

ALASKA LEGISLATURE SPECIAL COMMITTEE/SUBJECT FILES 8672

2311 SCOMM 95: HOUSE SPEC. COMM. ON FISHERIES 1995-1996

Fish plant closes

Salmon prices cinch decision

By HELEN JUNG
Daily News reporter

The owners of Anchorage fish processor Whitney Foods Inc. have closed the company and put it up for sale, saying the flood of salmon worldwide has driven prices too low for the processor to compete.

Whitney Foods has run an Anchorage processing and cold-storage plant under the names Whitney Foods and Whitney Fidalgo Seafoods Inc. during the salmon season since 1971.

The closure is another sign of the drastic changes in the world's salmon market, which in Alaska have already contributed to one processor's bankruptcy protection filing and another's shutdown. In the past seven years, Alaska wild salmon producers have lost market share and dominance while salmon farms in Norway, Chile and Canada have grown rapidly from small-fry contenders into fearsome competitors.

Whitney's Japanese parent company, Kyokuyo USA, decided after last year's salmon season to sell the company, said Bruce Mitchell, Whitney's vice president of operations. A number of processors lost money when a glut of fish crashed prices for most salmon species to basement levels. Mitchell said Whitney Foods was not in financial trouble; rather, the parent company was looking ahead when it made the decision to close.

Please see Back Page,
WHITNEY

Anchorage Daily News
February 23, 1996

WHITNEY: Fish processor shuts down

Continued from Page A-1

"They don't believe it's going to be worth it in the future," he said.

The Whitney plant near Anchorage International Airport employed more than 300 people, mostly from the Anchorage area, during its peak operations, Mitchell said. The company ran stations in areas including Bethel and Kotzebue and along the Yukon River to buy salmon and fly it to the Anchorage plant for processing.

But, state-funded hatcheries in Southeast are producing large runs and can keep transportation costs low, an advantage Whitney did not have, Mitchell said. In addition, Alaska waters are producing record and near-record runs of wild salmon, while salmon farms are stepping up production each year, driving down prices buyers need to pay for fish.

"It's straight supply and demand," he said.

The new Individual Fishing Quota system for halibut and black-cod fishing also hurt the company to a degree, Mitchell said.



The system, which began last year, created an eight-month-long season during which selected fishermen could catch their guaranteed shares of halibut and black cod. The company received much less halibut and black cod to process this year, he said.

Although Kyokuyo has no other investments in Alaska, it wants to continue to buy and sell Alaska fish through other processors and joint ventures, Mitchell said.

Communities that did business with Whitney, including Kotzebue, are going to be hurt by the loss of a longtime buyer, said Ron Hogan, president of Kotzebue Commercial Fishermen Inc., which buys fish from Kotzebue area fishermen and has sold it to Whitney for several years.

"Whitney has been a

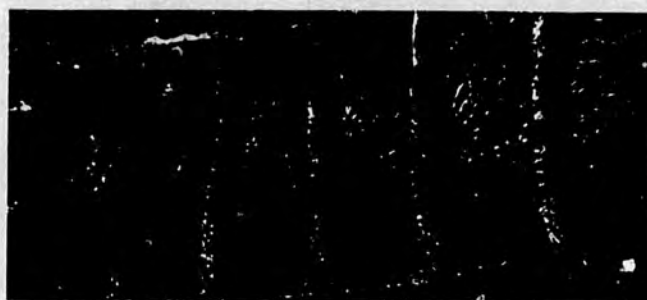
very good company to work with over the years. They've been dependable, and have always done what they said they were going to do," he said. "They were always there for us and the fishermen, and it's going to be a real loss."

Another community affected by Whitney's closure is Bethel, which is already concerned about the coming season.

Inlet Fisheries, which does business as Inlet Salmon in Bethel, Kenai and Naknek, filed for bankruptcy protection in December. The Alaskan-owned processor said it will continue running its Kenai and Naknek plants, but is assessing whether it can afford to operate this summer in Bethel, said president Vince Goddard.

Another processor, Pelican Seafoods Inc. in the small Southeast town of Pelican, shut down this month, saying it was not making any money. The investment banks refused to let the owners keep the plant open, according to Pelican vice president Peter Trost.

LOST IN A SEA OF SALMON



Steven Kazlowski

FROM LEFT TO RIGHT: A SEINER IN SOUTHEAST ALASKA HAULS UP A BIG BAG OF CHUMS COMPLIMENTS OF THE STATE'S PROLIFIC HATCHERIES. WILD CHUM SALMON FROM THE YUKON RIVER DRYING ON RACKS (NOTE THE OILY FLESH—IDEAL FOR SMOKING). YUKON FISHERMAN JOEE REDINGTON JR. POSES ON A RACK OF DRYING CHUMS. FLORENCE FOLGER DOES A QUALITY CHECK ON SOME SALMON EGGS SOON TO BE TRANSFORMED INTO IKURA, THE WORLD'S BEST SALMON CAVIAR.

ALASKA'S PRIZED ARCTIC CHUMS LOSE OUT IN A MARKET AWASH WITH CHEAP SALMON

Standing next to a 50-gallon oil drum of boiling chum salmon, Bill Taylor will tell you he's in a dog-eat-dog kind of business. He catches chum salmon, and his dogs eat them. There are 120 sled dogs, coats as shiny as seals, tied on short chains around his trailer. "Dogs are my main business now," says Taylor, who has sold chums from Alaska's upper Yukon River for more than 20 years, but now finds himself without a market. "At least they're not going to waste," he says, stirring his salmon brew to a cacophony of canines.

A market crisis exists not only in Manley Hot Springs, a small Athabaskan village 90 miles west of Fairbanks where Taylor has set up a processing station, but across northern Alaska, from the Yukon River to Kotze-

BY ROGER FITZGERALD



Linda Johnson

bue Sound above the Arctic Circle. In the Lower Yukon, for example, fishermen were getting a measly \$.12-\$.15 per pound this summer for what are regarded by many as the finest chum salmon in the world. In the Upper Yukon, the only market was for roe, resulting in tons of salmon being stripped of eggs and the carcasses fed to the dogs.

KNOCKED FROM THEIR NICHE

Back in a world of fewer salmon, Arctic and Yukon chums had a market niche based on their flesh color, high oil content (ideal for smoking) and competitive price. Where did it go? In the case of the Yukon, the season for fall chums was closed from 1991-94, reason enough to lose out, but that's only the beginning. According to producers, Chilean cohos and record sockeye runs have flooded the traditional market in Japan—and Japan (with its 200,000-ton chum returns in Hokkaido) has plenty of chums of its own. And what's left (if anything) is being swallowed up by Alaska's own nonprofit hatcheries, which are pumping out record numbers of chums.

The bitterest pill is the hatcheries. "Should the state be in the business of putting me out of busi-



Roger Fitzgerald

ness?" shouts Taylor over a din of barking dogs. "I had a market, now I don't. They went to Southeast to buy those cheap hatchery fish," he says, referring to Smith Brothers Food Service Inc., based in Port Washington, Wis., a company which had kept area fishermen busy until the river closed for fall chums in 1991.

Bruce Mitchell of Whitney Foods, in Seattle, a company that has pioneered Arctic salmon, says the hatcheries have been glutting the market for the last few years... "That's nothing new," he says. "What's new

per River] H&G cohos from Prince William Sound for \$1.60 per pound delivered—and we couldn't find a buyer...so we had to go to the freezer with them. We have H&G silver-brite Arctic chums for \$.90 per pound FOB Seattle and no takers. What can you do when you have Chile selling 3- to 4-pound sides of Atlantic salmon, pinbone removed, at \$3.25 per pound FOB Miami?

"Arctic chums are the best in the world: Yukon, Norton Sound, Kotzebue, even Kuskokwim chums, when they're handled right, there's no comparison for meat color and taste. People will contest that, but I've been buying chums for 35 years, and I know."

Taste means oil content, and the percent of fat in a Yukon fall-run chum is 11-13% compared to 5-6% in a hatchery chum. It all has to do with the length of the run: The longer the run upriver, the fatter the salmon. The Yukon River is 1,835 miles long, and while not every chum travels its length—and there are important distinctions to be made between different runs of fish—fall-run Yukon chums are without equal when it comes to flesh color and fat content.

One night in Taylor's trailer in Manley Hot Springs, located 765 miles from the mouth of the Yukon River, I had a chance to taste these chums for myself—the same fish that Taylor was feeding to the dogs. It was the egg crew's dinner break. Chum eggs were being flown from different parts of the Yukon (only from upper-river fish, though, because the eggs must be mature), and everyone had been working almost around the clock. The work is simple, but backbreaking, essentially rubbing the roe over a grate to free the eggs from the skein, a quick brining and that's it—exactly the same method used to produce sturgeon caviar. The main market is Japan, but Taylor was selling heavily into large Eastern cities, where there are enclaves of Russians who apparently can't live without it. (*Ikura*, the name commonly used for salmon caviar, is a Russian word, not Japanese as most people assume.) "They even put it in their mashed potatoes," said Jim Freeman, who was running the egg operation. Whatever



Roger Fitzgerald

YOU CAN'T ALWAYS JUDGE A CHUM BY THE COLOR OF ITS SKIN. THESE FALL-RUN FISH FROM THE YUKON RIVER, WHILE DARK ON THE OUTSIDE, ARE STILL RICH IN OIL AND HAVE GOOD FLESH COLOR.

is Hidden Falls [a hatchery located on Baranof Island in Southeast Alaska] hitting the front of the season more aggressively than in the past. By the time our fish enter the [fresh] market forget it. There's nothing left."

A FLOOD OF FARMED...

While hatchery chums may seem like a stake in the heart of northern Alaska producers, it's only one nail in the coffin, says Bob Shelly, an owner of Great Pacific Seafoods Inc. based in Seattle, with processing facilities in Cordova, Alaska. Japan's burst-bubble economy, Alaska's record sockeye run in Bristol Bay, big hatchery returns in Hokkaido are others...but the big one, he says, is "the flood of farmed salmon on the world market."

"To give you an example," says Shelly, "in September, we had these beautiful [Cop-



Roger Fitzgerald

they do with it, fishermen were grateful because, at \$2-\$3 per pound for raw roe, it was the only game on the river. We had a bowl of ikura on the table to mix with our rice (Japanese style). Canned string beans rounded out the menu.

The chum salmon was *very tasty*; in fact, it would compare favorably with many Alaska kings. "You'd think we'd at least have a market for these," said one of the eggheads, holding up a salmon collar, the tastiest part of the fish. Of course, you wouldn't believe these chums would be that good from looking at them.

The old adage, "You can't judge a book by its cover," applies here. Neither can you judge a chum by the color of its skin. Darker fall chums taken from the Upper Yukon are richer and redder than most silver-brites taken elsewhere. (Yet at the first blush of color on the skin, the price dramatically drops!)

THE REAL CULPRIT

But if Arctic chums are so good—and the producers so desperate for a market—why can't they move any fish?

And there's the rub, say many producers: moving fish. The problem with Arctic chums is the cost of moving them out fresh from remote areas to processing facilities. "Bush carriers are taking the fun out of buying fish in the Arctic area...40-50 cents [to Anchorage] is ridiculous," says Shelly.

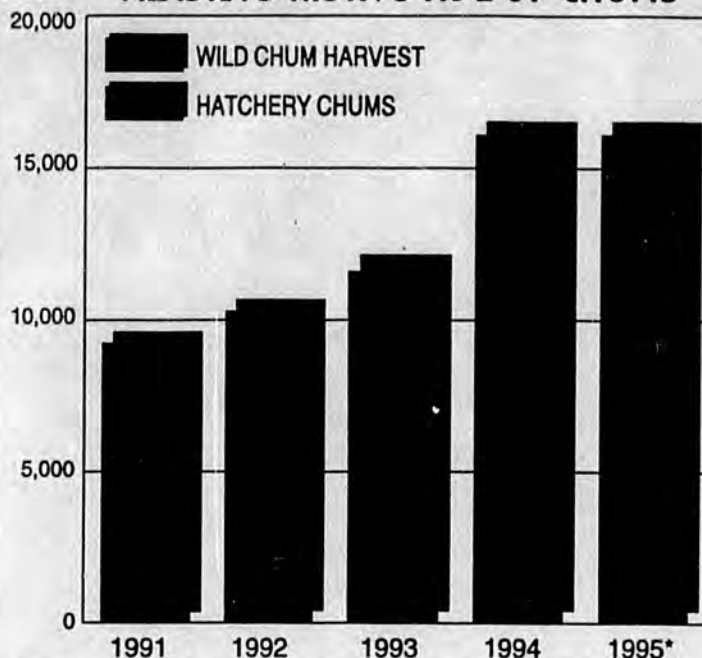
The added transportation cost makes it almost impossible to compete. Historically Arctic chums held a niche based on superior quality (when it wasn't lost through poor handling), but in a glutted market all distinctions tend to fade—except price.

And the price of a fresh hatchery chum is under \$1 per pound FOB Seattle compared to an Arctic chum which, according to Dan Senecal-Albrecht, executive director of the Bering Sea Fishermen's Association, proces-

Continued on page 93

CLUBBING
CHUMS AT
PRINCE WILLIAM
SOUND'S WALLY
NORENBERG
HATCHERY. THE
FEMALES WILL BE
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WILL THEN BE
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INCUBATED IN
THE HATCHERY.

ALASKA'S RISING TIDE OF CHUMS



Figures represent actual numbers of chum salmon in thousands of fish harvested.
* Estimated. The hatchery harvests include both cost recovery and common property catches. Source: ADF&G.

THE FOUNTAIN OF SALMON

Peter Esquiro, a mild-mannered Alaska native, is general manager of Hidden Falls hatchery in Southeast Alaska. While the hatchery is frequently described in the terms of its prodigious production—from a harvest of 700,000 chums in 1988 to 2.9 million this year—it's the quality of the harvest that he seems most proud of. "We harvest earlier than we did in the past. We don't let the salmon build up the way we used to. When new fish come in, we harvest them aggressively. This

gives us a jump on the market as well as our good reputation," says Esquiro.

Esquiro estimates that about 60-80% of Hidden Falls chums are harvested as silver-brites, at an average weight of 7-8 pounds. The harvest starts the last Sunday of June and ends the first week of August, with a production peak on about the 10th of July. Seiners got \$.35 per pound this year. Hidden Falls sells a percentage of the return to cover its operating costs; this year it was 7% of the harvest (bid out at an average price of \$.75 per pound FOB hatchery).

Add the production of Southeast's other nonprofit hatcheries this summer and you have a total of 5.2 million chums. Add Prince William Sound's Wally Norenberg Hatchery and that's another 800,000 chums. Add in the wild harvest and you have a record total of 15.4 million chums—up by about one-third from Alaska's traditional 9-10 million.

"That kind of volume is new," observes Graham Redmayne, owner of North Beach Seafoods Inc. in Seattle, a distributor of fresh Alaska salmon. "The overall size and quality [of hatchery chums] is very acceptable, and they hit at an optimum time to meet retail demand in the Lower 48. Now the onus is on marketers to build on this growing supply and pass the confidence on to retailers, who can now get very aggressive on their promotions, knowing there's a consistent supply of good quality, reasonably priced fish."

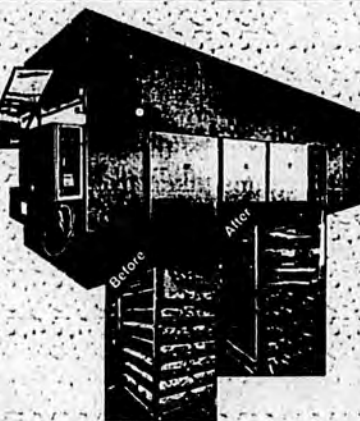
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sors would have to sell for around "\$1.25-\$1.50 per pound" if they're to survive.

Even more of a problem than price is timing. In late June, buyers are paying nearly \$2 per pound for chums FOB Seattle for July 4th holiday promotions, but once Hidden Falls hatchery kicks into gear (their production peaks on July 10), prices go through the floor. Unfortunately, that's when the harvest of prime Arctic and Yukon chums is just cranking up.

While Albrecht sees great problems from within the state and without (hatchery salmon, farmed salmon), he sees a way out. "It's a question of educating the market. If you're looking for a good-tasting salmon that compares with a coho or a sockeye but is cheaper, an Arctic chum is worth the price. They have higher oil content, a richer taste, larger sizes [6-9 pounds] and they're wild fish. But if you're looking for the cheapest chum available, they're not for you," he says.

Clearly, the name of the game is no longer production, but marketing. And

CLEARLY, THE NAME OF THE GAME IS NO LONGER PRODUCTION, BUT MARKETING.

while there are some who curse the success of hatcheries like Hidden Falls—and no doubt there are real hardships being felt as a result of their efficiency—there's no going back. Price is the only god in a glutted market. Alaska's hatchery production is just a drop in a sea of salmon compared to the production of farmed fish from Chile, Norway and Canada.

And there are those who love it: "The prices [for chums] are ridiculously low," says Bert Smith, of Smith Brothers Food Service Inc. (Bill Taylor's former market): "That's good for us in the fish business because we can expand our markets. We sell to supermarkets, where all they care about is price."

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WORLDWIDE

Socioeconomic Overview of Salmon Fisheries in the Chignik, Alaska Peninsula, Bristol Bay, and A-Y-K Areas

Division of Subsistence
Alaska Department of Fish and Game
March 1996

INTRODUCTION

This report provides a socioeconomic overview of salmon fisheries in western Alaska. The report will cover several areas in western Alaska: Chignik, Alaska Peninsula, Aleutian Islands, Bristol Bay, Kuskokwim, Yukon, Norton Sound-Port Clarence, and Kotzebue areas (Fig. 1). The report is given to provide the socioeconomic context for the chum salmon shortage during the early 1990s in western Alaska. The report will cover several topics (Fig. 2):

- the type of economy in western Alaska;
- the employment provided by commercial fisheries in select communities; and
- the amount of food provided by wild fish and game, including chum salmon.

The information comes from the 1990 federal census, the 1995 Alaska Department of Labor Population Overview, and household surveys conducted by the Division of Subsistence in selected communities within each area. Three or four case communities are presented for each area. Communities were selected if there had been complete household surveys conducted by the department. Not all surveyed communities are presented for each area because of limitations of space. However, information for other communities in western Alaska is available by request.

TYPE OF ECONOMY

Most small communities of southwest, western, and interior Alaska have a distinct type of local economy, which we call a "mixed, subsistence-cash economy." A mixed economy is an historically old type of economic system in Alaska, in various stages of historic change, depending upon the community. This type of economy has several characteristics (Fig. 3):

- Subsistence hunting, fishing, and gathering provide a major part of the local food supply.
- Subsistence is organized by family units, where most food is produced by core households and shared with others through non-commercial sharing networks.
- Harvesting and processing technologies usually are small scale, modern, and purchased.
- The cash sector is typically limited and insecure.

- Historically, income has been earned through commercial sale of fish and furs.
- Income also is obtained through wage employment, commonly in public sector employment.

Because of the mixed economy, shortages of fish can impact communities in two ways: (1) shortages can impact the local food supply, and (2) shortages can impact commercial fisheries, reducing cash incomes for families.

EMPLOYMENT AND INCOME PROVIDED BY COMMERCIAL FISHERIES

There is substantial variation between communities in this general economic pattern. To illustrate this, we have divided the regions into seven areas (Chignik, Alaska Peninsula, Aleutian Islands, Bristol Bay, Kuskokwim, Yukon, and Norton Sound-Kotzebue). Within each area, we have chosen three or four communities where the department has conducted complete household surveys of the local economy. Comparisons of these case communities illustrate the roles of commercial and subsistence fishing in the local economy.

The next several overheads illustrate the role of commercial fishing in the local economies of communities.

Fig. 4 shows the percent of surveyed households involved in commercial fishing in each community. In areas with commercial salmon fisheries, there is a high percentage of households who commercial fish, such as 72% in False Pass in the Alaska Peninsula, 96% in Egegik in Bristol Bay, 61% in Nunapitchuk in the Lower Kuskokwim Area, and 88% in Mountain Village in the Lower Yukon Area. Communities in the middle and upper Yukon areas have small or no developed commercial fisheries, shown by the smaller percentage of surveyed households who reported commercial fishing the year of our study: 16% in Galena, and none in Fort Yukon and Minto.

Fig. 5 shows the percent of jobs in commercial fisheries in each community, based on surveys of households. For areas with commercial salmon fisheries, a substantial percent of the jobs reported by households were in commercial fisheries, such as 39% in Sand Point, 55% in Egegik, and 28% in Kwethluk. For areas with small or no commercial fisheries, the percentage of jobs was smaller or not reported by surveyed households.

Fig. 6 shows the per capita incomes by community, based on the 1990 federal census of households, which pertains to the year 1989. Per capita incomes illustrate the size of the cash sector of the community's mixed economy. As shown in Fig. 6, incomes vary between communities within an area and between areas. The communities with the largest incomes are those with relatively large-scale commercial fisheries, such as Sand Point (\$20,218 per person), King Cove (\$18,228), and Egegik (\$15,137), or communities with public sector employment opportunities, such as Galena (\$14,643) where there was a neighboring air installation in 1989 (it has been subsequently closed) and Kotzebue (\$13,906), which is a service center for the northwest region. Per capita incomes are low for many communities in western Alaska where commercial fisheries are smaller or do not exist. Communities with per capita incomes of between about \$5,000 to \$8,000 are among the lowest anywhere in the state. This illustrates the small, insecure cash sectors of the local, mixed economies of many communities that rely on salmon.

SUBSISTENCE HARVEST LEVELS

The next overheads describe the subsistence sector of the economies of communities in southwest, western, and interior Alaska.

Fig. 7 shows total annual subsistence harvests within each community. The harvest is shown as a mean per capita harvest, that is, the pounds of subsistence foods produced per person the year of our survey. The pounds are in usable weights, the amount brought into the kitchen for use. They include fish, game, marine invertebrates, marine mammals, birds, and plants. The harvests are for feeding people and, in some areas, for feeding sled dogs.

Subsistence fishing, hunting, and gathering provide a major part of the food supply in all surveyed communities shown in Fig. 7, ranging from about 194 lbs per person in Unalaska to as high as 1,015 lbs in Minto.

These subsistence harvests are substantial. The average American in the continental U.S. consumes about 222 lbs of store-bought meat, fish, and poultry per year (out of a total of 1,370 lbs of food consumed annually). The wild food harvest by almost all these communities is greater than the U.S. average consumption of store-bought meat, fish, and poultry. All the protein requirements of these communities are contained in harvests at these levels.

The subsistence harvests of some communities are greater than others. Communities with lower per capita incomes tend to have higher per capita subsistence harvests. Communities with larger numbers of sled dogs also have larger harvests. However, information on the percent of the subsistence harvest used for dogs has not been systematically gathered in communities, so we cannot present the information here.

As shown in Fig. 8, chum salmon is one species among many that contributes to the subsistence harvest of communities. Fig. 8 shows the annual per capita subsistence chum salmon harvests in pounds per person per year. All communities used chum for subsistence the year of the survey. The largest uses were by communities in the Yukon area, particularly in the middle and upper Yukon River. Communities in other areas also show substantial subsistence chum uses. Our next report will present information on subsistence chum salmon use in those areas.

SUMMARY

In summary, this overview described the mixed, subsistence-cash economies of case communities in the southwest, western, and interior regions. The case communities illustrated several things about the local economies (Fig. 9):

- Most small communities in this area of Alaska have local mixed, subsistence-cash economies, where families rely on both cash and subsistence during a year.
- Subsistence fishing, hunting, and gathering provide a major part of the food supplies of most small communities in the area
- Commercial salmon fishing provides a major part of the employment in many communities.
- Subsistence chum salmon catches are largest in the Yukon River drainage.

Table 1
Socioeconomic Characteristics of
Selected Alaska Communities
Source: Division of Subsistence, ADF&G

Region and Community	1995 Population	1990 Percent Alaska Native	Per Capita Income 1989	Household Survey Year	Percent of Households Commercial Fishing	Percent of Jobs in Commercial Fisheries	Per Capita Subsistence Harvest (Lbs)	Per Capita Chum Harvest (Lbs)
Chignik Area								
Chignik Bay	188	45%	\$13,188	1991	53%	40%	353	1
Chignik Lake	133	92%	\$7,765	1991	82%	52%	442	2
Ivanof Bay	35	94%	\$5,959	1989	86%	35%	490	67
Alaska Peninsula Area								
Sand Point	689	63%	\$20,218	1992	75%	39%	255	15
King Cove	488	82%	\$18,228	1992	67%	53%	256	16
False Pass	68	77%	\$7,858	1988	72%	32%	429	37
Aleutian Islands Area								
Akutan	88	91%	\$13,750	1990	75%	35%	466	2
Atka	77	93%	\$8,477	1994	61%	24%	439	7
Unalaska	4,083	8%	\$20,055	1994	9%	14%	194	2
Bristol Bay Area								
Manokotak	402	96%	\$6,468	1985	94%	67%	384	6
Egegik	143	71%	\$15,137	1984	96%	55%	384	3
Koliganek	208	96%	\$5,040	1987	81%	40%	830	42
Kuskokwim Area								
Quinhagak	549	98%	\$5,842	1982	58%	65%	768	79
Nunapitchuk	456	97%	\$6,262	1983	61%	24%	802	101
Kwethluk	649	96%	\$5,008	1986	72%	28%	836	129
Yukon Area								
Mountain Village	758	91%	\$7,763	1980	88%	no data	822	183
Galena	527	71%	\$14,643	1985	16%	14%	787	483
Fort Yukon	597	85%	\$10,055	1987	0%	0%	999	380
Minto	245	97%	\$5,718	1984	0%	0%	1015	630
Norton Sd-Kotzebue Areas								
Brevig Mission	265	92%	\$5,539	984, 198	0%	0%	579	29
Kotzebue	2,947	75%	\$13,906	1991	26%	13%	589	73
Golovin	148	93%	\$6,772	982, 198	61%	no data	605	58

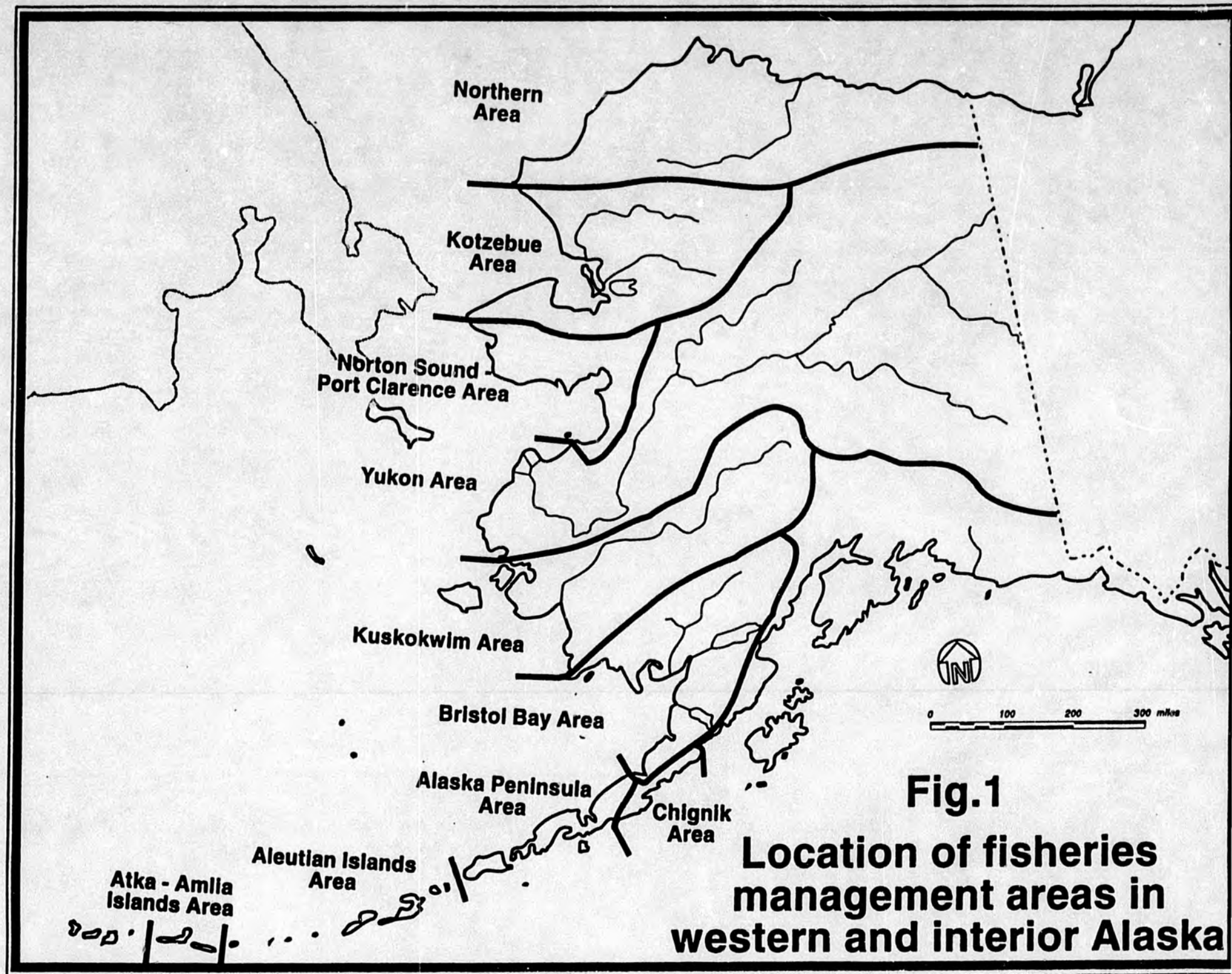


FIG. 2.

SOCIOECONOMIC OVERVIEW

The type of local economies.

The employment provided by commercial fisheries.

**The amount of food provided by wild fish and game,
including churn salmon**

FIG. 3.

MIXED ECONOMIES

Subsistence harvests provide a major part of the food supply.

Subsistence is organized by families.

Harvest and processing technologies are small scale, modern, and purchased.

The cash sector typically is limited and insecure.

Families commonly earn income through commercial sale of fish and furs.

Income is commonly obtained through public sector employment.

Fig. 4
Percent of Surveyed Households
Involved in Commercial Fishing,
Selected Alaska Communities

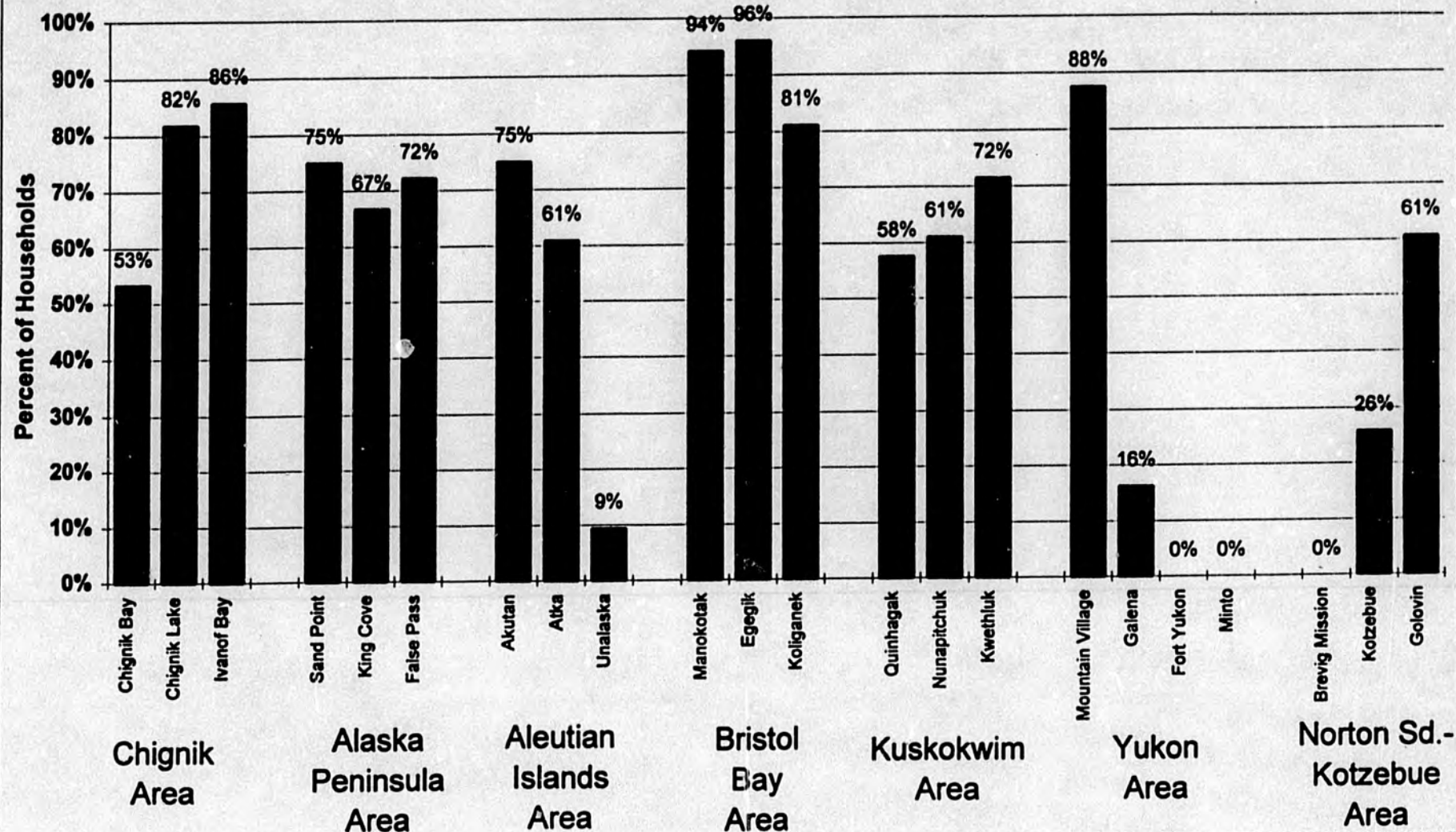


Fig. 5
Percent of Jobs of Surveyed
Households in Commercial Fishing,
Selected Alaska Communities

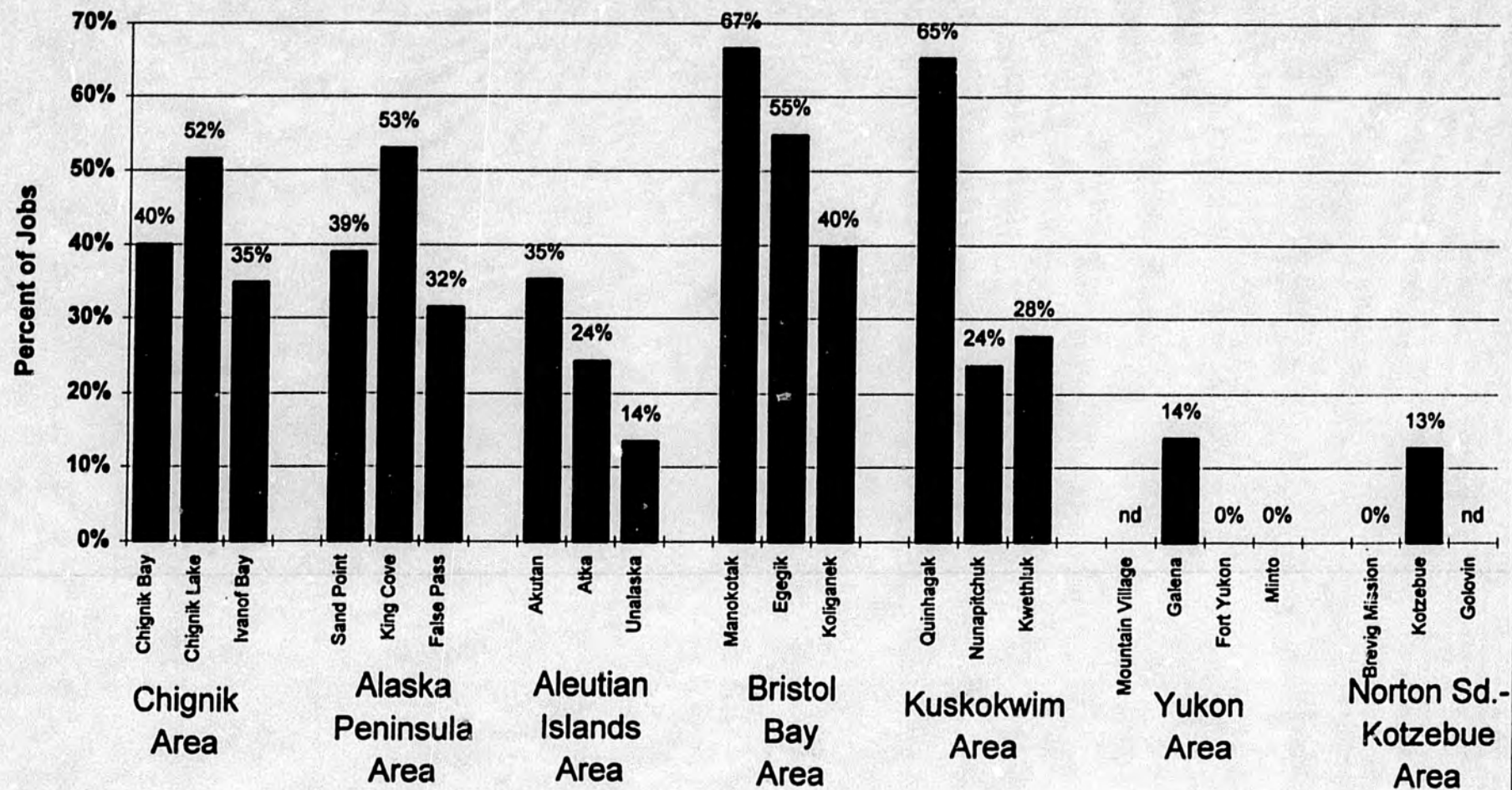


Fig. 6
Per Capita Incomes (1989)
Selected Alaska Communities

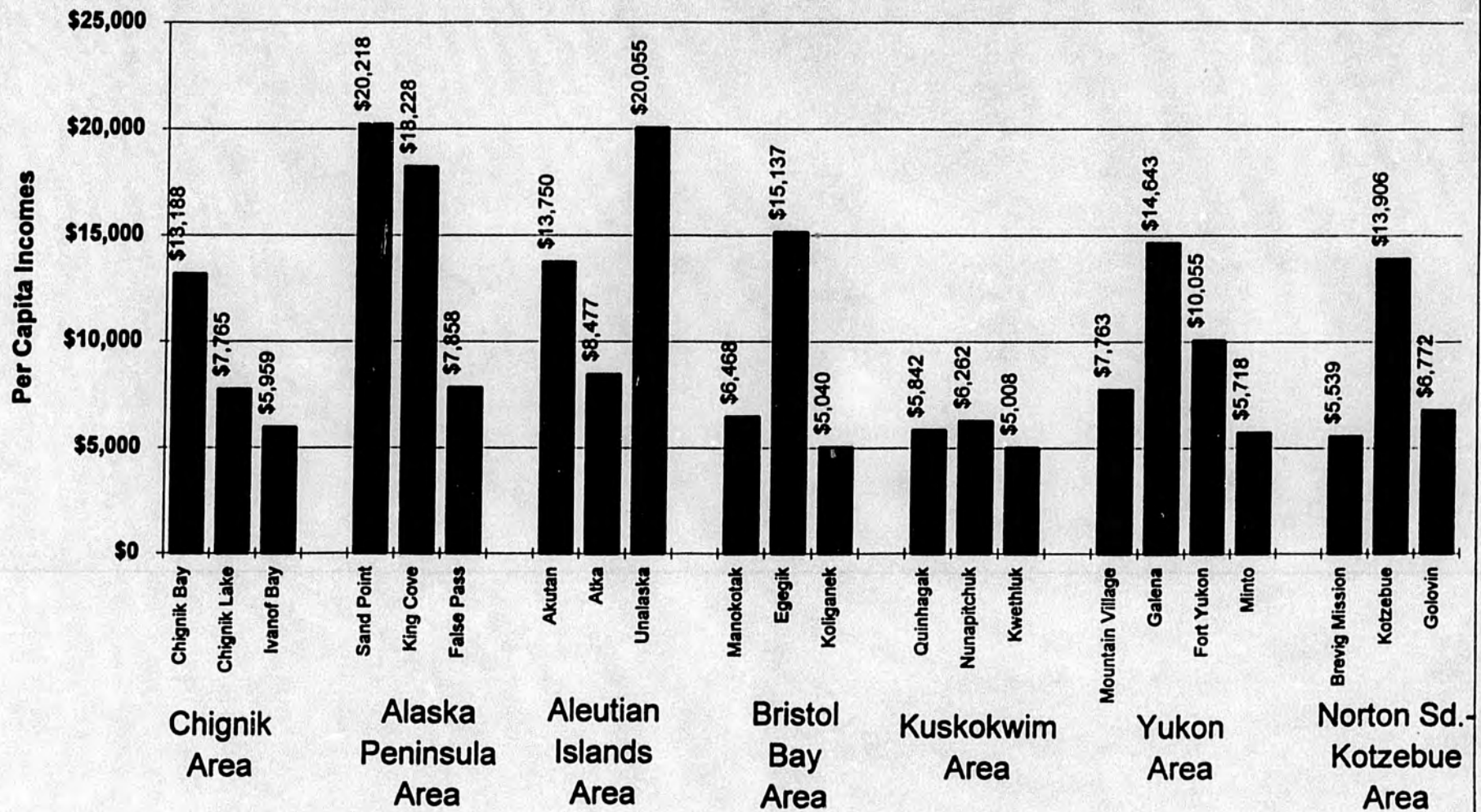


Fig. 7
Annual Subsistence Harvests
(Lbs per Person per Year)
Selected Alaska Communities

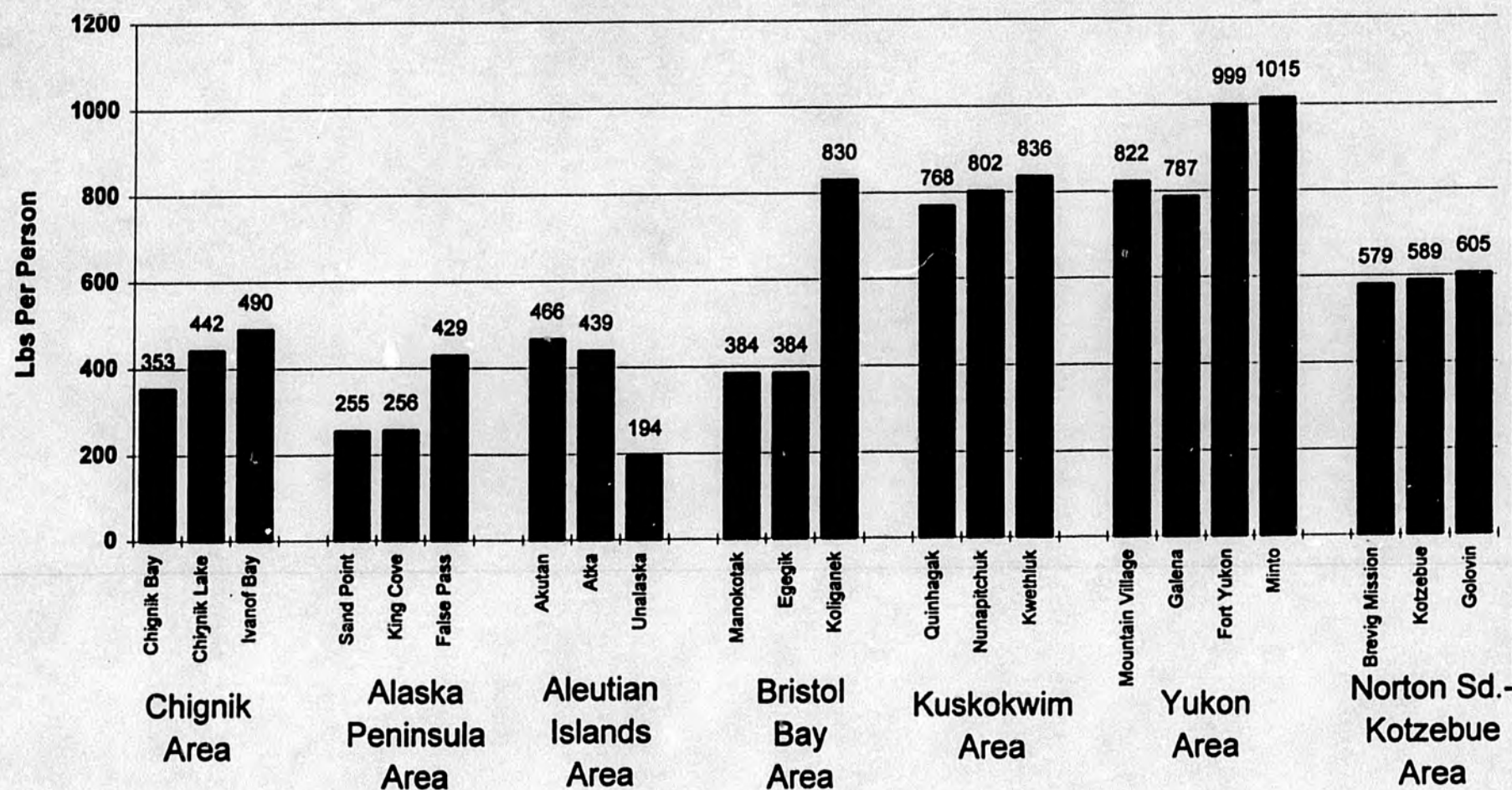


Fig. 8
Annual Subsistence
Chum Salmon Harvests
For People and Dogs,
Selected Alaska Communities

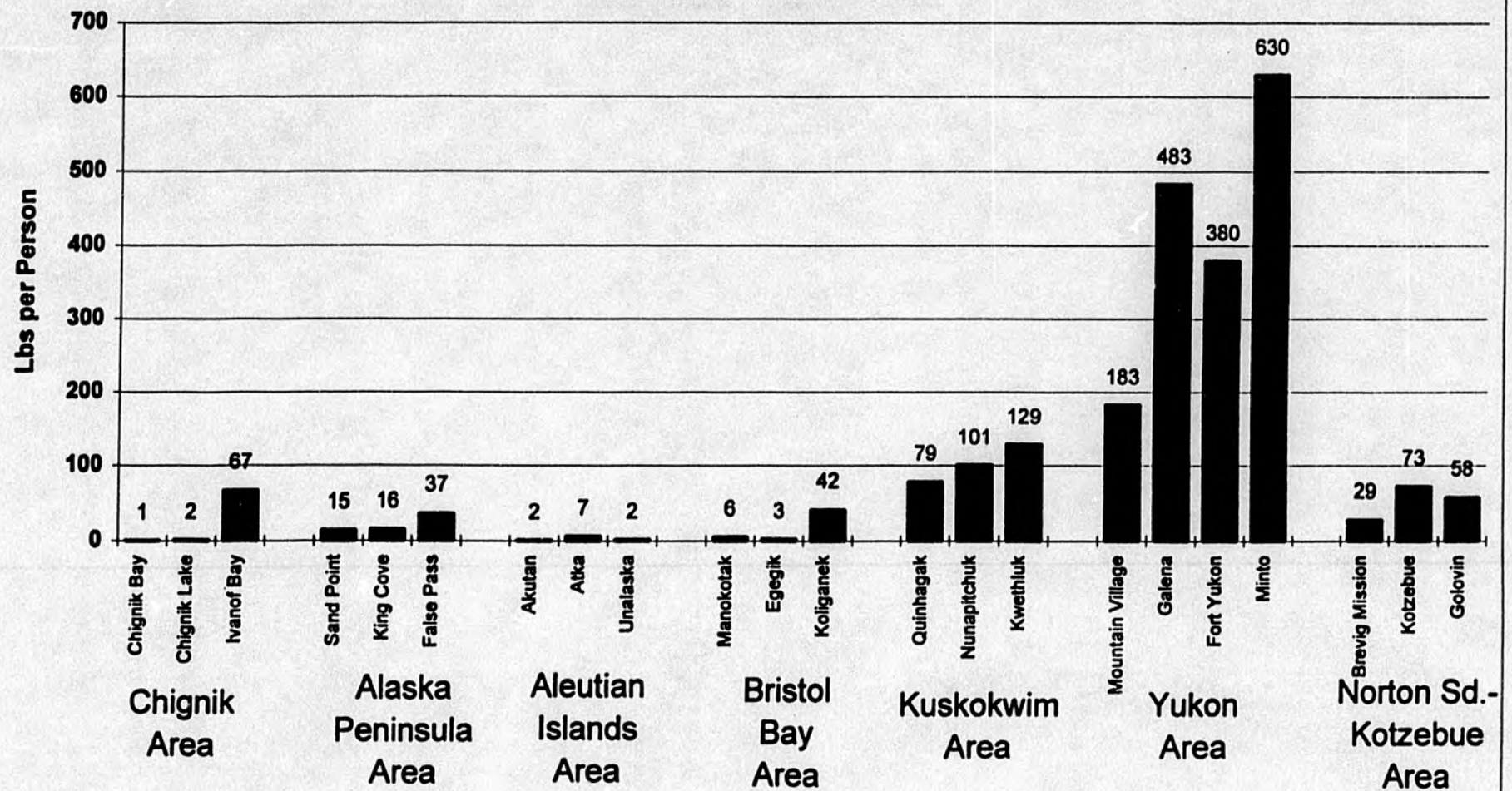


FIG. 9.

SUMMARY

Most small communities in western Alaska have mixed, subsistence-cash economies.

Subsistence harvests provide a major part of the food supply

Commercial fishing provides employment in many communities.

Subsistence chum catches are common, and largest in the Yukon area.



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MARY'S IGLOO
NOME
SAVOONGA
SHAKTOOLIK
SHISHMAREF
SOLOMON
STEBBINS
ST. MICHAEL
TELLER
UNALAKLEET
WALES
WHITE MOUNTAIN

February 13, 1996

The Honorable Tony Knowles, Governor
State of Alaska
PO Box 110001
Juneau, AK 99811-0001

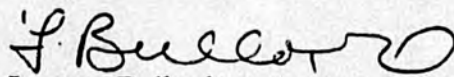
Dear Governor Knowles,

I am writing to urge your support for SB 255, introduced by Senator Al Adams, and the companion HB 504, introduced by Representative Irene Nicholia. These bills will allow the Alaska Seafood Marketing Institute (ASMI) to promote Alaska seafood on a regional basis.

Production costs and transportation for salmon harvested in rural, Western Alaska areas are higher, and often times, the Western Alaska product cannot compete with the less costly salmon being produced in areas such as Bristol Bay, Cook Inlet, Prince William Sound, or Southeast Alaska. However, the quality of the Western Alaska product is much higher than salmon from other areas of the State, and we need to identify and pursue niche markets for Western Alaska fish. Currently, ASMI cannot promote anything other than generic "Alaska Salmon".

Improving the markets for Western Alaska salmon will provide a much-needed boost to the sagging markets for these fish, and possibly a shot in the arm for the economy in rural areas of Alaska.

Respectfully,
KAWERAK INCORPORATED


Loretta Bullard,
President

cc:
Senator Al Adams
Representative Irene Nicholia



FISH MARKETING CO - OP, INC.

SEATTLE
1 Market Place, Suite 400
2003 Western Avenue
Seattle, Washington 98121
Ph. (206) 441-7994
FAX (206) 441-7961

ANCHORAGE
404 E. Fireweed Lane Ste. 203
Anchorage, Alaska 99503
Tel. (907) 274 - 6282
FAX (907) 274 - 6283

EMMONAK PLANT
P.O. Box 128
Emmonak, Alaska 99561
Ph. (907) 846 - 1512
FAX (907) 846 - 1514

February 12, 1996

The Honorable Tony Knowles
Governor of Alaska
P.O. Box 110001
Juneau, AK 99811-0001
Tel: 1-907-465-3500
Fax: 1-907-465-3532

Re: Senate Bill 255

Dear Governor Knowles:

Yukon Delta Fish Marketing Co-op, Inc., (YDFMC) enthusiastically support the Senate Bill 255 sponsored by Senator Al Adams and the companion House Bill introduced by Representative Irene Nicholia.

YDFMC is a 100% Native owned fish processing cooperative located in Emmonak, Alaska. The cooperative is over 28 years old. This is the only functional, operating cooperative run by the Natives. We play a vital economic role in the lower Yukon region.

Our wild salmon product in the Yukon is a unique species and cannot be equated to the hatchery fish in South Central and South East Alaska. The salmon market is so flooded with cheap hatchery salmon, that we need to be able to market our fish separately.

Similar situation were for the Copper River Red. Working for Chugach Fisheries in 1986 and 1987, I helped promote the fresh and frozen Copper River Sockeye in Japan. They are now the bench mark salmon in Tsukiji market in Tokyo. Regional brand identity is important.

The SB 255 will allow our Yukon fishermen and others to develop markets that will purchase our Yukon Salmon due to its unique qualities. ASMI can currently only market fish on a generic basis. Our fish always cost more due to our remote location and labor intensive processing. Therefore, we need to develop markets that will buy our "Yukon Grade" Salmon, even though it costs more.

Very truly yours,

Pio Y. Park
Executive Director

cc: Senator Al Adams
Representative Irene Nicholia
Edward Andrews, President of the Board of Directors



1577 "C" Street, Suite 304, Anchorage, Alaska 99501 • (907) 274-5400 • FAX (907) 263-9971
February 12, 1996

The Honorable Tony Knowles
Governor of Alaska
P.O. Box 110001
Juneau, Alaska 99811-0001

Dear Governor Knowles,

The Alaska Village Initiatives supports Senate Bill 255 and its companion bills in the House. The bills introduced by Senator Al Adams and Representative Irene Nicholia will allow the Alaska Seafood Marketing Institute to promote Alaska seafood on a regional basis, rather than on a generic and statewide basis.

As the 1996 salmon season approaches Alaska fishermen are well aware of the worldwide surplus of salmon, and how it will affect their grounds price this year. Most concerned are the Arctic, Yukon and Kuskokwim salmon fishermen who received record low prices for their catch in 1995, and in some cases had no markets for their salmon.

The AYK fishermen's marketing problem will continue as long as there is an over abundance of salmon being produced by world fish farmers and our own fish hatcheries. If this trend continues, perhaps the only way that the AYK fishermen will be able to compete with other salmon producers will be through niche marketing, and by regional promotions from ASMI.

The Alaska Village Initiatives has extensive experience, and has invested a lot of time and money in the AYK region through its salmon marketing efforts, and through its Western Alaska Fisheries Boat Loan Program. We know that the AYK region has the highest cost of living, and that their fishermen have the highest transportation, production and fuel costs in our state. It is for this reason we support Senate Bill 255 and its companion bills in the House.

Sincerely,

ALASKA VILLAGE INITIATIVES



Perry R. Eaton
President & CEO

cc: Senator Al Adams
Representative Irene Nicholia

Yupiit of Andreafski

P.O. Box 368
ST. MARY'S, AK 99658
(907) 438-2312

VIA FACSIMILE

February 9, 1996

Honorable Governor Tony Knowles
STATE OF ALASKA
P.O. Box 110001
Juneau, AK 99811

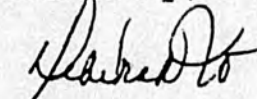
Dear Governor Knowles:

I am writing this letter to ask for your support for Senate Bill 255 and its companion bill in the House, being introduced by Senator Adams and Representative Nicholia respectively.

Currently, as I understand, the 1% fish enhancement tax is being used by the Alaska Seafood Market Institute (ASMI) to promote Alaska salmon produced in Alaska's waters. While this does work to some extent, it does not take into account the costs of production and transportation of fish from our region. As you know, St. Mary's lies in the Arctic-Yukon-Kuskokwim (AYK) River region, and has been experiencing very low prices for our catch these past few years. Additionally, the salmon market is being flooded with salmon from all over the State, and Pacific-rim countries. Through the passage of this bill, it will allow our fishermen in the AYK region to develop special niche markets for our fish because of its unique qualities. Presently, ASMI efforts to market our fish takes on a generic approach, and new innovative approaches need to be implemented to market our regional fish.

Thank you for your consideration and I hope for your continuing support.

Sincerely,



Deborah Vo
Tribal Administrator

cc: Senator Al Adams
Representative Irene Nicholia

Mathew J. Waskey Sr.
PO Box 32355
Mountain Village, Alaska 99632
V: 907-591-2340 F: 907-591-2369

Kristin Schultz, Communications Director
Alaska Seafood Marketing Institute
111 West 8th Avenue, Suite 100
Juneau, Alaska 99801
V: 1-800-478-2903
F: 907-465-5502

Dear Ms Schultz:

I am certainly impressed with the institute's effort to identify value added products and markets for Alaska's seafood *Alaska Seafood Vol. II Issue 1, Jan. '96*. However, I have to ask how does the Institute propose to deal with the current situation of the Alaska seafood industry with salmon in cold storage, processors going bankrupt, and plants closing or downsizing. The fishers on the Kuskokwim may not have a market for their fish if something isn't done soon. Interest in our King salmon on the lower Yukon is declining and our chum salmon is virtually worthless. The two major western Alaska processors-Inlet Salmon and Whitney Foods-will not be operating this season which leaves only two buyers on the Lower Yukon and no buyer on the Kuskokwim. These buyers have already sent out signals that they will be paying less and buying less.

Anvik, a community on the upper Yukon, is trying to acquire grant funds to construct a salmon roe processing plant. Anvik hopes to establish a value added product and market for chum salmon. The future of this project is unclear since DCRA may not give priority to economic development proposals.

My community of ML Village is actively searching for funding to explore value added products and markets for our King and chum salmon. ML Village has a history of fishing and fish processing. We have an old fish processing plant that could be rehabilitated or recycled in some manner that could be productive economically for the future. My point here is that both these communities (and I believe other communities as well) want to help themselves. We are not looking for corporate welfare. We do need advise, marketing expertise, and start-up aid to make a realistic attempt for economic development. We and small communities like us are alone in this search and struggle to escape poverty.

I have heard a lot of talk about value add processing and value added products over the past years. However, I haven't seen a real effort to get a value added product from our area to the market on a large scale. I feel the state and its various agencies give double messages. Budget cuts, welfare reforms, state income taxes are ideas that swirl around with the unsaid suggestion that some communities or peoples are financial drags. At the same time agencies with smaller and smaller grant monies solicit applications

that are denied or delayed. ASMI should be leading the support for communities that want to develop fish products and markets using the state system of grant funding. Instead we see lots of newsprint about new CEO's and fabulous contracts to Outside public relations firms while grant proposals like Anvik's are abandoned without support during the state agency review process.

Time is important. We have only a few weeks to make orders in time to meet barge and transportation schedules. Otherwise, we are faced with enormous shipping costs. How can you think of establishing markets when you haven't figured out how to produce what you will market? Your fancy *Alaska Seafood* newsletter is meaningless if the fish cannot be delivered. I have to wonder if you feel comfortable because you are basically only interested in marketing the Southeast product? The rest of the State and western Alaska is part of this state's fishing industry. How can we supply European or domestic markets with value added products without the infrastructure to produce these products? How do you propose we build the value added processing infrastructure in the few months we have left before this summer's fishing starts?

Western Alaska and other communities like the Upper Cook Inlet are completely ignored. If ASMI feels they are only able to service Southeast Alaska fishers and politicians and wealthy Outside Bristol Bay drifters, the newsletter should be retitled *Southeast Alaska Seafood*. The rest of us could stop paying the ASMI taxes. ASMI must be responsive to all fishers and their attempts to become economically competitive.

Sincerely,

//

Matthew J. Waskey, Sr.

cc.	Tony Knowles, Governor	fax: 907-465-3552
	Mike Irwin, Commissioner DCRA	fax: 907-465-2948
	Richard Foster, Rep.	fax: 907-465-3242
	Ivan Ivan, Rep.	fax: 907-465-4589
	Irene Nicholia, Rep.	fax: 907-465-2197
	Lyman Hoffman, Senator	fax: 907-465-4523
	Al Adams, Senator	fax: 907-456-4821
	Georgianna Lincoln, Senator	fax: 907-465-2652
	Laurie Thompson, Director, ESFO	fax: 540-371-3505
	Ken Chase, President, Bonasila Inc.	fax: 907-663-6355
	Robert Beans	fax: 907-591-2631

Alakanuk Native Corporation
P.O. Box 89
Alakanuk, Ak 99554

February 13, 1996

The Honorable Tony Knowles
Governor of Alaska
P.O. Box 110001
Juneau, Ak 99811-0001

Dear Governor Knowles,

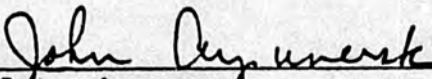
On behalf of the Shareholders of the Alakanuk Native Corporation, most of which participate in the commercial salmon fisheries on the Yukon River, we urge you to support Senate Bill 255 and its companion House Bill.

Senate Bill 255 would allow the Alaska Seafood Marketing Institute (ASMI) to promote Alaskan seafood on a regional basis. We feel that this promotion is necessary in our region here on the Lower Yukon River due to the very low prices our fishermen have received for their fish in recent years. It is important to note that money made in the commercial salmon fishery is used to purchase the necessary fuel and equipment to allow for the gathering of our subsistence fish and game.

The Yukon River King, Chum and Silver Salmon have the highest oil content of all salmon in the world and therefore are very rich in taste. To put it simply the finest salmon in the world comes out of the Yukon River and the sad part of it is that no one knows this fact. We feel this uniqueness should be promoted and we feel that a market niche can be developed with the proper promotion. Allowing ASMI to promote seafood on a regional basis would allow them to promote Yukon Salmon and eventually bring about a better price to our fishermen.

Please support Senate Bill 255.

Thank you,


John Ayuneraf
President
Alakanuk Native Corporation

02/29/96 THU 16:04 FAX 907 757-6212 KWETHLUK INC.

Kwethluk Incorporated

P.O. Box 109 Kwethluk, AK 99621

Phone: (907) 757-6613

Fax: (907) 757-6212

February 29, 1996

Honorable Senator Al Adams
State Capitol, RM 417
Juneau, AK 99801

Via fax: (907) 465-4821

Re: S.B. No. 255 and H.B. No. 504

Ching-ching
Dear Honorable Adams, Senator:

The Kwethluk Joint Group readily supports both your proposed S.B. No. 255 and Irene's proposed H.B. No. 504 as indicated in the enclosed Resolution #96-02-03 sent to Governor Knowles,

Your efforts to help our rural area commercial fishermen through the Alaska Seafood Marketing Institute is most appreciated.

Regards,

Kwethluk, Incorporated

Phillip Guy

Phillip Guy
Land Planner

PG:oea

Enc. 1

cc: Honorable Senator Lyman Hoffman - Juneau

Honorable Representatives Irene Nicholai and Ivan M. Ivan - Juneau
file

Kwethluk Joint Group
Kwethluk Indian Reorganization Act Council
Kwethluk City Council
Kwethluk, Inc. Board of Directors
Phone: (907) 757-6714
Fax: (907) 757-6328

Resolution # 96-02-23

**A Joint Resolution In Support of Alaska Senate Bill No. 255 and its
Companion Alaska House Bill No. 504.**

WHEREAS, the Kwethluk Joint Group has become aware that the above legislative bills have been introduced in the Alaska State Legislature with respect to amending current statutes governing the Alaska Seafood Marketing Institute (ASMI), and

WHEREAS, the known existing disparities in the costs of fishing, production, transportation demand that niche marketing efforts in certain areas is explored and, as appropriate, be undertaken, and

WHEREAS, the Arctic - Yukon - Kuskokwim (AYK) fishermen are in need of different ways to market their fish separately for the reason that the salmon market is overloaded with cheap salmon, and

WHEREAS, it is Kwethluk Joint Group's understanding that the ASMI presently is able to market fish on a generic basis even as when the remote AYK fish continues to cost more thus making it more urgent to develop markets that will buy AYK fish even at higher costs, and

WHEREAS, the AYK fish prices has been historically low, again, making even more urgent to find different ways to market our fish, and

NOW, THEREFORE , BE IT RESOLVED: that the Honorable Tony Knowles, Governor of Alaska is respectfully requested to support passage of S.B.255 and H.B.504, and

BE IT FURTHER RESOLVED: that the copies of the Joint Resolution is send to:
Honorable Senators Al Adams and Lyman Hoffman and to
Honorable Representatives Irene Nicholai and Ivan M. Ivan
Myron Naneng, President, Association of Village Council Presidents -
Bethel
Julie Kitka, President, Alaska Federation of Natives - Anchorage

Dan Albrecht, Yukon River Drainage Fisheries Association - Anchorage
Norman Cohen, Coastal Village Fishing Cooperative - Juneau

Passed and Adopted this 26th Day of February, 1986.

Mrs. Nicolai President
Kwethluk IRA Council

John J. O... Mayor
Kwethluk City Council

John J. O... Chairman
Kwethluk, Inc.

Attest: [Signature]
Administrator / Secretary

Attest: [Signature]
Administrator / Clerk

Attest: Mrs. Nicolai
Secretary / Treasurer



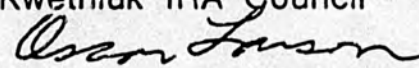
ORGANIZED VILLAGE OF KWETHLUK
KWETHLUK IRA COUNCIL
P.O. BOX 129
KWETHLUK, ALASKA 99621-0129
PHONE NO. (907) 757-6714
FAX NO. (907) 757-6328

The Honorable Tony Knowles
Governor of Alaska
P.O. Box 110001
Juneau, Alaska 99811-0001

Dear Governor Knowles,

The Kwethluk Joint Group is asking you to support Senate Bill 255 and its companion bill introduced in the House. The Kwethluk Joint Group Supports these bills because:

- * the salmon market is so flooded with cheap salmon that we need to be able to market our fish separately;
- * this bill will allow AYK fishermen and others develop markets that will purchase our AYK salmon due to its unique qualities;
- * ASMI can currently only market fish on a generic basis. AYK fish are always going to cost more due to our remote location therefore we need to develop markets that will buy our fish even though it cost more.
- * our prices are low and we need to change the way we market our fish.

Sincerely,
Moses Nicolai, President
Organized Village of Kwethluk
Kwethluk IRA Council

Oscar Larson, Natural Resources Specialist

c.c. Senator Al Adams
Representative Irene Nicholia



Unalaska Aleutians East Borough Kodiak Ketchikan Kuskokwim Nome Saint Michael Seward Shishmaref Stebbins Teller Unalakleet Wales White Mountain

February 21, 1996

The Honorable Tony Knowles
Governor of Alaska
P.O. Box 110001
Juneau, Alaska 99811-0001

Re: Senate Bill #255

Dear Governor Knowles:

The Board of Directors of Norton Sound Economic Development Corporation enthusiastically supports the Senate Bill #255 sponsored by Senator Al Adams and the companion House Bill introduced by Representative Irene Nicholia.

As you know, Governor, the State of Alaska is a vast land characterized by regions that are unique, individualistic and each having differences that make each region stand out amongst the whole of our great state. Although the intent of the original bill was well-intended to sell the whole state, we feel that the amendment to this bill would sell the parts of the whole enabling the whole state of Alaska to benefit collectively.

The SB 255 will allow our Bering Straits/Norton Sound fishermen and others to develop markets that will purchase our Salmon due to its unique qualities. ASMI can currently only market fish on a generic basis. This amendment sponsored by Senator Adams and Representative Nicholia will enable our fishermen to develop our own unique markets.

Very truly yours,

Eugene F. Asicksik
President & CEO, NSED

CF:

Mr. Henry Ivanoff, Chairman, NSED
Senator Al Adams; Representative Irene Nicholia; file *DAN LONG*

Feb 12, 1996

TO: Senator Al Adams
Pouch V
Juneau, Alaska 99801

Dear Al,

We support your efforts to attempt to address some of the inequities in commercial fishing.

In looking at Senate Bill 255 and understanding its intent to spread the funding more equitably for current statewide ASMI funding levels, it seems that there is still considerable inequity in regards to the Alaskan commercial fisheries industry in the big picture.

Foremost is the nature of how the fisheries industry is set up (or not) in the State as a whole. The unfortunate situation is that for the most part, there is little incentive for any long term investment in fisheries not only by big business but more importantly the small fishermen who made up the backbone of the fishing industry when it was healthier in the good old days simply because the commercial fishing system is faced with some rather obvious problems. We need only to look as far as our own backyards like Kotzebue in rural Alaska to get the picture.

First, fishery prices are determined by market conditions usually dictated by the market itself, (mostly Japanese) which is compounded by the middleman system problem that prevails which results in the rather wild fluctuations of fish prices out of any real orderly control, let alone any stability of the short or long term from the perspective of an investment.

Secondly, the fact of life that farmed fish which is displacing an incrementally larger market share each year would suggest to someone that the wild west approach to current systems of fish marketing is going to require a more organized effort to sell Alaskan fish at competitive prices which would also include the advertised benefit of the wiser choice by consumers for healthy wild fish stocks rather than farmed fish to be planned and implemented in some form.

The ultimate failing of the current fisheries management and marketing system, however, is the lack of regional management plans for long term investment. Theoretically speaking, a statewide management and marketing approach, species based, fair to all fisheries and controlled by the State, could require some fair market prices that would share the after-season profits on an organized basis. Perhaps a scenario could include some mechanism that would develop a statewide plan that would

be similar to power cost equalization or some form of subsidy that would require membership in a profit sharing approach on a statewide basis paid for by the fishery itself, including marketing, and including out of state fishermen.

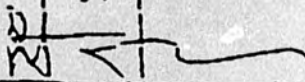
The current system of commercial fisheries management does not deal well with the survivability of the whole of fish stocks in the long run. (Norton Sound is an example) That means that the cutthroat competition which prevails today not only in the fishing effort itself but also in developing markets including value-added is going to eventually kill the fishery statewide as a whole. There is absolutely no concern for other smaller and single-species fisheries simply for that reason, and the poorer fisherperson on the seasonal tail end (which coincidentally is us in the AYK region) gets screwed year after year.

It would seem that the Legislatures' and Administrations' prerogative could put in place some method of equity that would give some hope that fishing could be a profitable venture to more than a minority who make a bulk of Statewide fishing profits. If it comes down to politics in the end as far as the survivability of Alaskan fisheries in the future, those few will find no friends to protect our fishing industry if fishing is to remain in its present form. The problem in Northwest Arctic, for example, is the virtual collapse of Chum prices which aggravates an already economically depressed region. There are few other readily developable natural resources that could create or supplement incomes here.

The other threat to Alaskan fisheries is the development of new systems and marketing of eastern Russian salmon and other species which will have significant impact once they get their resource development act together. The problem is that the Russians, with some measure of desperation, along with the technical and funding issues they have to deal with, they are going to be in less restrictive political and marketing position to make system changes in a global market much more readily than we will if we expect to hold some sort of competitive edge to survive in the long term with our current way of doing business.

Please excuse the political incorrectness of what I suggest. This issue, however, is one of great importance if the Alaskan wild fish industry is going to survive in the long term. I am also sure that there are significant legalities and politics that will provide hopefully temporary barriers to the development of some sane reaction to plan and do something for today's fishery problems. Otherwise, like a leaky boat, the entire fishery in Alaska as it exists now could sink faster and possibly forever if nothing substantial is done soon.

Sincerely,

A handwritten signature, likely of Pete Schaeffer, written in dark ink. The signature is stylized and appears to be written over a horizontal line.

Pete Schaeffer

P.O. Box 6

Kotzebue, Ak 99752

cc: Chuck Greene, Mayor NW Arctic Borough

Rep. Don Long

Rep. Irene Nicholia

Governor's Office

LOWER KUSKOKWIM ECONOMIC DEVELOPMENT COUNCIL
BOX 2021, BETHEL, ALASKA 99559 * 907 543-5967

MAR. 6, 1996

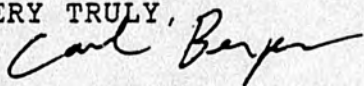
REP IRENE NICHOLIA
ALASKA STATE HOUSE
JUNEAU, ALASKA

DEAR REP NICHOLIA:

THIS LETTER IS WRITTEN IN SUPPORT OF YOUR HB 504, TO ALLOW THE ALASKA SEAFOOD MARKETING INSTITUTE TO ASSIST IN NICHE MARKETING OF SALMON IN THE A-Y-K REGION OF WESTERN ALASKA.

WITH THE CHANGING ECONOMICS OF THE WESTERN ALASKA SALMON FISHERY AND THE POSSIBILITY THAT THERE WILL BE NEITHER A BUYER NOR A PROCESSOR HERE FOR THE UPCOMING SEASON, IT IS IMPORTANT THAT ALL STATE RESOURCES BE MADE AVAILABLE AS APPROPRIATE TO HELP SOLVE THIS DIFFICULT PROBLEM OF HOW TO RESURRECT OUR FISHERY.

VERY TRULY,



CARL BERGER
EXECUTIVE DIRECTOR

SCOMM

95:34

**Testimony of Karl Ohls
Resources Development Specialist – Division of Trade and Development
Department of Commerce and Economic Development**

**House Special Committee on Fisheries
Alaska State Legislature**

Monday, March 18, 1996

**CS For House Bill No. 514
"An Act relating to finfish farming."**

Mr. Chairman, members of the committee, thank you again for the opportunity to testify on CSHB 514. My name is Karl Ohls, resources development specialist in the Division of Trade and Development in the Department of Commerce and Economic Development.

I wish to preface my remarks by discussing two basic approaches to economic development that have been practiced in Alaska.

In the first method, statutes are passed, regulations are written, and a potential new industry is provided with a process through which it can obtain the permits and approval necessary to operate. The state then says, "You're on your own."

The second approach — and the one this administration favors — is to work in partnership with industry to identify the needs of the industry, set up a support structure, and to work with industry to overcome whatever obstacles or barriers stand in the way of success.

One of the main purposes of the Governor's Marketing Alaska Initiative was to develop specific ideas for putting the second approach into effect. Industry/government work groups were formed to identify the actions the government could take to help strengthen Alaska's economic sectors.

Our assessment is that CSHB 514 reflects the first approach. It sets up a system through which people can obtain finfish farming permits. Based on our current experience with what we could call "mature" seafood-related businesses, this approach probably will not be enough to establish a successful finfish farming industry in Alaska.

I'd like to offer the committee some cautionary information based on current events in the seafood industry.

Alaska's salmon industry is a mature industry. The products it produces —

canned salmon and fresh-frozen salmon — have been market mainstays for decades. But even with this maturity and years of building business relationships with seafood buyers, the industry is facing serious challenges from new international competition. At the Department of Commerce, we are devoting considerable resources to assisting the industry. We are searching for surplus salmon markets, distributing information on market conditions and alternatives, researching potential value-added products, and organizing the administration's comprehensive response to the problem. This demonstrates that even industries that have been around for a while can suddenly run into problems that require considerable government attention and resources. This should be factored into your considerations.

By contrast, oyster farming is a new industry. The legislation that banned salmon farming also set up a complicated system for issuing permits for shellfish farms. The entrepreneurs that obtained shellfish farm permits and sites have been engaged in a constant struggle ever since to make their businesses profitable. Some of the help they could have used included technical support, extension services, market information, and coordinated sales assistance. The lessons learned from Alaska's oyster farming experience could be a valuable guide to what would need to happen to make finfish farming work in Alaska.

My final example is salmon hatcheries. The State of Alaska entered the aquaculture industry in a big way starting in the 1970's. The thought was that once the salmon started returning in large enough numbers, the situation would take care of itself. But because of the changing world market situation, the hatcheries have been scrambling to stay afloat and find markets and new products for the returning salmon.

At the Department of Commerce, we support new ventures and creative diversification in the seafood industry. We only request that the legislature be fully aware of all the ramifications of a new seafood-related industry and what would be required to make it work.

We must be careful not to create expectations and raise hopes for success and profit without being fully prepared to offer consistent, long-term and appropriate support. Setting up a process for an industry and then just leaving it to fend for itself would not be fair to the industry, its investors, or the people of the state.



Official Business

Alaska State Legislature

1

State Capitol
Juneau, AK 99801-1182

House Bill 514

By Representative Eldon Mulder

"An Act to repeal the ban on fin fish farming"

SPONSOR STATEMENT

HB 514 would repeal Alaska's current ban on fin fish farming and will allow Alaskan's to participate in the economic benefit of a growing world-wide industry. HB 514 will allow Alaskan processors and entrepreneurs to participate in a business that could provide thousands of year round jobs in areas of the state that otherwise are limited to seasonal employment.

In 1987 the State of Alaska chose to insulate itself from the world salmon market, first by placing a moratorium, and later by enacting an outright ban on fin fish farming. This ban was intended to protect long standing Alaskan wild salmon markets from pen-reared salmon. At the time Alaska controlled, for the most part, the world salmon market and initially the ban, in part, had it's desired effect. Over the years fish farmers began to improve their product and started to nip away at Alaska's share of the world market. In 1984 Alaska held approximately 44% of the worlds salmon market, while farmed fish contributed only 5% to the world market. Just 10 years later, in 1994, Alaska held approximately 30% of the worlds salmon market while fish farms held 35% of the world market. Norwegian fish farmer's produced 414,000 pounds of salmon in 1994 and say that they are planning to produce 2,00,000 pounds in 2010. That would almost double the amount of salmon produced in 1994. Alaska's market share has been reduced by 32% in only 10 years and can be attributed, almost entirely, to the successes of fish farms. Fish farmers are continuing their rapid expansion and there appears to be no end in site.

Clearly, the intent of the ban has not been successful in protecting Alaskan salmon markets. Put simply, Alaskan residents and businesses have been banned from participating in the economic growth of this industry. In fact, we may well be so far behind the curve in salmon farming that we may never be able to be catch up and our share of the world salmon market will continue to dwindle.

Fish farmer's, unlike the harvester's of wild fish, are able to provide a fresh product to consumers on a year round basis as well as taking great care in the handling of the product to insure a high quality product. The ability of fish farmer's to provide a consistent year round product is the single most important advantage that fish farmer's have over the harvester's of wild fish. Wild fish harvester's have been unable to respond to the market demand of providing a fresh product on a year round basis. They have also had difficulty matching the aesthetic quality of farmed fish due to the nature of the fishery.



Alaska State Legislature

2

Official Business

State Capitol
Juneau, AK 99801-1182

House Bill 514 Sponsor Statement

Fish farmers are now beginning to produce a variety of species, other than salmon, in significant numbers and will, in the near future, be capable of significantly impacting the world market. It is reasonable to expect fish farms to continue to erode Alaska's share of the world fisheries market unless we choose to recognize and address market trends on a world wide basis.

HB 514 will allow Alaskan's to share in the opportunity for economic growth of this developing industry while providing year round employment in rural Alaska. HB 514 will help to ensure that Alaska continues as a leader in the world seafood market.

Secs. 2 — 4. Permanent laws. See Table of Disposition of Acts.

Approved: June 4, 1990

Effective: September 2, 1990

CHAPTER 89

AN ACT AMENDING THE JURISDICTION OF THE DISTRICT COURT, AND INCREASING THE PERIOD DURING WHICH A DISTRICT COURT JUDGE SERVES UNDER AN INITIAL APPOINTMENT BEFORE BEING SUBJECT TO VOTER APPROVAL.

(CSSB 482(Jud))

Be it enacted by the Legislature of the State of Alaska:

Secs. 1, 2. Permanent laws. See Table of Disposition of Acts.

Sec. 3. The provisions of AS 15.35.100(a), as amended by sec. 1 of this Act, apply to district court judges who enter into the duties of the office on or after September 2, 1990.

Approved: June 4, 1990

Effective: September 2, 1990

CHAPTER 91

AN ACT PROHIBITING FINFISH FARMING; AND PROVIDING FOR AN EFFECTIVE DATE.

(CSHB 432(Res))

Be it enacted by the Legislature of the State of Alaska:

Section 1. FINDINGS. Based on a legislative examination of the potential effects of allowing finfish farming in the state on the common property resources and on the overall economic well-being of the state; the number of serious concerns associated with finfish farming and the need for study of finfish farming that has caused the legislature to enact two moratoriums on finfish farming and establish a nonlegislative task force to study the issue and to report its findings and recommendations to the legislature; a review of the final report of the Alaska Finfish Farming Task Force which notes several possible benefits and some serious risks of finfish farming; the need for the legislature to take action before the current moratorium on finfish

farming expires on July 1, 1990; the recommendation of the task force that the legislature not extend the moratorium, but make a final determination to either allow or prohibit finfish farming; and the testimony and evidence received; the legislature finds that

(1) the state has the healthiest stocks of wild salmon and other wild finfish in the world and benefits from thriving commercial, sport, and subsistence fisheries for these fish and a growing tourism industry related to sport fishing;

(2) the people, economy, and environment of the state are dependent in large measure upon the continued health of the state's wild finfish resources;

(3) serious risks are posed by commercial finfish farming, including the spread of disease among wild fish by farmed fish, genetic intermingling of wild fish stocks with genetically manipulated farmed fish, degradation of water quality near finfish farms, and land use conflicts over the siting of commercial finfish farms;

(4) the state has invested significantly in marketing efforts to promote Alaskan finfish as wild and natural fish products, and this investment in developing the reputation of Alaskan finfish would be lost by allowing commercially farmed finfish to be produced and marketed from Alaska;

(5) the cost to the state to regulate the commercial finfish farming industry would be high;

(6) few jobs would be generated by a commercial finfish farming industry in the state;

(7) the state is responsible for ensuring the protection and wise use of the renewable natural resources of Alaska and providing a framework for a sound economy;

(8) a long-term decision must be made regarding the future of commercial finfish farming in the state;

(9) avoiding harm to the state's wild finfish, land, and water resources must take precedence over the development of a new speculative and potentially harmful commercial finfish farming industry;

(10) the best interests of the state are served by prohibiting commercial finfish farming.

Sec. 2. Permanent law. See Table of Disposition of Acts.

Sec. 3. This Act takes effect July 1, 1990.

Permitted to become law
without signature
Effective: July 1, 1990

LEGAL SERVICES

DIVISION OF LEGAL AND RESEARCH SERVICES LEGISLATIVE AFFAIRS AGENCY STATE OF ALASKA

(907) 465-3867 or 465-2450
FAX (907) 465-2029
Mail Stop 3101

130 Seward Street, Suite 409
Juneau, Alaska 99801-2105

MEMORANDUM

March 13, 1996

SUBJECT: Sectional Summary of CSHB 514(), (version C); An Act relating to finfish farming.

TO: Representative Eldon Mulder

FROM: George Utermohle *GU*
Legislative Counsel

You have requested a sectional summary of CSHB 514(), (version C); An Act relating to finfish farming.

As a preliminary matter, please note that a sectional summary of a bill is not an authoritative interpretation of the bill. The bill itself is the best statement of its contents.

Section 1 of the bill amends AS 16.40 by adding new sections providing for finfish farming.

Sec. 16.40.220 provides for the issuance of finfish farming permits and regulation of finfish farming activities.

Sec. 16.40.230 provides that violations of AS 16.40.210 - 16.40.239 are class B misdemeanors.

Sec. 16.40.239 defines key terms used in AS 16.40.210 - 16.40.239.

Sections 2 - 3 of the bill make amendments to provisions of AS 03.05 providing for regulation of finfish farms and finfish farm products by the commissioner of environmental conservation on the same basis as aquatic farms and aquatic farm products.

Section 4 of the bill defines "finfish farm" and "finfish farm product" for purposes of AS 03.05.

Section 5 of the bill amends AS 16.05.050(17) to provide that the commissioner of fish and game may regulate finfish farms on the same basis as aquatic farms.

Representative Eldon Mulder

March 13, 1996

Page 2

Section 6 of the bill amends AS 16.05.251(f) to provide that the Board of Fisheries may not regulate finfish farms, except in regard to conservation, maintenance, and management of finfish species acquired for finfish farm stock.

Section 7 of the bill amends AS 16.05.930(g) to exempt finfish farming activities from statutes governing commercial fisheries under AS 16.05.440 - 16.05.723.

Section 8 of the bill amends AS 16.05.940(15) to eliminate a definition of fish farm.

Section 9 of the bill amends AS 16.10.269 to exempt the purchase and sale of finfish farm products from statutes governing the sale of fish taken in commercial fisheries.

Section 10 of the bill repeals and reenacts AS 16.40.210(a) to eliminate the current prohibition against finfish farming by authorizing a person to grow or cultivate finfish under positive control for commercial purposes under a permit issued by the commissioner of fish and game.

Section 11 of the bill makes a technical amendment to AS 16.40.210(b) to conform to the changes made by secs. 1 and 10 of the bill.

Section 12 of the bill amends AS 16.43.940 to exempt finfish farming activities from regulation by the Alaska Commercial Fisheries Entry Commission.

Section 13 of the bill excludes finfish farm products from the definition of "seafood" for purposes of statutes relating to the Alaska Seafood Marketing Institute.

Section 14 of the bill amends AS 17.20.370(7) by making a technical change to the definition of "farmed salmon product" for purposes of labeling or identifying farmed salmon that is offered for sale.

Sections 15 - 19 of the bill make technical and conforming amendments to provisions of AS 38.05, so that state land can be made available for finfish farming sites on the same basis as state land is made available for aquatic farming sites.

GU:klb

96-185.klb

Legislative Research Services

Alaska State Legislature
Legislative Affairs Agency
Division of Legal & Research Services



130 Seward Street, Suite 218
Juneau, Alaska 99801-2196
Phone: (907) 465-3991
Fax: (907) 463-3351

March 12, 1996

MEMORANDUM

TO: Representative Eldon Mulder

FROM: Maria Gladziszewski *MG*
Legislative Analyst/Manager

RE: **Finfish Farming Ban in Alaska and World Salmon Production**
Research Request 96.043

You asked for a brief history of the finfish farming ban in Alaska. You requested background on when it was first introduced and by whom. You also asked about legal challenges to the finfish farming prohibition and for any other information that may be pertinent. In addition, you asked for statistics on worldwide salmon production, including changing market share and salmon prices. Finally, you asked for information on what other kinds of pen-reared fish are currently available on the world market.

The Ban on Finfish Farming in Alaska

Although a moratorium on issuing finfish farming permits in Alaska was officially first enacted in 1987, there had been no commercial finfish farming in Alaska. The only farming projects had been state and federal feasibility studies. The Alaska Departments of Fish and Game and Commerce and Economic Development, in cooperation with the National Marine Fisheries Service, had investigated the growth, survival, and market quality of salmon reared in sea water in Alaska during the mid-1980s at the Little Port Walter Hatchery on the south end of Baranof Island.

On May 12, 1987, during the first session of the Fifteenth Alaska legislature, Senators Zharoff, Eliason, and Duncan sponsored a bill to establish a one-year moratorium on finfish farming (SB 297); the moratorium was to expire July 1, 1988. During the second session, in 1988, another bill (SB 514) extended the moratorium until July 1, 1990 and established the Alaska Finfish Farming Task Force. The second bill was introduced on April 20, 1988 by the Senate Rules committee but the provision extending the finfish farming moratorium was added on May 6th by the Senate Finance Committee. The legislature found that finfish farming raised a series of socio-economic, biological, and environmental issues that required in-depth examination and requested that the

Representative Mulder
March 12, 1996
Page 2

Finfish Farming Task Force address those concerns. On January 15, 1990, the Task Force submitted its report to the Alaska legislature. The report concluded that

the findings, Alaska's unique position as a leading seafood producer, and the broad range of potential types of finfish farming activities do not support an unequivocal "yes" or "no" as to whether any particular type of finfish farming should be permitted. . . . If the legislature decides to allow finfish farming, it is imperative that the necessary regulatory framework be in place in advance of any farming activity. If this caveat is satisfied, the task force concludes that fish farming would have little or no adverse effect on wild stocks in the environment.¹

The final recommendation of the Task Force was that the legislature should resolve the issue of finfish farming by statutory permission or prohibition before the moratorium expired. Task force members argued that further study and debate was unlikely to change significantly their findings and that the decision whether to permit finfish farming was a political one. They concluded, therefore, that "the legislature should resolve the issue of finfish farming by statutory permission or prohibition before the moratorium expires."²

On January 19, 1990, just a few days after the Finfish Farming Task Force report was released, a bill prohibiting finfish farming was introduced. House Bill 432 passed the House in April and the Senate on May 7, 1990. The version sent to the Governor for his signature was sponsored by Representatives Grussendorf, Ulmer, Goll, Davidson, Navarre, Wallis, Hudson, Taylor, C. Davis, Jacko, Kubina, MacLean, Swackhammer, Zawacki, and Boucher and by Senators Fischer, Halford, Szymanski, Duncan, Binkley, Rodey, Kerttula, Jones, Eliason, Zharoff, and Coghill. On June 4, 1990, Governor Cowper did not sign but allowed to become law without his signature the bill prohibiting finfish farming.

Attached are all the available minutes from the hearings in the Alaska House of Representatives on the finfish farming prohibition. The House Resources Committee heard the bill on March 5, March 13, and March 14; the House Judiciary Committee heard the bill on April 3 and April 4. Also attached is the letter from Governor Cowper allowing the bill to become law.

As far as we have been able to determine, no legal challenges have been brought regarding Alaska Statute 16.40.210, the statute prohibiting finfish farming. George Utermohle, legislative counsel, knows of no legal challenges to the finfish farming prohibition.

¹Alaska Finfish Farming Task Force, *Report to the Legislature*, January 15, 1990, p. 32.

²*Ibid*, p. 32.

Representative Muider
March 12, 1996
Page 3

Data on Salmon Production and Prices

Worldwide and Alaska salmon production continues to increase, while salmon farming continues to increase more rapidly than other contributors to production.

Data spanning the last fifteen years on world salmon harvest, farmed salmon production, and average salmon harvest prices in Alaska are presented in Tables One, Two, and Three, respectively. **Worldwide production data presented in these tables should not be considered as one hundred percent reliable because of the difficulty in obtaining production figures from other nations.**

Data from Tables One and Two are presented in two graphs to illustrate worldwide salmon production trends between 1980 and 1994. Figure One illustrates total world salmon production, Alaska catch and worldwide farmed salmon in millions of pounds. Figure Two illustrates the percent of worldwide production contributed by the Alaska catch and by worldwide salmon farming.

Whereas worldwide salmon production has more than doubled and Alaska production has nearly doubled in the past 15 years, *salmon farming worldwide has increased nearly 67 times over the same period.* Tables One and Two (as well as Figure One) show that while worldwide salmon production has increased from 1,242 million pounds in 1980 to 2,855 million pounds in 1994, and Alaska production has also increased from 510 million pounds to 866 million pounds, the contribution of salmon farming has increased dramatically from 15 million pounds in 1980 to 1,003 million pounds in 1994.

Figure Two illustrates that Alaska's contribution to worldwide salmon production has decreased from 41 percent in 1980 to 30 percent in 1994 while the contribution of salmon farming to worldwide production has increased from one percent in 1980 to 35 percent in 1994. By 1994, farmed salmon production had exceeded Alaska wild harvests on the world market.

Average salmon harvest prices in Alaska (by species) for the years 1980 through 1995 from Table Three are presented in Figure Three.

Other Species of Farmed Fish

According to Catherine Egan, staff with the monthly publication *Northern Aquaculture*, fish currently available from North American finfish farms includes trout, arctic char, catfish, tilapia (a warm water species with appeal to Asian markets), sturgeon, sea bass, walleye, and pike. Industry entrepreneurs are also working on culturing cod but that has not yet reached the commercial production stage.

I hope this information is useful for your purposes. Please do not hesitate to call if you have additional questions.

Attachments

TABLE ONE:
WORLD SALMON HARVEST FROM MAJOR FISHING COUNTRIES
(millions of pounds)*

Year	Alaska	Other U.S.		Canada		Japan		Russia	Norway	Scotland	Chile	Percent	Percent	WORLD
	Total(Wild)	Wild	Farmed	Wild	Farmed	Wild	Farmed	Total	Farmed	Farmed	Farmed	Farmed*	Alaska*	TOTAL*
1980	510	50	1	unavailable	0	unavailable	4	unavailable	9	1	0	1%	41%	1,242
1981	612	60	2	unavailable	1	unavailable	3	unavailable	19	3	0	2%	44%	1,379
1982	562	67	2	unavailable	1	unavailable	5	unavailable	23	5	0	3%	43%	1,307
1983	561	78	1	unavailable	1	unavailable	4	unavailable	37	6	0	3%	35%	1,595
1984	660	31	3	110	1	378	11	unavailable	49	9	0	5%	44%	1,512
1985	669	58	4	240	1	488	14	271	63	15	1	5%	34%	1,941
1986	590	69	3	220	2	409	18	179	101	23	3	10%	40%	1,458
1987	493	69	6	143	6	374	27	308	124	28	3	14%	35%	1,390
1988	526	80	8	189	20	374	36	109	184	40	7	17%	30%	1,726
1989	713	66	12	176	39	440	41	402	253	68	18	21%	34%	2,089
1990	689	44	17	191	51	484	57	267	330	77	42	29%	33%	2,106
1991	726	54	14	187	62	370	49	554	342	76	54	26%	28%	2,563
1992	691	48	29	143	71	405	50	231	282	89	76	31%	31%	2,198
1993	846	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable	31%	31%	2,729
1994	866	unavailable	unavailable	unavailable	77	unavailable	unavailable	unavailable	456	130	152	35%	30%	2,855

NOTES:

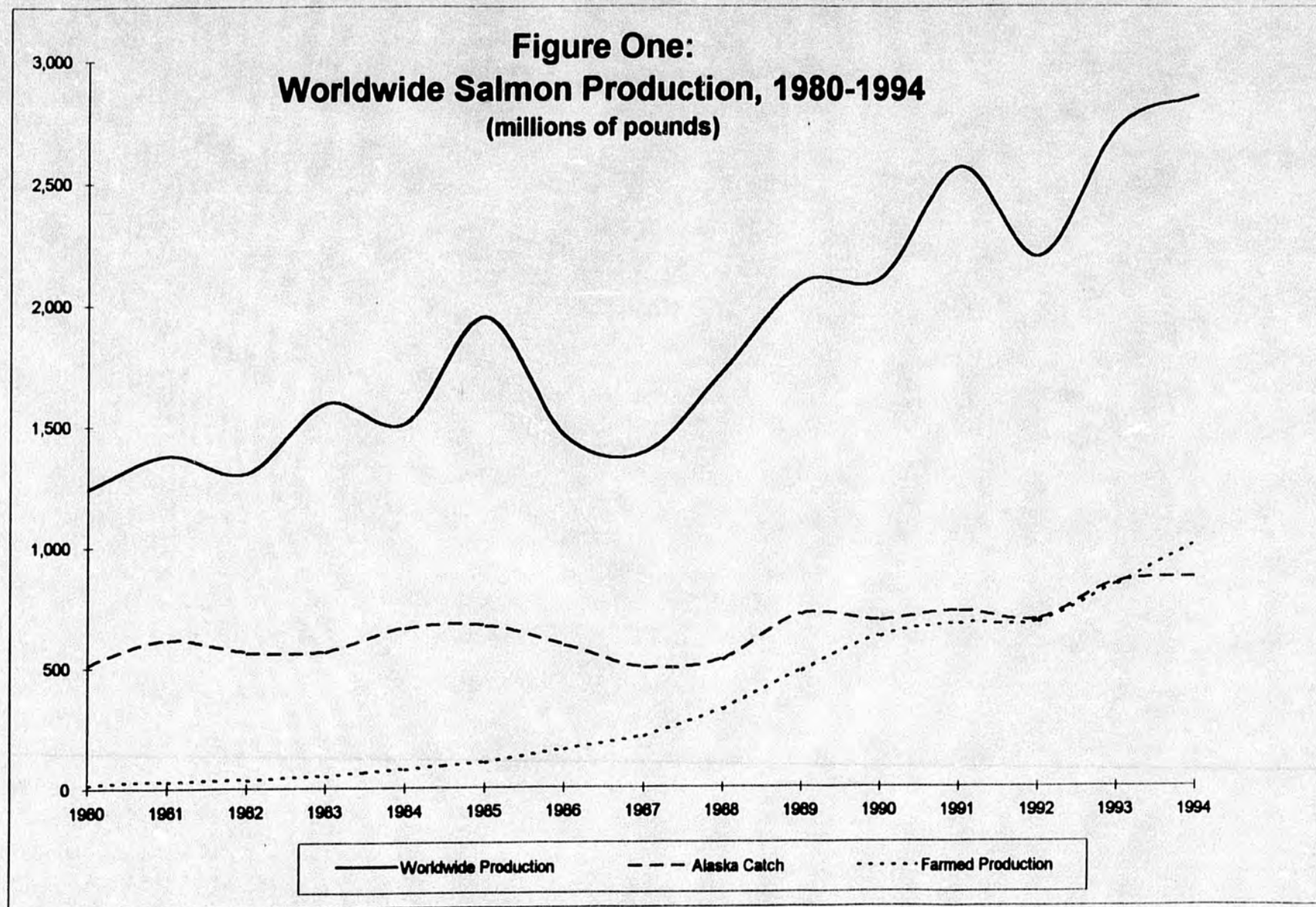
- * Data for U.S. and Alaska were listed on several tables in the ASMI source document. For virtually every year, data did not match across tables.
- * Data for this table are best-guess approximations from all sections of ASMI's document and are rounded to the nearest one million pounds.
- * Given the known discrepancies for Alaska, the reader is cautioned that other country data are also suspect.
- * World totals and individual country data were taken from different tables. World totals should exceed the arithmetic sum totals in all cases but, for unexplained reasons, they do not in 1986, 1987, 1989, 1990, and 1992.
- * Percentage farmed was calculated using farmed totals from Table Two.
- * Total harvest is illustrated in Figure One; percentages are illustrated in Figure Two.

SOURCES:

Salmon 2000 Yearbook, Alaska Seafood Marketing Institute, April 1993. Data on wild salmon harvest from page 4, farmed salmon harvest from page 3, world totals from page 3.

World and Alaska totals for 1993 and 1994 from the Alaska Seafood Marketing Institute.

Prepared by Legislative Research Services, March 1996 (96.043a).



NOTE: This figure illustrates data contained in Table One of Legislative Research Services Memorandum Number 96.043.

See Table One for additional notes.

SOURCE: Alaska Seafood Marketing Institute, *Salmon 2000 Yearbook*, April 1993 and additional data.
Prepared by Legislative Research Services, March 1996 (96.043).

TABLE TWO:
WORLD FARMED SALMON PRODUCTION
(millions of pounds)

YEAR	NORWAY	SCOTLAND	CHILE	CANADA	U.S.	JAPAN	OTHER	TOTAL
1980	9.1	1.3	0.0	0.4	0.9	4.0	0.0	15.0
1981	18.5	2.9	0.0	0.5	1.9	2.5	0.0	26.0
1982	22.6	4.7	0.4	0.9	1.5	4.7	0.0	33.0
1983	37.4	5.6	0.2	0.7	0.8	3.9	0.0	48.0
1984	49.0	8.6	0.2	0.7	2.7	11.0	1.8	74.0
1985	63.0	15.0	1.1	0.9	4.0	14.1	3.9	102.0
1986	100.5	22.7	2.5	2.2	3.0	17.6	7.5	156.0
1987	123.6	27.9	2.6	6.0	5.5	26.8	17.6	210.0
1988	184.0	39.5	6.8	20.0	8.1	36.0	24.6	319.0
1989	252.7	68.2	18.0	38.8	12.3	40.9	48.1	479.0
1990	330.0	77.0	41.8	51.2	16.9	57.2	46.9	621.0
1991	341.7	76.0	54.0	61.9	14.3	49.2	75.9	673.0
1992	282.1	88.6	76.4	70.5	28.6	50.0	85.0	681.2
1993	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable	unavailable	837.7
1994	456.3	130.0	152.1	77.1	unavailable	unavailable	unavailable	1,003.0

SOURCES:

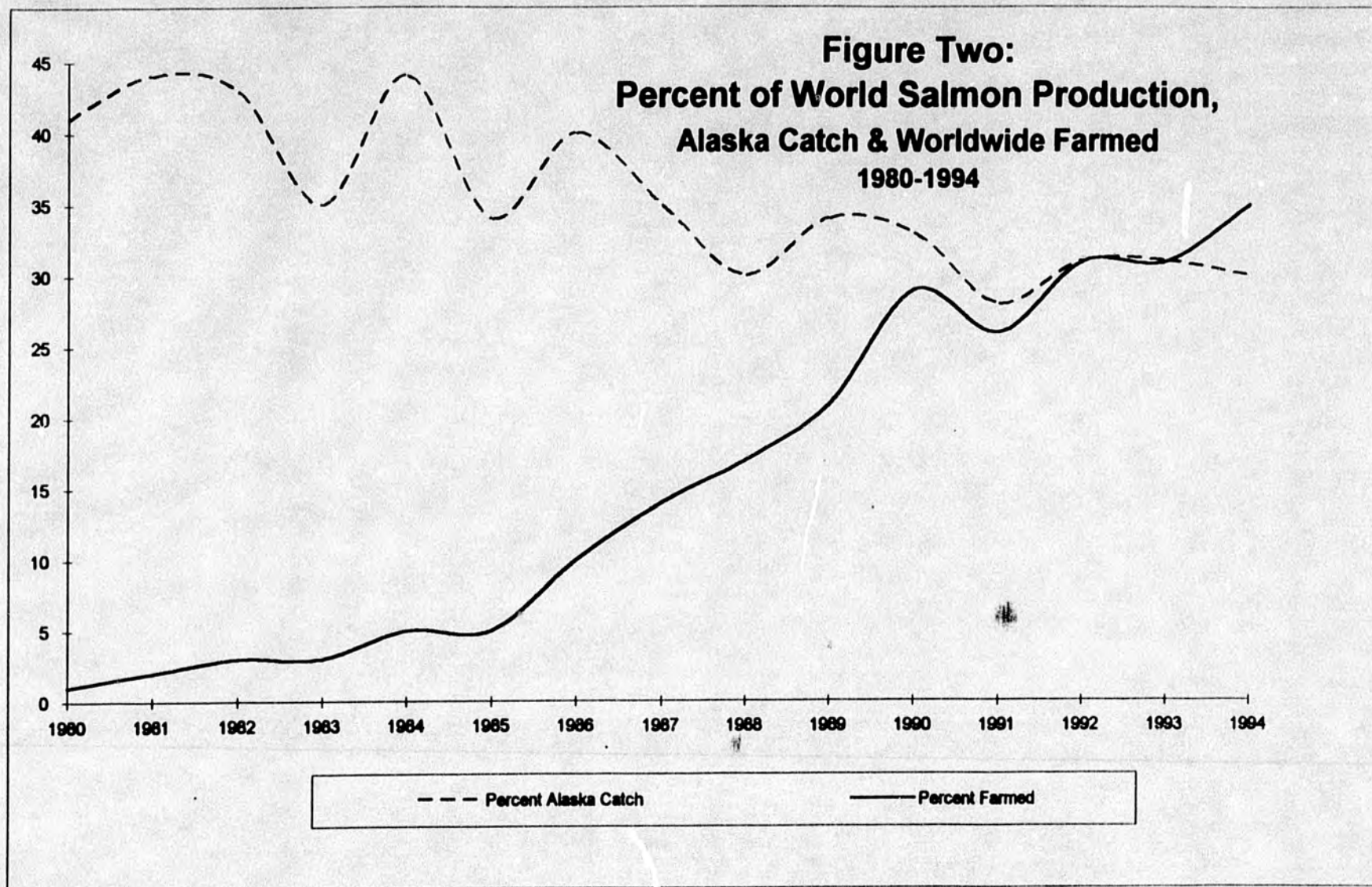
Salmon 2000 Yearbook, Alaska Seafood Marketing Institute, April 1993.

Body of the table is the bottom table on page 3 and the totals are from the top table on page 3 of the *ASMI Yearbook*.

Data for 1993 and 1994 were supplied by Alaska Seafood Marketing Institute, March 1996.

Detailed data for 1993 were unavailable.

Prepared by Legislative Research Services, March 1996 (96.043b).



NOTE: This figure illustrates data contained in Table One and Two of Legislative Research Services Memorandum Number 96.043.
See the Tables for additional notes.

SOURCE: Alaska Seafood Marketing Institute, Salmon 2000 Yearbook, April 1993 and additional data.
Prepared by Legislative Research Services, March 1996 (96.043).

TABLE THREE:
ALASKA SALMON HARVESTS, 1980 to 1995
Harvest Value and Average Price per Pound

YEAR	Harvest Value (millions of dollars)	Average Harvest Price (dollars per pound)				
		Chinook	Sockeye	Coho	Pink	Chum
1980	\$254.4	\$1.42	\$0.59	\$0.80	\$0.35	\$0.45
1981	\$397.2	\$1.51	\$0.87	\$0.92	\$0.43	\$0.48
1982	\$309.6	\$1.60	\$0.83	\$0.86	\$0.22	\$0.43
1983	\$320.2	\$1.16	\$0.70	\$0.60	\$0.25	\$0.32
1984	\$343.1	\$1.74	\$0.77	\$0.96	\$0.25	\$0.35
1985	\$386.5	\$1.54	\$0.99	\$0.90	\$0.24	\$0.40
1986	\$434.2	\$1.52	\$1.43	\$0.90	\$0.24	\$0.35
1987	\$510.0	\$2.02	\$1.55	\$1.14	\$0.42	\$0.46
1988	\$781.4	\$2.71	\$2.35	\$1.74	\$0.79	\$0.87
1989	\$587.1	\$1.85	\$1.42	\$0.82	\$0.44	\$0.40
1990	\$574.4	\$1.88	\$1.28	\$1.01	\$0.33	\$0.45
1991	\$342.8	\$2.07	\$0.84	\$0.79	\$0.15	\$0.32
1992	\$607.2	\$2.01	\$1.33	\$0.92	\$0.21	\$0.41
1993	\$390.0	\$1.44	\$0.71	\$0.86	\$0.13	\$0.37
1994	\$482.4	\$1.35	\$1.03	\$0.87	\$0.19	\$0.26
1995	\$441.3	\$1.23	\$0.85	\$0.85	\$0.15	\$0.28

NOTES:

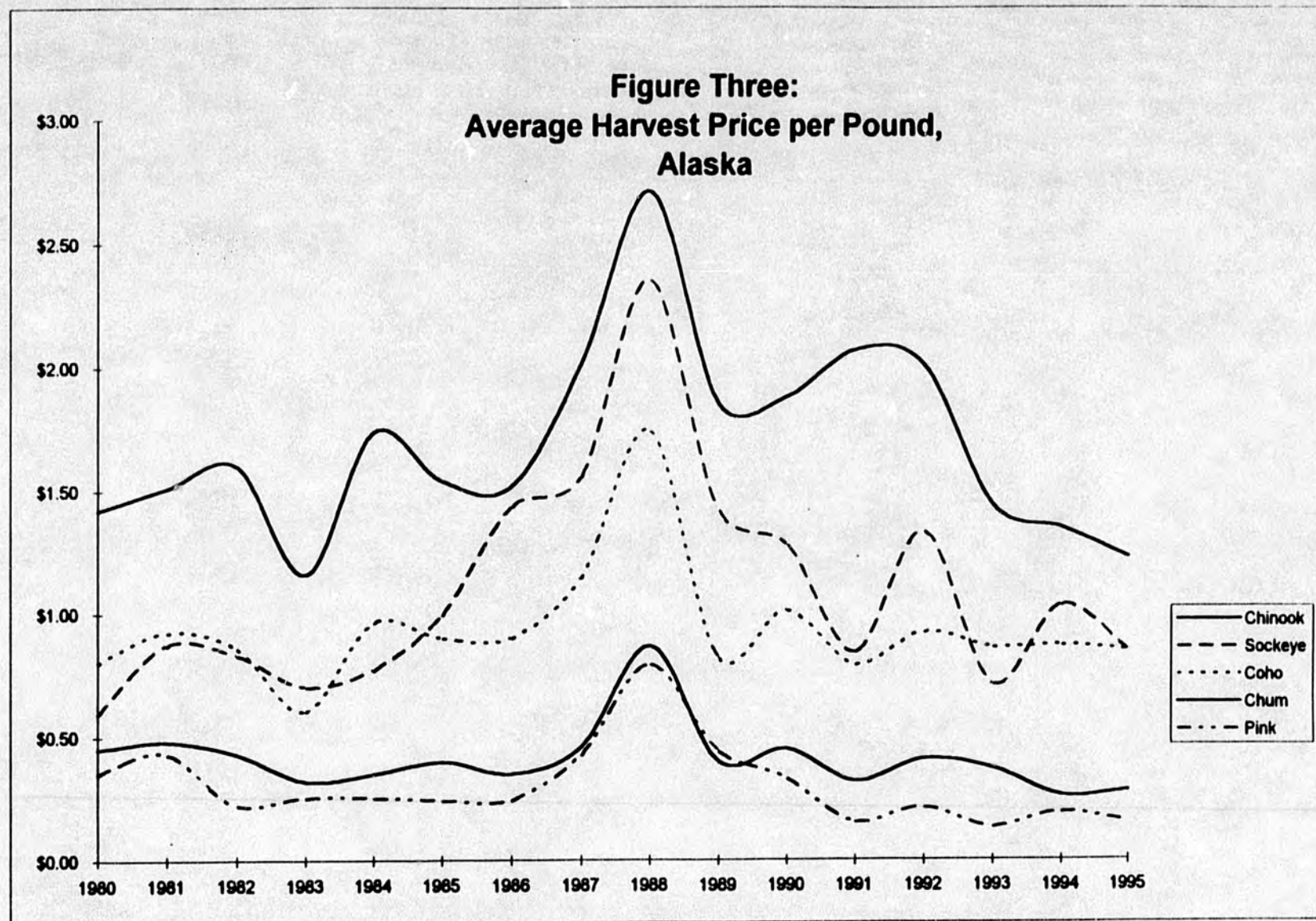
Prices and harvest values should be considered conservative estimates.

Ex-vessel prices per pound for 1993 and 1994 are based on fish tickets and do not include subsequent price adjustments. Data for 1995 are preliminary.

SOURCE:

University of Alaska Anchorage, Institute for Social and Economic Research, Salmon Market Information Service Database (based on data provided by the Alaska Commercial Fisheries Entry Commission & the Alaska Department of Fish & Game).

Prepared by Legislative Research Services, March 1996 (96.043c).



NOTE: This figure illustrates data contained in Table Three of Legislative Research Services Memorandum Number 96.043.
See Table Three for additional notes.

SOURCE: University of Alaska Anchorage, Institute for Social and Economic Research, Salmon Market Information Service Database

Prepared by Legislative Research Services, March 1996 (96.043).

ADN
3/12/96

Fish farms reeling in the buyers

Chile expands program

By A.K. O'REILLY

Journal of Commerce

SANTIAGO, Chile — This nation has become so successful in exporting salmon and trout that a delegation of Alaska salmon fishermen came to visit Chilean farms late last year.

"We are here to see what they do and to bring back ideas for our fish production," said Charles Pratt of Prince William Sound Aquaculture Association.

Chilean exports of farmed salmon and trout increased more than 30 percent to more than 90,000 metric tons, but revenue rose no more than 23 percent to nearly \$456 million because of low prices. Salmon and trout exports are expected to increase again this year and in 1997.

Other seafood produced here include turbot — a flat fish grown in captivity and favored by European gourmets — as well as scallops, oysters and mussels,

Please see Page D-4, FISH

along with some varieties of algae, all grown along Chile's extensive coastline.

The nation had total seafood exports last year of 178,000 metric tons, valued at more than \$500 million.

Fundacion Chile, a technology transfer institution set up in 1976, is responsible for the booming aquaculture industry. Salmon ranching — releasing small fish in rivers and hopefully capturing adults as they swim up the same river to spawn — had been tried with little success in Chile since the early 1940s.

Fundacion Chile introduced salmon growing in floating cages in 1979, giving birth to an industry that currently includes more than 60 companies, from large operations tied to the country's most powerful economic groups to small independent producers, directly employing over 15,000 people. The institute is studying the commercial exploitation of several other marine species, including abalone, sea urchins and sturgeon.

The main market for frozen salmon, which represents two-thirds of the total product, is Japan. Fresh and chilled salmon is exported to the United States, Europe and other Latin American countries.

These exports are shipped via air on such carriers as American Airlines, Federal Express and three Chilean airlines — Lan-Chile, Ladeco and Fast Air, the latter an all cargo carrier.

Brazil is emerging as a significant buyer. Tomas Pablo Bascunan, general manager in Chile for FedEx, said he expects fresh salmon cargoes to Brazil to double this 1996-97 season to 1,000 tons.

Miami is the main port of entry for Chilean salmon exported by air to the United States. Competition among carriers there has led to lower freight rates for the Chilean growers, who truck their fish in refrigerated containers to Pudahuel, Santiago's international airport. There was airplane service from Puerto Montt's Tepual Airport, but the service was discontinued because freight rates didn't compensate for flying empty planes south.

The bulk of salmon exports are shipped by sea. Claudio Pommiez, head of the SAAM agency in Puerto Montt, in the center of the salmon growing region, represents Chilean Line in its ANDEX Service, which it operates jointly with Japan's NYK Line. SAAM handles 58 percent of all frozen salmon exports to Japan.

"We expect that frozen salmon exports will double in volume by the year 2000," Pommiez said, "and we will have the facilities to handle it."

While SAAM might well have the necessary equipment, the Port of Puerto Montt has neither the ship frequencies nor the infrastructure necessary to move refrigerated containers. These containers are trucked some 500 miles north, to the Port of Lirquen, near Concepcion, for loading.

A.

Alien pike serious threat to salmon on Kenai River

The Associated Press

KENAI — Forget habitat loss, overharvesting and calamitous acts of nature. The most serious threat to salmon on the Kenai River may be evil-eyed, sharp-fanged, alien invaders.

No, the predators are not from outer space. They were brought to the Peninsula by well-meaning amateur fish planters who wanted northern pike in their favorite fishing holes.

"It's not a question of whether they are going to expand throughout the drainage, but when," said Terry Bendock, a biologist for the Alaska Department of Fish and Game in Soldotna. "As we've seen them spread throughout the Susitna River Basin, we've seen commensurate declines in coho and sockeye stocks."

Pike, commonly referred to as "water wolves," are ruthlessly efficient predators.

They hunt by ambush. Hiding in weed beds, they coil snakelike at the approach of their prey and strike with furious savagery. Their mouths are lined with row upon row of sharp teeth all angled back toward the throat much like a snake's.

Pike feed on fresh-water invertebrates, salmon fry, other fish and even birds that pike catch on or near the water.

Once pike reach about 5 years old, they start looking for bigger meals. They have been known to completely wipe out other fish species in an ecosystem, at which point pike survive almost exclusively through cannibalism.

For concealment purposes, the pike's favored

habitats are weedy, shallow lakes and relatively slow-moving river systems. In larger lakes, they stalk the edges of weed beds in search of prey. Unfortunately, these habitats are also the favored rearing areas of young silver and red salmon.

"When you open up a salmon river system to pike, salmon are what they are eating," said Dave Rutz, an Alaska Department of Fish and Game Biologist who has been studying the effect the introduction of pike has had on trout and salmon in the Susitna Basin.

"I've caught pike 450 millimeters long with 20 young salmon in them."

Rutz said the Susitna River system is a little different from the Kenai River system in that the Susitna has more shallow weedy ponds and lakes to provide excellent spawning and rearing areas for pike.

"Pike don't like fast water, so the Kenai River is probably safe," Rutz said. "But a lot of the Peninsula's coho production comes from the Moose River

and the Moose River system is ideal pike habitat."

Bendock, however, pointed out that pike routinely use fast, strong rivers as migration routes to more suitable habitat. The pike in the Moose River drainage probably migrated down Soldotna Creek and up the Kenai into the Moose River system, he said.

Pike were first introduced in the Mackey Lakes by misguided amateur fish planters in the early 1970s, Bendock said. Ten years later, pike had worked their way into the Moose River, Soldotna Creek and all of the Mackey Lake system.

Rutz said pike are the worst possible predators in a salmon river. They are incredibly damaging to silver and red stocks. Pike prey on juvenile red salmon as they leave lakes.

And there's no way to get rid of them. Pike are tough fish, resistant even to poisoning, which is no longer considered biologically acceptable.



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ASSEMBLY NOTICE

Board Seat Vacancy Anchorage Telephone Utility Board of Directors

The Anchorage Municipal Assembly is seeking resumes from citizens interested in serving on the Anchorage Telephone Utility Board of Directors. One seat will become vacant January 14, 1996. This is a five-year seat. Current compensation is \$700.00 per month.

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The threat to salmon is not pike

The recent studies concerning the northern pike's impact on the Deshka and Kenai river systems have been grossly misrepresented. The information presented has piggybacked this fish's poor, but growing, popularity throughout the United States and Canada. The terminology used by biologists to describe pike includes: "alien invaders," "evil-eyed," "sharp-fanged" and "worst possible predators." These descriptions sound more like something from a Stephen King novel, not a freshwater sport fish.

Pike have sharp teeth and are predators of their environment. Any fish is a predator within the food chain, including the popular rainbow trout and Dolly Varden. So what's my point? The declining salmon runs are being diminished by humans, the environment and other fish. Singling out pike as the major cause for the salmon's decline is ridiculous.

Declining salmon runs begin when schools of salmon are netted by commercial fishermen for consumer demand. Anglers decrease this number as salmon swim up rivers. Both commercial fishermen and anglers directly impact and reduce the numbers of successful spawners. Environmental factors include the proper water temperatures, bottom content and clean water for a successful hatch.

Salmon eggs that hatch into fry are again impacted by anglers and other fish. Most anglers never realize the impact of running their boats up/down river systems. Each year many king salmon fry are wiped out by impellers and propellers while pursuing the later silver salmon runs. The rainbow trout and Dolly Varden not only eat young fry, but also eat the eggs deposited on river/stream bottoms. This makes them more of a salmon predator than pike, who only eat fry.

The real issue of declining salmon is not pike. A balanced study of all contributing factors and some personal sacrifice by everyone are needed to truly preserve this great fishery for the younger generations to come.

— Mike Skalisky
Wasilla

Toll gates just a bad idea

In response to Larry Vehrs letter (Dec. 18), titled "Toll gates a fair solution," why shouldn't Anchorage allow commuters police protection? How will we pay to build and man these toll gates? If there's a car accident due to ice on the approach to the toll gate, the city would get sued for millions. Who would pay for that?

What about the hundreds of people who will be inconvenienced in having to stop at a toll booth?

implications on the community and the scientific community. If a forest is clear-cut, as is prescribed for certain forest units in our back yard, is it healthier? Is the beetle infestation a symp-

tion/Palmer is the special- ly beautiful correction Pal- trail above Hope) and the steep slopes above the again Arm from near the Gage Glacier turnoff all the way to Hope. Soon water will be near Seward



\$45 a week in gas plus Anchorage theaters and restaurants we frequent isn't enough for him? The revenue generated by tourists and commuters is enough to justify their use of our police force.

The community would never allow toll booths to be set up. It would cost Anchorage more than it was worth. Our relationships with other communities would be damaged, and for what? A few bucks and a lot of inconvenience for Anchorage residents, tourists and commuters.

Last September in Palmer, I was involved in a car accident. Wasilla police and Palmer ambulances rushed to our aid

and, of course, I the city ... I'm about human dec

Focus on 10

Contrary to guest columnist the New Testament not be the best "true" meaning. This particular

Church teachings will survive

Did Jesus have brothers and sisters? Did Mary and Joseph have other children? John Dart of the Los Angeles

Times reports in the Daily News (Dec. 20) that some Catholic Scripture scholars suggest yes. Does a "new" discovery



ters. What would father and mother birth records have different meanings?

The science of philology, which the impact of words which in turn help of Scripture. By definitive answers to difficult questions. For Catholic Scripture the basis of philology gives the opinion, the brothers and

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visers. "There was strong lead-
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Most broad-market indexes
finished higher after spending

off late in the trading day
with the 30-year Treasury
bond adding more than 1
point, triggering stocks to

noon said talks in the state-
mate between the White House
and congressional Republicans
are expected to resume today.



JIM COLE / The Associated Press

ps a year-old flounder back into a culture tank Dec. 28 in Newington.
usiness partner Chris Duffy have started a fish farm for flounder that
arantee year-round delivery of quality live fish.

Farming next wave in fishing

Industry tries to meet increasing demand

By DAVID MOORE
The Associated Press

NEWINGTON, N.H. — Long gone are the days when fishermen had the run of the sea. Now, government regulations, polluted waters and overfishing have put quite a squeeze on the fishing industry.

But some fishermen are turning to technology to keep their businesses alive. What used to be done with boats and nets on the high seas now is moving inland with fish farming — a technique that brings fishing into a controlled environment on steady ground.

"The big picture is that within the next 15 years we will have to come up with about 30 million tons of seafood a year," said Ken Cooms, executive director of New England Fisheries Development Association, a seafood industry trade group.

"We're pretty much maxed out on wild fishing production so the only place we can turn is to aquaculture."

Fish farming for salmon and other key species is banned in Alaska, where opponents see fish farms as threats to a well-developed commercial fishing industry that targets wild stocks. But the continued development of salmon farms in Norway, Chile and Canada has cost Alaska fish some markets and likely has contributed to a glut of salmon that has held down prices.

In New Hampshire, Chris Duffy and George Nardi had 10-plus years in the fishing business when they realized that farm fishing was the way to go.

Last year, they opened GreatBay Aquafarms in Newington, N.H., and this month they will begin hatching their first batch

Please see Page D-4, FARM

y's purchase clears Justice hurdle

Disney's agreement to sell lems," said Harold Vogel, en- ership of both KCAL-TV and

up from \$229 million, or \$1.70 a share, in the quarter, up from \$229 million, or \$1.10 a share. Chase stock gained \$3.87 1/4 to \$60.87 1/4.

NATIONSBANK CORP.: The Charlotte, N.C., bank reported earnings of \$510 million, or \$1.87 a share, up from \$405 million, or

as much as it earned in the same quarter a year earlier, but quite a bit less than the \$1.11 a share expected by analysts. Revenue rose 42 percent, to \$4.59 billion from \$3.23 billion a year ago. Intel shares rose \$2.37 1/4, closing at \$55.75 Tuesday on the NASDAQ Stock Market. The compa-

WELLS FARGO & CO.: The San Francisco-based company saw earnings rise 42 percent in the fourth quarter to \$306 million, or \$6.29 a share, from \$215 million, or \$3.96 a share, in the year-earlier period. Wells Fargo shares gained \$4.25 to \$214.62 1/4 in NYSE trading.

docks Tuesday in the second higher prices in the opilio T Alaska Marketing Associat. crabbers, Monday night una from processors of \$1.25 a p earlier, according to Gary S association. The crabbers re Tuesday. The crabbers wan last year's average price of significantly higher than th brought. Virtually all of the honoring the strike, Stewar processors headed out to th began Monday.

FARM: Industry moves beyond the sea

Continued from Page D-1

of summer flounder.

The fish, which is popular in China, Japan and Korea, and in raw fish or sushi restaurants worldwide, has not been raised on land in the United States before.

"Land cultivation offers more control over the future," Duffy said. "Unlike wild harvesting, we will be able to guarantee the quality and delivery of live fish 365 days a year."

"We are not going to put fishermen out of business, we will be a supplement to the industry as commercial fishermen bring in smaller catches."

GreatBay will produce up to 400,000 young summer flounder each year through a complicated process that requires close monitoring of water temperature and quality, and food for the fish.

Up to 90 percent of the hatchlings will die in the first five months due to natural and environmental conditions, but the mortality rate in nature is far greater.

GreatBay's building, a long converted warehouse, is sectioned off into rows of different sized fiberglass tanks where eggs are hatched and hatchlings are grown.

The food chain is reproduced in the

building. Algae, which grow in clear plastic tanks, are fed to zooplankton, which in turn are fed to the hatchlings. About halfway through the process, hatchlings are weaned onto pellet food similar to what aquarium fish eat.

"With increased concerns about ocean pollution and mercury in fish, we will be able to guarantee markets fresh, high-quality fish," Nardi said. "Markets respond to that kind of sales pitch."

GreatBay will keep four to five tanks of brooding stock that will be stimulated with light so some will spawn year-round. The fish are normally caught at sea in the summer months only.

Once the fish are about 6-months-old, they are then shipped to grow-out farms where they mature to about three pounds. Then they're ready for market.

GreatBay is not the first fish farm in the country, but part of a growing trend to produce fish outside of the sea walls. Catfish, salmon and a variety of shellfish also are growing in similar facilities.

Such operations also exist in Europe, Asia and South America, many with government-backed loans and incentives.

"Agriculture became agribusiness with government support," Duffy said. "Aquaculture now needs to become aquabusiness in the same way."

Oil being hunted off

ST. JOHN'S, Newfoundland search for oil off western N oil find despite corporate si say industry analysts. "The or think they have somethir after," Ian Doig said Tuesd the confidence is there." Bu refusing to comment in deta to look for offshore oil in th

AIDEA loans \$1.16

The board of directors of the Development and Export A million in financing for Taq \$1.49 million total loan will First Bank of Ketchikan. T Taquan Air to consolidate i Ketchikan waterfront.

Alyeska terminal ha

The Alyeska Pipeline Servi Terminal experienced a bri afternoon, the company sai occurred shortly after 4 p.m maintenance work on a ma terminal's operating genera was lost. The system was s source and full power was i Alyeska spokeswoman Jeni

DEAL: Disney purchase of Capital Cities/ABC gains Jus

Continued from Page D-1

single market.

"Disney's commitment to sell KCAL-TV ensures that the deal will not harm competition in the sale of advertising in Los Angeles, and makes further action by the division unnecessary at this time," Anne

Bingaman, assistant attorney general for antitrust, said in a statement.

Disney said it filed an application with the FCC seeking a temporary waiver of the two-station rule pending the KCAL-TV sale, the statement said. Disney agreed to keep KCAL-TV and KABC-TV

separate until the sale.

The Justice Department didn't find any other anti-competitive effects from the combination, which will create a leading entertainment and media business with annual revenue of about \$17 billion. Industry analysts weren't surprised by this, since the

two companies are engaged in fundamentally different businesses.

"It's a pretty clean story. The only overlap that you had were the two stations in Los Angeles," said Vogel, the media analyst. Shares of both companies closed unchanged after trading on the New York

BHP: Australian giant looks to continue century-old gi

Continued from Page D-1

Co., one of the biggest copper producers in the United States. Then, BHP announced an overhaul of its corporate management structure aimed at bolstering its far-flung operations. That was followed by a surprise 590 million Australian dollar takeover offer for the 51.5 percent of Tube-

According to BHP's five-year plan, the company will invest 20 billion Australian dollars in new projects by 2000. The figure excludes significant acquisitions such as Magma, as well as expenses related to exploration for petroleum and minerals.

Since Prescott got the top job in 1991, BHP's total assets have swelled by nearly 40 percent to more than 30 billion Austra-

of Magma with nearly 90 stock in hand. The Tube proceeding. Assuming b are completed, BHP's debt estimated 10.5 billion Au Analysts aren't worried, partly because BHP's spewing out cash. In the last May 31, BHP earn

It is a great pleasure to have you here today. I am sure you will find the program most interesting and profitable. We are very glad to have you with us.

FISH FARMERS MEET
A NEW VEIN OF GOLD
IN THE YUKON

Canada's Yukon Territory has long lured dreamers, prospectors and adventurers hoping to strike it rich. Today, nearly a century after the storied Gold Rush of 1898, an Ontario-based company believes it has hit the mother lode in the Yukon. But this treasure doesn't come from nuggets. It comes from eggs. Icy Waters Ltd. is rearing a unique strain of Arctic char in the rugged country just outside the territorial capital of Whitehorse. They've trademarked the name Yukon Gold for these charmed char and hope

70 SEAFOOD LEADER Jan/Feb 1996

that the fishes' high quality, coupled with a well-defined marketing strategy, will set off another gold rush in the Great White North.

WHY WHITEHORSE?

A popular stop on the Alaska Highway, Whitehorse is a bustling outpost of about 25,000 people. But wander even a few miles out of town to Icy Waters' 200-acre site, and you're just as likely to encounter a moose as another person. The countryside is stunning, wide open and rolling, nour-

ished by myriad lakes and rivers and guarded by 10,000-15,000-foot peaks in the distance. Fall comes early here, brightly painting the ground cover and wind-stunted trees and delivering a dusting of snow to the hilltops at the end of August. The tourists are mostly gone from Whitehorse by then, and the last few Yukon River king salmon, deep red, beat-up, but still miraculously strong, are negotiating the world's longest fish ladder at the end of their epic 2,000-mile journey home to spawn.

It's also the time of year when bears come down from the high country to fish and forage. Not too many fish farm managers wake up to find a black bear staring through their picture window or a grizzly soaking in the overflow pond, but it's just one of the occupational hazards faced at the Icy Waters facility. In the dead of winter, when temperatures routinely drop to -40°F, there's just four hours of daylight and farm workers have to chop through ice to feed and harvest the fish. In the summer, clouds of insatiable biting bugs make life miserable.

So why would anyone want to do anything, including farm fish, here? The water. The plenitude and purity of the water supply is unbeatable. It re-creates the char's natural environment and makes Icy Waters' operation economically feasible. Two separate water sources feed the farm: water flows to the growout tanks from a series of lakes and to the hatchery from springs on the hillside above the facility. There's even an old mineshaft on the property (it still holds the remains of five Gold Rush miners that died in a cave-in) that fills with groundwater for emergency use. And the best part is that the entire system is gravity-fed. There's no pumping involved, saving enormous energy costs.

"This is the best place in the world to grow Arctic char," said Icy Waters' vice president of production Eric Johnson.

("Char" and "charr" are both acceptable spellings of *Salvelinus alpinus*. Icy Waters uses "charr," while we employ the more common usage, "char.")

In the wild and on farms, char stick close together and grow best at high stocking densities.



Icy Waters eventually hopes to have its proprietary Nauyuk Lake broodstock in three locations. "These fish truly are special," said Whitehorse farm manager Virginia Illingworth, showing off an eight-year-old male broodstock.

FANTASTIC FISH

Although Icy Waters didn't exist until 1985, its story began in 1978, when Canada's Department of Fisheries and Oceans (DFO) set out to find the hardiest, biggest, most beautiful strain of Arctic char to culture. They found it in remote Nauyuk Lake on the Northwest Territories' northernmost coast. The search paid off, for the fish took to aquaculture right away.

Icy Waters, a subsidiary of privately-owned conglomerate First Echo Group Inc. of Kitchener, Ontario, started up in 1985 as Polar Sea Fisheries Ltd. (They changed the name shortly thereafter to more accurately reflect Arctic char.) Its own search for the best fish to culture ended in 1987, when the company bought 1,000 of those Nauyuk Lake fingerlings from DFO.

That year, Icy Waters also bought a bankrupt fish farm in

Prince Rupert, B.C. They dismantled the tanks and moved them to the Whitehorse site, where they built a 5,000-sq.-ft., state-of-the-art hatchery. The hatchery includes an ova room that can incubate 2 million eggs and indoor smolt tanks that can hold 250,000 20-to 40-gm. smolts.

And these smolts turn into big, beautiful fish. There are dozens of strains of char inhabiting waters above the 60th parallel around the world, but the Nauyuk Lake fish grow larger, faster (from four to six pounds) than other char and have firm, pink flesh. Their coloring is bright and distinctive—a major selling point considering that almost all of the fish are sold fresh, head-on, gilled and gutted.

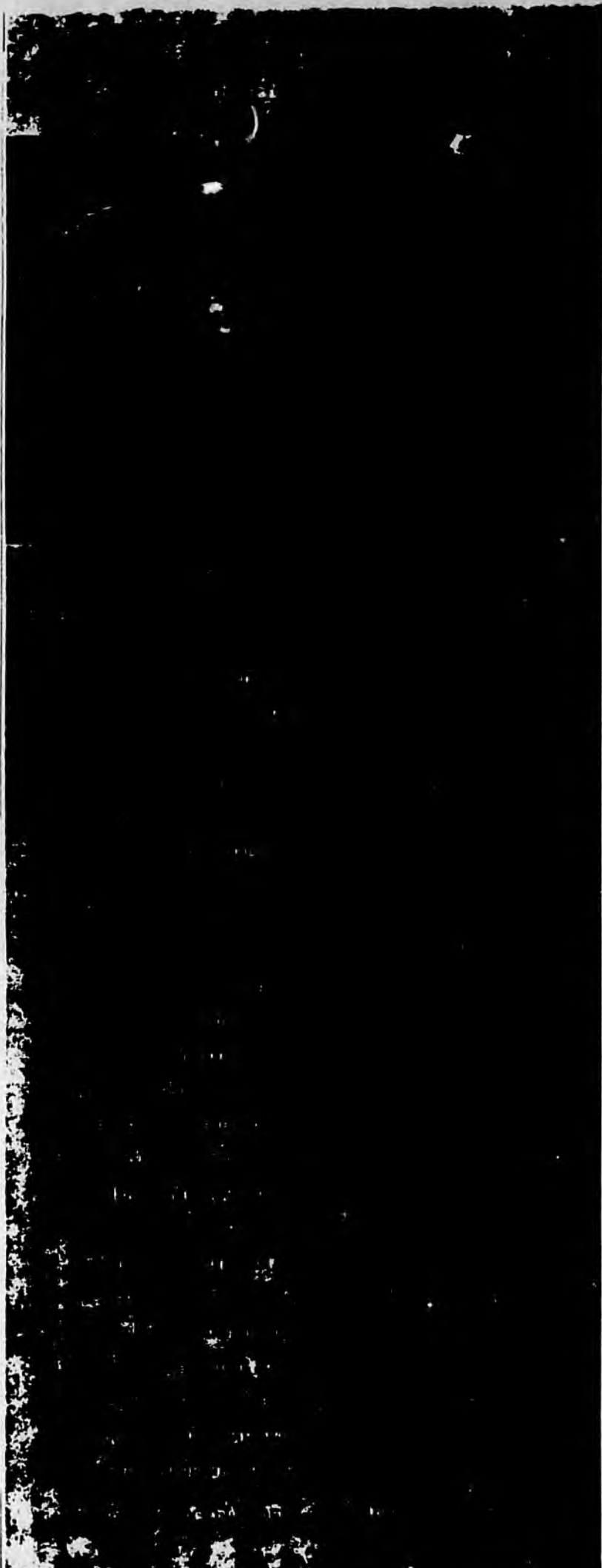
"We consider this strain proprietary to us," said Icy Waters president Tim Fleming. "We're the only ones who have the broodstock... We get four to five inquiries a week about selling our eggs, but we won't do it."

The Nauyuk Lake char has exceeded all expectations Icy Waters had for it. It grows to market size in 24 to 30 months, and the growout time is dropping with each generation. Its feed conversion ratio is 1.2:1. Icy Waters produced about 75 tons of char in 1995 and hopes to be producing 2,000 tons within a couple of years.

"It amazes me that it's such a young fish to aquaculture," said Johnson, an experienced salmon farmer. "It's taken years for coho salmon to get where they are. These char are performing like a 20th generation fish, and they're in their third generation... Because of the conditions it faces in



Icy Waters vice president Eric Johnson checks up on the Yukon Gold char of the future in the farm's high-tech egg room.



the wild, it has the ability to adapt well in culture." In the wild, for instance, char stick close together in large schools, so on the farm they grow best at high stocking densities.

Just how hardy are these fish? The Yukon farm's transformer took a direct lightning strike last year, knocking out the power and the oxygenation unit and dropping dissolved oxygen levels in the tanks to 1.8 parts per thousand. Salmon die when the level drops below 4, but not a single char expired. "Had this been a salmon farm, we all would have been on a long vacation," said farm manager Virginia Illingworth.

But Icy Waters is not a salmon farm. Over the years they've developed breeding and feeding techniques unique to their strain of Arctic char, and they pamper the fish from day one. Water flowing to the hatchery and the tanks can be heated or cooled. Fish are harvested from the tanks one or two at a time to prevent trauma that might damage their appearance and flavor.

THE OTHER SIDE OF THE COIN

Growing fish, of course, is just one half of the equation. In a world flooded with farmed salmon, Icy Waters has to sell their fish—at a \$4 per pound premium over farmed salmon. The mistake many aquaculture companies make, says Bill Trought, vice president of the product division, is that they have no idea how to market their fish.

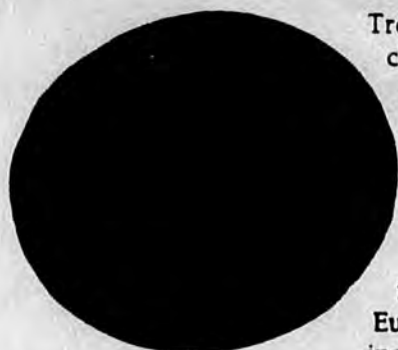
"Salmon farming is production-driven," he said. "We're market-driven. [Many farmers] raise their fish and say, 'Who's going to buy it now?' And a lot of fish farms are in a perpetual state of prototype."

Icy Waters' president Tim Fleming, a practicing attorney until devoting himself to fish farming a few years ago, said he wanted to avoid those traps. "I know nothing about fish farming or about food products," he said. "But I do know how to put together a good team. I said, 'I want a fish farmer and I want a marketer,' and I got the best of each. When the fish is on the farm, it's Eric's (Johnson) fish. The minute a fish comes out of the tank, it's Bill's (Trought)."

And Trought's marketing strategy is to bring the fish to chefs of high-end restaurants through the best distributors they can find. "We're developing alliances with distributors, but our customers are the chefs. We're presenting this fish as a high-quality product for eating on special occasions. When it goes on a menu we know it will be the top-priced fish product," said Trought. And at \$6.75 per pound (head-on, dressed) to chefs in California, that shouldn't be difficult. "We're selling it to the best dining places around the world. We feel we're positioned ideally for this. Chefs are looking for something different."

Trought pointed out that Yukon Gold char offer a unique pink flesh color, large size, and a delicate yet distinctive flavor. In other words, he's selling novelty and quality.

The result, said Trought, is "a fish that sells itself."



"There's
definitely a
market for
high-quality
char in
Europe."

Trought recently made a presentation to chefs in Bath, England. He bought a one- to two-pound char at a market there and had a chef serve it alongside an Icy Waters fish. "Nobody touched the other fish." He noted that fillets of small char go for US\$55 on the menu at the Frankfurt Sheraton. "There's definitely a market for high-quality char in Europe," he said, and Icy Waters has been increasing its shipments to Germany.

Likewise, the char has gotten raves from chefs at high-end eateries in San Francisco and Los Angeles. In Los Angeles, Santa Monica Seafood, which carries a large number of exclusive restaurant accounts, has agreed to distribute the fish. "You can always sell fish," said Tim Fleming, explaining the marketing impetus. "But you have to sell it at a price that allows you to live."

THE FISH OF THE FUTURE

As they create a demand for their char worldwide, Icy Waters has to step up production. To do this, the company has purchased a salmon farm, SeaFresh Fish Co. Inc., in Washington state and con-

tracted with one in Galway, Ireland, to use as Arctic char growout facilities. Both farms, like the Whitehorse facility, will raise the fish in tanks in fresh water. The Washington site will deliver mature fish to the U.S. market, while it will be much easier to market char to the EU from Ireland. Whitehorse will continue to grow fish primarily for the Canadian market. Within five years they hope to be selling 5,000 tons of char in North America and Europe. They also plan to open a broodstock facility in the Northwest Territories and eventually will have broodstock in at least three locations for security's sake.

Everyone at Icy Waters has faith in their fish. They're confident it can fill a niche at the top of restaurant menus. "I raise a real nice Atlantic salmon," said Dan Phillips, who owned SeaFresh and who has now gone to work for Icy Waters. "These guys were raving about their char and I was thinking it's a bunch of B.S. I went to Vancouver to try it, and it was better than my salmon... There hasn't been a lot of work done on this species. We're only in the fourth generation. It'll get even better." □

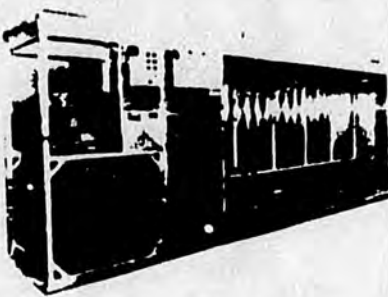
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ADN
4/30/95



CHILE HAS LEARNED TO GROW SALMON, AND IT IS WORKING ON A BUMPER CROP

PUERTO MONTT, CHILE — IN THE REMOTE FARMLAND OF THIS COUNTRY, THERE IS A DUSTY ROAD USED MOSTLY BY OXEN TEAMS. A MILE-LONG, RUTTED DRIVEWAY DROPS TO A ROCK COASTLINE, AND BEHIND A 12-FOOT-HIGH IRON GATE IS ONE OF MANY ENTREPRENEURIAL MAVERICKS WHO ARE CHANGING THE FACE OF THE GLOBAL SALMON INDUSTRY.

AT PATAGONIA SALMON FARMING, SALMON — KNOWN AS WILD, MYSTICAL FISH IN ALASKA — ARE BEING RAISED LIKE CATTLE ON TIGHT, SCIENCE-DRIVEN SCHEDULES IN HUNDREDS OF FLOATING PENS, EACH HALF THE SIZE OF A TENNIS COURT, SET UP LIKE STOCKYARDS. FROM THE AIR, THE CLUSTERS OF PENS LOOK LIKE FLOATING ICE CUBE TRAYS.

UNLIKE THE ALASKA FISH THAT

OFTEN TAKE YEARS TO MATURE, THEN ARE SCOOPED UP BY THE HUNDREDS AND DUMPED IN FISHHOLDS, THE CHILEAN FISH NEED ONLY 12 MONTHS TO MATURE TO THE 4 TO 6 POUNDS FAVORED BY THEIR BIGGEST CUSTOMER, THE JAPANESE. THEY ARE SORTED AND HANDLED BY HAND.

THE FISH FARM IS SO STERILE THAT DELIVERY TRUCKS MUST DRIVE THROUGH MOATS OF DISINFECTANT. VATS OF IODINE ARE SCATTERED THROUGHOUT THE COMPOUND SO VISITORS AND WORKERS CAN REPEATEDLY DISINFECT THEIR RUBBER BOOTS.

AT THE HELM OF PATAGONIA SALMON FARMING IS BERND WREGE, A VETERINARIAN TURNED PRODUCTION

PLEASE SEE PAGE C-3, SALMON

400

350

300

250

200

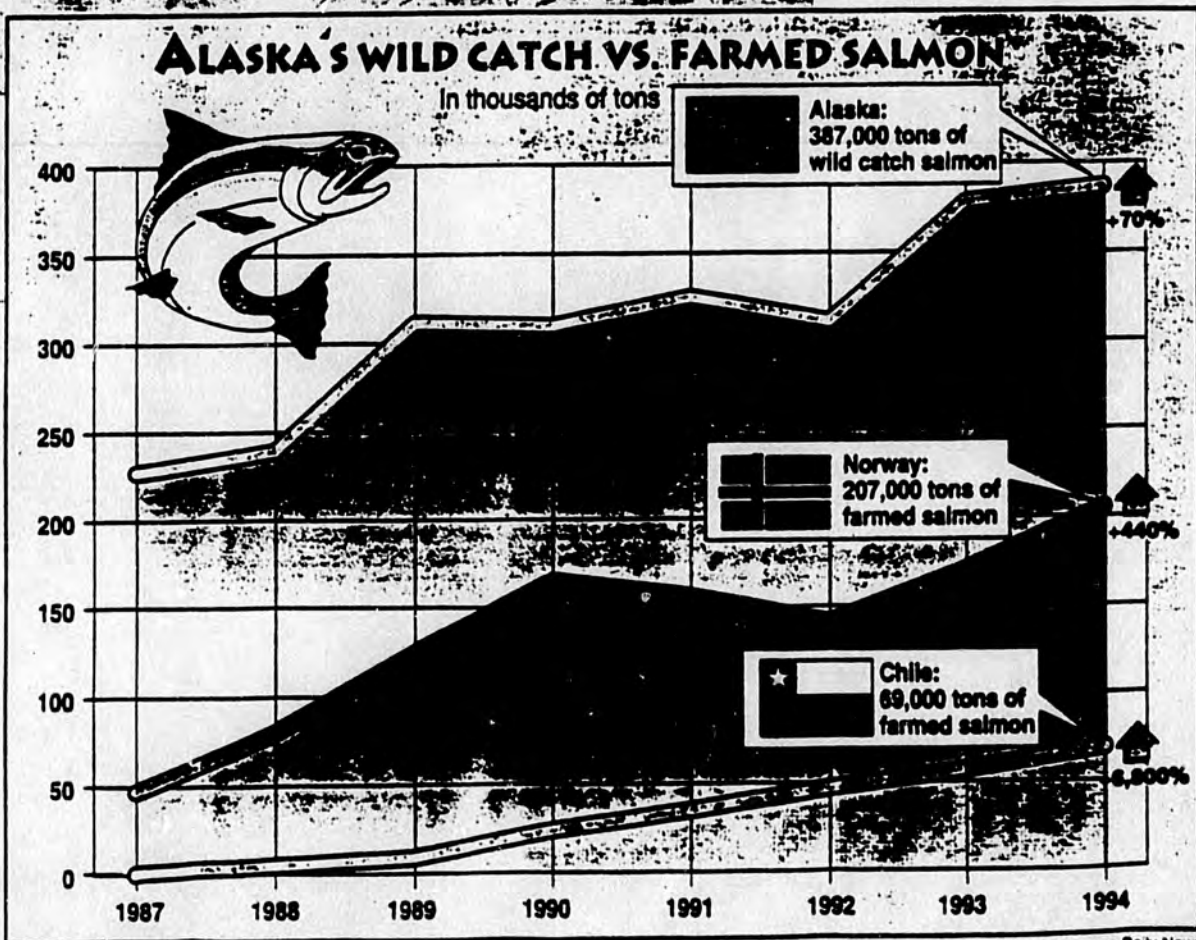
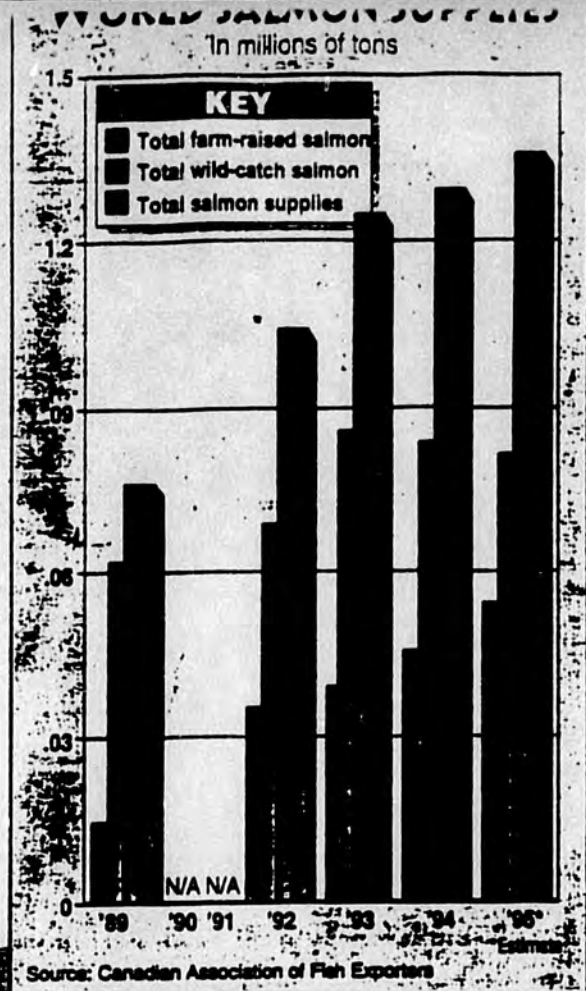
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RON ENGSTROM / Anchorage Daily News

SALMON: Chile has learned

Continued from Page C-1

scientist. He is only one of hundreds of Chilean fish-farm managers calculating ways to beat Alaska fishermen at a game they have been playing for many, many more years.

It appears they know what they are doing.

During the past 10 years, the Chilean fish-farm industry has grown 10,000 percent. In 1981, Chile produced 1 ton of salmon. Last year, the country produced 69,000 tons and exported to more than 25 countries. That compares with 386,000 tons produced by all of Alaska.

And it doesn't stop there.

"We're projecting a 20 percent growth for 1995," said Jorge Cassigoli Lopez, a veterinarian and technical manager for the Association of Chilean Salmon and Trout Producers. The organization was formed in 1986 and provides technical assistance and marketing support to roughly 50 fish-farming companies, or 90 percent of the fish farms in Chile.

While Alaska fishermen are preoccupied with salvaging traditional markets, Wrege and his colleagues are scanning the world for new markets. They are looking for ways to cut overhead. They know if they continue to produce bruise-free, perfectly sized salmon year-round their business will continue to explode.

Are the Chilean fish farmers a threat to Alaska fishermen?

"The short answer is yes," said Bill Atkinson, a salmon-market analyst and newsletter writer from Seattle. "Things are already changing dramatically. I think they need to know

that. It's not death walking in on them, and they don't need to cringe in fear. But the more they know about the whole thing, the better off they are."

Japan has the world's largest appetite for salmon. And in the mid-1980s, Alaska was king, providing roughly 85 percent of Japan's imported fish. At that time, Chile produced about 1 percent of Japan's imported salmon. That is changing quickly. Last year, Chile's share had grown to 17 percent and Alaska's share had dropped to less than 49 percent.

Chile now trails only Norway as a producer and exporter of farmed salmon.

Fish farming was banned in Alaska in 1988 after many fishermen protested that farmed fish might pollute the water and scramble the genetics of wild fish. Critics of the policy said the fishermen just didn't want the competition. While Chilean fish farmers are a little curious about Alaska fishermen, their hatcheries and their production costs, they spend no time worrying about them. Their competition is Norway.

Norway's production is expected to be up 30 percent to 40 percent this year, according to James Anderson, a University of Rhode Island economist who tracks the salmon industry. Last year, Norway produced 207,000 tons of salmon.

"They are saying they will produce 1 million tons in 2010," Cassigoli said. That would almost double the amount of salmon produced worldwide in 1994.

Chilean fish farmers plan to be right behind them. Patagonia Salmon Farming produced about 50 tons in 1988, its first year.

Last year, the company produced 1,000 tons, Wrege said. "And in the next three years, we expect our production to reach 3,000 tons."

THE FISH-FARM DISTRICT

Most of Chile's fish farms are 600 miles south of the capital city of Santiago, at the north end of the Chilean archipelago, an undeveloped coastline stretching 1,300 miles south to Tierra del Fuego.

Cold pristine water brought from Antarctica by the Humboldt current and runoff from the snow-capped and glacial-laced Andes to the east flush the area's sheltered bays.

The hub of the fish-farm industry is Puerto Montt, a port city choked with open street markets, noisy buses, horse-drawn carts and about 100,000 people. A paved road leading south out of town quickly turns to dirt as traffic disappears.

About 30 miles down that road, hidden in a thicket of alders, a small blue sign marks the long driveway for Patagonia Salmon Farming.

At 8 a.m. one sunny January morning, a small van rattles by packed with a

how to grow a bumper crop

dozen campesinos, or workers, dressed in yellow rain pants and black rubber boots. As the van passes through the gate, it drives through disinfectant to kill any germs that might harm the highly susceptible fish.

After finishing his veterinarian degree, which is a baccalaureate degree in Chile, Wrege and a college buddy started in the mid-1980s. The money came from the friend's father, a Chilean shipbuilder.

Besides salmon, Wrege's company also produces and exports trout to Germany.

Wrege, who was born in Chile, speaks nearly flawless English, except rather than answering questions with a simple "yes" or "correct," he says, "correctly."

The farm-fishing industry employs about 8,000 workers, and Wrege's company is considered small with only 100 employees. Another 50 come on board when his small processing plant is running.

Wrege's workers earn about \$125 a month. His cheap labor costs are what makes him competitive.

Wrege is using manual labor to feed and tend to fish while Norway has automated much of its fish

care. Chile's low labor costs also help to offset some of its high costs of getting fish to markets.

Wrege said he places a premium on fish handling. His workers attend hour-long classes on fish handling once or twice a week. At every doorway, on the docks and before and after getting in skiffs to visit the pens, all workers and visitors step in vats of disinfectant. They also get bonuses for recycling.

Once a week, Patagonia workers change the holding pen nets, which are washed and disinfected in a gigantic washing machine that sits on shore. Daily, a Patagonia employee puts on diving gear and plunges into each pen to pluck out dead fish.

Patagonia's pens stretch 100 feet deep and sit about 30 feet off the ocean floor in scenic Ilque Bay, which is flushed by a 10-foot tide.

In these pens, Wrege can turn a smolt into a 4- to 6-pound salmon in about a year. That's fast.

It takes an Alaska Bristol Bay wild salmon up to five years to reach 5 pounds. Norwegian fish farmers need six to 12 months longer than their Chilean counterparts be-

cause their fish are in colder water and get less light, according to a U.S. Embassy report to the U.S. Department of Agriculture.

Where Alaska fishermen are somewhat dependent on prayer, luck and government's management practices, Chilean fishermen are scientists and businessmen working year-round looking for ways to make their industry grow and earn money.

MAKING A FISH

To Chilean fish farmers, every step of the salmon-producing process is an opportunity to cut overhead, starting with fish eggs.

Chile imported 7 million fertilized eggs in 1985 and more than 60 million eggs in 1989, according to the magazine *Fish Farming International*. Currently, most silver eggs are coming from Oregon and Washington.

"If taxpayers here ever found out we are selling salmon eggs when they are closing the fishery down here, they wouldn't be happy about it," said J.L. Fryer, a fish disease researcher at Oregon State University in Corvallis, Ore.

Please see Page C-5, SALMON

Most of Chile's Atlantic salmon eggs come from Ireland and Scotland. Chile produces only 25 percent of the eggs it uses.

At 20 cents an egg, it is a small part of the total production cost, Wrege said. "But in the next five to eight years, Chile will produce all its own eggs, and that will lower production cost."

Eggs can be turned into smolt in three or four months, he said. After an additional eight to 10 months, the smolt are ready for the fish farm. Patagonia has its own hatchery; otherwise the going price for a 50-gram smolt is about \$1.20.

Although fish farming is illegal in Alaska, it is legal to raise smolt in hatcheries and release them to graze the high seas. The fish are scooped up a year to four years later when they return to the hatchery. This is called fish ranching, rather than fish farming.

Salmon ranches have failed in Chile, and there are no indigenous salmon runs.

The Chilean farm producers' biggest expense is fish food, something Alaska fishermen simply don't have to worry about.

Wrege said that 65 percent of his production cost is feed.

Fortunately for Chilean fish farmers, feed is relatively cheap. In Chile, there is "big competition" between eight food-producing companies, Wrege said. "In Norway, there is one."

The Chilean fish-food industry is so competitive and growing so rapidly that some industry analysts are predicting the country will soon export more fish food than fish.

Chilean fish farmers pay about 45 cents for a pound of food, Wrege said. It takes about 5 to 7 pounds of food to produce a 4- to 6-pound salmon.

There is an art to knowing when and how to feed fish, Wrege said. There are many opinions. Wrege is experimenting with a couple of different types of fish food in an attempt to reduce the amount of fat on the fish's bellies. The Japanese don't like the belly fat, he said.

Wrege has calculated exactly how long it takes for a food pellet to sink — two minutes. That figure combined with the number of fish in a pen and a bit of calculator magic tells Wrege exactly how much food to throw in a pen to minimize waste.

"Very little is lost through the nets," he said.

When the fish are ready for market, Wrege checks the going prices. If they are not quite high enough, he leaves the salmon in their pens. Bristol Bay fishermen don't have that luxury.

When the price is right, Wrege's fish are gently taken from their pens. At a processing platform a few feet away, they are bled and their heads removed. Then they are packed in totes on ice for the short skiff ride to shore. On shore, Patagonia has a small processing plant.

Using numbers collected by a Japanese writer, Bill Atkinson reported in early 1994 that the total cost, including the profit margin, to produce a fish is

\$1.82 to \$2.27 a pound. Wrege said his costs are at \$2.08 a pound.

Most of the silver salmon Chile produces is frozen and shipped out of Puerto Montt by ocean freight to Japan. Most of the Atlantic salmon is packed on ice and trucked to Santiago overnight. There it is loaded on a cargo plane for a 10-hour flight to Miami. The Atlantic salmon mostly ends up in U.S. grocery stores and restaurants. Some is shipped to Europe, but Chilean farmers are finding they can't compete in Europe because of Norway's lower transportation costs.

The economics and handling of Bristol Bay salmon couldn't be more different.

Because Bristol Bay salmon appear in a mass and are harvested rapidly in such a short period of time, the fish are dumped by the tons into holds on fishing boats. Sometimes the fish sit in the holds for hours before being off loaded onto a refrigerated tender. Prince William Sound salmon return at a slower pace over a period of months, so Sound fishermen are able to handle the fish more gingerly.

Alaska's commercial fishermen in Bristol Bay pay their crew of three to four deckhands from 15 percent to 30 percent of the take. For overhead, they have fuel and nets to buy. A fishing permit sells for about \$200,000. And a boat costs about \$100,000. In the late 1980s, Bristol Bay fishermen sold their salmon for about \$2.40 a pound. Last year they got about 97 cents a pound for their fish.

FISH TROUBLES

Not all is rosy in Chile. Problems plague Chile's fish farmers. They are battling diseased fish, bandits and occasionally violent storms, which have destroyed a few fish farms.

To stop sea lions from stealing fish, Wrege has put nets around his pens. Last year, sea lions made off with about 5,000 of his fish.

But those thieves are not his biggest problem.

"The Mafia is stealing our fish," Wrege said. "Chile lost 12 percent of all of its production to these thieves."

The salmon rustlers come in the middle of the night. They anchor their boats offshore, then a diver sneaks in, cuts the nets and empties fish into his own net bag.

Cassigoli called it "ocean raiding" and agreed it is a big problem for the fish farmers. The stolen fish are sold off the dock at a row of popular and cheap seafood restaurants just outside of Puerto Montt, Wrege said.

"We have three guards at night," Wrege said. "All the fish farms use guns." And they have a spotlight mounted on a platform on shore to help stop the bandits.

Disease is another ongoing battle for the Chilean fish farmers.

A board of veterinarians screens eggs brought into the country for disease, so Chile has been able to avoid some diseases like the furunculosis that crippled the Norwegian fish farms in the mid-1980s. But Chilean fish farmers are battling their own diseases, including — BKD, or bacterial kidney disease, and rickettsia.

The BKD was discovered years ago and probably came from eggs bought in the United States, according to Fryer, who has spent his career studying the disease. "The rickettsia is a brand new bug."

While the Atlantic stock and kings and trout appear somewhat resilient to the disease, the silver salmon are not as hearty.

"The coho's demise is imminent," Fryer said. "If you put coho in those pens down there, something around five to six weeks later they will begin to die with rickettsia."

"The coho was going to be their big item," he added.

different antibiotics being used to fight the diseases. Fryer said. "That list has shrunk to three or four. People became conscious that some of these compounds had mercury in them. Some were known carcinogens."

The U.S. Food and Drug Administration regulates how much of the antibiotics can be in the imported fish. For example, the FDA can detect up to 10

parts per billion of oxolinic acid.

"Most Alaskans applaud this thing and root for the rickettsia," Fryer said.

The fish farmers are finding ways to manage around the problem, including loading fewer fish in the pens, he added. "My guess is they will develop some brood stock. That will be of help to them."

Wrege said most fish farmers load their pens with about six fish per square yard. But he has cut that density in half and found it an effective way to battle some of the disease problems.

Wrege also has lost a lot of fish to early maturation. When a fish gets ready to spawn, the quality of its flesh deteriorates.

The storms, competition and low market prices have taken their toll. Last year, three Chilean fish farms went bankrupt, Wrege said.

THE FUTURE OF FISH

Alaska commercial fishermen seem to be looking for niches to sell fish products like Alaska salmon nuggets, which were tested in school lunch programs across the country in 1994. Chile isn't limiting itself to that. They are looking for new markets to sell fresh and frozen fish in bulk.

"We're looking at Asia and at China. The income is increasing there quite a lot," said Cassigoli, pointing out he has read recently that there are many millionaires in China.

"In two or three years, this company will produce other products," said Wrege of Patagonia. "Already two companies save the (fish) eyes. Chinese people eat these. Subproducts — in the future — this is big business."

Although the amount of smoked fish produced by Chile is quite small, it grew by 800 percent between 1993 and 1994, Cassigoli said. Most of the smoked salmon is going to Europe.

Because of Chile's low labor costs, the country is in a good position to exceed in value-added products, like filets and smoking.

The Chilean government plays virtually no role in the salmon-producing business. The country has virtually no environmental regulations. Fish farms pay a yearly rent to use the open sea, but it is minuscule, Wrege said.

"Chile doesn't have to worry about management. The government isn't going to shut them down," said Anderson of the University of Rhode Island. "They don't have to worry about the Endangered Species Act. The government is working with them."

Anderson also said that the Chilean fish farmers understand international trade and business.

"I don't need to disparage the Alaska industry," said Anderson. "But they tend to be the last guys to figure out where the new markets are. The fact is, a lot of salmon is moving into Singapore and Hong Kong. All of southeast Asia is growing very rapidly."

Alaska fishermen historically simply have shipped their fish to Japan.

"They are too busy worrying about government edicts, rules and regula-

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tions to get their head above water to think about global markets," he said. And when the fishing season ends, "what do they do next? They go to Seattle or Hawaii and hang out. Or they go to management meetings until the cows come home. They are rarely thinking about new markets."

That is changing.

While the Alaska Seafood Marketing Institute, which promotes the consumption of Alaska seafood, is looking for niches to sell processed, or value-added, salmon, the organization is also looking for ways to educate consumers about the different types and qualities of salmon.

"We have a wide range of products for a wide range of incomes and there is literally a salmon for every pocketbook," said Art Scheunemann, executive director of the marketing agency.

The Alaska salmon industry needs to continue to work on improving quality, Scheunemann said. For example, the state has a loan program for fishermen who want to refrigerate their fish holds.

And the agency thinks consumers need to know that "fresh is a relative term," he added. A fish that has sat on ice for five days might not taste as good as a fish that was flash frozen a month ago.

"If I fly first class to Tokyo, I am still worn out when I get there," he said.

Some industry watchdogs think Alaska should join with fish-farming countries in promoting salmon as an alternative to beef and chicken.

Although ASMI agrees with this approach, the agency still is looking at marketing and capitalizing on the differences between farm and wild salmon.

"I hate to be sarcastic, but our fish eat a natural diet, theirs eat dog food."

Still, "the bottom line is if people buy more of both we will be better off," he said.

Earlier this year, Chile and British Columbia fish farmers signed an agreement that they would cooperate in developing and marketing fish-farmed salmon.

While Chile continues to look for new export markets, it's sitting on about 1,000 miles of undeveloped coast. But there seems to be little chance of fish farms springing up along that stretch of coast anytime soon because there are no roads, harbors or airports.

So instead, the country that just became a force in the salmon fish-farming business 10 years ago, now is looking at shellfish farming.

"Chile is a country starting in other species," Cassigoli said. "Until three or four years ago we didn't know we could farm scallops and abalone."

And shrimp?

"No, we don't have shrimp," Cassigoli said. "You have them in Alaska? It's not too cold? Can you send me some information?"

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New Frontiers for Fish Farming



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New Frontiers for Fish Farming

While other countries make a booming business out of farming salmon, trout, halibut and flounder, Alaska has made it difficult at best and illegal at worst to practice mariculture. The debate continues as to whether salmon and shellfish farming make sense in Alaska.



Alaska's commercial fishing industry has geared up marketing efforts to counteract increased international consumption of farmed salmon.

By Joel Gay

It's a cool May day on the farm, but beads of sweat dot Jimmie Payton's forehead as he bends over his crop and tears at the weeds. Like all farmhands from Des Moines to Djakarta, Payton has no end of work.

Payton isn't bent over corn stalks, however. He's making out of a shell in Jakolof Bay, near Seldovia, tending a crop of oysters at Eagle Rock Sea Farms, owned by Jim Hemming and Joe Bente. In a few months, the harvest will be shipped to Anchorage or perhaps as far up in Seattle or New York.

Clearly, the cold, clean coastal water is what makes Alaska farmed oysters so good and demand for them so high. But while the future looks bright for shellfish farmers in Alaska, sales are increasing every year and more than \$5 million worth of oysters are in the water now—the same cannot be said for salmon farmers in the state. There are none.

A Protectionist Philosophy

Not are there trout farms, halibut farms or flounder farms, all of which are a booming business in coastal areas around the world. In spite of Alaska's tremendous natural endowments, its clean water and long coastline, the state's involvement with



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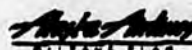
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mariculture has been rocky at best and at times downright antagonistic.

It's paradoxical, says Ray RaLonde, a mariculture specialist with the University of Alaska Marine Advisory Program. On one hand, Alaska has perfect conditions for fish farms of all sorts. On the other, he says, "Alaska is a very special place, and there has been a healthy movement to prevent the problems we see in mariculture elsewhere." That protectionist philosophy has kept most types of mariculture from taking root.

"The issue is: Does disease spread from the pen to the wild? Most likely not, but we really don't know."

RAY RALONDE

MARICULTURE SPECIALIST

In the management of its fish and game, as in many other areas of state governance, Alaskans had learned from the mistakes made elsewhere, says RaLonde. It was feared, for instance, that if non-indigenous species were imported, they might overrun native populations, introduce diseases or dilute the genetic makeup of local stocks, whether clams or coho salmon. And even those species that grew here naturally, like the Pacific oyster, were allowed in only after rigorous scrutiny and approval by numerous state agencies.

RaLonde says the biology of farmed vs. ranches fish is debatable. Some were worried that penned fish might escape, and the interbreeding with wild stocks could change vital stages in the lifecycle, such as maturation age and spawning times. But biologists are working on using sterile fish for farming.

The hatcheries system in place does a good job of managing disease,

the most prevalent of which is IHN virus in sockeyes. Part of the reason for the healthy stocks is the state's strict fish-transport permitting process, which includes screening for disease. RaLonde doubts that penned fish would present a health threat to wild salmon.

"The issue is: Does disease spread from the pen to the wild? Most likely not, but we really don't know," he says.

The first mariculture attempts in Alaska started in 1910 when oysters were dumped on several beaches to see if they would spread. The effort was only marginally successful, and the industry never took off until the late 1970s, when a few individuals began experimenting with mussel and oyster farming. Even then it was difficult, RaLonde says, because of Alaska's conservative stance on mariculture regulations.

But if shellfish were allowed only grudgingly, salmon farming was all but forbidden outright. Alaska has had a healthy commercial fishing industry for more than

a century, and people believed they should leave well enough alone. Raising salmon in net pens would only be asking for trouble, they figured. On the other hand, the state fully condoned another variety of mariculture called salmon "ranching"—raising juvenile salmon in hatcheries, releasing them into the ocean to forage for one or more years, then harvesting the fish when they returned.

Foreign Farming

During the same period Alaska was protecting itself from the potential dangers of ocean farming, other coastal regions welcomed farmers with open arms. In countries such as Norway and Scotland, where the wild salmon stocks had been depleted, farming was seen as a replacement industry and sometimes earned government subsidies. Chile never had salmon to begin with, but its clean coastal waters were deemed a good starting place, and Japanese corporations began

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investing there. It was an idea whose time had come.

In 1980, salmon farmers worldwide produced 15 million pounds—mere 1 percent of the total world salmon. In contrast, Alaska salmon fishermen that year netted 511 million pounds. Over the next 10 years, the farm harvest grew more than 4,100 percent, to 621 million pounds and 28 percent of the world market. Even though Alaska's wild salmon catch was 100 million

pounds higher in 1990 than in 1980, its market share dropped from 41 percent to 29 percent.

The success of fish farming has come at the expense of commercial fishermen, primarily in Alaska and Canada. Before 1980, anyone who wanted salmon had to contend with its wildness—fresh fish were available only in the summer, and after that, the choices were either frozen or canned. But farmed fish could be delivered fresh year-round with

consistent quality, appropriate size. Chefs quickly learned to love farmed salmon and eventually consumers did, too.

As that industry grew during the 1980s, the idea of allowing salmon farming in Alaska popped up again. Proponents argued that Alaska should jump on the bandwagon and take advantage of the state's resources. It could provide thousands of residents with year-round jobs and extend the state's fishing "season" to 12 months. Opponents said it could be the death of the commercial fishing industry, that it would jeopardize the health of indigenous stocks and would create havoc all along the coast.

In 1988, the Alaska Legislature weighed in on the side of opponents and put the idea to rest, making it illegal to farm salmon in the state.

Sen. Loren Lehman, who represents a west Anchorage district, voted for the bill making salmon farming illegal. He admits that farmed fish has consistent quality and is available year-round, unlike the state's wild stocks. But he says, "I don't know that Alaska would be a good place for fish farming. We have unique fisheries different from Washington, Norway or Chile. I find it hard to believe you could feed the fish for the entire life cycle and make it pay. On the other hand, I support economic development, as long as it doesn't hurt the state's established industries."

Henry Mitchell, executive director of the Bering Sea Fishermens Association, is even more adamant about the economic prospects of fish farming.

"You'd have to be nuts to try fish farming," he says. "The world market's glutted already. I don't think anyone could come here without a state or federal subsidy and make a profit."

Tom Mears, executive director of the Cook Inlet Agricultural Association, says that whatever economic opportunities there were have passed. "We did those calculations when salmon was going for twice what it is now, and it was marginal then."

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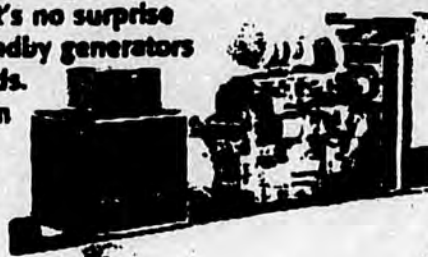
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Marketing Maneuvers
 By the time the salmon-farming ban had passed, Alaska fishermen had started to see their world crumble, due mostly to the phenomenal success of farmed fish. Japan, which has always been the single biggest customer of Alaska sockeye salmon, began importing more Chilean farmed salmon and trout, and the price of sockeyes dropped to record low levels—from 1987 to 1991, a Bristol Bay sockeye fell in value from \$15 to less than \$5. European fish smokers who historically relied on Alaska chums and coho have increasingly turned to Norwegian farmed Atlantic salmon. Even the canned salmon market has suffered as consumers' tastes turned more toward fresh fish.

In hopes of shoring up their sagging sales, Alaska fishermen and processors have cranked up new marketing strategies on all fronts.

Halibut Explosion
 If salmon fishermen are just now starting to counteract their competition from farmed fish, Alaska's halibut fishing fleet should be on guard, too. Norwegian biologists, with financial aid from their government and the mariculture industry, have successfully begun culturing halibut, Atlantic cod and other species in net pens. The first shipments of 10- to 15-pound halibut have just started reaching European markets, says Ron Tavernier, a University of Alaska Fairbanks student researching the fledgling industry.

"They delivered 20 metric tons last year, they're expecting 200 tons this year, and 1,400 tons by 1998," he says. "They said they're moving slowly, but to me it seems they're really pumping along."

In what seems like a repeat performance of the salmon farming industry 20 years ago, other countries are lining up behind Norway with programs of their own. Tavernier says Iceland, Scotland and Canada will soon have their own pen-raised halibut on the market.

Many in the U.S. fishing industry are watching the halibut farming explo-

sion with keen interest. One is Bob Alverson, executive director of the Seattle-based Fishing Vessel Owners Association, a group that includes many longtime halibut longliners. His fleet could be in for tough times if halibut mariculture achieves the same growth as salmon did in the 1980s.

IFQs to the Rescue?

But Alverson believes the North Pacific halibut industry is in better shape to withstand the market onslaught. The United States made a pre-emptive strike last year, he says, by adopting individual fishing quotas (IFQs). Under the previous system, fishing occurred in two or three short, intense periods, and fresh fish was available perhaps three weeks a year. With IFQs, boats can fish any time from March through November, and markets should have fresh fish most of the year.

"The key to mariculture is the continuous supply of fresh fish to the trade," Alverson says, "and if the wild fish industry cannot do the same, fishermen are going to be in peril. I think the IFQ program will help save U.S. fishermen from the enormous impact of the halibut mariculture program."

That's not to say all fishermen like IFQs, however. Even as the program began last March, a legal challenge was working its way through the federal court system.

There is no limited entry system for Alaska's small shellfish mariculture program, except perhaps the program itself, according to oyster farmer Joe Banta. There is so much bureaucracy to get the necessary permits, he says, many people quit before getting started. A shellfish farmer needs permits from the Alaska departments of Natural Resources, Fish and Game, and Environmental Conservation and the Division of Governmental Coordination—and even more if the farm is located in a state park. "There are more regulations on this than there are to drill for oil," Banta adds.

In fact, there are fewer active shellfish farms than there were in 1991, according to the Alaska

Department of Fish and Game. It's hard work, the learning curve is steep, and the payoff is slow in coming, farmers say. The state leases tidelands only in certain areas, and farmers have three years to prove up by producing a certain number of animals. If they don't, they lose their permits. In the meantime, however, they don't qualify for most types of financing because their permits are only temporary. It's a Catch-22, farmers say,

and not all of them survive the first three years.

But some do and their product is catching on. And as pioneers like Joe Banta blaze trails to new markets, others will find the going easier. Yet Alaska may not ever support a huge shellfish farming industry. With 35,000 miles of coastline, says Ray RaLonde, "You'd think there would be a place for aquatic farms. But it seems like every piece of land has someone interested in it." □



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"I've lived in the state all my life, and I've never seen a winter like this."

— James Wilke, owner,
Alaska Power Co.

Experts cast grim picture for salmon

By Tim Bradner
Alaska Journal of Commerce

A deep gloom is settling over the state's salmon fishing industry, the backbone of Alaska's commercial fishing.

Processors are struggling with falling prices, unsold inventory and heavy losses despite, or perhaps partly because of, the record-breaking 1995 Alaska harvest.

Fishermen, many paid at prices close to break-even in 1995, worry they will be paid less in 1996.

"This year was a huge disaster," said Bob Waldrop, marketing manager for Seattle-based Norquest Fisheries.

Vince Curry, executive director of the Pacific Seafood Processors Association, agreed. "It's as bad as anyone has ever seen it."

"From a producer's point of view, the salmon market is pretty much of a mess," said Gunnar Knapp, a University of Alaska Anchorage economist who follows fisheries.

"In 1995 wild and farmed salmon producers combined to produce 1.4 million tons of fish, an increase of 9 percent over 1994 and 39 percent increase since 1990."

The outlook is that prices may slump further and certainly won't get any better, given the productivity of world salmon fisheries and the glut of salmon on world markets.

Prices for frozen sockeye in Tokyo dropped 18 percent between late September and mid-December, according to the UAA's Salmon Market Information Service. Canned salmon

State of Alaska Natural Resource

\$120 —

Marginal Field Analysis: Oil related

Construction
Oil and Gas

Construction
Oil and Gas

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Residential, commercial rental glut develops

By Ingrid Martin
Alaska Journal of Commerce

spring then eased back to 11 percent for fall. Still, they remain 2 percent higher than the

Salmon prices lag in world market after record 1995 Alaska harvest

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isn't doing much better. Prices for canned pink salmon were down to \$23 for a case of 24 one-pound cans, the lowest in 20 years, although prices for canned sockeye were better.

Market psychology is now part of the equation. "Why would anyone buy salmon now if they think prices will go lower?" Waldrop asked. Prices do go lower when few buy, and the expectation becomes a self-fulfilling prophecy.

Losses are heavy. One Alaska processor reportedly managed to sell several truckloads of frozen salmon on the East Coast for about 40 cents a pound. The company had \$1.25 per pound invested in the fish, after paying the fisherman, processing, transportation and storage. The firm took an 85-cent-per-pound loss on the transaction.

Some small or medium-sized processors may not be able to sustain those kinds of losses. Inlet Fisheries Inc., a veteran Kenai-based processor, filed for Chapter 11 bankruptcy protection in December.

Waldrop and others in the industry see a real shakeout coming in salmon. There is simply too much salmon on world markets and, despite marketing efforts, too few buyers.

Demand is increasing, but not fast enough. "All producers — farms and fishermen alike — have high debt and fixed costs and no incentive to reduce production," Waldrop said.

The readjustment, which many think may take as long as a decade, will be painful. Some processors will try to diversify to survive.

"But what do they diversify into? And where do they get the cash to diversify?" Waldrop asked.

Some in industry now think that if the downward trend of salmon prices continues, some lower-value species, like pink salmon,

may become uneconomic to fish, at least in the manner they are now being harvested.

As for salmon fishermen, there will simply be fewer of them. Prices can't get any lower without many fishermen dropping out. "Some are at or below break-even now, and have been for some time," Waldrop said.

Bili Hall, a fisheries loan specialist at the Alaska Commercial Fisheries and Agriculture Bank in Anchorage, said that even with limited entry in salmon, about 50 percent more salmon fishermen exist than can be economically sustained.

If the number of salmon fishermen does decline to an "economically sustainable" level, how will that affect Alaska?

Hall expects the same amount of fish can be caught by fewer fishermen, who will fish more efficiently and catch higher volumes. But the survivors are more likely to be nonresident fishermen. Studies consistently show that most of the more efficient fishermen, those most likely to be profitable at lower prices, are nonresidents, Hall said.

If that happens, an unintended consequence of the state's limited-entry license program for salmon is that it will create exclusive rights for nonresident fishermen while making it difficult for young Alaskans to enter and get experience in fishing.

Waldrop said there will always be market niches for seasonal wild-caught salmon. "Higher-value species like sockeye and coho (salmon) can maintain their market identity," as wild-caught fish, "but pinks and chums will probably lose their species identity," and be

looked at more as ingredients in fish sticks or minced fish blocks for institutional buyers."

But Waldrop expects farmed salmon to take more and more of the market. "We don't buy wild-grown broccoli in the grocery store, do we?" It's the same for salmon, he said.

Ironically, political barriers prevent Alaska making the necessary economic adjustments. State law prohibits salmon farms, for example.

Some in the industry say if salmon farms could operate year-round it would help processing firms use their infrastructure more efficiently. It would lower costs and, ironically, put them in a financial position to pay better prices to fishermen during the big summer run.

The fish-farm ban has been pushed by fishermen, although biologists also have concerns over diseases from farmed salmon infecting healthy wild stocks.

But some Alaska processors are reported to be looking at buying salmon farms elsewhere as a survival strategy. "It would make the most sense to allow these companies to invest where they now do business," one official said, asking not to be identified.

But Curry, of the seafood processors' association, feels it would be unwise for Alaska to allow salmon farming now.

"It doesn't make sense. Our wealth is in our natural stocks," and the state's current policy of maintaining the quality of those stocks is a good one, he said.

Hall points to the limited-entry program as another barrier. "You just can't change the structure of the industry without changing

limited entry," he said.

The system — created in the 1970s to control and eventually reduce the number of fishermen going after salmon — has now become an artificial cost burden, said Hall and others.

Permits are bought and sold, in some cases for high prices. For many fishermen the cost of the permit is as much as the boat and gear, about one-quarter to half of the total investment, Hall said. ~~It may also eliminate the cost burden of the permit, the industry's ability to deliver a cost-competitive product would improve.~~

But how to do that? Hall agreed that few state politicians want to open the Pandora's box of changing the limited-entry program. An initiative from the fragmented fishing community is equally unlikely.

Other politically-driven restrictions create inefficiencies, such as limits to the length of boats in many fisheries and bans against fishermen going after the same species in different fisheries in one year.

Some in the industry feel structural inefficiencies of the way Alaska salmon are caught keeps costs high. Small boat fishermen working as independent businessmen, most without any training in business management in an industry with increasingly close margins, will inevitably fall victim to market forces, they argue.

"We sustain this system with laws and regulations for social reasons, which are not invalid. But we have to admit its high costs," said one industry official.

Hall said a political, as well as economic, solution is needed. "State government created these artificial costs, so government has to be part of the solution."

Representative Tom Price
State Capitol
Juneau, Alaska 99801-1182

Compliments of

Americans could dominate the market for farm-raised salmon, but the U.S. has shot itself in the foot and let Chile walk away with a booming industry.

"Real fish don't eat pellets"

By Nina Munk

WITH THE SURFOOTEDNESS of a tightrope artist, Ivette Ronc steps along a series of shaky platforms suspended over Chile's Lake Llanquihue. In the chilly water below are 72 submerged pens, each containing 2,500 tiny Atlantic salmon fry, fresh from a nearby hatchery.

Seven months from now Ronc's fish will be trucked from the lake to saltwater pens in protected fjords along the coast of southern Chile. There they'll be coddled for another 17 months until, weighing at least 9 pounds each, their gills will be split, their blood drained and their meat processed and airlifted to grace tables in New York and Los Angeles and Chicago and Tokyo.

From nowhere a few years ago, Chile has emerged as the world's second-largest producer of farmed salmon, after Norway. Production hit about 165 million pounds last year, worth \$335 million, a healthy addition to this fast-developing nation's exports, and continues to grow. "We can easily reach 220 million pounds [by 1997]," boasts Guillermo Soto Giordani, general manager of Santiago-based Unimarc Trading. Unimarc expects to sell \$35 million of farm-raised salmon this year, most of it through a joint venture with Japan's Maruha Corp.

U.S. fishermen are outraged. A bumper sticker on the back of a pickup truck in Anchorage, Alaska—the world's only region with really big stocks of wild salmon, and still the world's largest producer—snaps: "Real fish don't eat pellets."

The reference is to the pellets containing high-protein feed that Chil-

ean aquaculture engineer Ronc and others like her supply every 10 to 15 minutes to the salmon fry, along with medicated baths as a vaccine against disease.

In the wild only about a tenth of these fry would make it; under Ronc's supervision the survival rate is 90%. "I am like a nurse," says Ronc.

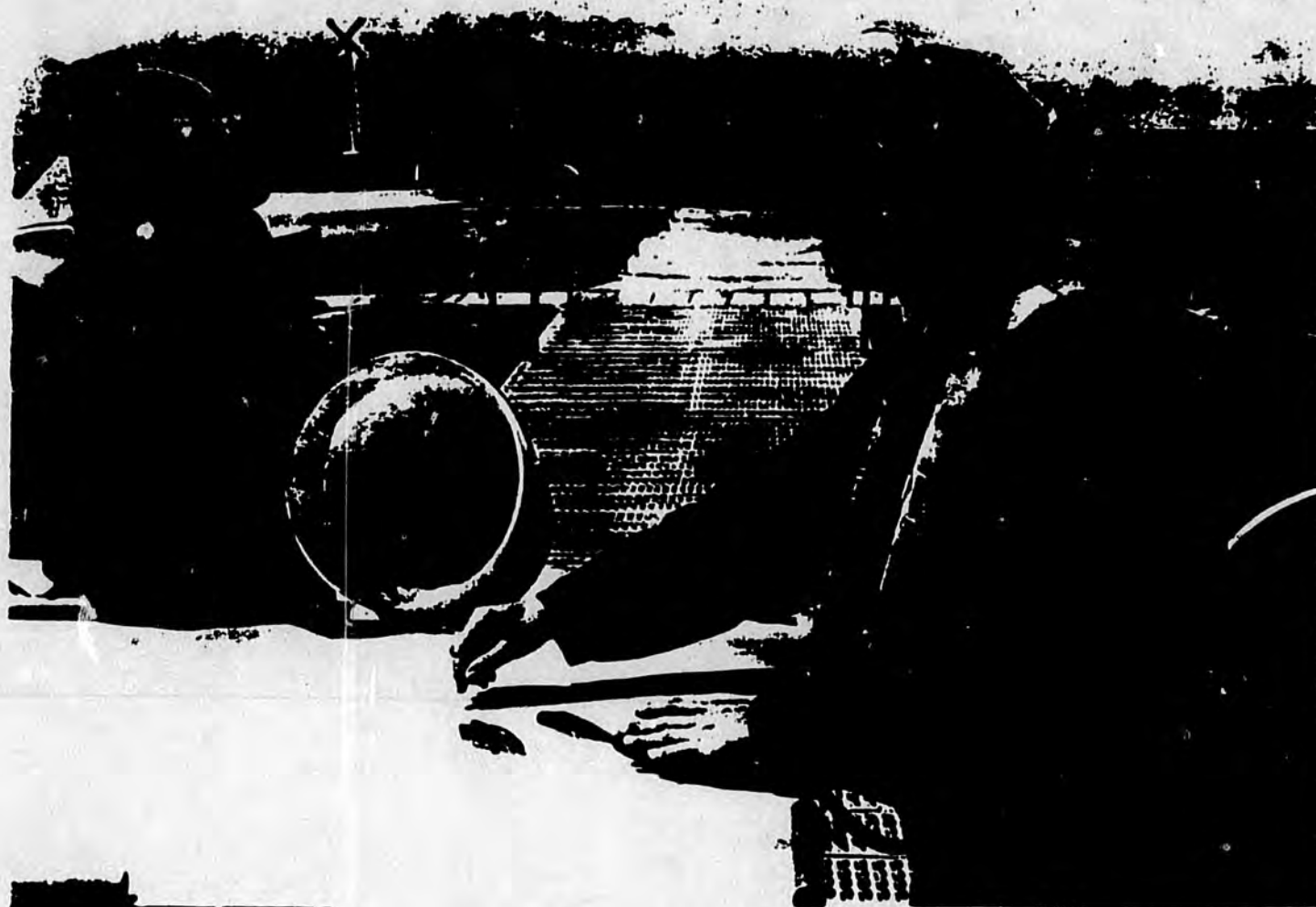
Nurses for fish? Yes, but that's not really what the Alaskan fishermen are sore about. The development of farmed salmon has almost doubled the global supply of the fish while chopping Alaska's share of the world salmon market from 46% to 32% in the past decade. In Japan, where over two-fifths of the world's salmon is consumed, Alaska's share has dropped from 85% to 55% since 1987.

With more supply, prices fall. Alaska's prized sockeye salmon hit an average of \$2.35 a pound at the dock

RIGHT
Ivette Ronc
inspects her
charges on
Lake Llanquihue
These coddled
fry are fed
every 10 to 15
minutes, receive
medicated baths
and have their
netted pens
changed weekly.

BELOW
Processing salmon
in Puerto Montt, Chile
From there,
it's airlifted to
markets around
the globe.





in 1988, but last year went for about 89 cents a pound.

It also miffs the Alaskans that Chilean salmon is available fresh year-round while Alaska's traditional salmon season is June to August. Says John van Amerongen, editor of the Seattle-based *Alaska Fisherman's Journal*: "A guy who used to just fish in the summer for salmon is **now forced** to go out nine months of the year. That's hard on a guy, and dangerous."

Why not farm salmon in Alaska? Good question. Answer: Prodded by the powerful commercial fishing interests, in 1987 the Alaska state legislature first placed a moratorium on and then banned outright the farming of any creatures with fins. Score one for Chile.

Chilean salmon farmers got another boost in 1990, when fish farmers in Maine filed dumping charges against Norwegian salmon farmers. Washington slapped duties averaging 24% on Norway's salmon; total imports of Norwegian salmon crashed from over 30 million pounds in 1989 to 3 million in 1991.

Rushing to replace the Norwegians, the Chileans increased their salmon exports to the U.S. from 4.6 million pounds in 1989 to 26 million pounds two years later, and then to 50 million pounds in 1994.

Washington State could, if allowed, provide tough competition for the Chileans. Washington Fish Growers Association Executive Director Daniel Swecker says salmon farming in

Puget Sound waters should be a **thriving** business. It isn't because the aquaculture industry has been stopped in its tracks by environmentalists and homeowners who don't want their view of Puget Sound disturbed by salmon pens.

In their efforts to obtain a saltwater salmon farming permit Swecker and his wife, **Dobby**, spent \$500,000 and five years battling the Sierra Club Legal Defense Fund and a shoreline residents association calling itself the Marine Environmental Consortium. Still, no salmon.

"Americans, I think, do not favor free trade," says Francisco Ruiz Tirado, a director of the Association of Chilean Salmon & Trout Farmers. **Touche!**

3/20/96 PDN

Fish-farming bill just barely afloat

Commercial interests likely to sink measure

By DIRK MILLER
The Associated Press

JUNEAU — Halibut farmers, black cod breeders and ground-fish growers could find a place in Alaska to plant their crops if an Anchorage lawmaker's bill makes it past the House and Senate.

But the sponsor says the bill has little hope of success this session.

Rep. Eldon Mulder's bill allowing fish farming originally included salmon, but that was taken out of the bill by the House Fisheries Committee. The Fisheries panel sent the legislation on to the House Resources Committee Monday night.

Of the three committees left to review the bill, two

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FISH: Little time to pass

Continued from Page D-1

are headed by lawmakers from commercial fishing towns. Commercial fishing organizations oppose the legislation, even with the prospect of salmon farming removed.

Saxman Democrat Rep. Bill Williams, the co-chairman of Resources, said he did not like the measure when Mulder first introduced it this session. Williams said the fishing industry already is trying to deal with a glut of salmon and he did not like the prospect of adding more farmed fish to overstocked seafood markets.

"It just doesn't sound right," Williams said Tuesday.

If the bill makes it past Williams, it still must go through Rep. Carl Moses' Rules Committee, which schedules bills for floor votes. The Rules panel can become a graveyard at the end of a session for bills the chairman does not like.

Moses, a Democrat representing the Bering Sea fishing towns of Unalaska and Dutch Harbor, said the bill is fairly controversial, even with salmon farming taken out of it. Moses would not say if he favors the bill.

Mulder said the bill has a difficult path ahead of it.

"It really depends on the amount of animosity by commercial fishing groups," the Republican said. "The reality is our backs are up against the wall."

In hearings held by the Fisheries panel, the measure was opposed by commercial fishing organizations.

Theo Matthews, executive director of United Cook Inlet Drift Association, a driftnet fishermen's organization based in Kenai, said the group does not support fish farming, even if salmon are not included.

"If it's going to be brought up again, it shouldn't be this late in the session," Matthews said at a hearing last week.

Fishermen said there were concerns about diseases being spread by farmed fish and that any escapees could interbreed with wild stocks.

House Fisheries chairman Alan Austerman said with just 48 days left in the session, there is little time for the bill to pass.

Alaska

FINFISH FARMING TASK FORCE

REPORT

to the

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January 15, 1990

Alaska Finfish Farming Task Force

REPORT TO THE ALASKA LEGISLATURE

January 15, 1990

Alaska Finfish Farming Task Force
P.O. Box AM
Juneau, AK 99811
907/465-3568