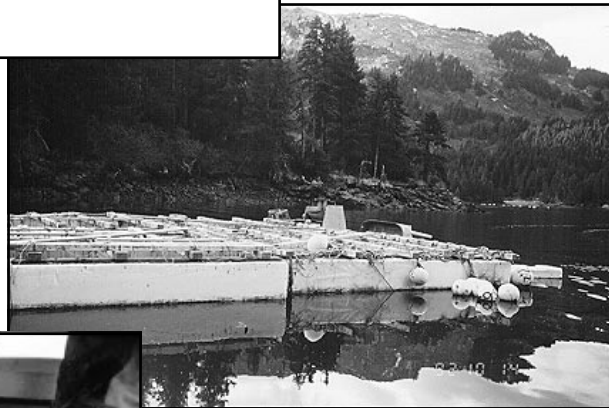


**Report on 1995
Aquatic Farming Activities**

by
James O. Cochran

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Alaska Department of Fish and Game
Commercial Fisheries Management and Development Division
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PUBLICATION ABSTRACT

TITLE/SUBTITLE Report on 1995 Aquatic Farming Activities		<u>CONFIDENTIALITY</u> <input checked="" type="checkbox"/> AVAILABLE TO PUBLIC <input type="checkbox"/> AVAILABLE TO LEGISLATURE ONLY
ABSTRACT <i>(100 words maximum)</i> The Commercial Fisheries Management and Development Division of the Alaska Department of Fish and Game administers the aquatic farming program for the department. The aquatic farm industry as we know it today was created under laws passed in 1988. Those laws authorized the farming of shellfish and aquatic plants. In 1990 finfish farming was prohibited. The first farms were authorized under the new laws in 1990. In 1995 there were 56 aquatic farms permitted for operation statewide, utilizing 290 acres of state tide/submerged lands. There were two shellfish hatcheries and nurseries. Total farm sales continued to increase to over \$306,000. By year's end, farm inventory was valued at nearly \$4,000,000. The industry continued to grow and contribute to Alaska's rural economy.		<u>SUBJECT CATEGORY</u> <input checked="" type="checkbox"/> NATURAL RESOURCES <input type="checkbox"/> EDUCATION <input type="checkbox"/> SOCIAL SERVICES <input type="checkbox"/> HEALTH <input type="checkbox"/> TRANSPORTATION <input type="checkbox"/> LAW ENFORCEMENT <input type="checkbox"/> COMMERCE & INDUSTRY <input type="checkbox"/> GENERAL GOVERNMENT <input type="checkbox"/> LOCAL GOVERNMENT <input type="checkbox"/> OTHER
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THE MARICULTURE PROGRAM

Background

The Aquatic Farm Act (Section 19, Chapter 145, SLA 1988) was signed into law on June 8, 1988, authorizing the commissioner of the Alaska Department of Fish and Game (ADF&G) to issue permits for the construction or operation of aquatic farms and hatcheries that would supply aquatic plant or shellfish seed stocks to aquatic farms. The intent of the program was to create an industry that would contribute to the state's economy, strengthen the competitiveness of Alaska seafood in the world marketplace, broaden the diversity of products, and provide year-round supplies of premium-quality seafood. The law allowed aquatic farming of shellfish and aquatic plants but placed a moratorium on farming finfish. In 1990 CSHB 432 became law, prohibiting finfish farming altogether.

Regulations to administer the aquatic farm program were developed by the Department of Natural Resources (DNR) and ADF&G during 1988 and 1989.



Littleneck clams

DNR divided coastal Alaska into 11 districts. The law required that each district be opened for 60 days once a year for farm site application. Applications for farm or hatchery sites not on state land can be submitted anytime.

The ADF&G Commercial Fisheries Management and Development (CFMD) Division Mariculture Program carries out the statutory and regulatory responsibilities of the department pertaining to aquatic farming in Alaska.

Program Implementation

The CFMD Division Mariculture program continued to evolve in 1995. Design, development, and acquisition of land for the Mariculture Technical Center/Shellfish Hatchery facility occupied a considerable amount of staff time. A cooperative agreement for a shellfish nursery research project in Kachemak Bay was negotiated.

The Division of Governmental Coordination (DGC) changed its approach to aquatic farm permit application processing: rather than dedicate a single individual to the program, they now parcel out applications to available review coordinators. This decision caused processing delays and placed additional workload on CFMD Mariculture Program staff. At year's end, the ramifications had not been fully realized: policies and procedures had not yet been developed for 1996 new farm and renewal applications.

Superior Court appeals filed against three DNR aquatic farm permit decisions on farm sites in Kachemak Bay were ruled on. The court denied all of the appeals, finding that the state (DNR) had properly implemented the statutory requirement for aquatic farm districts. The appellants have elevated the decision to the Alaska Supreme Court.

The moratorium on applications for aquatic farm sites in Kachemak Bay expired on Decem-

ber 31, 1995. ADF&G and DNR worked together to develop policy for the 1996 area opening. No agreement had been reached by year's end.

Interest in clam farming increased in 1995. Two applications for amendments to existing farms to allow farming littleneck clams were received. An application for farming geoduck clams (subsequently withdrawn) was also received. The Department of Law subsequently reviewed the legal basis for clam farming, including acquisition of the standing crop of clams on permitted beaches. Their analysis — though it could be challenged, it was constitutional — did not violate state law, and did not conflict with the public trust doctrine. Clam farming generated considerable controversy within ADF&G and resulted in the formation of a work group to discuss issues and develop policy options for the commissioner. The work group had not reached a consensus by year's end. A conference and workshop to provide information from outside sources and provide a forum for farmers, regulators, and managers to discuss the issues was conceptualized. ADF&G decided to restrict the commercial harvest of clams in Southeast Alaska because of a lack of funding for management. Therefore, no new commercial harvest permits for clams

will be issued in Southeast and all existing permits will be phased out by the end of 1996. Littleneck clam harvests will be restricted to permitted aquatic farms. This policy currently applies only to Southeast Alaska.

The Alaskan Shellfish Grower's Association (ASGA) proposed revisions to the state's aquatic farm permit working policy on amendments. The proposals were presented at the association's annual meeting in November. The regulatory agencies, including ADF&G, agreed to work with the association on the proposals. No action had taken place by year's end.

The third group of aquatic farm permit renewals was received (Table 1). Nine applications were received in 1995. Of the 17 renewal applications received in 1994, 15 were renewed. Two were withdrawn by the permittees. As in past years, most renewal applications also included amendment requests, as the farmers found actual operating conditions to be different from those anticipated at the time of original permitting. Five 1994 renewal applications are still pending.

Four new aquatic farm permits were issued out of the six applications received in 1994 (Table 1). One 1994 application was withdrawn and one was

Table 1. Aquatic farm permit data, 1995.

	Southeast	Southcentral	TOTAL
OPERATIONS			
Aquatic farm permit applications	2	7	9
New farm permits issued	1	3	4 ^a
Permits pending or still in process	1	4	5
Total permitted aquatic farms	15	41	56
Shellfish hatcheries/nurseries	1	1	2
Farm/hatchery major amendment applications	2	1	3
Farms reporting activity	13	31	44
Farm permit renewals received	2	7 ^b	9
Farm permit renewals issued	4	11	15
1994 renewals pending/still in process	1	4	5
Acreage permitted for aquatic farming	46	163 ^c	209
RESEARCH			
Permit applications	11	26	37
SHELLFISH AND AQUATIC PLANT ACQUISITION/TRANSPORT			
Permit applications	30	47	77
Permits issued	27	44	71
Permits pending or still in process	3	1	4

^a From 1994 applications.

^b Includes one shellfish hatchery renewal application.

^c Includes 20 acres in Kachemak Bay State Park.

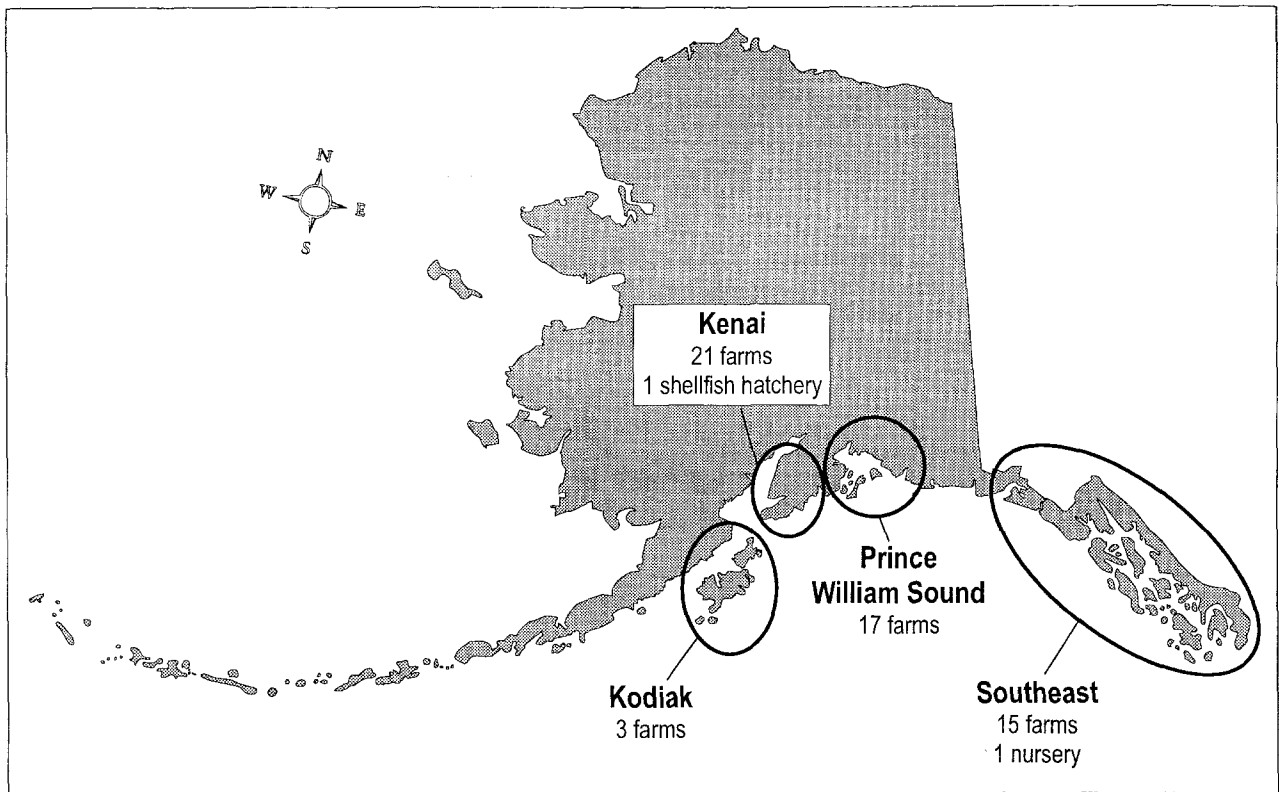


Figure 1. Locations of permitted aquatic farms.

found inconsistent with the Alaska Coastal Management Program. Third-party appeals of DNR permit decisions granting farm permits to two applicants near Seward were denied.

Nine applications for new aquatic farm sites were received in 1995 (Table 1). Five permits are still in review and are likely to be issued effective March 1, 1996. Three applications for major amendments to existing farm permits were also received. These applications are in process and scheduled for final approval by March 1, 1996.

Fifty-six aquatic farms, one hatchery, and one shellfish nursery held permits to operate at the end of 1995 (Table 1). Forty-two farms reported some level of activity, down from 46 in 1994. Two large farms (Klawock and Yakutat) ceased operations in 1995. The Klawock farm has completely closed down. The Yakutat farm is not operating. Final close-out inspections have not yet occurred. Figure 1 shows the general locations of all permitted farms, hatcheries, and nurseries. Total acreage permitted for aquatic farming in 1995 was 209, down from 252 acres in 1994 and 262 acres in 1993.

The Fish Resource Permit (FRP) processing workload increased significantly in 1995, from 2 in 1994 to 37 in 1995 (Table 1). The FRP replaces the "Scientific and Educational Permit" of previous years. A policy governing the types of FRPs, as well as permit processing and issuance, was approved by the commissioner in 1994 and implemented in 1995. All FRPs for shellfish collection, displays, and research will be processed through the CFMD Mariculture Section. Transport permits will be combined with the FRP when appropriate.

Shellfish/Aquatic Plant Transport and Acquisition Permitting volume remained stable in 1995. Combining FRPs with transport permits where possible saved considerable time and reduced redundant processing.

Aquatic farm compliance inspections were accomplished on a very limited basis in 1995. All farms in Kachemak Bay were inspected by ADF&G and DNR staff. No farms were inspected in Prince William Sound or Kodiak. Southeast farm inspections were limited to either farms not previously inspected or farms ceasing operations.

Four Pacific oyster seed suppliers were certified in 1995, three of which are in the Lower 48. The fourth is the Qutekcak Shellfish Hatchery in Seward. Farmers reported that the California supplier did not have large seed available early in the year. Generally, though, Pacific oyster seed stock supplies were adequate to meet demands. Timing and size continued to be of concern to growers. No seed of any other shellfish species but Pacific oyster was available from hatchery sources. Collection of blue mussel seed was most noticeably accomplished incidental to oyster gear-cleaning operations. A few farms in Southcentral deployed seed-collection gear specifically for mussels.

Program Development

The Mariculture Technical Center/Shellfish Hatchery (MTC/SH) project made major strides in 1995. Project design criteria were finalized by early summer. The design process was completed and final project specifications and plans were in the final stages of review by year's end. A short hiatus was experienced when the University of Alaska denied approval of the design, citing aesthetic concerns as the basis for denial. After several meetings, a num-

ber of exterior appearance modifications were agreed upon, allowing the project to proceed. A land-lease agreement was negotiated with the University for a site at the Institute of Marine Science in Seward. An easement over City of Seward tidelands for intake and outfall pipelines was also in final review at the end of 1995. Permit applications necessary for the project were being prepared for submittal in early 1996. The project is scheduled for construction bid advertisement in January 1996.

Operational funding for the MTC/SH was reallocated in FY 96 in response to departmental budget reductions. An ad-hoc committee of legislators and industry and agency representatives met several times to address ADF&G's involvement in the technical center component of the facility. The group agreed to apply for partial federal construction funding to allow more latitude in the use of state funds. A grant preproposal was submitted to the federal Economic Development Administration. Federal funding problems late in 1995 resulted in no action being taken on the proposal. No other funds to maintain direct ADF&G involvement in the facility were identified.

A contract for operation of the shellfish hatchery component of the MTC/SH was drafted for



Aquatic farm site in Kachemak Bay

consideration by the Kenai Peninsula Borough Economic Development District. If approved, the district would then subcontract with the Chugach Regional Resources Commission for actual operation of the facility.

A cooperative agreement between ADF&G and the Kachemak Shellfish Mariculture Association was negotiated and implemented to conduct shellfish nursery research in Kachemak Bay as part of the 1993 appropriation for the MTC/SH. Though actual

project startup was delayed until late summer, project goals and objectives were met and a Phase I final report was near completion by the end of the year.

Aquatic Farm and Hatchery Operations

Statewide aquatic farm sales in 1995 were valued at \$306,483, an increase of 25.2% over 1994 (Table 2). This was the largest annual increase in sales in recent years, primarily due to the farms permitted

Table 2. 1995 Aquatic farm operations data.

	Southeast	Southcentral	TOTAL
MARKET SALES			
Oysters	599,106	267,866 ^a	866,972
Value	\$185,723	\$110,302	\$296,025
Mussels (lbs)	100	4,235	4,335
Value	---- ^c	\$10,458	\$10,458
Total Aquatic Farm Market Sales			\$306,483
HATCHERY/NURSERY SALES			
Oysters	0	43,370	43,370
Value	\$0	---- ^c	---- ^c
SEED STOCK PURCHASED			
Oyster spat	1,779,752	2,404,000 ^a	4,183,752
Oyster larvae	0	4,000,000	4,000,000
END-OF-YEAR INVENTORY ^b			
Oysters	3,506,064	6,809,002 ^a	10,315,066
Value	\$1,086,879	\$2,655,510	\$3,742,389
Mussels (lbs)	1,000	73,210 ^d	74,210
Value	---- ^c	\$179,365	\$179,365
Total End-of-Year Aquatic Farm Inventory Value			\$3,921,754
Oysters (hatchery/nursery)	33,800	94,000	127,800
Value	---- ^c	---- ^c	---- ^c
Littleneck clams (hatchery stock)	0	34,000 ^c	34,000 ^c
Value	\$0	----	----
EMPLOYMENT SUMMARY			
Number of employees	24	50	74 ^e
Days worked	1,342	2,887	4,229

^a Southcentral production data preliminary.

^b A small inventory of other species, primarily scallops (<5,000 organisms), exists.

^c Single producer; financial information confidential.

^d Estimate. Mussel inventory methods vary widely between farms.

^e Does not include owner/operator work days.

AQUATIC FARM SALES AND INVENTORY

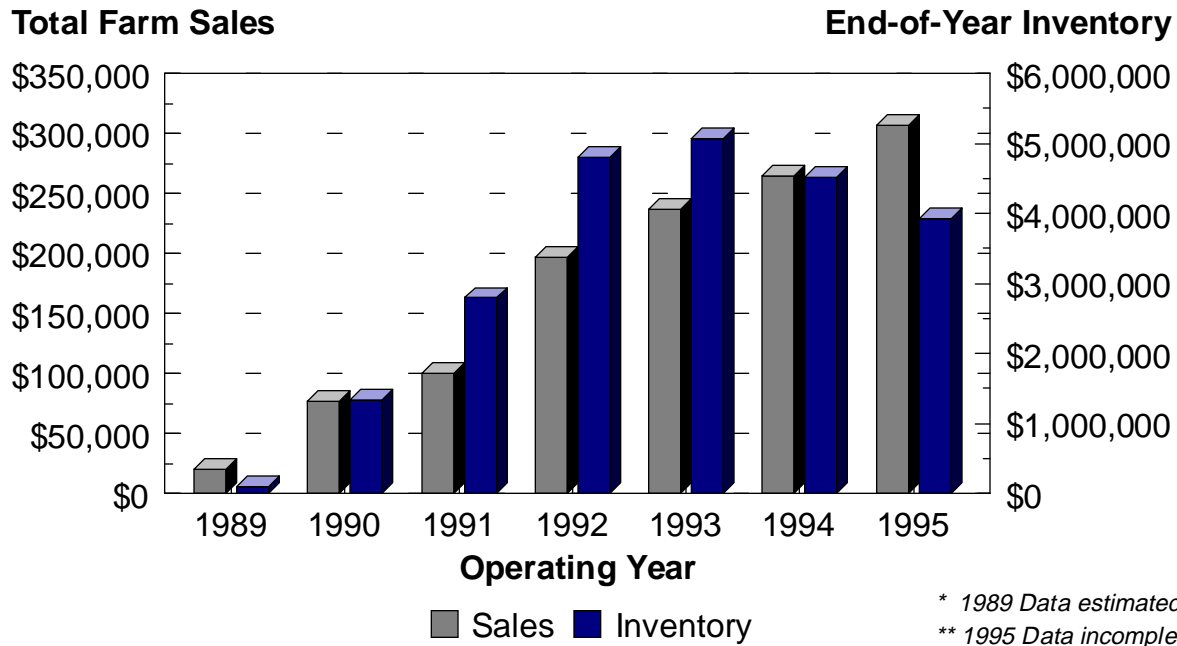


Figure 2. Aquatic farm sales and inventory for 1995.

in 1992 and 1993 coming online. These sales figures do not reflect littleneck clam standing crops that were harvested from beaches in preparation for farming. The predominate species in both regions continued to be Pacific oysters. Blue mussel sales showed signs of increasing in Southcentral as farmers learned to deal with the difficulties encountered when harvesting and processing that species.

Farm inventory dropped in 1995 for the first time since records have been kept for the industry (Figure 2). The inwater inventory at the end of 1995 was valued at \$3,921,754 at harvest, a decrease of 1.9%. The inventory estimate was based on farm-gate values of \$3.72/dozen oysters for Southeast farms, \$4.68/dozen for Southcentral farms, and \$2.45/lb. for blue mussels, statewide. The reduced inventory was primarily attributable to the loss of several large farms, including those in Klawock and Yakutat.

Alaska's shellfish hatchery and shellfish nursery both maintained small inventories at the end of 1995 (Table 2). The Seward Shellfish Hatchery concentrated primarily on developing new hatchery

technology for littleneck clams, thereby producing relatively few oyster seed. The oyster seed produced was from remote setting of larvae obtained from Lower 48 hatcheries. Clam research was limited by the size of the Seward facility and available feed-production components. A flood in September filled the nursery pond with silt, killing most of the oysters being held at the hatchery.

Aquatic farm employment declined slightly in 1995 from 85 jobs to 74 due primarily to the loss of the two large farms in Klawock and Yakutat (Table 2). The overall picture was good, as employment in the industry is becoming more predictable and stable. As in the past, the employment figures represent only those jobs directly attributable to farm employment and do not include secondary jobs in the processing or product-preparation sectors.

Industry Projections

The continued trend of increasing sales in 1995 demonstrated a healthy and growing industry.

The one-year loss in inventory value appears to reflect normal fluctuations in the number of operating farms. Southeast continued to be the largest producer of farmed shellfish. Southcentral has more farms, but farmers there are generally finding that early, optimistic growth projections (in some cases 18 months or less) are not being realized. Most of the inventory is still in Southcentral and should be online in 1996.

Farmed mussel production is increasing from recent lows, suggesting the potential of this crop. If farmers can deal with the equipment and labor-intensive processing this species requires, it holds promise for the industry.

The opportunities presented by the Mariculture Technical Center/Shellfish Hatchery will allow the industry to start looking at new species. A grant for purple-hinged rock scallop research has been approved and is waiting for the facility to open. In addition, work on geoduck clams is being promoted by several members of the industry.

Overseas markets and value-added products present new opportunities for the aquatic farming industry. A conference in March 1996 will address these topics.

Issues

On-bottom culture of littleneck clams was the most controversial issue in 1995. An application for 0.5 acres of farm area was approved in 1994. Applications for two additional areas were received in 1995. To address the issues presented by a number of ADF&G staff, an interdivisional work group was formed under the guidance of Deputy Commissioner

Rob Bosworth. Issues included public access, constitutionality, equal access to a fishery resource, public trust doctrine, management, conflict with commercial fisheries, and conflicts with other users. No specific recommendations had been formulated by year's end.

The moratorium on aquatic farm permit applications in Kachemak Bay ended on December 31, 1995. ADF&G's Habitat and Restoration Division (H&RD) manages the Kachemak Bay Critical Habitat Area. H&RD surveyed users of Kachemak Bay regarding aquatic farming. A draft proposal for limiting the area, number of applicants, and scope of applications was under discussion at the end of the year.

Product diversification needs were apparent throughout the industry. Blue mussels presented the most immediate opportunity, with seed stock available from natural set in most areas. Unfortunately, the species requires considerable equipment-intensive processing prior to market. Littleneck clams exist in considerable numbers in some areas of the state, providing an early initial opportunity if the standing crop within farm boundaries is made available for harvest. Hatchery seed is not yet available on a commercial scale; therefore, opportunities for this species are currently limited to areas with natural reseeding potential. Policy issues surrounding on-bottom culture are contentious and will be difficult to resolve.

Permit reform is still a concern to the industry. ASGA proposed changes to the state's amendment process at their annual meeting in November 1995. Representatives of the state agencies present agreed to work with the association to address their concerns.

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