

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILE 8672

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Additives to the Environment of Net-Pen Reared Fish
Pacific Marine Fisheries Commission 42nd Annual Meeting
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Arthur H. Whiteley and Annamarie Johnstone

Department of Zoology, University of Washington, Seattle, WA 98195;
 Aquatox, P.O.Box 53, Indianola, WA 98342

We have been asked to address our remarks to the matter of additives to the environment of net-pen reared fish. In this particular forum, we assume the emphasis should be on additives that may have an impact on humans when these fish come to market, rather than the impact on the plant and animal communities in the natural environment, though these are not wholly separable.

By its very nature, net-pen rearing of salmon requires the use of numerous chemicals, sometimes in large amounts, some used in the fresh water hatcheries to produce the fry and smolts, some used in the grow-out period in the marine pens, and others used during processing of the fish for the market. Partial lists are shown in Table 1, compiled from Austin and Austin, 1987, from a 1988 report for the Nature Conservancy Council by the University of Stirling, Kendra, 1989, and from other sources.

The lists include chemicals used in salmon and in other forms of fish culture, both in this country and in foreign countries. Inasmuch as farmed fish are imported from some of these other countries, inclusion of these chemicals in the lists may be relevant to the matter of seafood surveillance in the United States marketplace.

Chemotherapeutics. The most relevant additives for present purposes are antibiotics and other chemotherapeutic agents used to control bacterial diseases. Because of stress, disease may cause losses of 30-40%, sometimes higher. Agents and diseases in salmon farms include *Vibrio anguillarum* (vibriosis), *Aeromonas salmonicida* (furunculosis), *Aeromonas hydrophila* (hemorrhagic septicemia), *Yersenia ruckeri* (red mouth), *Vibrio salmonicida* (Hitra disease), *Renibacterium salmonarum* (bacterial kidney disease). To combat these diseases, medicated food containing antibiotics is supplied. In Washington, the FDA approved antibiotics and therapeutants are oxytetracycline (OTC), Ronnel 30 (sulfadimethoxine and ormetoprim) and sulfamerazine. In addition, Tribissen (sulfadiazine and trimethoprim) is used in Norway and Scotland, and in British Columbia erythromycin is used to control BKD. In Japanese fish culture a wide variety of antibiotics has been used, but has recently restricted the use of chemotherapeutics in cultured fish (Aoki, 1988, pers. comm).

In the US, Norway, BC and Scotland, doses of drugs are as indicated in Table 1B. It is anecdotal, however, that additional amounts of antibiotics are used by farmers, who may mix the drugs with feed and binders. Control of use of antibiotics in Norway and Scotland is regulated by veterinarians, and this is supposed to be the case in B.C. In the British Isles it is apparently easy to find legal loopholes to permit other antibiotics and doses to be used (Austin and

Austin, 1987). In Washington fish farmers are supposed to notify the Department of Fisheries if they use antibiotics, but veterinarian supervision is not required. Generally approval exists for only therapeutic use of these drugs. Nonetheless they often are used prophylactically inasmuch as sick fish may not take the medicated food.

There appears to be no medical or public health supervision or regulation here, or in the other fish farming countries, on the use of antibiotics and chemotherapeutics other than the requirement of FDA approval of the three drugs and their dosages. There appears to be no monitoring by agencies of the use of these drugs or their persistence in marketed fish.

The amounts of drugs used are enormous. In Norway last year, 48 metric tons (105,000 lbs) of OTC alone were used - more than in animal husbandry and human health uses combined (Mehli, 1988, pers. comm. and press accounts). This figure has grown from 13,691 lbs in 1984 (Midtlyng, 1985). The 1984 figure for Tribissen, nitrofurazolidon and sulfamerazine is 30,204 lbs (Midtlyng, 1985). Comparable figures for British Columbia and Washington are not at hand. Assuming the dosages cited earlier for the 13 Washington pens, calculation leads to a first approximation of about one ton of OTC, a figure similar to that given by a Washington fish pen operator (Dr. A. Bill, 1989, pers. comm.).

The relevant issue here is "Do these uses affect man?" Consumers clearly would be exposed to residual antibiotics in the fish meat. Because of the potential for these residues producing a serious problem in public health, Japan has recently restricted the use of chemotherapeutics, and does not allow cultured fish to move to market if residual drugs can be detected in fish meat (Aoki, 1988, pers. comm.). The potential for adverse effects has been emphasized by Austin (1988, conference in Vancouver, B.C.; Austin and Austin, 1987). The current regulations for control of such residues are based on admittedly minimal research. The FDA requires a 21 day withdrawal period after the last medicated feeding of OTC and 42 days for Romet 30 before slaughtering for the market. In B.C. the withdrawal period is 42 days, and in Norway 61 days. Very few data exist for measurement of persistence of these drugs in fish flesh after feeding. McCracken et al (1976) measured the presence of trimethoprim in trout muscle 77 days after medication; Salte and Liestøl (1983) calculated that the withholding period for trout receiving OTC should be 100 days at winter temperatures, and for Romet 30 they recommended withdrawal periods of 60 days above 10°C. All authors emphasize that temperature is a seriously complicating factor - residues of Romet 30 persisted for several months in fish at colder temperatures, leading Salte and Liestøl to recommend using the component drugs only in summer. Clearly these limited data do not support the FDA regulation of 21 days. New, more refined measurements of drug residues in salmon coming to market clearly are needed - a recurrent theme of the Austins. Some of these measurements are being made now at the University of British Columbia by McErlane et al. (1989), and Grondel et al. (1987) have published a pharmacokinetic analysis of OTC distribution in carp. In the absence of more detailed studies, humans ingesting farmed salmon may be receiving subtherapeutic doses of antibiotics. One would like to see regulations established for testing the product, by agencies, as it comes to market to ensure the absence of detectable residues.

Methods used should be such as those approved by the National Committee for Clinical Laboratory Standards used by the Clinical Laboratories, Department of Laboratory Medicine, University of Washington Medical Center.

The issue extends beyond the limits of the penned salmon. Much of the antibiotic fed escapes into the fluid environment and, notably, into the sediments that accumulate beneath the pens (Jacobsen and Berglund, 1988), where it may be exposed to native fish, shellfish, and other indigenous species, thus providing another avenue to humans who may catch and consume these forms.

The medical consequences of the mis-administration of antibiotics are numerous, and are well discussed in such modern treatises as Goodman and Gilman (1985) and Kucers and Bennett (1987). A number of them are antigenic and elicit immunological hypersensitivity responses; some have toxic effects in various tissues varying with the physiological and health state of the person; some particularly should be avoided during pregnancy; tetracyclines lead to discoloration of infants' teeth and may interfere with bone growth; some, notably the tetracyclines, may lead to the development of superinfections by resistant strains of bacteria; they may interfere with the normal immune response; and the breakdown products of antibiotics, including OTC, can be toxic particularly in individuals with compromised livers. Basically, it is poor medical practice to ingest unneeded antibiotics or deteriorating antibiotics.

Another cluster of problems associated with use and misuse of antibiotics is the generation of strains of pathogenic bacteria that have resistance to the drugs. Such strains have now appeared in essentially all fish culture communities that have been adequately tested. Mostly the resistance factors are carried on R plasmids, which also usually are found to carry resistance determinants for 1 to 8 additional antibiotics, thus showing multiple drug resistance. In high proportions, these R plasmids are transferable to other bacteria, and thus drug-resistance may be disseminated to other ecosystems. Studies at the Centers for Disease Control have shown that outbreaks of salmonellosis could be traced to drug-resistant *Salmonella* derived through the foodchain back to land farms associated with agricultural antimicrobial use (Cohen and Tauxe, 1986). It would be prudent to evaluate the possibility for a similar generation of R plasmids in fish farms and their dissemination to human populations in the marketplace. When drug-sensitive populations of pathogens are replaced by drug-resistant populations, then treatment of the affected fish becomes ineffective, and, if the R plasmids are in human pathogens, treatment of patients would be adversely affected. Particularly, it is a general principle that medically important antibiotics, including oxytetracycline, the sulfas and erythromycin, should be restricted in their nonmedical uses to minimize R plasmid selection and transmission.

When antimicrobials are used in fish farms near commercial or recreational shellfish beds, there is the further potential for drug-resistant organisms to be concentrated by the shellfish, through filtration in their gills, and thus enter human populations when these shellfish are consumed.

Food additives. The dry pellets, fed to the penned fish in the marine environment, contain fish meal, grains, fish oils and carbohydrates, supplemented by minerals and vitamins as indicated in Table 2. While these

additives have no direct human import, it is reported that planktonic blooms of the ichthyotoxic dinoflagellate, *Gyrodinium aureolum*, were enhanced by the biotin in fish farm wastes (Turner et al., 1984). These blooms cause mortalities to cultured fish, and, unfortunately, to wild fish as well (Bullock et al., 1985).

Pigment is added to the feed to produce a colored flesh in farmed salmon, inasmuch as the color of wild salmon flesh is derived from natural food organisms. In Great Britain, the carotenoid canthaxanthin, an analog of astaxanthin common in natural food organisms, is used in the form of carophyll red. It is stated in a report from the University of Stirling that this use is banned in the US because of possible carcinogenic properties of canthaxanthin (NCC Report, 1988). To date a petition for its use has not been submitted to the FDA (FDA, Seattle Office, 1989). A petition is presently under consideration for use of astaxanthin as a colorant. A main local supplier adds canthaxanthin as a colorant and it is in use in main Washington salmon net pens. There clearly are gray areas here where research and regulation is sorely needed.

Many wild fish are rich in omega 3, polyunsaturated fatty acids. A higher ratio of omega 3/omega 6 fatty acids is believed favorable for maintaining low cholesterol levels in humans. Cultured fish and other sea foods, because of their artificial diets, may have low levels of omega 3 fatty acids, and thus unfavorable ratios of omega 3/omega 6 (Suzuki et al., 1986; Chanmugam et al., 1986). Consequently, individuals eating farmed salmon in the expectation of gaining this supplement will typically be erring, unless the farmer has specifically added it as a dietary supplement and indicated this in marketing. The dry pellets supplied locally generally do not have omega 3 acids added as a supplement (Moore-Clark Co., 1989, pers. comm.) because these are contained in the fish oils of the fish meal used.

Moist pellets, which are more commonly fed during the hatchery phases of salmon farming, are derived from fish meal that is pasteurized, combined with additives, and frozen. However, moist pellets used in some fish farms in Puget Sound contained *Salmonella* spp. (Draft PEIS, Washington Department of Fisheries, p. 116, 1989). Moist pellets used in British Columbia have been found to contain *Salmonella* (Kelly, 1988, pers. comm.; Babink, 1988, pers. comm.). In these cases it is unclear whether the pathogens had survived the pasteurization, or had appeared subsequently. *Salmonella* can persist for a period of time in marine waters, are harbored by fish in polluted waters, without harm to them (Buttiaux, 1963). It is well known that marine shellfish can concentrate these pathogens and transmit them to humans. There is, therefore, a potential for fish culture to join animal husbandry as a mode for affecting humans in the manner described by Cohen and Tauxe (1986).

Hormones. At this time, hormones are being used in B.C., experimentally and perhaps to an extent in actual culture, to control the sex, size and behavior of penned salmon, both *Oncorhynchus* spp. and *Salmo salar*. Gonadotropin, gonadotropin releasing factor and analogs, and antiestrogens have been used in adult females to modify spawning. Androgens and estrogens are used to cause feminization, and, in combination with other techniques, to produce triploid and tetraploid stocks for production of sterile salmon. A review is provided by Donaldson (1986).

In general, these treatments are used on egg-producing females or on eggs and sperm, and the likelihood of carry-over of hormones to adult, marketable fish is tiny. Anabolic steroids including methyl testosterone, thyroid hormones, somatotropins, certain pituitary hormones can be used to accelerate growth in juveniles and the timing of smoltification (Donaldson, 1986). If these hormones, or androgens and estrogens, were used for growth acceleration or other effects on near-harvest adults, then there would be substantial cause for concern to human consumers.

Pesticides. A remarkable list of agents are or have been used in salmon culture. Examples are: formalin, malachite green, acriflavin, Nuvan, Neguvon, Chloramine T, MS222, copper sulfate, tributyltin, diquat, in addition to the chemotherapeutics. Some are used in Scotland and Norway which apparently are not used, or not permitted, in the U.S. and B.C. Partial lists are incorporated into Table 1 of this presentation.

Treatment of salmon lice (*Lepeophtherius salmonis*). These copepod ectoparasites pose a severe problem for adult penned fish in Scotland and Norway. In Europe, organophosphate pesticides (Nuvan^R (dichlorvos; Scotland) and Neguvon^R (trichlorfon which forms dichlorvos; Norway) are primarily used. Fish are treated by immersion in a concentration of 1 ppm for 1 hr, as needed. In 1984 39,600 lbs of Neguvon were used in Norway (Midtlyng, 1985). They are inhibitors of acetylcholinesterase activity in the cholinergic nervous system. These agents not only kill fish lice, but other crustacea in the environment as well, including commercially important species such as crabs, lobsters and mussels (Egidius and Moster, 1987), and they cause potentially serious problems to the treated fish (Davies and McKie, 1987; NCC Report, 1988). These agents are restricted by the EPA in the U.S. (Seattle EPA Office, 1989). In Washington, the carbamate Sevin^R (carbaryl) has been suggested for use for treatment of salmon lice, and it is used in oyster culture for controlling ghost shrimp. Sevin, also, is an inhibitor of acetylcholinesterase. Sevin has recently been restricted in parts of the United States, and its discharge into the environment is regulated by an NPDES permit. BRAVO (chlorothalonil), a fungicide has been suggested for and locally used recently on fishpen nets, a use banned by EPA because it is a class B carcinogen (EPA, Seattle, 1989).

Disinfectants and Antifoulants. Formalin and malachite green have been used for control of ectoparasites and fungi, usually in the fresh water phases of farming. Malachite green, a potential teratogen (NCC Report, 1988), is now banned generally, though apparently permitted in Washington (Kendra, 1989; Table 1). MS-222 is used under certain conditions for anaesthesia, but with a 21-day withdrawal period for clearance from tissues. Hatchery ponds are sterilized with chlorine.

To prevent fouling of nets by growth of algae and encrusting invertebrates, fish farmers have treated nets and pen structures with the antifouling agent, tributyltin (TBT). This substance, at exceedingly low concentrations, has a variety of adverse effects on marine invertebrates and perhaps on vertebrates (Bailey, D.S., 1987). When, in 1987, farmed salmon appeared in the Seattle markets carrying substantial amounts of TBT in their flesh, the state enacted a law prohibiting this use and partially eliminating it from use on boats. A similar law exists in the national statutes, in Great Britain and other parts of Europe. Despite this ban, a Canadian Governmental

memorandum on August 11, 1988, titled "Private Salmon Hatcheries and Netpen Facilities, Some Serious Concerns" indicates that 25% of BC pens are still treated with unregistered boat hull paints, sometimes including TBT, which liberate large quantities of particulate paint into the water, sometimes onto oyster beds, thus creating potential hazards for two kinds of aquacultured products.

If antifoulant is used on nets now, usually it is copper-based. Copper and other heavy metals are highly toxic to many marine invertebrates. Standards for permissible amounts of copper in farmed fish flesh appear to be lacking.

Summary. There are a number of chemicals and additives used in net pen culture now that have the potential for adverse human impact. Often these are used at the discretion only of the user, and with little or no external monitoring. There appears to be little or no input into this regulation and monitoring by public health agencies.

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Table 1
A Partial List of Chemicals Used in Net Pen
Culture of Fish

(From Austin and Austin, 1986; The Nature Conservancy
Council Report, Scotland, 1988; Kendra, 1989; and other
sources)

Chemotherapeutics and Disinfectants

Oxytetracycline*
 Romet 30^R (sulfadimethoxine and ormetoprim)*
 Sulfamerazine*
 Tribissen^R (trimethoprim and sulfadiazine)^o
 Erythromycin*
 Formalin*
 Clindamycin^o
 Streptomycin[†]
 Kanamycin[†]
 Minocycline^o
 Kitasamycin^o
 Rifampicin^o
 Flumequine[†]
 Chloramphenicol[†]
 Chloramine T[†]
 Penicillin G[†]
 Acriflavin^o
 Oxolinic acid[†]
 Benzalkonium (Hyamine 3500)*
 Benzethonium*
 Acetic acid*
 Malachite green[#]
 Iodine*
 Nitrofurantoin^o
 Iodophors*
 Copper sulfate*
 Chlorine*

Pesticides

Dichlorvos (Nuvan^R, an organophosphate)^o
 Trichlorfon (Neguvon^R, an organophosphate)^o
 Carbaryl (Sevin^R, a carbamate; used in oyster culture)*
 Diquat^R*

Antifoulants

Tributyl tin[†] - now banned
 Copper paint*
 Bitumen^o

Chlorothalonil (used but banned)

Table 1, continued

Anaesthetics

MS-222 (tricaine methane-sulfonate)*

Benzocaine^o

Carbon dioxide*

Food additives

Colorants-Canthaxanthan (used widely but not approved)

Astaxanthan† (not registered in USA)

Minerals*

Vitamins*

Omega 3 fatty acids

* - Registered or approved in Washington (Kendra, 1989)

† - Not approved in Washington (Kendra, 1989), but used elsewhere (Austin and Austin, 1986; NCC Report, 1988)

^o - Used elsewhere (Austin and Austin, 1986; NCC Report, 1988).

- Registered in Washington (Kendra, 1989), banned elsewhere.

Table 1B
Doses of Antimicrobials Commonly Used in Salmon Net-pen Culture

Antimicrobial	Dose, mg/kg of fish/day	Days of Treatment
Oxytetracycline	75	10
Romet 30	50	5
Sulfamerazine	220	14
Tribriksen	30	10
Erythromycin	10-25, or unspecified	4-21

These regimens are repeated 2 or 3 times a year

Table 2
**Mineral and Vitamin Food Additives
in Salmon Pellets**

(Data from Nature Conservancy Council Report 1988, and
Moore-Clark Analysis)

Minerals

- Calcium phosphate
- Magnesium sulfate
- Sodium Chloride
- Potassium chloride
- Iron sulfate
- Zinc sulfate
- Copper sulfate
- Manganese sulfate
- Cobalt sulfate
- Chromium chloride
- Ethylenediamine dihydroiodide
- Selenium

Vitamins

- Thiamine hydrochloride
- Riboflavin
- Calcium pantothenate
- Niacin
- Pyridoxine hydrochloride
- Biotin
- Folic acid
- Cyanocobalamin
- Inositol
- Ascorbic acid
- Choline chorlide
- Menadione
- alpha tocopherol acetate
- p-aminobenzoic acid
- Retinol acetate
- Vitamin A
- Vitamin B12
- Vitamin D3
- BHA-BHT, antioxidant

March 27, 1990

Box 23

Tenakee Springs, AK

Senator B. Fahrenkamp

Pouch V (MS 3100)

Juneau, AK 99811

S. E. & J. M. McBEEN
P. O. Box 23
TENAKEE SPRINGS, AK 99841

Dear Senator Fahrenkamp,

We are opposed to finfish farming in Alaska and strongly support SB 39

We have closely monitored finfish farming in British Columbia and Norway and are aware of the pollution it causes, the disease inherent in farmed fish and the intermixing of farmed and wild stocks. We also know that farm operations are not a mom and pop endeavor and big corporations, like Weyerhaeuser and Norwegian Corporate will be in charge threatening our

livelihood of fishermen allowing
furthest farming in Alaska could
well prove to be an economic
and ecologic disaster

We shall be following the
progress of this legislation and
encourage you to move it
speedily through your committee.

Sincerely,

Joan M. McBeck

Samuel E. McBeck

C.C. Senator Nick Carson

March 23, 1990

Dear Senator,

I'm writing to express my views on Finfish mariculture in Alaska. I am opposed to it. When I first became aware of the issue several years ago I thought only of the competition. I am a commercial fisherman and competition will hurt, however that is really the smallest worry. We have as much competition now as the farmers can afford and we're still going strong.

The real worries for me are; The possible or almost inevitable contamination of our wild stocks. Secondly, the threat to our southeast coastal environment in general.

You may not believe that wild stock contamination is a serious threat. I believe it is; Fresh water makes an excellent carrier of many forms of bacteria and virus which the fish ingest feeding or merely respirating. Disease problems in fish are real and given the amount of antibiotics shot into farmed fish the farmers won't argue about that. Unfortunately our real fish are out in the ocean and we can't give them their prescribed medicine. Upland tank farms provide just as much threat to our stocks as salt water ne. pens. It would just take a month or 2 longer for the tanks to contaminate the streams. I really feel we would see the total loss of a billion dollar resource in ten - fifteen years. Serious damage would be done in 3 - 5 years.

Finfish mariculturists are in trouble all over the world right now. Financially, they are having to dump fish on the market just to get rid of them. We commercial fishermen would wind up paying more taxes to support an over capitalized failing industry. Biologically, to get the fish to grow to maturity the fish are pumped full of steroids and antibiotics to keep them alive. In an increasingly health conscious world these drugs will likely be ruled illegal, then what. Finally environmentally - Norway, the father of finfish farming has placed a moratorium on new farms because of the incredible pollution problems. Fish poop too you know! The effluence from fish farms adds nutrients to already rich waters and creates a plankton bloom. Over here we call them red tides! Norway experienced on such bloom in 1989 and lost much of it's farmed stock, much of it's wild stock and killed a lot of it's coastal environment. If you think Exxon Valdez was a disaster a major plankton bloom sweeping up the coast would make it look pale. Well I exaggerate a bit but you wouldn't eat clams for a few years.

I love the Southeast for what it is now. I like hunting and trout and steelhead fishing. I like to gather scallops and abalone. In general I enjoy cruising the coast.

The commercial fisheries resource is worth billions. Tourism in the form of sportfish and diving charters is rapidly growing and will soon be worth as much. The coast is lovely!

continued



KACHEMAK BAY CONSERVATION SOCIETY
P. O. Box 846 • Homer, Alaska 99603

April 6, 1990

Senator Fairbanks
Pouch V
Juneau, Alaska 99811

Dear Senator Fairbanks:

We, of the Kachemak Bay Conservation Society, strongly support SB 397: "An act prohibiting finfish farming; + providing for an effective date."

This issue has been debated + studied at length over the last 4 yrs. It has been concluded that the costs + serious ecological risks of fish farming outweigh any potential benefits. These risks include degradation of water quality, genetic intermingling of farmed fish with wild fish, spread of disease, pollution, impacts of antibiotics on health + the marine environment, + land + water use conflicts.

We urge you take action on this important statewide issue now.

Sincerely

Roberto Highland

Vice-President KBCS

(Copy)

CORRECTION

**THIS DOCUMENT
HAS BEEN REPHOTOGRAPHED
TO ASSURE LEGIBILITY**

March 23, 1990

Dear Senator,

I'm writing to express my views on Finfish mariculture in Alaska. I am opposed to it. When I first became aware of the issue several years ago I thought only of the competition. I am a commercial fisherman and competition will hurt, however that is really the smallest worry. We have as much competition now as the farmers can afford and we're still going strong.

The real worries for me are; The possible or almost inevitable contamination of our wild stocks. Secondly, the threat to our southeast coastal environment in general.

You may not believe that wild stock contamination is a serious threat. I believe it is; Fresh water makes an excellent carrier of many forms of bacteria and virus which the fish ingest feeding or merely respiring. Disease problems in fish are real and given the amount of antibiotics shot into farmed fish the farmers won't argue about that. Unfortunately our real fish are out in the ocean and we can't give them their prescribed medicine. Upland tank farms provide just as much threat to our stocks as salt water ne. pens. It would just take a month or 2 longer for the tanks to contaminate the streams. I really feel we would see the total loss of a billion dollar resource in ten - fifteen years. Serious damage would be done in 3 - 5 years.

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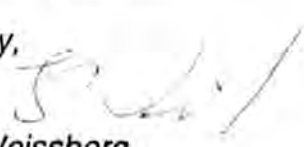
continued

I don't want to see it all turned into the State of New Delaware so a couple of financiers can try to get rich. Please don't tell me it's for the benefit of rural natives either. I've seen the way Sealaska corp logs off their timber and that mob is about as environmentally conscious as an earthmover. The rural villagers won't benefit one tiny bit. The fish farms have to be big to succeed and if nothing else the logistics of moving feed and fish to and from outlying areas would send them broke.

No thanks Senator! I don't have any compromise here, fish farms, both net pens and upland tanks should be banned until our present resources in fisheries and tourism are shot for some reason. Only then should you even consider further risk and rape of Alaska.

Thanks for your time.

Sincerely,


Steve Weissberg
309 Cascade St.
Sitka, AK 99835



KACHEMAK BAY CONSERVATION SOCIETY
P. O. Box 846 • Homer, Alaska 99603

April 6, 1990

Senator John P. Fahrenkamp
Pouch V
Juneau, Alaska 99811

Dear Senator Fahrenkamp:

We, of the Kachemak Bay Conservation Society, strongly support SB 397: "An act prohibiting finfish farming; + providing for an effective date."

This issue has been debated + studied at length over the last 4 yrs. It has been concluded that the costs + serious ecological risks of fish farming outweigh any potential benefits. These risks include degradation of water quality, genetic intermingling of farmed fish with wild fish, spread of disease, pollution, impacts of antibiotics on health + the marine environment, + land + water use conflicts.

We urge you take action on this important statewide issue now.

Sincerely
Roberta Highland
Vice-President KBCS

(Copy)

Angela Richter
Box 2
Edna Bay Ak.
99950

2/20/90

Senator Eliason,

Bobbie and I enjoyed talking with you while we were on our annual trip to Juneau. I thought I would drop you a short note to say how much all of us in Edna Bay appreciate the good word you will put in for us regarding the road from East to West Edna. The grant that we applied for with DCRA was approved, so hopefully with additional help from the legislative grant, if awarded to us, we will be able to complete the road.

We had a great time in Juneau. It was my first visit there. Maybe I'll get to come back sometime.

I read your ~~article~~ article in the Sitka Star, pertaining to "NO FISH FARMING in ALASKA," and my husband and I are in full agreement with you, on the subject. I know several others here in Edna Bay are too.

I'll close for now. Please say hello to JoEve & Mary for Bobbie and I and thank them for their help. If you make it to Jo Otter Sound or Edna Bay area this summer give the "Shalom" or the "H+B"

a call.

Thanks
Angela Fica

President.

PUBLIC OPINION MESSAGE

DEAR: SENATOR ELIASON

NAME: NINA FAUST

TITLE:

ADDRESS: BOX 2994

CITY: HOMER

ZIP: 99603

PHONE: 235-6262

BILL NO: SB 397

SUBJECT: PROHIBITION OF FINFISH FARMING

MESSAGE: I FULLY SUPPORT SB397 AND URGE YOU TO MOVE THIS BILL OUT OF COMMITTEE. OUR FISHING INDUSTRY IS TOO IMPORTANT TO JEOPARDIZE HEALTH OF WOF WILD STOCKS AND NATURAL HABITAT. PRESERVE OUR NATURAL FISHERIES RESOURCES AND PUT EFFORTS INTO A CLEAN HEALTHY ALASKA FISHING INDUSTRY.

POMID: 18123647

DATE: 03/12/90

TIME: 12:36:47

LIONAME: HOMER INFORMATION OFFICE

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FAHRENKAMP

FISCHER

KERTTULA

FRANK

HALFORD

STURGULEWSKI

ZHAROFF

KETCHIKAN DAILY NEWS * PIONEER PRINTING * MEMO

.....from the desk of Lew Williams, Jr.

Dick:

You may have seen
this in the Seattle
Posters, too.

King on sale
here last Thursday was
\$6.95 a pound.

I know there's a taste
difference and you know
it, but most shoppers don't.

KETCHIKAN DAILY NEWS * PIONEER PRINTING * MEMO

.....from the desk of Lew Williams, Jr.

What do you have in
the works to fight
this?

I'm of the opinion
that if you can't beat
them join them.

It would be easier
to support your stand
if there was a way
to compete.

.....from the desk of Lew Williams, Jr.

I've suggested that Alaska fishermen all share in farming by having their Aquaculture associations in which they have a financial interest, do the farming.

Just stomping our feet and saying 'no' doesn't seem to be the solution. Although I'm not a

KETCHIKAN DAILY NEWS * PIONEER PRINTING * MEMO

.....from the desk of Lew Williams, Jr.

commercial fisherman,
my business, my community
and our economy depend
a great deal on commercial
fishing, which is why
this concerns me.

Farm fish aren't bad
eating either. I ordered
fresh salmon in Prime
George last September
and it was Farm fish.

.....from the desk of Lew Williams, Jr.

alth. I advertised
as 'em. I know it was
farm salmon because it
was about the size of
a large trout.

Other than that, how
are things in Camelot?
Think we'll survive
Cooper? You should
hear Ernie Hovgaard's version.

QFC 206-455-3761

hospital gown. It was like lying on a frozen lake.'

I arrived at Temple and wheeled through its busy emergency room to the coronary intensive-care unit on the second floor of the tower building. The first thing the Temple doctors had to do was knock down my fever, which was 104 degrees. They gave me antibiotics and brought in something called a cooling blanket. It was a mat that looked like a cutout in the shape of a human body. It was hooked up to a refrigeration unit. They were going to chill the fever out of me.

They laid me on top of the mat in my flimsy hospital gown. It was like lying on a frozen lake. I joked that they were going to give me frostbite on my rear end. But I could feel it drawing the heat from the fever right out of my body. I felt better.

The other thing that drove me absolutely crazy at Temple was thirst. Unremitting, unrelenting, miserable, horrible thirst.

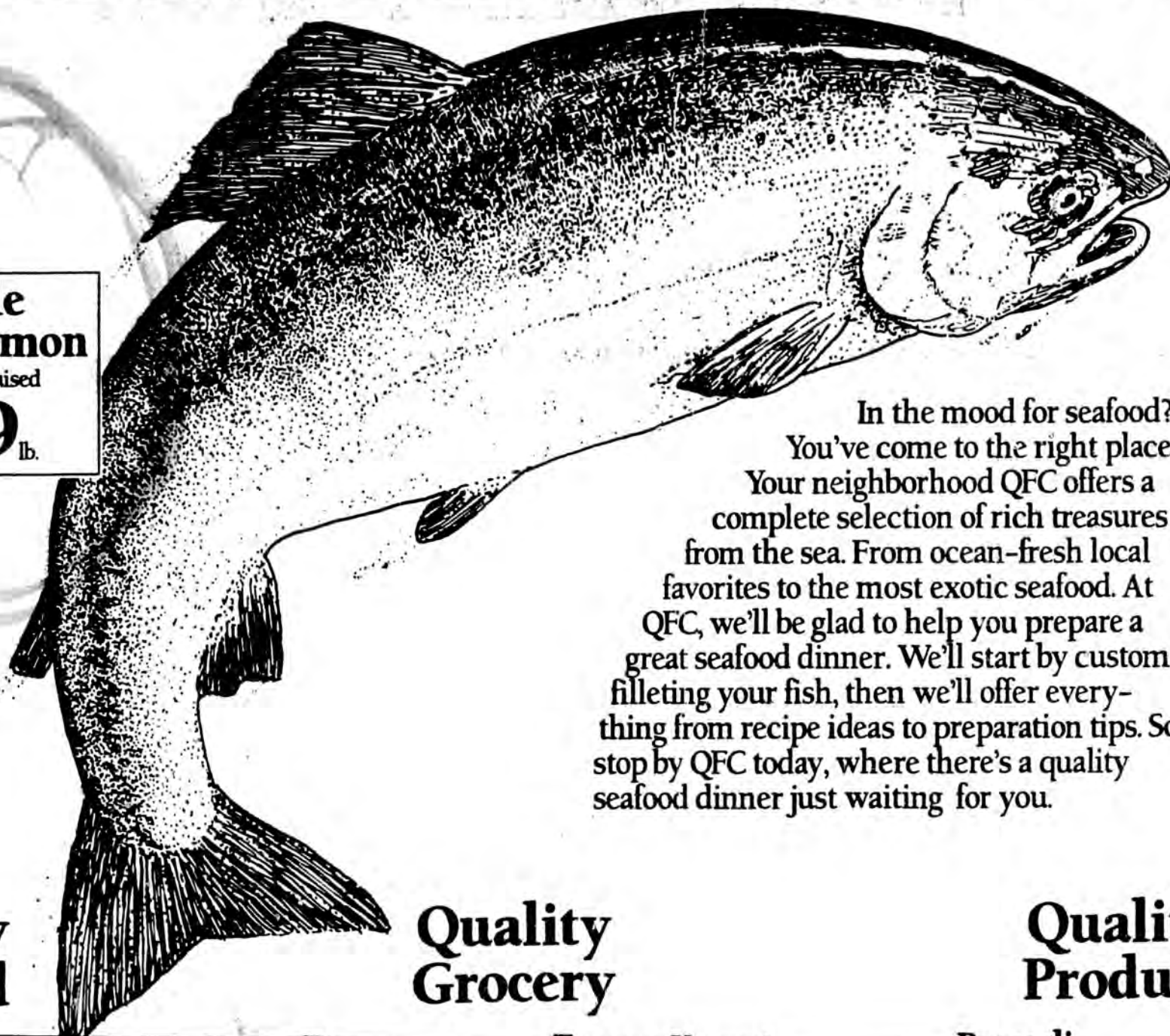
Here I was in this state-of-the-art medical complex, and I couldn't even satisfy one of the most fundamental of human cravings. Because of the weakness of my heart, my liquid intake had to be severely limited; more water in the body meant more work for the heart. I was limited to 1,500 cubic centimeters, or about 1½ quarts a day, of fluid. But that included large amounts of liquid drugs flowing into my veins through the intravenous lines. So all I could actually drink was about 8 ounces — one glass — of liquid a day.

I became maddened, crazed with thirst. A nurse would bring my meal, lift the lid on the tray and, while I watched with parched lips, remove nearly all the liquid in my meal, even the Jell-O. It was torture.

Late one night, insane with thirst, I had a brainstorm. I noticed that the oxygen lines coming out of the wall behind me ran into a

treasures from the sea.

**Whole
King Salmon**
Fresh Farm Raised
2.99 lb.



In the mood for seafood?
You've come to the right place.
Your neighborhood QFC offers a complete selection of rich treasures from the sea. From ocean-fresh local favorites to the most exotic seafood. At QFC, we'll be glad to help you prepare a great seafood dinner. We'll start by custom filleting your fish, then we'll offer everything from recipe ideas to preparation tips. So stop by QFC today, where there's a quality seafood dinner just waiting for you.

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**Quality
Grocery**

**Quality
Produce**

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Broccoli

20

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Divert - Curtis
415-254-1040

distributors

Handy Farms

Stuart Seafood - distributor for GFC + Safeway

206-467-8195

22000 lb per order to GFC

✓ Eliason	_____
✓ Mary	_____
Sheila	_____
Laura	_____
Jo-Eve	_____

NOTE:

Another good letter
file

John W. Hillstrand
P.O. Box 674
Homer, Alaska 99603
Jan. 29, 1990

Dear Resource Committee Members,

Finfish Farming, whether Shore based or in Ocean Pens, if introduced to Alaskas Economics at this time will be disastrous.

As a Alaskan Sport and Commercial Fisherman for 30 years, when Fin Fish Farming was first introduced my interest was overwhelming. To think I could have it all. Thirty years of fishing the most abundant stocks of Sea life any where in the world. And now, Reap the benefits, and do so in my back yard without dealing with mother nature on such a competitive bases, in addition to Flare openings, 24 hour Halibut openings, 1/2 hour Herring openings, total closures on King and Tanner Crab and many other hardships that the Alaskan Fishing Industries along with the State of Alaska and its Tax payers have had to suffer.

After many hours of research and questioning of people in and out of the Fin Fish Industries I am sorry to say, this is one time I CANT HAVE MY CAKE AND EAT IT TO. Here are some of the examples:

1. ADEC involvement
 - a. On site Pollution of diseased fish
 - b. Containment of fish waste and discarded feed
 - c. Disposal of fish carcasses at time of brood stock take
 - d. Drainage of circulation waters needed for Tank Farms, and disposal when polluted
 - e. Standard requirements for Fish processing under State Law
2. Alaska Dept of Fish and Game
 - a. Genetic pollution of wild stocks
 - b. Allocation of broodstock
 - c. Full time monitoring of disease control
 - d. The assurance that disease is not transmitted by bird species
3. U.S. Army CORPS
 - a. Protection of Ecosystem
 - b. Protection of Wet Lands

The list could go on. One that could choke any Alaskan Mom Pop group desiring to enter into this new Field of Farming. What we are trying to convey and hope you will consider is the direct benefit will again be only for a few, as like Limited Entry. And although Fin Fish Farming might well be a Legacy some Senators would like to add to their collection, to not allow the enactment of State laws Banning Fish Farms, is totally irresponsible to the Tax Payers at this time, and is another burden placed on future generations.

with all the regulation, numerous classes and genetic possibilities, high cost of doing business in Alaska, along with unforeseen marketing due to the increasing numbers of Russian farms in the world, less than a handful of farms could survive. Self benefit and profit, as opposed to the risk to the wild stock environment just does not add up.

With such a high level of demand with the States Environment and Natural Resources by all Alaskan user groups, you really have bigger and better things to commit yourselves to achieve.

I am in full support of Senate bill number 397, and House Bill number 432

Sincerely,

John W. Hultstrand
John W. Hultstrand

- CO. Betty Farnham
- John H. Hultstrand
- Richard E. Elvason
- Steve Frank
- Dick Hartono
- Artis Stungilewski
- Fred F. Zaroff
- Curt Menard
- Cliff Davidson
- George G. Jacko
- Mike Davis
- Richard Foster
- Mike Navarre
- Walt Furnace
- Bill Hudson
- Bert M. Sharp

ALASKA STATE LEGISLATURE · SENATE

SENATOR RICHARD I. ELIASON

LABOR & COMMERCE COMMITTEE, CHAIRMAN
RESOURCES COMMITTEE
RULES COMMITTEE
SPECIAL COMMITTEE ON HIGH SEAS
SALMON INTERCEPTION
SELECT COMMITTEE ON
LEGISLATIVE ETHICS



P.O. BOX 143
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P.O. BOX V
JUNEAU, ALASKA 99811
(907) 465-4916

FAX (907) 465-4928

M E M O R A N D U M

TO: Sen. Bettye Fahrenkamp, Chairman
Senate Resources Committee

FROM: Sen. Dick Eliason

DATE: Feb. 6, 1990

RE: SB 397, An act prohibiting finfish farming.

I would like to request that SB 397 be scheduled for a hearing by the Senate Resources Committee. The Legislature has spent a good deal of time studying the pros and cons of fishfarming and reviewing the Task Force Report, and I believe that we would all like to finally resolve the issue and get on with other things.

My personal feeling is that the best thing for the state is to enact a ban on finfish farming and so I introduced SB 397 to do that. But the important thing now is to start hearings on the matter so that the people of Alaska can express their views and the Legislature can finally make a statutory determination on the subject, as recommended by the Task Force report.

I would very much appreciate your consideration in scheduling SB 397 as soon as possible.

Thank you.

Jan 26

Douglas

Sen Dick Eliason

Juneau, AK.

Just a short note to
applaud your efforts and sponsorship
of SB 397. As a troller, its
heart warming to see you and
14 of your colleagues support us.

Pen rearing of salmon makes
about as much sense as fish traps
and we all know what happened to
them.

Good luck in your efforts and
Thank you again.

Joe Craig
F/v Fools Gold
Box 941
Douglas, AK.

99824



Alaska
Trollers
Association

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

January 30, 1990

Senator Dick Eliason
Alaska State Legislature
P.O. Box V (MS 3100)
Juneau, AK 99811

Dear Dick:

I'm sure you are well aware of the healthy constituent support you enjoy from your friends in the fishing industry, but it has been too long since our organization reinforced this thought. Therefore, the ATA would like to take this opportunity to extend a special note of appreciation, especially for your extraordinary devotion to the issue of fish farming.

Three cheers for your efforts on SB 397, which attempts to end the threat of fin fish farming once and for all!

You are familiar with ATA's long standing position opposing the development of fish farming in Alaskan waters. We believe that there is nothing to be gained, and far too much to loose, should we allow July 1 to bring with it the prospect of this unstable industry.

This session ATA has not yet entered the mariculture debate. It is not for lack of interest or intent, but primarily due to the US/Canada Treaty proceedings, which have proved exceptionally vigorous this year.

Please be assured that ATA will become more public on the issue as the session progresses, and is **always** willing to assist your staff with your strategies when called upon.

Thanks again for the gusto with which you are attacking this issue! And please, do not hesitate to contact our office should we be of assistance.

Very Truly Yours,

A handwritten signature in cursive script that reads "Dale A. Kelley".

Dale A. Kelley
Executive Director



UNITED FISHERMEN OF ALASKA

211 4th Street, Suite 106
Juneau, AK 99801
907-586-2820

Senator Dick Eliason
Alaska State Legislature
P.O. Box V
Juneau, Alaska 99811

January 23, 1990

Dear Senator Eliason:

United Fishermen of Alaska would like to express to you our heartfelt thanks and appreciation for introducing Senate Bill 397. We believe this to be a key piece of legislation for safeguarding the health of Alaska's finfish resources and are grateful for the time and energy you have personally put toward this goal.

Sincerely,

Kate Graham
Executive Director

4410 Woronzof Drive
Anchorage, AK 99517

January 25, 1990

Senator Dick Eliason
P. O. Box V
Juneau, AK 99811

Re: Salmon farming

Dear Senator Eliason:

Thank you very much for you work to ban salmon farming in Alaska.

I have enclosed a letter sent in March of 1988 to your fellow senators. On behalf of my family and all Alaskans I'd like to thank you for taking a stand on this very important issue.

Sincerely,

Roger J. Pietron
Susan N. Fish

Roger J. Pietron
Susan N. Fish Pietron

Enclosure

4410 Woronzof Drive
Anchorage, AK 99517

March 24, 1988

*Send to
all rep
to
for action*

Representative Terry Martin
Pouch V
Juneau, AK 99811

Dear Representative Martin:

I am writing to express my strong opposition to HB108 and ask for your support.

My family operates three Bristol Bay set net permits and have been in the fishery for ten years. We recognize and value the fortunate position Alaska holds with 43% of all salmon stocks worldwide (wild), and 90% of U.S. wild stock. Please do not allow the interest of a very few jeopardize this tremendous natural resource.

As a wildlife biologist, I can point to many examples worldwide, where semi-domesticated birds, mammals, and fish are threatening the genetic makeup of wild populations. It is inevitable that pen reared salmon will mix with our wild salmon stocks. The gene pool of our wild salmon species will be diluted and the very strength that allows their survival will be weakened.

This is an irrefutable biological fact which I urge you to recognize and consider in voting against any such threats to our wild salmon. Anything less than SB425 is the groundwork for irreversible future disaster.

*SB397
HB432*

Sincerely,

Roger J. Pietron

Roger J. Pietron
Susan, Edward and Andrew Pietron

243-~~1000~~

-5555

SCOMM

75:16

FISH FARMS A THREAT TO COLD-BLOOD BROTHERS

BY

R. I. "ANIMAL RIGHTS" ELIASON

FISH FARMING IS A HEINOUS ACTIVITY SIMILAR IN ITS CRUELTY TO THE USE OF ANIMALS IN THE SICK EXPERIMENTS WITH ANIMALS DONE BY THE MANUFACTURERS OF COSMETICS AND HOUSEHOLD CLEANING PRODUCTS, OR THE RAISING OF ANIMALS FOR FUR.

FISH ARE GOD'S CREATURES, TOO, JUST LIKE YOU AND ME, AND WE MUST PROTECT THEM FROM A FATE WORSE THAN DEATH, A TORTURED LIFE OF FORCED DRUG USE, CONFINEMENT IN FILTHY, OVERCROWDED PENS, BEING FORCE FED PELLETS MADE FROM THE DESSICATED BODIES OF YOUR FINFISH BROTHERS, DOOMED TO A LIFE OF CAPTIVITY DOWN ON THE FARM UNTIL THE DAY COMES...

WHEN THE POOR CREATURE IS VICIOUSLY SLAUGHTERED AND GUTTED, ITS BLOODY ENTRAILS STREWN ACROSS A WAREHOUSE FLOOR, ITS EYES OPEN AND GLAZED FOREVER IN A SILENT ACCUSATION.

WE MUST PREVENT THIS SENSELESS PERVERSION! BAN FISH FARMING! AND IF YOU SEE WOMEN IN THE STREET CARRYING SALMON LEATHER PURSES, STOP THEM AND LET THEM KNOW THAT A VIOLENT CRIME HAS BEEN COMMITTED JUST TO SATISY THEIR LUST FOR FISH SKIN.

STOP FISH FARMING! STOP FISH FARMING! SAVE OUR FISHY FRIENDS!

ALASKA STATE LEGISLATURE · SENATE

SENATOR RICHARD I. ELIASON

LABOR & COMMERCE COMMITTEE, CHAIRMAN

RESOURCES COMMITTEE

RULES COMMITTEE

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SALMON INTERCEPTION

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SITKA, ALASKA 99835

P.O. BOX V
JUNEAU, ALASKA 99811
(907) 465-4916

FAX (907) 465-4928

**** PRESS RELEASE ** FOR IMMEDIATE RELEASE ** PRESS RELEASE ****

ELIASON PROPOSES LAW TO BAN COMMERCIAL FISH FARMING

JAN. 19, 1989. Senator Dick Eliason (R-Sitka) today introduced legislation to prohibit commercial finfish farming in Alaska.

"It's clear to me that the serious risks to Alaska and our fishery resources far outweigh any potential benefits from finfish farming. We stand to lose much more than we could ever gain," Eliason explained. "In my view it would be highly irresponsible to allow it. Quite a few of my colleagues seem to agree that the time has come to make a final determination on this and get on with other issues," he said, referring to co-sponsorship of the bill by many Senate members.

Prior to introducing the legislation, Senator Eliason studied the final report of the Finfish Farming Task Force, a non-legislative group which released its final recommendations to the legislature earlier this week. One of the report's recommendations is that the legislature act to resolve the finfish farming issue, rather than extending the current moratorium.

The question of whether to allow the commercial farming of finfish has plagued the state Legislature for several years. Two consecutive moratoriums temporarily prohibiting finfish farming have been enacted, the last of which expires July 1 of this year.

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ALASKA STATE LEGISLATURE · SENATE

SENATOR RICHARD I. ELIASON

LABOR & COMMERCE COMMITTEE, CHAIRMAN
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1/19/90

SETTLING THE FISH FARMING DEBATE:

NOW IS THE TIME TO SAY "NO"

Senator Dick Eliason

After four years of discussion on the subject of mariculture, the time has come for the Legislature to end the debate on fish farming and resolve the matter once and for all.

The grave problems associated with fish farms operating in other states and countries, the testimony of witnesses from Ketchikan to Bristol Bay expressing staunch opposition to the legalization of fish farm operations, and the findings and recommendations contained in the recently released report of the Finfish Farming Task Force have led me to introduce legislation prohibiting commercial finfish farming in Alaska.

Several years ago, when the issue of fish farming was first raised, the Legislature recognized the need to proceed slowly and withhold action until more information could be gathered. We have enacted two consecutive moratoriums on finfish farming and in 1988 called for a non-legislative task force to examine the key issues pertaining to finfish farming in Alaska and providing a well-balanced report to the legislature. The group, which completed its work this month, has done a commendable job of laying out the pertinent facts, noting several possible benefits and some serious risks, and leaves

to the legislature the disposition of the issue. One of the main conclusions in the report is that the legislature should not simply extend the current moratorium on finfish farming (expiring in July), but should instead enact a law either allowing or prohibiting finfish farming.

The legislation I introduced, Senate Bill 397, reflects the concerns addressed in the task force report. In evaluating the costs and benefits of fish farming identified in the report, it seems apparent to me that the serious risks outweigh any potential benefits. These risks include the spread of disease among wild fish by farmed fish, genetic intermingling of wild fish stocks with farmed fish unsuited to survival in the wild, degradation of water quality near finfish farms, and land use conflicts over farm siting. The report acknowledges that these potential threats to Alaska's valuable fishery resources and the environment can never be eliminated if fish farming is permitted, they can only be minimized.

Minimizing the risks would be accomplished largely through state regulation, which would necessitate a substantial expenditure of public funds. I don't believe the public would support such an expenditure when there it is unlikely that a fish farming industry can succeed here, and nobody can guarantee the absolute protection of wild fish stocks upon which commercial fishing, subsistence harvests, recreational fishing, and increasing sportfish-based tourism depend.

Although the proposed ban on finfish farming is necessitated by the legislature's responsibility to protect Alaska's natural resources, I have some additional personal concerns. The proponents of finfish farming speak of "employment" and "economic development." The truth is that fish farms employ very few people, approximately 3 people per farm. Is that worth risking harm to resources which currently support, among other things, Alaska's commercial fishing industry: our largest employer and second only to "Big Oil" in terms of its value to the state in dollars? Furthermore, I am concerned about the fact that most of the private sector investment in any finfish farming industry in Alaska will not be by Alaskans. Even if the industry were to make a profit here, much of it would leave the state.

We are fortunate to have resisted jumping into such a volatile enterprise -- lucky that during our moratoriums we have been able to learn from others' mistakes. We have seen genetics and disease problems cropping up at Norwegian fish farms, water contamination problems in Washington, and some of British Columbia's leading fish farms on the brink of bankruptcy, due in part to a glut of farmed salmon on the world market requiring many to sell below cost.

A couple of other good things emerged from the extended debate stimulated by the proposal of mariculture legislation. The question of shellfish and sea vegetable cultivation was divided from the fish farming issue during the course of legislative work on the issue. This has, in turn, given rise

to a fledgling industry to which Alaska has given both its blessing and the benefit of a comprehensive regulatory process.

Another positive aspect of the long discussion on the issue was the great degree of public participation which was achieved. Public awareness of the implications of launching a fish-farming industry in Alaska led to the expression of concern, and finally staunch opposition from the majority of Alaskans interested in the issue.

In response to all that we have learned, the responsible course of action is for the legislature to now move swiftly in adopting legislation prohibiting finfish farming and thus settling the debate once and for all.

BY SEN. ELIASON, Jones, Kerttula, Zharoff, Duncan, Adams, Binkley, Coghill, Faiks, Fischer, Halford, Kelly, Rodey, Szymanski, Uehling

IN THE SENATE

SENATE BILL NO. 397

IN THE LEGISLATURE OF THE STATE OF ALASKA

SIXTEENTH LEGISLATURE - SECOND SESSION

A BILL

For an Act entitled: "An Act prohibiting finfish farming; and providing for an effective date."

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. AS 16.40 is amended by adding a new section to read:

Sec. 16.40.210. FINFISH FARMING PROHIBITED. (a) A person may not grow or cultivate finfish in captivity or under positive control for commercial purposes.

- 1 (b) This section does not apply to
2 (1) the fishery rehabilitation, enhancement, or development
3 activities of the department;
4 (2) nonprofit corporations that hold permits under AS 16.-
5 10.400;
6 (3) the incidental sale of finfish held for scientific or
7 educational purposes under a permit issued by the department;
8 (4) rearing and sale of finfish for aquariums or ornamental
9 ponds.

10 * Sec. 3. This Act takes effect July 1, 1990.
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Kellus Sewell
Marketing Director

**Sea Farm
Washington Inc.**
*A Member of the
Sea Farm Group*

Office: 206-452-6244
Telefax: 206-452-4061
Telex 289195 SFONUR

P.O. Box 1478
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The cool, clean waters of Washington State provide an ideal rearing environment. Excellent freight connections from Seattle mean that our fish can be delivered anywhere in the country within 36 hours of harvest.

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From the moment they hatch from the egg, to the time they are carefully harvested, our fish are grown with quality in mind by highly dedicated people. We use the best feeds and the most up-to-date farming methods. Like producing fine wine, the process takes time. Three years in fact, but at the end we have a product worthy of the SEA FARM name.

Call me. Kellus Sewell, Marketing Director.

SEA FARM WASHINGTON

P.O. Box 1478, Port Angeles, WA 98362
Tele: 206/452-6244 Fax: 206/452-4061

Corporate Offices:

Sea Farm, Inc.
8 Sound Shore Drive
P.O. Box 2300
Greenwich, Connecticut 06836
Telephone: (203) 625-3900
Telex: 96-5944, 96-5970
Telecopier: (203) 661-7695

Sea Farm Washington, Inc.
P.O. Box 1478
662-E East Front Street
Port Angeles, Washington 98362
Telephone: (206) 452-6244
Telex: 289195
Telecopier: (206) 452-4061

Sea Farm Canada Inc. (Eastern Operations)
P.O. Box 2030
Saint John, New Brunswick
Canada E2L 3T5
Telephone: (506) 633-5897
Telecopier: (506) 633-0608

Sea Farm Canada Inc. (Western Operations)
1363 Spruce Street
Campbell River, British Columbia
Canada V9W 3L6
Telephone: (604) 286-3532
Telecopier: (604) 286-1062

Sea Farm Lubec Inc.
P.O. Box 779
Lubec, Maine 04652
Telephone: (207) 733-2458

Ferme Marine de Douhet
BP 4
17840 La Bree Les Bains
France
Telephone: (33) 46 76 58 42
Telex: 792230
Telecopier: 46 76 59 81

Tinamenor S.A.
Pesues
39594 Cantabria
Spain
Telephone: (34) 42 71 71 30
Telex: 35695

Sea Farm Florida
5600 Old Dixie Highway
Fort Pierce, Florida 34946
Telephone: (305) 466-5439
Telex: 522886
Telecopier: (305) 465-2446

Sea Farm California
P.O. Box 99
Herald, California 95638
Telephone: (209) 748-5884

Sea Farm Biotechnologies Inc.
8 Sound Shore Drive
P.O. Box 2300
Greenwich, Connecticut 06836
Telephone: (203) 625-3900
Telex: 96-5944, 96-5970
Telecopier: (203) 661-7695



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Putting on blinders

IN A different time and a different place, the 1990 edition of the Alaska Legislature may well have outlawed the horseless carriage and the flying machine. In more modern days, had this legislature been there, it surely would have banned the use of snow machines in Alaska — and outboard motors would never have replaced oars for those who fish for salmon on the Kenai River.

Let's say these lawmakers, given the chance, would have protected the canned salmon industry by making it illegal to freeze fish. And why let people cook in a modern oven when a pot over an outdoor grill will do the job?

These thoughts come to mind as a result of the recent legislature's commitment to the status quo and its rejection of modern marketing trends and lifestyles by its vote to outlaw salmon farming in Alaska.

No matter that other nations are beginning to eat Alaska's lunch by selling pen-reared salmon to eager markets around the world.

No matter that there is no evidence that properly managed aquaculture would endanger wild species and wild runs.

No matter anything. Commercial fish farming in Alaska is now permanently against the law.

IT'S HARD to imagine a more short-sighted and ludicrous move by the state to try to block progress and change.

Southeastern Alaska trolls, fearing for their livelihood, pushed this silly bill through the legislature in the final hours before adjournment earlier this month.

They overlooked the fact

that salmon farming already is being done in Alaska by the state itself, which rears salmon fry and then turns them loose in the ocean — thus guaranteeing a number of foreign fishermen a continued supply in their massive high seas fishing operations.

They also put on their blinders in an attempt not to see what is happening elsewhere in the world.

In Europe, in Latin America, on the East Coast and elsewhere salmon farming is racing forward and grabbing a major share of the world market.

And there's a reason for it that has nothing to do with the fact that Alaska salmon is still a wonderful product and a big attraction in the market place.

THE FACT is that pen-reared salmon is available year-round, in a reliable supply, at stable prices, in a size and form that makes it perfect for restaurants and food markets around the world.

And people are buying it by the ton.

To believe that commercial aquaculture operations are not compatible with continued commercial fishing for natural runs is simply not realistic.

To outlaw the one in hopes of saving the other is nothing but blind ignorance.

Norway is not going to stop fish farming just because the 1990 Alaska Legislature banned it here. Neither is Brazil. Neither are any of the other countries — or states — where this practice is not only catching on, but is becoming an economic bonanza.

Alaska may not like it, but it can't forever keep its commercial fisheries in the horse and buggy days.



Is achievement through merit

WASHINGTON — Robert Clark, dean of Harvard's law school, says the school is trying "to achieve greater diversity." Does that mean hiring conservatives? Hardly. At Harvard, the diversity that counts concerns biological not intellectual differences.

Derrick Bell, a tenured professor at the law school, says he will go on unpaid leave until a black woman becomes a tenured professor. (The school's 60 tenured professors include five white women and three black men.) Bell's act is another of the "diversity demands" that drive today's academic spoils system. Hispanics, Asians, homosexuals, the handicapped — all are heard from.

Jesse Jackson has, of course, been heard from, saying that blacks are insulted by "the gross insult" conveyed by the idea that "there is no African-American woman qualified for appointment to Harvard Law School." Actually, no one is saying that. However, Jackson is saying that prevailing standards of qualification are "archaic": "We cannot define who is qualified in the most narrow, vertical academic terms. Most people in the world are yellow, brown, black, poor, non-Christian. . . ." Therefore? Need you ask? The ugly truth is in the adjective "vertical."

The planted axiom is that a meritocracy is racist. But the rationales for racially based hiring are racist, and insulting to blacks, and subversive of the idea of a university.

One rationale is that Harvard's black students need black role models. Now, black students at Harvard are demonstrably privileged, well-launched on upward mobility. The last thing they (or any black youths) need is a role model whose hiring communicates the message that they are participants in a group entitlement to professional advancement. This entitlement mentality



George F. Will is a Pulitzer prize-winning columnist for the Washington Post.

itudes of victims, triggers in whites the instinct of condescension, and leads both to discount black achievements.

Such hirings cause "entitled" blacks to regard even benevolent institutions as enemies because victimhood seems to be, for privileged "victims," an unsuageable grievance.

Within the "role model" rationale for racial hiring lurks a degrading postulate: Black youths are disadvantaged unless taught by blacks because blacks are supposed to have derivative identities, derived from membership in a victimized group.

This postulate leads to the second racist rationale for racial hiring. It is intimated when Bell stresses that the "philosophies" of black academics are shaped by "life experiences" unknown to whites.

This theory of racially distinctive and automatically validated scholarship is a particularly slipshod and patently political exercise in the "sociology of knowledge." It argues — no, merely asserts — that all black scholars have had "experiences" that give them unique "perspectives" that whites are not qualified to question. Thus race is an intellectual credential. Bell says: "Race can create as legitimate a presumption as a judicial clerkship in filling a teaching position" regarding civil-rights law.

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Alaska Mariculture Association

TO: Senate Labor and Commerce Committee
FROM: Rodger Painter
DATE: April 18, 1990
RE: Upland Finfish Farming

The Alaska Mariculture Association (AMA) respectfully requests that you consider amending House Bill 432 to allow upland finfish farms. While there may be room for legitimate disagreements over the impacts of salmon net pen culture in marine waters, there's a great body of research and experience showing that the environmental and biological effects of upland fish farms are negligible. This conclusion was unanimously supported by the Alaska Finfish Farming Task Force.

Opponents of finfish farming have attempted to suggest that land-based farms can harm wild stocks through groundwater contamination. Often cited as an example is a report by the Washington Department of Ecology (DOE) which concluded that a 1989 fish kill in the Black River probably was caused by pollutants discharged from a land-based fish farm. What is not mentioned is that the report was thoroughly discredited by an independent group of state and federal scientists.

Attached is a critique of the DOE study by the Interagency Work Group on Fish Health, which is comprised of recognized experts in fish health issues. The review was prepared at the request of the Washington House Fisheries and Wildlife Committee. The group unanimously determined it was impossible to justify DOE's conclusions and that DOE erred in ruling out ambient river conditions as a cause of the kill.

The Alaska Department of Fish and Game should be provided with the authority to require upland farms to treat discharges to protect wild stocks on a case-by-case basis. ADFG already requires a few state hatcheries to treat wastewater discharges as a safeguard against transmission of pathogens to wild stocks. Indeed, ADFG's success in preventing disease transmission to wild stocks from hatcheries demonstrates the safety of upland fish farms.

HB 432 & SB 397 and Upland Finfish Farming in Alaska

House Bill 432 and its companion measure (SB 397) would impose a ban on all finfish farming activities. This is an unreasonable response to the concerns of fishing groups which have focused on the net pen rearing of salmon in the marine environment.

The Alaska Finfish Farming Task Force spent several months grappling with these concerns, and determined that net pen rearing of salmon can be regulated in a manner minimizing environmental and biological impacts. The task force also stated that upland finfish farms present few potential problems, and the impacts of marine culture of non-salmon species would be much less than salmon in net pens.

Upland fish farming virtually eliminates the potential for escapees and impacts on the genetic integrity of wild stocks. Likewise, the potential for transfer of disease from fish cultured in upland farms to wild stocks can be eliminated with proper treatment of wastewater discharges.

Why should operations such as the small-scale coho salmon farm in Fairbanks two years ago be banned? Under a narrow exception in the three-year moratorium on finfish farming, Andy and Pam Wescott of Fairbanks started farming in tanks in their workshop, using water from a private well and disposing of wastewater in the city sewer system. The broodstock came from surplus salmon returning to a local stream. The operation had no disease problems, and the director of the state's hatchery program said the fish were very healthy and were in excellent condition. The Wescotts were forced to close down their farm when the Board of Fisheries (six of seven members are commercial fishermen) refused to approve the required authorizing regulations.

There now are several arctic char farms in Canada including a freshwater tank farm in Whitehorse. The Mat-Su valley has tremendous aquifers and could be suitable for the culture of char, salmon or trout. Should the residents of the Mat-Su and other Alaskans be denied these economic development opportunities? What are the objections to these land-based aquatic farms? Are there valid public policy reasons to prevent an environmentally and biologically sound industry?

The fishermen's concerns always have been the net pen rearing of salmon. The primary objection to other forms of finfish farming is that it represents the camel's nose under the tent and it might set the stage for later approval of salmon farming. Is that how Alaska is going to diversify its economic base? Passage of HB 432 in its present form would be quite a statement about the legislature's commitment to economic development.

UNIVERSITY OF WASHINGTON
SEATTLE, WASHINGTON 98195

*College of Ocean and Fishery Sciences
Office of the Dean. HN-15*

February 6, 1990

Representative Richard A. King
Chair, House Fisheries and Wildlife Committee
House of Representatives
State of Washington
Olympia, WA 98504

Dear Mr. King,

In December, 1989, members of the Interagency Work Group on Fish Health received copies of the following documents: (1) the Black River Fish Kill Report, (2) the Appendices to the Black River Fish Kill Report, (3) a document prepared by Washington Department of Fisheries that was mistakenly omitted from the Appendices, and (4) the Department of Ecology news release regarding the kill. Work Group members were asked to review the Report and Appendices in the manner they would normally apply to the peer review process for scientific journals. On January 8, 1990, the committee convened in Seattle to discuss the documents and to prepare a response to the House Fisheries and Wildlife Committee. A list of Work Group members who participated in the review are attached to this letter.

Work Group members concurred that Department of Ecology (DOE) and Department of Fisheries (WDF) personnel expended a considerable amount of energy in attempting to determine the cause of the fish kill; however, the members were unanimous in their opinion that the conclusions drawn from the study (Report Section 6.0) cannot be supported by the data collected (Report Section 4.0).

Conclusion 1--"fish kill event was not caused by ambient river conditions."

Although DOE was notified of the fish kill on August 8, 1989, and had personnel on site within hours, ambient river condition surveys were not conducted until August 17-18 (Report Table 7). This 10-11 day delay in collecting samples makes it impossible to reconstruct the conditions existant at the postulated onset of the kill (August 6-7).

The data collected in the August 17-18 survey included measurements of water temperature, dissolved oxygen (DO), percent saturation, and conductivity, but did not include measurements of river flow. Considering the season of year (summertime; period of elevated productivity), the high daytime temperatures (>19 C) and the low-gradient nature of the Black River, flow rate was a critical factor for evaluation.

DO levels of 6.7-11.8 ppm measured in surface waters contrasted sharply with the life threatening DO levels (<1.1- 2.6 ppm) measured near the bottom of the river (the portion of the water column utilized by many aquatic species, including salmonids). While it is true that fish avoid low dissolved oxygen levels whenever it is possible to do so, it is well known that avoidance may not be possible when DO levels decline over large areas as a result of nighttime aquatic plant respiration.

Given the low oxygen levels, the high water temperatures, and the absence of flow rate data, it is not possible to rule out ambient river conditions as a cause of the kill. In fact, the Report states (p. 29) that the "combination of low river velocity, high nutrient concentrations, high productivity, and stratified pools is one which can put the lower Black River at risk to conditions which induce anoxia."

Conclusion 2--"the fish kill was caused by a pollutant."

The Report states (p. 29) that "no pesticides or herbicides were found in the Black River sediment samples" and that "metals were below toxic levels." The Report further states (p.29) that the finding of a whitefish carcass near river mile 13 provided indication that "a limited summer kill was occurring", an event "which is normal."

The Appendices contain (1) correspondence from Dick Huntamer (DOE) to Steve Hunter (DOE) stating that acid/base neutral organics, volatile organics, pesticides/PCB's, organo-phosphorous pesticides and herbicides were not present in significant levels; (2) correspondence from Margaret Stinson (DOE) to Dave Halleck (DOE) stating that bioassays conducted at Biomed Research Laboratories revealed no evidence of toxicity; (3) data from Analytical Resources Incorporated indicating that while residual formaldehyde (12.74 ppm) was present in the sediment of the settling pond at Global Aqua, none was detected in water samples taken from the river. Not included in the Appendices (but provided to Work Group members) was a report from Patrick F. Chapman (WDF) stating that fish mortality patterns in the river did not support the theory of a toxic pollution spill.

In the absence of any data indicating the presence of chemicals in water, sediments, or flesh, and in the face of a statement that limited summer kills are normal on the Black River, it is impossible to justify the definitive statement made in Conclusion 2.

Conclusion 3--"kill...probably occurred on August 6, 1989, and began in the vicinity of river mile 9.2."

On August 8, 1989, WDF personnel collected fish carcasses at river mile 6.5. Based upon the degree of decomposition noted in the tissues, they speculated that the fish had been dead for 24-48 hours. That observation forms the basis for fixing the onset of the kill. Given the statement (p. 15) that "carcasses were not visible from the shore", it is possible that the kill started earlier but was not detected.

The conclusion that the kill began in the vicinity of river mile 9.2 is based upon stream and shoreline surveys conducted by WDF, DOE, and the Chehalis Indian Nation. The data presented in the report (Table 5) and in the Appendices (Attachment 7) are not sufficiently quantitative to permit evaluation of this conclusion. Therefore, lacking further documentation, the conclusion is unwarranted.

Conclusion 4--"Black River contained elevated levels of ammonia, nitrites, nitrates and phosphorous."

Dr. Gary Wedemeyer, a physiologist specializing in water quality factors that affect fish health, reviewed the data contained in the Report and Appendices and stated, based on his experience, that the nutrient levels in themselves did not appear to be life threatening to salmonids. He cautioned, however, that the data were difficult to interpret because nitrite levels were lumped together with nitrate levels and reported as a single value. The interpretation problem arises from the fact that nitrite is extremely toxic to fish, while nitrate is essentially non-toxic.

Conclusion 5--"investigators were not able to find physical evidence of pollutants being actively discharged into the Black River."

No comment.

Conclusion 6--"Results...indicate discharge permits in this area warrant upgrading."

The evidence presented in the Report is inconclusive. It neither supports nor refutes this statement.

Summary of Comments--The Work Group members who independently and then jointly reviewed the study unanimously concur that the evidence presented in the Report is mixed and that it does not support any particular cause for the fish kill. We recommend, therefore, that the Summary (1.0) and Conclusions (6.0) sections be re-written to reflect this fact, and that the body of the text be edited to remove unsupported and unprofessional innuendo.

Recommendations for future fish kill studies--Fish kills are reported in the State of Washington on a regular basis. Some kills arise through natural causes (e.g. poor ambient conditions, epizootics, toxic phytoplankton blooms, supersaturation), others through the activities of man (e.g. chemical spills, toxic discharges, physical disruption of habitat). In investigating fish kills, it is important (1) that data collections be initiated in a timely fashion, (2) that appropriate data be collected, (3) that studies be approached in a scientific manner, and (4) that studies be conducted in a way that will utilize the strengths of appropriate State agencies and that will draw upon the expertise of qualified professionals whose training and credentials are relevant to the investigation.

Points 1 and 2--In 1972, the Department of Ecology published a manual entitled "Guidelines for Evaluating Fish Kill Damages". Detailed in that publication are the procedures to be used when investigating a kill as well as the types of data to be collected. A number of the Guidelines were not followed in the present study, and their omission contribute to deficiencies in the Report. We recommend that DOE review and update this publication, and implement the guidelines in all future investigations.

Point 3--Members of the Work Group were troubled by the tone of the Report and by the apparent desire of the author(s) to identify a culprit. In investigations of this type it is critical that agency personnel take a dispassionate, open-minded approach to the investigation.

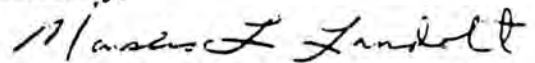
We realize that fish kills can be dramatic, disheartening events to the on-site investigator, and that they can create a storm of public outrage. However, if the investigator allows personal feelings to come into play or if he/she makes a priori assumptions regarding the cause of the kill, important points can be overlooked and critical data can be lost.

Because of the high visibility of fish kills and because of the potential damage that can result from incomplete investigation or incorrect interpretation of data, we also recommend that reports be subjected to peer review by non-agency personnel prior to publication.

Point 4--The various State agencies differ in the range of expertise that their staff may bring to the investigation of a fish kill. For example, DOE personnel are uniquely well qualified to conduct chemical analyses, but WDF and WDW personnel have the knowledge that is required to evaluate fish pathology, fish habitat requirements, hatchery operations, etc. While there was interagency co-operation in this study, increased effort should be made in the future to utilize the expertise of appropriate State agencies and to address differences of opinion that may arise regarding interpretation of data. When necessary, investigators also should make efforts to capture skills from other organizations (e.g. universities, federal laboratories).

We hope that this letter has provided the assistance you requested. If the Work Group can be of further service to your Committee or if you require additional information, please feel free to contact me.

Sincerely,



Marsha L. Landolt, Chairman
Interagency Work Group on
Fish Health Issues

WORK GROUP MEMBERS PARTICIPATING IN REVIEW

DR. RALPH ELSTON

Senior Research Scientist
Battelle Marine Research Laboratory
Sequim, WA

DR. LEE HARRELL

Veterinary Medical Officer
Manchester Fisheries Research Laboratory
National Marine Fisheries Service
Manchester, WA

MR. JOHN KERWIN

Program Manager
Washington Department of Wildlife
Olympia, WA

DR. MARSHA L. LANDOLT

Professor, Fish and Shellfish Pathology
School of Fisheries
University of Washington
Seattle, WA

DR. MICHAEL SCHIEWE

Research Microbiologist
Northwest Fisheries Center
National Marine Fisheries Service
Seattle, WA

DR. GARY WEDEMEYER

Chief, Fish Health Environmental Requirements Research Section
National Fisheries Research Center
US Fish and Wildlife Service
Seattle, WA

DR. JAMES R. WINTON

Project Leader, Fish Disease Research Group
National Fisheries Research Center
US Fish and Wildlife Service
Seattle, WA

PRO AQUATIC FARMING	CON AQUATIC FARMING	INQUIRY RECOMMENDATION
<u>Lack of clear policy on aquatic farming</u> Hindrance to the development of the industry due to the traditional working relationship with the commercial fishery.	<u>Lack of clear policy on aquatic farming</u> Government doesn't support the commercial fishery as hatchery eggs are used to support aquatic farming.	<u>Develop an aquatic farming policy</u> The policy should clarify provincial direction, agency roles, and responsibilities of both government and the private sector. <u>Establish an aquatic farming advisory council</u> The government should establish an advisory council from key agencies and interest groups. <u>Encourage private sector funding</u> Although the government supported marketing, research, egg supply, disease and diagnostic services during initial stages of development, the private sector should fund the industry. <u>Government Coordination</u> Federal, provincial, and local governments should cooperate to regulate the industry. <u>Maintain commitment to enhancement program</u> The provincial government should continue to provide Salmoid Enhancement Program (seems similar to FRED) funding
<u>Moratorium</u> Urged the moratorium be lifted immediately to avoid financial losses.	<u>Moratorium</u> Settle land claim issues, conduct environmental impact studies, and review concerns expressed prior to lifting the moratorium.	<u>Lift the current moratorium</u> Information available fails to adequately substantiate maintaining the October 31, 1986, moratorium. The moratorium should be lifted in conjunction with the initiation of the studies and policy changes recommended.

PRO AQUATIC FARMING	CON AQUATIC FARMING	INQUIRY RECOMMENDATION
<u>Lack of public knowledge</u> Fish farming economic benefits and potential were generally unknown. The public is unaware of the government safeguards for the industry. <u>Native Involvement</u> Support for aquatic farming for its potential for generating direct and indirect employment for natives in the small coastal communities of B.C. <u>Pricing Impact of Farm Salmon</u> Farm salmon will compete only minimally with wild salmon. The recent price declines are well within the range of normal price fluctuations <u>Impact on Market Demand and Supply</u> The increased availability of salmon is leading to increased consumption	<u>Lack of public knowledge</u> Many government studies regarding marketing and environment impact are not readily available to commercial fishermen. <u>Native Involvement</u> Concern about loss of native employment in the commercial fishery and concern on the environmental effects of fish farming in their traditional harvest areas were expressed by the native leaders. <u>Pricing Impact of Farm Salmon</u> Concerns were expressed that the influx of farm salmon will cause both farm and wild salmon industries to suffer drastic price declines <u>Impact on Market Demand and Supply</u> The anticipated growth in farm salmon production will lead to market saturation. Production controls should be in place (as in Norway). Farmed salmon should be labeled as such. <u>Effect on Processing Facilities</u> If new processing plants are built to process farm salmon, it may aggravate the current over-capitalization of existing plants.	<u>Communication link should be established</u> The provincial government should encourage a formal communication link between the commercial wild fishery and the fish farming industry. <u>Native Involvement</u> The federal government should be encouraged to develop programs to assist natives to become involved in aquatic farming. Fish farming industry leaders should establish a policy to promote native participation. <u>Rely upon market forces to dictate prices</u> B.C. farm salmon should concentrate on specialty markets in the U.S.A. in which the major B.C. wild catch product does not compete. <u>Support a strategy for the integrated marketing of farm and wild salmon products</u> New markets, new ways of packaging, and new salmon products should be explored. Government should support this strategy through financial assistance, trade missions and technology transfer. <u>Promote use of existing processing plants</u> Farm operators should be encouraged to contract between existing processing companies. Government promotion should include review of regulations governing the on-farm processing of salmon, transport of live salmon to plants, and inspection/grading of processed product.

PRO AQUATIC FARMING	CON AQUATIC FARMING	INQUIRY RECOMMENDATIONS
<u>Impact on Employment</u> Fish farmers projected large growth in feed plants, plastics and equipment manufacturing construction. <u>Disease Transference</u> Some studies indicate the risk of transmission of disease from farm to wild stock is minimal.	<u>Impact on Employment</u> Currently the commercial fish industry generates many, many jobs. As salmon farming will never generate this level of employment, farming should not be permitted to put the employment health of the salmon fishery in jeopardy. <u>Disease Transference</u> Transfer of fish diseases between farms and between farm fish and wild stock was a real concern of many. An immediate ban on egg importation was called for. Farm fish are more susceptible to disease and the diseases will be transmitted to the wild stock. <u>Genetic Alterations</u> Concerns were expressed about the possible escapement of farm stock which might interbreed with wild salmon and produce undesirable genetic alterations. <u>Predator Control</u> There is insufficient enforcement capability by fish and wildlife officials to stop fish farmers from destroying eagles herons, seals, otters, and other animals.	<u>Disease Transference</u> To minimize transfer of diseases between fish farms, 3 kilometres should separate aquatic farms. The provincial government should end the importation of Atlantic salmon eggs.

PRO AQUATIC FARMING	CON AQUATIC FARMING	INQUIRY RECOMMENDATIONS
<u>Impact on Water Quality</u> It is in the farmer's own self-interest to maintain a healthy growing environment for the fish.	<u>Impact on Water Quality</u> The following examples of potential damage to water quality were cited: build up of sediments on the sea bed, increased algae growth, mortality of bottom creatures and plants, and destruction or reduced growth of nearby shellfish beds.	<u>Support research on long-term effects of salmon farming</u> Studies should be performed on the effects of fish farms on shellfish and other bottom dwellers and upon water quality.
<u>Use of Toxicants and Pharmaceuticals</u> Antibiotics may not be a problem as the substances are water soluble and quickly dilute.	<u>Use of Toxicants and Pharmaceuticals</u> Studies were cited which implicated the toxicant tributyltin (TBT) as a human health risk, through its concentration in the flesh of farm salmon and shellfish. Lack of manpower reduced the frequency of periodic checks on toxicant levels in farm fish. The use of antibiotics was expressed as a concern.	<u>Establish a mandatory environmental monitoring system</u> Monitoring of on and near-site environmental conditions should be required for a permit. The measurement should be regularly submitted for government review. Government needs to establish standards which divide acceptable conditions from unacceptable conditions.
<u>Inadequate Consultation with Interest Groups</u> Short referral period was necessary to keep processing time delays to a minimum.	<u>Inadequate Consultation with Interest Groups</u> Dissatisfaction with the application referral process was expressed - either because the time available to provide comments was too short (30 days) or because their interests were not included in the process.	<u>Increased government research, health inspection, and testing activities</u> Funding for an adequate inspection and testing program should be approved. <u>Establish standards for finfish aquaculture equipment</u> The standards should eliminate the use of toxicants which effect human health.

PRO AQUATIC FARMING	CON AQUATIC FARMING	INQUIRY RECOMMENDATIONS
<u>Local Government Involvement</u> Salmon farmers expressed concern that local government involvement might delay the approval process.	<u>Local Government Involvement</u> Local government agencies were concerned that they were given insufficient time in the referral process to consult with an advisory planning group or landowners adjacent to the proposed aquaculture site.	<u>Local governments should redefine local zoning bylaws</u> Approval of aquaculture locations should remain a provincial decision. However, zoning will allow local governments to ensure aquaculture operation are compatible with adjacent uses. The degree to which local government referral comments influence provincial decisions on aquaculture should be clearly identified in government policy.
<u>Length and Complexity of Approval System</u> The high number of agencies involved in the approval system was a source of frustration to many farm operators.	<u>Length and Complexity of Approval System</u> Provincial regulations and approvals are not tight enough.	<u>Continue its use of the interagency referral system</u> The referral system is important in identifying land use concerns and should be continued. The provincial government should expand its list of referral groups, increase the time available for response (to 60 days), and establish subsequent notification practices for finfish referrals.
<u>Health and Safety of Farm Workers</u> Salmon farmers stated that concerns are known and the industry has been working on a set of standards.	<u>Health and Safety of Farm Workers</u> The lack of safe diving conditions and lack of safety regulations were listed as a concern.	<u>Government should adopt regulations for the occupational health and safety of farm workers</u> The regulations should include requirements for diver training and rescue, personal floatation devices, hand rail systems, emergency medical services, and proper handling of chemicals and pharmaceuticals.

PRO AQUATIC FARMING	CON AQUATIC FARMING	INQUIRY RECOMMENDATIONS
<u>Site Selection</u> Established farmers expressed concerns that temporary licenses were being used for financial gain through speculation and as means of tying up sites to prevent competition. <u>Control of Foreign Investment</u> Foreign money is needed to offset the reluctance of Canadian financial institutions to provide loans. <u>Loss of Anchorage and Access</u> Farm operators spoke of their concerns about boater noise, fuel slicks, and discharge of wastes.	<u>Site Selection</u> The need for coastal planning studies was stressed often by boaters, commercial fishermen, and government agencies. <u>Control of Foreign Investment</u> Individuals argued that foreign control of salmon farming was not in the best interest of B.C. because of the likelihood of export of jobs and profits. Strict controls to prevent foreign corporations from taking over B.C. farms were requested. <u>Inadequate Rental and Bonding Requirements</u> The low annual rental charged for fish farms was a concern expressed. It was felt by some that a bond should be posted to allow government to pay for site clean-up in the event of environmental problems. <u>Loss of Anchorage and Access</u> Concerns that the coastline would soon be devoid of open anchorages for emergency and recreational use was discussed.	<u>Identification study</u> The government should initiate studies that will identify sites of high value for other important coastal interest and which should be reserved from aquaculture activities. Specific siting within these remaining areas can then be determined on the basis of environmental factors. Fish farms should not be adjacent to provincial parks and recreation areas. <u>Establish minimum fish production levels</u> To determine whether land is used productively, the government should set standard levels of fish production. A new rental structure should be established as well as a bond should be required for environmental clean-up. <u>Offer safe anchorages</u> The aquaculture industry should be encouraged to institute a program to provide anchorage, access, and emergency assistance to other coastal users.

PRO AQUATIC FARMING	CON AQUATIC FARMING	INQUIRY RECOMMENDATIONS
<u>Upland Owner Impact</u> The farms benefit communities by adding a tax base. <u>Effects on Recreational and Tourism Industry</u> Aquaculture may increase tourisms due to the attraction of touring farms <u>Involvement of Fishermen in the Farm Industry</u> Farming will allow fishermen to offset their short income earning period with fish farm equipment.	<u>Upland Owner Impact</u> Declining property values were due to the imposition of a fish farm along their view frontage. <u>Effects on Recreational and Tourism Industry</u> A concern was expressed that the proliferation of fish farms would ultimately erode the tourism industry as related to recreational boating, sports fishing, and commercial fish guiding. <u>Involvement of Fishermen in the Farm Industry</u> A large capital outlay is required to start a fish farm. This makes it very difficult to get into the fish farming business	<u>Minimum Distance</u> The distance between fish farms should be determined regarding the potential of the spread of disease and the surrounding property.

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

SOUTHEAST REGIONAL OFFICE DIVISION OF LAND AND WATER MANAGEMENT

STEVE COWPER, GOVERNOR

400 WILLOUGHBY AVENUE
SUITE 400
JUNEAU, ALASKA 99801-1000
PHONE: (907) 465-3400

March 23, 1990

Re: Thorne Ferguson

Honorable Richard I. Eliason
c/o Pouch V
Juneau, Alaska 99811

Thorne
Ferguson

Dear Senator Eliason:

Research of our records indicates that T. Ferguson Construction, Inc. did purchase U.S. Mineral Survey 419B, known as the Maine, Monterey and San Francisco claims from Georgia-Pacific Corporation, (Warranty Deed, 1984). The property is located at Copper Harbor, Hetta Inlet, on the west side of Prince of Wales Island. In 1985 In 1985 Mr. Ferguson submitted applications intended to obtain approval of what appeared to be a multi-stage development. According to one of the cover letters, the initial stage of construction (development of a seasonal resort for hunting as well as fresh and salt water fishing) was intended to support the second stage (the development of a hatchery and fish farm); see ADL lease application 104488.

In September of 1987 the applicant indicated to DNR they had received a Army Corps of Engineers permit dated in June of 1986. Proposed construction under the Corps permit consisted of a lodge, barge ramp, and docks to be constructed in conjunction with the proposed private fish hatchery. The permit stated that the lodge and docks would supported by approximately 100 piles, and the barge ramp would consist of a timber crib bulkhead placed at M.L>L>W. and back-filled with approximately 1,800 cubic yards of shot rock fill (see Army Corps of Engineers Public Notice of Application for Permit Hetta Inlet 7, dated September 3, 1985).

However, contrary to the lease application and corps notices, a letter from the State Office of Management and Budget dated August 22, 1985 appears to indicate that the applicant dropped the hatchery portion of its proposal at that time. Mr. Menzies letter of June 2, 1986 appears to furnish the reason. The OMB consistency determination of May 9, 1986 purposely dropped consideration of the hatchery and hydroelectric plant.

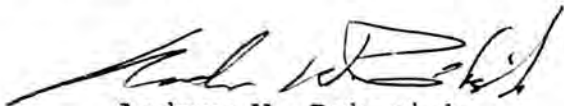
March 23, 1990

The 1986 Army Corps of Engineer Permit is the only document that appears to still imply a remaining interest in a hatchery. None of the State approvals, including Water Use Applications LAS 6089 and 6090 involve the hatchery proposal directly.

It appears clear from the file that the applicant was never assured of being able to develop a hatchery. That although it is something that he wanted to do, he decided to proceed with the lodge with no guarantees that he would be able to construct the hatchery. It is possible that the \$500,000 figure thrown around would include the \$370,000 initial purchase price.

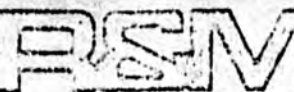
Please let me know if there is anything else I can do.

Sincerely,



Andrew W. Pekovich
Regional Manager, SERO

CC: Larry Ostrovsky
Gary Gustafson
Janet Burleson



R&M ENGINEERING, INC.

6200 CLAYTON HWY

PO BOX 1206

JUNEAU, ALASKA 99801

51

TEL 457-1111

June 2, 1985

State of Alaska
Department of Natural Resources
Division of Forest, Land and Water Management
Southeast Regional Office
400 Willoughby Avenue, Suite 400
Juneau, Alaska 99801

Attn: Mr. Christopher Landis
Water Resource Officer

Re: Hetta Inlet No. 7
R & M Project No. C715

Ladies and Gentlemen:

This will acknowledge receipt of your correspondence dated March 18, 1986. Please excuse this long delay in responding to your letter. We responded to the correspondence to the Office of the Governor and the Corps of Engineers, but failed to respond to you with regard to your questions. For this we apologize.

By reference to your correspondence and previous correspondence, we wish to answer all questions, but prefix same by this brief history of the project. In May 1985, R & M, on behalf of Ferguson Construction, made original application to the U.S. Army, Corps of Engineers; the Office of the Governor; and all other appropriate agencies to perform and construct; a fish hatchery, resort, hydroelectric facilities, and other related uses (fish pens, ponds, etc.) in Copper Harbor at the vicinity of the former community of Coppermount, Alaska. Previous to this submittal, R & M, on behalf of Ferguson, applied to Mr. John Palmer of DNR, DOLWM - Southeast, for a tidelands lease survey, instructions, etc., for the facilities. Appropriate plans, etc., were submitted to both applications. After much "back and forth," the public notice for the permit application for the Hetta Inlet 7 was issued in August 1985. During that same month, the Alaska Department of Fish and Game posed many questions to the writer/ Ferguson Construction with regard to the hatchery, water use, etc. The original questions by ADF&G were handled by the writer; however, in subsequent months, more questions, etc., regarding the hatcheries were asked. Mr. Ferguson, after diligent thought, decided to drop the fish pen portion of the project until he had a grasp on the total lodge/resort/ hatchery activity. He would go ahead with the lodge/resort, but hold back on the hatchery.

5. In Attachment "A", you state "The unnamed creeks previously applied for will supply the lodge and other facilities with the required water supply of 3,400 GPD." What exactly does other facilities refer to here.

"Other facilities" refer to the fresh water needed on the dock for fish cleaning, boat filling, and other matters. It also would reflect any waters for additional uplands building constructed for year-round "watchmen" and others.

6. Previous applications ask for a maximum domestic appropriation of 2,400 GPD from either anadromous Stream No. 103-25-0390 or No. 103-25-10400. Why in Attachment "A", Paragraph 3, are we now talking about 3,400 GPD supply from these two unnamed streams.

We asked for the maximum allowable appropriation of GPD from the two anadromous fish streams. If there is confusion between the applications, it is undoubtedly a typo for which we apologize. The maximum domestic appropriation of 2,400 GPD has been asked for and granted for both of the unnamed streams north and west of Reynolds Creek (see attached correspondence by ADF&G/Office of the Governor).

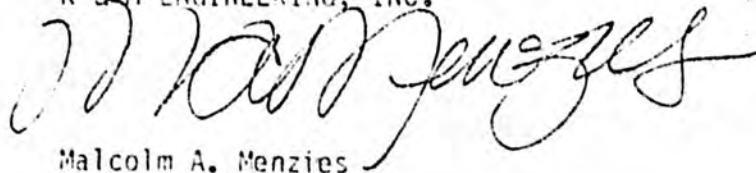
7. Pursuant to the application for stream No. 103-25-10400, does Ferguson Construction own the (location of point of take) Brooklyn Claim, USMS 419B? If yes, attach deed. If no, who does? (full name and current mailing address).

To the best of the writer's knowledge, Sealaska Corporation is the fee title owner of Brooklyn Lode, USMS 419B. Their address is Sealaska Corporation, One Sealaska Plaza, Juneau, Alaska 99801...

We hope this letter answers all questions spoken to in the March 18 correspondence and others, if they exist. If we may be of further assistance, please do not hesitate to contact us at your convenience.

Sincerely,

R & M ENGINEERING, INC.



Malcolm A. Menzies

fej

Attachments



US Army Corps
of Engineers

Alaska District
Regulatory Branch
Post Office Box 898
Anchorage, Alaska 99506-0898

Public Notice of Application for Permit

PUBLIC NOTICE DATE: August 1, 1985

EXPIRATION DATE: September 3, 1985

REFERENCE NUMBER: 071-OYD-2-850240

WATERWAY NUMBER: Hetta Inlet 7

Interested parties are hereby notified that an application has been received for a Department of the Army permit for certain work in waters of the United States, as described below and shown on the attached plan.

APPLICANT: Ferguson Construction, 1200 East 76th Avenue, Suite 1222, Anchorage, Alaska 99502.

LOCATION: Copper Harbor, section 4, T. 77 S., R. 85 E., C.R.M., Prince of Wales Island, Alaska.

WORK: A proposed lodge, barge ramp, and docks would be constructed in conjunction with the construction of an upland private fish hatchery. The lodge and docks would be supported by timber pilings; approximately 100 piles would be placed below the mean high water line. The barge ramp would consist of a timber crib bulkhead placed at mean lower low water and backfilled with approximately 1,800 cubic yards of shot rock fill.

PURPOSE: Resort and ~~fish hatchery~~ development.

ADDITIONAL INFORMATION: Contact applicant agent, Mr. Malcolm A. Menzies, R&M Engineering, Incorporated, Post Office Box 1786, Juneau, Alaska 99802 telephone (907) 780-6060.

WATER QUALITY CERTIFICATION: A permit for the described work will not be issued until a certification or waiver of certification as required under Section 401 of the Clean Water Act (Public Law 95-217), has been received from the Alaska Department of Environmental Conservation.

COASTAL ZONE MANAGEMENT ACT CERTIFICATION: Section 307(c)(3) of the Coastal Zone Management Act of 1972, as amended by 16 U.S.C. 1456(c)(3), requires the applicant to certify that the described activity affecting land or water uses in the Coastal Zone complies with the Alaska Coastal Management Program. A permit will not be issued until the Office of Management and Budget, Division of Governmental Coordination has concurred with the applicant's certification.

PUBLIC HEARING: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing.

CULTURAL RESOURCES: The latest published version of the National Register of Historic Places has been consulted for the presence or absence of registered properties, or properties listed as being eligible for inclusion therein, and this worksite is not registered property or property listed as being eligible for inclusion in the Register. The construction site may be located at the abandonment townsite of Coppermount.

ENDANGERED SPECIES: No threatened or endangered species are known to use the project area. Preliminarily, the described activity will not affect endangered species, or their critical habitat designated as endangered or threatened, under the Endangered Species Act of 1973 (87 Stat. 844). This application is being coordinated with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. Any comments they may have concerning endangered or threatened wildlife or plants or their critical habitat will be considered in our final assessment of the described work.

FEDERAL SPECIES OF CONCERN: None

FLOOD PLAIN MANAGEMENT: Evaluation of the described activity will include conformance with appropriate State or local flood plain standards; consideration of alternative sites and methods of accomplishment; and weighing of the positive, concentrated and dispersed, and short and long-term impacts on the flood plain.

SPECIAL AREA DESIGNATION: The project is located within the Tongass National Forest.

EVALUATION: The decision whether to issue a permit will be based on an evaluation of the probable impacts including cumulative impacts of the proposed activity and its intended use on the public interest. Evaluation of the probable impacts which the proposed activity may have on the public interest requires a careful weighing of all those factors which become relevant in each particular case. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. The decision whether to authorize a proposal, and if so the conditions under which it will be allowed to occur, are therefore determined by the outcome of the general balancing process. That decision should reflect the national concern for both protection and utilization of important resources. All factors which may be relevant to the proposal must be considered including the cumulative effects thereof. Among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. For activities involving 404 discharges, a permit will be denied if the discharge that would be authorized by such permit would not comply with the Environmental Protection Agency's 404(b)(1) guidelines. Subject to the preceding sentence and any other applicable guidelines or criteria (see Sections 320.2 and 320.3), a permit will be granted unless the District Engineer determines that it would be contrary to the public interest.

AUTHORITY: This permit will be issued or denied under the following authorities:

(X) Perform work in or affecting navigable waters of the United States - Section 10, Rivers and Harbors Act 1899 (33 U.S.C. 403).

(X) Discharge dredged or fill material into waters of the United States - Section 404, Clean Water Act (33 U.S.C. 1344). Therefore, our public interest review will consider the guidelines set forth under Section 404(b) of the Clean Water Act (40 CFR 230).

Comments on the described work, with the reference number, should reach this office no later than the expiration date of this Public Notice to become part of the record and be considered in the decision. If further information is desired concerning this notice, contact Mr. Don R. Rice at (907) 753-2712.

A plan, Notice of Application for Certification of Consistency with the Alaska Coastal Management Program, and Notice of Application for State Water Quality Certification are attached to this Public Notice.

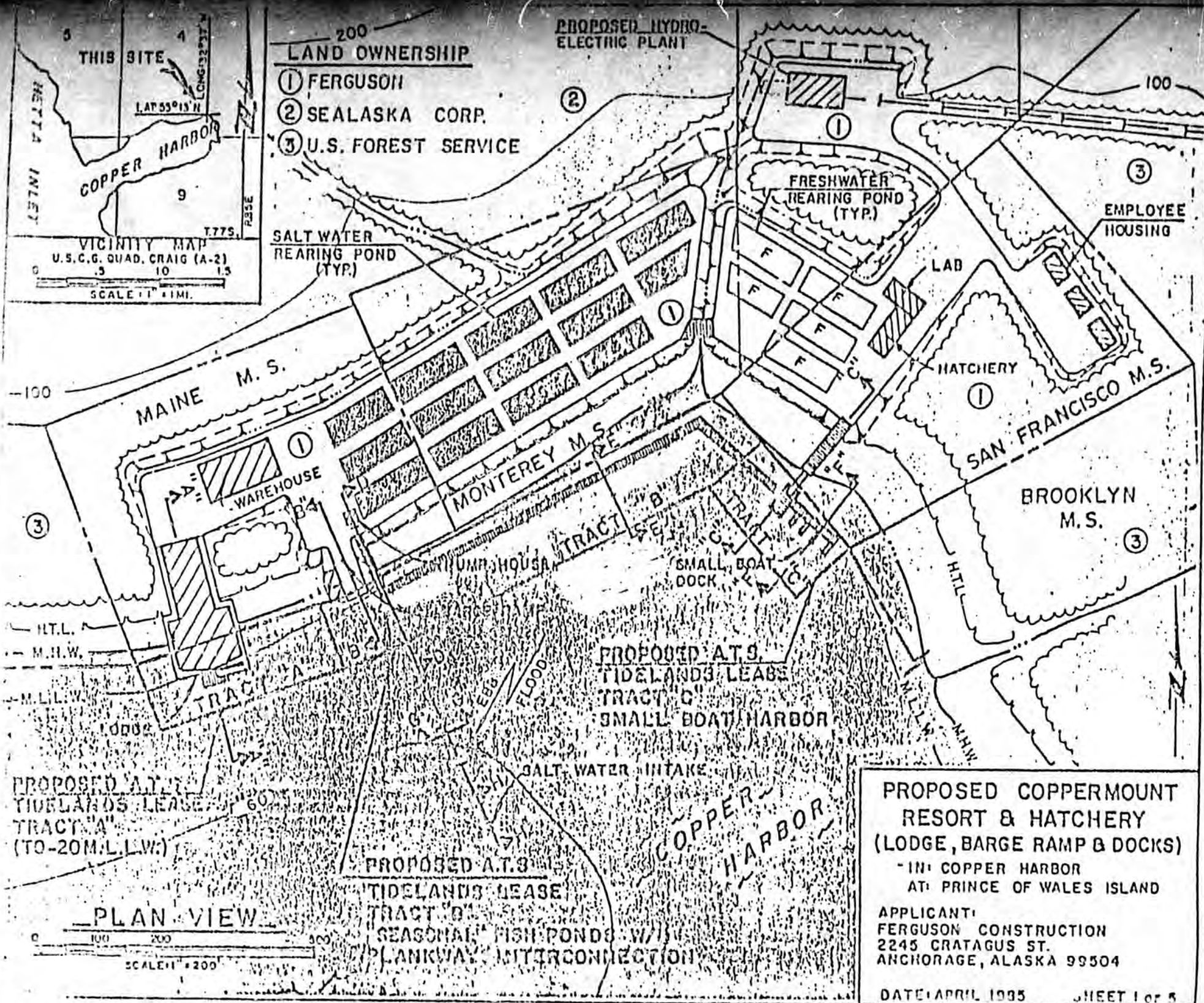
District Engineer
U.S. Army, Corps of Engineers

Attachments



200
LAND OWNERSHIP
① FERGUSON
② SEALASKA CORP.
③ U.S. FOREST SERVICE

PROPOSED HYDRO-ELECTRIC PLANT

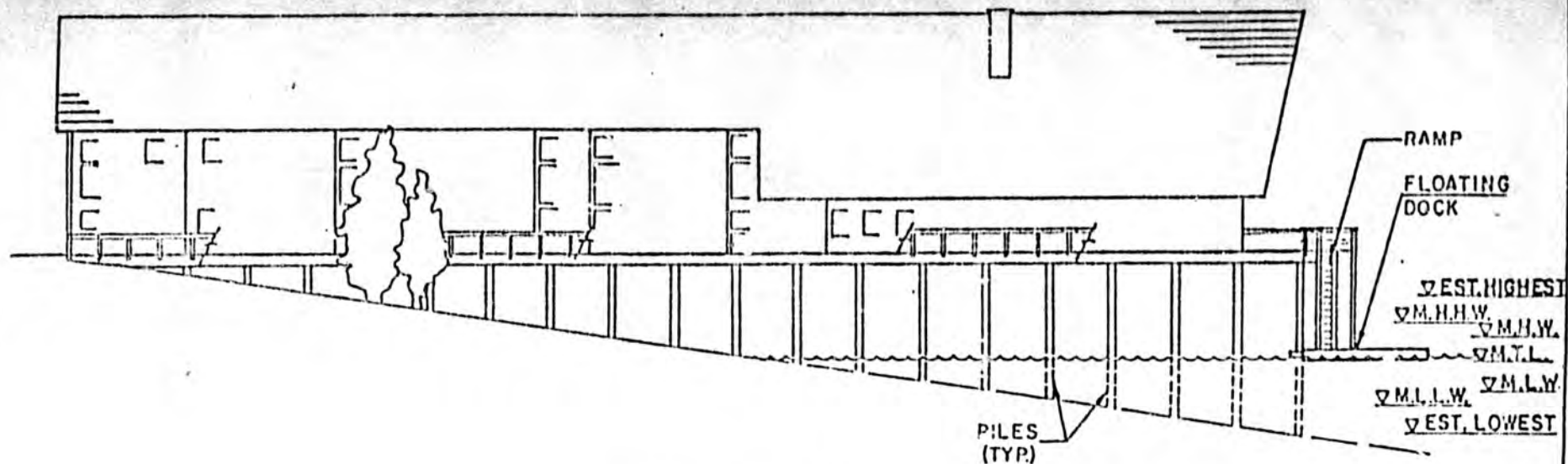


**PROPOSED COPPERMOUNT
RESORT & HATCHERY
(LODGE, BARGE RAMP & DOCKS)**

- IN COPPER HARBOR
AT PRINCE OF WALES ISLAND

APPLICANT:
FERGUSON CONSTRUCTION
2245 CRATAGUS ST.
ANCHORAGE, ALASKA 99504

DATE: APRIL 1995 SHEET 1 OF 5



-SECTION "A-A"-

NOTE: APPROXIMATELY 60. TIMBER PILES WILL BE PLACED BELOW THE MEAN HIGH WATER LINE, AND WILL BE USED AS THE FOUNDATION FOR A LODGE. ALSO, A RAMP AND DOCK WILL BE CONSTRUCTED AS SHOWN.

COPPER HARBOR TIDAL DATUM U.S.C. & G.S. - 1958 LAT. 55° 12.6'; LONG. 132° 37.5'	
ESTIMATED HIGHEST WATER	16.5'
MEAN HIGHER HIGH WATER	12.8
MEAN HIGH WATER	11.9
MEAN TIDE LEVEL	8.7
MEAN LOW WATER	1.5
MEAN LOWER LOW WATER	0.0
ESTIMATED LOWEST WATER	-4.0
SOURCE: U.S.C. & G.S. PUBLICATION S.E. ALASKA - GG	

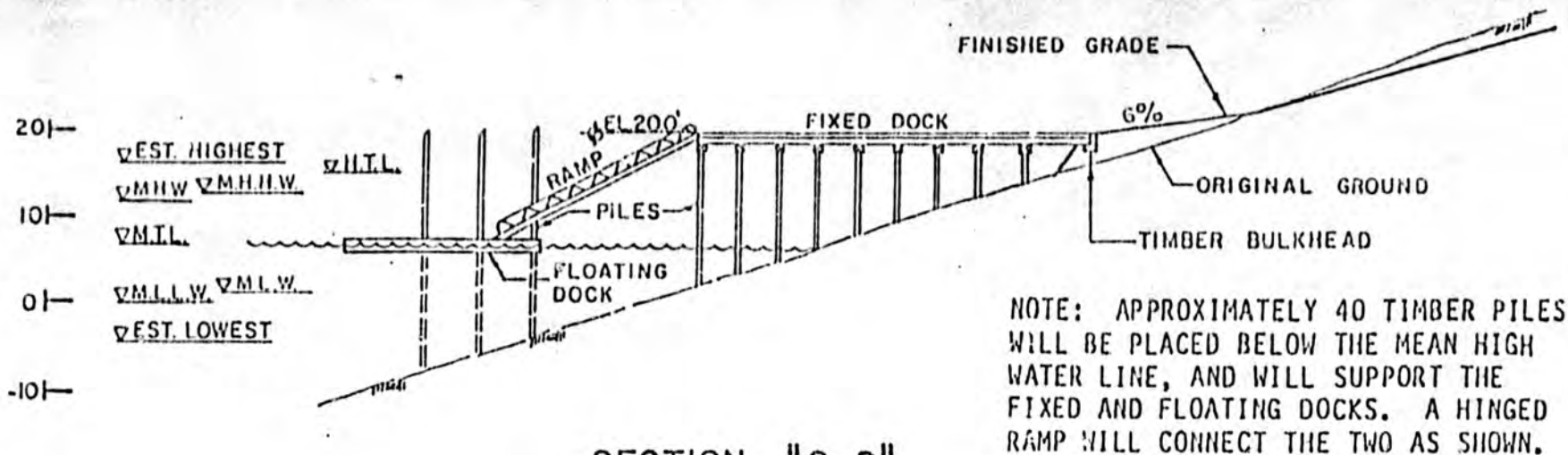
NOTE: THE HIGH TIDE LINE EL.=14.5', AS FURNISHED BY THE ARMY CORPS OF ENGINEERS

**PROPOSED COPPERMOUNT
RESORT & HATCHERY
(LODGE, BARGE RAMP & DOCKS)**

IN: COPPER HARBOR
AT: PRINCE OF WALES ISLAND

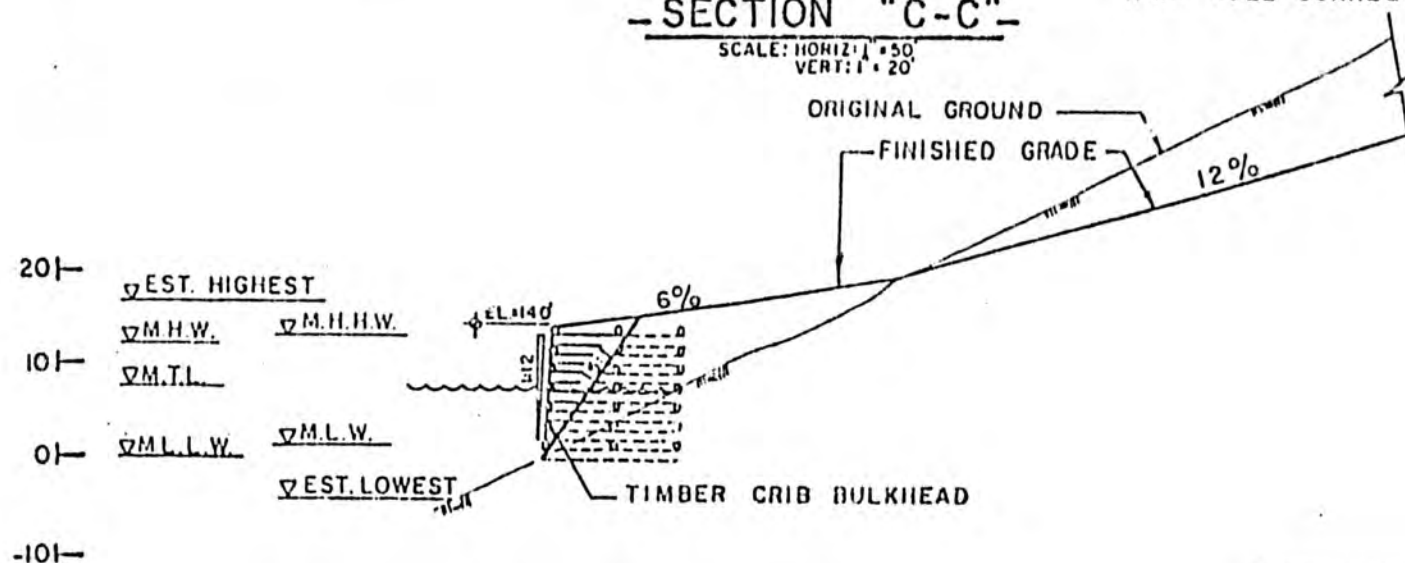
APPLICANT:
FERGUSON CONSTRUCTION
2245 CRATAGUS ST.
ANCHORAGE, ALASKA 99504

DATE: APRIL 1985 SHEET 2 of 5



SECTION "C-C"

SCALE: HORIZ. 1" = 50'
VERT. 1" = 20'



SECTION "B-B"

SCALE: HORIZ. 1" = 50'
VERT. 1" = 20'

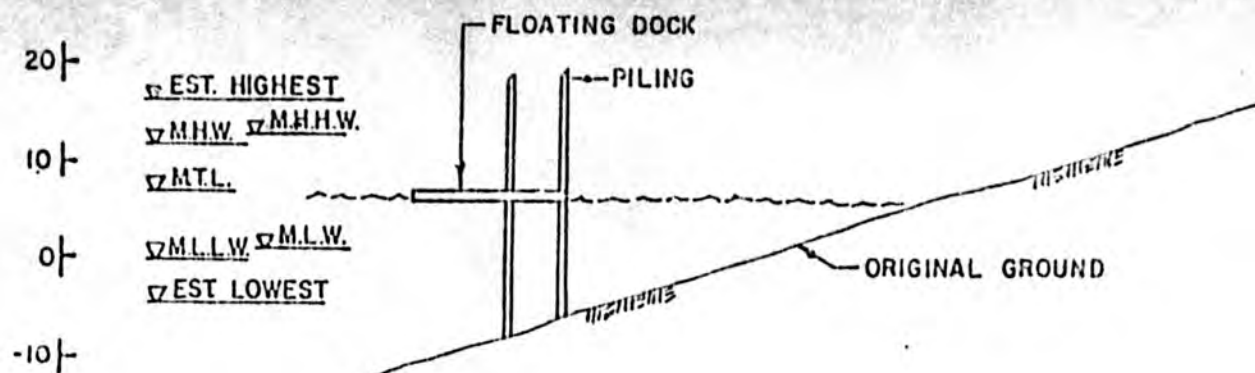
NOTE: TO CONSTRUCT THE BARGE RAMP, A TIMBER CRIB BULKHEAD WILL BE CONSTRUCTED AT MEAN LOWER LOW WATER AND BACKFILLED WITH APPROXIMATELY 1,800 CUBIC YARDS OF SHOT ROCK FILL MATERIAL.

PROPOSED COPPERMOUNT
RESORT & HATCHERY
(LODGE, BARGE RAMP & DOCKS)

IN: COPPER HARBOR
AT: PRINCE OF WALES ISLAND

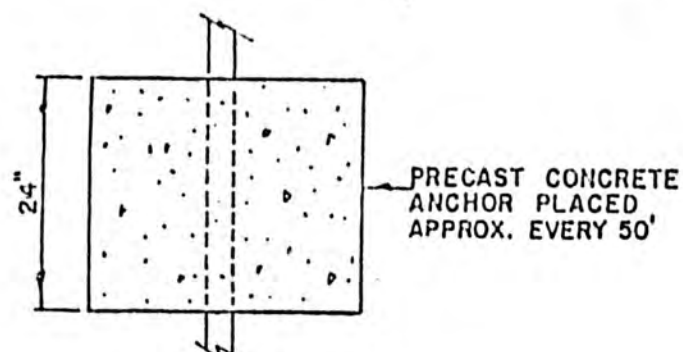
APPLICANT:
FERGUSON CONSTRUCTION
2245 CRATAGUS ST.
ANCHORAGE, ALASKA 99504

DATE: APRIL 1905 SHEET 3 of 5

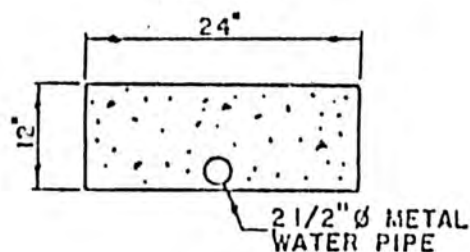


SECTION "F-F"

SCALE: HORIZ. 1" = 50'
VERT. 1" = 20'

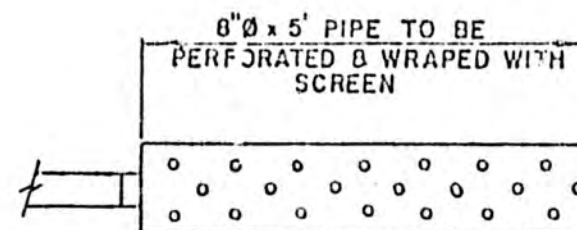


PLAN VIEW



SECTION "G-G"

N.T.S.



SECTION "H-H"

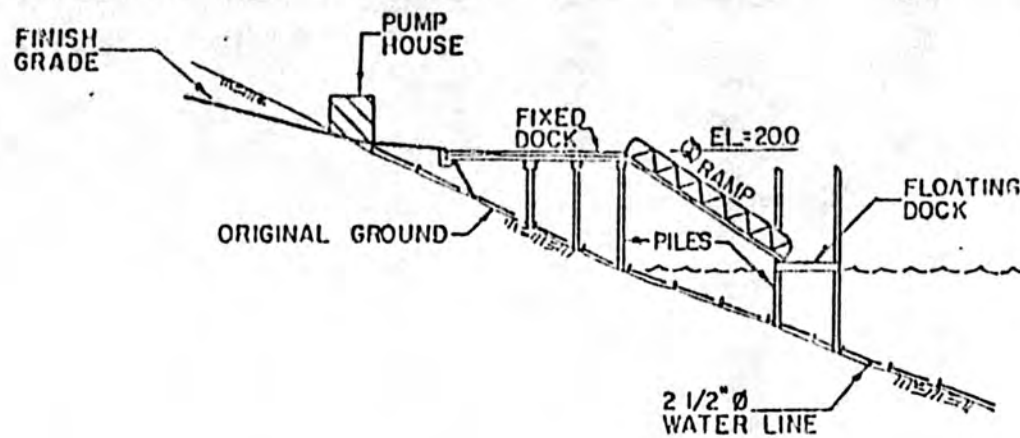
N.T.S.

PROPOSED COPPERMOUNT
RESORT & HATCHERY
(LODGE, BARGE RAMP & DOCKS)
IN: COPPER HARBOR
AT: PRINCE OF WALES ISLAND

APPLICANT:
FERGUSON CONSTRUCTION
2245 CRATAGUS ST.
ANCHORAGE, ALASKA 99504

DATE: APRIL 1985

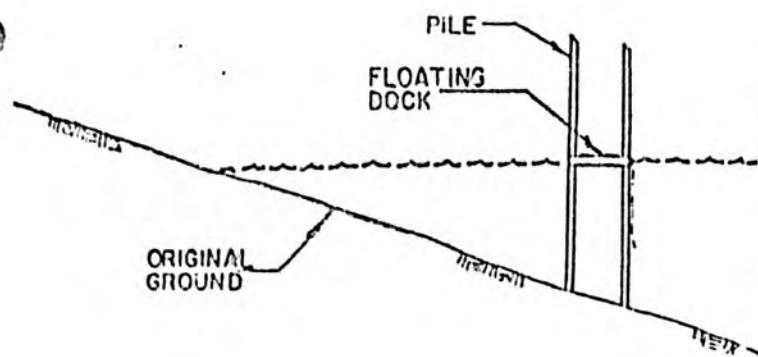
SHEET 5 of 5



SECTION "D-D"

SCALE: HORIZ: 1" = 30'
VERT: 1" = 20'

∇ HTL	∇ EST. HIGHEST	-120
	∇ MHHW	
	∇ MHW	-10
	∇ MTL	
	∇ MLW	
	∇ MLLW	-10
	∇ EST. LOWEST	-10



SECTION "E-E"

SCALE: HORIZ: 1" = 30'
VERT: 1" = 20'

∇ EST. HIGHEST	-120
∇ MHHW	
∇ MHW	-10
∇ MTL	
∇ MLW	
∇ MLLW	-10
∇ EST. LOWEST	-10

PROPOSED COPPERMOUNT RESORT & HATCHERY (LODGE, BARGE RAMP & DOCKS)

IN: COPPER HARBOR
- AT: PRINCE OF WALES ISLAND

APPLICANT:
FERGUSON CONSTRUCTION
2245 CRATAGUS ST.
ANCHORAGE, ALASKA 99504

DATE: APRIL 1983 SHEET 4 of 5

STATE OF ALASKA

OFFICE OF THE GOVERNOR

OFFICE OF MANAGEMENT AND BUDGET DIVISION OF GOVERNMENTAL COORDINATION

BILL SHEFFIELD, GOVERNOR

CENTRAL OFFICE

POUCH AW
JUNEAU, ALASKA 99811-0165
PHONE: (907) 465-3562

SOUTHEAST REGIONAL OFFICE

431 NORTH FRANKLIN
POUCH AW, SUITE 101
JUNEAU, ALASKA 99811-0165
PHONE: (907) 465-3562

SOUTHCENTRAL REGIONAL OFFICE

2600 DENALI STREET
SUITE 700
ANCHORAGE, ALASKA 99503-2793
PHONE: (907) 274-1581

NORTHERN REGIONAL OFFICE

675 SEVENTH AVENUE
STATION 11
FAIRBANKS, ALASKA 99701-4596
PHONE: (907) 456-3084

August 22, 1985

Mr. Thorne Ferguson
Ferguson Construction
1200 East 76th, Suite 1222
Anchorage, AK 99502

Dear Mr. Ferguson:

SUBJECT: Hetta Inlet 7
COE Number 071-OYD-2-850240

We have received copies of the coastal project questionnaire, the U.S. Army Corps of Engineers (COE) application and Department of Natural Resources (DNR) leave application you submitted for the referenced project. The COE permit application also serves as application for the Alaska Department of Environmental Conservation Certificate of Reasonable Assurance.

We have been informed by your agent that you have dropped the hatchery portion of your proposal at this time. DNR has recently informed me that a water right permit will be required for the resort. A handbook and application form are enclosed. Please contact DNR (Chris Landis, 465-3400) quickly to avoid as much delay as possible.

Also, have you contacted the Department of Fish and Game (DFG) (Jack Gustafson, 225-2027) to determine if a permit will be required from that department, and advise me of the DFG answer.

We will hold this material until we receive copies of all required permit applications and a notice from the COE regarding your application. Upon receipt of these items, the State will

- 2 -

begin review of your project, and we will then send you a letter informing you of that fact.

Louise Marshall

Lorraine Marshall
Project Coordinator

cc: Jack Gustafson, DFG, Ketchikan
Paula Burgess, DNR, Juneau
Jerry Fiscus, DNR, Juneau
Chris Landis, DNR, Juneau
Permit Processing Section, COE, Anchorage

ab350822011md

SOUTHERN DISTRICT
DEPARTMENT OF NATURAL RESOURCES
JUNEAU, ALASKA

Y. Kahan
Chris R. & Mary

TO: Mr. [Signature]	Department: DNR
Attention: Sala Hunt	
☐ Approval ☐ Signature ☐ Comment ☐ Contact Me ☐ Prepare Reply ☐ For Your File ☐ Note & Return ☐ Initial & Return ☐ Return as Requested ☐ Return for Approval ☐ Necessary Action ☐ For Your Information	
Remarks:	
FROM: [Signature]	Department: DNR

R&M
R&M ENGINEERING, INC.

6205 GLACIER HWY

P.O. BOX 1786

JUNEAU, ALASKA 99801

PH 907 750 6000

ENGINEERS
GEOLLOGISTS
SURVEYORS

June 2, 1986

State of Alaska
Department of Natural Resources
Division of Forest, Land and Water Management
Southeast Regional Office
400 Willoughby Avenue, Suite 400
Juneau, Alaska 99801

Attn: Mr. Christopher Landis
Water Resource Officer

Re: Hetta Inlet No. 7
R & M Project No. C715

Ladies and Gentlemen:

This will acknowledge receipt of your correspondence dated March 18, 1986. Please excuse this long delay in responding to your letter. We responded to the correspondence to the Office of the Governor and the Corps of Engineers, but failed to respond to you with regard to your questions. For this we apologize.

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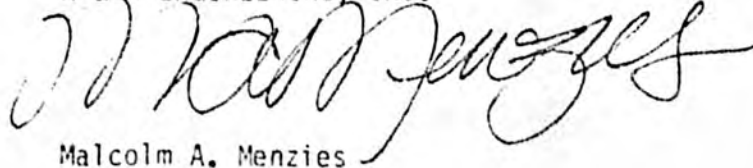
7. Pursuant to the application for stream No. 103-25-10400, does Ferguson Construction own the (location of point of take) Brooklyn Claim, USMS 419B? If yes, attach deed. If no, who does? (full name and current mailing address).

To the best of the writer's knowledge, Sealaska Corporation is the fee title owner of Brooklyn Lode, USMS 419B. Their address is Sealaska Corporation, One Sealaska Plaza, Juneau, Alaska 99801.

We hope this letter answers all questions spoken to in the March 18 correspondence and others, if they exist. If we may be of further assistance, please do not hesitate to contact us at your convenience.

Sincerely,

R & M ENGINEERING, INC.



Malcolm A. Menzies

fej

Attachments

 Ferguson Construction
Miss Lorraine Marshall



US Army Corps
of Engineers

Alaska District
Regulatory Branch
Post Office Box 898
Anchorage, Alaska 99506-0898

Public Notice of Application for Permit

REGIONAL OFFICE

PUBLIC NOTICE DATE: August 1, 1985

EXPIRATION DATE: September 3, 1985

REFERENCE NUMBER: 071-OYD-2-850240

WATERWAY NUMBER: Hetta Inlet 7

Interested parties are hereby notified that an application has been received for a Department of the Army permit for certain work in waters of the United States, as described below and shown on the attached plan.

APPLICANT: Ferguson Construction, 1200 East 76th Avenue, Suite 1222, Anchorage, Alaska 99502.

LOCATION: Copper Harbor, section 4, T. 77 S., R. 85 E., C.R.M., Prince of Wales Island, Alaska.

WORK: A proposed lodge, barge ramp, and docks would be constructed in conjunction with the construction of an upland private fish hatchery. The lodge and docks would be supported by timber pilings; approximately 100 piles would be placed below the mean high water line. The barge ramp would consist of a timber crib bulkhead placed at mean lower low water and backfilled with approximately 1,800 cubic yards of shot rock fill.

PURPOSE: Resort and ~~fish hatchery~~ development.

ADDITIONAL INFORMATION: Contact applicant agent, Mr. Malcolm A. Menzies, R&M Engineering, Incorporated, Post Office Box 1786, Juneau, Alaska 99802 telephone (907) 780-6060.

WATER QUALITY CERTIFICATION: A permit for the described work will not be issued until a certification or waiver of certification as required under Section 401 of the Clean Water Act (Public Law 95-217), has been received from the Alaska Department of Environmental Conservation.

COASTAL ZONE MANAGEMENT ACT CERTIFICATION: Section 307(c)(3) of the Coastal Zone Management Act of 1972, as amended by 16 U.S.C. 1456(c)(3), requires the applicant to certify that the described activity affecting land or water uses in the Coastal Zone complies with the Alaska Coastal Management Program. A permit will not be issued until the Office of Management and Budget, Division of Governmental Coordination has concurred with the applicant's certification.