

Fits and Starts: Status of Aquatic Farming in Alaska

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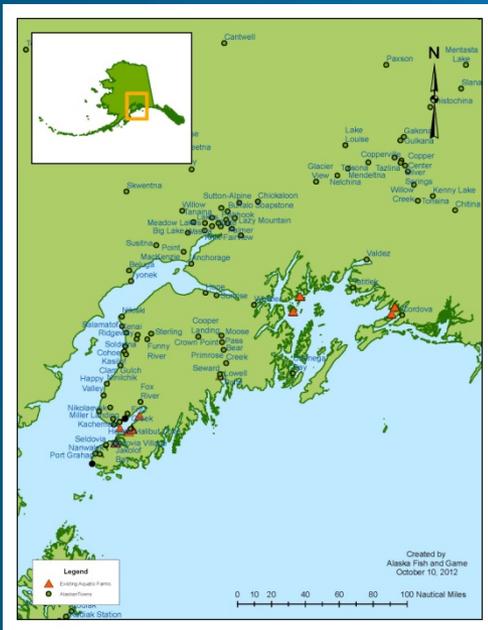


What's the Data Say?

- Geographic Concentration
- Acreage and Culture Types
- Entrants – Applications/Permits
- Gear – Type and Usage
- Seed – Request vs. Actual
- Husbandry/Labor – Work Days and Biofouling
- Production – Sales, # Farms, Yrs Operating, Projections ('12-'15)
- Emerging to Growing Industry Characteristics

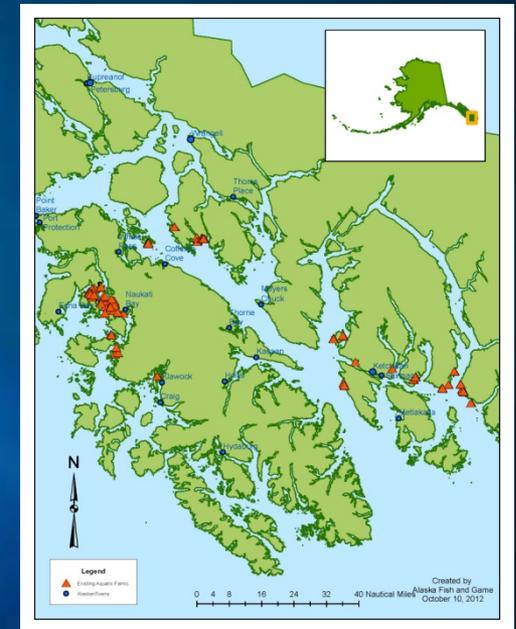
Geographic Concentration

Southcentral



31% in SC

Southern Southeast



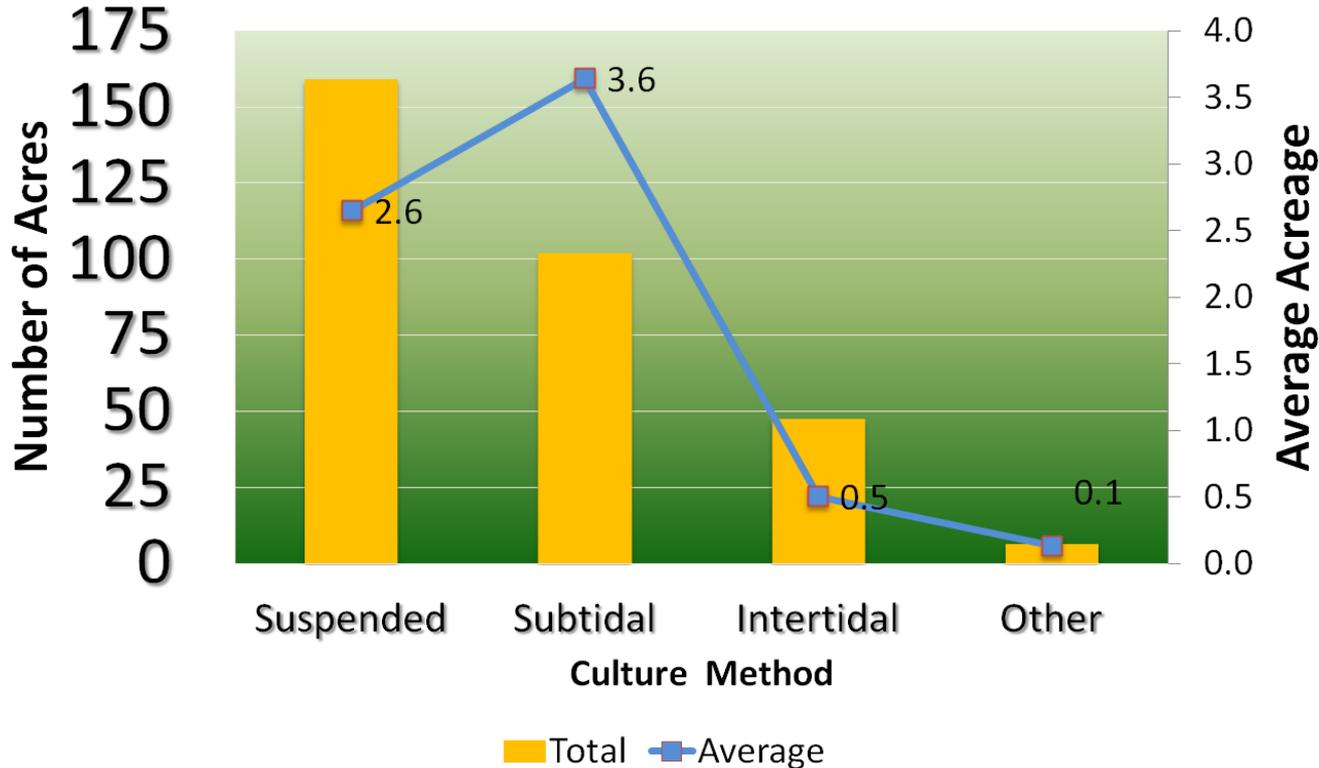
69% in SE

Northern Southeast



Farm Acreage and Culture Types

Aquatic Farm Culture Methods



2012 Acreage %	
Suspended	51%
Subtidal	32%
Intertidal	15%
Other	2%

	2001	2011
Acres Total	240	315



Cycle of Aquatic Farming



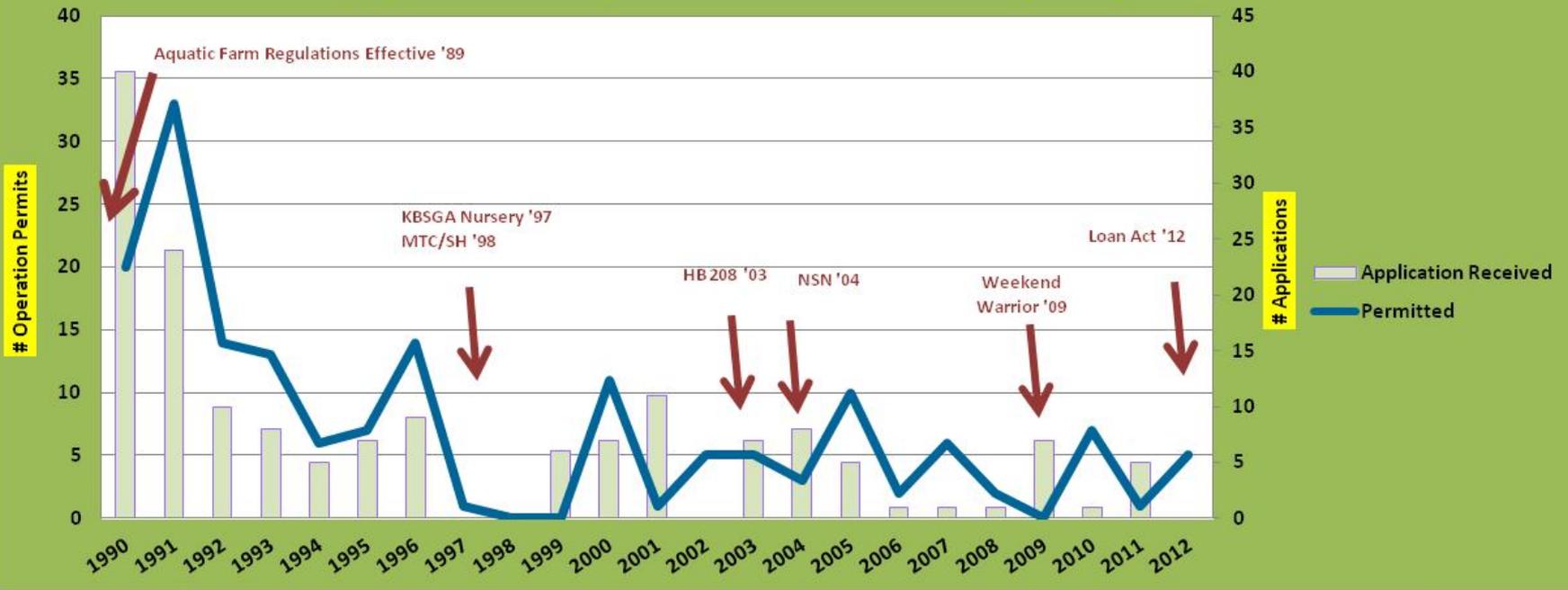
Entrant Farmer





Applications/Permits

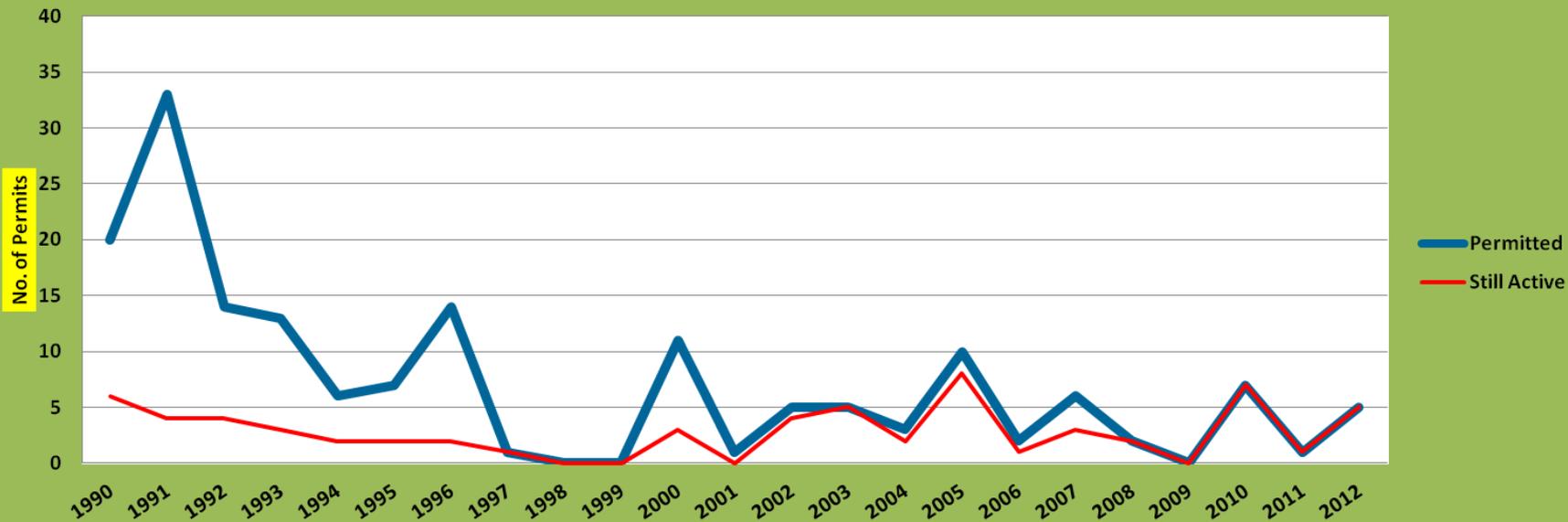
Aquatic Farm Operation Permits Issued By Year



Still Active

Entrant
Farmer

Aquatic Farm Operation Permits Issued By Year



	2001	2011	
AF Operator #	44	46	↑
AF Permits #	54	67	↑



Types – Oyster Culture

Gear

Raft & Trays

Longlines & lantern nets

Longlines & Trays



Flip-Flop bags



Logs & lantern nets

Floating Bags



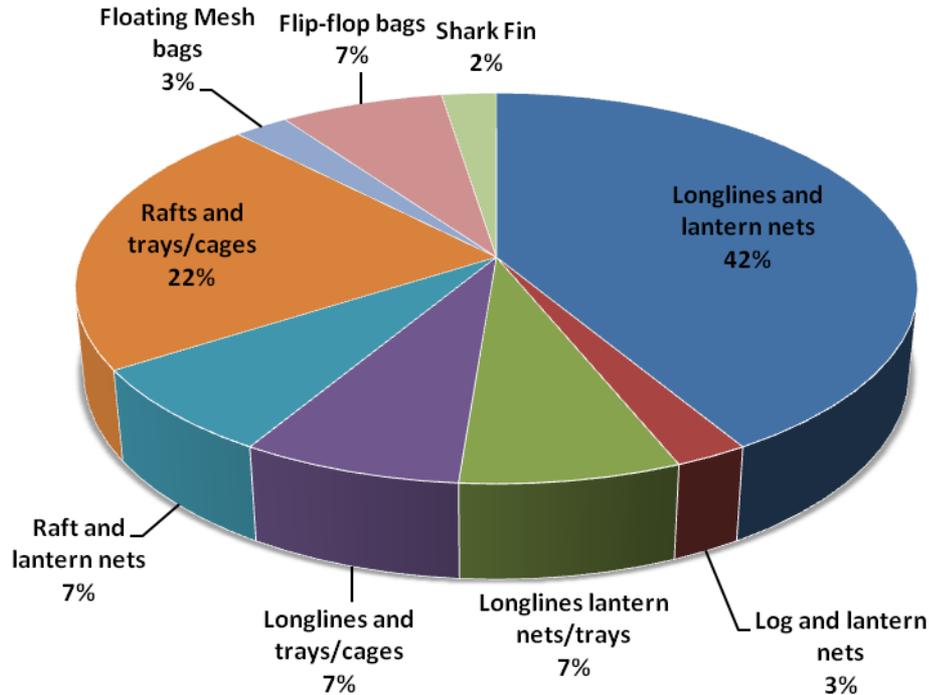
Shark Fin bags



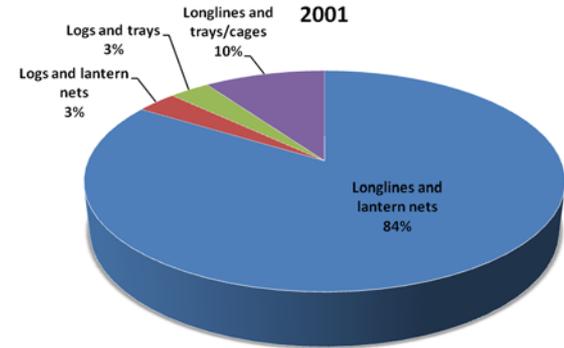
Gear

Usage – Oyster Culture

Aquatic Farm Gear Usage - Oysters 2011



Aquatic Farm Gear Usage - Oysters 2001

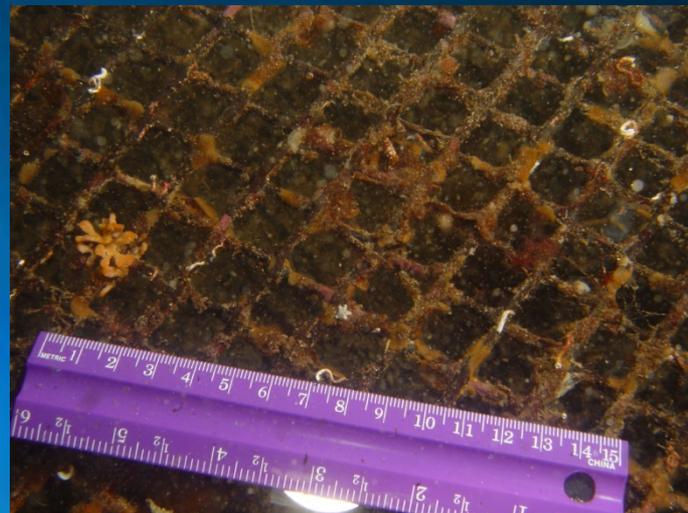


Types – On Bottom Culture

Gear

Predator Netting

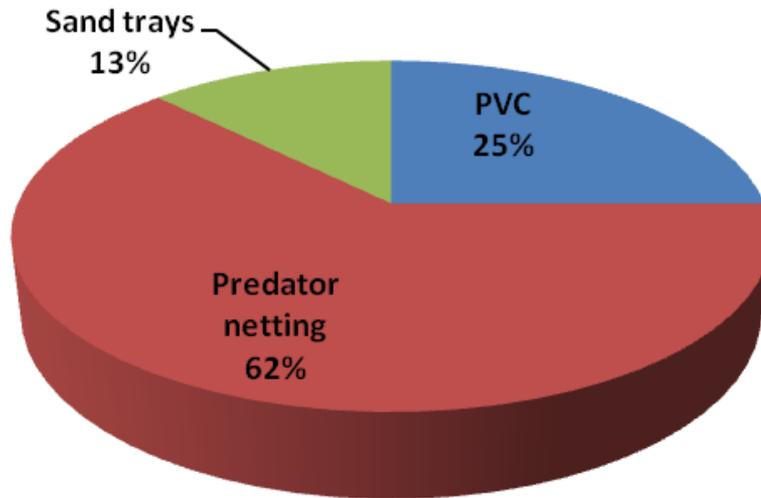
PVC Tubes



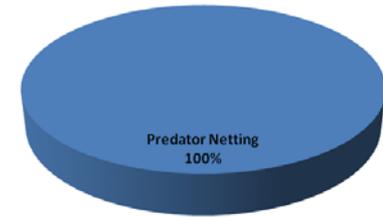
Gear

Usage – On Bottom Culture

Aquatic Farm Gear Usage - Clams 2011

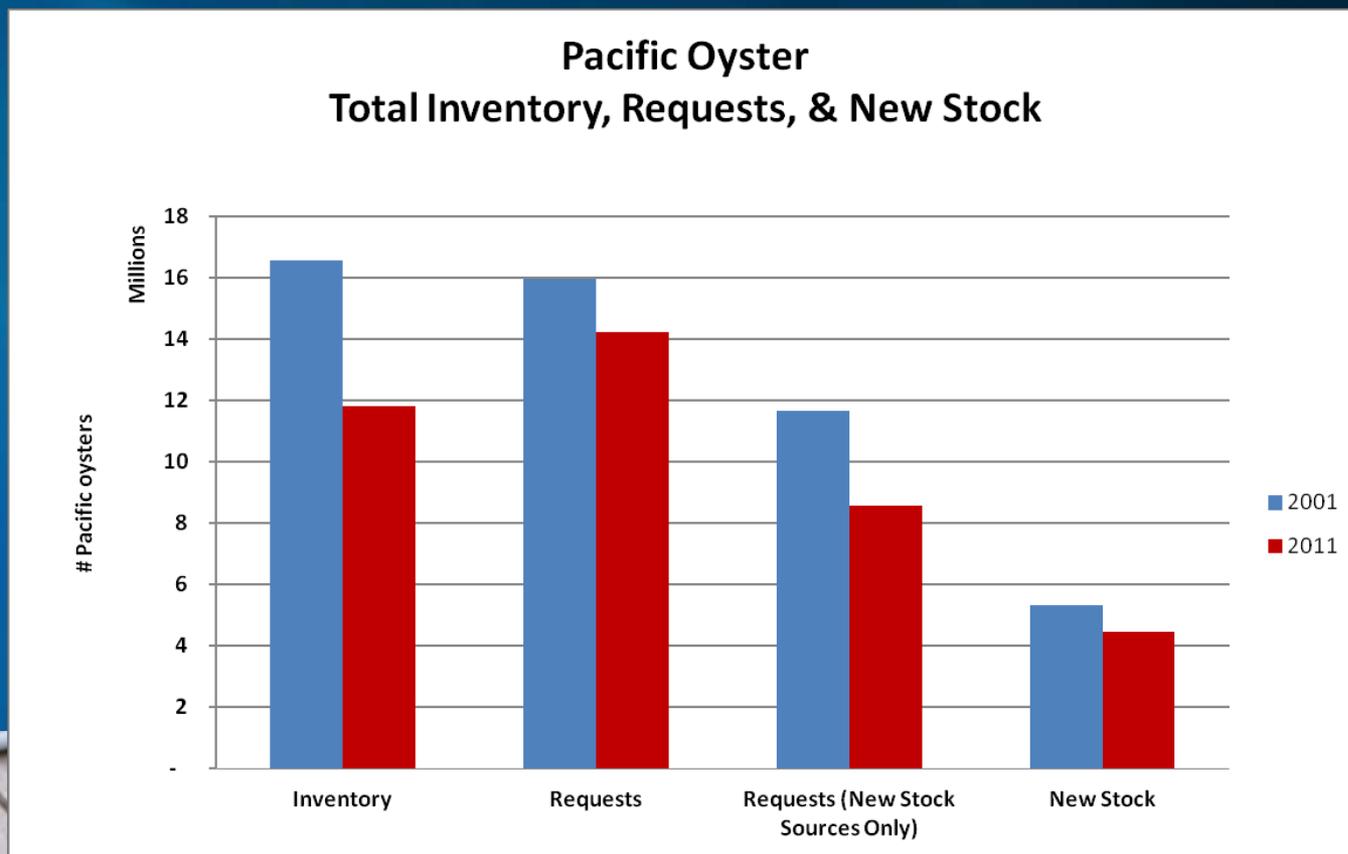


Aquatic Farm Gear Usage - Clams 2001



Seed

Request vs. Actual

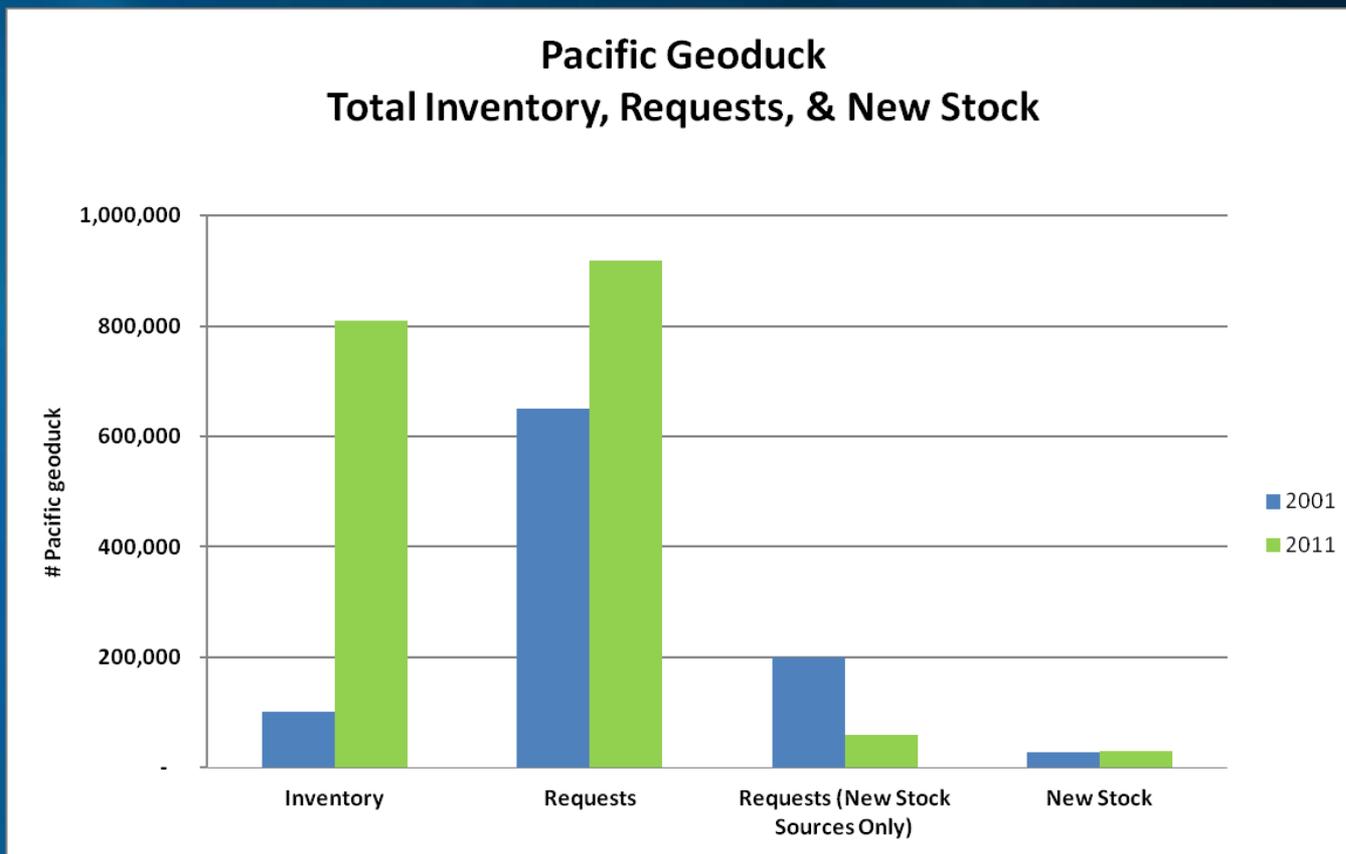


	2001	2011
Shortage	54%	48%



Seed

Request vs. Actual



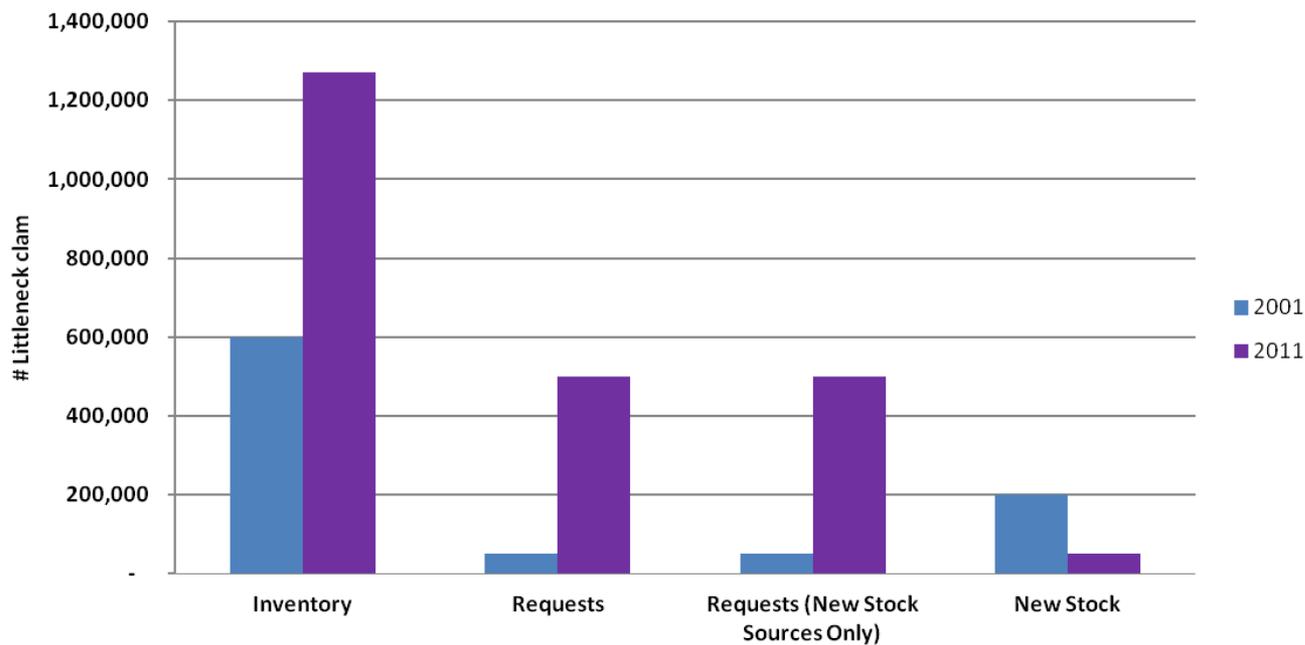
	2001	2011
Shortage	86%	50%



Seed

Request vs. Actual

Littleneck Clam Total Inventory, Requests, & New Stock



2001 2011
Shortage None 90%



Work and More Work

Husbandry
& Labor



Cleaning



Predator Reduction



Density Manipulation

Planting Seed

Work Days

Husbandry & Labor

Summary of Productive Aquatic Farm Operation Work Days in 2011

	No. of Farm Operations with Sales	Days Worked	Workers	Full-time Operations (> 335 days)	Seasonal Operations (≤ 335 and >150)	Part-time Operations (≤ 150 days) Percent
SE	13	3,888	42	14%	10%	21%
SC	16	2,483	50	7%	17%	31%
Alaska Total	29	6,371	92	21%	28%	52%

➤ 21% of the productive aquatic farm operations are full time

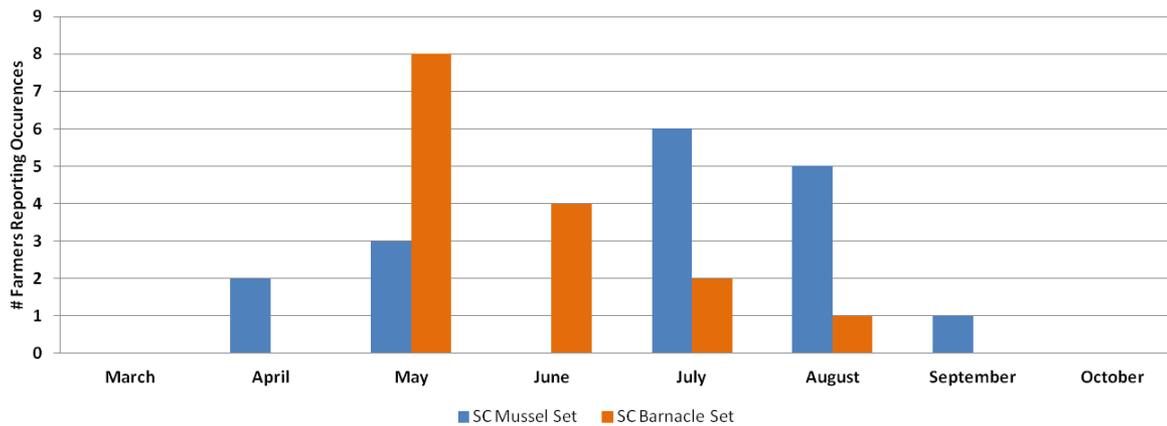
All Aquatic Farms
Work Summary
138 people
7,357 work days
28 FTEs



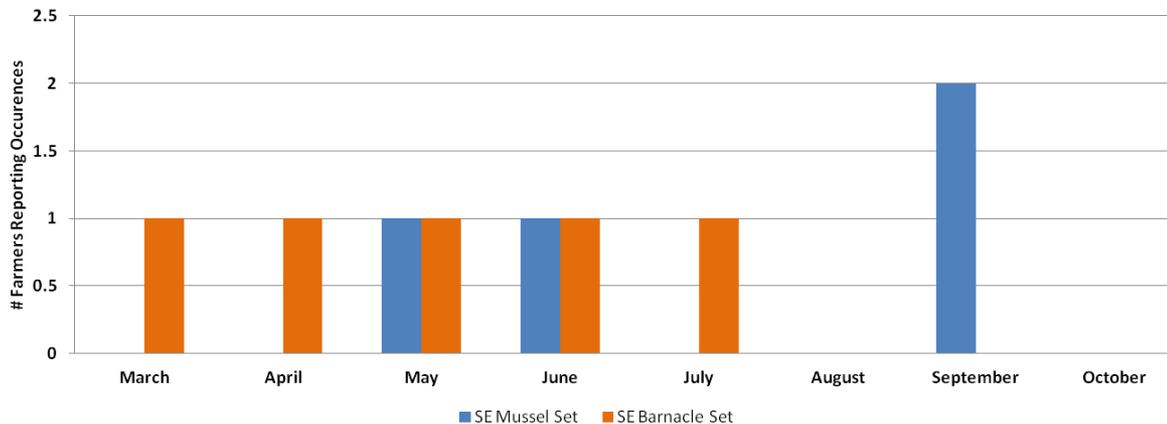
Biofouling Stranglers

Husbandry & Labor

Reports of Fouling Occurrences in Southcentral



Reports of Fouling Occurrences in Southeast



Biofouling Leads To:

Low growth rate
Poorer quality
Diminished returns



Treatment of Juveniles

Manual Cleaning
HP Washing
Desiccation
Hot Dipping
Biological Control

Production



Production

2011 Sales

Shellfish Production and Farm Gate Value in Alaska (2011)*

		Oysters	Clams	Mussels	All Shellfish Larvae and Seed	Total
SE	<i>Numbers</i>	523,090	-		**	523,090
	<i>Pounds</i>	-	6,263	-	-	6,263
	<i>Sales</i>	\$248,634	\$28,782	\$0	\$0	\$277,416
SC	<i>Numbers</i>	335,278	-		**	335,278
	<i>Pounds</i>	-	-	1,013	-	1,013
	<i>Sales</i>	\$242,770	\$0	\$5,459	\$0	\$248,229
Alaska Total	<i>Numbers</i>	858,368	-	-	-	858,368
	<i>Pounds</i>	-	6,263	1,013	-	7,276
	<i>Sales AF Only</i>	\$491,404	\$28,782	\$5,459		\$525,645
	<i>Sales for All Shellfish</i>				\$91,432	\$617,077

*ADF&G Mariculture Program Database (2011 Operator Annual Reports)

** Confidential - Less than 3 permits

Price Per Unit for Principal Aquatic Farm Product				
Year	SC Oysters (dz)	SC Mussels (lb)	SE Oysters (dz)	LN Clams (lb)
2001	\$4.95	\$2.53	\$5.10	\$2.94
2011	\$8.69	\$5.39	\$5.70	\$4.60



2001 Sales

Production

Shellfish Production and Farm Gate Value in Alaska (2001)*

		Oysters	Clams	Mussels	Scallop	All Shellfish Larvae and Seed	Total
SE	<i>Numbers</i>	247,289	-		**	**	247,289
	<i>Pounds</i>	-	35,700	-	-	-	35,700
	<i>Sales</i>	\$105,030	\$105,071	\$0	**	**	\$210,101
SC	<i>Numbers</i>	424,248	-		**	**	424,248
	<i>Pounds</i>	-	-	1,013	-	-	1,013
	<i>Sales</i>	\$175,377	\$0	\$4,636	**	**	\$180,013
Alaska Total	<i>Numbers</i>	671,537	-	-	5,143	-	676,680
	<i>Pounds</i>	-	35,700	1,013	-	-	36,713
	<i>Sales AF Only</i>	\$280,407	\$105,071	\$4,636	\$1,767		\$391,881
	<i>Sales for All Shellfish</i>					\$40,500	\$432,381

*ADF&G Mariculture Program Database (2011 Operator Annual Reports)

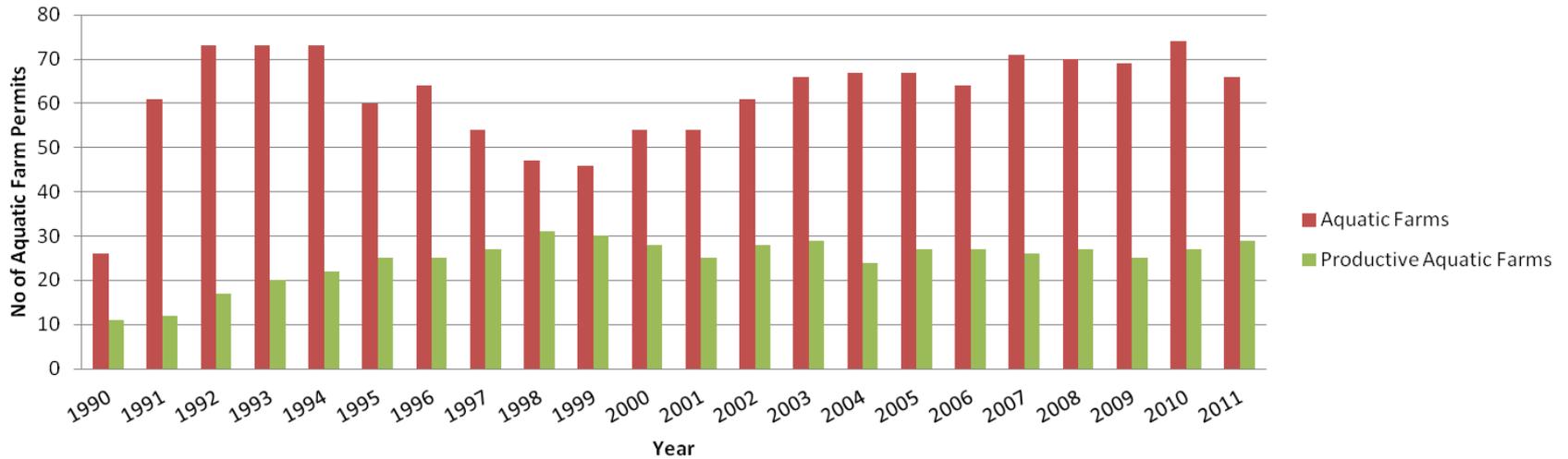
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Farms with Sales

Production

Permitted Aquatic Farms By Year

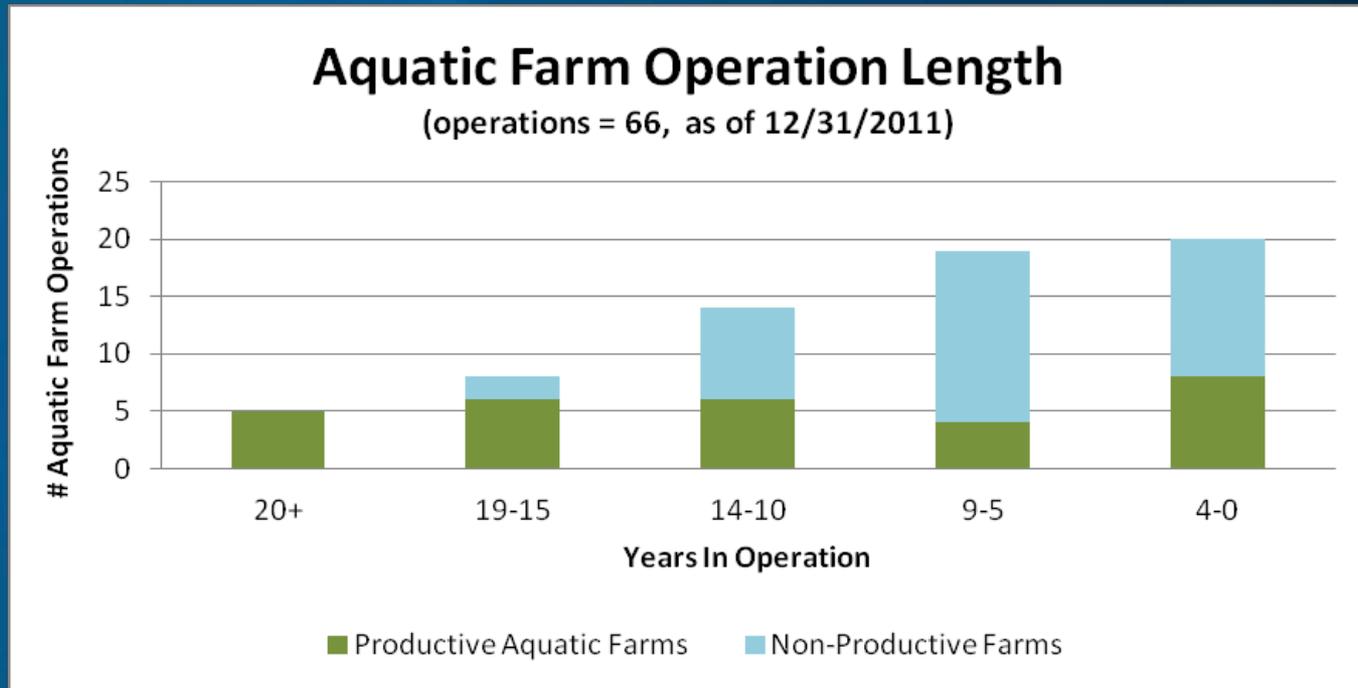


	2001	2011
Prod Farms	46%	43%
Sales/Acre	\$2,638	\$3,931
	(AFI \$3,349)	



Years Operated and Sales

Production



Farm Operations:

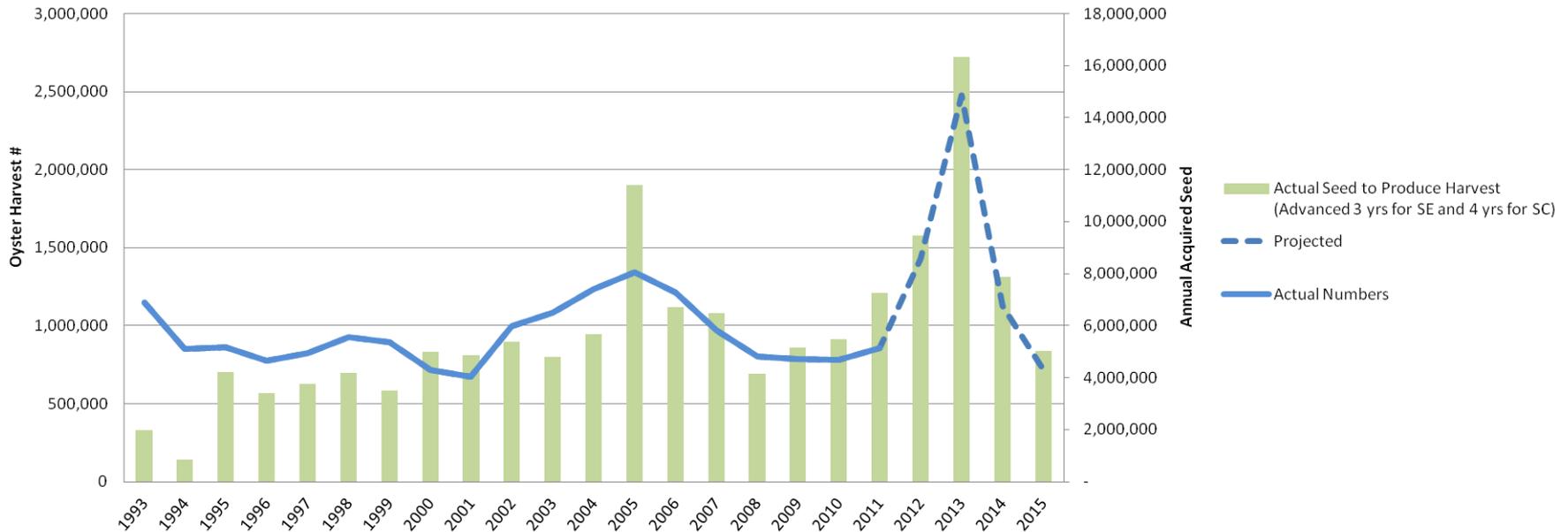
- 30% are < 5 yrs old
- 44% had reported sales
- 20% had no reported inventory
 - 7 closed, moving, or transferring
 - 5 are < 5 yrs old



2012-5 Projection - Oysters

Production

Actual Oyster Seed and Harvest with Projection



General Assumptions:

- 1 year class per harvest year
- 3 yrs to harvest for SE
- 4 yrs to harvest for SC
- Projection based on 5 yr average survival estimate



Emerging To Growing Industry Characteristics

“Act collectively to create and maintain industry legitimacy”

- Inc Rate of New Entrants
- Inc Industry Size
- Geographic Concentration Focus
- Existence and actions of industry leaders to legitimate their activities

