SB

106

STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF THE COMMISSIONER

STEVE COWPER, GOVERNOR

400 WILLOUGHBY AVE.
JUNEAU, ALASKA 99801-1796
PHONE: (907) 465-2400

February 24, 1987

The Honorable Tim Kelly
Chairman
Senate Labor and Commerce Committee
Alaska State Legislature
P.O. Box V
Juneau, AK 99811

Dear Senator Kelly:

Subject: Senate Bill 106, relating to aquatic farming.

Position: The Department of Natural Resources recommends that the Senate Labor and Commerce Committee pass SB 106 to the Resources Committee for further consideration of land use issues.

Background: SB 106 provides for the construction and operation of aquatic farms. Under AS 38.05.070, land, including tide, submerged or shoreland, to which the state holds title, may be leased in a manner provided in AS 38.05.070 - 38.05.105 and subject to the approval of the Commissioner of Natural Resources.

Recommendation: While the Department of Natural Resources generally supports the goals of SB 106 and the creation of new commercial opportunities through utilization of the state's resources, in the opinion of the department, SB 106 needs to further address land use issues.

Specifically, the department recommends that leasing and permitting processes be designed to encourage development of the mariculture industry, but discourage speculation. This could be accomplished, for example, by requiring applicants to demonstrate by prove up that their projects are viable by preparation of a development schedule. Additionally, leasing and permitting alternatives which encourage small operations, such as lease fees or rent based on gross receipts, could be considered.

The enclosed fiscal note is based on an estimate of the number of leases and permits that would result from the bill

10-J9LH

as presently written. The actual number of new applications will undoubtedly vary depending on the fee structure for leasing and permitting and any special requirements that the final bill contains.

I would be pleased to make my staff available to work with your staff regarding the land use issue. If you would like additional information or have any questions, please contact my office.

Sincerely,

Judith M. Brady
Commissioner

Enclosures

cc: Committee Members
Sponsors
George Sullivan, Governor's Office
Rod Swope, Governor's Office
Paul Peyton, DCED
David Benton, ADFG
Tom Hawkins, DLWM

STATE OF ALASKA 1987 LEGISLATIVE SESSION
FISCAL NOTE

Bill Version : SB 106
Publish Date :

REQUEST:

Revision Date: 2/24/87
Title : An act relating to aquatic farming
Sponsor : Zharoff, Sturgulewski, et al
Requestor : Senate Labor & Commerce

Agency Affected : Natural Resources
BRU : Land and Water Management
Components :

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92
PERSONAL SERVICES	0	84.6	171.3	171.3	210.6	210.6
TRAVEL	0	20.0	25.0	25.0	22.0	22.0
CONTRACTUAL	0	2.0	4.0	4.0	4.0	4.0
SUPPLIES	0	1.0	2.0	2.0	2.0	2.0
EQUIPMENT	0	0	0	0	0	0
LAND & STRUCTURES	0	0	0	0	0	0
GRANTS, CLAIMS	0	0	0	0	0	0
MISCELLANEOUS	0	0	0	0	0	0
TOTAL OPERATING	0	107.6	202.3	202.3	238.6	238.6
CAPITAL	0	0	0	0	0	0
REVENUE	0	15.5	23.5	32.0	36.0	40.0

FUNDING: (Thousands of Dollars)

GENERAL FUND	0	107.6	202.3	202.3	238.6	238.6
FEDERAL FUNDS	0	0	0	0	0	0
OTHER	0	0	0	0	0	0
TOTAL	0	107.6	202.3	202.3	238.6	238.6

POSITIONS:

FULL-TIME	0	2	3	3	4	4
PART-TIME	0	0	2	2	2	2
TEMPORARY	0	0	0	0	0	0

ANALYSIS : (Attach a separate page if necessary)

See Attached

Prepared by : Paula Burgess
Phone : 465-3400
Division : Land and Water Management
Date : 2/13/87

Approved by Commissioner : Judith M Brady
Date :
Agency : Natural Resources

Distribution (by preparer):
Legislative Finance
Legislative Sponsor
Requestor
Office of Management and Budget
Impacted Agency(ies)
Senate Secretary

SB 106 Analysis

In order to assess the fiscal impact of SB 106, we estimate the number of new applications for tideland leases and permits that we expect. The actual number of applications will vary depending upon the fee structure for leasing and permitting, and the "prove up" requirements of the bill. At present our permit fees are extremely low and the cost of obtaining a lease is quite high. At this stage no "land law" accompanies the bill to alter the lease or permit structure. We recognize that certain changes are desirable to encourage growth of the industry, such as the acceptance of a paper plat rather than a full survey for a lease in remote areas. While such changes may be forthcoming in later committees, the fiscal note here reflects the existing permit structure.

We estimate the number of new applications the first year to be the following:

30 salmon
25 scallop
10 oyster
3 mussel
2 kelp

We require one adjudicator in the Southeast Region and one adjudicator in the Southcentral Region to handle the new applications. The second year we require one additional adjudicator (to be located where the need is greatest) to handle additional new applications. By the fourth year we are assuming the need of two adjudicators in each of the two regions.

The second year we require a part-time contract administrator to handle the accumulation of two years of lease contracts, and a part-time surveyor to review survey plats. (The survey cost may be reduced somewhat if the bill is amended to allow paper plats rather than full surveys in remote areas.)

A goal of the state and of those seriously interested in aquatic farming is to avoid land speculation. In order to accomplish this, it will be necessary to inspect most lease and permit sites once a year. Some inspections can be combined with other field investigations, and some may be performed under cooperative agreements with other agencies. A lean inspection program will cost $10,000 for each adjudicator the first year (travel and per diem). In subsequent years the cost will decline as we establish inspection efficiencies.

Under existing statutes and regulations, the number of leases and permits estimated above would generate approximately $15,500 in revenue the first year. As the number of operations increases each year, the revenue increases modestly. If the bill were amended to allow the commissioner to charge a percentage of gross receipts, revenues could increase substantially once the industry began to flourish.

Position Summary

Fiscal Year '88

Two (2) - Natural Resource Officers II (Range 16)

Fiscal Years '89 and '90

Three (3) - Natural Resource Officers II (Range 16)
One (1) - Part-time Contract Administrator (Range 14)
One (1) - Part-time Surveyor (Range 20)

Fiscal Years '91 and '92

Four (4) - Natural Resource Officers II (Range 16)
One (1) - Part-time Contract Administrator (Range 14)
One (1) - Part-time Surveyor (Range 20)

MEMORANDUM State of Alaska

TO: Fisheries Mini-Cabinet

DATE: March 11, 1985

FILE NO:

TELEPHONE NO:

FROM: Bill Sheffield
Governor

SUBJECT: Policy Development Strategy for Mariculture/Aquaculture

Alaska's position in the world marketplace as a producer of seafood products has changed dramatically since statehood. There is every indication that an equally dramatic change will occur in the next decade. A number of world-wide developments, over which we in Alaska have little or no control, have had and will have an impact on our domestic and international seafood markets. The increasing use of aquaculture or sea farming techniques to supplement or complement traditional wild stock harvest strategies stands out among these trends. In my opinion, this trend requires our careful development of a public policy response by the State.

Alaska's abundant, high quality water resources, the close ties between many of our coastal communities and our marine environment suggest that some forms of sea farming may represent an opportunity for economic growth and diversity. However, it is critical that State policy insure that such development complements, rather than conflicts with, our valuable traditional seafood industry. To accomplish the timely formulation of public policy and any legislative or regulatory changes that might be required, I instruct the Fisheries Mini-Cabinet to take the following steps:

1. Appoint an ad hoc advisory group representative of harvesting, processing, mariculture, and community interests to review the mariculture/sea farming issues.

2. In those instances where little or no conflict appears to exist between sea farming and traditional fisheries (e.g. shellfish), develop the legislation or regulations necessary to encourage an orderly development that maximizes Alaskan participation.

3. In those cases where sea farming may be in conflict with our traditional fisheries (e.g. pen reared salmon), move ahead cautiously to examine all facets of the issue, including:

   a) the effect of sea farming on the markets for our traditional seafood products;

b) the experiences of other nations with sea farming development;

c) how such developments might supplement or complement our existing industry, and how maximum Alaskan participation could be encouraged.

4. Report to me regularly on your progress in dealing with these issues.

BS/GB/mst0089g
021985a

cc: Fisheries Mini-Cabinet Staff
Cass Parsons, United Fishermen of Alaska
Rick Lauber, Pacific Seafood Processors Association

MEMORANDUM State of Alaska

TO: Honorable Bill Sheffield
Governor

DATE: March 6, 1986

FILE NO.:

THRU:

TELEPHONE NO.:

SUBJECT: Aquaculture
Policy Proposal

FROM: Fisheries Mini-Cabinet

Please find attached the final recommendation of the Ad Hoc Aquaculture Advisory Committee to your Fisheries Mini-Cabinet. We have reviewed the recommendations of the advisors and are in concurrence with their suggested approach. Prior to forwarding our recommendations to you we requested the Departments of Commerce and Economic Development, Fish and Game, Natural Resources and Environmental Conservation to review the fiscal impacts associated with full and complete implementation of the recommendations. Although the total cost of full implementation would be substantial, the current revenue situation and the need to maintain existing fisheries management and development programs lead us to recommend the funding of only two portions of the recommendation. We suggest providing $39,000 for public forums/education and $50,000 for the proposed socioeconomic impact study. We would recommend that a total of $95,000 be appropriated in the FY 87 budget, in the form of a C.I.P., to the Department of Commerce and Economic Development.

We collectively recommend acceptance of the basic policy regarding all forms of aquaculture with the exception of pen rearing of fin-fish. After the suggested study and public awareness process have been funded and completed and the public has had a chance to react, we will recommend further action regarding the pen rearing of fin-fish. In our view, a critical component of this policy development and implementation is the need to form and maintain a close partnership between your office and the Legislature as suggested by the Committee. We perceive there is presently a strong difference of opinion among members of the fishing community regarding whether or not fin-fish farming should be allowed. The communication link suggested above would maximize our chances for obtaining an accurate picture of the public desire to allow development of this industry to proceed in Alaska.

WP/sa0348g
30686b

Attachments: A Philosophy For Aquaculture Development in Alaska
Proposed Aquaculture Policy for Alaska

MEMORANDUM State of Alaska

TO: Governor's Fisheries Mini-Cabinet DATE: January 20, 1986

FILE NO.:

THRU: TELEPHONE NO.:

SUBJECT: A Philosophy for Aquaculture Development in Alaska

FROM: Aquaculture Advisory Committee

On July 15, 1985, Governor Sheffield appointed a Mariculture Advisory Committee, consisting of fishermen organizations, fish processors, a Native corporation, governmental agencies, the universities, and individuals in the private sector interested in mariculture development in Alaska. The committee was charged with the responsibility of formulating a workable and effective mariculture policy to guide the State in development of the mariculture industry in Alaska. The committee modified its original charge to include culture of all aquatic plants and animals in both the fresh and saltwater environments. Hence, this consensus document outlining an aquaculture policy is submitted.

The issues confronting the further development of aquaculture have been examined by the committee. These developments include fish, crustaceans, mollusks and aquatic plants. It is important, in light of world aquacultural developments and growing interest in aquaculture potential in Alaska to generate a policy that should enable the orderly development of an Alaskan aquaculture industry. However, many biological, technical and social questions must be resolved before allowing full implementation of any plan. The committee strongly recommends that every effort be made to assure that the developing aquaculture industry:

1. be complementary to, and not in conflict with, the existing fishing industry.

2. be economically viable and self-sustaining.

3. provide opportunities for family and other small scale businesses.

4. provide an overall enhancement to the marketing image of all Alaskan seafood products.

5. give due consideration to wild stocks.

Some shellfish aquaculture projects are currently underway. While we have found a need to tailor the existing permit and lease process in order to promote aquaculture development, and have identified a need to improve dissemination of technological data, it appears that the early success of these projects holds the promise of another positive use of Alaska's resources and should be supported.

The culture of aquatic plants may also offer new opportunities. There is a need to further assess opportunities and develop appropriate technology.

The farming of finfish (other than nonprofit ocean-ranching of salmon) has not been introduced, although experimental work has shown promise. We need to continue and expand grant research efforts between the State of Alaska and the National Marine Fisheries Service to gather data on the biological and technical aspects of pen-rearing. The possibility of social and economic conflicts with existing fisheries warrants a more cautious approach than for shellfish and aquatic plants.

The committee recommends that aquaculture be a self-sustaining industry with the exception of public investment in plant and animal health diagnostics, public health and initial biological research. In the meantime, there is a need to develop public policy regarding such issues as a regulation of the aquaculture industry (either as a farm or fishery), size and location of sites, federal land issues, organization of the permitting process, ownership questions, taxation, disease, and so forth.

Attached is our proposed policy document consisting of a generic policy statement followed by a number of comments regarding specific issues. This committee would be available for further deliberations on specific issues stemming from public review and comments to this policy.

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Attachments

GOVERNOR SHEFFIELD'S

AQUACULTURE ADVISORY COMMITTEE

PUBLIC MEMBERS

Brian Allee, PWSAC
Jack Cadigan, (Cass Parsons), UFA
Bill Clapp, Pelican Seafood
Nancy Gross, Unalaska
Richard Harris, Sealaska
Jim Hemming, Mussel Grower
Earl Krygier, A.T.A.
Robin Larsson, A.S.G.A.
Rick Lauber, P.S.P.

LEGISLATIVE MEMBERS

Senator Richard Eliason
Representative Peter Goll
Representative Adelheid Herrmann
Senator Fred Zharoff

UNIVERSITY & GOVERNMENT AGENCY REPRESENTATIVES

Greg, Baker, ADC&ED
Ron Dearborn, U of A, Sea Grant
Bill Heard, NMFS
Ole´ Mathisen, U of A
Stan Moberly, ADF&G
Dick Neve´, Office of the Governor
George Snyder, NMFS

SPECIAL ASSISTANT

Gerald Bowden, UCSC

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Proposed Aquaculture Policy

It is the policy of the State to promote the development of a successful aquaculture industry in a manner that will contribute to the economic well-being of the citizens of the State, the commercial fishing and seafood industry, and all communities of the State, particularly the coastal areas.

GENERAL FINDINGS

1. There is an urgent need to inform the public of the potential socio-economic impacts, benefits and opportunities surrounding aquaculture, especially salmon farming, and to solicit public comments through a series of hearings. These efforts will provide necessary information to enable both the public and government to determine the future course of aquaculture and to provide for its orderly development. The process will:

   A. address the concerns of fishermen, the fishing industry, coastal residents, and the citizens of the State for the development of aquaculture in Alaska;

   B. serve to educate the public and the State about aquaculture;

   C. serve as a mechanism to collect ideas and recommendations for the further development of Alaska's aquaculture policy;

   D. include a review of the aquaculture development options envisioned; and

   E. enable all concerned individuals to review and comment on any draft laws and proposed regulations prepared in response to public participation and comment.

2. The State, in considering the uses of public lands, water and other resources, should develop procedures to ensure an orderly and controlled use of the State's resources for aquaculture. The procedures instituted by the State should:

   A. provide maximum opportunity for family and other small scale businesses;

   B. require that leases be active, thereby avoiding speculation; and

   C. avoid creating artificial wealth through possession of leases or permits.

State and other land planning programs should include inventories of potential aquaculture sites. These inventories should be responsive to existing State and federal regulatory requirements and establish uses.

3. In light of the growing competition caused by the growth of world aquaculture, the State should increase efforts to enhance the image and value of Alaskan seafood products. We specifically suggest instituting a program that promotes more stringent quality controls in grading and labeling, and further improves the general public perception of Alaskan seafood. Such action encourages promotion of a more competitive product.

SPECIFIC RECOMMENDATIONS

1. Shellfish and Seaweed

   The State should review all existing statutes and regulations governing culture of shellfish and aquatic plants, and should, if necessary, institute programs to actively further promote and facilitate the culture of these organisms. There is a clear need to:

   A. tailor the State's permitting and leasing procedures to better accommodate the needs of the industry and to provide broader technological support;

   B. improve programs for testing of paralytic shellfish poisoning (PSP) including inspection and certification time frame;

   C. establish or certify diagnostic labs near shellfish culture areas; and

   D. encourage private oyster spat and other shellfish hatcheries.

2. Ocean Ranching

   The success of the existing State and nonprofit salmon ocean-ranching programs is recognized, and efforts in this area should be expanded. Recent developments regarding product form and expanding markets indicate there will be a greater demand for additional salmon in the future.

3. Salmon and Other Finfish Farming

   The form of aquaculture that poses the most controversy is the farming of large-sized salmon and trout, because these product forms may compete with the salmon fishing industry for markets.

   Salmon farming is currently not allowed in Alaska, however, there is a growing interest to develop the industry. Prior to contemplating salmon farming, the State should initiate an unbiased study to identify and evaluate social and economic impacts and consider various implementation options to determine the greatest benefits for Alaskans.

Some finfish species and product forms such as pan-sized salmon and trout may not be in direct competition with the Alaska commercial fishing industry and, therefore, may not be as controversial as other forms of salmon farming. The State should commence a review to determine if the culture of pan-sized salmon, trout and other finfish are permissible under current statutes. Public comments should be solicited to determine if there is an interest or concern regarding these product forms.

FINAL

To accomplish the public education and research necessary for the orderly development of aquaculture in Alaska, a strong partnership commitment from the executive and legislative branches of State Government, federal agencies, Alaskan universities, industry and interested individuals will be required.

Pouch V
Juneau, Alaska 99811

Alaska State Legislature

House of Representatives

Phone:
(907) 465-3892

Labor and Commerce Committee

FEBRUARY 17, 1987

MEMORANDUM

TO: TAM COOK, DIRECTOR
LEGISLATIVE LEGAL SERVICES

FROM: GINGER BAIM, AIDE TO
HOUSE LABOR AND COMMERCE COMMITTEE

RE: DRAFT COMMITTEE SUBSTITUTE - HB 108

THE HOUSE LABOR AND COMMERCE COMMITTEE WILL BE TAKING UP HB 108, RELATING TO MARICULTURE, TODAY AT L:30 P.M. I'VE BEEN ASKED TO PREPARE A PROPOSED COMMITTEE SUBSTITUTE FOR TODAY'S HEARING INCORPORATING THE CHANGES LISTED BELOW.

THE PROPOSED CS SHOULD INCLUDE THE FOLLOWING:

* "DEVELOPMENT OF MARICULTURE IN ALASKA WOULD STRENGTHEN THE COMPETITIVENESS OF ALASKA SEAFOOD IN THE WORLD MARKETPLACE BY BROADENING THE DIVERSITY OF PRODUCTS AND PROVIDING YEAR-ROUND SUPPLIES OF PREMIUM QUALITY SEAFOOD"

* "IT IS THE POLICY OF THE STATE THAT NEW INDUSTRIES BE DEVELOPED IN A MANNER CONSISTENT WITH PROTECTION AND ENHANCEMENT OF TRADITIONAL HIGH VALUE INDUSTRIES AND WITH PROTECTION OF OUR NATURAL RESOURCES"

* "IT IS THE POLICY OF THE STATE THAT AQUATIC FARMING BE DEVELOPED IN A MANNER THAT ASSURES FULL PARTICIPATION AND FULL BENEFITS TO THE PEOPLE OF ALASKA"

* SITE USE PERMITS FOR MARICULTURE DEVELOPMENT WILL BE LIMITED TO RESIDENT ALASKANS AND/OR ALASKA LICENSED CORPORATIONS/BUSINESSES (OBVIOUSLY, I LEAVE IT TO YOU TO FIGURE OUT THE "LEGAL" WAY TO SAY THIS, AND WHERE TO PUT IT IN THE BILL).

* THE COMMISSIONER OF DCED SHALL MAKE AN ANNUAL REPORT TO THE LEGISLATURE ABOUT THE PROGRESS OF THE MARICULTURE INDUSTRY INCLUDING NUMBER OF PERMITS, WHO HOLDS THEM, WHAT EFFECT MARICULTURE HAS HAD, IF ANY, ON ALASKA'S

OVERALL FISHING INDUSTRY, ANY SPECIAL NEEDS IDENTIFIED AND ANY RECOMMENDATIONS FOR STATUTORY CHANGES FROM THE LEGISLATURE.

* (AND THIS IS THE REAL TRICKY ONE) THE COMMISSIONER OF DCED SHALL HAVE THE AUTHORITY TO ADJUST/AMEND/CHANGE (ADOPT REGULATIONS?) THE PERMIT PROCEDURE IN ORDER TO ASSURE THAT THE MARICULTURE INDUSTRY IN ALASKA IS DEVELOPED IN A MANNER CONSISTANT WITH THE POLICIES OUTLINED IN THE LEGISLATIVE FINDINGS SECTION.

I APOLOGIZE PROFUSELY FOR GETTING THIS TO YOU SO LATE, BUT I KNOW IN ADVANCE THAT YOU'LL GIVE IT YOUR BEST SHOT, FOR WHICH I'M ETERNALLY GRATEFUL.

PLEASE CALL ME AT 3892 IF YOU HAVE ANY QUESTIONS.

STATE OF ALASKA 1987 LEGISLATIVE SESSION
FISCAL NOTE

Bill Version : SB 106
Publish Date :

REQUEST:

Revision Date:
Title : "An Act relating to aquatic farming"
Sponsor : Zharoff
Requestor :

Agency Affected : Environmental Conservation
BRU : Environmental Health
Components :

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	0	0	0	0	0	0
CAPITAL	0	0	0	0	0	0
REVENUE	0	0	0	0	0	0

FUNDING: (Thousands of Dollars)

GENERAL FUND						
FEDERAL FUNDS						
OTHER						
TOTAL	0	0	0	0	0	0

POSITIONS:

FULL-TIME						
PART-TIME						
TEMPORARY						

ANALYSIS : (Attach a separate page if necessary)

This Bill will have no fiscal impact on the Department of Environmental Conservation.

Prepared by : Doug Donegan
Phone : 465-2696
Division : Environmental Health
Date :

Approved by Commissioner :
Date : 3/12/87
Agency : Environmental Conservation

Distribution (by preparer):
Legislative Finance
Legislative Sponsor
Requestor
Office of Management and Budget
Impacted Agency(ies)
Senate Secretary

CORDOVA DISTRICT FISHERMEN UNITED

P.O. Box 939

Cordova, Alaska 99574

(907) 424-3447

February 23, 1987

Senator Mike Szymanski
P.O. Box V
Juneau, AK 99811

Dear Senator Szymanski:

Cordova District Fishermen United (CDFU) supports the orderly controlled development of shellfish and plant mariculture. Before mariculture is introduced into Alaska, however, a socio-economic study should be done. The study was requested by the United Fishermen of Alaska (UFA), CDFU, Prince William Sound Aquaculture Corporation (PWSAC) and recommended by the fisheries mini cabinet.

The development of salmon farming without the state studies, coastal community input and the recent land grab for fish farm sites in Canada have raised many eyebrows in Alaska. The people of Alaska have entrusted millions of dollars to enhance wild stocks. In 1975, the fishermen of Prince William Sound formed PWSAC and started the most successful hatchery and enhancement program in North America. Enhancement of wild stocks and ocean ranching is the best investment the State of Alaska has ever made. This tremendous investment is now paying for the state and the fishermen. As wild stocks are on the decline, hatchery production is kicking into gear.

PWSAC is one of seven private non-profit regional associations in Alaska and was created by the fishermen and the legislature to enhance salmon production. Prince William Sound fishermen passed a 2% salmon enhancement tax to financially support the salmon enhancement program of PWSAC. The 2% salmon enhancement tax received by PWSAC will amount to $750,000 annually and will, in turn, partially support the program that will provide $25 million annually to the commercial fisheries by the year 1995, at which time PWSAC will be providing over half of the commercial fishery revenues in Prince William Sound.

It makes no sense to the CDFU Board of Directors to cut funding for state hatcheries, management of the commercial fishery and the enforcement division to start a new industry which will require millions of dollars to get started.

We are harvesting 130 million salmon per year and continuing to build our future salmon runs to obtain greater harvests. We are the fish farmers of Alaska and have made a big commitment to the State of Alaska by building new hatcheries, paying assessments, upgrading fishing vessels and putting out a better quality of salmon all the time. CDFU is concerned that the coastline, wild stocks, traditional fishing grounds and enhancement programs are protected before a fish farming bill is passed.

Ocean ranching is the biggest investment in the State of Alaska and the State should keep funding the enhancement programs. Commercial fishing has and always will be a major employer in Alaska, where fish farming will only employ a few.

Foreign companies in some cases are prevented from expanding in their own countries because of legislation protecting local communities. We have made our choice to protect the wild stocks and enhance the salmon runs in the State of Alaska. In five years, the State of Alaska could have five new hatcheries operating and generating revenues before the first pen-raised salmon ever hit the market. We need to keep investing our money to compete on the world market by freezing, labeling and storing our fish products in the State to be distributed all year round.

We urge you to take no action on legislation and development of fish farming mariculture until all concerned groups and communities have had a chance to respond to the impacts of fish farming.

Sincerely,

CORDOVA DISTRICT FISHERMEN UNITED

Gerald McCune

Gerald McCune
Vice President

GM/mbl

CORDOVA DISTRICT FISHERMEN UNITED
RECOMMENDATIONS

1. Strict controls to prevent foreign corporations and banks from taking over fish farming in Alaska. This industry should be kept in the hands of U.S. corporations and citizens if Alaska wants the full benefits of fish farming to stay in Alaska.

2. A complete study of the environmental effects of salmon farming on wild stocks and coastline communities.

3. No use of fish farming as a trade off for wild stock fishery habitat lost.

4. Control development of fish farming sites.

5. Alaska keeps control of any aquaculture development.

6. Clearcutting at sites have quality control standards.

7. Limits on proximity of fish farms to other sites and density controls of fish in farms.

8. Regulations covering location of fish farms.

9. Studies of tidal flush out at fish farms.

10. Environmental impacts with respect to wild fish stocks.

11. Concerns of commercial fishing, sport fishing, recreation groups and coastal communities should be addressed.

12. Studies of Norway and Scotland controlled development of fish farming.

13. Continued state funding of PNP and FRED hatcheries to enhance the wild stocks and enhance salmon production by ocean ranching. This means leave the funding in Commerce for the state and PNP to advance our enhancement programs.

14. No importation of Atlantic salmon eggs into Alaska.

15. Research, health inspection and testing of facilities be set up to address concerns of the use of hormones and antibiotics, impacts of toxicants, disposal of dead fish and human waste, predator control and efficient feed practices. Studies have been done implicating the toxicant Tributylin (TBT) as a human health risk and has recently been found in imported farm salmon. A ban of TBT in the State of Alaska should be made into law.

CDFU CONCERNS

1. Reallocation of State funds and services to fish farming.

2. A rush on salmon farm sites in Alaska without proper guidelines. Loss of traditional fishing grounds.

3. Predator control for fish farms be reviewed and identification of appropriate predator control methods.

4. Impact on water quality and marine environment.

5. Excess feed falling through netpens.

6. Good tidal flush-out sites.

7. Separation of fish farms and shellfish farms.

8. Navigational obstruction of fish farms and safe anchorages lost to the commercial vessels.

9. Conflicts with fish farmers and commercial fishing vessels.

Alaska troll sector fights farmed salmon impact

Fearful that farmed salmon will destroy prices and markets for Pacific troll-caught salmon, Alaska fishermen and processors are launching a campaign to promote the virtues of wild fish.

But the man heading up the campaign admits his efforts are largely a defensive effort designed to retain the market share that still exists for troll salmon.

"We've seen our market share for troll fish from Alaska and B.C. get smaller and smaller over the last five years," says Barry Lester of the Alaska Troll Salmon Processors Association. "We've seen it reflected in prices.

"From our own point of view as processors our goal is to maintain the markets we have and not see any decline. If we succeed, we should try to expand."

Lester's organization was formed during the spring in response to growing concern in the American troll industry about the impact of farmed fish.

Lester said in an interview Aug. 7 that farmed salmon has invaded traditional troll salmon markets in the European and New York smoked salmon industries. Second grade farmed salmon not suitable for restaurant sale is going into the smoker market as volumes of production rise.

Lester said the processors decided to take a positive approach: "We don't want to say it swims in its own waste and is filled with chemicals against disease. We're trying to talk about the virtues of wild salmon."

The program involves promotions with buyers in European and New York markets as well as improved grading and quality standards on the grounds and in the plants.

Earl Krygier, spokesman for the Alaska Trollers Association, said his organization is pledged to support the campaign. "We've seen prices soften quite a bit, especially because our troll coho go to European markets. The Norwegians are definitely making inroads."

Krygier said Alaskan fishermen are solidly behind the moratorium imposed on salmon farming in Alaska and are reaping the benefits of their non-profit hatchery system. "It would be a real mistake to bring farms in here."

So far the processors have financed the campaign internally, but Lester hopes support will come from other quarters.

Continued erosion of the troll fishery could have "a devastating effect on the economy of Alaska," he said. "We're talking about a way of life. This goes beyond the economic situation to the very existence of fishermen."

B.C. production adds to farmed salmon glut

As trollers see coho and chinook prices tumble under the assault of farmed salmon, experts in Norway are predicting Atlantic salmon production there could soar to 150,000 metric tonnes by 1990.

Even B.C.'s farmed salmon production is shooting up, with harvests this year likely to hit 2,000 tonnes up from only 250 tonnes in 1985.

The forecast Norwegian production is a staggering leap from about 30,000 tonnes last year and double recent forecasts of 80,000 metric tonnes. The 1986 harvest should be between 63,000 and 68,000 tonnes.

Canadian federal and provincial fisheries departments have just begun to assess the impact of the farmed production on existing salmon sales from B.C.

Jim Fralic, aquaculture co-ordinator for the provincial agriculture department says B.C. farmed salmon production should jump to 2,000 tons this year, up from 250 in 1985.

He said declining prices may have an impact on the viability of B.C. salmon farms, which normally forecast their economic position based on the strong prices of the past two years. "We've always been of the opinion that prices for farmed fish would come down," he said.

"We hoped to reduce the cost of production at the same time by reducing the rate of natural mortality. There are indications this is happening as people get more experienced."

Troll prices dive to $2.25

Trollers found fairly good fishing as the season opened June 20 but needed the volume to partly compensate for a major price cut.

Opening prices posted by B.C. Packers for spring salmon were $2.20 for large, $1.65 for medium and $1.30 for small.

That was a 17 percent cut from last year's July 1 opening prices of $2.65, $2.10 and $1.50. By June 23 this year the prices had moved up to $2.25, $1.70 and $1.35, still far below the July 8, 1985, range of $2.75, $2.25 and $1.70.

Without the protection of a minimum price agreement, troll fishermen are at the mercy of price-cutting processors, who are blaming Norwegian farmed salmon in European markets for the depressed prices.

By July 10, B.C. Packers had raised its prices to $2.35, $1.80 and $1.40.

Coho prices were more stable, opening at $1.30, $1.20 and 85 cents this year, compared with 85 cents, $1.25 and $1.40 in 1985.

Initial troll spring landings on the west coast of Vancouver Island were good, apparently more because of abundance than increased effort.

Spring returns to the Skeena were double the 10-year average for the first week in July, according to fisheries northern director Paul Sprout. That was in stark contrast to the sharp decline in sockeye returns.

By July 10, the fisheries department could report total chinook catches of 35,537 in the northern area up to July 5 and warned that catch controls could be necessary if "current catch rates continue."

Northern coho catches totalled 336,537, including 126,036 taken in the week of July 5 alone.

Chinook catches on the west coast of Vancouver Island also were running ahead of forecast. On July 7 the department closed the Big Bank to slow the harvest rate. By the end of the week ending July 5 the troll catch had hit 145,300, a figure that fisheries salmon coordinator Eric Kremer said could reflect both increased effort and increased abundance.

Coho catches to the same date were 614,800, also close to the 696,000 mark at which conservation measures could be imposed. Kremer said the department was very close to curtailing the coho fishery.

Troll chum catches to July 5 were 64,100 and the Gulf troll catch had hit 36,250.

Sockeye non-retention regulations remain in effect.

Warnings of new difficulties in chinook markets were issued June 13 in *Friday*, the publication of the Pacific Coast Federation of Fishermen's Associations. Even before the season opened, some purchasers refused to sign market contracts.

According the the PCFFA, the California, Oregon and Washington fleet had to return to port in the second week of the season to negotiate a lower price. The prices were slashed from U.S.$2.65, $2.35 and $2.05 to $2.30, $2 and $1.75.

Sales were good until the first week of June when rumors of Norwegian farmed salmon being dumped on the market slowed sales. The story was false but the PCFFA quoted reliable reports indicating that Norwegian sellers dropped prices 50 to 75 cents a pound to retain a market share after the fresh salmon season began.

Toxic chemical detected in farm salmon

A spokesman for B.C.'s ministry of the environment confirmed Nov. 7 that there are no controls in this province on the use of a toxic anti-fouling agent that has been detected in farmed salmon.

The substance is called tributyltin, or TBT, and is one of the most toxic substances known to man. Popular as an anti-fouling paint for boat bottoms, it has been banned in a number of European countries because of the damage it inflicts on the environment.

Now TBT has been detected in pen-reared salmon sold in U.S. seafood markets. According to *Friday*, the publication of the Pacific Coast Federation of Fishermen's Associations, aquaculture products from Puget Sound and Norway purchased in public markets contained concentrations of .28 to .9 micrograms per gram of TBT.

TBT, sometimes used to treat netting used in salmon pens, can be toxic in levels as low as five parts per trillion. Two scientists working for the National Marine Fisheries Service found the substance in baby coho sold in public markets.

"We have no controls on the use of anti-fouling agents," B.C. environment ministry spokesman Michael Coon told *The Fisherman* Nov. 7. "We're in the process of collecting samples. We're trying to assess the problem. It's something we don't know very much about."

Evidently the pan-sized fish are not exposed to the TBT for long enough to die from its effects. The chemical concentrates over time in certain parts of the body.

Coon said the toxic effects of anti-fouling agents are a concern. "It's in everyone's interest to make sure fish aren't contaminated."

UFAWU secretary-treasurer Bill Procopation said the threat of TBTs is another example of the chaos surrounding the B.C. fish-farming issue. "We'll need more than a 30-day review to establish regulations to prevent this kind of damage," he said.

The two American researchers also studied the effect of low concentrations of TBT on juvenile salmon, concluding that exposure to low doses may increase susceptibility to disease.

Norway's salmon farms face tight regulation

Is B.C.'s aquaculture industry as tightly regulated as Norway's?

A day-long seminar on Norwegian fish farming sponsored by the Norwegian Trade Commission June 2 provided the answer: a resounding no!

Among regulatory programs now in place in Norway but barely under consideration in Canada:

- a ban on the use of hormones;
- controls on the use of antibiotics;
- compulsory quarterly inspection for disease;
- limits on corporate concentration, the proximity of farms to each other and the density of fish;
- clearcut quality control standards;
- regulations to ensure safe construction and mooring of pens with environmental controls now being codified in Norway;
- regulation covering the location of farms.

During the 1970s the government actually slowed development and halted the issuance of licences to allow the Norwegian industry to consolidate.

National aquaculture policy claims to protect wild fish

Canada moved a step closer to national aquaculture policy April 28 with an agreement by provincial and federal fisheries ministers to establish interlocking aquaculture legislation.

In a meeting in Winnipeg fisheries minister Tom Siddon told his provincial counterparts that the agreement "is an important step in furthering the development of aquaculture's great potential in Canada."

Although B.C. has no fisheries minister, the province has begun developing similar federal-provincial agreements as a result of a First Ministers' Conference in Halifax in 1985.

The first federal-provincial arrangement, signed between Ottawa and Nova Scotia in March, gives the province the sole licensing authority for aquaculture enterprises as long as federal requirements pertaining to fisheries and related matters are satisfied.

The Winnipeg meeting adopted a statement of national goals and principles for the development of commercial aquaculture. The seven goals include:

- to encourage the development of commercial aquaculture in Canada in a manner that is complementary to the continuing development of the wild fishery;
- to increase the economic returns from "intensified production and harvest of high value, marketable species of fin fish, shell fish and marine plants";
- to improve the quality and expand the variety of Canadian fish products; and
- to encourage long-range stability in the country's fish production through diversity and continuity of supply.

The agreement gives the lead to the private sector in aquaculture development, but pledges government support in economic development and research.

Farm fish to hit wild salmon market

Salmon farmers will be training their guns on traditional wild salmon markets by the end of the decade, say Norwegian experts, and dropping prices could move the date even closer.

Growing production of farmed salmon both in Norway and B.C. has sparked fears among commercial fishermen that existing markets will be undermined by the new production.

This year buyers are predicting a sharp decline in troll chinook prices because of a glut in European smoker markets caused by Norwegian production. The Norwegian product already competes effectively on restaurant tables in Seattle and Vancouver, the heartland of wild salmon production.

But Norwegian marketing expert Karl Johan Ringstad told a Vancouver fish farming seminar June 2 that farmed production of coho and chinook will outstrip wild fish catches by 1990.

Production of farmed Atlantic salmon has already hit 42,000 tonnes, well above the worldwide production of 27,000 tonnes of chinook in 1985 and 43,000 tonnes of coho.

Virtually all Norwegian production is exported, 30 percent of it to the United States. By the end of the decade, Ringstad predicted, farmed production will dominate the quality "white table cloth market" and take 15 percent of the fresh market.

"The challenge is to get into other segments of the market," he said. "In the last few months a price drop has reduced profitability in Norway. As the price of farmed salmon decreases it will open new markets. It can be delivered year-round."

In 1978 the smoked salmon market was dominated by wild production, he noted, but now the tables have turned. In the future, farmed salmon may be marketed alongside fresh meat and poultry. "I leave it to you to speculate how many tonnes are required to supply retail outlets even in California alone."

How low will the price go? "I wish I knew," Ringstad said, "but look at the price of chicken."

Farmed salmon is going head to head with chinook already. A later speaker quoted prices in Seattle of $4 to $4.25 a pound for chinook between six and nine pounds. Atlantic salmon was being delivered for between $3.97 and $4.37.

Ireland freezes foreign fish farms

Ireland has slapped a ban on foreign ownership of salmon farm leases to head off what officials feared could be a take-over of the country's industry.

"We could fill every bay on the Irish coast with salmon cages within two years if we allow the Norwegians in without restriction," a local official told *Fish Farming International*. He later corrected himself and said "non-nationals" rather than Norwegians.

The Irish Fisheries Department has announced that no further licences will be issued for salmon-farming projects in which nationals of countries outside the European Economic Community have a major stake.

A policy review is under way.

By contrast, there is absolutely no curb on foreign investment or control in B.C.'s salmon farming industry, which has a large Norwegian element. Norwegian investors are attracted to B.C. by much looser regulation than they face at home.

Opponents of outside investment in the Irish industry claim that Norwegians control 60 percent of the fishing farming industry in Scotland and have starved locally-owned farms of smolts from Norwegian-controlled hatcheries.

Angry fishermen are reported to have rammed salmon cages in Scotland in frustration.

Fishermen in Ireland are concerned about the implications of a Scandinavian proposal to raise farmed salmon in converted oil tankers. Even other farmers are fearful of its impact on the environment and markets.

Smolts for the scheme would come for Iceland, posing the threat of importing kidney disease to Ireland.

DFO aquaculture subsidy hits $3 million in '85

Fisheries department expenditures in support of the aquaculture industry totalled $3 million nationwide in 1984-1985, says fisheries minister Tom Siddon.

In reply to a query from Skeena NDP MP Jim Fulton, Siddon said June 2 that DFO "has been the lead federal department in fostering the development of aquaculture in Canada, focussing particularly on research and experimental development, the protection of fish from communicable diseases and the transfer and application of research results to industry."

In the year ending March 1985, the department spent $2.5 million on aquaculture research, a period when salmonid enhancement spending was frozen. A further $300,00 was spent to assist aquaculturists to use the latest methods in rearing and harvesting.

The amount spent on research has increased to $2.5 million up to March 1985 from $2.3 million during the previous year.

Siddon told Fulton that fish farmers are eligible for interest-free loans under the Canada B.C. Subsidiary Agreement on Small Business Incentives. More than $9 million of $50 million loaned under the program went to fish farmers.

Siddon could not provide a breakdown on how much of the research money was spent on the Pacific coast.

fish farming
INTERNATIONAL

MONTHLY £1.50 DECEMBER 1986, VOLU

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SURPLUS SALMON WARNING

Production may exceed demand by 23,000 tons

A NEW estimate of farmed Atlantic salmon production and demand comes from the Irish Sea Fisheries Board (BIM).

In a research study of international production and market trends, it finds that the market is expected to grow to 153,000 metric tons by 1990 — with Norway providing 100,000 tons, Scotland 25,000 tons and Ireland 10,000 tons.

For Ireland alone, this could mean farm earnings of IR£32 million, exports of IR£44 million and 1200 jobs.

According to the report of this study, Europe's technical maximum of farmed salmon production is around 250,000 to 300,000 tons. Norway, says the report, can produce 200,000 tons a year, Scotland up to 30,000 tons and Ireland up to 15,000 tons.

The market will determine

Atlantic salmon farming has also been greatly assisted by recent major developments in feed compounding; and stock improvement programmes have been underway for some time.

But, with the prospect of rapidly increasing supplies, there will be a need for increasing emphasis on marketing with effective performance making the difference between success and failure.

With the growth in production, falling real price trends for fish and frozen salmon are already evident in most European and North American countries. If continued, they should induce greater consumption. And growing awareness of salmon's health value will add to its marketability.

However, total world demand by 1990 could cause reductions in prices and margins greater than farmers and traders presently envisage.

Lower margins will force the least efficient producers out of the industry and will deter potential small-scale new entrants.

The emphasis on greater efficiency will stimulate high standards of technology and training, and a larger minimum-volume production of

Salmon farms based on integrated smolt and sea cage production are unlikely to be less than 500 tons a year capacity, notes the BIM report.

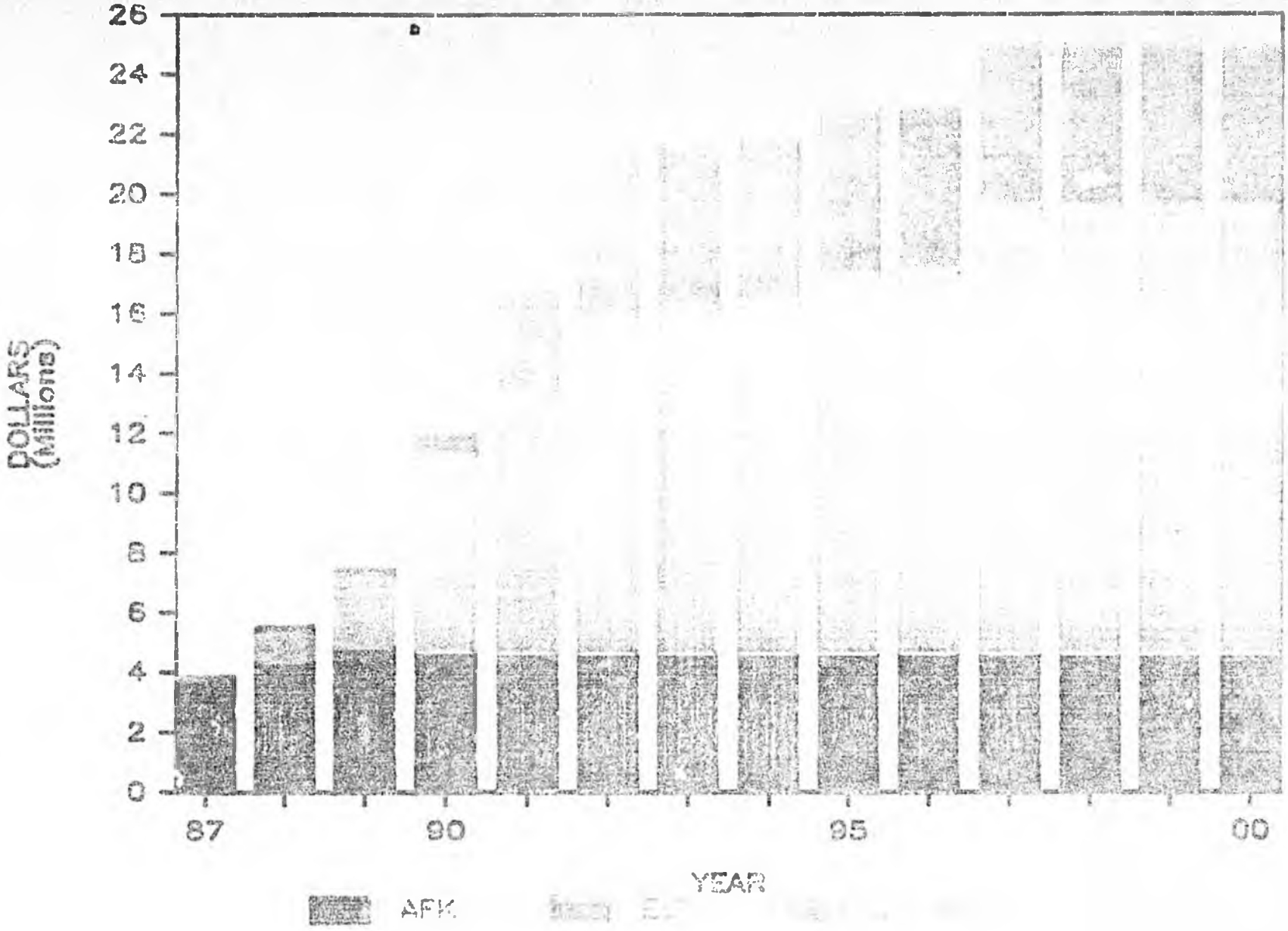
Investment needed for such a project would be around UK£2 million and would be [illegible] discounts would reduce this return to zero.

● We shall be looking at this BIM report and its conclusions in more detail in our January 1987 issue.

A NEW colour brochure in English, Fr
says that the salmon's natural habitat h
location for developing Irish salmon f
by the Irish Sea Fisheries Board (BI
notes that the first crop of farmed sale
harvested in 1977. Production is project
tons in 1990.

TOTAL COMMERCIAL FISHING REVENUE

PRINCE WILLIAM SOUND AQUACULTURE CORP.



PRINCE WILLIAM SOUND SALMON HATCHERY PRODUCTION

HATCHERIES	1986 BROOD YEAR EGG NUMBER (millions)					FINAL EGG CAPACITY (millions)				
	Pink	Chum	Coho	Chinook	Sockeye	Pink	Chum	Coho	Chinook	Sockeye
Armin F. Koernig	126	--	--	--	--	137	--	--	--	--
Esther Island	78	40	1.0	0.12	0.9	211	111	1	4.0	30.0
Solomon Gulch	64	4	1.3	--	--	136	18	1	.3	--
Main Bay	3	85	--	--	--	25	100	--	--	--
Cannery Creek	39	--	--	--	--	111	--	--	--	--
Gulkana Springs	--	--	--	--	30.0	--	--	--	--	30.0
TOTAL	310	129	2.3	0.12	30.9	620	242	2	4.3	60.0

ARMIN F. KOERNIG HATCHERY
PRINCE WILLIAM SOUND, ALASKA
PINK SALMON PRODUCTION DATA

BROOD YEAR	FRY RELEASE	FISHERY HARVEST	HARVEST RATE	BROOD STOCK	HATCHERY HARVEST	TOTAL RETURN	TOTAL MARINE SURVIVAL
1975	1,000,000	4,000	10%	15,155	24,845	44,000	4.4%
1976	11,010,577	--	--	40,432	114,188	154,620	1.4%
1977	16,950,784	275,000	50%	54,207	223,748	552.955	3.3%
1978	22,774,739	1,038,700	70%	108,061	346,728	1,493,489	6.6%
1979	21,500,000	1,358,907	60%	198,901	707,037	2,264,845	10.5%
1980	69,787,000	3,615,086	70%	164,545	1,354,732	5,134,363	7.4%
1981	70,118,000	2,990,225	80%	124,278	607,999	3,722,502	5.3%
1982	87,384,533	2,226,423	80%	186,431	387,146	2,800,000	3.2%
1983	76,746,000	3,772,962	75%	271,513	986,141	5,030,616	6.6%
1984	103,531,000	3,872,222	78%	277,706	814,072	4,964,000	4.8%
1985	112,527,515	--	--	--	--	--	--

UNITED FISHERMEN OF ALASKA

Jack Cadigan
Executive Director
907-586-2820
1-800-478-FISH

Mr. Chairman and Members of the Committee:

My name is Bob Blake and I am here to express some of the concerns the United Fishermen of Alaska and the Cordova District Fishermen United have with the CS for House Bill #108.

Our basic concerns are outlined in the United Fishermen of Alaska's Resolution 87-3, passed unanimously by the Board of Directors at their annual meeting the first week in February, which is:

Keeping in mind that Alaska has 90% of the U.S. salmon production and 43% of the world salmon production, excluding pen-reared salmon, you can understand our anxiety.

We raise the following issues:

1. (a) Disease related problems have the potential of affecting existing stocks of wild salmon which are fully utilized by sport, commercial and subsistance users, or are needed for PNP brood stock or spawning escapement.
(b) Potential of polluting the quality environment needed for continued production of wild stocks of salmon, sea run trout and other aquatic plants and animals by use of antibiotics in treating pen-reared disease problems, surplus fish food damaging the bottom dwellers around net pens, restriction of water current movement because of net pen placement, human waste and garbage contamination, etc.
(c) Genetic alterations are a potential concern; after several cycles of altering and domesticating, pen-reared salmon, upon escaping, could in turn effect the gene pool of wild stock.
(d) What are the impacts of hormones, toxicants (ie. TBT) antibiotics, etc., ont he natural environment, animals and the human food chain?

2. Where do the smolt or eggs come from to start up a Mariculture industry?
(a) Certainly not from imported stocks - the history of importing smolts is laden with disease problems.
(b) Wild chinook in Southeast is still in the build-up stage to help fulfill the U.S./Canada Treaty obligations.

Southeast hatcheries are not up to maximum capacities to meet that estimation either, and even if they are close, what about the ever increasing needs of the sportfish, commercial and subsistence common property users? Chinook and coho stocks in Southeast are fully utilized under the existing fisheries and industry. The same goes for Cook Inlet and Prince William Sound. Any surplus spawning escapement is currently utilized by FRED and PNP hatcheries for supplementing existing user group fisheries. All the chinook and coho stocks West of Cook Inlet are also fully utilized by existing fisheries or escapement.

3. Funding problems that need to be addressed:

.F.R.E.D. division of the Alaska Department of Fish & Game would be required to bear inspection costs. They would have to develop a disease control and management program and provide all types of associated services. Where's the funding for these additional costs going to come from? The F.R.E.D. Division is faced by the proposed FY88 budget to close down four State hatcheries and reduce its other programs, all of which are valuable to existing users.

.D.E.C will have to be involved with all the environmental research and monitoring. While that agency's budget isn't proposed to be cut this year they simply don't have enough funding to monitor existing problems (even the Alyeska Pipeline Terminal).

.D.N.R. is way behind on existing work loads of permitting, land use planning, etc. That agency's budget is being cut even further.

.D.C.E.D. is set up in this legislation to be a lead-type agency. They are taking a 25% budget cut, I believe, for FY88.

None of the agencies involved are able to carry out their current legislative mandates and program needs for their existing respective user groups. Shouldn't their budgets be brought up to levels to meet the current needs of existing industries and user groups before the Legislature imposes more changes on them? I can appreciate the Legislature's desire to enhance the State's economy, but not at the expense of reducing the economic potential of existing industries.

4. Physical displacement of traditional users: Commercial fishermen fear disruption from traditional fishing grounds and anchorages, as well as the hazard to navigation salmon farms will pose. We have to assume that sport fishermen, recreational boaters and tourists will feel the same way. Waterfront property values could also diminish, depending on the siting of such farms. Tourism is a blooming industry in this State. People come to Alaska to find esthetic values, to photograph pristine environment, and to have the ultimate experience sportfishing and hunting, not to see salmon farms scattered all up and down the coast in all the favorite fishing spots and anchorages.

5. The PNP and State hatchery program has been stated as the best renewable resource investment the State has made with oil dollars. It's a shame that the State did not make more money available for this venture during times of plenty, because the program collectively has not come close to acheiving its potential throughout the State. Our hatchery system supplements the wild stock resource for the common property fishery. Every person in this State has access to the hatchery-produced fish if they so desire, via commercial, sport of subsistence fishing. This venture in hatchery production has created many more jobs for State residents and helped maintain the economic viability of the commercial and sport fishing fleets in much of the State. In Prince William Sound, for instance, the commercial fishermen opted to increase the salmon resource rather than eliminate many of the fishing permits. We have done this through ocean ranching and it works. Our Prince William Sound hatcheries are also producing chinook and coho for sport fishermen and tourists. If the State is ever again going to invest in the salmon industry, it should invest in the proven commodity, and not in potential disaster. The existing industry provides many, many thousands of jobs.

6. Funding: As stated earlier, the State is not willing or able to fund the four agencies that will have to be involved with this Mariculture legislation to a level that will allow them to adequately manage their present obligations. This needs to be rectified first. Both the Enhancement and Commercial Fishing Loan programs have been mislabeled "revolving". The principle and the interest from both programs go directly into the General Fund upon repayment. Both loan funds are literally out of money unless the Legislature makes an appropriation to them. Some of the loans from these programs have been transferred to AIDA to help finance things like the Red Dog Mine. These loan repayments go directly to AIDA, not to the General Fund. It might be a consideration of this Committee to look into this "non-revolving" situation before there is no money left for reinvestment in the State's largest non-oil industry.

7. What are we trying to accomplish with pen-reared salmon? Are we trying to create a "cottage" industry, a "mom and pop" show up and down the coast, or are we trying to develop an environment for multi-national investors to capitalize to the fullest by providing a few jobs and taking home the profits (if there are any) at the expense of several existing industries? If the State is desirous of maximum potential benefit to the State itself, or its residents, it will have to make a tremendous financial investment in order to pull it off. Norway had to do it because its rural coastal communities were drying up from lack of fisheries resources to sustain their economy. Norway also had very little natural "salmon" resource to worry about or consider affecting. Alaska's present economic situation and flourishing salmon stocks do not mandate such a move. Besides, it does not appear that the limited size structure restricted by Norway to accomplish their goal will be economically viable in Alaska. Without the money to do it in-State, the only logical option would be to allow outside investors to come in, bring their experts and equipment with them, and control an industry that will provide just a few local resident jobs while competing for General Fund dollars and services at our expense. In my "logical" scenario, it would be prudent for the State to carefully analize the actual value gained for potential cost incurred. As commercial fishermen, we realize the market impact of pen-reared salmon on Alaska wild salmon. While we don't feel that pen-reared will ever really displace our markets, we do already feel an impact and will continue to feel that impact with or without Alaska being involved. If this Committee is intent on pursuing HB105 in its present form, then it should consider including in the legislation a time frame during which pen-reared salmon could be sold in order to not directly compete for market space during the wild salmon seasons.

As the U.F.A. and the C.D.F.U. support the careful and controlled development of shellfish and plant mariculture, and we are not desirous of slowing down the process by which the exsisting shellfish farmers can continue, or new farmers becoming involved, we suggest that this Committee split the two issues into two separate bills, thus allowing shellfish legislation to proceed with little or no resistance.

We appreciate the opportunity to speak on this issue during its past hearing and will be providing more information and comments in the future. Thank you.

UNITED FISHERMEN OF ALASKA

Jack Cadigan
Executive Director
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UNITED FISHERMEN OF ALASKA

RESOLUTION 87-3

WHEREAS in 1985 the United Fishermen of Alaska requested the State of Alaska to perform a thorough study of the biological, economic and sociological problems and potentials of salmon pen rearing in Alaska, but this study has not yet been undertaken; and

WHEREAS the UFA supports the careful and controlled development of shellfish and plant mariculture; and

WHEREAS the development of the salmon farming concept of mariculture will adversely affect the fishermen and the most successful hatchery and enhancement program in North America by: (1) reallocating State funds and services; (2) competing with markets for wild salmon; (3) preventing water and land use of traditional fishing, hatchery, enhancement, and smolt rearing and release sites; (4) increasing the potential disease contamination of the wild stock; and

WHEREAS no realistic fiscal note has been produced to identify the cost to the state incurred by the management of the proposed activities;

NOW THEREFORE BE IT RESOLVED that the Board of Directors of the United Fishermen of Alaska urges the State of Alaska to take no action on legislation and development of salmon farming mariculture until such time as the aforementioned issues of concern are addressed through private and public forums.

Robert H. Blake — 2/6/87

Robert M. Blake
President

Date

SALMON FARMING POSITION PAPER

EXECUTIVE BOARD OF DIRECTORS
PRINCE WILLIAM SOUND AQUACULTURE CORPORATION
P. O. BOX 1110, CORDOVA, ALASKA 99574

Over the past twelve months the Executive Board of Directors of the Prince William Sound Aquaculture Corporation (PWSAC) had debated and discussed the pros and cons of establishing a salmon farming industry in Alaska. These discussions were prompted by the previous administration's apparent desire to explore the feasibility of developing the regulatory, administrative and legislative framework to implement a large scale salmon farming industry in Alaska. Considering the fact that legislation has been introduced to both the House and the Senate specifically for the purpose of legalizing the operation of salmon farms in Alaska, we feel that the time is appropriate to express our opinions and concerns to those individuals and agencies that will ultimately be responsible to formulate statewide policy on this issue. There are two major issues that we feel must be addressed and dealt with before the state takes any further steps towards legalizing the development of a salmon farming industry within state waters.

I. Long Term Social and Economic Impacts - Ocean Ranching vs. Salmon Farming

First of all, it is imperative that a long hard look be given to the relative benefit of ocean ranching vs. salmon farming in years to come. This should be done keeping in mind that success of an industry or undertaking be measured by the sum total of its contribution to the people, communities and industries of Alaska, both in terms of social and economic wealth.

The legislation that created both the private non profit hatchery program and the F.R.E.D. Division of AD&FG charged these programs with the responsibility of enhancing salmon runs statewide so that harvest levels in the common property fisheries would support and industry, meet the desires of sport fishermen, and satisfy the needs of subsistence fishermen. At first glance many people interpreted these programs as a "fish welfare subsidy" by which the state pays the bill and commercial, sport and subsistence fishermen thrive. In fact, after ten years of growing and developing, these programs are on the verge of becoming self-sustaining, cost efficient entities that will represent the backbone of Alaska's second largest industry.

The fishing industry is our largest employer and generates more dollars in ex-vessel value and final product marketing than any other industry in the state besides oil.

The ocean ranching programs in Alaska have undeniably stabilized salmon production in areas where unpredictable fluctuations in wild stock returns has kept the Alaska salmon industry from diversifying and growing due to the lack of a constant, ensured supply of product - a necessity in any resource related industry. Product diversification and progressive marketing strategies for pink and chum salmon have just begun to be explored. These avenues of development, aided by the consistant supply of wild and enhanced salmon we have realized in the early 1980's, have provided the salmon industry with its first long term, optimistic outlook in many years.

To try to express the value of Alaska's ocean ranching programs in terms of a cost benefit ratio is virtually impossible. The production of ocean ranched salmon provides fish to be harvested, jobs in the processing industry, product to be marketed and a consistant supply of product year to year. This assures lending institutions that investment in the industry is well-founded. As well as these direct benefits, there are the infinite number of multipliers of income generated to communities and support services throughout the state as the revenues associated with handling large volumes of salmon filter down.

This past year in Prince William Sound (PWS) the ADF&G estimated that 55% of the entire pink salmon harvest can be attributed to ocean-ranched production. The failure of wild stock returns to PWS was not predicted. Without the private non profit and F.R.E.D. Division enhancement programs, millions of dollars invested by fishermen and processors preparing for the coming season would have been lost. Raw fish tax revenues that supplement the city's operational and capital funding needs would have been greatly reduced. Ultimately the state would have had to deal with these losses in the form of subsidies or at least supplemental funding requests from the city. By 1992 PWSAC alone will generate better than $20 million dollars in direct revenue to commercial fishermen. State investment and support of these programs to this point has been indispensable and demonstrates a great deal of foresight. To sell these programs short now would be a tragic mistake.

Specifically, it is the long term social and economic benefits that ocean ranching has provided that we feel are lacking within the proposed salmon farming industry. It is an undisputable fact that all ocean ranching production by the regional association and private non profit facilities is carried out on a zero budget level by the corporation involved. Incorporated under non-profit status as required by the enabling legislation and subsidized by commercial fishermen through a mandatory enhancement tax, the sole

purpose of this program is to produce fish for harvest in the common property fisheries. The only money retained by these corporations are used for operational funding and retirement of long term debt to the state's revolving hatchery loan fund.

In contrast, the salmon farming industry would operate as a strictly for-profit venture. According to the House Research Agency report "Aquaculture In Alaska" (H.R.A.-A.I.A.), most likely the major investment base in this industry would come from Scandinavian banks, similar to salmon farming development in British Columbia. Alaska has just begun to turn the tide of foreign investment in its fishing industry. If any one word stands out as a calling card to Alaska's fishing industry in the past five years, it is Americanization and what the implementation of the Magnuson Act has done toward that end. If the investment base in the salmon farming industry is for the most part other than domestic, it is safe to assume that the profits will be realized by other than domestic entities. If this is the case and it seems to be a worldwide trend in the salmon farming industry, why should Alaska invest it's resources (water and land) and it's money (resource agency monitoring and regulatory development) in salmon farming when it already has a program (ocean ranching) that it has funded that directly benefits its people and a thriving established industry.

Salmon farming is not a labor intensive undertaking. According to the House Research Agency Report Aquaculture In Alaska; Norway, the country that pioneered salmon farming directly employed only 2,000 individuals in 1984. This hardly represents an industry that could make a significant contribution to the job market in coastal Alaska. There are that many people employed directly by the salmon industry in the small town of Cordova in any given year.

The December 1986 issue of Fish Farming International reports in an article by the Irish Sea Fisheries Board (BIM):

> "BIM's conclusion from this is that the imbalance of projected supply and demand by 1990 could cause reductions in prices and margins greater than farmers and traders presently envisage.
>
> Lower margins will force the least efficient producers out of the industry and will deter potential small-scale new entrants.

> The emphasis on greater efficiency will stimulate high standards of technology and training and a larger minimum-volume production unit.
>
> Salmon farms based on integrated smolt and sea cage production are unlikely to be less than 500 tons a year capacity, notes the BIM report.
>
> Investment needed for such a project would be around UK 22 million pounds and would be capable of earning 18 per cent internal rate of return.
>
> But the investment is risky. A drop of ten per cent in real revenues through low prices would halve the rate of return. A stock loss say every five years (through disease or unusual weather conditions) would reduce this return to zero."

If this prediction by experts within the salmon farming industry proves true, it is clear that a developing industry in Alaska has little chance to establish a significant market share for a product that already shows signs of saturating the market for which it produces.

Further, the investment capital and the level of technology necessary to operate at the scale suggested in order to be competitive predicates an industry that holds very little hope for any vertical integration. This scenario is more likely to create high volume production salmon farms financed by large, multinational corporations that do nothing more than create a few local jobs and pass profits on to parent corporations.

Taking these facts into consideration is is hard to visualize this state government, confronted with extremely limited funding for existing programs, creating an industry (salmon farming) that will require extensive agency monitoring and regulatory development, while offering negligible long term social or economic benefits to the State of Alaska.

II. Salmon Farming: Funding and Operational Considerations

The House Research Agency report Aquaculture In Alaska suggests in its section on options for financing of salmon farms that repayment of capital construction loans from the private non profit aquaculture corporations to the revolving hatchery laon fund could be used to fund the development of salmon farming. On page 21 of the report the author states "The cornerstone of Alaska's aquaculture industry is the State's system of public (F.R.E.D. Division) and private non

profit (PNP) salmon hatcheries which are designed to augment the state's natural runs. As enumerated in Chapter One, by almost any economic measure (i.e,. employment, income, total economic activity), aquaculture is probably the best renewable resource investment the state has made with it's oil wealth."

In the preceding paragraph the author speaks of the tremendous, wise investment the state has made in its ocean ranching program. Yet in the next chapter he suggests taking away the only available funding mechanism the PNP hatchery program has to continue investing in its own and the state's future.

This rationale remains a mystery to us. Perhaps the authors need to be reminded that large portions of those loan repayments are made with funds generated by commercial fishermen paying a mandatory enhancement tax. We suggest that if the House Research Agency had held public hearings as recommended by the Fisheries Mini Cabinet Aquaculture Advisory Committee, they would have been informed by the public that fishermen much prefer their enhancement tax funds be used to further the combined effort of the PNP program and the F.R.E.D. Division in tranditional enhancement and ocean ranching endeavors rather than financing a fledgling salmon farming industry.

The Regional Planning Team concept, a combined effort of regional aquaculture corporations and the sport, commercial, subsistence and F.R.E.D. Divisions of ADF&G have produced Regional Salmon Plans throughout the state that define the enhancement needs of each individual region. These plans develop a list of priority projects that will help achieve the enhancement needs of their respective regions. The only mechanism for funding available to the private sector to achieve these goals is the revolving hatchery loan fund and it is imperative that it remains in tact.

In the House Resource Agency report Aquaculture In Alaska the authors explain that if salmon farming were to become a reality both the genetics and disease control staff and lab facilities would need to be expanded. This represents only two of the many state programs in which both capital and operational funding would have to be expanded to support the salmon farming industry. From our point of view as a regional aquaculture association charged with responsible and beneficial enhancement development in PWS, this is where we find the greatest conflict between salmon farming and ocean ranching in Alaska.

Consider this fact: in 1987 the F.R.E.D. Division claims it will not operate its Cannery Creek hatchery in PWS. This facility cost the state $4 million dollars in 1979. The hatchery can rear 111 million pink salmon eggs when filled to capacity. Because of a lack of $180,000 in operational funding, the Cannery Creek facility will forego producing a return in 1989 of as many as 3.5 million adult pink salmon. It is very unlikely that there is any other situation in which the state could invest $180,000 and produce direct revenues of $3.5 million dollars, not to mention associated revenue to local communities through raw fish tax funds, local work force in the processing and shipping industry and support services region-wide that generate their income as large volumes of salmon are harvested in the region.

We are in a time that the state isn't even able to fund ongoing projects that for a relatively small investment can potentially produce significant economic gain. It seems irrational for the state to even consider the development of a new venture (salmon farming) that will not only require considerable state support but further, is most likely not even comparable to existing established programs in terms of its potential long term benefits.

In conclusion, we thank you for taking the time to consider our point of view on these issues. Most importantly, we hope you have gained a better understanding of how crucial the continued funding and development of our aquaculture programs are to Alaska's future.

Matthew Luck, on behalf of the
Executive Board of Directors
Prince William Sound
Aquaculture Corporation
February 24, 1987

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Alaska Mariculture and Seafood Markets

Development of mariculture in Alaska could strengthen the competitiveness of Alaska seafood in the world marketplace. By broadening the diversity of products and providing year-round supplies of premium quality seafood, sea farming will help Alaska take better advantage of the growing appetites of consumers for fish and shellfish.

Seafood consumption in the U.S. grew by 609 million pounds or 21.5 percent during the past four years for which statistics are available (1982-85), but nearly all of that growth came from increased imports of foreign products. In fact, imports of foreign fish and shellfish increased by 14 percent in 1985 alone. The U.S. fisheries trade deficit amounted to a staggering $5.6 billion that year.

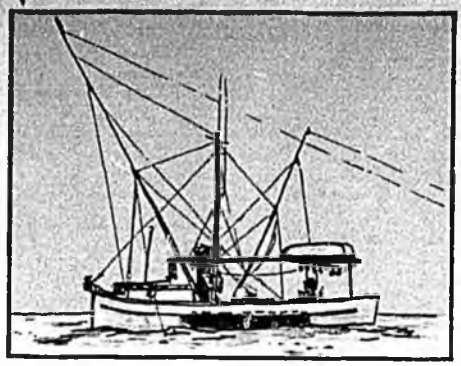
The growing consumer demand for seafood in the U.S. and throughout the world is being filled by aquatic farm products. Global aquaculture production in 1983 was 22 billion pounds and accounted for about 12.2 percent of the total world supply of edible fish and shellfish. Experts say aquatic farming production will reach 48 billion pounds by 2000.

At the same time, commercial fishing production in the U.S. is declining slowly and world fisheries landings have stabilized. World aquaculture production is expected to grow by 5.5 percent annually over the next 25 years, while fisheries landings are anticipated to increase by .5 percent annually.

Development of oyster, mussel and scallop farms would bolster Alaska's ability to offer a variety of high quality fresh seafood, while salmon farming could allow seafood distributers to offer year-round supplies of fresh Alaska salmon. A long-term strategy of supplementing commercial fisheries landings with supplies of cultured seafood is Alaska's best hope of remaining a major force in world markets.

Another important market consideration for Alaska in mariculture development is the potential impact of farmed salmon production in the state upon commercial fishermen. A close look at the discrete markets for Alaska's diverse salmon industry reveals that farmed salmon competes with a very small segment of our wild salmon production.

(more)



Alaska Trollers Association

REPRESENTING ALASKA POWER TROLLERS

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TESTIMONY OF THE ALASKA TROLLERS ASSOCIATION

RE HB-108 AND SB-106:

"An Act relating to aquatic farming; and providing for an effective date."

2/16/87

Earl E. Krygier

Executive Director

EXECUTIVE SUMMARY

The Alaska Trollers Association believes that passage of HB-108 and SB-106, "Act(s) relating to aquatic farming...", in their present form would be detrimental to the Alaska salmon industry and not in the best interest of the State. ATA generally supports of aquaculture, and believes there are many opportunities for Alaskans in various aquaculture developments. However, we specifically oppose those aspects of these companion measures aimed at permitting the pen rearing of salmon in Alaska.

Alaska produces some 43 percent of the world harvest of salmon. The pen rearing industry, spearheaded and dominated by foreign interests and backed by their governments' subsidy programs, is in direct competition with our salmon industry. This applies not just to king and coho salmon, but to all fresh and fresh-frozen product forms. Encouraging those interests to invest in and control pen rearing in Alaska is clearly not in the interest of our industry, and will jeopardize the enormous private and public investments already made in our wild and hatchery stocks. We cannot control the actions of other nations, but we need not actively contribute to the market competition facing our own industry.

We are also extremely concerned about possible biological impacts on our wild stocks. While the spread of an extremely virulent infection from penned to wild stocks may be of a low order of probability, the potential for major damage to wild stocks does exist. With so much at stake, is pen rearing worth the risk? Pen rearing will produce chronic habitat problems local to the rearing sites, will compete for release sites with our existing enhancement programs, and may physically displace existing fishery activity, as has been the case with log dumps.

Proponents assertions not withstanding, pen rearing will divert increasingly scarce State government resources from existing fishery management programs. Fiscal impacts have not been addressed. ADF&G, DEC, DNR, DCED, and Revenue programs will be effected.

We contend that proponents are exaggerating the potential economic benefits of salmon farming in Alaska. Without the strict controls, which are not contemplated by these Bills, pen rearing operations will not be small, Alaska owned businesses. They will be large corporate operations, utilizing foreign technology, and funded and controlled by foreign interests. The few Alaskan jobs they will provide will be at the lower end of the technical and pay scales of these operations. To the extent that Alaskans are involved, either as investors in foreign dominated ventures or as independents. their position will be precarious. This industry is headed for a major "shake out" worldwide, and small, late entrants will be the most vulnerable.

In sum, salmon pen rearing threatens our existing industry and will not be the bonanza that proponents claim. Alaska's support for aquaculture should be in those areas where we can become the technological and market leaders. Let's not get on a bandwagon which is about to run out of gas!

Proponents of aquaculture say it offers one of the single greatest new opportunities to develop and diversify State and local economies and create new jobs. To hear them talk, you'd think that salmon pen rearing in particular is "the greatest thing since sliced bread." Frankly, your fishermen constituents disagree. They think pen rearing of salmon could well be a disaster for them and a very bad deal for the State of Alaska generally.

It is important to look beyond the enthusiastic statements of proponents about the "great opportunity" represented by aquaculture. We must also look at its' effects on the entire spectrum of the existing seafood and support industries. The past administration's Ad Hoc Committee on Mariculture, including the representatives of the fishing industry, found that aquaculture in general does offer new opportunities - though not without costs. Indeed they found that some forms of aquaculture - pen rearing of salmon to be specific - could, in fact, have detrimental effects on the fishing industry, particularly in Southeast fishing communities.

We, the fishing community, suggest that pen-rearing of salmon - the "fish farming" which is really the key element driving this Bill - poses three principal threats to Alaska fisherman:

- saturation in the price and quality leading sectors of our markets which will eventually impact the price of all Alaska salmon, not just our "top of the line" fish;

- negative biological impacts on our vital wild stocks and rearing habitat; and

- diversion of increasingly scarce State government fiscal and managerial resources toward management of a new industrial sector dominated by foreign capital and operators, to the detriment of our Alaskan industry.

Additionally, we contend that the developmental and employment benefits of salmon pen rearing to rural communities and to the economy of the State in general are being heavily, even irresponsibly oversold by pen rearing advocates.

MARKET CONSIDERATIONS

The advocates of aquaculture claim that consumption is rising and that there will be no competition between the farmed and the commercial forms of seafood. The reality is, that the bulk of the highly touted "world increase" in seafood consumption will occur in shellfish, and cod and catfish type fish rather than in the more expensive salmon species. This projected increased in world consumption has two main components.

(1.) Fish as a Cheap Source of Protein: Aquaculture in Third World countries has increased exponentially during the past few years - mostly in the form of warm water pond culture of tilapia and carp. Such culture in Third World nations is often run in conjunction with annual irrigation of rice fields, or in areas where the yield of protein per acre is grossly in favor of pond culture (fish such as Grass Carp or other herbivorous species for local consumption, or shellfish for export) where lands have a low plant productivity due to bad soil conditions. In the industrialized countries cheap protein is also important, but here consumption increases are largely in the form of "fast-food" fillets for fish sandwiches and deep fried catfish. Indeed, the largest aquaculture sector in the U.S. is Mississippi Valley catfish farming, and the single largest fish processor in the U.S. is a catfish processing plant.

(2.) The Health Benefits of Seafood: In North America and Western Europe, the increased recognition of the health benefits of seafood mostly spawned by the educational efforts of such institutions as the Heart Association and the National Marine Fishery Service, has led to a greater consumption of fish and shellfish. Consumers who increased their consumption for health reasons, are normally more interested in the expensive product forms, such as fresh or frozen salmon.

Unfortunately for Alaskan fisherman, the increased awareness and consumption occurred coincidentally with the advent of the Norwegian pen reared salmon industry - though not because of it, as some would claim. Through aggressive marketing and government subsidized production and shipping (including heavily underwritten air freight rates on the government owned airline SAS) the Norwegians made heavy inroads in this product niche of the seafood industry. Our Alaskan commercial fisherman, unprotected from this heavily subsidized, government organized marketing blitz into their traditional markets, have not enjoyed the benefits of increased demand through higher prices or expansion of market opportunities for our other salmon species, such as frozen reds and ocean bright pinks. So, Norwegian salmon has not just hurt trollers, it has limited diversification opportunities for gillnet and seine caught fish as well.

There is really only one market for quality salmon. This market is worldwide and must absorb all inventory, both fresh and fresh-frozen. As fresh-farmed salmon output increases, it cuts into the commercial high quality fresh-frozen market where Alaskan fish has been traditionally been dominant. Present worldwide production of wild salmon is 600,000 to 700,000 metric tons, the vast majority of which is pink, chum and sockeye salmon. Only 70,000 to 80,000 metric tons are high quality coho and king salmon, and it is these fish which are facing competition from pen-reared salmon. This competition is increasing yearly. The production of pen-reared salmon worldwide is expected to approach

150,000 metric tons by 1990. Such an increase will nearly triple the present volume of high quality salmon. In the world market, Western Europe, Canada, and the United States represent "the marketplace" for high-quality salmon. The troll industry's fresh and fresh-frozen product has already felt the impact of market competition from pen reared fish. Our king salmon price to fisherman has dropped from $2.50/ lb in 1985 to $1.80/lb in 1986. Cohos dropped .50 cents /lb this past winter when a large inventory of Norwegian fish was dumped on the French market.

Demand for this high quality fish just can't expand as fast as the supply is growing. Studies indicate that every man, woman and child in the United States would need to exchange a meat dinner for a salmon dinner to increase consumption by 25,000 metric tons per year. If pen-reared salmon production does reach 150,000 metric tons by 1990, then a population the size of the United States would have to eat six salmon dinners per year that they are not presently consuming. This is a product which retails for $6.00 to $8.00 a lb. Any economist will tell you that it is unreasonable to expect such a demand increase to occur in such a short time. It also means that the enormous amount of high quality salmon on the market will have to sell at reduced prices to compete within its own market niche, with other seafood, and with a more competitive red meat and poultry industry.

This problem was headlined in the December 1986 edition of FISH FARMING INTERNATIONAL which read, "SURPLUS SALMON WARNING - PRODUCTION MAY EXCEED DEMAND BY 23,000 TONS". The article stated that an imbalance of projected supply and demand by 1990 (three years from now) could cause sharp price reductions and upset profit margins. It stated that lower margins would force the least efficient producers out of the industry and preclude small-scale new entrants. It went on to say that farms which produce less than 500 tons per year (this latter type of large facility has a cost of US$3 million +) would not have the product volume capacity to reach profit margins. They state that such large investment would be very risky, since a stock loss every five years through disease or the effects of unseasonable weather would yield zero net returns. Such losses are not without precedent. Salmon farmers in Norway, on the Sunshine coast of B.C., and at the National Marine Fisheries Service experimental farm at Little Port Walter in Southeast Alaska, have experienced such losses from algal blooms, stress induced by harassment from marine mammals, and from disease.

Commercial fisherman, as users of a wild, common property resource have been striving for years to stabilize natural fluctuations through hatchery enhancement and resource allocation. Pacific coast fisherman, in trying to solve those problems via the U.S./Canada Treaty, will face not only an increase in production from salmon farms, but the need to market the expected great increases in wild and ocean released hatchery

stocks resulting from the U.S./Canada Treaty. Canada and the Pacific States plan to release 2.6 billion enhancement salmon by 1990 - an increase of 245 percent! Add to this the increases from natural stocks rebuilding to maximum sustainable yield. This represents a tremendous investment in management and enhancement dollars, and tremendous sacrifices by our fishermen to achieve wild stock rebuilding. Pen reared salmon compete with these fish and dilute the value of our already massive investment.

It is also frequently asserted that penned salmon won't compete with Alaskan wild stock salmon since most of our production occurs during the summer, whereas penned salmon are sold in the winter. In fact, 10% of all pen reared salmon is sold in the summer. As long as penned salmon production was low, its summer market impact was not too severe. The total Alaska troll king and coho salmon production was about 9,700 MT in 1985. If full projected pen reared salmon production of 150,000 MT is reached by 1990, then a 10% summer market competition will be 15,000 MT in the summer of 1990. That is, they will dump more fresh fish in the summer market alone than the entire Alaskan troll production. As we have said, Alaskans in general will benefit from this competition since the development of new product forms of pink/chum/and sockeye, ie. fresh frozen ocean bright quality, will be out-competed by the fresh farmed fish industry which has already developed its market strategy. But, the hardest hit will be the troll fleet. Our product, both fresh and fresh-frozen, competes head to head with pen reared salmon.

Since the volume of pen reared salmon projected by 1990 will triple the product volume available from the current harvest of all king and coho salmon (the two species which compete most directly with pen reared salmon), the issue of product saturation is both real and imminent. Whether or not Alaska becomes involved in the pen rearing of salmon will not change the fact that our wild stock fishing industry will see an increased market competition with pen reared fish, but we don't have to contribute to the problem.

I've spoken about world market impacts and their effects on Alaska fishermen, but if we allowed pen rearing in Alaska we would also have to deal with direct competition in our local markets. Most pen raised fish would be marketed in the winter when local fishermen are supplying local winter markets and getting their best price. When there is such high winter unemployment, winter fishing is both good for mental health and for the pocketbooks. Local pen-reared fish would severely hurt our local winter markets since buyers would not need to wait - as they're presently accustomed to doing - for a winter storm to pass so that local boats can "sneak back out" for a bit of winter fishing.

BIOLOGICAL CONCERNS

Additionally, salmon farming poses threats to our native stocks and our rearing habitat in Southeast. The rapidly growing aquaculture industry faces two big environmental problems; self-inflicted water pollution around the fish farms, and disease epidemics in the pens.

The problem of pollution from feces and unconsumed feed poses a real habitat problem. Most of the choice sites for aquaculture are important as nursery areas for other juvenile fish and shellfish. The problem of bottom habitat degradation is exemplified by the history of log storage facilities. The scientific literature is full of descriptions of the harmful effects to critical environments from hydrogen sulfide pollution - the same pollutant by-product associated with salmon farms.

As for disease, in 1983 epidemics cost the farmed salmon industry approximately $110 million. Much of this occurred when a bacterial disease in Norway forced 29 out of 40 farms to slaughter their entire stock. Fish farmers, and feed lot farmers in general, respond to diseases with antibiotics which can lead to new virulent forms of disease. Virulency can take the shape of drug resistant disease strains or as new forms of disease to which natural stocks have little or no immunity. The major countries producing farmed salmon have either destroyed their

natural runs or never had them, so they have no natural stocks at risk. However, Alaska produces 90% of all U.S. landings, which equates to 43% of the world landings, from wild, natural runs of salmon. Can we really afford to risk a major disease induced crash of our wild stocks? We think not! Proponents of pen rearing would like to "wish away" the disease problem, but its not a simple thing to deal with and the risks are potentially catastrophic.

MANAGEMENT AND FISCAL CONCERNS

Pen rearing advocates are fond of stating that they aren't seeking State loans and hence won't have a fiscal impact on State government. This is a ruse. Loans aren't the only way of impacting the budget. With revenues getting tighter and tighter State resource managers are faced with doing more and more with less and less. Introducing pen rearing will have an impact on departments charged with regulating the seafood industry and managing the State's tideland resources. DNR, DEC, Revenue and ADF&G will all have to gear up to deal with permitting, regulating and otherwise managing this new industry. You tell me what it will cost! The only certain thing is that it won't be cheap, and that it will negatively impact already shrinking management efforts applied to our existing fisheries.

I think it would be very wise to have a detailed examination of the fiscal impacts of this legislation before proceeding further.

We have previously mentioned the U.S./Canada Treaty. Two additional programs were sold by the State of Alaska to the fishing fleet which promised a long term future and stability, Limited Entry and Salmon Enhancement. Though these programs hold promise, they have put the troll fleet in a precarious make-it or break-it balance. The farming of salmon can upset this balance. It is important to remember that Limited Entry was instituted to control excess effort and give assurances to fisherman that a reasonable livelihood could be obtained. The State also invested heavily in this process by making State loans available and by instituting additional programs which would benefit limited Entry participants and the seafood industry. Such basic assurances encouraged many Alaskans to invest their lives and wealth in this newly stabilized industry. If the State now decides to allow pen rearing of salmon, which competes directly with Limited Entry fisherman, it will have broken its trust with the existing industry. Additionally, salmon enhancement was conceived and developed in Alaska through a legislative process, the main intent of which was to exclude "private-for-profit" salmon farming or ranching. The Alaska Legislature understood at that time the social and economic implications of private salmon culture on a healthy commercial fishing industry. Those legislators understood that salmon culture was capital intensive and would likely be dominated by out-of-State extractive investment unless regulated to ensure that control and benefits remained in Alaska.

OVERSELLING THE ECONOMIC BENEFITS OF SALMON PEN REARING

Proponents of pen rearing salmon like to claim that they will be able to produce 1,900 jobs. Just how many of these will be held by Alaskans? A recent T.V. documentary promoting the salmon farming industry made a sad, unintended joke of this claim, stating that on the large fish farms on the Sunshine Coast in British Columbia you need to speak Norwegian to get by. We strongly contend that this new industry will not create 1,900 new jobs. On the contrary, it may well displace that many and more existing jobs in the seafood industry and its' supporting industries (shipwrights, fuel and food suppliers, etc.).

The Southeast troll fishery has the highest residency rate of any fishery in the state. Fully 85 percent of our fishermen live here in Alaska. Last year this represented nearly 3,500 fisherman and crew members. Using a standard 2.2 employment multiplier for Southeast indicates that the troll fishery alone may generate a total employment of 7,700 fishing, processing and support industry jobs, all of which are in some degree of jeopardy from pen rearing. Many trollers are barely making it now. Further, price slumps will place even more fishermen in the marginal category, forcing many to seek scarce winter employment on shore, and others to quit entirely. To the extent that Alaska based pen rearing hurts Alaskan fishermen, and it will, we are talking about displacing existing investment with new investment and new

people. As residents of Alaska, we want to see more jobs and more economic stability in our communities for the people that live here now. The following analogy exemplifies our dilemma. The Chamber of Commerce is always a strong local proponent of development. That is, until a Fred Meyers, Safeway, or McDonalds' wants to come to town. We all know that this is because the Chamber is made up of locally-owned small restaurant, grocery and shop owners who want some development, but not "that kind" of development. They know from painful experience that such new development often simply displaces existing industry owned and run by local people. That is the threat our fishermen - your neighbors - see and feel.

Pen-rearing is the latest economic "buzz word". Its logical conclusion is market saturation and an economic shake-out. Alaska's late leap onto the bandwagon - which will run out of gas about the time our production reaches market size - means more economic instability in communities which have suffered enough from the boom/bust economy which has characterized Alaska. The hype over salmon farms reminds me of a similar, though not so global, "new opportunity" in the early 1970's. Remember "worm farms"? Sportsfishermen surely wanted worms and the worm casts made a wonderful plant mix. The only problem was market saturation. Toward the end of that little boom, the only real money in worms was in selling the technology and equipment to "new farmers"! Isn't it interesting that Norway has curtailed developing new salmon farms, but is very hot on exporting its

technology, fry and pens to "new farmers" worldwide? They see the shake-out coming. We'd best have our eyes open too! This isn't just my opinion and advice, as I'm repeating sentiments which are increasingly being expressed in the international aquaculture industry press, most notably FISH FARMING INTERNATIONAL.

Salmon farming is capital intensive rather than labor intensive. Multi-national companies and foreign banks will put up the bulk of the start up dollars, and they will expect the earnings to flow back to them, as do out-of-State companies such as Fred Meyers or Safeway. Those profits won't be retained in the local community. Multi-national corporations are known to come in for the quick initial profits and sell out or just quit business for tax losses which offset other corporate gains. This is not just hype.

Certainly, wise foreign investment in Alaska is needed. We need the inflow of capital. However, such investment should be in the form of joint ventures with Alaskans, not just a license to steal from our resource base. Unfortunately, this bill does not address the issue of controlling the form and rate of growth of this proposed new industry to ensure that Alaskans are the primary beneficiaries (nor has the Alaska Mariculture Association put forth any proposals in this regard). Because of the start-up and operating costs involved, "Ma & Pa" type Alaskan operations will have a difficult time even "getting their foot in the door", and it is even more doubtful that any who did get started could stay

afloat if hit with a disease outbreak or a down turn in the market which all experts project within the next 3-5 years. Advocates of pen rearing like to sell the idyllic view of rural coastal Alaska sprinkled with hundreds of small scale, family run salmon farming operations. We see pictures of the old world charm of Norway with a neat, trim little salmon farm in the foreground. What you, as Legislators, aren't being told is that the Norwegians were only able to accomplish that through strict controls on the size of farms, establishment of quasi-public marketing agencies to ensure sales stability and fair treatment of individual small producers, absolute limits on the total number of entrants, etc. - in sum, strong central control over the magnitude, location and conduct of development. Nobody is even talking about those kinds of controls here. So, what will our development really look like?. Odds are it will take the form of large corporate farms with minimal labor inputs. Wherever possible these will be located outside existing cities or villages to avoid local taxes. Managerial personnel will be largely non-Alaskan. This is hardly a view to gladden the hearts of those who see salmon farming as a means to alleviate rural poverty in Alaska, but it is accurate. Just look at what has happened in B.C.

It would be interesting to know if Sealaska, one of the main promoters of this new industry, plans to invest it's own capital, or is it looking for foreign investment capital?

It's true that many of the aforementioned impacts will occur whether or not Alaska allows the farming of salmon. We can do little more than prepare for the glut of high priced fish by assuring our quality standards and strongly promoting the market virtues of "Wild Alaskan Fresh And Fresh-Frozen Salmon."

The only real justification for permitting the pen rearing of salmon in Alaska is to produce benefits for residents of the State. We need to know in what manner and under what conditions pen rearing of salmon can produce benefits to Alaskans which outweigh the social and economic costs of introducing the new industry. The only answer which make sense to us, is one which compliments the existing industry rather than bringing in new people to compete with the existing seafood industry. Unfortunately, the advocates of pen rearing have not provided us with such a solution, and failing that, we don't see any good reason why the State of Alaska should actively contribute to aggravating difficulties for its own industry by permitting and promoting pen rearing of salmon here.

If entrepreneurs want to develop new aquaculture opportunities which do not negatively impact our existing industrial base, that's great. Indeed, we think there are many opportunities for Alaska to get ahead of the competition in new aquaculture technologies. There is already interesting work going on with scallops and oysters, and there is available technology for

lobster culture which might well be adaptable to high value Alaska crab species. These, and a host of other opportunities are what you should be encouraging. However, we ask you to say no to pen rearing of salmon, and urge you to beware of placing the State in a position of having to cope with the economic instability of a new industry which is nearing a major shake-out worldwide.

I would like to close my testimony with these thoughts from an article in the January, 1987 issue (pg. 5) of SEAFOOD INTERNATIONAL headlined "Salmon Prices Fall As Supply Forecasts Rise":

> "Salmon prices are falling, and the Irish Sea Fisheries Board (BIM) is predicting they will continue to do so over the next five years. BIM commissioned a study to examine the potential supply and demand situation for farmed Atlantic salmon in the next decade, and the effects of increased production levels on prices. Using information based on the Norwegian, Scottish and Irish salmon farming industries, BIM concludes that adherence to strict quality standards and efficiency in production, marketing and distribution will become of crucial importance; but prices will still fall. (S)ome experts were forecasting...salmon prices...on a par with cod. The last two months of 1986 certainly saw a drop in price levels (in Europe).In the USA plentiful supplies also pushed prices down, and this is expected to continue. Meanwhile,

in all countries, production forecasts are up for this year. Future emphasis is likely to be on frozen fillets, portions, blocks and prepared items, with merchandising aimed at convincing the consumer that each country's salmon is the best."

CONSTANTINE - ALASKA IVORY TRADERS

GARRI R. CONSTANTINE
BOX 207
DOUGLAS, ALASKA
99824

CAPITOL 101
DEAR SEN. KELLY

CONCERNING SB 106 ADDRESSED BY YOUR BODY RELATING TO SEA FARMING, I,AND MY FELLOW FISHERMEN WHO ARE DISCOURAGED BY A STATE GOVERNMENT THEY FEEL IS PUTTING THEM OUT OF BUSINESS, STRONGLY URGE YOU LOOK VERY CLOSELY AT ANY LEGISLATION DESIGNED TO ENCOURAGE THE PRIVATE FARMING OF FISH, ESPECIALLY SALMON, ANYWHERE IN ALASKA.

IT IS NOT ALARMIST AT ALL FOR MYSELF,AS A POWER TROLL FISHERMAN, TO BE CONCERNED BY AN INDUSTRY WHICH UNDERSELLS MY MARKETS WITH A CHEAPER, IF EVEN IN SOME OPINIONS, SUPERIOR PRODUCT, FLOODING AN ALREADY SEASONALLLY SATURATED MARKET IN FRESH FISH. I DO NOT PROPOSE WE IGNORE THE SEA FARMING INDUSTRY ALTOGETHER, BUT THAT IT WOULD BE EXTREMELY UNWISE FOR THE STATE TO SANCTION A PRIVATE FOR PROFIT SALMON FARMING INDUSTRY WHICH WOULD UNDERCUT THE ALREADY DISTRESSED INCOMES OF A LARGE NUMBER OF ALASKA'S SALMON FISHERMEN.

TO CLOSE, I SUPPORT ALL PRIVATE NON-PROFIT HATCHERIES, AND ANY EFFORTS TO FARM SALMON FOR BROOD STOCK OR EGGS FOR THEM. I CANNOT SUPPORT ANY LEGISLATION DESIGNED TO COMPETE WITH ALASKA'S FISHERMEN OF FRESH, WILD FISH, AND HOPE IN YOUR DELIBERATIONS YOU WILL CONCUR. THANK YOU FOR YOUR CONSIDERATION OF THIS OPINION.

Garri R. Constantine

KODIAK AREA NATIVE ASSOCIATION

402 Center Ave. - Kodiak, Alaska 99615 - Phone (907) 486-5725

February 5, 1987

Sen. Tim Kelly
Alaska State Legislature
P. O. Box V
Juneau, AK 99811

Dear Sen. Kelly:

I am pleased to hear that the Senate Bill 106 creating new permitting procedures for mariculture has been introduced in the Senate and is now in your committee. Mariculture is a new enterprise in Alaska with great potential for economic development in Alaska's coastal communities. As limited entry permits continue to pass out of village ownership, traditional fishing opportunities are becoming less available to village residents, adding to already heavy unemployment. Mariculture poses a small boat, near shore, low cost devlopment option for Alaska's villages that can add to rather than extract from our state's resources.

The Kodiak Area Native Association is cooperating with the Alaska Department of Fish and Game and the Japanese Overseas Fisheries Cooperation Foundation to develop a scallop mariculture demonstration project in communities around Kodiak Island. Experts will soon be arriving in Kodiak from Japan to help KANA and Fish and Game staff as well as residents in six village sites begin the scallop project. Unfortunately, the existing permit system in the state does not allow individuals to take and possess shellfish seed for mariculture purposes. The SB 106 creates new permits to allow shellfish culture to begin. No additional funding will be asked of the state.

I hope you can see the importance of this legislation and its urgency to assure the timely start of this spring's project. Please give this bill your earliest attention and help encourage a new industry for Alaska.

Sincerely,

KODIAK AREA NATIVE ASSOCIATION
GORDON L. PULLAR, PRESIDENT

William P Osborne

William P. Osborne
Mariculture Program Coordinator

cc: Sen Fred Zharoff, Rep. Cliff Davidson

Alaska Mariculture Association

P.O. Box 020704
Juneau, AK 99802-0704
(907) ~~586-7032~~ 463-3600

STRAIGHT TALK ABOUT MARICULTURE DEVELOPMENT IN ALASKA

Q. I've been hearing a lot about mariculture development in Alaska. What is it all about anyway?

A. Mariculture--or sea farming--is a rapidly growing industry throughout the world that produces food, pharmaceutical and industrial products. Interest in Alaska focuses on the cultivation of high value fresh products to supply growing premium quality seafood markets. The productive, unpolluted waters of Alaska's many sheltered bays and fjords are considered some of the best mariculture sites in the United States. These sea-farming operations offer tremendous opportunities in coastal Alaska to develop year-round jobs. This is particularly important in rural communities where there are few other realistic, stable sources of new local employment. Literally thousands of non-petroleum dependent jobs could be created.

Q. What kind of jobs and how many will be created? Are we talking about another industry that will employ many non-residents and provide few local benefits?

A. One of the most attractive features of mariculture is that it will offer year-round jobs which are likely to be filled with local residents. Many mariculture operations, particularly shellfish culturing, are ideally suited for family enterprises. Finfish farming is more likely to involve a range of businesses from family operations to medium sized farms employing up to ten people. These businesses also will create new opportunities for local processing plants, light industrial manufacturing of equipment such as nets and pens, and new markets for fish and fish wastes to be used in production of fish food. The increased exports of fresh seafood products also could help lower transportation costs for all Alaskans. The number of new jobs that could be achieved under development of the full potential of sea farming in Alaska is difficult to estimate. A 1987 study for the legislature projected "a total employment effect of about 1,920 jobs and a payroll of $48.8 million" for salmon farming alone. This would provide more resident jobs than the present Alaska logging industry and nearly double the resident payroll.

Q. Isn't mariculture something new and untested?

A. Fish farming probably originated in China about 600 B.C. and oyster culturing thrived in ancient Rome and Gaul. Recent advances have led to an aquaculture explosion around the world. The federal government estimated the 1983 world production of aquaculture seafood at about 22 billion pounds; this is expected to increase to 48 billion pounds by the turn of the century. Commercial fishing landings are expected to remain relatively stable during the same period. This production from aquatic farms will become increasingly important to keep pace with projections for increased consumption of seafood.

Q. How do we know it will work in Alaska?

A. Alaska already has nearly a dozen sea farms producing oysters, one producing mussel farm, and a recently concluded agreement between the State of Alaska and Japan calls for the development of seven scallop sites on Kodiak Island to test the feasibility of scallop farming in Alaska. The agreement also covers a feasibility study of giant kelp (Macrocysistis) farming in Sitka. Experiments conducted in Southeast by the state and federal governments have proven the feasibility of pen-rearing king salmon to marketable size in a competitive period of time.

Q. I'm concerned about salmon farming. Can you tell me more about it?

A. There currently are about 15 countries currently producing pen-reared salmon. Worldwide production of farmed salmon increased from 27 million pounds in 1981 to 97 million pounds in 1985. This is expected to grow to 314 million pounds by 1990. These dramatic increases are reacting to a strong and growing demand in the marketplace for fresh, high quality seafood. Seafood consumption is growing rapidly throughout the world, and no where faster than in the U.S. Americans ate 609 million more pounds of fish in shellfish in 1985 than they did in 1982 which represents a 21.5 percent growth in only four years. Since domestic commercial fishing production declined over the same period nearly all of the increased sales were enjoyed by foreign producers. In fact, America's seafood trade deficit increased by 14 percent in 1985 alone to climb to a staggering $5.6 billion.

Q. Even though the market is growing, the increases in farmed salmon production sound like they might hurt our salmon fishermen.

Sales of farmed salmon in the U.S. are directed at markets for premium quality fresh seafood; the Alaska Seafood Marketing Institute estimates that only three percent of Alaska's salmon catch is sold on fresh markets. A 1986 survey of major U.S. seafood distributors conducted by the Alaska Sea Grant Program and the University of Alaska reveals that few buyers consider

farmed salmon to be a legitimate substitute for frozen wild salmon. Markets for Alaska's great volume of lower value salmon species (pinks and chums) and virtually all canned production clearly are unaffected by the high value farmed salmon. Likewise, existing markets for frozen sockeye salmon appear to be unthreatened. The only area of market impact on Alaska fishermen from farmed salmon is the "white tablecloth" restaurant trade which is primarily filled by troll salmon. Trollers accounted for about four percent of the value of the 1985 salmon catch. The relatively minor impact of farmed salmon on prices for wild salmon is underscored by recent figures from the Alaska Department of Fish and Game. The 1986 Alaska salmon catch of 123.5 million fish was worth $385 million to fishermen or $15 million more than value of the previous year's harvest of 144.6 million salmon.

Q. This information appears to suggest that farmed salmon is having little impact on markets for wild salmon, and there is a growing demand for premium quality salmon. How can we take advantage of this opportunity?

A. To take full advantage of the growing markets for premium salmon Alaska should move forward on two fronts. First, we need to more aggressively promote our premium quality salmon products, both fresh and frozen. A pilot project for a Premium Quality Seal Program was tested in 1986 by the Alaska Seafood Marketing Institute and Department of Environmental Conservation using frozen troll-caught salmon. If successful, this project could forge the way for the needed promotional effort. Secondly, Alaska should move forward with the pen-rearing of salmon so we don't miss out on this important opportunity for growth. Millions of dollars have been pumped into the Norwegian economy from 740 salmon farms and 250 hatcheries. This fact has not gone unnoticed by Alaska's neighbors--British Columbia and Washington State--who are aggressively promoting salmon farming. The market opportunities will be filled by others if Alaska fails to act.

Q. Have salmon fishermen in other countries become involved in salmon farming?

A. Yes. More than half (55 percent) of the applicants for Norwegian salmon farming permits between 1973 and 1978 came from a fishing background. The Prince Rupert Fishermen's Cooperative in British Comulbia provides an excellent example of how fishermen can take advantage of fishing and farming. Groups of six to eight fishermen are forming partnerships with local entrepenuers to finance and operate salmon farms. Cooperative members have 10-20 farms under development. The Prince Rupert Cooperative operates hatcheries and a feed mill to service farms of members and to sell surplus production to others. The cooperative processes and markets the wild and farmed production of its members. These fishermen also are experimenting with oyster and mussel farming.

Q. How about impacts on our wild stocks? Won't exotic diseases be introduced, and what about the potential for sea-farmed fish and shellfish to escape and intermingle with wild stocks?

A. The State of Alaska already has recognized the need to ensure that cultured fish and shellfish do not pose a health risk to wild stocks. The state has implemented the most stringent cultured fish health standards in the nation. These regulations apply to the existing private nonprofit salmon ocean ranching program and to mariculture operations. The impressive track record of Alaska's ocean ranching program demonstrates that salmon, other finfish and shellfish can be cultivated in public waters without risk to wild stocks. These proven regulations are a model for health management systems at mariculture facilities. Mariculturists are very concerned and careful about the prevention of disease because it is critical to the profitability of sea farms that production losses be very minimal. State government will play major regulatory and extension agent roles in ensuring that mariuclture operators have adequate health management systems to maintain the health of the cultured species while protecting wild stocks. A 1986 study by the University of Washington concluded that disease from farmed fish "does not appear to be transmitted to the wild population." The study went on to say, "The potenital consequences of the interbreeding of escaped and wild organisms, if any at all, are unclear. However, for salmonids at least, the potential magnitude of the problem would seem minimal" when compared to the impacts of present ocean ranching programs.

Q. Mariculture operations obviously require continual sources of brood stock. Where will it come from? Will it impact existing fisheries and enhancement programs?

A. Sea farms will require dependable sources of disease-free brood stock. During initial development of a salmon farming industry, brood stock will be acquired through purchases of surplus eggs from private or public hactheries. This can be replaced by private hatcheries developed by salmon farmers. Some shellfish farms--mussels and scallops--will require the collection of brood stock from wild sources. Brood stock taken from these common property sources--hatcheries or gathering from the wild--will occur only if a surplus exists.

Q. I'm concerned about pollution. Will sea farms create accumulations of waste that will pollute our waters?

A. Clean water is a primary concern of mariculture operators as most cultured species are very susceptible to pollution. One of the reasons Alaska is so attractive as a mariculture center is its clean and pure waters. A recently completed study by the University of Washington of salmon farms and shellfish operations in Puget Sound said there appears to be little risk of adverse environmental impacts from mariculture. Only farms located in

areas of very poor circulation pose any danger of accumulations of organic rich debris threatening sea life.

Q. If mariculture is such a natural for Alaska and could be so beneficial why are there so few sea farms?

A. Alaska has lagged behind other areas primarily because of the strength of its natural fisheries resources; mariculture development has been pioneered in countries where the natural stocks have been depleted. The strong market demand for cultured seafood has sparked considerable interest in Alaska in recent years. Individuals and companies interested in mariculture in Alaska have encountered the normal problems facing the development of any new industry. In this case, those problems have been exacerbated by the lack of a state policy on mariculture development and the resulting void in direction to regulatory agencies. The many Alaskans interested in mariculture have found that permitting processes presently exist only for oyster farming.

Q. Does this mean Alaska needs to develop a new layer of regulations and bureaucracy to deal with mariculture?

A. No. Existing permitting processes can easily be adapted for mariculture licensing, and the industry will require little in the way of new government services. Mariculture supporters are primarily interested in getting the state to provide a regulatory climate conducive to development of stable, profitable businesses.

Q. Who will be able to participate in mariculture anyway?

A. Mariculture is open to everyone. No limited entry system or other artificial legal barriers have been erected. As mentioned earlier, there is great opportunity for many small-scale businesses, many of which will primarily require sweat equity investments.

Q. You've convinced me. How do I find out more about mariculture and get involved in this wonderful opportunity?

A. The Alaska Mariculture Association has been formed to advocate policies leading to the development of a stable, year-round mariculture industry, and to assist businesses develop into profitable operations. The AMA will provide members with information pertaining to the permitting and regulatory system, markets, sources of investment capital, quality assurance practices, research, suppliers and other issues of concern. Memberships start at only $25 per year.

STATE OF ALASKA

STEVE COWPER, GOVERNOR

DEPARTMENT OF NATURAL RESOURCES

400 WILLOUGHBY AVE.
JUNEAU, ALASKA 99801-1796
PHONE: (907) 465-2400

OFFICE OF THE COMMISSIONER

February 24, 1987

The Honorable Tim Kelly
Chairman
Senate Labor and Commerce Committee
Alaska State Legislature
P.O. Box V
Juneau, AK 99811

Dear Senator Kelly:

Subject: Senate Bill 106, relating to aquatic farming.

Position: The Department of Natural Resources recommends that the Senate Labor and Commerce Committee pass SB 106 to the Resources Committee for further consideration of land use issues.

Background: SB 106 provides for the construction and operation of aquatic farms. Under AS 38.05.070, land, including tide, submerged or shoreland, to which the state holds title, may be leased in a manner provided in AS 38.05.070 - 38.05.105 and subject to the approval of the Commissioner of Natural Resources.

Recommendation: While the Department of Natural Resources generally supports the goals of SB 106 and the creation of new commercial opportunities through utilization of the state's resources, in the opinion of the department, SB 106 needs to further address land use issues.

Specifically, the department recommends that leasing and permitting processes be designed to encourage development of the mariculture industry, but discourage speculation. This could be accomplished, for example, by requiring applicants to demonstrate by prove up that their projects are viable by preparation of a development schedule. Additionally, leasing and permitting alternatives which encourage small operations, such as lease fees or rent based on gross receipts, could be considered.

The enclosed fiscal note is based on an estimate of the number of leases and permits that would result from the bill

as presently written. The actual number of new applications will undoubtedly vary depending on the fee structure for leasing and permitting and any special requirements that the final bill contains.

I would be pleased to make my staff available to work with your staff regarding the land use issue. If you would like additional information or have any questions, please contact my office.

Sincerely,

Judith M. Brady
Commissioner

Enclosures

cc: Committee Members
Sponsors
George Sullivan, Governor's Office
Rod Swope, Governor's Office
Paul Peyton, DCED
David Benton, ADFG
Tom Hawkins, DLWM

STATE OF ALASKA 1987 LEGISLATIVE SESSION
FISCAL NOTE

REQUEST:

Bill Version : SB 106
Publish Date :

Revision Date: 2/24/87
Title : An act relating to aquatic farming
Sponsor : Zharoff, Sturgulewski, et al
Requestor : Senate Labor & Commerce

Agency Affected : Natural Resources
BRU : Land and Water Management
Components :

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 87	FY 88	FY 89	FY 90	FY 91	FY 92
PERSONAL SERVICES	0	84.6	171.3	171.3	210.6	210.6
TRAVEL	0	20.0	25.0	25.0	22.0	22.0
CONTRACTUAL	0	2.0	4.0	4.0	4.0	4.0
SUPPLIES	0	1.0	2.0	2.0	2.0	2.0
EQUIPMENT	0	0	0	0	0	0
LAND & STRUCTURES	0	0	0	0	0	0
GRANTS, CLAIMS	0	0	0	0	0	0
MISCELLANEOUS	0	0	0	0	0	0
TOTAL OPERATING	0	107.6	202.3	202.3	238.6	238.6
CAPITAL	0	0	0	0	0	0
REVENUE	0	15.5	23.5	32.0	36.0	40.0

FUNDING: (Thousands of Dollars)

GENERAL FUND	0	107.6	202.3	202.3	238.6	238.6
FEDERAL FUNDS	0	0	0	0	0	0
OTHER	0	0	0	0	0	0
TOTAL	0	107.6	202.3	202.3	238.6	238.6

POSITIONS:

FULL-TIME	0	2	3	3	4	4
PART-TIME	0	0	2	2	2	2
TEMPORARY	0	0	0	0	0	0

ANALYSIS : (Attach a separate page if necessary)

See Attached

Prepared by : Paula Burgess
Phone : 465-3400
Division : Land and Water Management
Date : 2/13/87

Approved by Commissioner : Judith M. Brady
Date :
Agency : Natural Resources

Distribution (by preparer):
Legislative Finance
Legislative Sponsor
Requestor
Office of Management and Budget
Impacted Agency(ies)
Senate Secretary

SB 106 Analysis

In order to assess the fiscal impact of SB 106, we estimate the number of new applications for tideland leases and permits that we expect. The actual number of applications will vary depending upon the fee structure for leasing and permitting, and the "prove up" requirements of the bill. At present our permit fees are extremely low and the cost of obtaining a lease is quite high. At this stage no "land law" accompanies the bill to alter the lease or permit structure. We recognize that certain changes are desirable to encourage growth of the industry, such as the acceptance of a paper plat rather than a full survey for a lease in remote areas. While such changes may be forthcoming in later committees, the fiscal note here reflects the existing permit structure.

We estimate the number of new applications the first year to be the following:

30 salmon
25 scallop
10 oyster
3 mussel
2 kelp

We require one adjudicator in the Southeast Region and one adjudicator in the Southcentral Region to handle the new applications. The second year we require one additional adjudicator (to be located where the need is greatest) to handle additional new applications. By the fourth year we are assuming the need of two adjudicators in each of the two regions.

The second year we require a part-time contract administrator to handle the accumulation of two years of lease contracts, and a part-time surveyor to review survey plats. (The survey cost may be reduced somewhat if the bill is amended to allow paper plats rather than full surveys in remote areas.)

A goal of the state and of those seriously interested in aquatic farming is to avoid land speculation. In order to accomplish this, it will be necessary to inspect most lease and permit sites once a year. Some inspections can be combined with other field investigations, and some may be performed under cooperative agreements with other agencies. A lean inspection program will cost $10,000 for each adjudicator the first year (travel and per diem). In subsequent years the cost will decline as we establish inspection efficiencies.

Under existing statutes and regulations, the number of leases and permits estimated above would generate approximately $15,500 in revenue the first year. As the number of operations increases each year, the revenue increases modestly. If the bill were amended to allow the commissioner to charge a percentage of gross receipts, revenues could increase substantially once the industry began to flourish.

Position Summary

Fiscal Year '88

Two (2) - Natural Resource Officers II (Range 16)

Fiscal Years '89 and '90

Three (3) - Natural Resource Officers II (Range 16)
One (1) - Part-time Contract Administrator (Range 14)
One (1) - Part-time Surveyor (Range 20)

Fiscal Years '91 and '92

Four (4) - Natural Resource Officers II (Range 16)
One (1) - Part-time Contract Administrator (Range 14)
One (1) - Part-time Surveyor (Range 20)

5-0495B
Hein
2/24/87

Original sponsors: Ellis, Rieger, Cotten, et al.

IN THE HOUSE

BY THE LABOR AND COMMERCE COMMITTEE

CS FOR HOUSE BILL NO. 108 (L&C)

IN THE LEGISLATURE OF THE STATE OF ALASKA

FIFTEENTH LEGISLATURE - FIRST SESSION

A BILL

For an Act entitled: "An Act relating to aquatic farming; and providing for an effective date."

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

* Section 1. FINDINGS AND POLICY. (a) The legislature finds that

(1) aquatic farming in the state would provide a consistent source of quality food, provide new jobs, increase state exports, create new commercial fishing and other business opportunities, and increase the stability and diversity of the state's economy;

(2) many areas of the state are ecologically suited for aquatic farming development;

(3) aquatic farming would complement and enhance the variety and quality of Alaska seafood and aquatic products, and thereby benefit the state's economy;

(4) development of mariculture in the state would strengthen the competitiveness of Alaska seafood in the world marketplace by broadening the diversity of products and providing year-round supplies of premium quality seafood; and

(5) the principal responsibility for development of aquatic farming in the state rests with the private sector.

(b) It is the policy of the state

(1) to encourage the establishment and growth of an aquatic farming industry in the state;

(2) to assist in the planning and orderly development of the industry;

(3) that the industry be developed in a manner consistent with the protection and enhancement of traditional high value industries and with protection of the state's natural resources; and

(4) that aquatic farming be developed in a manner that assures full participation and full benefits to the people of the state.

* Sec. 2. AS 08 is amended by adding a new chapter to read:

CHAPTER 06. AQUATIC FARMING.

Sec. 08.06.010. AQUATIC FARM AND HATCHERY PERMITS. (a) A person may not, without a permit from the commissioner, construct or operate

(1) an aquatic farm; or

(2) a hatchery for the purpose of supplying aquatic plants or aquatic animals to an aquatic farm.

(b) A permit issued under this section authorizes the permittee, subject to the conditions of this chapter, to acquire, purchase, offer to purchase, transfer, possess, sell, and offer to sell stock and aquatic farm products that are used or reared at the hatchery or aquatic farm.

(c) The commissioner, after consulting with the commissioner of fish and game and the commissioner of environmental conservation, may attach conditions to a permit issued under this section that are necessary to protect the public health or wild stock.

Sec. 08.06.020. PERMIT APPLICATION AND RENEWAL. (a) An applicant for an aquatic farming or hatchery permit required under AS 08.06.010 shall apply on a form prescribed by the commissioner.

(b) A permit issued under this section expires one year after the date of issue.

(c) An application for renewal must be accompanied by fees required under AS 08.01.065 and a report of a health inspection of the

farm or hatchery to be permitted. The inspection shall be conducted by the Department of Fish and Game or by a fish disease diagnostician approved by the Department of Fish and Game. The inspection shall be conducted not more than 30 days before the application is submitted to the department.

Sec. 08.06.030. AQUATIC FARM STOCK ACQUISITION PERMITS. (a) A person may not acquire aquatic plants or aquatic animals from wild stock in the state for the purpose of supplying stock to an aquatic farm or hatchery required to have a permit under AS 08.06.010 unless the person holds an acquisition permit from the commissioner of fish and game.

(b) An acquisition permit authorizes the permit holder to acquire the species and quantities of wild stock in the state specified in the permit for the purpose of supplying stock to an aquatic farm or hatchery required to have a permit under AS 08.06.010.

(c) The commissioner of fish and game, in consultation with the commissioner of commerce and economic development, shall specify the expiration date of an acquisition permit and may attach conditions to an acquisition permit, including conditions relating to the time, place, and manner of harvest. Size, gear, place, time, licensing, and other limitations applicable to sport, commercial, or subsistence harvest of aquatic plants and aquatic animals do not apply to a harvest with a permit issued under this section.

(d) The commissioner of fish and game shall forward a copy of each permit application under this section to the commissioner of commerce and economic development. The commissioner of fish and game shall issue or deny a permit within 30 days after receiving an application.

(e) The commissioner of fish and game may deny or restrict a

permit under this section if the commissioner finds that the proposed harvest will substantially impair sustained yield of the species. The decision of the commissioner of fish and game must contain the factual basis for the findings. If the substantial impairment could not have been reasonably foreseen and avoided through available management options, the commissioner of fish and game shall explain why in the decision.

(f) Except as provided in (e) of this section, the commissioner of fish and game shall issue a permit if

(1) wild stock is needed for initial farms or hatchery stock;

(2) there are technological limitations on the propagation of cultured stock for the species sought;

(3) wild stock is needed to maintain the gene pool of a hatchery or aquatic farm; or

(4) commercial harvest of the species sought is not limited under AS 16.43 and is not fully developed.

(g) Aquatic plants and aquatic animals acquired under a permit issued under this section become the property of the permit holder and are no longer a public or common resource.

(h) The commissioner of fish and game shall make stock available for aquatic farming purposes.

Sec. 08.06.040. IMPORTATION OF AQUATIC PLANTS OR AQUATIC ANIMALS FOR STOCK. A person may not import into the state an aquatic plant or aquatic animal for the purpose of supplying stock to an aquatic farm or hatchery unless authorized by the commissioner of fish and game or by a regulation of the Board of Fisheries.

Sec. 08.06.050. LIMITATION ON SALE, TRANSFER OF STOCK, AND PRODUCTS. (a) A private hatchery required to have a permit under

AS 08.06.010 may sell or transfer stock from the hatchery only to an aquatic farm or other hatchery that has a permit issued under AS 08.-06.010.

(b) Stock may not be transferred to or from an aquatic farm or hatchery required to have a permit under AS 08.06.010 without prior notice of the transfer to the commissioner. A notice of transfer shall be submitted at least 30 days before the proposed date of transfer.

(c) A notice of transfer must be accompanied by a report of a health inspection of the stock. The inspection shall be conducted by the Department of Fish and Game or by a disease diagnostician approved by the Department of Fish and Game.

(d) The Department of Fish and Game may restrict or disapprove a transfer of stock if it finds that the transfer

(1) would present a substantial risk of spreading disease; or

(2) in the case of a transfer from a hatchery for which a permit has been issued under AS 16.10.400, would significantly impair the production needs of the hatchery.

(e) A person may not sell, transfer, or offer to sell or transfer, or knowingly purchase or receive, an aquatic farm product grown or propagated in the state unless the product was grown or propagated on a farm with a permit issued under AS 08.06.010. The permit must be in effect at the time of the sale, transfer, purchase, receipt, or offer.

Sec. 08.06.060. RELEASE OF CERTAIN FISH PROHIBITED. Salmon and trout may not intentionally be released into the public water of the state from a hatchery or aquatic farm required to have a permit under this chapter without prior authorization from the Department of Fish

and Game.

Sec. 08.06.070. DISEASE CONTROL AND INSPECTION. (a) The Department of Fish and Game may order the quarantine or the destruction and disposal of diseased hatchery stock or of aquatic farm products when necessary to protect wild stock. A holder of a permit issued under this chapter shall report to the Department of Fish and Game an outbreak or incidence of disease among stock or aquatic farm products of the permit holder.

(b) A holder of a permit issued under AS 08.06.010 shall allow the Department of Fish and Game to inspect the permit holder's farm or hatchery during operating hours and upon reasonable notice. The cost of inspection shall be borne by the Department of Fish and Game.

(c) The Department of Fish and Game shall develop a disease management and control program for aquatic farms and hatcheries.

(d) The Department of Fish and Game may enter into an agreement with a state or federal agency or a private provider to provide services under (b) and (c) of this section, or inspections under AS 08.06.020(b).

Sec. 08.06.080. REPORT. The commissioner shall submit to the legislature, not later than the first day of each regular legislative session, a report concerning the progress of the aquatic farming industry, including the number of permits issued under AS 08.06.010, the names and addresses of permit holders, the effect of the industry on the commercial fishing industry in the state, and recommendations for legislation relating to aquatic farming.

Sec. 08.06.090. REGULATIONS. The commissioner shall adopt regulations necessary to implement this chapter and to effect state policy concerning aquatic farming.

Sec. 08.06.100. PENALTY. A person who violates a provision of

this chapter, a regulation adopted under this chapter, or a term or condition of a permit issued under this chapter, is guilty of a class B misdemeanor.

Sec. 08.06.900. DEFINITIONS. In this chapter

(1) "aquatic farm" means a facility that grows, farms, or cultivates aquatic farm products in captivity or under positive control;

(2) "aquatic farm product" includes an aquatic plant or aquatic animal, or fish parts that are propagated, farmed, or cultivated in an aquatic farm and sold or offered for consumption;

(3) "commissioner" means the commissioner of commerce and economic development;

(4) "hatchery" means a facility for the artificial incubation of stock, including rearing of juvenile aquatic plants or aquatic animals;

(5) "positive control" means, for fish and other mobile species, enclosed within a natural or artificial escape-proof barrier; for species with limited or no mobility, such as a bivalve or an aquatic plant, "positive control" also includes managed cultivation in unenclosed water;

(6) "stock" means live aquatic plants and aquatic animals acquired, collected, possessed, or intended for use by a hatchery or aquatic farm for the purpose of further growth or propagation.

* Sec. 3. AS 08.01.065(a) is amended to read:

(a) The department shall adopt regulations that establish the amount and manner of payment of application fees, examination fees, license fees, registration fees, permit fees, investigation fees, and all other fees as appropriate for the occupations covered by this chapter, <u>for aquatic farms and hatcheries under AS 08.06,</u> and for real

estate brokers and salesmen under AS 08.88.

* Sec. 4. AS 16.05.251 is amended by adding a new subsection to read:

(f) Except as expressly provided in AS 08.06.040, the Board of Fisheries may not adopt regulations or take action regarding the issuance, denial, or conditioning of a permit under AS 08.06, the construction or operation of a farm or hatchery required to have a permit under AS 08.06.010, or a harvest with a permit issued under AS 08.06.030. Regulations or orders adopted by the Board of Fisheries under this section do not apply to a harvest with a permit issued under AS 08.06.030.

* Sec. 5. AS 16.05.330(a) is amended to read:

(a) Except as otherwise permitted in this chapter, a person may not engage in sport fishing, including the taking of razor clams; in hunting, trapping, or fur dealing; in the farming of [FISH,] fur [,] or game; or in taxidermy, without having the appropriate license or tag in actual possession.

* Sec. 6. AS 16.05.340(a)(14) is amended to read:

(14) [FISH OR] game farming biennial licenses.....200

* Sec. 7. AS 16.05.920(a) is amended to read:

(a) Unless permitted by AS 16.05 - AS 16.40 or AS 08.06. or by regulation adopted under AS 16.05 - AS 16.40 or AS 08.06, a person may not take, possess, transport, sell, offer to sell, purchase, or offer to purchase fish, game, or marine aquatic plants, or any part of fish, game, or aquatic plants, or a nest or egg of fish or game.

* Sec. 8. AS 16.05.930 is amended by adding a new subsection to read:

(g) AS 16.05.330 - 16.05.720 do not apply to an activity authorized by a permit issued under AS 08.06.010 or 08.06.030, or to a person or vessel employed in an activity authorized by a permit issued under AS 08.06.010 or 08.06.030.

* Sec. 9. AS 16.05.940(14) is amended to read:

(14) "[FISH OR] game farming" means the business of propagating, breeding, raising, or producing [FISH OR] game in captivity for the purpose of marketing the [FISH OR] game or game [THEIR] products, and "captivity" means having the [FISH OR] game under positive control, as in a pen [, POND,] or an area of land that [OR WATER WHICH] is completely enclosed by a generally escape-proof barrier;

* Sec. 10. AS 16.10 is amended by adding a new section to read:

Sec. 16.10.269. LIMITATIONS. AS 16.10.265 - 16.10.267 do not apply to the purchase or sale of aquatic farm products from a holder of a permit issued under AS 08.06.010 or stock from a holder of a permit issued under AS 08.06.030.

* Sec. 11. AS 16.10.380(b) is amended to read:

(b) In this section "user group" includes, but is not limited to, sport fishermen, processors, commercial fishermen, aquatic farmers, subsistence fishermen, and representatives of local communities.

* Sec. 12. AS 16.10.400 is amended by adding a new subsection to read:

(h) AS 16.10.400 - 16.10.475 do not apply to the construction or operation of a private hatchery that has a permit issued under AS 08.06.010.

* Sec. 13. AS 16.10.420 is amended to read:

Sec. 16.10.420. CONDITIONS OF A PERMIT. The department shall require, in a permit issued to a hatchery operator, that

(1) salmon eggs procured by the hatchery must be from the department or a source approved by the department;

(2) no salmon eggs or resulting fry be placed in waters of the state other than those specifically designated in the permit;

(3) no salmon eggs or resulting fry, sold to a permit holder by the state or by another party approved by the department,

may be resold or otherwise transferred to another person, unless that person holds a permit issued under AS 08.06.010;

(4) no salmon be released by the hatchery before department approval, and, for purposes of pathological examination and approval, the department shall be notified of the proposed release of salmon at least 15 days before the date of their proposed release by the hatchery;

(5) diseased salmon be destroyed in a specific manner and place designated by the department;

(6) adult salmon be harvested by hatchery operators only at specific locations as designated by the department;

(7) surplus eggs from salmon returning to the hatchery be made available for sale first to the department and then, after inspection and approval by the department, to operators of other hatcheries authorized by permit to operate under AS 16.10.400 - 16.10.470, or AS 08.06.010;

(8) if surplus salmon eggs are sold by a permit holder to another permit holder, a copy of the sales transaction be provided to the department;

(9) [REPEALED

(10)] a hatchery be located in an area where a reasonable segregation from natural stocks occurs, but, when feasible, in an area where returning hatchery fish will pass through traditional salmon fisheries.

* Sec. 14. AS 16.10.450 is amended to read:

Sec. 16.10.450. SALE OF SALMON AND SALMON EGGS BY HATCHERY. A hatchery operator who sells salmon returning from the natural water [WATERS] of the state, or sells salmon eggs to another hatchery operating under AS 16.10.400 - 16.10.470 or with a permit issued under

AS 08.06.010, after utilizing the funds for reasonable operating costs, including debt retirement, expanding its facilities, salmon rehabilitation projects, fisheries research, or for costs of operating the qualified regional association for the area in which the hatchery is located, shall expend the remaining funds on other fisheries activities of the qualified regional association. Fish returning to hatcheries and sold for human consumption must [SHALL] be of comparable quality to fish harvested by commercial fisheries in the area, and shall be sold at prices commensurate with the current market.

* Sec. 15. AS 16.43.140 is amended by adding a new subsection to read:

(d) This chapter does not apply to activities authorized by a permit issued under AS 08.06.010 or 08.06.030.

* Sec. 16. AS 16.51.180(5) is amended to read:

(5) "seafood" means finfish, shellfish, and fish by-products, including but not limited to salmon, halibut, herring, flounder, crab, clam, cod, shrimp, and pollock, but does not include aquatic farm products as defined in AS 08.06.900;

* Sec. 17. This Act takes effect immediately under AS 01.10.070(c).