducting mariculture industry research.

2.3 Goal – Promote research to enhance and rehabilitate native shellfish stocks in Alaska waters.

- Long-term, systematic research programs facilitated to achieve enhancement of the native shellfish stock including sea cucumbers, geoducks, clams, and scallops; by establishing a research plan, genetics policy and pathology program to ensure protection of wild stock with further research into the process of enhancement for two-species farms using one gear type and enhancement of depleted shellfish stocks.
- Gather data on mortality and growth rates of shellfish stock from valid, recognized sources and make information available through the research facility.

III. Product Development and Markets

In order to assist the shellfish mariculture industry in opening new markets and developing potential alternate methods of delivery, the center would promote techniques to enhance and expand product diversification and improve industry access to new markets.

3.1 Goal – Investigate opportunities to solve transportation and processing hurdles through innovative techniques while maintaining safety and quality.

- Develop techniques to extend shelf life of products through freezing technology, refrigeration techniques and modified atmosphere, smoking, wet storage, super chill, dormancy storage 33 degree F.
- Develop new products through project analysis of existing documentation; prioritize projects to establish orderly progression of research with emphasis on screening for market feasibility.



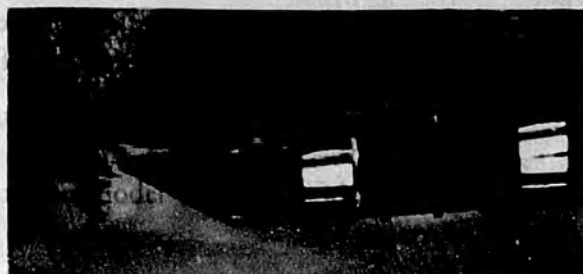
The large oysters are the results of the oyster breeding program with the potential to greatly increase yields for Alaska



Oyster grower holds the oyster spat grown at the Naukat; FLUPSY that will be transported to grow out farms

3.2 Goal – Conduct market research to identify new markets and species diversification, brand development and improved financial returns from product sales

- Research new species (cockles) and value adding for some of these new species and develop current species in new and home markets by concentrating on product identity through regional and State branding.
- Identify agencies with the ability to provide marketing assistance and pursue greater involvement with USDA Cooperative and Business Development marketing programs.
- Facilitate and assist the industry in the development of processing facilities to meet the needs of individual and collective organizations of shellfish farms to reduce the overall cost of transportation and access to markets.
- Solve Transportation costs with increased shelf life, use alternative lower cost transport.
- Determine market size, product growth, and measurable (quality) standards.
- Share techniques, markets, connections and communication through state wide cooperative effort. Develop forum for market information, OceansAlaska role to collect, disseminate, distribute, create stronger website.
- Increase production, reliability, consistency, transportation.
- Inventory control models to discover production/market needs.
- Currently markets set standards for size and grading. Measurable quality standards.
- Increase profitability through Alaska Branding, regional and state, example the success of Copper River Salmon marketing. Education of consumers, retailers, visitors, buy locally. Brand commonality. Educate to nutritional, health, clean environment.
- Business model to penetrate in state and out of state market utilizing existing processing infrastructure or create new Alaska appeals to markets because of clean environment, strict effective safety regulations.
- Increase margins, raising market price, lowering labor and transportation costs.
- Increase production and ensure consistency and reliability, lower transportation and labor costs.



Oyster float on Prince of Wales Island



Geoduck clams are prized and highly valuable in many markets, including Japan, for sashimi

Council Structure and Balance

The strategic planning process identified the need to have a Council that is made up of a broad spectrum of shellfish growers, researchers and educators from across the community and government range. OceansAlaska has recruited Council members based on their expertise, lengthy experience and commitment to growing the shellfish industry in coastal Alaska.

The OceansAlaska Marine Science Council will be responsible for taking the Strategic Plan developed by the stakeholder process and moving the plan forward.



OceansAlaska Marine Science Center Council at work on industry research priorities

Council Members

Art King	Shellfish Seed Supplier	Naukati, Prince of Wales
Gary Freitag	OceansAlaska Board	Ketchikan
Jeff Hetrick	Alutiiq Shellfish Hatchery	Seward
Ray Ralonde	Alaska Sea Grant	Anchorage
Eric Wyatt	Oyster Farmer	Naukati, Prince of Wales
Phil Doherty	SARDFA – shellfish divers	Ketchikan
TBA	Native Corporation	Juneau
Rodger Painter	Oyster Farmer, ASGA	Prince of Wales
Steve LaCroix	Geoduck Farmer/Diver	Ketchikan
TBA	National Marine Fisheries	Juneau
TBA	Shellfish Grower	Southcentral

OceansAlaska Marine Science Council Bios

Phil Doherty is currently working as the Executive Director of the Southeast Alaska Regional Dive Fisheries Association (SARDFA). SARDFA is a non-profit Association created by the Alaska State Legislation in 1998. The mission of the Association is to develop, expand, and enhance new and existing dive fisheries in southeast Alaska. The Association views the local knowledge, experience, and talents of dive fishermen as a primary resource to be used and coordinated by ADF&G to help develop commercial dive fisheries in an economically feasible manner. Prior to working for SARDFA, Phil worked for the Alaska Department of Fish and Game from 1978 through 2006 as a commercial fisheries manager in the Ketchikan area. In that capacity Phil managed the salmon purse seine and gill net fisheries, herring fisheries, various shellfish fisheries, subsistence and personal use fisheries. Phil remains on the Northern Boundary Technical Committee as part of the State's negotiating team within the Pacific Salmon Commission.

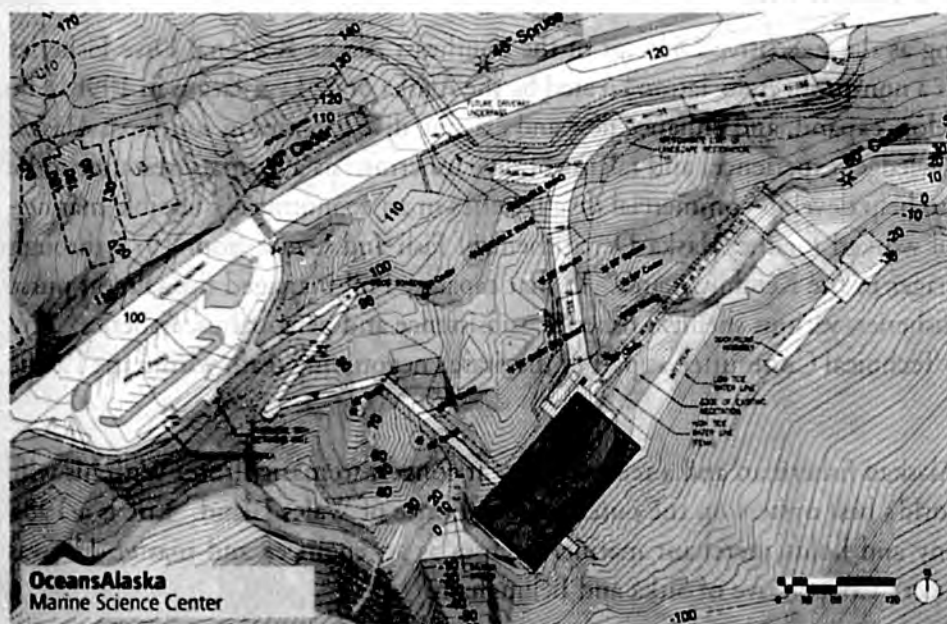
Eric Wyatt is a third generation Alaskan fisherman and a relatively recent convert to mariculture. With his wife and partner, Cindy, he farms the world's best oysters on the outer coast of Prince of Wales Island. Eric is a 1988 graduate of the U.S. Naval Academy and holds merchant mariner licenses as an engineer and master. He was recently a director of Seafood Producer's Cooperative of Sitka and Bellingham.

Gary Freitag is currently working as the Marine Advisory Program Agent for Alaska Sea Grant in Ketchikan. Gary is a scientist and fisheries biologist and was previously employed for many years by the Southeast Regional Aquaculture Association. He is owner and chief consultant for Oceanographic Services of Southeast Alaska, a firm that specializes in environmental oceanographic, fishery and marine mammal surveys. Freitag is the author of numerous patents and publications for Imperial Chemical Incorporated of America. He is also an aviator. Freitag helped establish the Tongass Coast Aquarium (now OceansAlaska) board in 1992 and serves as its President.

Raymond RaLonde has been employed for 16 years as a Professor of Fisheries with the UAF School of Fisheries and Ocean Sciences, and the Alaska Sea Grant Marine Advisory Program's aquaculture specialist. His responsibilities as aquaculture specialist are to provide technical support, instruction, and applied research in the field of salmon and shellfish aquaculture. His educational background includes a B.S. in Fisheries and a B.S. in Education from Oregon State University, and a M.S. in Fisheries from the University of Idaho. In his over 30 years of experience in Alaskan salmon and shellfish aquaculture Ray has constructed and operated aquaculture facilities, taught the aquaculture program at Sheldon Jackson College for eleven years, written extensively in the areas of aquaculture and harmful algal blooms, conducted a number of applied aquaculture research projects, an active national program, and international reputation for excellent in aquaculture extension and outreach.

Rodger Painter currently owns and operates one of Alaska's oldest shellfish farms and is president of the Alaskan Shellfish Growers Association. He has been an Alaska aquaculture consultant, researcher and advocate for the past 20 years, and has been project manager on a host of research, marketing and business development projects. Painter was the executive director and lobbyist for the state's largest fishing group, and has experience as a seafood industry consultant, rural economic development specialist, seafood marketer, legislative aide, public relations specialist, and journalist. He was on the board of directors of the Alaska Seafood Marketing Institute for 12 years and currently is a member of two ASMI committees.

Jeff Hetrick is the director of the Alutiiq Pride Shellfish Hatchery and Mariculture Technical Center in Seward. Jeff has over twenty years experience in Alaskan salmon and shellfish culture, enhancement, marine resource development and economic development in coastal Alaska. He has served on many boards including the Western Regional Aquaculture Center, National Aquaculture Association and Pacific Coast Shellfish Growers Association. He has a BA in Biology and Fisheries and a Masters of Business Administration.



*OceansAlaska Marine Science Center -
site topographic map*

Stephen LaCroix has worked in the shellfish industry in Alaska and the Pacific Northwest for thirty years. Since 1994 he has been based out of Ketchikan focusing on developing the dive fisheries, with a dedicated focus on the growing of geoduck clams. Steve has managed dive fishery businesses in geoduck clam, sea urchin and sea cucumber including harvesting, processing and marketing. Steve has served as President of Southeast Alaska Regional Dive Fisheries Association. He has worked with many Alaska government agencies to develop procedures and methods for live export of geoduck, PSP sampling, geoduck aquatic farm legislation, assessment funding for dive fisheries research and management and many other initiatives to remove barriers to developing Alaska's dive fisheries.

Art King has been a small business owner most of his life. Art has started and operated a diverse range of businesses in Washington and Alaska including a mink farm, fish market, smoked salmon gift packaging business, charter boat operation and fishing and hunting lodge on Prince of Wales Island. Art and his wife Claire are currently very involved at Naukati on Prince of Wales Island serving on the Community Council, operate Naukati Cabins & Laundromat and the Naukati Shellfish Nursery growing oyster spat for farmers throughout Alaska. Art currently serves on the board of the Alaska Shellfish Growers Association.



Baby geoducks are very small when they move from the hatchery to the nursery



Mature geoduck clams weigh several pounds each

Getting Started...

The OceansAlaska Marine Science Council met in Ketchikan December 11-12 for its first organizational meeting. The meeting focused on initial steps to move forward to implement the strategic plan for shellfish development that was built over the last year and described in this report.

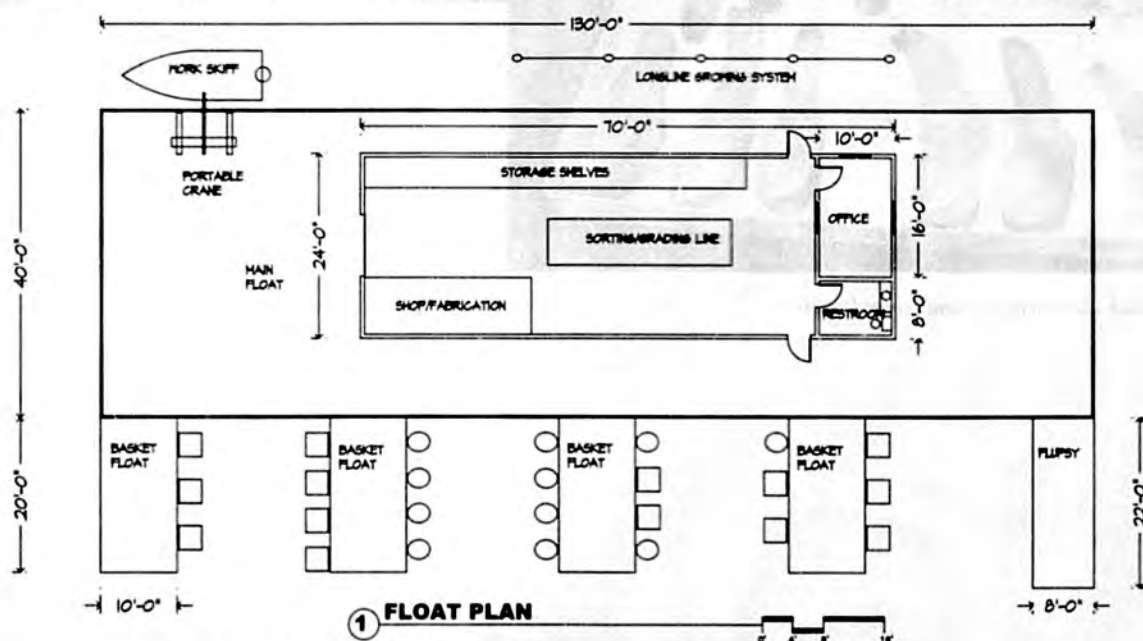
The OceansAlaska Marine Science Council also rolled up its sleeves and grappled with the specific research, development, training and education initiatives that are needed to move the shellfish industry forward.

The next step to build the organization will be hiring an executive director to lead the organization and implement the Strategic Plan on behalf of the shellfish industry. Initial focus will be on building two critical functions – Research and Development and Farm and Training Facility. Another important step will be building collaborative working relationships through Memorandum of Understanding with existing agencies with expertise, facilities and staff that conduct research, development, education and training.

Below are highlighted next steps to remove barriers and propel the industry:

Next steps:

- **OceansAlaska Site Development** – The OceansAlaska Marine Science Center is located on 28 acres of George Inlet waterfront property outside of Ketchikan. Engineering has been completed for road access and site development. Construction will begin in the spring of 2008.
- **Homer Shellfish Processing Plant** – Funding has been secured, design is complete and construction is scheduled for a new Homer Shellfish Processing Plant that will be certified for shellfish processing. OceansAlaska will support building, completion and startup of the facility.
- **EDA Grant for OceansAlaska Shellfish Training Facility** – OceansAlaska is applying to EDA for a grant to construct a shellfish facility at its George Inlet site. The facility will be utilized for education, training and development programs for the shellfish industry. The site and facility will be capable of growing shellfish



OceansAlaska Marine Science Center
Demonstration Farm and Training Facility

and providing on site education and training of workforce for the shellfish industry. Development projects that will promote new efficiencies and technologies for the shellfish industry will be undertaken at this site.

- **Prince of Wales Shellfish Processing Facility** – Prince of Wales shellfish producers are in need of a central and certified shellfish processing facility to support efficient growth of the industry. OceansAlaska will provide support for design, funding and construction to shellfish growers for this project.
- **Removing the Shellfish Broodstock Barrier** – Growth of the shellfish industry is constrained by a reliable supply and adequate volume of quality broodstock and seed supply. The two leading strategies under evaluation and development by the shellfish industry are upgrade and expansion of the Alutiiq Pride Shellfish Hatchery in Seward and the development of a shellfish hatchery/nursery in Southeast Alaska. OceansAlaska will assist the shellfish industry in evaluating the options and also with final project design, budget development and funding acquisition.

OceansAlaska Marine Science Center Operational Timeline

Task	2007												2008												2009													
	Jan	F	M	A	M	J	J	A	S	O	N	D	Jan	F	M	A	M	J	J	A	S	O	N	D	Jan	F	M	A	M	J	J	A	S	O	N	D		
Industry Strategic Plan Development																																						
Appoint Marine Science Center Council																																						
Hire Executive Director																																						
Site Development																																						
Training Facility - Design and Funding																																						
Training Facility Construction																																						
Center - Long Term Funding Plan																																						
Hire Director of R & D																																						
Hire Director of Training Facility																																						



Floating oyster processing facility on Prince of Wales Island



Feeding shellfish by growing algae at the Alutiiq Pride Shellfish Hatchery in Seward

OceansAlaska

Strategic Planning

Project Meeting Schedule

Facilitated Strategic Planning Conferences:

- Ketchikan February 27-28
- Craig May 1-2
- Anchorage October 31-November 1

Stakeholder Group Meetings:

- Juneau March 28
- Juneau August 21-22
- Petersburg September 10-11
- Homer September 21-22
- Ketchikan November 14-15

Organizational Meeting of OceansAlaska Marine Science Council:

- Ketchikan December 11-12



OceansAlaska Strategic Planning Conference Attendees

First Name	Last Name	City	Agency/Organization/Company
Chip	Treinen	Anchorage	Gulf Communities Coalition
George	Scanlon	Anchorage	DEC
Ray	RaLonde	Anchorage	Marine Advisory Program
Dave	Chipman	Cordova	Oyster Farmer
Dennis	Watson	Craig	Mayor
Jeff	Reeves	Craig	Subsistence Biologist - US Forest Service
Paul	Coffey	Craig	RC&D Coordinator SE conference
Scott	Leslie	Craig	Forest Service Permit Officer
Sheila	Jacobson	Craig	Forest Service Permit Officer
Brad	Thompson	Edna Bay	Oyster Farmer
Sean	Ruddy	Halibut Cove	Oyster Farmer
Susan	Ruddy	Halibut Cove	Oyster Farmer
Cheryl	Rykaczewski	Homer	Oyster Farmer
Greg	Bates	Homer	Oyster Farmer
Steven	Rykaczewski	Homer	Oyster Farmer
Weatherly	Bates	Homer	Oyster Farmer
Andrew	Wink	Juneau	Department of Commerce
Cynthia	Pring-Ham	Juneau	ADFG
David	Petree	Juneau	Asst. Mariculture Coordinator
Glenn	Haight	Juneau	Fisheries Development - MAP - U of A
John	Theide	Juneau	DNR
Kari	Mahar	Juneau	UAA CED
Tom	Henderson	Kake	Oyster Farmer
Audrey	Escoffon	Kasaan	Vice President - Kasaan Tribe
Dan	Edenshaw	Kasaan	Tribal Transportation
Lisa	Lang	Kasaan	Tribal Administration - Pres. Haida Corp
Pam	Kristovich	Kasaan	Organized Village of Kasaan
Rick	Petersen	Kasaan	President Kasaan Organized Village
Barbara	Morgan	Ketchikan	U of A Ketchikan
Bruce	Wallace	Ketchikan	UFA/ASMI
Dave	Doyon	Ketchikan	Misty Fjords Airlines
Gary	Zaugg	Ketchikan	Geoduck Dive/Farmer
Jerry	Koerner	Ketchikan	OceansAlaska
John	Sund	Ketchikan	OceansAlaska
Kate	Sullivan	Ketchikan	University of Alaska - Southeast - Ketchikan
Phil	Doherty	Ketchikan	Executive Director: SARDFA
Ron	Medel	Ketchikan	USFS: Tongass Forest
Scott	Walker	Ketchikan	ADF&G Area Management Biologist
Steve	Lacroix	Ketchikan	Geoduck Dive/Farmer
Tomi	Marsh	Ketchikan	Geoduck Farmer
Eric	Wyatt	Naukati	Oyster Farmer
Sandra	Marker	Naukati	Oyster Farmer
Dan	Strickland	Palmer	Oyster Farmer
Dean	Stewart	Palmer	USDA
Pam	Strickland	Palmer	Oyster Farmer
Art	King	Prince of Wales	Oyster Farmer
John	Pugh	Prince of Wales	Oyster Farmer
Roger	Painter	Prince of Wales	Oyster Farmer
Jeff	Hetrick	Seward	Alutiiq Pride Shellfish Hatchery
Grant	Miller	Sitka	Oyster Farmer
Jim	Seeland	Sitka	University of Alaska - Southeast - Sitka

OceansAlaska Stakeholder - Small Group & Individual Meetings

The following stakeholders attended small group meetings or were individually consulted on the project or portions of the project and did not participate in one of the planning conferences.

OceansAlaska

Gary Freitag	President: OceansAlaska, Ketchikan, Alaska
Monica Shultz	Member: Board of Directors, OceansAlaska; Ketchikan, Alaska
John Tighe	Executive Director: OceansAlaska; Ketchikan, Alaska

Private Sector

Jim Aguiar	Oyster farmer: Cordova, Alaska
Bob Hartley	Oyster farmer: Homer, Alaska
Debbie Seims	Oyster farmer: Homer, Alaska
Bruce Schactler	Commercial fishing: Kodiak, Alaska
Kevin Sidelinger	Oyster farmer: Homer, Alaska
Mike Nakata	Oyster farmer: Homer, Alaska
Mike Round	Assistant General Manager: SSRAA (Southern Southeast Regional Aquaculture Association): Ketchikan, Alaska
Rick Harris	Executive Vice President: SeaAlaska Corporation, Juneau, Alaska
Robert Miller	Oyster farmer: Homer, Alaska
Ron Bader	Oyster farmer: Homer, Alaska

Education

Hans Geier	Cooperative Extension Service: University of Alaska, Fairbanks, Alaska
Bill Hall	University of Alaska
Cathy LeCompte	Director: Ketchikan Campus: University of Alaska, Ketchikan, Alaska
John Pugh	Chancellor: University of Alaska – Southeast Campus; Juneau, Alaska
Bill Smoker	Professor of Fisheries: University of Alaska, Juneau, Alaska

Federal Government

Berney Richert	EDA – Economic Development Administration: Anchorage, Alaska
Bill Heard	National Marine Fisheries Service: Juneau, Alaska
Forrest Cole	Forest Supervisor: Tongass National Forest: Ketchikan, Alaska
Paul McIntosh	Project Manager: Denali Commission, Anchorage, Alaska
Tessa Rinner	Program Manager: Denali Commission, Anchorage, Alaska

State Government

Bob Pawlowski	Executive Director: Alaska Fisheries Development Foundation: Anchorage, Alaska
Cora Crome	Fisheries Development Specialist: Governor's Office, Juneau, Alaska
David Ottness	Fisheries Advisor: Anchorage, Alaska
Denby Lloyd	Commissioner Alaska Department of Fish and Game, Juneau, Alaska
Lynne Smith	Economic Development Specialist: Governor's Office: Juneau, Alaska
Manny Soares	Department of Environmental Conservation, Anchorage, Alaska
Geron Bruce	Assistant Director: Alaska Department of Fish and Game
Patricia Nelson	Deputy Director: Alaska Department of Fish and Game
Craig Farrington	PNP Program Coordinator: Alaska Department of Fish and Game

Municipal

Bob Weinstein

Bruce Botelho

Jon Bolling

Al Dwyer

Mayor: City of Ketchikan

Mayor: City of Juneau

City Manager: Craig, Alaska

Mayor: City of Petersburg

Conservation Groups

John Sisk

Mike McIntosh

Nature Conservancy: Juneau, Alaska

McIntosh Foundation, Washington, D.C.

Other Community Interests

Adrian LeCornu

Tena Williams

Greg Fisk

Tongass Futures Roundtable

Southeast Conference

Hydaburg, Alaska

Co-owner: Ketchikan Daily News: Ketchikan, Alaska

Fisheries Consultant: Juneau, Alaska

Other shellfish experts outside of Alaska were consulted during the strategic planning process:

Shellfish Experts

Dan Cheney

Bryan Kingzett

Don Tillipaugh

Pacific Shellfish Institute: Olympia, Washington

Blue Revolution Consulting: British Columbia

Centre for Shellfish Research: British Columbia

Strategic Plan - Project Staff

John Sund, Project Manager

John currently is a leader of consulting and business coaching firm that helps business owners realize the potential for profitability and personal rewards that come with entrepreneurship. This is accomplished by facilitating professional and pragmatic solutions to assist them take advantage of opportunities to resolve issues and gain better control of the business or organization. He has a B.A. Degree from Western Washington University and a Juris Doctor LLB from Northwestern School of Law of Lewis and Clark College. Most recently John was V.P. of operations for NorQuest Seafoods, one of Alaska's major seafood processors. John also served three terms in the Alaska legislature, was President of Waterfall Resort, one of Alaska's premier fishing resorts and was involved in several roles crafting legislation for Alaska's non profit hatchery system.

Tomi Marsh, Project Assistant

Owner of the boat, "Savage", Marsh has been involved in the commercial fishing industry for 24 years. She has fished for crab from the Bering Sea of Alaska to the Coast of Washington state, and participated in a variety of other Alaskan fisheries. In conjunction with the Alaska Seafood Marketing Institute, she has been active in fisheries marketing promotional. Marsh also owns a geoduck farm permit in Southeast Alaska. Marsh joined the OceansAlaska board in 2006.

Institute of Social and Economic Research:

Established in 1992, the Center for Economic Development at the University of Alaska leverages the unique expertise and research capabilities of the UA campuses to promote economic development throughout the State. The Center is funded primarily by the U.S. Department of Commerce, Economic Development Administration, with additional support from the University of Alaska. The center is now a program of the Institute of Social and Economic Research (ISER). ISER is part of the College of Business and Public Policy (CBPP) at UAA.

Staff to the project provided by ISER:

Deb Daisy

Deb has an extensive background in business and strategic planning, facilitating and grant writing and works as an independent contractor when not at her full-time position as a regional grants administrator for an Alaskan Native corporation. With a successful 20 history in retail business, she previously held the Associate State Director position for the University of Alaska Small Business Development Centers. She holds a B.S. degree from Alaska Methodist University in Anchorage, Alaska.

Christi Bell

Ms. Christi Bell is the Director of the University Alaska Center for Economic Development. Through this position she provides technical assistance to community-based organizations engaged in economic development activities throughout Alaska. Assistance efforts include strategic planning, feasibility studies, business planning and non-profit corporation business counseling. She holds a Master of Business degree and a Master of Science degree in Resource Management, both from the University of Alaska Fairbanks. In addition to education, Ms. Bell brings many years of business and management consulting experience to the UACED.

Linda Ketchum

Ms. Linda Ketchum is the Coordinator of UACED's Entrepreneurship Training Center. In this role, she develops and delivers training, organizes education events, and promotes coordination and collaboration of statewide efforts. Ms. Ketchum also teaches Social Entrepreneurship in UAA's MPA program. She holds a liberal arts degree from the University of Edinburgh, Scotland, and a Master of Education degree in Adult Education from the University of Alaska Anchorage. Over the years, she has worked and volunteered in a variety of leadership roles in Alaska's nonprofit sector.

Alaska Sea Grant Program:

Alaska Sea Grant is a university-based program that is part of a national network of Sea Grant programs in all the coastal and Great Lakes states. Sea Grant funds marine research, provide education and extension services, and distribute information about Alaska's seas and coasts. Sea Grant provides funding to scientific researchers and graduate students. The Marine Advisory Program is for fishermen, boat operators, tour guides, the seafood industry, and pretty much anyone else who makes a living from or enjoys the waters of Alaska. Sea Grant produces and distribute a variety of publications for the general public, K-12 educators, fishermen, and others.

Glenn Haight

Glenn Haight is the fisheries business specialist with the Alaska Sea Grant Marine Advisory Program. Glenn instructs courses on financial management, introduction to direct marketing, bookkeeping for a fishing business operation and evaluating business opportunities. Glenn worked with the Alaska Department of Commerce and Economic Development as the fisheries development specialist, and the Department of Community and Regional Affairs as the Community Development Quota Program Manager. He has a Bachelor of Business Administration from the University of New Mexico and a Master of International Management from the American Graduate School of International Management.

Quentin Fong

Quentin Fong has a dual appointment as the Seafood Market Specialist for the Alaska Sea Grant Marine Advisory Program and the Fishery Industrial Technology Center in Kodiak. Born and raised in Hong Kong, he has 12 years of commercial diving and fishing experience and 10 years of seafood trading experience. As an educator at the University of Alaska Fairbanks, Quentin conduct marketing workshops, one-on-one consultations with stakeholders on strategic marketing and business management strategies, and conduct applied market and economic feasibility research.

Sunny Rice

Sunny Rice is the Marine Advisory Program agent in Petersburg for Alaska Sea Grant. Sunny focuses on commercial fisheries, intergovernmental cooperation, rural development, seabird avoidance and fisheries business. Her background includes working in many aspects of the seafood industry in Alaska including processing and Alaska Department of Fish and Game.

OceansAlaska Active Aquatic Farm Permit Holders

Last Name	First Name	Company Name	City
Homer/Seward			
Bader	Ronald	Moss Island Oyster Farm	Anchorage
Loflin	Cameron	Otter Rock Oyster Farm	Anchorage
Ruddy	Susan	Lighthouse Pt. Oysters, LLC	Anchorage
Miller	Robert	Chisik Island Seafoods	Kasilof
Miller	Brian	Halibut Cove Seafoods	Halibut Cove
Rykaczewski	Steven	Early Tide Seafarms	Homer
Seims	Gary	Semis Sea Farms	Homer
Sidelinger	Kevin	Sea Farm Alaska	Homer
Trejo	Jesus	Alaskan Sea Stallion Aquatics	Homer
Fell	Donald	Oyster Cove Sea Farms	Homer
Hays	Brenda	Bay Blue Mussel Farm	Homer
LaRue	Blake	K-Bay Oysters	Homer
Nakada	Mike	Northern Lights Oyster Co.	Homer
Olsen	Eric	Sunset Cove Oyster Farm	Homer
Dale	Paul	Katchemak Bay Shellfish Growers Association	Kenai
Stoops	Brenda	Snug Harbor Seafoods, Inc.	Kenai
Strickland	Dan	Bear Cove Oyster Company	Palmer
Hetrick	Jeff	Alutiiq Pride Shellfish Hatchery	Seward
Sczawinski	Dave	Pristine Products	Seward
Seavey	Siri	Aqua Farms of Seward AK	Seward
Kelley	William	Blue Fjord Seafood Co.	Soldotna
Van Hying	Jon	Aquabionics, Inc.	Wasilla
Prince William Sound			
Aguiar	James	Eagle Shellfish Farm	Cordova
Cain	Bruce	Native Village of Eyak	Cordova
Chipman	David	Hawkins Island Shellfish Co.	Cordova
Kompkoff	Carroll & Gary	The Tatitlek Corporation	Cordova
Southeast			
Nicholson	Don	Canoe Lagood Oyster Co.	Coffman Cove
Belk	Doris	Token Bay Seafoods	Craig
Marker	James		Craig
Ply	Lane	Inian Island Aquafarm	Elfin Cove
Wild	Jim/Mary Jo Lord	Elfin Cove Oysters	Elfin Cove
Manning	Thomas	Krestof Clam Company	Juneau
Painter	Rodger	Tenass Pass Oyster Co.	Juneau
Henderson	Tom	Pearl of Alaska	Kake
LaCroix	Stephen	Sea Farms Alaska	Ketchikan
LaCroix	Stephen	Alaska Shellfish Nursery	Ketchikan
Munhoven	Don	Oyster Alaska, LLC	Ketchikan
Zaugg	Gary	Pac Alaska	Ketchikan
Plumley	Sam	Blue Water Seafoods	Klawock
Harper	John "Pete"	Sea Otter Sound Seafoods, Inc.	Naukati
King	Art	Naukati W. Homeowners Assoc.	Naukati
Pugh	John	Kahi Cove Shellfish, LLC	Naukati
Wyatt	Eric	Blue Star Alaskan Oysters	Naukati
Bakker	Cornelis	Cornelis Bakker, Inc.	Olympia
Lentz	John	Seaproducts, Inc.	Olympia
Ethelbah	Harley	Fresh Start Fisheries	Petersburg
Lyle	Alexander	Emily Island Oysters, Inc.	Petersburg
Redfield	James	Etolin Enterprises, LLC	Santa Clara
Miller	Grant	Whiting Harbor Aquafarm	Sitka
Mottet	Madelon	AK-Southeast Bio-Research	Sitka
Wilkinson	Larry	Kaguk Gems	Thorne Bay
Morin	Kurt	AK Shellfish Aquaculture Project	Ward Cove
Klinkert	Cathy	Sweetwater Seafoods	Whale Pass

Appendix A: OceansAlaska Marine Science Center Operating Budget

OceansAlaska Marine Science Center Budget													
	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Total
Executive Director	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000	108,000
Director of R & D	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	96,000
Director of Dev. & Training	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	60,000
Subtotal Wages	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	264,000
Overhead / Benefits	6,160	6,160	6,160	6,160	6,160	6,160	6,160	6,160	6,160	6,160	6,160	6,160	73,920
Subtotal Wages	28,160	28,160	28,160	28,160	28,160	28,160	28,160	28,160	28,160	28,160	28,160	28,160	337,920
Staff Travel, Lodging, Meals	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	42,000
Outreach and Dissemination	600	600	600	600	600	600	600	600	600	600	600	600	7,200
Board Travel, lodging, Meals			10,000			10,000			10,000			10,000	40,000
Seed for Demo Farm	500	500	500	500	500	500	500	500	500	500	500	500	6,000
Research Supplies	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	12,000
Conference Expenses	400	400	400	400	400	400	400	400	400	400	400	400	4,800
Publications	400	400	400	400	400	400	400	400	400	400	400	400	4,800
Industry Planning Process	500	500	500	500	500	500	500	500	500	500	500	500	6,000
Subtotal other expenses	6,900	6,900	16,900	6,900	6,900	16,900	6,900	6,900	16,900	6,900	6,900	16,900	122,800
Total Expenses	35,060	35,060	45,060	35,060	35,060	45,060	35,060	35,060	45,060	35,060	35,060	45,060	460,720

Appendix B: Constraints to Shellfish Culture and Enhancement

The following constraints are derived from a comprehensive survey of Alaska's aquaculture industry and government experts.

Research funding for shellfish is limited A major barrier to aquatic farm research and development programs in Alaska is the same as it is elsewhere in the U.S.: funding. Shellfish aquaculture research and development funding is scarce and competition is fierce. A "major" shellfish aquaculture initiative by the National Oceanic and Atmospheric Administration has turned out to provide minimal funding for a national effort and has focused primarily on development of offshore growing systems. Political priorities of the nation are driving national research priorities and the potential of the Alaska shellfish is not on the national priority screen.

Industry Struggling to Emerge Alaska's shellfish farms are largely "mom-and-pop" affairs, undercapitalized and most fail to even break even for at least five years. This has been a very common pattern in other jurisdictions. Large companies that exist in other mature industries that financially and professionally can actively participate in projects or contribute much-needed "matching funds" for government grants simply do not exist at this stage in Alaska.

Cooperative research projects tend to get shuffled aside at a "mom- and-pop" farm, but they can get the attention they need at a larger farm where employees aren't as overwhelmed. A new industry also has many needs and can be very disorganized, making it difficult to prioritize research projects.

Species Diversity is Needed A healthy viable industry will require multiple species to cope with market fluctuations, diseases, cash flow, scale of economy and seasonality limitations. Alaska has confined the future of its shellfish industry to indigenous species. Only two shellfish species indigenous to Alaska are cultured anywhere else in North America: blue mussels and geoduck clams. And, initial interest in geoducks has focused on subtidal culture, of which only a single, rather secretive Canadian company has tried. To compound the problem, very little is known about the lifecycles of indigenous Alaska shellfish unless the species is a major

Years of research generally are required before a new species is ready for commercial development, including hatchery experimentation, growth studies where varying densities of shellfish are grown in different types of gear, nursery trials, holding and processing trials, and market research and development. Sometimes a single stage can prove to be particularly troublesome, requiring years of trial and error. For example, the cementing properties of rock scallops have been vexing growers and researchers in Washington, California and Alaska for decades. While the species grows well in conventional gear, harvest often means destroying the gear or the shellfish.

Regional Differences can be Great in the Greatland What works well in Kachemak Bay may not be duplicated in Southeast because the oceanographic conditions vary so dramatically. The growth rates of Pacific oysters are a good gauge. While there is a great variation from site to site, oysters can be grown to market-size in two growing seasons at many farms in Southeast and Prince William Sound, but it will take 3-4 years in Kachemak Bay. From a growers perspective, the best research gives a good picture of how something might work at his or her farming operation. This generally means researchers will need to cooperating farmers, and, to date, researchers haven't been very successful in getting farmers to stick to a schedule and carefully follow other project protocol. Regionalization also increases project expense and logistics.

Market R&D is Necessary & Challenging One of the great myths about aquaculture is that it is very market-driven. Many species are developed because they do well in aquaculture settings and markets are developed as production grows. Alaska's problems are compounded by the reality that there are no ready-made markets for the indigenous shellfish currently targeted for aquaculture research. Getting a good grip on market opportunities for a species that isn't in the marketplace can be difficult. Cockles are a good example. Current efforts to test the viability of Alaska cockles are focused upon a steamer clam-sized product, but hardly any cockles are sold in the United States. Cockles also have a very short shelf life, and existing markets for frozen clams are very small.

New Zealand mussel sales took off after a frozen product form was developed and markets were developed that accepted this "new" product form. Alaskan oysters face very parallel challenges in existing markets. Transportation costs for live oysters from Alaska produce an onerous marketing barrier, despite Alaska's quality advantages.

Research Coordination is Needed The potential exists to conduct coordinated research projects from Ketchikan to Kodiak, but there is limited collaboration and very little communication between these programs today. Achieving some kind of linkage among these diverse public, private and university agencies and nonprofit groups will have a large positive impact.

Costs are High in Alaska Almost too obvious to mention, but necessary to include in a list of constraints, is the high cost of doing anything in Alaska that every industry has faced in developing in Alaska. Marine research is no exception. Particularly expensive is anything that takes a project away from a research center. Travel to rural areas is very costly and marine work generally means having to lease a vessel at very high rates. Creative new methods utilizing communications technology and other new approaches will be needed.

Lack of Best Practices in a Startup Industry As a new industry of shellfish growers is being created in Alaska there is no pool of experienced know how to draw from. Each new business has to invent the wheel. There are no systems to pass on the history of successes or failures in a small fledging industry. There are no apprentice programs, educational programs or manuals that create the foundation of a mature industry. A recent grant request by oyster farmers defined the problem:

"Most oyster farmers are using outdated culture techniques and equipment that contribute to chronic labor problems, extremely poor recovery rates (spat to half shell oyster), reduced product quality and many other inefficiencies, and these bad practices are being passed on to new farming operations."

Technology, management and business practices have yet to be determined that are "Alaska specific". Around the globe is a wealth of technology and experience that can be transferred to Alaska. Some will work, some won't and new variations will have to be adapted to work in Alaska.

Supportive Regulatory Environment The success stories for aquaculture all point to the need to develop a regulatory framework based on solid science that supports industry growth, maturity and development. At the beginning of an industry the science and industry experience does not exist to design new regulations or change existing regulations to fit the needs of a new industry.

Alaska has made significant progress on changing and building a regulatory framework to launch a viable shellfish industry that meets the needs of wild harvest, enhancement and culturing. This process will need to continue as more information, better science and broader industry experience is gained.

Appendix C: Funding Sources

Research and development funding for OceansAlaska will come from a broad array of sources – fees for services, private foundation support, endowments, industry funds, state research grants and federal research grants. Research, development, training and the demonstration farm programs will all have different strategies and sources of funding to be pursued. Funding will be diversified and not overly dependent on any one source.

Foundations

OceansAlaska will look to private foundations that have funded aquarium and aquaculture research projects related to environmental issues and sustainability. As pollution and population growth conflicts grow in the continental U.S., Alaska will be a prime candidate for consideration of this type of funding. Private foundations that support aquaculture R&D include Belle W. Baruch Foundation, Culpeper (Charles E.) Foundation, FishAmerica Foundation, Ford Foundation, Kresge Foundation, Jessie Smith Noyes Foundation and the Rockefeller Foundation. Alaska-oriented foundations such as the Rasmuson Foundation, are also potential funders.

The Seattle Aquarium has received funds from several prominent Northwest Foundations and several of these have been for research programs – Bill and Melinda Gates Foundation, Ackerey Foundation, Seattle Foundation, Howard Hughes Medical Institute and the Russel Family Foundation along with many smaller foundations.

The highly successful Monterey Bay Aquarium and its associated research arm, the Monterey Bay Aquarium Research Institute has received major funding support from the David and Lucile Packard Foundation.

USDA Funding

A source of funding for shellfish culture and enhancement may be the U.S. Department of Agriculture, which disbursed more than \$2 billion in research and development funds during FY2006.

USDA groups its programs under five strategic goals: (1) enhance economic opportunities for agricultural products; (2) support increased economic opportunities and improved quality of life in rural America; (3) enhance protection and safety of the nation's agriculture and food supply; (4) improve the nation's nutrition and health; and (5) protect and enhance the nation's natural resource base environment. All R&D programs proposed in this budget fall under one of these five categories.

Although aquaculture is defined as agriculture, only a small portion of these USDA funds are currently dedicated to aquaculture. Also, USDA research funds are distributed through universities and other educational institutions. Typically, these funds reach facilities such as the OceansAlaska Marine Science Center through cooperative arrangements between universities and research facilities. This fits well within the Center's mission to work collaboratively with existing educational and industry resources.

USDA R&D Programs

Money for agricultural research and development flows through the Agriculture Research Service (ARS), which is the USDA's main research agency. USDA also funds the Cooperative State Research, Extension, and Educational Service (CREES), which in FY 2006 provided \$500 million to fund research at universities.

USDA also specifically funds pure hard science aquaculture research at the university level through its Regional Aquaculture Centers (RACs). Alaska is part of the WRAC (Western RAC).

Other aquaculture programs include Trade Adjustment Assistance for Farmers (petitions for relief from unfair foreign competition) and AquaNIC (an aquaculture information service).

National Science Foundation

The National Science Foundation provides research funding through its Partnership for Innovation (PFI) program. This program has \$9 million nationally with grant awards up to \$600,000. The program must be led by an academic organization. Of special note is the number one listed goal of the program, to "stimulate the transformation of knowledge created by the research and education enterprise into innovations that create new wealth, build strong local, regional and national economies and improve the national well-being." This matches up with the goals and methodology of the Center.

Agriculture Research Service (ARS)

The University of Alaska receives funding through USDA's ARS to support a variety of agriculture and fisheries research projects and programs. Roughly half of the ARS funds come from "earmarks" in the federal budget by Alaska's Congressional delegation, mostly as a result of efforts by Sen. Ted Stevens.

The University of Alaska uses ARS funds to support eight scientists and ten technicians, five in Fairbanks and three in Palmer. Two of these researchers work strictly on seafood issues, as a result of earmarks by Sen. Stevens.

Sen. Stevens obtained funding for the fisheries research in 1999 through an earmark and has been able to keep the program funded through ARS since then, according to lead scientist, Dr. Peter Bechtel. Dr. Bechtel spends about a week a month in Kodiak at the Fisheries Industry Technology Center (FITC) and the remaining time at his office on the Fairbanks campus.

Although Dr. Bechtel works in wild fisheries, Sen. Stevens has been successful in showing that the products produced in Dr. Bechtel's research are used as feed supplies in fish farming operations and therefore qualify for USDA funding.

Cooperative State Research, Education and Extension Services (CSREES)

The University of Alaska received about \$1.5 million in CSREES formula funding in FY2006. About \$1 million came from Hatch Act funds, which are distributed to states according to the value of their agriculture crops, and another \$500,000 came from McIntyre Funds for forestry work.

The entire \$1.5 million pays UA faculty salaries and is matched one to one with state funds, according to Carol Lewis, Dean of the UA School of Natural Resources. According to Dean Lewis this funding may be undergoing changes. The USDA wants to move 60 percent of Hatch Act funds to its competitive grant program to promote multi-state ventures. However, according to Dean Lewis, a Congressional rewrite of the Hatch Act is unlikely, and it is equally unlikely that Congress will shift funds away from the formula approach which ensures each state gets a share.

In addition to Hatch Act and McIntyre Funds, UA receives a considerable amount of CSREES funding through Congressional earmarks. Most of these earmarks – of which there is not an exact accounting according to Dean Lewis – are generated by constituents who convince elected representatives to fund specific projects.

Lewis said UA's agriculture and forestry experimental station has a \$10 million research budget, most of which comes from competitive grants.

Strategies for Obtaining USDA Research Funds

Although USDA funds are currently disbursed through the University, there are already underway a number of efforts to steer more USDA funding toward aquaculture research in Alaska. The Center may employ the following strategies to benefit from USDA funding:

- The Alaskan Shellfish Growers Association (ASGA) has asked Sen. Stevens to secure \$400,000 in near-shore shellfish culture and enhancement research and development funds. If granted, some of the funds could be used to help fund operations of a Ketchikan research station.
- ASGA requested funds be included in the next Farm Bill for nearshore shellfish culture and enhancement R&D projects. This would result in bringing more CSREES funding to Alaska. Although its inclusion does not seem likely this year, with lobbying help from the Murkowski Administration and a collaborative effort among industry and government, it stands a better chance in the future.
- Operators of Seward's Alutiiq Pride Shellfish Hatchery, the Murkowski Administration, and the Alaskan Shellfish Growers Association have been questioning whether CSREES funds currently distributed to UA could be used for shellfish aquaculture research. So far, they have been unsuccessful in getting the University to direct funds to this research. However, as OceansAlaska and the University collaborate on projects, it may prove to be beneficial to both for this money to be directed more toward aquaculture research.
- OceansAlaska will work on getting an earmark through Alaska's congressional delegation to establish an Agriculture Research Station in Southeast Alaska with a mission to work on shellfish aquaculture research. Ray RaLonde, UA Marine Advisory Program aquaculture extension agent, suggests stationing a scientist in Juneau to work out of the UA School of Fisheries and Ocean Sciences laboratory and the shellfish research station in Ketchikan. A connection to the University would help the Center secure funds. Another option is to station an agent at UAS-Ketchikan who would also work at the UAS-Juneau lab. Working through University politics, lobbying the Congressional delegation, and getting funding through Congress might take several years of effort.
- A long range strategy for OceansAlaska is to team up with the two large marine aquaculture research centers on the West Coast: the Mark O. Hatfield Marine Science Center in Oregon and the Pacific Aquaculture & Coastal Resources Center (PACRC) at the University of Hawaii at Hilo. According to UA's Dean Lewis the USDA has an interest in multi-state projects and may provide earmark funding for this sort of collaboration. By teaming up with Oregon and Hawaii, it will be possible for Alaska to take advantage of existing research and development and bring Alaska-specific problems into a collaborative, established network.