

# ALASKA DEPARTMENT OF FISH AND GAME

## FISHERIES REHABILITATION, ENHANCEMENT AND DEVELOPMENT DIVISION



### REPORT ON AQUATIC FARMING ACTIVITIES IN 1992

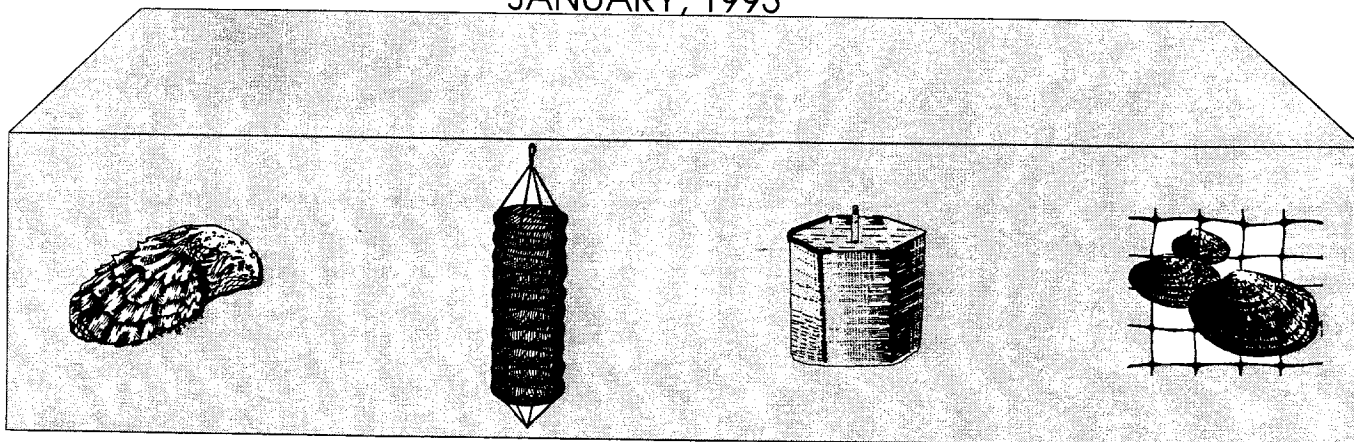
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# THE MARICULTURE PROGRAM

## Background

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

**Regulations** to administer the aquatic farm program were developed by the resource agencies during 1988 and 1989. The Department of Natural Resources (DNR) divided coastal Alaska into eleven districts. The law required that each district be opened annually for 60 days for farm site application. Permits for farm or hatchery sites not located on state land may be applied for any time.

**The ADF&G, FRED Division Mariculture Program**, in cooperation with the department's fisheries management and habitat divisions, carries out the statutory and regulatory responsibilities of the department pertaining to aquatic farming in Alaska.

### *The Mariculture Program responsibilities include:*

- in cooperation with ADF&G Habitat and Restoration Division (H&RD), coordination of the permitting process for aquatic farms and hatcheries
- review of aquatic farm and hatchery permit applications for site suitability and technical and operational feasibility
- issuing and administering the department aquatic farm and hatchery permits
- interdivisional coordination of the aquatic farm program
- administration and coordination of aquatic stock acquisition permits for the purpose of supplying brood stock and seed stock to aquatic farms and hatcheries
- administration and coordination of the shellfish and aquatic plant transport permit system
- administration and coordination of research permits for aquatic farming and hatchery activities
- provide technical assistance to other divisions, agencies and the public sector

- coordinate aquatic farming and hatchery research activities statewide

### Program Implementation

The **FRED Division Mariculture program** continued to evolve in 1992. Budget constraints further reduced technical assistance provided to the industry. The administrative work load associated with the large number of permittees continued to grow. The latter, coupled with a reduction in clerical staff from one full-time position to one halftime position, resulted in considerable backlog in program activities including permitting actions. Without additional funding, this trend will continue.

**Table 1.** 1992 aquatic farm permit data.

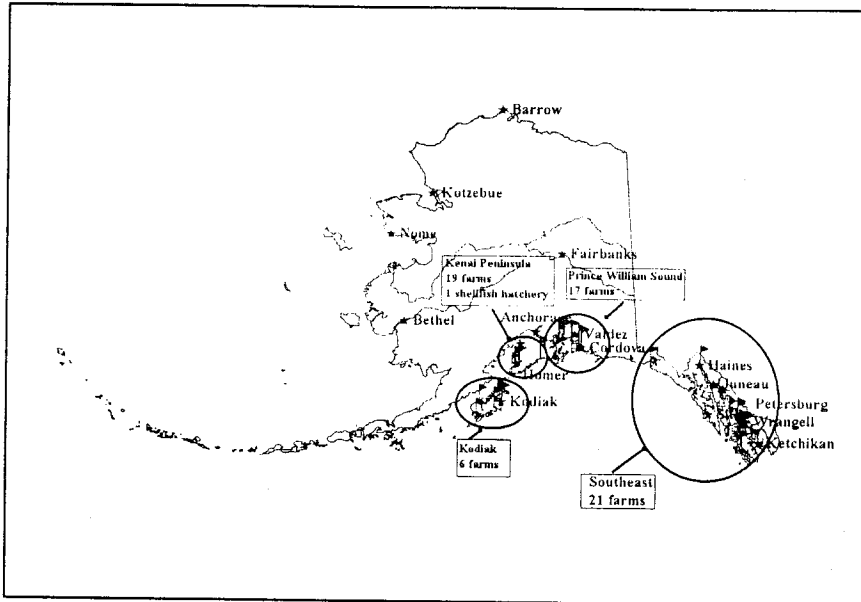
	Southeast Districts	Southcentral Districts	TOTAL
<b>OPERATIONS</b>			
1992 permit applications	5	19	24 <sup>1)</sup>
Permits issued in 1992	2	14	16 <sup>2)</sup>
1992 permits pending or still in process	1	13	14
Total aquatic farm permit files active	25	43	68
Farms reporting activity in 1992	19	27	46
Farms in certified growing areas	16	25	41 <sup>3)</sup>
Acreage permitted for aquatic farming	93.4	183.7	297.1 <sup>4)</sup>
<b>RESEARCH</b>			
No. permit applications	0	0	0
<b>SHELLFISH AND AQUATIC PLANT ACQUISITION/TRANSPORT</b>			
Permit applications	36	42	78
Permits issued	24	32	56
Permits pending or still in process	3	6	9
<sup>1)</sup> Includes three amendments to existing farm permits <sup>2)</sup> Includes one shellfish hatchery permit <sup>3)</sup> More than one farm may be located in a growing area defined by the Department of Environmental Conservation <sup>4)</sup> Includes 20 acres in Kachemak Bay State Park			

**Considerable interaction** with the other resource agencies, including the Department of Environmental Conservation (DEC), DNR, and the Division of Governmental Coordination (DGC) was again necessary to review and revise the permitting process and insure coordination of effort. The Interagency Mariculture Work Group (IAMWG) was not reestablished in 1992. The Alaskan Shellfish Grower's Association requested the Governor formalize a new working group that would include industry

representation. As of year-end, no action was taken on the request. An informal group of agency representatives met several times to review and revise the aquatic farm permit

application form and to discuss applications. FRED coordinated department interaction with DNR on their proposed changes to aquatic farm statutes and regulations. FRED Division and H&RD coordinated the farm permitting process. FRED Division facilitated the overall department program, reviewed permit applications, and issued aquatic farm permits. H&RD coordinated the department Alaska Coastal Management Program (ACMP) reviews.

**Permitting and administrative responsibilities** for aquatic stock acquisition, shellfish and aquatic plant transport and scientific or educational permits were accomplished. One clerical position was assigned to the program halftime to help with administrative functions.



**Figure 1.** Aquatic farms in Alaska as of January 1, 1993.

**Twenty-four aquatic farm applications and one shellfish hatchery permit application** were received and processed this year. Sixteen new farm operation permits were issued. Four permits were closed at the request of the respective permittees. By years end 68 operation permit files were still open though five permittees notified us of their intent to withdraw, leaving 63 farms, statewide (Figure 1.) Forty-six of these farms reported activity in 1992.

The shellfish hatchery received its permit late in the year. It is expected to begin operations in 1993. Three permit denials from the 1991 opening were reviewed by the commissioner. All three applicants were granted their permits after review and consideration. These sites were located in Kachemak Bay. The large number of users of Kachemak Bay will almost certainly result in more interaction between aquatic farming and other coastal users. The challenge is to make the interactions positive for all. No scientific/educational (research) permits were processed in 1992, primarily due to the ability of researchers to accomplish their projects at permitted farm sites, allowing commercial use of the end product. One site suitability transport permit was issued. The number of stock acquisition and transport permit applications continued to increase (Table 1.) and are expected to rise again in 1993, reflecting the increase in active farms.

**In cooperation with DNR** and other department staff, aquatic farm site inspections were conducted at 55 permitted farms, statewide. Permit compliance was determined for each farm. As possible we discussed concerns and limitations effecting the farmer's efforts and attempted to extend cooperation between farmers and the department. Inspection of farms not accomplished in 1992 will occur in 1993.

The division again proposed a Mariculture Technical Center for inclusion in the Governor's capital projects budget for fiscal year 1994. The project was not funded in 1993. This center is proposed as a central facility providing assistance to the industry through practical research and development, providing indigenous seed stocks not available from commercial sources, and space for private mariculture development projects. It is possible that the center would also be useful for certain oil-spill restoration projects in areas affected by the Exxon Valdez spill. Various funding packages were submitted because of this possibility. None were approved. Further work on the project was deferred awaiting a determination on facility funding.

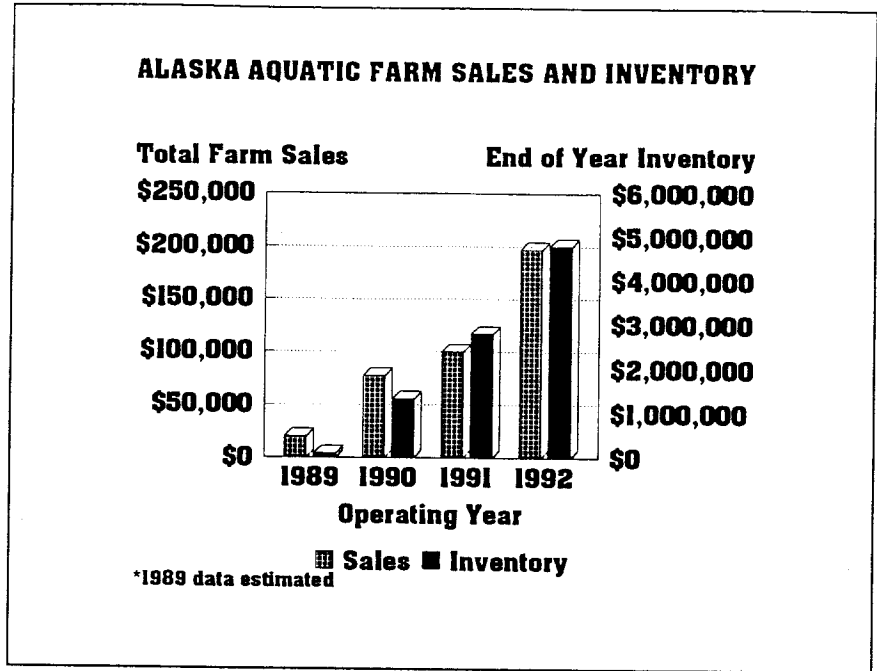


Figure 2. Aquatic farm sales and inventory values by year.

**Aquatic Farm Operations**

**Nineteen ninety two was a year of expansion** for the aquatic farm industry in Alaska. More farms reached their development plan goals in 1992 though no applications for farm site leases were received. This was likely due to the farmers' concerns about lease rate structures and surveying requirements. The first permits issued under the current program expire in August of 1993. Decisions regarding the criteria for renewal of permits and leasing versus permitting for another 3-year period should be made by both the farmers and the agencies before August.

**Aquatic farmers continued their trend of investment and growth.** At market size, the value of the year end inventory was over \$4.8 million, an increase of almost 50% over the 1991 inventory value (Figure 2.) Aquatic farm sales in 1992 increased by 100% to almost \$200,000 (Table 2.) Production was dominated by oysters, with some mussels produced in southcentral Alaska. The increase in sales was actually higher than expected primarily due to the extraordinary oyster growth rates experienced by the Tatitlek village farms in Prince William Sound.

**Southeast farmers received an average of \$0.32/oyster,** up slightly from the \$0.29 received in 1991. The Southcentral value was, as last year, higher at \$0.48/oyster, up from \$0.42 in 1991. The average price received for mussels was \$2.25/lb. The amount of product sold was

**Table 2.** 1992 aquatic farm operations data.

SALES			
	Southeast	Southcentral	TOTAL
Oysters (ind.)	355,762	109,092	464,854
Value	\$112,980	\$52,801	\$165,781
Mussels (lbs)	0	13,860	13,860
Value	\$0	\$31,185	\$31,185
Total Aquatic Farm Sales			\$196,966
END OF YEAR INVENTORY <sup>1)</sup>			
Oysters (ind.)	5,498,870	6,625,940	12,124,810
Value	\$2,144,559	\$2,584,117	\$4,728,676
Mussels (lbs)	40,844	7,739	48,583
	\$61,266	\$11,609	\$72,875
Total Inventory Value			\$4,801,550
EMPLOYMENT SUMMARY			
No. Employees	31	40	71
Days Worked	2258	3393	5651
No. Volunteers	9	0	9
Days Worked	60	0	60
<i>Note: All data subject to revision.</i>			
<sup>1)</sup> Does not include farm inventory of other permitted species, primarily scallops (~ 5,000 organisms)			

small, though, therefor the per pound value probably does not reflect the price farmers are likely to receive for mussels as production increases. For purposes of blue mussel value projections, \$1.50/lb seemed attainable. (Table 2.) All prices were based upon reported value at the farms.

**A growing facet of the aquatic farm industry** was employment opportunities provided by farm operations. Excluding owner-operators and nonresident managers or consultants, 71 individuals were employed by the farm industry this year, working over 5,600 person-days (Table 2.) No figures for jobs in the processing sector were available.

## Industry Projections

**The 100% increase in sales** and the large inventory value show that 1992 was a critical year for the industry. Over seven million oyster spat were purchased by Alaskan farmers. Southeast was again the largest producer of oysters. The picture will continue to change in 1993, primarily due to very active native corporation farms in Southcentral. Southeast Alaska will cease to be the state's largest producer of farmed shellfish. Oysters available from farms will increase significantly statewide. Mussel production is not expected to increase. No other species of shellfish or aquatic plants will contribute significantly to farm sales in 1993.

**Aquatic farm development was again constrained** in 1992 by the lack of government assistance (loan funds, grants, etc.) and the general lack of loans or other sources of investment capital from the private sector. A positive note this year was granting of a commercial loan by an Alaska bank based upon farm equity to a farmer in Prince William Sound. The industry hopes that this is the start of a positive relationship with banks and other lenders. Out-of-state businesses demonstrated increased interest in Alaska's industry in 1992. The president of the largest and most progressive shellfish farming company in Washington state visited several sites and made a presentation at the ASGA annual meeting.

**Nationwide, shellfish production is constrained by pollution and competition** for limited coastal resources. The major eastern U.S. production areas, such as Chesapeake Bay, have ceased to be a major factor in shellfish production. Washington state continued to be the largest oyster producer in the United States. Even there, increasing effects of pollution, upland development and user conflicts are occurring and will limit growth of the industry. Washington has approximately half the number of permitted aquatic farms that Alaska has, though they are considerably larger in both physical (*as of December 31, 1992 the area permitted for all aquatic farming in Alaska was 297 acres -- Table 1.*) and economic size. British Columbia's industry is growing, receiving considerable support from the public and private sectors. Alaska, with its clean waters and large amount of protected coastline, has immense potential for becoming a major aquatic farming area. Investment capital, the logistics of producing and selling product, and lack of a vertically integrated industry are major constraints that will have to be addressed before this can occur. Solutions to the many problems facing the industry began to emerge this year.

## Hatcheries

**A major component lacking in Alaska is a hatchery** industry to provide a dependable supply of seed to aquatic farms. As of December 1992, the first shellfish hatchery in Alaska was permitted for operations. Located in Seward, Alaska it has conservative goals but is expected to prove that such facilities are viable. Currently, all oyster seed must be imported from the lower 48. Dependence on out-of-state vendors is not without peril, as demonstrated by the 1992 decertification of the primary supplier of Pacific oyster seed to the Alaska industry for non-compliance with their approved operational plan. Though a revised operational plan was subsequently approved and it appears that they will be supplying oyster seed to Alaska's farmers in 1993, the incident was indicative of the uncertainties of the current seed supply situation. Collection of seed from indigenous stocks, such as blue mussels, is also uncertain,

being susceptible to the vagaries of nature. If funded, the Mariculture Technical Center will help provide a consistent supply of shellfish and, possibly, aquatic plant seed until commercial hatcheries come on-line with the capacity to supply the industry's needs.

### **Issues**

**Issues facing the industry** are changing as it evolves. User group conflicts are increasing in some parts of the state, highlighting the need for public education and positive interaction with other users. Decreasing revenues have resulted in several proposals for programmatic changes and changes in the laws governing the industry. With the advent of an instate shellfish hatchery concerns regarding transport of stocks between brood sources, hatcheries and farm sites will have to be addressed. ASGA requested the Governor to reestablish the mariculture working group at the policy level, with industry representation. That request was still under consideration at year- end.

### **Rural Development**

**The benefits of aquatic farming** as a source of income and economic stability interested a number of rural Alaskan communities. In 1992 new, native-owned farms were established near the villages of Angoon in Southeast and Chenega Bay in Southcentral. Farms operated by the Klawock Heenya Corporation and Yakutat Mariculture Inc. in Southeast, and the Tatitlek Native Corporation in Southcentral continued to grow. Interest in aquatic farming was shown by villages on Kodiak Island, Prince William Sound and the Kenai Peninsula. The educational community continued its involvement with Petersburg High School operating a for-profit farm.