ALASKA LEGISLATURE COMMITTEE FILES 1987-1988 8672
4929 HRES HB 108 (FILE 1)

501

GOOD MORNING, MY NAME IS MIKE JUDSON, I WAS BORN AND RAISED IN SOUTHEAST ALASKA, MY FAMILY HAS BEEN INVOLVED IN FISHERIES FOR MANY YEARS,

I SUPPORT HB 108, ~~TODAY~~ I WOULD LIKE TO SPEAK ON SALMON FARMING. ONLY

FOR THE PAST 12 YEARS I HAVE BEEN A RETAILER OF MEAT AND SEAFOOD AT A SUPERMARKET IN KETCHIKAN, IN THAT TIME WE HAVE HAD CONSISTANT PROBLEMS AQUIRING FRESH QUALITY SALMON, EXEPT DURING THE SUMMAR SALMON SEASON.

THE REASONS A FARMED SALMON IS DESIRRABLE IN THE RETAIL AND RESTURANT MARKETS IS CONSISTANT AVAILABILITY, SIZE, PRODUCT QUALITY, & FRESHNESS (WHICH WOULD GIVE THE END SELLER LONGER TO SELL A QUALITY PRODUCT)

SEAFOOD CONSUMPTION CONTINUES TO INCREASE, ~~IN THE LAST 4 YEARS CONSUMPTION HAS INCREASED BY 21.5%~~, BY THE TURN OF THE CENTURY CONSUMPTION SHOULD INCREASE BY 33 BILLION POUNDS.

MANY FIRMS NOW PURCHASE PEN REARED ATLANTIC SALMON REGARDLESS OF WHETHER OR NOT WILD PACIFIC SALMON ARE AVAILABLE.

THIS MEANS THOSE FIRMS NOW PREFER THE CONSISTANT QUALITY OF PEN REARED SALMON OVER THE INCONSISTANT QUALITY OF THE WILD PRODUCT.

I SPOKE WITH A SEAFOOD BROKER IN SEATTLE WHO IS CURRENTLY IMPORTING FARMED SALMON FROM, NORWAY, CHILI, NEW ZEALAND AND CANADA HE STATED " A FARMED ALASKAN SALMON WOULD CARRY MORE WEIGHT ON THE SEATTLE AREA AND WORLD MARKETS THAN THE NON ALASKAN FARMED FISH" THIS WOULD HELP ESTABLISH A YEAR ROUND MARKET FOR ALASKAN PRODUCTS. BOTH WILD AND FARMED."

THANK YOU FOR THIS OPPORTUNITY TO EXPRESS MY OPINION

A STIR IN THE SALMON MARKET

Salmon farmers are banking on high quality and reliable supply to sell their fresh product, while domestic producers of wild-caught fish are looking to create a market niche based on the price and year-round availability of high-quality frozen salmon.

How new supplies are changing the picture.

BY PEGGY PARKER

Despite the salmon family's abundant market forms and diverse species, the attention of today's market seems riveted on fresh and frozen salmon, both farmed and wild.

Much of the stir in the fresh market is due to the Norwegians, who began exporting large volumes of fresh Atlantic salmon to both the East and West coasts in the early 1980s. The Norwegian exports meant that, for the first time, high-quality fresh salmon was available in the winter — and in reliable quantities.

It used to be that fresh salmon was sold only from June to September. There were regional exceptions where winter runs of kings or steelhead (a member of the trout family, often sold as salmon) put fresh salmon on the tables of gourmet restaurants in February and March, but volumes were minuscule. The savvy Norwegians created a whole new market with their product, a market that went far beyond the niche of the domestic product in winter.

The urge to target this market is strong among domestic producers: returns are high, and the potential for growth is excellent. There are only two rules in this high-stakes game, but they must be followed to the letter. First, the product must be of highest quality; and second, supply must be reliable.

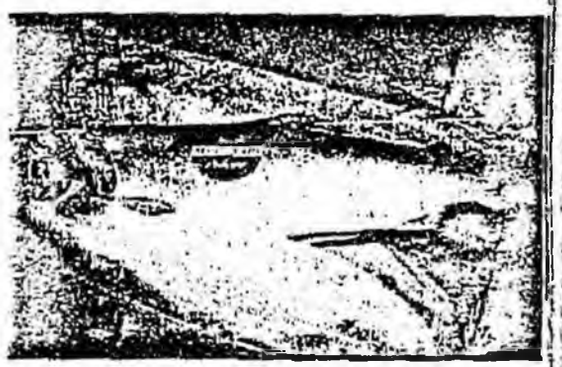
Salmon producers are taking two approaches to the market. One is to join the competition. Interest and investment in farming operations are high on the coasts of both Canada and the U.S. Another is to promote high-quality frozen salmon as a product that meets the aesthetic standards of fresh, yet is available — usually at lower prices — all year.

The Alaska Seafood Marketing Institute introduced "Premium Quality" salmon to the winter market this year in an effort to prove that frozen salmon beats fresh in the overall picture. The cohos selected for the promotion were troll-caught, bled and immediately iced on board, then frozen on shore using meticulous handling techniques.

No time for kid gloves

But it is unlikely that Alaskan plants will produce an elite product in great quantity anytime soon. With half a billion pounds of salmon returning to Alaskan rivers in a period of four months, processors have little time for kid-glove treatment on the majority of the catch.

Harvest timing is more critical with salmon than with any other seafood. Wild salmon must be caught



between the time they enter the fishing grounds (often a several-hour boat run from the fish plant) and the time they reach the fresh water of their spawning streams. It is during this window of time — often only a matter of hours — that wild salmon are at their peak.

Processors market the cream of this crop — troll-caught chinooks and cohos and gillnet-caught sockeyes — to high-ticket restaurants. Like fine wine, they are sold with the area of origin and the date of harvest identified. While the percentage of wild salmon that is sold fresh or frozen is much higher than it was six years ago, growth in this area has slowed. Last year, fresh and frozen salmon amounted to 53 percent of the entire pack, 10 percent *below* the 1985

figure. Short-term growth in the market for fresh and frozen salmon will most likely come from farming operations.

A rush to the fjords

Much as in the westward homestead rush of the 1850s, salmon farmers are stampeding to the fjords of Maine, Washington, and British Columbia to set up sea pens and claim their share of the market. The U.S. has been slow to embrace sea-pen salmon farming, but British Columbia has issued more than 100 permits for the floating farms.

In July 1984, the B.C. Salmon Farmers Association was formed to allocate eggs from the federal hatcheries (the surplus from the government's salmon-enhancement program) to the farmers. Today the industry-funded group not only divvies up the eggs, but screens them for disease. B.C. farmers are building their own brood stock for secure supply and quality. Garth Hopkins, the association's director of communications, says, "In another five to seven years, we will be self-sufficient on eggs."

Following the Norwegian lead, Hopkins' group is developing a marketing strategy for B.C. salmon. It expects to implement the plan before the end of the third quarter this year. Membership, at 75 firms today, is expected to grow to 250 by next year. B.C. production of farmed cohos and chinooks was about 500 metric tons last year. In 1988, that number is expected to reach 10,000 mt.

Right now, world production of farmed salmon is less than 50,000 mt. But salmon farms in New Zealand and Chile are just beginning to produce salmon in large volumes, and in the U.S., successful farms are expanding in Washington and Maine, while others wait in line for permits.

The world's first land-based fish farm is expected to open in June in Westport, Washington. Financed by Seacom A/S of Norway, the plant will raise pan-sized coho in salt water pumped from the ocean. A second facility is slated to open in British Columbia in August.

In Alaska, where pen-rearing of salmon is illegal, the legislature is considering a bill to develop a mariculture industry.

"Although the Norwegians certainly have a jump on prospective Alaska fish farmers," says Brent Paine of the Alaska Mariculture Association, "we do have some advantages, such as sharply lower transportation costs, no import duties, and the lack of currency fluctuations between producers and customers." Paine has marketed Norwegian salmon in the U.S. and worked on fish farms in both the U.S. and Norway.

1986 U.S. Imports of Salmon
(IN METRIC TONS)

FROZEN:		FRESH:
136.9	NORWAY	8,871.4
5,078.6	CANADA	2,485.0
4.2	CHILE	680.8
3.0	U.K.	367.5
263.0	OTHER	540.7
5,486.0	TOTAL	12,945.4

GRAND TOTAL FRESH & FROZEN: 18,431.4

Will prices drop?

These advantages and high wholesale prices are what make the gamble worth it for many aquaculturists in North America. But will rapid growth in the farmed sector mean a drop in prices at the wholesale level?

Norwegian producers are betting their kroner that the market will expand to support price levels, even with the added supply. Their strategy is to provide consistently excellent fish, and sell them with flair. Branded products — not often seen in the fresh-seafood market — will become more common. Designer tags in the gill plate, such as MOWI of Norway's "Superior" tab, have great snob appeal; they also identify the fish and guarantee quality standards. The Scottish Salmon Growers Association now marks its boxes with a special "British Food Quality, Scottish Salmon" stamp. The Shetland Seafood Quality Company and the Shetland Salmon Farmers Association use a grading scheme that awards top quality a "Grade A" sticker.

But not all salmon-farming countries have the quality schemes of Norway, the U.K., or Canada. Some brokers fear that large volumes of farmed salmon may be "dumped" at low prices to gain a foothold in the U.S. market in the next year or so. That could be disastrous to small or recently established farming operations, but the major producers would likely survive.

Just how large could U.S. imports become, and how does that potential compare with domestic supply?

Norwegian salmon farmers are now producing about 30,000 mt per year. Of that amount, about 9,000 mt reached the U.S. market last year, an increase of 34 percent over 1985 imports. Total imports from other countries were just over 18,000 mt.

U.S. fishermen landed 285,000 mt last year, of which about 110,000 mt were exported. About 100,000 tons went into the domestic canned market, leaving about 75,000 mt in the domestic fresh/frozen market. Imports from all countries, then, account for about 24 percent of the domestic supply of fresh and frozen salmon.

These figures could change rapidly. Japanese sea ranching could supply more of that country's needs for salmon, which would leave more sockeyes and cohos for the domestic market. Alaska salmon landings are mercurial, but generally have been increasing over the past decade. Imports are likely to rise — perhaps even double — in the next five years. But a rapidly expanding market will move these supplies quickly. □

What is real?

A word or two about real salmon. There are two genera, or classifications of salmon: *Oncorhynchus* (on ko' rin kus) and *Salmo*. Members of the *Oncorhynchus* genus are found in the Pacific and are all called salmon. Members of the *Salmo* genus are most often found in the sea pens of Norway (although there are still some small wild runs in the Atlantic), and are called, depending on the species, either salmon or trout. The fish that created such a splash on the winter market in the early 1980s is *Salmo salar*, or Atlantic salmon. In the wild, both Pacific and Atlantic salmon hatch in streams, migrate to open ocean for a growing period, then return to the streams of their birth to spawn. A major difference between the two groups is that *Oncorhynchus* spawn once and die; *Salmo* spawn several times.

APR 0 6 1987

ASCC

ALASKA STATE CHAMBER OF COMMERCE
310 Second Street
Juneau, Alaska 99801
(907) 586-2323

April 3, 1987

The Honorable Adelheid Herrmann
Alaska House of Representatives
Post Office Box V
Juneau, AK 99811

Dear Adelheid:

I wish to state the Alaska State Chamber's wholehearted endorsement of HB 108.

The development of a viable mariculture industry for Alaska is critically important to all Alaska. New industry means private sector jobs and jobs mean payroll. Alaska's economy can be placed on a continued strong footing, but only through State generated support.

Passage of HB 108 would send a real signal that the Alaska Legislature supports a strong Alaska economy.

Cordially,

George Krusz
President

GK:cbr

APR 10 1987

Peratrovich, Nottingham & Drage, Inc.
Engineering Consultants
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Telefax (907) 563-4220
1506 West 36th Avenue • Suite 101 • Anchorage, Alaska 99501 • 907-561-1011

April 7, 1987

EN&D 87000r

Representative Adelheid Herrmann
Alaska State Legislature
P.O. Box V (MS 3100)
Juneau, Alaska 99811

Dear Representative Herrmann:

With regard to HB No. 108 relating to mariculture, I would like to express my support for this concept. The U.S. seafood industry is making large strides in market development and research, but still does not have the competitive edge. There is no question that Alaska has very little to say about markets and prices.

Market stabilization, support of hatcheries and use of now wasted products would all be directly related to a sound mariculture program. Instead of competing directly with present Alaska fishing methods, mariculture could instead complement the industry.

I was told that recent testimony indicated that Alaskan's do not contribute to mariculture. Attached is a photo of a "Norwegian Limit" fish rearing pen designed by Alaskans which is capable of handling rough water. This method is, to my knowledge, in advance of the present Norwegian technology. This pen is presently used in Valdez to start feed about 50 million pinks and chums each spring before release and later in the year to imprint king salmon at Anderson Bay.

As a matter of interest, Alaska Fish and Game has developed better fish ladders and fish incubators than were available outside.

Alaska DOT/PF has done significant arctic research and development with roads and foundations for both land and marine installations. They built the first cable stayed bridge in the United States (see attachment). Alaskans were responsible for many of the unique designs and new technology used on the Trans Alaska Pipeline. Aluminum anodes for protection of steel marine structures from corrosion are now being considered as an industry by Alaskans simply by recycling aluminum cans.

In short, given the chance, Alaskans can develop technology as well as anyone and mariculture is no exception.

Please consider the mariculture bill for its long term economic benefits to Alaska.

Thank you.

Sincerely,

PERATROVICH, NOTTINGHAM & DRAGE, INC.

Dennis Nottingham, P.E.
President

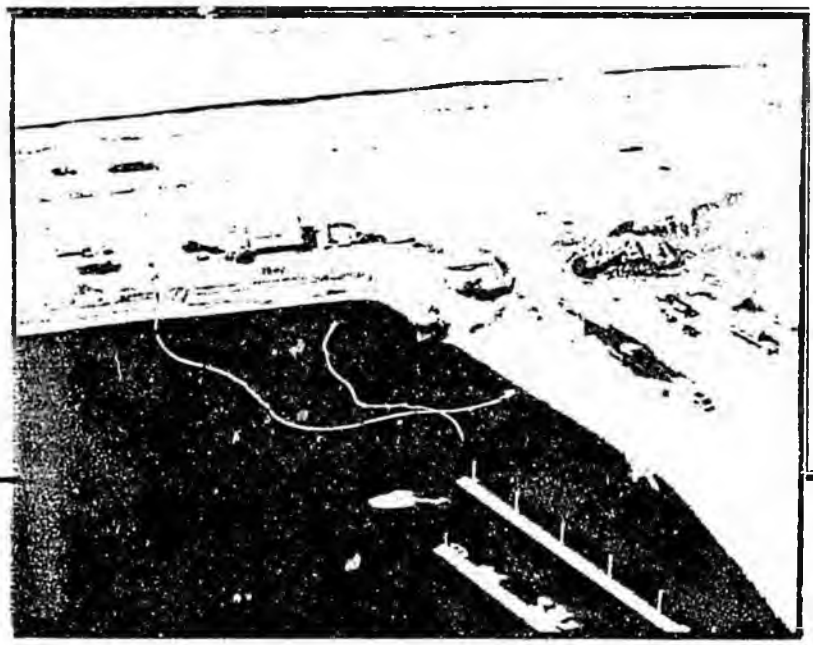
DN/jk/L8

cc: Representatives Sam Cotten
Lyman Hoffman
Cliff Davidson
Mike Nevarre
Dick Shultz
John Sund
Henry Springer
Drue Pearce

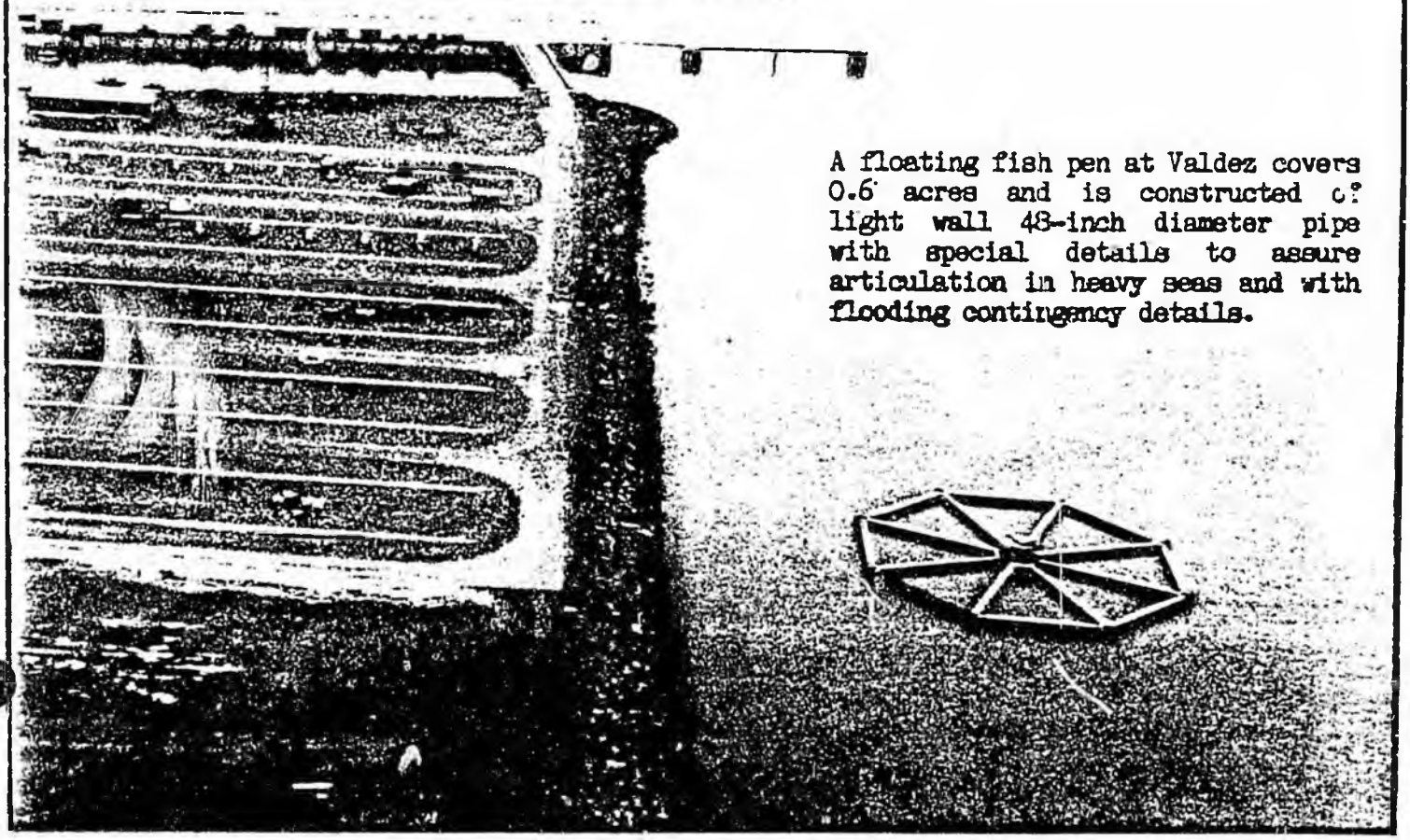
Peratrovich, Nottingham & Drage, Inc.
Engineering Consultants 1506 W. 36th Anchorage, AK 99503
ENGINEERING REPORT
ISSUE NO. 22, DECEMBER 1986

MARINE CONCEPTS: • SILTATION CONTROL • FISH EXCLUSION • FISH CONTAINMENT

Peratrovich, Nottingham & Drage, Inc. has been involved with development of marine components and structures serving to isolate silty water from fish habitat or to isolate fish. These developments to date have been in the form of floating fish rearing pens and filter fabric silt curtains with combinations possible.



The potential to perform in rough water, light ice environments, and limited currents are features that have application to many situations.



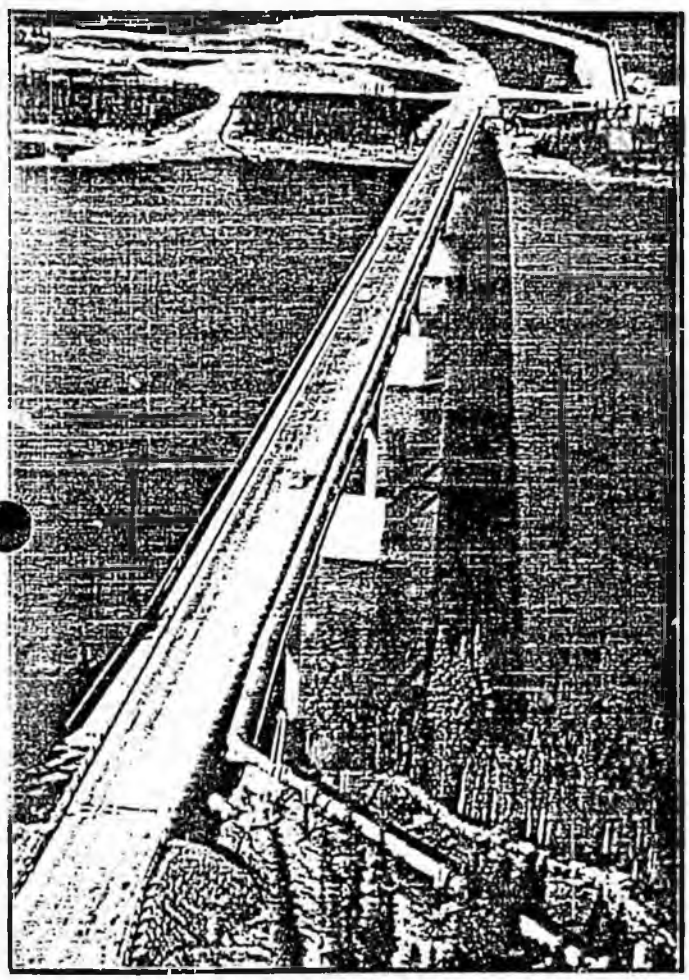
A floating fish pen at Valdez covers 0.6 acres and is constructed of light wall 48-inch diameter pipe with special details to assure articulation in heavy seas and with flooding contingency details.

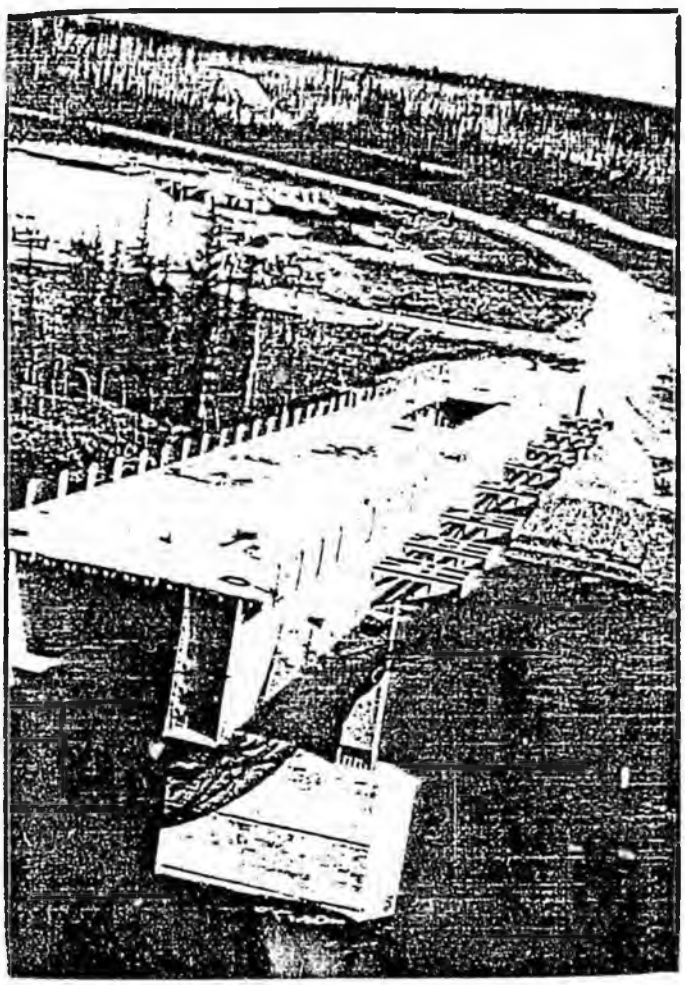
Peratrovich, Nottingham & Drage, Inc.
Engineering Consultants

ENGINEERING REPORT
ISSUE NO. 23 MARCH 5, 1987

BOX GIRDER BRIDGES

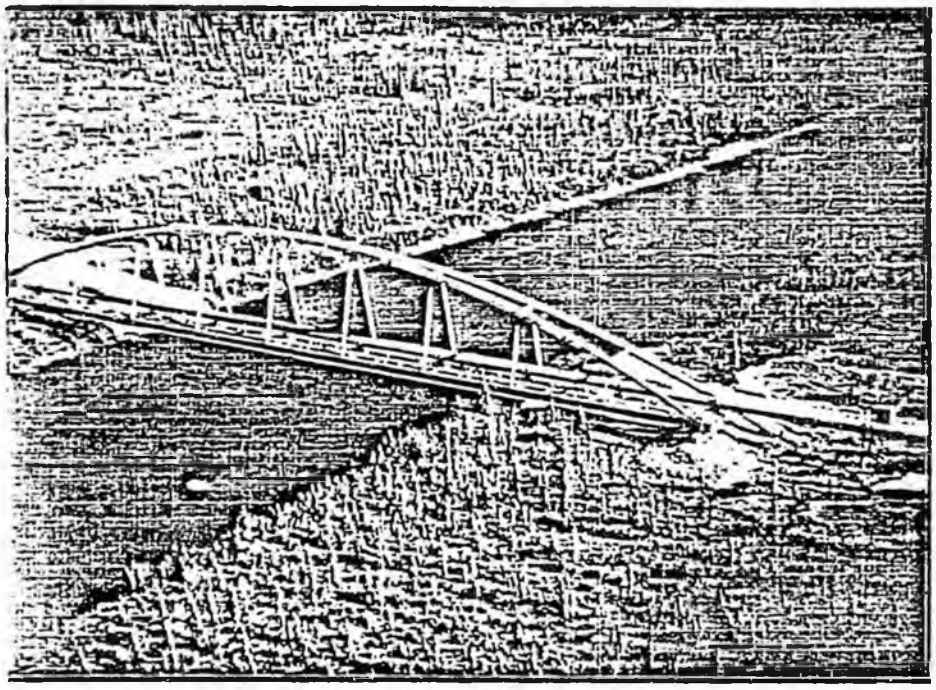
Modern welding procedures allow the creation of bridges with remarkable stability and redundancy features by utilizing steel box girders. These bridges can take many forms as are shown on the accompanying photos. PN&D has extensive Alaskan experience with box girder bridges and continues to develop this technology.





YUKON RIVER BRIDGE (NEAR FAIRBANKS)

This award winning design spanning the Yukon River is a steel orthotropic structure that carries both the Trans-Alaska Pipeline and vehicular traffic. One of the first of its kind in the United States, it was also the most difficult link in this great Alaskan project.

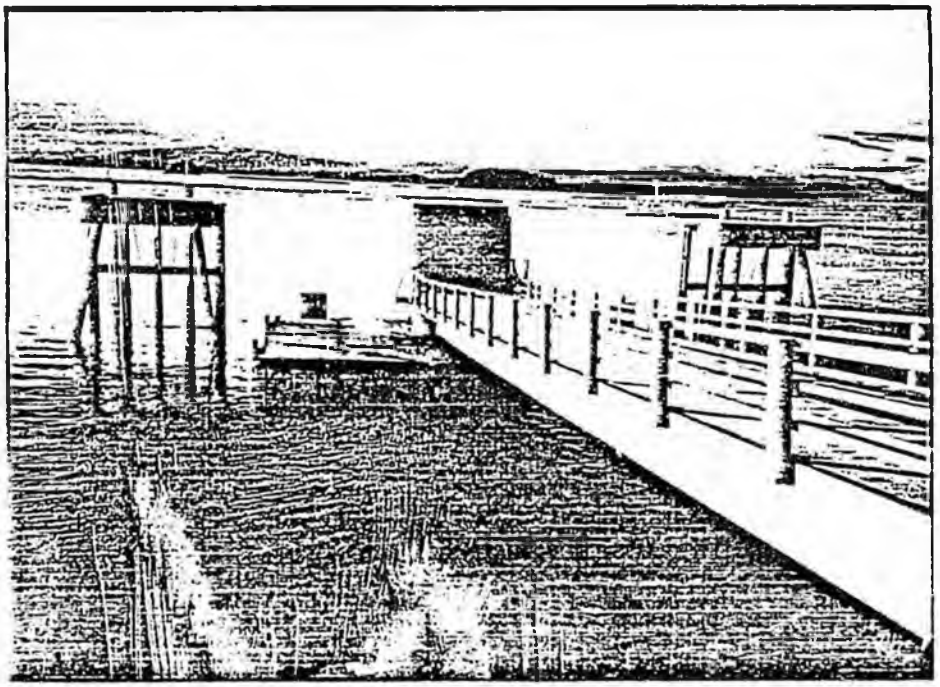


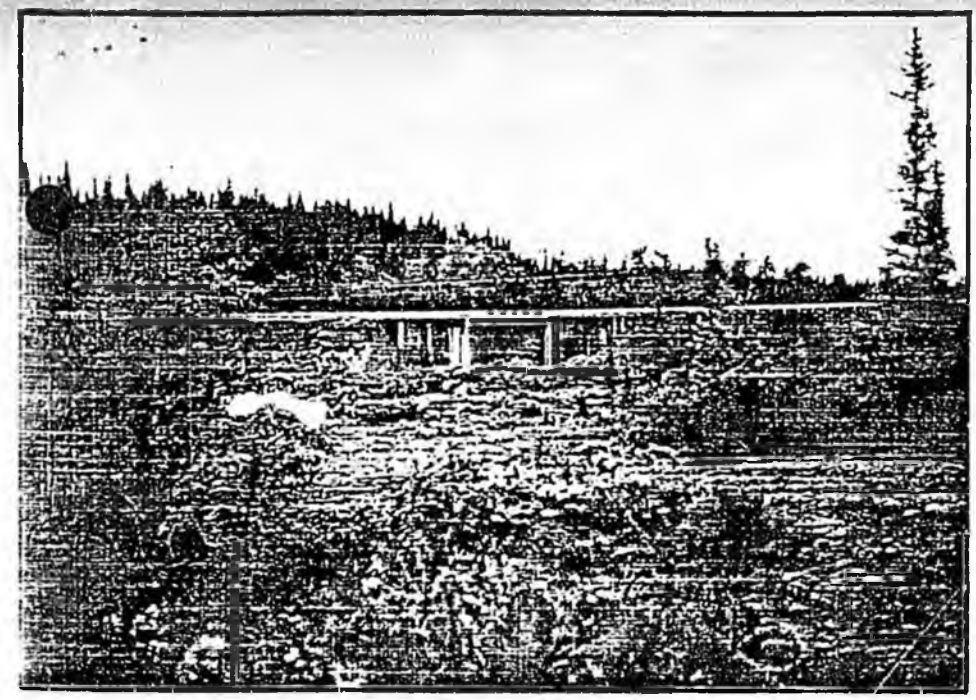
GULKANA BRIDGE

This "strong iron" bridge was designed and constructed within a 9-month period using available materials. Founded on permafrost, this award winning tied-arch structure carries the Trans-Alaska Pipeline across the Gulkana River near Sourdough. The arch is composed of steel box sections.

KAKE FLOATING FERRY TRANSFER STRUCTURE

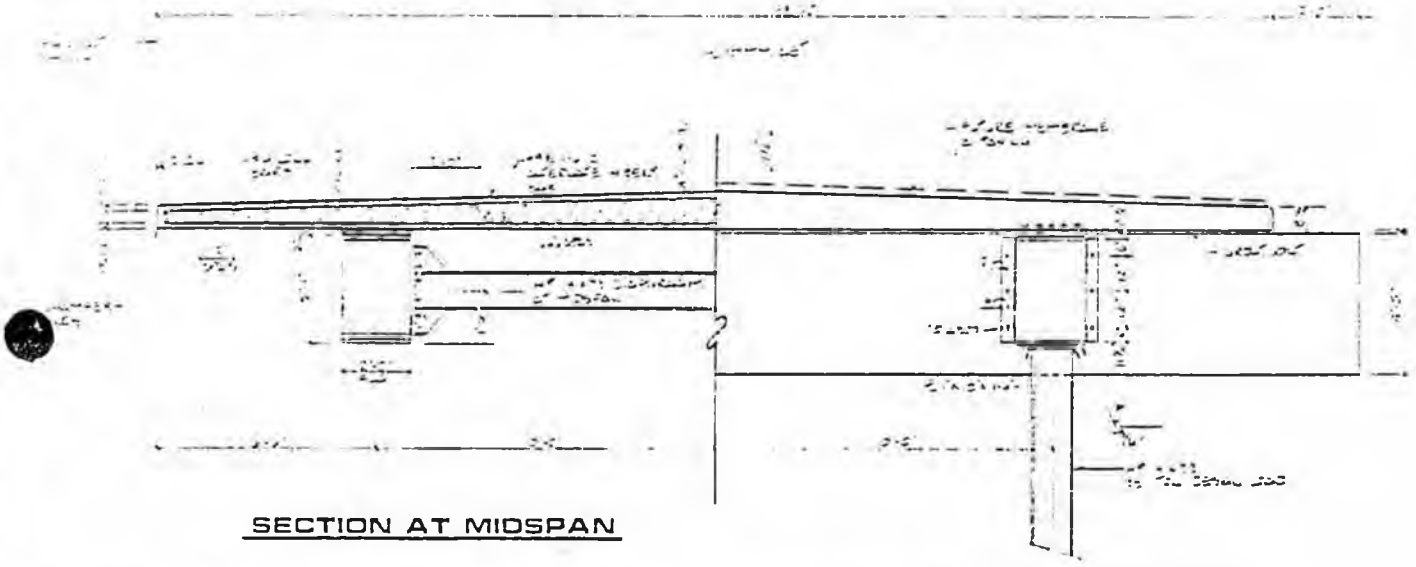
Budget limitations for small communities do not allow use of more expensive "Cordova-type", pile supported, ferry transfer structures. This led to the development of lower first-cost floating systems, such as this one at Kake. The all-steel system utilizes a double orthotropic box girder system.





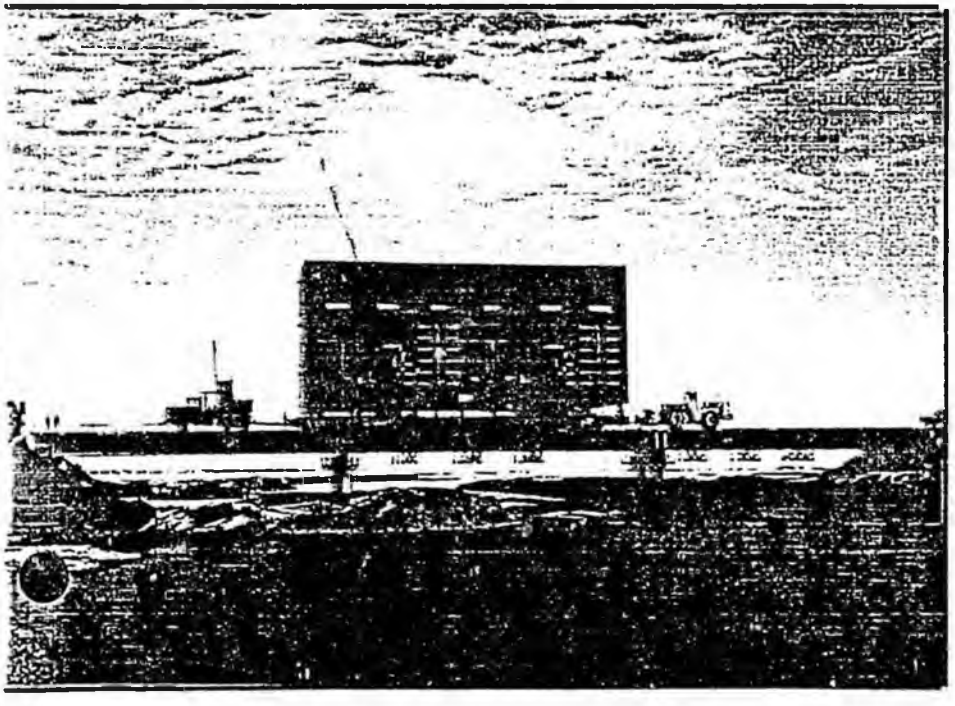
NORTH FORK ANCHOR RIVER BRIDGE

North Fork Anchor River Bridge is of composite concrete and double steel box girder construction for highway loading.



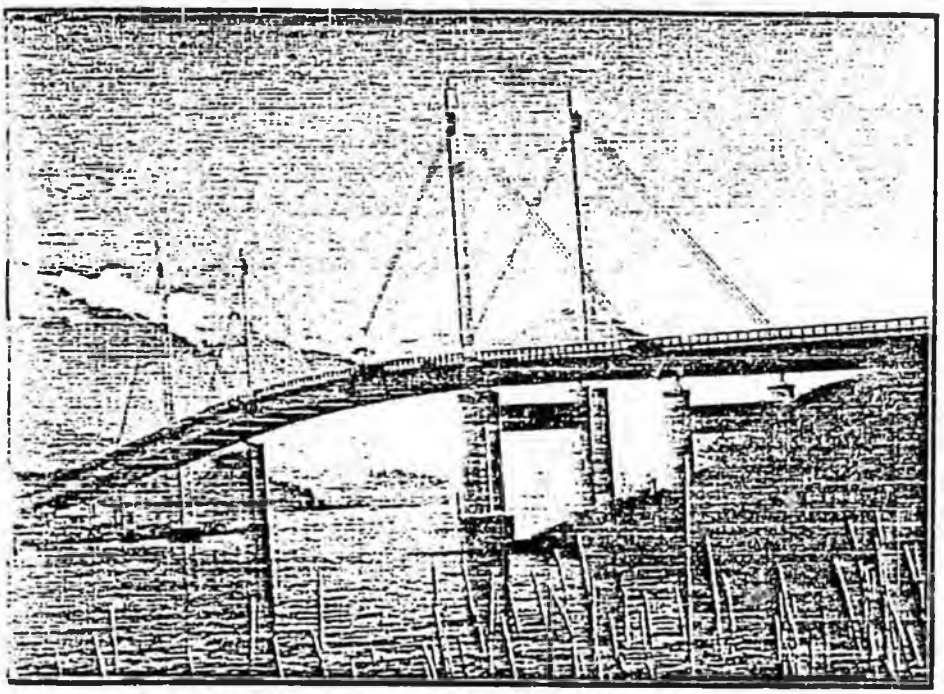
SECTION AT MIDSPAN

SECTION AT ABUTMENT



KUPARUK RIVER BRIDGE (IN THE ARCTIC)

1981 First Place in Heavy Construction Project of the Year, Alaska Construction & Oil magazine, and Third Place in the James F. Lincoln Arc Welding Foundation National Awards. One of the strongest bridges known, accommodating 2,600-ton vehicles, this structure is utilized in oil production development on Alaska's North Slope. Four steel box girders bridge spans of 100 feet.

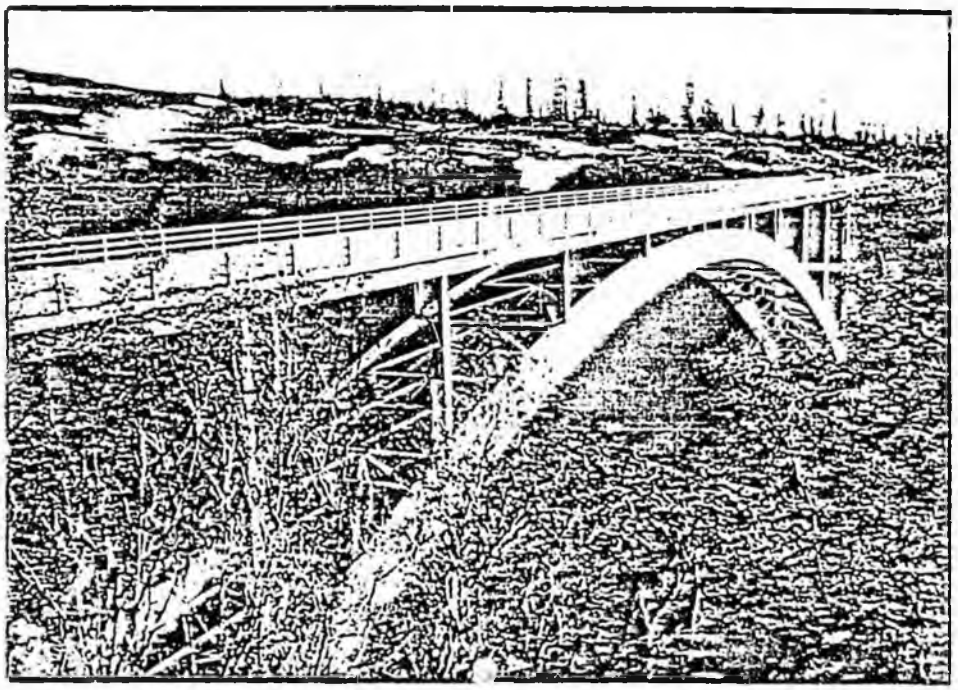


SITKA HARBOR BRIDGE

The Sitka Harbor Bridge has the distinction of being the first cable stayed highway bridge in the United States. Since construction, other states have adopted the live load deflection philosophy utilized here and are now producing these economical structures with ever increasing spans. Double steel box girders supported by cables support the structure.

HURRICANE GULCH BRIDGE

One of the largest two-hinged arches in the United States, this bridge at Hurricane Gulch on the Parks Highway is supported by steel box ribs.



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Civil Engineering • Marine Facilities • Coastal Engineering • Bridges/Structures • Foundations
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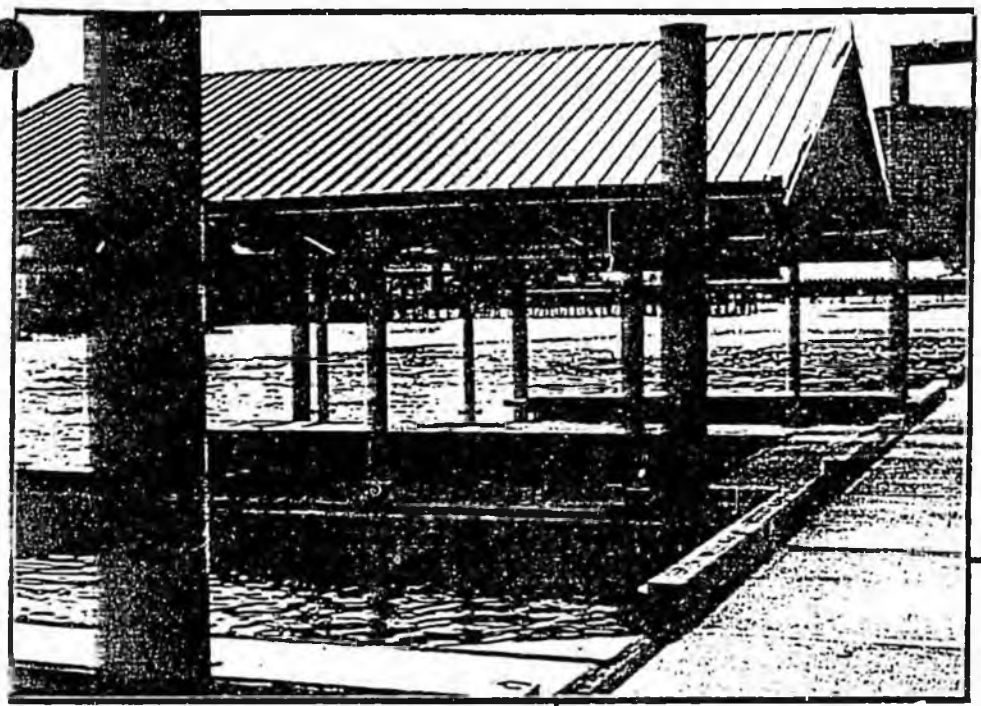
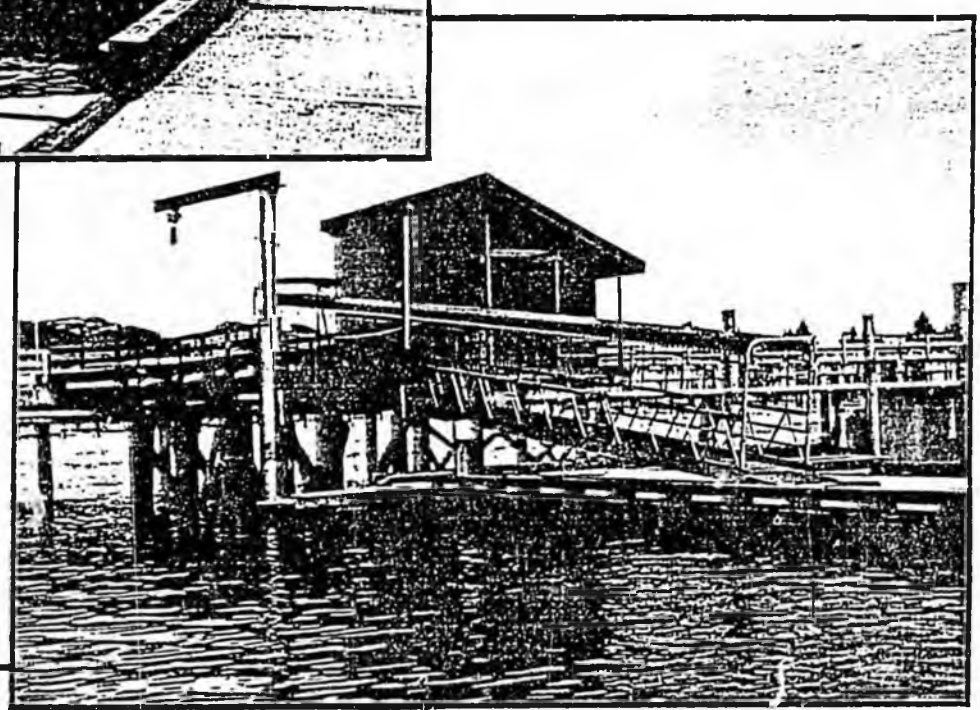
Peratrovich, Nottingham & Drage, Inc.
Engineering Consultants

ENGINEERING REPORT
ISSUE NO. 13, SEPT. 1985

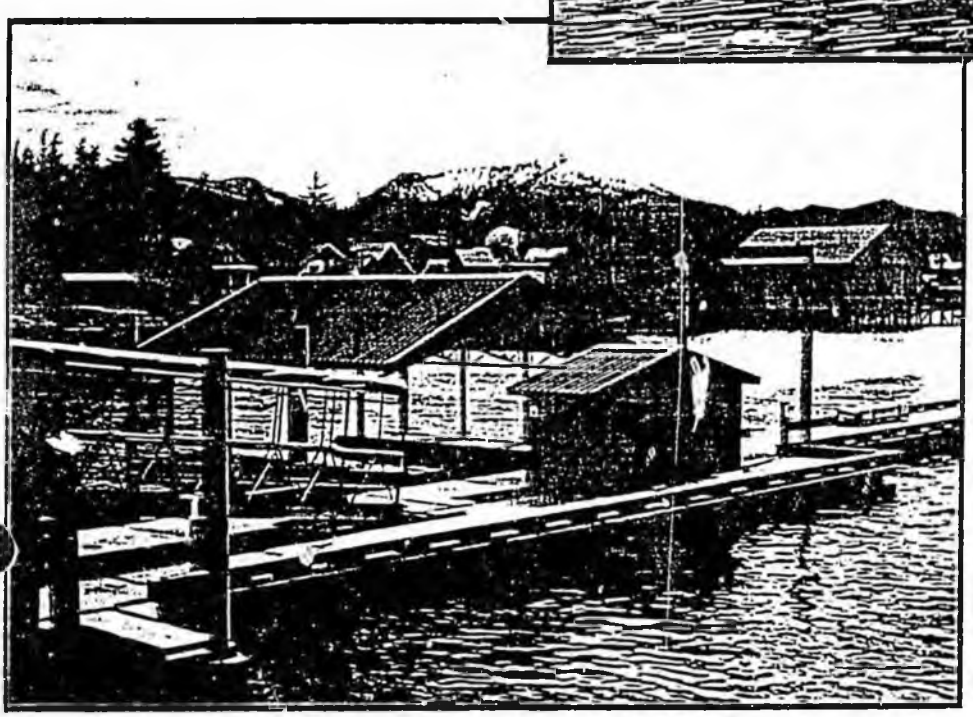
USFS PETERSBURG MARINE FACILITY



PN&D designed this steel-framed, concrete float, supported covered boat shelter as part of a marine facility for the U.S. Forest Service in Petersburg, Alaska. This design provides improved function and aesthetics over past designs.



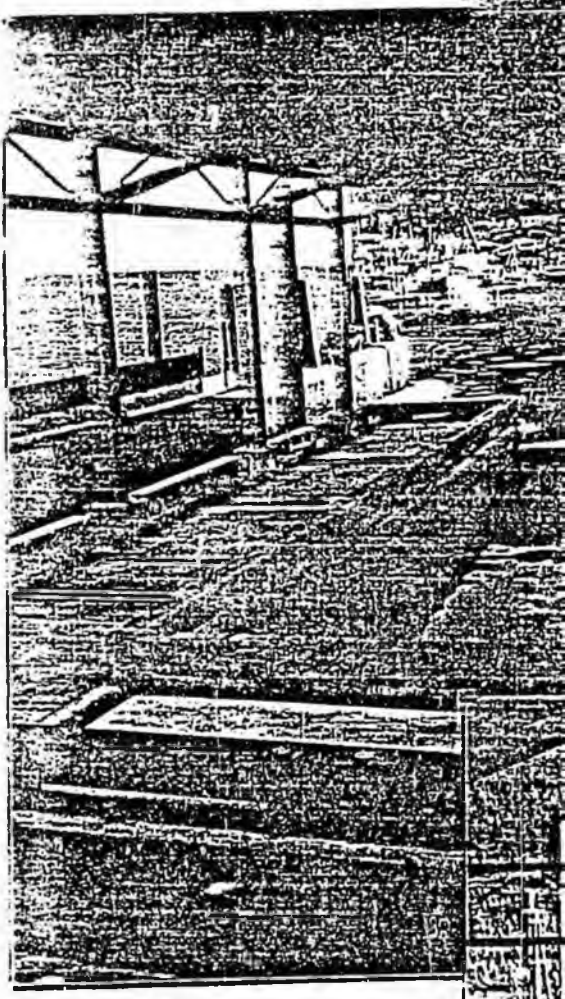
Facility access dock, crane and covered ramp are shown. Galvanized steel, pressure treated wood and concrete floats insure a low maintenance marine facility.



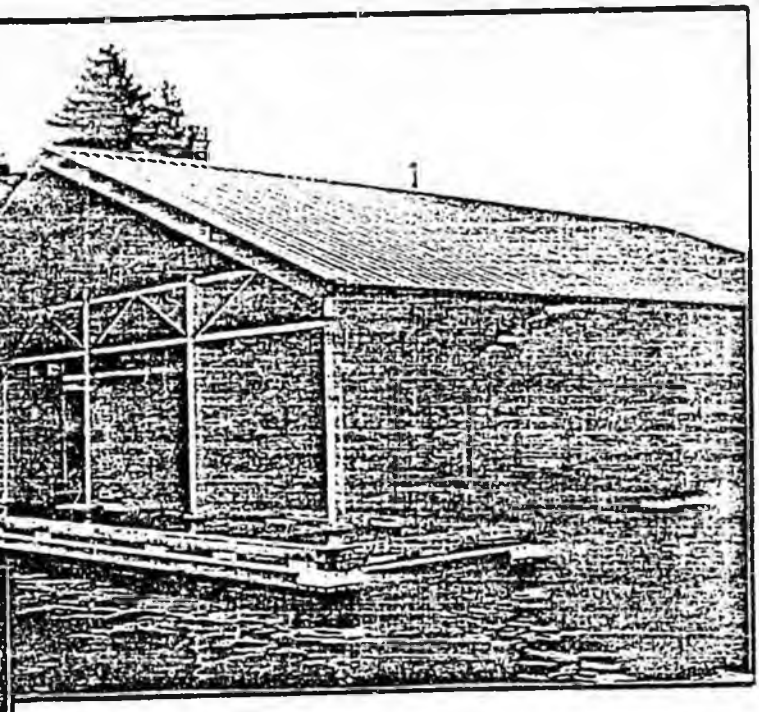
View of the covered access ramp, covered boat shelter, storage building and concrete floats.

USFS WRANGELL MARINE FACILITY

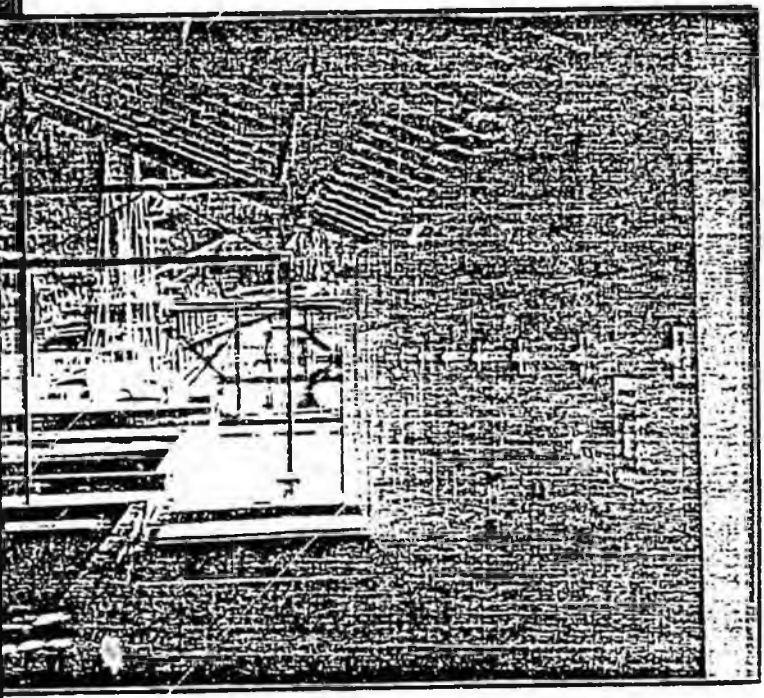
This marine facility is composed of a floating warehouse, two covered boat moorage areas and an open float moorage for larger vessels.



Lockers are provided to store a wide variety of marine supplies and equipment.



This view from beneath a covered moorage area shows galvanized rigid steel frames, concrete floats and treated timber rails and rub strips.

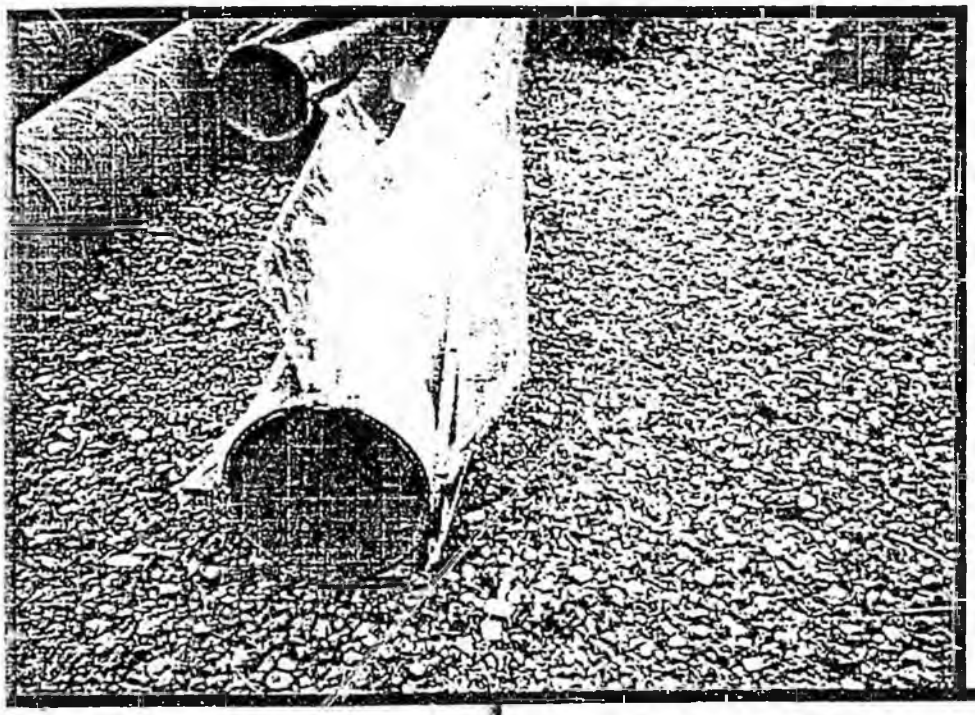


Peratrovich, Nottingham & Drage, Inc.
Engineering Consultants

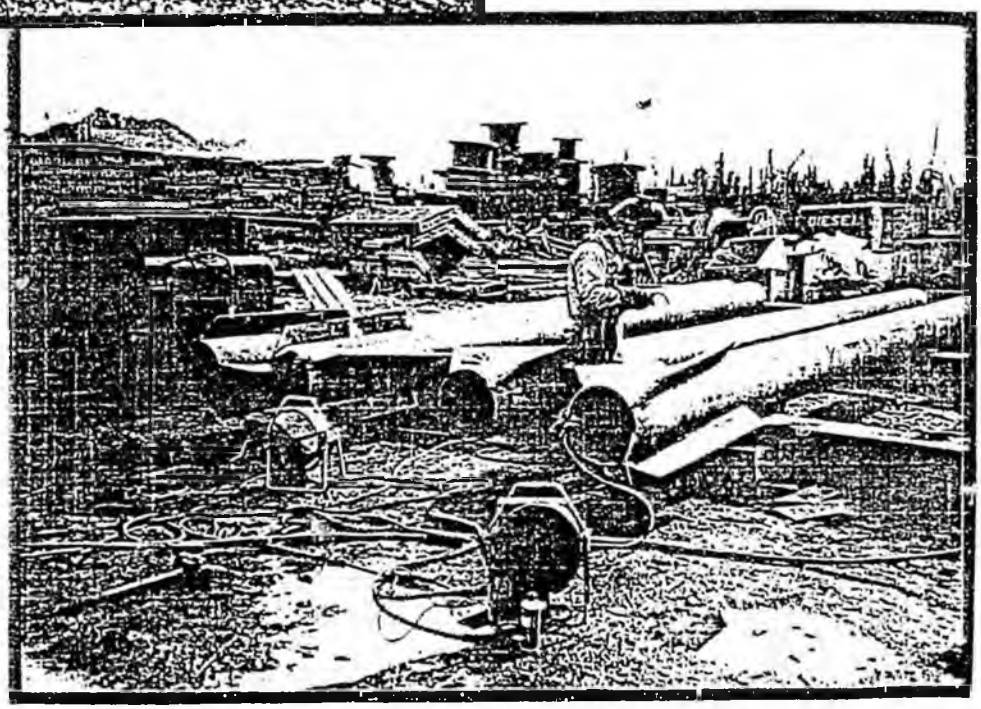
ENGINEERING REPORT
ISSUE NO. 18, JUNE 1986

SPIN-FIN PILES

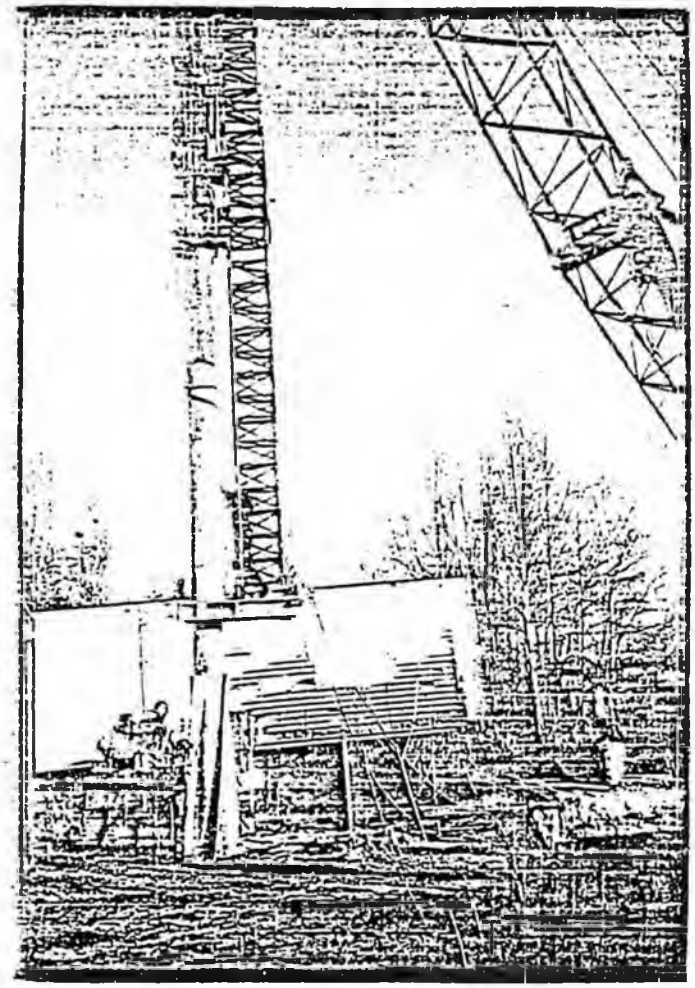
Highly loaded tension piles are being used more frequently and in more diverse applications. Conventional piles must therefore be longer to resist these tension loads. Peratrovich, Nottingham & Drage, Inc. (PN&D), has developed an innovative pile, dubbed the "spin-fin," with tension characteristics that are superior to those of a normal pipe pile, that does not require increasing the pile length or making major pile modifications. Spin-fin piles can be used in mooring dolphins, docks, retaining wall tiebacks, ice resistance piers, earthquake anchors, wind footings, or any other pile foundation where anticipated uplift or impact loads may cause pile failure. Because of their unique load deformation characteristics, these piles allow substantial pile deformation without catastrophic failure--even after repetitive loading.



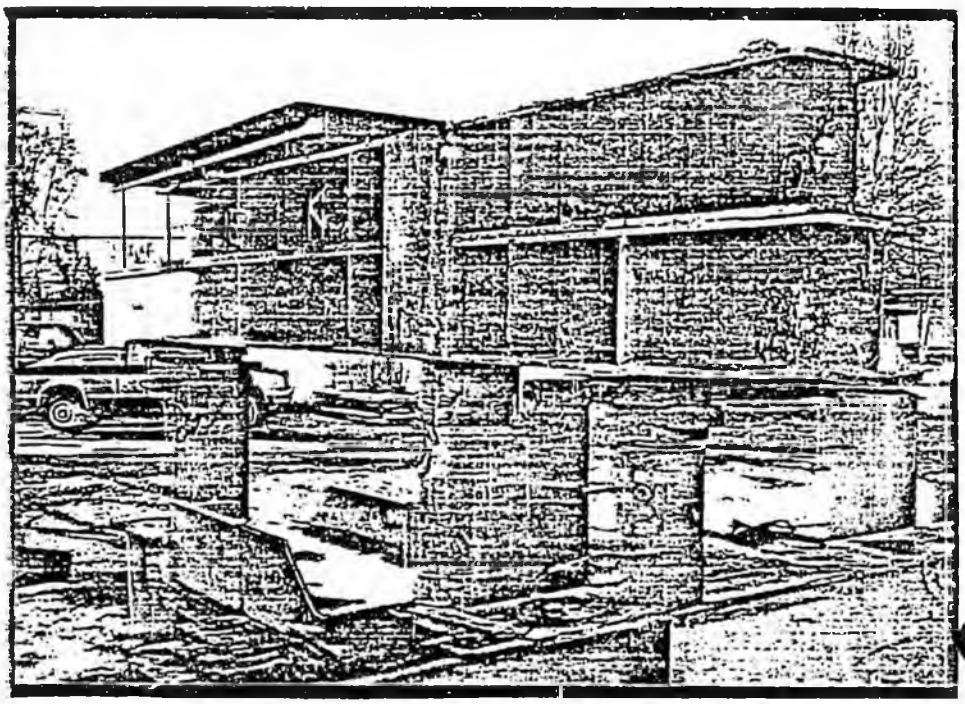
A spin fin pile is a pipe with steel fins welded at a batter, to give the pile a screw-like appearance and characteristics. The concept was developed by PN&D to improve torsion and uplift resistance in driven piles.



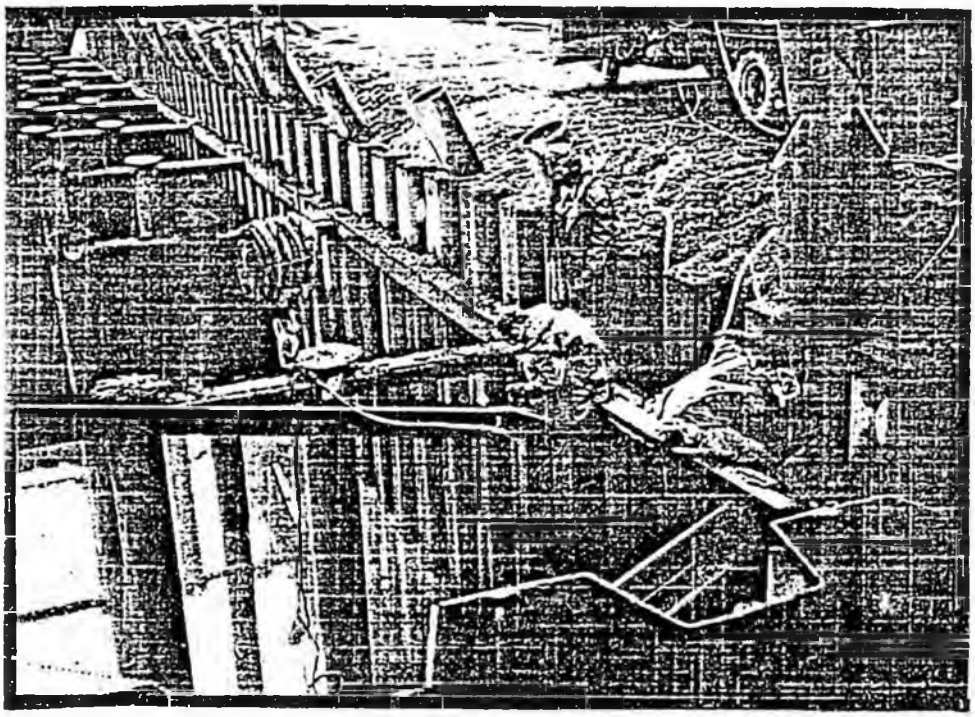
Spin-fin piles being fabricated by welding steel plates to a pipe pile.



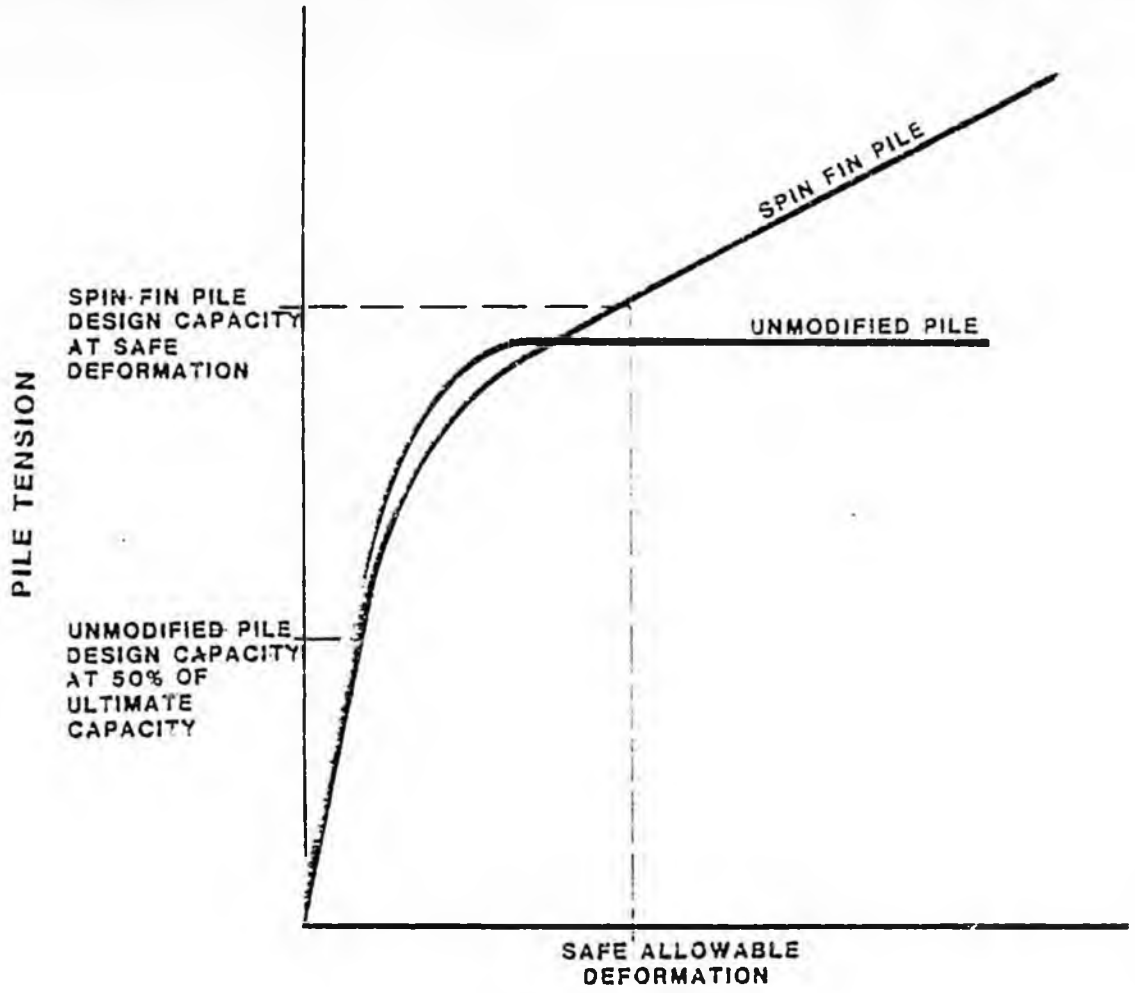
Spin-fin piles are driven like unmodified pipe piles, except that the piles twist as they penetrate the ground. The diesel hammer shown here was used to drive a 16" diameter test pile.



A hydraulic jack and load beam were used by PN&D to conduct tests on 8" and 16" diameter spin-fin piles. An ultimate tension load of over 200 tons was achieved on a 16" pile with 20' embedment.



The first field use of spin-fin piles was at the Seward Coal Transfer Facility. Spin-fin piles were used as anchor foundations for conveyor belt tensioning devices, and also as sheetpile wall tiebacks in the coal receiving pit shown above. The coal car dump facility won a Bronze Award in the national design contest conducted by the James F. Lincoln Arc Welding Foundation in 1985.



SPIN FIN PILE CAPACITY

Design Philosophy

The tension load-deformation characteristics of spin-fin piles shows why designers must modify the generally accepted concepts of factor-of-safety and pile failure, if the spin-fin pile is to be properly utilized. The method of dividing the ultimate capacity of a pile by a suitable factor-of-safety, as in the case of unmodified piles, does not work for spin-fin piles because their load capacity increases with deformation. Thus, the capacity of a spin-fin pile should be determined by selecting a safe load from its load-deformation curve for an allowable deformation that the structure can sustain without damage. Spin-fin capacity should be determined by allowable deformation. Thus, the factor-of-safety for spin-fin piles may be rationally selected by analysis.

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MAR 1 ? 1987

Pouch V
Juneau, Alaska

March 11, 1987

Dear REPRESENTATIVE SUND

I would like to take this opportunity t· comment on House Bill 108, the mariculture bill, with particular emphasis in regards to the pen-rearing of salmon. The basic assumption of the bill is that aquatic farming would create more jobs and stabilize the economy with no threat to commercial fishermen or our natural resources. This simplistic view could not be further from the truth. Salmon pen-rearing directly competes with Alaskan fishermen as well as posing critical environmental and genetic hazards for our present resources. However, the bill does not fully address these problems. Instead, it paves the way for swift and far too accelerated licensing of these highly capital-intensive farms, which would be quite out of reach of most Alaskans. Who would benefit from this bill? Clearly not Alaskan fishermen or the average Alaskan resident and especially not the natural resources from which we derive our livelihood.

Salmon pen-rearing is portrayed as a long term economically viable industry... The jury is still out. It can only grow as much as the market will bear. It appears that the gourmet salmon market in which trollers compete alongside with salmon farms, has not increased or kept in step with the mushrooming growth of salmon farms. Norway,which heavily subsidizes its salmon industry, (spending over $100 million dollars on marketing alone),has curtailed its number of farms and is now exporting the technology. Pen rearing has been primarily introduced into countries which have no natural wild stocks and no corresponding fishery to compete with. Therein lies the greatest difference... Alaska already ha· healthy wild stocks with a viable commercial fishery and market. Salmon pen-rea· .g would not introduce new jobs, it would merely displace historic ones.

In addition, pen-rearing poses genetic and environmental threats to our existing healthy stocks and habitats. In this bill,these possible hazards are lightly glossed over with little apparent thought to long term damage, and it also omits guidelines or penalties. Instead, the bill leaves it up to the Department of Fish and Game to manage aquatic farming without direction or funding. I would like to focus your attention on these hazards.

Salmon farms suffer the same problems as any other ranch... the production of waste, and the ease of disease becoming epidemic due to high population densities. Diseases can be treated with antibiotics which in turn leads to a more virulent strain, and a vicious cycle develops. The obvious hazard here is escape into the native stocks which did not have the initial benefit of immunization. Genetic interbreeding would follow in the long run,and who is to say what would happen? Traditionally, the native stock loses out. Given Norway's own estimate f one per cent, plus the likelihood of storm-damaged pens, and accidental releases, we are indeed gambling with our wild stocks. The bill charges

Fish and Game with the responsibility to oversee this problem, and inspect these remote farm sites, but with current funding and staffing in pathology, this is hardly feasible. There is little incentive for private for profit fish farms to voluntarily destroy infected stock so as not to infect wild stocks.

The siting criteria for the farms is also omitted from the bill. Due to the high amount of concentrated waste generated in a salmon farm from fecal matter and unconsumed feed, siting is of critical importance. This self-inflicted water pollution would blanket the bottom substrate, creating an anaerobic environment, ending the bay's potential for juvenile fish and shellfish nursery areas, as well as its ability to support other life forms. This is of particular interest to Dungeness crab fishermen.

To summarize, there would be considerable economic and biological displacement from the introduction of salmon farming in Alaska. It is the duty of our legislators to thoroughly examine the impacts before setting the course into motion. House Bill 108 does not address these impacts adequately not does it establish the necessary regulations, guidelines and penalties for setting up an industry of this scale. What the bill does do clearly is to expressly put the Board of Fish(and therefore the fishermen) outside of the process, while at the same time taking eggs and smolt we paid for through aquaculture taxes.

We do not need to blindly rush ahead with licensing simply to keep up with the Joneses or British Columbia. They are currently experiencing market glut forecasts and problems with algae blooms. We should take this opportunity to learn from their experiences rather than risking our already exis.ing wild stocks and commercial fisheries. House Bill 108 is a premature, superficial approach to maricultural development in Alaska. Thank you.

Jerry Mersy

P.S. THANKS FOR YOUR RECEPTIVENESS DURING THE TELECONFERENCE OF 3/11 I HOPE YOUR INTENTION TO KILL THE MARICULTURE BILL WILL BE REALIZED. I FEEL THIS BILL IS TOO "UNMANAGE" DUE TO ITS VAGUENESS - AMENDMENTS DO NOT SEEM APPROPRIATE AT THIS TIME - ADVOCATES OF MARICULTURE SHOULD DO THEIR HOME WORK AND COME UP WITH SPECIFIC GUIDELINES FOR SITING, ETC. THIS BILL IS AHEAD OF ITS TIME IN TERMS OF RELEVANT DATA.

David G. Bedford
Box 1211
Petersburg, AK 99833

Dear, Representative Sund

I am concerned with House Bill 108 permitting various forms of aquaculture in Alaska. I believe that some forms of aquaculture may be beneficial to Alaska, but at the present time and for the forseeable future, salmon pen rearing is not one of these.

The Norwegians have stopped issuing permits for new salmon farms. If there is an existing or potential market for more penned salmon then why aren't they gearing up to fill it?

The Norwegians are researching the conversion of present salmon pen facilities to the production of Atlantic cod or Atlantic halibut. If penreared salmon is such a bonanza then why are the occupant of the ground floor making plans to get out?

All sources agree that pen reared salmon production will increase dramatically over the next few years. The numbers vary from source to source. Curt Kerns in Marine Advisory Bulletin # 26 holds the low ground estimating 130,000 MT of production by 1990. At a Danish conference a figure of 220,000 MT by 1990 was given. So expert sources put production at 300 % to 500 % above 1985 levels in three years.

To put this in perspective, the entire catch of all salmon species statewide in Alaska averaged 275,000 tons over the period 1979-1984. Thus pen reared salmon bound for the exclusive fresh fish markets is projected to equal between 50 and 80% of the Alaskan harvest by 1990.

So it is clear that the production of pen reared salmon will increase dramatically in the next three years. But what does that mean? It means that a world-wide market presently absorbing about 50,000 tons world-wide of fresh wild and pen reared salmon must expand in a period of three years to accommodate between three and five times that much: that is

an annual growth rate of 80 to 150%.

But what are the realistic potentials for growth in fresh salmon consumption? The Alaska Seafood Marketing Institute would like to see American consumption of all types of seafood increase from the present level of 14#/year per person to 20# by 1990. This is the high end that ASMI is hoping for and this optimistic projection would yield an increase of less than 50%. In this same period the existing pen rearing industry must increase its markets at least 250%. The actual rate of growth in seafood consumption is lagging behind even ASMI's relatively modest hopes. The present rate of growth will yield about 1#/per person per year or growth rate of 25% by 1990.

To avoid the kind of major market shakedown that oil producers have seen in the last two years the pen rearing industry has to experience a growth rate 10-20 times greater than what can be expected for seafood consumption as a whole. Unfortunately, most of the increase in U.S. seafood consumption is reflected not in expensive fresh salmon, but in shellfish and in pre-packaged white fish, convenience foods like surimi.

There simply are not the potential markets to accept the glut of pen reared salmon that is already feeding in the pens of Norway, the United Kingdom and Canada. Farmed salmon is an industry headed straight for trouble. The Norwegians see it. They have a moratorium on new development in the industry. They're putting research money into learning how to convert existing facilities over to other species. They are digging in and if it gets too tough, they're preparing to bail out and leave someone else holding the bag.

It is my fear that passing House Bill 108 and its Senate counterpart is going to put that bag in Alaskan hands. If Alaska enters the pen rearing industry at this time our farms will begin to produce when world competition is at a fever pitch. The first cycles of Alaskan fish will be relatively expensive (as we learn the pitfalls and make the mistakes

of a new industry in untried country lacking the necessary body of research and experience to guarantee stable production). But even when we hit stride Sea Alaska expects a cost of $2.90/# to get Alaskan pen reared fish to Seattle while the Norwegians, even with higher transport costs can do it today for $2.30/# or less. In the market glut of the 1990's our competition will be realizing a 25% profit at prices that will be driving Alaskans broke.

So the prognosis for pen rearing salmon in Alaska is bleak. So what? If people want to put their money into a dubious venture why not let them? All things being equal that's a reasonable point of view. But all things aren't equal. We have existing fisheries that will be impacted by these bad investments. We have bountiful stocks of wild salmon that will be threatened by this risky business. We have a badly strained state bureaucracy that will have to strain even further to try and manage this doubtful industry. In short we have a great deal to lose and very little hope of any gain in the for-see-able future.

Sincerely

Donald G Bradford
Box 1211
Petersburg Ak 99833

Julie Hursey
Box 213
Petersburg, Alaska
99833

Representative SUND
Pouch V
Juneau, Alaska

March 11, 1987

Dear Representative SUND,

I am a commercial fisherman in Southeast Alaska, and I am very concerned about the potential impacts that House Bill 108, relating to aquatic farming, will have on my livelihood. I think this bill has the potential for having an extremely adverse effect on our fishing industry and on the marine environment.

My specific concern is about the pen-rearing of salmon. I am a troller, and pen-reared fish will compete directly with my fish on the market. This is already a reality with pen-reared fish from other countries, but I don't think Alaska needs to contribute to the problem. Pen-reared fish are predicted to flood the market, and produce a glut as soon as 1990, and if this happens, the price of all salmon will decline, so all gear groups will be affected. Even if Alaska allowed pen-rearing of salmon, by the time these farms were producing, they would face a glut in the market, and declining prices.

I am also concerned that this bill does not adequately address the careful controls that are needed for salmon farming, to prevent biological impacts. Without strict regulation over site selection for farms, biological degradation of habitat will occur. When a salmon farm is not properly sited, the accumulation of fish wastes and excess feed cause a pollution problem. Disease control is also a very serious concern. This bill does not adequately outline how these issues will be resolved. Problems with water quality and disease control must be closely monitored. Where will the money come from to pay for a monitoring program, during this time of declining revenues?

The bill indicates that the State will be responsible for the permitting procedure, as well as paying for health inspections for disease control, and that this will be handled by the Department fo Fish and Game. How can this be possible without diverting funds from existing management programs for salmon fisheries?

The proponents of salmon farming say that pen-rearing of salmon offers business opprtunities to Alaskans. This is a very expensive industry, however, and with the high costs of this capital-intensive industry, it is unlikely that individual Alaskans will be able to participate as owner/operators. In Norway, these small farms were subsidized by the government. That will not be the case here. This means that salmon farms will likely be run by large corporations and/or foreign investors. This would create a minimal number of jobs for Alaskans, meanwhile displacing people currently employed with commercial fishing, processing, and related service industries.

There are too many potential problems which are not specifically addressed in this bill. The potential for environmental degradation and spread of disease are too serious to be ignored. Without more careful planning and control, these hazards are very real.

I am strongly opposed to House Bill 108 for the reasons outlined above. Please give this issue your careful consideration. With adequate planning and controls, aquaculture has a place in Alaska. However, this should not occur haphazardly and at the expense of the marine environment or the existing fishing industry.

Sincerely ~~Yours~~,

Julie Hursey

CORDOVA DISTRICT FISHERMEN UNITED

P.O. Box 939

Cordova, Alaska 99574

(907) 424-3447

February 23, 1987

Rep. Adelheid Herrmann, Chairman
Resources Committee
P.O. Box V
Juneau, AK 99811

Dear Rep. Herrmann:

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

cc: Members of House Resources Committee

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 curbing 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.

CORRECTION

THIS DOCUMENT
HAS BEEN REPHOTOGRAPHED
TO ASSURE LEGIBILITY

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Norway's salmon farms face tight regulation

National aquaculture policy aims to protect wild fish

Farm fish to hit wild salmon market

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, V

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.

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

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

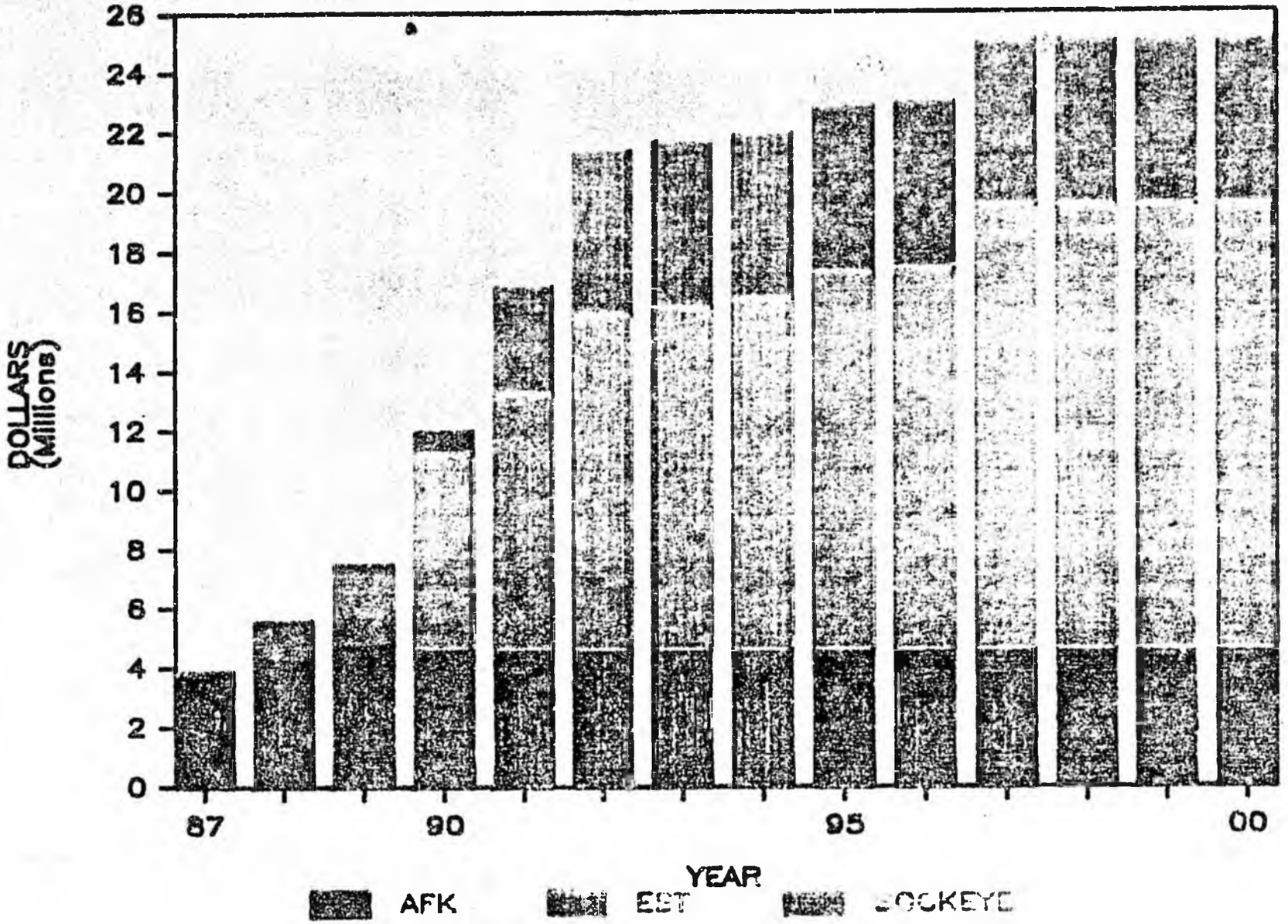
duties) would reduce this return to zero. ..

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

A NEW colour brochure to Engl... says that the salmon's natural hab... location for developing Irish sal... by the Irish Sea Fisheries Boar... notes that the first crop of farm... harvested in 1977. Production is ... 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	190	--	--	--
Cannery Creek	39	--	--	--	--	111	--	--	--	--
Gulkana Springs	--	--	--	--	30.0	--	--	-	--	30.0
TOTAL	310	129	2.3	0.12	30.9	620	319	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 [illegible]	TOTAL MARINE SURVIVAL
1975	1,000,000	4,000	10%	15,155	24,845	[illegible]	[illegible]
1976	11,010,577	--	--	40,432	111,189	[illegible]	[illegible]
1977	16,950,784	275,000	50%	54,207	224,748	[illegible]	[illegible]
1978	22,774,739	1,038,700	70%	108,061	346,723	[illegible]	6.6%
1979	21,500,000	1,353,907	60%	198,901	707,037	[illegible]	[illegible]
1980	69,787,000	3,613,086	70%	164,545	1,354,732	[illegible]	[illegible]
1981	70,118,000	2,950,225	80%	124,278	607,[illegible]	[illegible]	[illegible]
1982	87,384,533	2,226,[illegible]	80%	186,131	387,14[illegible]	[illegible]	[illegible]
1983	76,746,000	3,772,962	75%	271,513	[illegible]	[illegible]	[illegible]
1984	103,531,000	3,[illegible]72,332	78%	277,705	[illegible]	[illegible]	[illegible]
1985	112,527,516	---	---	---	---	---	---

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 obligation 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 forced 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 26% 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 exploit 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 effecting. 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 HB108 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
907-586-2820
1-800-478-FISH

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

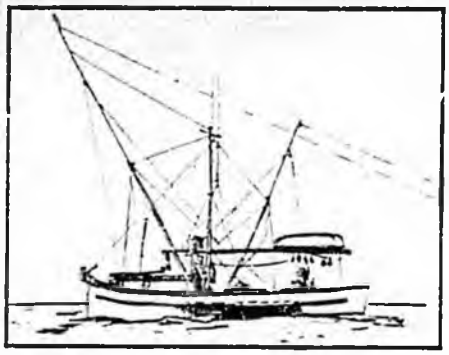
WHEREAS no realistic fiscal note has been produced to identify the cost to the state incurred by the management of the proposed activities;

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



Alaska
Trollers
Association

REPRESENTING ALASKA POWER TROLLERS

130 Seward St., No. 213
Juneau, Alaska 99801
(907) 586-9400

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!

- 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.

CORRECTION

THIS DOCUMENT
HAS BEEN REPHOTOGRAPHED
TO ASSURE LEGIBILITY

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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!

INTRODUCTION

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 lose 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."

SOUTHERN SOUTHEAST REGIONAL
AQUACULTURE ASSOCIATION, INC.

1621 Tongass Ave., #103 Ketchikan, Alaska 99901

(907) 225-9605

Representative Adelheid Herrmann
Alaska State Legislature
P.O. Box V
Juneau, AK 99801

March 4, 1987

Dear Representative Herrmann:

I am writing to encourage you to oppose those portions of House Bill 108, "an act relating to aquatic farming", that address the private pen rearing of salmon. The Board of Directors of the Southern Southeast Regional Aquaculture Association (SSRAA) urges you to exempt salmon from this act. The reasons for opposing this act are:

(1) The state of Alaska is already actively and successfully practicing salmon mariculture and, therefore, the proposed legislation for salmon is not needed.

(2) The act will create limited economic and user benefits for Alaskans.

(3) The act will create negative competition with private nonprofit aquaculture corporations and commercial user groups.

(4) The act will place the current nonprofit aquaculture program at risk.

(5) The net effect of the act would have a negative impact on state employment opportunities.

The Alaska legislature passed an act in 1974 that authorized the private ownership of salmon hatcheries by qualified nonprofit corporations. Following legislation in 1976 that authorized the formation of Regional Aquaculture Associations, SSRAA as well as other Regional Aquaculture Associations, incorporated and initiated projects to contribute, by artificial means, to the rehabilitation of the state's depleted and depressed salmon fishery. A common practice in operating salmon enhancement

projects is to short-term rear the salmon in marine net pens before releasing them to migrate to the sea. The major difference in pen farmed salmon and those produced by private nonprofit corporations (PNP) is that salmon produced by PNP corporations are grown in the open ocean and harvested by the common property fishery; whereas, those produced by pen farming are never released and are grown to harvest size in the net pens.

Those salmon produced by PNP corporations are harvested by the common property fishery providing economic benefit to all user groups, including recreational fishermen, commercial fishermen, processors, subsistence fishermen, the visitors, and all segments of the community. This program is just ten years old and is still developing. The benefits are now being realized and there is still much growth potential. Pen culture of salmon, however, will benefit just a few individuals and mostly large corporations. Experience from Oregon and Washington has shown that most small operations will fail.

If netpen culture of salmon becomes part of the mariculture bill, it will create competition with the PNP corporations for sites. The availability of suitable sites for further expansion of the PNP corporations will be reduced because they will be occupied by the netpen farmers.

Salmon farming would also compete for the available broodstock. Chinook salmon have been determined to be the most desirable. Currently, these broodstocks are being used to supply the expanding enhancement programs of the state and PNP corporations as well as for the rebuilding of the Alaskan wild stocks. Further demand for chinook eggs or other salmon eggs by salmon pen farmers would reduce the current production levels or come from the reduction in harvest in our wild stocks. This would result in fewer salmon being released or harvested to provide the broodstock for salmon farmers. This is undesirable in view of the U.S./Canada treaty and the quota imposed on Alaskan fishermen. This current situation exists in Canada in which the rush for salmon farms has created demand for 38 million chinook eggs from a surplus supply of only 1.3 million.

At present, the PNP programs are providing the broadest economic benefit to all Alaskans and the potential exists for further expansion. The state has already made a financial commitment of over $40 million in the enhancement loan fund to help assure the success of the PNP corporations, and now that the PNP corporations are becoming established they are investing large amounts of their own funds for further growth. Why should the state risk the success of the current PNP program for a questionable unproven salmon farm program? Where is the most benefit to Alaskan residents?

It has been proposed that salmon farming will provide year-round employment. The current PNP corporations are already doing this and are capable of expanding. Just how many new jobs will salmon farming create and how many will be lost from the current user groups? Where is the net benefit?

It has been proposed that farmed salmon are superior to commercially harvested salmon because farmed salmon can be provided all year long. It has also been argued that Alaska should enter this market because it is already happening around the world. Technology has vastly improved the frozen products, and the commercial fishermen and processors have made considerable improvements in handling salmon to keep them fresh. Continued improvements will diminish the argument about freshness; furthermore, Alaska has a developing winter king salmon fishery which will continue to provide year-round fresh salmon. The solution for Alaskans is to maintain a high volume of salmon to remain competitive, not more farm raised salmon which will directly compete in the market place with our commercial salmon. The PNP corporations are in the best position to provide a continued high harvest level which contributes to the economic benefit to the most Alaskans. Alaska is not going to lose its productivity for salmon as other countries have.

If it is desirable to pen rear salmon, why must it be by profit corporations? Alaska determined ten years ago that salmon production should be nonprofit. What has changed in the last ten years? If absolutely necessary, the PNP corporations are already capable of salmon farming. Salmon farming by PNP corporations could be used to help offset cost recovery needs and help repay the state loans. There is no need to have profit salmon farming.

The enclosed tables show the production record of SSRAA since 1984 and forecast the harvest through 1992, assuming the current production capabilities. SSRAA started operations in 1978 and released the first production in 1980. In this short period, the harvest has had a significant impact on the commercial fishery and the recreational benefits near Ketchikan have improved dramatically. The future promises even more benefits and this is the record of only <u>one</u> PNP corporation.

In conclusion, I again emphasize that House Bill 108 is not needed for salmon farming and salmon should be excluded from the bill. The potential for salmon farming already exists in the PNP corporations and, in fact, private salmon farming could negatively impact the future success of the existing PNP program which has a broad economic benefit to Alaskans. Your help to exempt private salmon farming from House Bill 108 would be greatly appreciated.

Sincerely,

Donald F. Amend
General Manager

Enclosures

cc: Alaska Trollers Association
Southeast Alaska Seine Boat Owners and Operators
United Southeast Alaska Gillnetters Association

1986 ADULT RETURNS 16-Feb-87

Species	Location	Brood	SSRAA Harvest	SHA Harvest	Sport Harvest	Commercial Harvest	Total
Chinook	Neets Bay	2,500	1,282	590	1,500	5,700	11,572
	Whitman Lake	559	0	0	100	100	759
	Subtotal	3,059	1,282	590	1,600	5,800	12,331
summer chum	Nakat	10,100	540	0	0	81,103	91,743
	Neets Bay	16,000	15	430	0	21,503	37,948
	Subtotal	26,100	555	430	0	102,606	129,691
fall chum	Neets Bay	47,885	94,218	49,677	0	40,550	232,330
coho	Whitman Lake	6,227	28,823	0	2,556	107,700	145,306
	Neets Bay	22,530	41,568	4,613	4,047	158,000	230,758
	Subtotal	28,757	70,391	4,613	6,603	265,700	376,064
TOTAL		105,801	166,446	55,310	8,203	414,656	750,416
PERCENT		14.1	22.2	7.4	1.1	55.3	

	TERMINAL	COMMON PROPERTY
Number	272,247	478,169
Percent	36.3	63.7

SSRAA FRY/SMOLT RELEASE

	1980	1981	1982	1983	1984	1985	1986	1987 GOAL
COHO								
W.L.	195,000	224,300	219,400	308,000	305,500	855,500	234,200	150,000
N.B.	280,000	540,000	340,000	960,000	960,000	2,150,000	2,356,000	2,300,000
E.W.C.	0	0	0	34,800	0	0	100,300	200,000
NAKAT	0	0	0	0	0	0	55,000	90,000
SUBTOTAL	475,000	764,300	559,400	* 1,302,800	1,265,500	3,005,500	2,745,500	2,740,000
CHINOOK								
W.L.	0	0	145,500	0	0	27,000	115,000	90,000
N.B.	0	0	0	135,000	144,000	231,400	930,000	750,000
D.I.	0	0	0	0	0	0	51,000	800,000
E.W.C.							57,500	300,000
SUBTOTAL	0	0	145,500	135,000	144,000	258,500	1,157,500	1,940,000
S. CHUM								
NAKAT	1,342,000	3,145,000	5,078,000	6,240,000	0	4,845,000	4,100,000	4,000,000
N.B.	0	0	0	1,146,100	2,844,000	8,300,000	9,500,000	9,000,000
E.W.C.	0	0	0	0	0	0	1,215,000	1,500,000
SUBTOTAL	1,342,000	3,145,000	5,078,000	7,386,100	2,844,000	13,145,000	14,815,000	14,500,000
FALL CHUM								
NAKAT	0	0	0	0	0	10,040,000	2,360,000	3,500,000
N.B.	1,346,000	15,437,000	8,872,500	14,600,000	24,580,000	31,900,000	17,015,000	33,000,000
SUBTOTAL	1,346,000	15,437,000	8,872,500	14,600,000	24,580,000	41,940,000	19,375,000	36,500,000
SOCKEYE	0	0	0	0	0	0	100,000	100,000
GRAND TOTAL	3,163,000	19,346,300	14,655,400	23,423,900	28,833,500	58,349,000	38,189,000	55,780,000

	1980	1981	1982	1983	1984	1985	1986	1987 GOAL
ZERO								
COHO								
W.L.	0	0	0	0	153,000	0	0	0
N.B.	0	0	0	0	754,000		0	0
TOTAL	0	0	0	0	907,000	0	0	0
CHINOOK								
W.L.	0	0	0	0	0	12,600	0	0
N.B.	0	0	0	0	225,900	407,000	2,300,000	1,500,000
D.I.	0	0	0	0	0	0	230,000	250,000
TOTAL	0	0	0	0	225,900	419,600	2,530,000	1,750,000

NUMBER OF FISH - ALL SPECIES

	ACTUAL					05-Mar-87			
GEAR GROUP	1984	1985	1986	1987	1988	1989	1990	1991	1992
TROLL	45,294	73,600	196,603	137,650	155,018	180,234	202,273	210,092	210,092
SEINE	372,451	185,412	136,042	209,969	296,242	287,651	468,934	660,016	675,841
GILLNET	90,300	128,200	116,505	131,891	227,748	278,563	455,842	651,965	692,891
SHA-NEETS BAY	465,142 *	145,826 *	138,060 *	494,165	647,377	573,857	857,271	1,006,649	984,009
TOTAL	973,187	533,038	587,210	973,675	1,326,385	1,320,305	1,984,320	2,528,722	2,562,833

*SSRAA ONLY

SHA OTHER SITES	5,000	3,000	35,050	23,378	99,585	92,871	195,302	240,606	257,818
GRAND TOTAL	978,187	536,038	622,260	997,053	1,425,970	1,413,176	2,179,622	2,769,328	2,820,651

VALUE OF ALL GEAR GROUPS

	ACTUAL					05-Mar-87			
GEAR GROUP	1984	1985	1986	1987	1988	1989	1990	1991	1992
TROLL	$706,400	$788,100	$2,057,882	$1,584,202	$1,944,104	$2,865,645	$3,801,123	$4,148,740	$4,200,000
SEINE	$1,361,000	$794,700	$796,397	$1,153,555	$1,596,739	$1,630,651	$2,616,512	$3,659,142	$3,749,561
GILLNET	$464,900	$647,800	$691,067	$752,034	$1,393,784	$1,457,485	$2,123,129	$3,176,287	$3,455,539
TOTAL	$2,532,300	$2,230,600	$3,545,346	$3,489,791	$4,934,627	$5,953,781	$8,540,764	$10,984,169	$11,405,100

SSRAA PRODUCTION ALL S.E. ALASKA

TROLL-%	28%	35%	58%	45%	39%	48%	45%	38%	37%
SEINE-%	54%	36%	22%	33%	32%	27%	31%	33%	33%
GILLNET-%	18%	29%	19%	22%	28%	24%	25%	29%	30%

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

CONSTANTINE - ALASKA IVORY TRADERS

GARRI R. CONSTANTINE
BOX 207
DOUGLAS, ALASKA
99824

CAPITOL 108
DEAR REP. HERRMANN

CONCERNING HB 108 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.

PUBLIC OPINION MESSAGE

DEAR: REPRESENTATIVE DAVIDSON

NAME: LONNIE WHITE, PRESIDING OFFICER
TITLE: KIB ASSEMBLY
ADDRESS: 710 MILL BAY RD.
CITY: KODIAK ZIP: 99615
PHONE: 486-5736
BILL NO: HB 108
SUBJECT: MARICULTURE BILLS
MESSAGE: THE ASSEMBLY'S POSITION IS SUPPORTIVE OF DEVELOPING A MARICULTURE BILL WHICH WILL ALLOW SHELLFISH MARICULTURE TO DEVELOP. PRESENT SYSTEM IS TOO STIFLING AND DISCOURAGING TO DEVELOPMENT. THE ASSEMBLY FURTHER BELIEVES THAT SALMON MARICULUTE SHOULD BE ADDRESSED UNDER A SEPERATE BILL.

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COPIES: SENATOR

ZHAROFF

Irene Miller
P.O. Box 995
Petersburg, Alaska 99833

March 20, 1987
Fifteenth Alaska State Legislature
First Session, 1987
P.O. Box V,
Juneau, AK 99811

I am concerned about House Bill 108, particularly the pen rearing of salmon. I make my living by trolling for salmon in S.E. Alaska and if Alaska lets these salmon farms in the state (which are dominated by foriegn investors) it will direcly affect my livelynood and investments.

The jobs created by salmon farms will not justify the number of commercial salmon fishermen you will be eliminating. Why destroy an already productive industry that is in Alaska and for Alaska?

Where is the money going to come from to manage these 'farms' in an already scarce state government budget?

State loans to commercial fishermen may be in jeopardy and present loans may be forced into non payment if we can't sell our product. There are already more than enough salmon farms to supply our countrys fish needs and by 1990 we will see a flooding of the market, driving down prices which already is happening.

We have a viable source of wild salmon which is renewable. Norway's salmon farms are subsidised by their government. Current information on salmon farming shows environmental impacts which have not been considered in this bill. More research is needed before we can allow pen reared salmon in Alaska.

Pen rearing of salmon does not belong in bill 108. We need to address these problems and others before we let this bill through.

Irene Miller

MAR 23 1987

Re: House Bill 108: Relating to aquatic farming, specifically the pen-rearing of salmon.

From: Jean Shannon
Box 1211
Petersburg, Ak., 99833

20 March, 1987

Dear

My name is Jean Shannon, I live in Petersburg and am a permanent, seasonal Fisheries Technician for the Department of Fish and Game. I am very concerned with House Bill 108 which addresses the issue of aquaculture and, more specifically, the pen-rearing of salmon in Alaskan waters.

In it's present form, were it to pass, the bill leaves too many questions unanswered and doesn't adequately provide for the safety of the Alaskan environment or its wild stocks of fish. Where I am not opposed to various other forms of aquaculture, for example, oyster or scallop farming, which would mean the development of a heretofore unexploited resource, I fail to see why anyone would find it necessary to pen-rear salmon when Alaska already contributes 43% of the world harvest of salmon.

As a state employee, I am acutely aware of the pressure that has been brought to bear on the department as a result of our failing oil revenues. Fewer employees generally means a more conservative management policy which in turn leads to a smaller harvest and less return to enhancement programs and the state in the form of the fish and aquaculture taxes.

It will be interesting to see this year how well the Bristol Bay fishery is managed without the benefit of their counting towers, a system that provided vital daily escapement statistics and played a key role in determining what areas to open and close. Fish and Game already has a tough time keeping a handle on their management responsibilities and increasing these duties

without allocating additonal funds only promises a more conservative management policy, hence reduced harvests, less money in local communities and less revenue to the state.

House Bill 108 does not sufficiently provide for careful management of an aquaculture program. Fish and Game offices are struggling to maintain the programs they already have in place, I don't see how they will be able to perform such tasks as site selection and inspection, issuing of permits, and the implementation of a disease control center, not to mention the additional personnel they would be required to hire. Any bozo could obtain a permit to pen-rear salmon (there are no educational qualifications or restrictions included in this bill), but it would fall on the shoulders of the Fish and Game to make sure the operation were properly carried out.

With the Norwegians experiencing a 1-2% escape rate from their facilities and virtually no wild stocks of their own to threaten, how could we take such a chance when our natural stocks are still so strong and diverse? Let's protect and cultivate what we're lucky enough to still have. Why play genetic roullette when the stakes are so high?

This bill makes no provisions or requirements for the protection of the environment or its wild stocks of fish. From House Bill 108, page 3, section c, "The commissioner of Fish and Game... may attach conditions to an aquisition permit..." and, further down the page, section e, "The commissioner of Fish and Game may deny or restrict a permit...if...the proposed harvest will...impair sustained yield of the species". The burden of proof rests solely with the department and requires them to give facts explaining their action. The benefit of the doubt seems to rest exclusively with the permit holder.

In addition, the bill states that Fish and Game will provide brood stock for these facilities. Does this mean that fishmen will be shut down in order to attain those goals?

Finally, one of my greatest concerns has to do with the displacement of fishermen and their family's as these farms get going. I do not believe they are compatible with commercial fishing nor do I believe that most Alaskans would benefit from their influx. It is my impression that is foreign investors, like Mor-