

HB

615

"An Act providing for the issuance of general obligation bonds in the amount of \$44,455,100 for the purpose of paying the cost of capital improvements to fish and game management and development facilities; and providing for an effective date."

# COMMITTEE REPORT

2/23/76

HOUSE

FINANCE

Mr. Speaker:

Date 4-8-76

The Committee on RESOURCES has had SSHB 615

under consideration. A Majority of the members of the Committee

( ) recommends it DO PASS

( ) recommends it DO NOT PASS

( ) recommends it DO PASS WITH ATTACHED AMENDMENT(S)

(X) recommends it BE REPLACED WITH CS FOR SSHB 615 AND THAT

CS FOR SSHB 615 DO PASS

( ) "and" recommends it BE REFERRED TO THE \_\_\_\_\_

COMMITTEE

( ) reports it back WITHOUT RECOMMENDATION

( ) "other"

Members signing the Majority report:

<u>[Signature]</u>	_____	_____
<u>[Signature]</u>	_____	_____
<u>[Signature]</u>	_____	_____
<u>[Signature]</u>	_____	_____

Members NOT concurring in the Majority report:

<u>[Signature]</u>	recommends: <u>Do not pass or pass with</u>
<u>THOMAS HERCHBENDER</u>	recommends: <u>DO NOT PASS</u>
<u>[Signature]</u>	recommends: <u>N.R.</u>
_____	recommends: _____
_____	recommends: _____

[Signature] Chairman

HB 615 : PALMER

70 million salmon missing from the annual harvest yearly.  
210 million dollars. average turnover of new dollar is 2-4 X  
can it be done - 2.1 billion fry  
J. 850 mill 800 mill. B.C. - one wash 450 million  
AK 6 million -

1975 - J harvested more chum than the rest of the world  
Mostly hatchery - 30 million chum 1976

B.C. 300 million program. WASH. 200 million

More opportunity AK -

Fishery Council - Kramer chin + Mayo. 12 months study.  
NMF.S.

SB 688 - 689 changes in Non-Profit hatchery regs - 200 million  
for non-profit.

2 Schools of Thought - <sup>Marquies</sup> Legimate - Extraneous - Just properly  
manage the fish.

Hatchery management not too good in the past. Better - Food moist pellet.  
Gravel incubator. - Stream bed - High quality - Hatchery high quality.  
" " combined this.

Comparison w/ Primitive Agri vs Modern Agri.

Criticism of Program - 40 million + 130 million total overall  
cost for program over the years. Cost irrelevant - must take  
benefit Ratio (3-1) 400 million worth of benefit

Cowper - #6 S.E. 14 million dollars - What will dept do to spend  
that money. At the time the bill was drafted No specific sites.  
Final Selection of proposed

Hidden Falls - <sup>Hans</sup> Cannon Creek - KARLUK Creek, Russell Creek.  
Late Aug - Bid April 1, '77 Construction during summer 77

Naugton. Cost Benefit Ratio Does it include operation?  
Yes - Based on Hokkodo experience. 470 Return. C/B  
based on 1 1/2 - 2 1/4 Return.

PALMER : This is only a beginning total cost will probably exceed  
550 million dollars.

Gardiner : NOT REALLY EXPERIMENTAL LIKE OUR PLAN !!

page 2 HB 615 hearing House Finance.

Palmer Council charged with "getting the work done" - Will they oversee all that FRED does?

16 Hatcheries HoKodoko 14 million eggs - 100 million eggs  
& Norton Hunchu.

A.Y.K. Did not originally have any plans worked out for A.Y.K.  
Cost-Benefit ratio Not very good - A.Y.K. overall # of  
fish is almost as good as in the past. Decline in Kings  
but advance increase in chums - No proven tests.

Palmer Possibly seeding eyed eggs. Experiments at ECK  
tributaries.

Palmer Brought up the use of subsistence fish roe  
is being looked at.

Roy Wants to put a man in the Fairbanks -  
Do not know exactly what they are going to do  
up there.

Appearance of the sport -  
fishermen  
includes  
whitfish

Item by Item review of Sponsor substitute for HB 615

(1) Hidden Skelak - 20 mil sockeye + coho.  
25M 10M 3.89 KENAI 25M 10C 3.89

(3) 3.5 site in Prince William Sound.

(4) Thon River Several sites.

Russian River Fish Passage.

If redds are delayed over 10 ten days before spawning  
they will not spawn. This facility would help the  
fish get from one lake to another.

X State development projects statewide. 1.39 million  
projects would involve sewer equip in silted streams

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HB 615

Gardner: The Department is now planning for the 1<sup>st</sup> time.  
29 million dollars. priority level of the Council  
and The Dept.

C.I.

Prince William Sound. - Whittier

Karluk

Russell Creek - "Trout Creek"

2 major facilities S.E.

Much of the information was not available at the time  
of the Resources Committee deliberated on the bill.

Roy: Interior: Shelish, Birch lake facility - Kobuck, Area, Greyling.  
Salcha - Good pasture.

Naughton: Info & observations on sale of Subsistence eggs.

Japan may be able to furnish their own egg market.

Roy: Opinions stated by departmental Personnel. Lets move!!!

Specking: Gardner Summed up the position that should be taken.  
P.W.S. Should be one or more major facilities in the area.

Phil. Cannery creek site - Need for sport fishing facilities in Whittier.

Daniels: Speaking for the fishermen & how they feel re the fish.  
Technology exists to re-coup the salmon and the State  
should be involved. Gardner's proposal seems equitably  
balanced. Favorably disposed to his proposal.

Naughton: Disease Control in Hatcheries<sup>??</sup> Roy: Will not develop into a  
major problem. Companies are fighting to come up w/ vaccines - Alaska  
strains are being tested. There will be some problems, but should not  
hinder the success of the program.

Palmer: No I.H.N. in the Kenai or Ske lake system.

Concluding.

ESTIMATE SUMMARY  
1976 FISH AND GAME FUND  
ENHANCEMENT PROJECTS

<u>Project Name</u>	<u>Fry Production</u>	<u>Capital Cost</u>
Tutka, Halibut Cove, Big Lake & Crooked Creek	4 million coho	\$ 530,000
Hidden Skilak	20 million sockeye, 6 million coho	2,350,000
Cook Inlet (Kenai)	25 million pink/chum, 10 million coho	3,890,000
Cook Inlet (Susitna)	25 million pink/chum, 10 million coho	3,890,000
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Cook Inlet Total	100 million	\$10,660,000
Cannery Creek	25 million (including 1 million coho)	\$ 2,670,000
Whittier	100,000 coho post-smolts	300,000
Prince William Sound	30 million (including 1 million coho)	3,530,000
<hr/>		
Prince William Sound Total	55 million	\$ 6,500,000
Karluk	20 million sockeye	\$ 3,150,000
Russell Creek	50 million pink/chum	4,850,000
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AP/Kodiak Total	70 million	\$ 8,000,000
Hidden Falls	50 million (including 3 million coho)	\$ 3,650,000
Tenakee	1 million coho post-smolts	1,300,000
Klawak Lake	50 million (including 3 million coho)	3,820,000
Thorne River	50 million (including 3 million coho)	5,250,000
<hr/>		
	150 million	\$14,000,000
Statewide	3/5 million	\$39,160,000

COHO ENHANCEMENT  
TUTKA/HALIBUT COVE/BIG LAKE/CROOKED CREEK\*  
Rearing Tank & Feed Storage Installation  
4 Million Coho

Mobilization & Site Preparation			
Incubation Space _____ Sq.Ft. @ _____			
Incubators			
Support Space _____ Sq.Ft. @ _____			
Feed Storage Units <u>4</u> @ <u>10,000</u>			40,000
Water Supply, Distribution & Waste <u>4</u> @ <u>40,000</u>			160,000
Power Generation			
Rearing Tanks <u>16,000</u> Cu.Ft. @ <u>\$5</u>			80,000
Rearing Pens <u>40,000</u> Cu.Ft. @ <u>\$3</u>			120,000
Adult Holding/Egg Take Facility			
Employee Living Space _____ Sq.Ft. @ _____			
1975 Total			400,000
Contract Total <u>1977 Purchase</u>			480,000
Engineering & Contingencies @ _____			None
Design & Administration @ <u>5%</u>			24,000
Revolving Fund <u>5%</u>			26,000
Total Project Cost			<u>\$530,000</u>

\*Project Description: Rearing tanks and freezers shall be provided to accommodate 4 million coho fingerling (300/pound) at the existing facilities mentioned. 200,000 shall be reared to post-smolt (10/pound) at Halibut Cove Lagoon. The remainder shall be stocked in lakes or streams.

SOCKEYE/COHO ENHANCEMENT  
HIDDEN/SKILAK PROJECT\*  
(Urban Const.)  
20 Million Sockeye, 6 Million Coho

Mobilization & Site Preparation.	<u>100,000 + 100,000</u>	<u>200,000</u>
Incubation Space	<u>10,000 Sq.Ft. @ \$50</u>	<u>500,000</u>
Incubators		<u>80,000</u>
Support Space	<u>3,000 Sq.Ft. @ \$65</u>	<u>200,000</u>
Furnishing		<u>20,000</u>
Water Supply, Distribution & Waste		<u>150,000</u>
Power Generation		<u>50,000</u>
Rearing Tanks	<u>20,000 Cu.Ft. @ \$5</u>	<u>100,000</u>
Adult Holding/Egg Take Facility		<u>60,000</u>
Employee Living Space	<u>3,200 Sq.Ft. @ \$45</u>	<u>150,000</u>
1975 Total		<u>1,510,000</u>
Contract Total	<u>1977 Const. Cost.</u>	<u>2,000,000</u>
Engineering & Contingencies @	<u>12%</u>	<u>240,000</u>
Design & Administration @	<u>General Fund Obligation</u>	
Revolving Fund	<u>5%</u>	<u>110,000</u>
Total Project Cost		<u>\$2,350,000</u>

\*Project Description Facilities are provided for incubation of 25 million sockeye eggs and 7.5 million coho (or king) eggs to produce 20 million sockeye and 6 million coho fry. Sockeye shall be short term reared (approx. 1 month). Coho shall be reared in (outside) tanks to fingerling (300/pound) for lake or stream stocking. Housing for 3 employees is provided on site. This estimate is applicable for 1977 construction at any reasonable site adjacent to highway system in Cook Inlet area.

COHO/PINK/CHUM ENHANCEMENT  
COOK INLET PROJECT\*  
(Urban Const.)  
25,000,000 Pink/Chum plus 10,000,000 Coho

Mobilization & Site Preparation	<u>200,000 + 100,000</u>	<u>300,000</u>
Incubation Space	<u>10,000 Sq.Ft. @ \$50</u>	<u>500,000</u>
Incubators		<u>100,000</u>
Support Space	<u>4,000 Sq.Ft. @ \$65</u>	<u>260,000</u>
Furnishing		<u>20,000</u>
Water Supply, Distribution & Waste		<u>150,000</u>
Power Generation		<u>50,000</u>
Rearing Ponds	<u>80,000 Cu.Ft. @ \$5</u>	<u>400,000</u>
Adult Holding/Egg Take Facility		<u>100,000</u>
Employee Living Space	<u>3,200 Sq.Ft. @ \$45</u>	<u>150,000</u>
1975 Total		<u>2,030,000</u>
Contract Total	<u>1978 Const. Cost</u>	<u>3,090,000</u>
Engineering & Contingencies	@ <u>12%</u>	<u>370,000</u>
Design & Administration	@ <u>8%</u>	<u>250,000</u>
Revolving Fund	<u>5%</u>	<u>180,000</u>
Total Project Cost		<u>\$3,890,000</u>

\*Project Description: Facilities are provided for incubation of 31.5 million pink or chum eggs and 12.5 million coho (or king) eggs to produce 25 million pink or chum fry and 10 million coho fry. Pink or chum shall be short term reared (approx. 1 month). Coho shall be reared in (outside) ponds to fingerling (300/pound) for lake or stream stocking. This estimate is applicable for 1978 construction at any reasonable site adjacent to highway system in Cook Inlet area. Housing for three employees is provided on site.

PINK/CHUM ENHANCEMENT  
CANNERY CREEK PROJECT\*  
(Remote Const. PWS)  
30 Million Fry, Including 1 Million Coho

Mobilization & Site Preparation	<u>160,000 + 80,000</u>	<u>240,000</u>
Incubation Space	<u>6,000 Sq.Ft. @ 70</u>	<u>420,000</u>
Incubators		<u>100,000</u>
Support Space	<u>2,500 Sq.Ft. @ 90</u>	<u>220,000</u>
Furnishing		<u>20,000</u>
Water Supply, Distribution & Waste		<u>200,000</u>
Power Generation		<u>70,000</u>
Rearing Pens	<u>100,000 Cu.Ft. @ 3.0</u>	<u>300,000</u>
Adult Holding/Egg Take Facility		<u>70,000</u>
Employee Living Space	<u>2,200 Sq.Ft. @ 70</u> <u>2,000 @ 40</u>	<u>230,000</u>
1975 Total		<u>1,870,000</u>
Contract Total	<u>1977 Const. Cost</u>	<u>2,470,000</u>
Engineering & Contingencies	@ <u>12%</u>	<u>300,000</u>
Design & Administration	@ <u>8%</u>	<u>200,000</u>
Revolving Fund	<u>5%</u>	<u>150,000</u>
Total Project Cost		<u>\$3,120,000</u>
(5m fry) 1974 Bond Money		<u>450,000</u>
(25m fry) 1976 Bond Money		<u>\$2,670,000</u>

\*Project Description: Facilities are provided for incubation of 37.5 million eggs to produce 30 million fry. Pink or chum fry shall be short term reared (approx. 1 month). Space is provided to rear 1 million coho to fingerling (300/pound) for stocking nearby lakes or streams. A duplex and bunkhouse for 3 permanent employees and temporaries are provided on site. This estimate is applicable for 1977 construction at similar remote sites in Prince William Sound.

COHO REARING  
WHITTIER PROJECT\*  
(Estuary Const. PWS).  
100,000 Coho Post Smolts

Mobilization & Site Preparation		-
Incubation Space _____ Sq.Ft. @ _____		-
Incubators		-
Support Space <u>500</u> Sq.Ft. @ <u>80</u>		40,000
Floating Lab/Work Area		-
Furnishing		-
Water Supply, Distribution & Waste		-
Power Generation		-
Work Float - 10 x 110		40,000
Rearing Pens <u>16</u> Each		50,000
<u>Sq.Ft. @ \$3125</u>		-
Adult Holding/Egg Take Facility		-
Employee Living Space _____ Sq.Ft. @ _____		50,000
1 Houseboat @ 50,000		-
1975 Total		180,000
Contract Total <u>1977 Const. Cost</u>		238,000
Engineering & Contingencies @ <u>12%</u>		29,000
Design & Administration @ <u>8%</u>		19,000
Revolving Fund <u>5%</u>		14,000
 Total Project Cost		 <u>\$300,000</u>

\*Project Description: Facilities are provided for saltwater rearing (and/or holding) of 100,000 coho (or king) smolts from 60/pound to 10/pound. Housing for one employee is provided on site. This estimate is applicable for 1977 construction at other accessible estuaries in Prince William Sound.



SOCKEYE ENHANCEMENT  
KARLUK LAKE PROJECT\*  
(Remote-Kodiak)  
20 Million Fry

Mobilization & Site Preparation	250,000 + 100,000	350,000
Incubation Space	4,800 Sq.Ft. @ 85	410,000
Incubators		80,000
Support Space	2,400 Sq.Ft. @ 110	260,000
Furnishing		20,000
Water Supply, Distribution & Waste		150,000
Power Generation		100,000
Rearing Pens	- Cu.Ft. @ -	-
Adult Holding/Egg Take Facility		-
Employee Living Space	2,200 Sq.Ft. @ 90 1,800 @ 50	290,000
1975 Total		1,660,000
Contract Total	1978 Const. Cost	2,500,000
Engineering & Contingencies	@ 12%	300,000
Design & Administration	@ 8%	200,000
Revolving Fund	5%	150,000
<b>Total Project Cost</b>		<b>\$3,150,000</b>

\*Project Description: Facilities are provided to incubate 25 million sockeye eggs to produce 20 million fry. (Pens may be added later for short term rearing.) A duplex residence and bunkhouse for 3 permanent employees and temporaries are provided on site. This estimate is applicable for 1978 construction at a reasonable site on Karluk Lake (or similar lake on Kodiak Island).

PINK/CHUM ENHANCEMENT  
RUSSELL CREEK PROJECT\*  
(Urban Site Alaska Peninsula)  
60 Million Fry

Mobilization & Site Preparation	<u>300,000 + 100,000</u>	<u>400,000</u>
Incubation Space	<u>12,000 Sq.Ft. @ \$70</u>	<u>840,000</u>
Incubators		<u>200,000</u>
Support Space	<u>3,000 Sq.Ft. @ \$90</u>	<u>270,000</u>
Furnishing		<u>30,000</u>
Water Supply, Distribution & Waste		<u>250,000</u>
Power Generation		<u>150,000</u>
Rearing Ponds	<u>150,000 Cu.Ft. @ \$5.50</u>	<u>820,000</u>
Adult Holding/Egg Take Facility		<u>100,000</u>
Employee Living Space	<u>2,400 Sq.Ft. @ \$70</u> <u>2,600 @ \$40</u>	<u>270,000</u>
1975 Total		<u>3,330,000</u>
Contract Total	<u>1977 Const. Cost</u>	<u>4,400,000</u>
Engineering & Contingencies	@ <u>12%</u>	<u>530,000</u>
Design & Administration	@ <u>8%</u>	<u>350,000</u>
Revolving Fund	<u>5%</u>	<u>270,000</u>
Total Project Cost		<u>\$5,550,000</u>
(10m fry) 1974 Bond Money		<u>700,000</u>
(50m fry) 1976 Bond Money		<u>\$4,850,000</u>

\*Project Description: Facilities are provided for incubation of 75 million pink or chum eggs to produce 60 million fry. The fry will be reared (approx. 1 month) in ponds on shore. A duplex residence and bunkhouse for 3 permanent employees and temporaries are provided on site. This estimate is applicable for 1977 construction at a very accessible site on the Alaska Peninsula.



COHO REARING  
TENAKEE PROJECT\*  
(Estuary Const.-Southeastern)  
1 Million Coho (Post Smolts)

Mobilization & Site Preparation	10,000	10,000
Incubation Space	Sq.Ft. @	-
Incubators		-
Support Space	Floating Lab & Office 500 Sq.Ft. @ 80	40,000
Furnishing		5,000
Water Supply, Distribution & Waste Saltwater Pumps		30,000
Power Generation		-
Rearing Pens	150,000 Cu.Ft. @ 3.0	450,000
Adult Holding/Egg Take Facility		50,000
Employee Living Space	Sq.Ft. @ 2 Houseboats @ 50,000	100,000
1975 Total		665,000
Contract Total	1978 Const. Cost	1,040,000
Engineering & Contingencies	@ 12%	120,000
Design & Administration	@ 8%	80,000
Revolving Fund	5%	60,000
Total Project Cost		\$1,300,000

\*Project Description: Facilities are provided for saltwater rearing (or holding) of 1 million coho (or king) smolts from 60/pound to 10/pound. Housing for 2 employees is provided on site. This estimate is applicable for 1978 construction at other accessible (and protected) estuaries in Southeast Alaska.

PINK/CHUM ENHANCEMENT  
KLAWAK LAKE PROJECT\*  
(Rural Land Based-Southeastern)  
60 Million Fry, Including 3 Million Coho

Mobilization & Site Preparation	<u>220,000 + 110,000</u>	<u>330,000</u>
Incubation Space	<u>12,000 Sq.Ft. @ 60</u>	<u>720,000</u>
Incubators		<u>180,000</u>
Support Space	<u>3,000 Sq.Ft. @ 80</u>	<u>240,000</u>
Furnishing		<u>30,000</u>
Water Supply, Distribution & Waste		<u>180,000</u>
Power Generation		<u>120,000</u>
Rearing Pens	<u>160,000 Cu.Ft. @ 3.00</u>	<u>480,000</u>
Adult Holding/Egg Take Facility		<u>100,000</u>
Employee Living Space	<u>2,400 Sq.Ft. @ 60</u>	<u>140,000</u>
1975 Total		<u>2,520,000</u>
Contract Total	<u>1978 Const. Cost</u>	<u>3,830,000</u>
Engineering & Contingencies	@ <u>12%</u>	<u>460,000</u>
Design & Administration	@ <u>8%</u>	<u>300,000</u>
Revolving Fund	<u>5%</u>	<u>230,000</u>
Total Project Cost		<u>4,820,000</u>
(10m fry) 1974 Bond Money		<u>1,000,000</u>
(50m Fry) 1976 Bond Money		<u>3,820,000</u>

\*Project Description: Facilities are provided for incubation of 75 million eggs to produce 60 million fry. Pink or chum fry will be short term reared (approx. 1 month) in saltwater pens. 3 million coho will be reared to fingerling (300/pound) size in freshwater pens for lake stocking. One duplex residence is provided on site. This estimate is applicable for 1978 construction at other reasonable sites adjacent to the highway system in Southeastern Alaska.

PINK/CHUM ENHANCEMENT  
THORNE RIVER PROJECT\*  
(Remote Const.-Southeastern)  
50 Million Fry, Including 3 Million Coho

Mobilization & Site Preparation	<u>280,000 + 240,000</u>	<u>520,000</u>
Incubation Space	<u>10,000</u> Sq.Ft. @ <u>65</u>	<u>650,000</u>
Incubators		<u>150,000</u>
Support Space	<u>3,000</u> Sq.Ft. @ <u>85</u>	<u>250,000</u>
Furnishing		<u>20,000</u>
Water Supply, Distribution & Waste		<u>230,000</u>
Power Generation		<u>100,000</u>
Rearing Pens	<u>135,000</u> Cu.Ft. @ <u>3.00 + dock</u>	<u>460,000</u>
Adult Holding/Egg Take Facility		<u>100,000</u>
Employee Living Space	<u>2,400</u> Sq.Ft. @ <u>65</u> <u>2,600</u> @ <u>40</u>	<u>260,000</u>
1975 Total		<u>2,740,000</u>
Contract Total	<u>1978 Const. Cost</u>	<u>4,170,000</u>
Engineering & Contingencies	@ <u>12%</u>	<u>500,000</u>
Design & Administration	@ <u>8%</u>	<u>330,000</u>
Revolving Fund	<u>5%</u>	<u>250,000</u>
Total Project Cost		<u>\$5,250,000</u>

\*Project Description: Facilities are provided for incubation of 62.5 million eggs to produce 50 million fry. Pink or chum fry will be short term reared (approx. 1 month) in saltwater pens. 3 million coho will be reared to fingerling (300/pound) size in freshwater pens for lake stocking. A duplex residence and bunkhouse are provided on site for 3 permanent employees and temporary employees. This estimate is applicable for 1978 construction at other reasonably accessible remote sites in Southeastern Alaska.

Locations included in present site selection studies:

Southeastern

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- ✓ Maybeso Creek *good water source - 6-8 thousand head stock*
- ✓ Kassin Bay
- ✓ Klawock Creek
- ✓ Sweetwater
- ✓ Thorn River
- ✓ George Inlet (expansion)
- ✓ Traitor River
- ✓ Mahoney Creek
- ✓ Guilding Harbor
- ✓ Warm Spring Bay
- ✓ Crawfish Inlet
- ✓ Totem Bay
- ✓ Little Pybus Bay
- ✓ Eliza Creek
- ✓ Hoonah Sound
- ✓ Portage Creek
- ✓ Back Behm Canal
- ✓ Neets Bay
- ✓ Disappearance Creek
- ✓ Eagle River
- ✓ Naha River
- ✓ McHenry Inlet
- ✓ Bakewell
- ✓ Herring Cove
- ✓ Orchard Lake
- ✓ Snettisham (20) (26)

Cook Inlet

- ✓ Moose River
- ✓ Lower Swanson
- ✓ Funny River - Kenai
- ✓ Killey River - tributary to Kenai
- ✓ Anchor (Bishop Creek)
- ✓ Caribou Lake
- ✓ Paint River
- ✓ Deep Creek
- ✓ Chinapoot Creek
- ✓ Rocky River
- ✓ English Bay
- ✓ Seldovia River & Lakes
- ✓ Big Lake
- ✓ Tustumena
- ✓ Skilak Lake
- ✓ Hidden Lake *OUTLET - Russian River -*
- ✓ Little Susitna River
- ✓ Willow Creek
- ✓ Stephan Lake
- ✓ Montana Creek

Cook Inlet (cont.)

- ✓ South fork Eagle River
- ✓ Cottonwood
- ✓ Wasilla
- ✓ Kenai
- ✓ Susitna Basin Lakes *Comm. Fish - work will continue -*
- (25)
- Prince William Sound-Copper River
- ✓ Jackpot Creek
- ✓ Montague Lakes
- ✓ Fish Creek
- ✓ Millard Creek
- ✓ Avery River
- ✓ Coghill River
- ✓ Esther Creek
- ✓ Golden Creek
- ✓ Cascade Creek
- ✓ Billy's Hole
- ✓ Olsen Creek
- ✓ Eshamy Creek
- ✓ Constantine Creek
- ✓ Copper River Drainage *Not involved in present Bond issue*
- ✓ Paxson
- ✓ Cottonwood
- ✓ Delta Systems
- ✓ Crosswind

(18)

Kodiak

- ✓ Karluk
- ✓ Akalura
- ✓ Spiridon Lake & River
- ✓ Afognak
- ✓ Frazer

Alaska Peninsula

- ✓ Cold Bay *Monitoring fuel all winter*
- ✓ Russell Creek
- ✓ West fork Russell Creek
- ✓ Trout Creek
- ✓ Ivan River
- ✓ Portage Bay Creek
- ✓ Hook Bay Creek
- ✓ Cape Kumlium Creek
- ✓ North fork Yon Tarni Ocean Beach
- ✓ Nakalilok River

Alaska Peninsula (cont.)

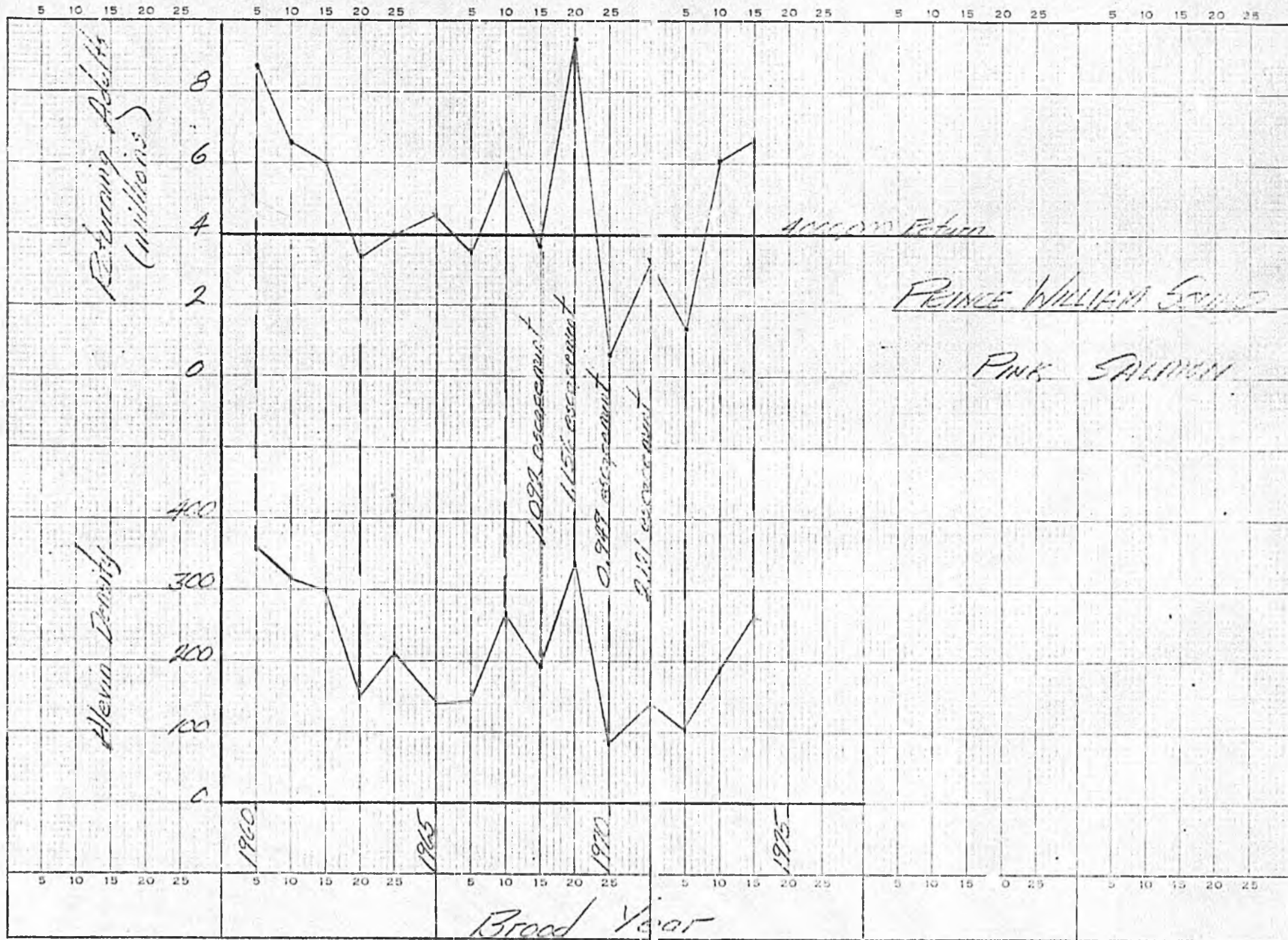
Chiginagak Bay  
Kilokak Rocks Creek

(12)

Bristol Bay

Igushik  
Ugashik  
Becharof  
Kakhonak Falls  
Wood River - char, fertilization  
Lake Nunavaugaluk

(6)



PRINCE WILLIAM SOUND  
PINK SALMON  
(15 boat years)

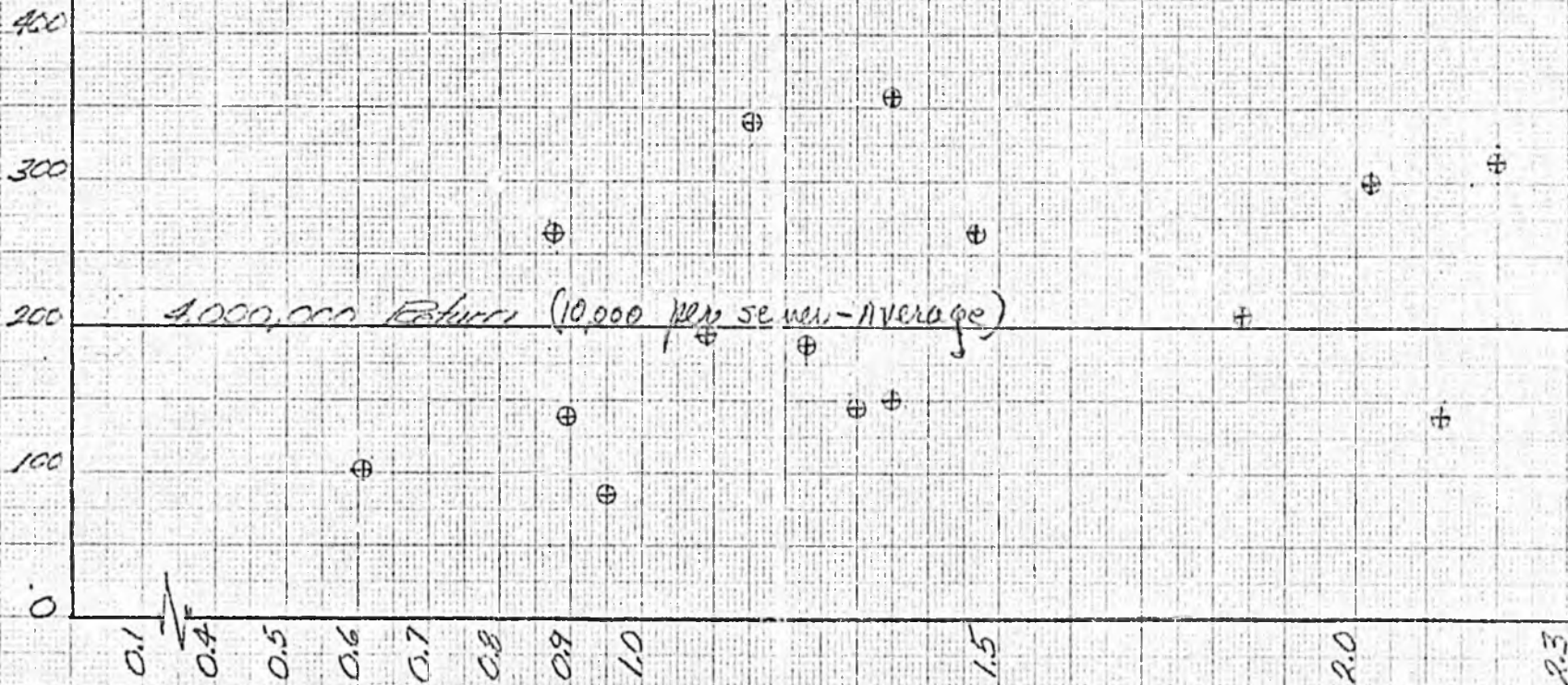
Alexin Density  
(per Sp. Water)

450  
300  
200  
100  
0

4,000,000 Returns (10,000 per semi-average)

0.1 0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.5 2.0 2.3

Escapement  
(millions)



5 10 15 20 25      5 10 15 20 25      5 0 15 20 25      5 10 15 20 25      5 10 15 20 25

Escaping Adults  
(millions)

1.6  
1.2  
0.8  
0.4  
0

Abundance Density  
(per square meter)

160  
120  
80  
40  
0

(forecast)

PRINCE WILLIAM SOUND  
CHUM SALMON

1960

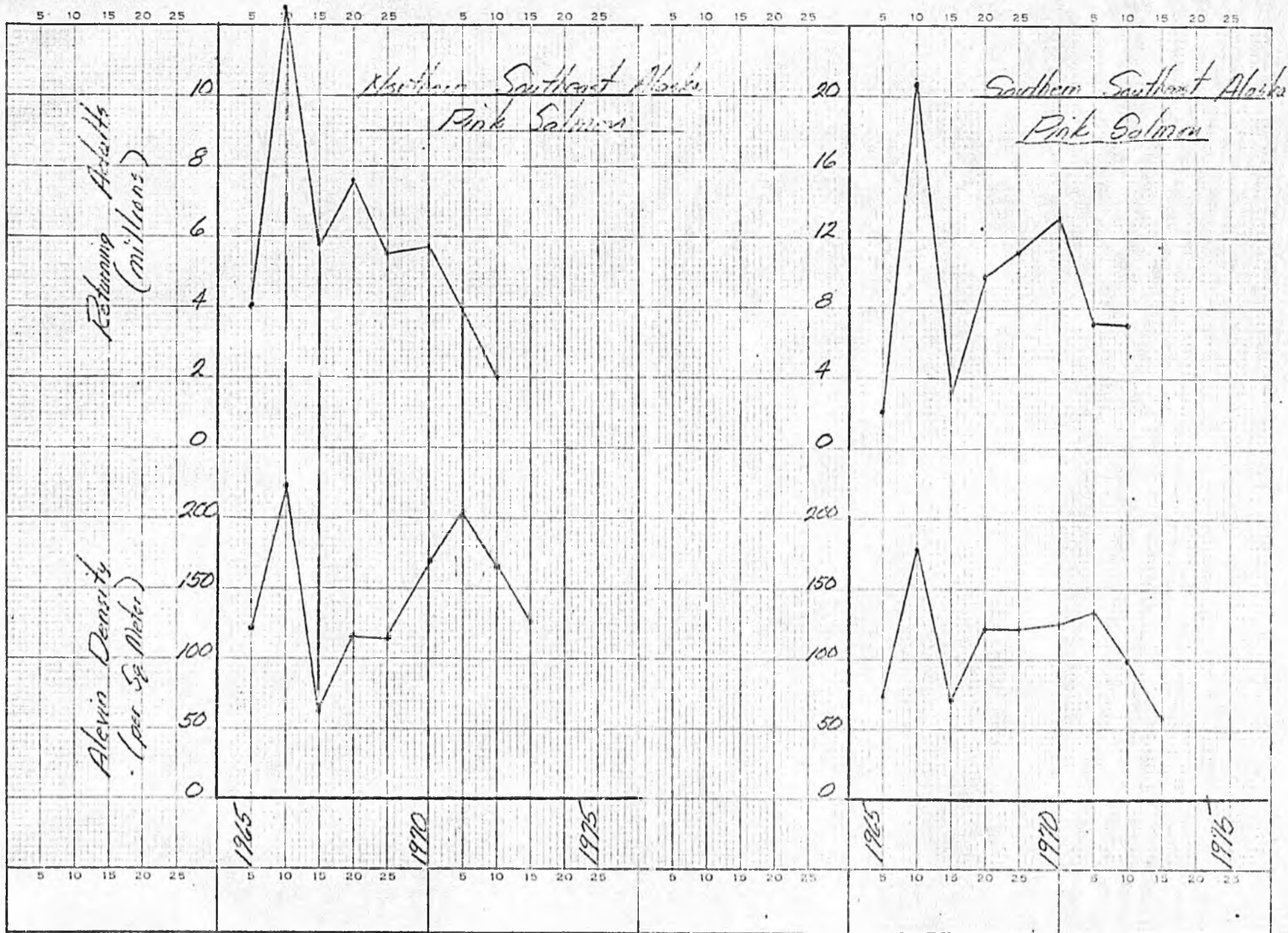
1965

1970

1975

BEFORE YEAR

5 10 15 20 25      5 10 15 20 25      5 10 15 20 25      5 10 15 20 25      5 10 15 20 25



Cook Inlet Southern and Outer Districts Pink Salmon  
 Alevin Indices vs Adult Return by Year

Adult Return in Millions

1.5

1.0

.5

Alevin / m<sup>2</sup>

200

100

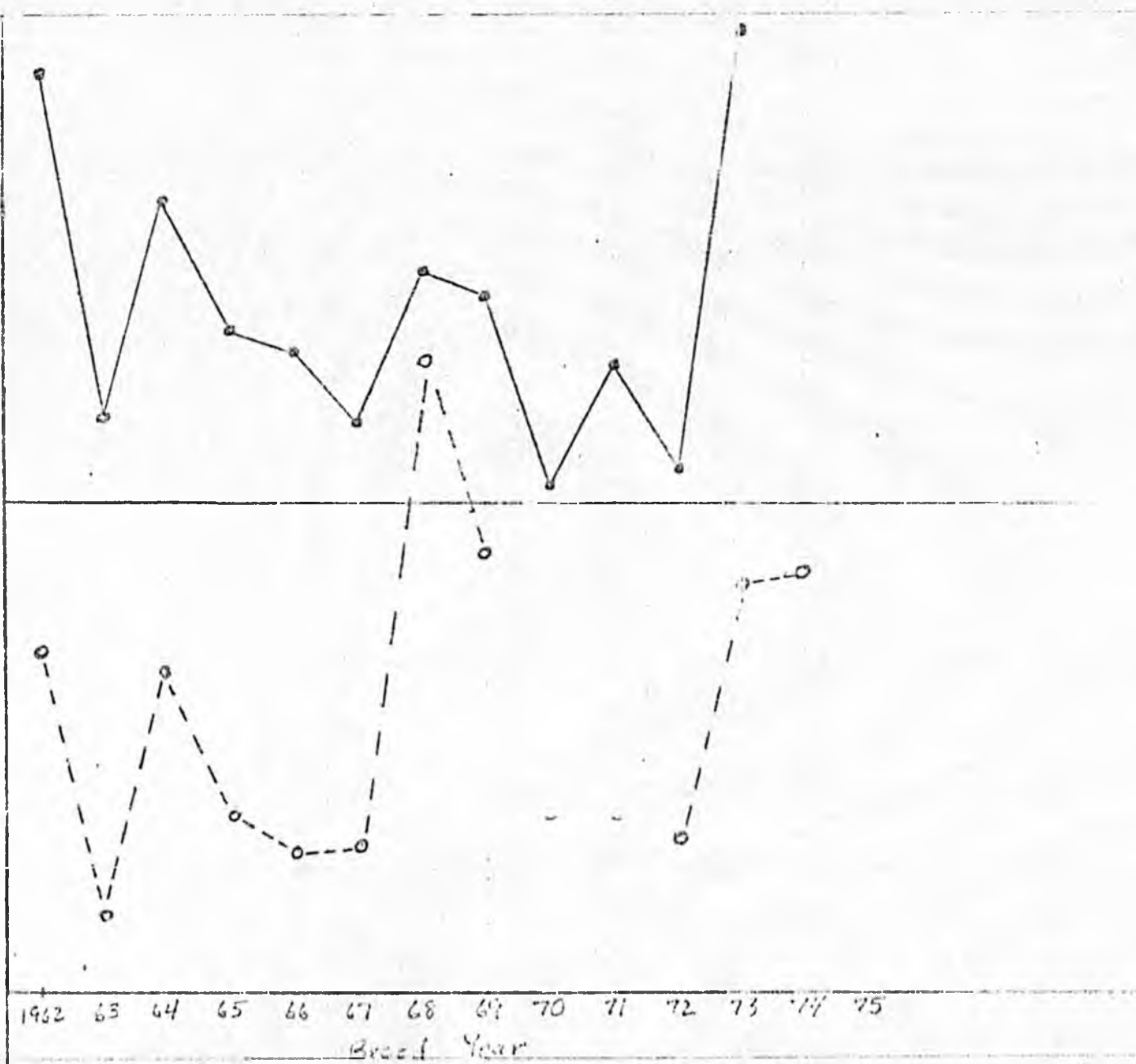
1962 63 64 65 66 67 68 69 70 71 72 73 74 75

Breed Year

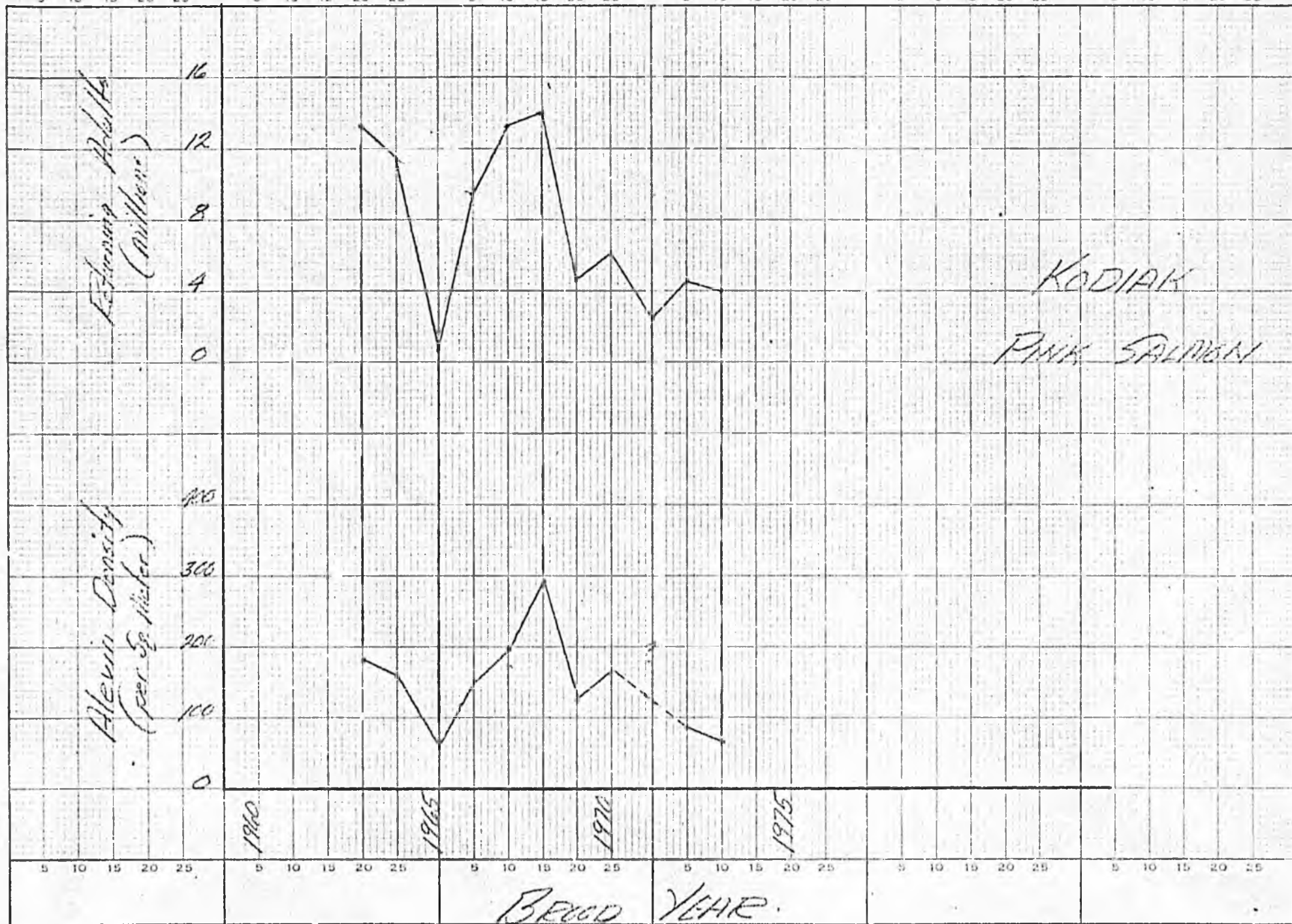
Breed Year  
 1962  
 63  
 64  
 65  
 66  
 67  
 68  
 69  
 70  
 71  
 72  
 73  
 74  
 75

Average Fry / m<sup>2</sup>  
 216.5  
 45.6  
 198.5  
 106.7  
 81.4  
 90.5  
 365.3  
 271.8  
 —  
 —  
 96.8  
 319.8  
 257.5

(Millions) Adult Return  
 1.31  
 .26  
 .91  
 .51  
 .46  
 .24  
 .70  
 .62  
 .46  
 .41  
 .10  
 1.43



5 10 15 20 25    5 10 15 20 25    5 10 15 20 25    5 10 15 20 25    5 10 15 20 25



## SITE SELECTION

WORK  
COPY

A team of regional biologists and engineers is presently working in each region of the state to select and prioritize enhancement sites for salmon incubation and freshwater and estuarine rearing. They have identified a number of candidate sites and are in the process of monitoring winter water conditions which are critical to total year round operations. Each site will have a detailed analysis on user demands, stock selection, physical parameters, i.e. water supply, plus estuarine and freshwater capabilities, management applicability and construction needs.

A total of 26 sites are presently under investigation in Southeastern Alaska with from two to five sites being investigated in each of the other planning areas. Final site selection of all sites will occur this spring and early summer.

Individual site selections are based on a detailed analysis of the characteristics listed in the first paragraph. The site selection process is governed by a series of general and site specific criteria. The general criteria, listed first, form the framework that selects areas for enhancement prior to the actual site specific studies. The area determination is dependent upon:

1. User group recommendations.
2. Management recommendations that:
  - a. Complete assessment of natural stock status and trends. (Consider the depressed nature of salmon stocks and the impact on the needs of the public.)
  - b. Recognizes the area registration concept and sport fish needs as a major prerequisite to project planning and implementation. The objectives of the enhancement program are divided by area and species to distribute the enhanced stocks throughout the state to meet the established needs of (a) and (b).
  - c. Determination of species that will best improve fishery, e.g. early chum run that would correspond with the sockeye fishery.
  - d. Minimizes interception problems.

3. Efficiency of production by species. This efficiency incorporates the intention to capture spin-off opportunities from present or projected industrial development to benefit husbandry systems. For example, industrial development, although presently limited in the state, offers a viable opportunity to convert waste products, especially heat, into a usable product. Coho and king smolt production requires heat to be successful which could be provided very economically at industrial sites.

Specific site characteristics examine in detail the parameters that will ensure the control of as many variables as possible to ensure facility success.

1. Stock selection

a. Species quality and average adult weight. Brood stocks must be of at least average weight for the species in that area unless historical evidence indicates that smaller than average genetical strains have extremely high estuarine ocean survival characteristics. This need is based on the fact that the commercial value is based upon poundage.

b. Brood stock availability

(1) Historic stock. Widely fluctuating stocks in the past may not be the most favorable systems to utilize.

(2) Present stock. Brood stocks must be of sufficient magnitude to bring the facility to full production as soon as possible reducing the amount of time required to produce direct benefits to the fishermen. Recent escapement records must range between 6,000 and 12,000 pinks and 4,000 and 8,000 chums. Escapements greater than the upper limit signifies a major natural producer, but a number less than the lower limit extends the time period for full scale production.

(3) Development of hatchery stock. Establishes breeding programs that will maintain optimal quality of brood stocks relative to size, maturity

schedules, and survival rates. Once large scale production is instituted for enhancement genetical breeding becomes a necessary component for brood stock development. Manipulation of stocks can enhance the fishery through possible changes in maturity, timing, and survival.

c. Timing of runs.

## 2. Physical parameters

- a. Provide water of sufficient volume and quality that will allow maximum survival of several million eggs, alevins, and fry with a minimum of treatment. If biological and sediment filters must be used, they will reduce benefit/cost ratios. Adjacent natural spawning is desirable since it may aid in maintenance of a viable gene pool.
- b. Provide a water temperature regimen that permits development of eggs, alevins, and fry to coincide with productivity of lakes and estuaries and environmental prerequisites for short term freshwater, estuarine and saltwater rearing. The time of emergence is a function of temperature units, and by using appropriate natural temperature regimens expensive temperature control devices including the application of artificial heat is not required. This factor is important in maintaining high benefit/cost ratios.
- c. Temperature regimen that permit fry to fingerling rearing of coho, sockeye, and rainbow trout for subsequent late summer stocking of adjacent lakes or estuarine rearing units. After pink and chum salmon fry emerge the water should be utilized for spin-off rearing.
- d. Intake quality that does not require substantial treatment before delivery to incubation or rearing systems. The required levels of oxygen, absence of toxic materials, and relatively disease free water should be provided without expensive treatment facilities.
- e. Gravity feed. Pumping of water requires expensive power and the resultant cost may become critical in remote areas where power is not available. Benefit/cost ratios decline when pumps are required.

- f. Water qualities should be clear enough during the majority of the year to require no filtration before delivery to incubation or rearing systems. The required levels of oxygen, absence of toxic materials, and relatively disease free water should be provided without expensive treatment facilities.
  - g. Water quantity should be sufficient to provide 1 pgm per 10,000 eggs without recirculation.
3. Stream characteristics
- a. Streambed stability
  - b. Fluctuations in stream flow
  - c. Minimum flows during winter months
4. Geography
- a. Accessibility especially during winter months
  - b. Availability of desired land
5. Estuary
- a. The site must take advantage of the natural estuarine rearing potentials of the state. The enhancement concept is designed to fully utilize the almost unlimited estuarine rearing potential throughout the state. These capacities and timing of plankton blooms are very important to pink and chum salmon release when they move directly from incubator to sea.
  - b. Site must have moderate winter icing conditions.
  - c. Must be accessible by boat to near the stream mouth.
6. Lake stocking sites
- a. The freshwater potentials for the three freshwater rearing species are very significant and offer a very economical long term rearing alternative for coho and sockeye.
  - b. Lakes utilized for sockeye should have a fry rearing deficit greater than 20 million fry.
  - c. Easy access from incubation facility.

- d. Plankton populations and water depths must allow rapid growth and high survival of fry after transplant.
- e. A low competitor and predator population and/or potential must be present.

7. Predators interactions

- a. Absence of major breeding populations of marine mammals or historical feeding concentrations that are adjacent to facility.
- b. Absence of major overwintering lakes for Dolly Varden trout since their outmigration may precede or coincide with outmigration schedules of chums and pinks.
- c. Absence of immediately adjacent major natural or potential coho production areas. Coho smolts are known predators of pink and chum fry until they reach about 60 mm. Release of artificially produced smolts may be delayed so as not to coincide with release of pinks and chums.
- d. Absence of major rookeries or avian predators.

9. Management criteria

- a. Location of fisheries relative to the proposed project
- b. Intensity of fisheries on considered stock
- c. Predicted interaction between artificial and natural stocks
- d. Bay or area of sufficient size to allow a large number of seiners or drift gillnetters to operate with a minimum of conflict. Small bays where large returns segregate will not allow equitable distribution or returns to the common property fishery. This may result in facilities having to be constructed that would not take advantage of economy of size in operation of facilities.
- e. Bay or area of sufficient size and historical behavior pattern of brood stocks where segregation of "bright" harvestable fish from ripening brood stocks occurs. Brood stock ripening areas must be highly segregated from harvest areas or an unmanageable situation will exist which will contribute to a poorer quality product.

- f. Bay or area where average light and water conditions permit reasonably accurate aerial and/or weir enumeration of returning adult runs. The overview of developing runs is essential to prevent a brood stock surplus. It is of particular importance that selected brood stocks ripen within the estuary.
- g. Bay or area where sea conditions permit a relatively constant harvest. If harvest areas are intermittently exposed to unfishable sea conditions, surplus fish in excess of brood stock requirements could develop at the facility.
- h. Prevent sale of surplus fish at the hatchery.

10. Climate

- a. Precipitation
- b. Winter temperatures
- c. Wind conditions

11. Construction needs

- a. Reasonable construction site
- b. Logistics - support and operations

# STATE OF ALASKA

**DEPARTMENT OF FISH AND GAME**

**JAY S. HAMMOND, GOVERNOR**

March 8, 1976

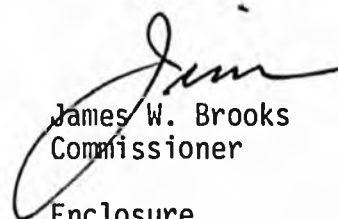
Representative Nels Anderson  
Chairman, House Resources  
House of Representatives  
Alaska State Legislature

Dear Nels:

Enclosed is a brief pertaining to the F.R.E.D. aspects of the 1976 bond request.

This document was assembled to provide background information prior to the committee hearing on March 18 relative to (1) professional opinion on facility direction, (2) natural stock status as reflected by catch, (3) objectives by area and species for enhancement facilities, and (4) time sequence of project development.

Sincerely,



James W. Brooks  
Commissioner

Enclosure

cc: Governor's Office  
Robert S. Roys



"1776-A TRIBUTE FROM OUR STATE TO OUR NATION-1976"



STATE OF ALASKA  
THE LEGISLATURE

LEGISLATIVE AFFAIRS AGENCY

POUCH Y - STATE CAPITOL  
JUNEAU, ALASKA 99811  
907-465-3800

MEMORANDUM

March 19, 1976

SUBJECT: Evaluation of HB 846, Fisheries Impact Fund, and Recommended Changes (W.O. #2379)

TO: The Honorable Nels Anderson

FROM: James Owers *J.O.*  
Research Analyst

Council Membership

With respect to Sec. 44.33.260, MEMBERSHIP AND VACANCIES, it should be pointed out that the Commercial Fisheries Entry Commission has a fulltime research staff devoted to analyzing economic data from the fisheries. The committee may, therefore, wish to consider adding the chairman of the Commercial Fisheries Entry Commission to the Fisheries Economic Impact Council. This would insure coordination of all those agencies with relevant data.

Definition of Base Period

In Sec. 44.33.310 "base period" is defined as "any 10 years after 1950, not necessarily continuous, during which a fishery produced at economically acceptable levels as determined by the Alaska Department of Fish and Game."

It should be pointed out that the Department of Fish and Game has no expertise to determine what is "economically acceptable." This would

appear to be more appropriately handled by the council. In any case, with rising economic expectations and a near doubling in the number of fishermen over the last 15 years, what may be "acceptable" may not be even biologically possible. Certain fisheries practically never produce at "economically acceptable" levels because many of the participants have non-economic goals, such as the hand troll fishery and certain set net fisheries. A more realistic approach would appear to be for the council to select a base period which is "reasonably representative" of economic conditions in the fishery.

There does not appear to be any need to extend the base period further back than 1960 and five years would appear adequate. This would greatly simplify data problems and, in any case, average salmon production during the 1960's exceeded the 1950's. A large number of the fisheries in the state barely existed or did not exist at all prior to 1960, such as the Arctic-Yukon-Kuskokwim salmon fisheries and many shellfish fisheries. The table attached at the end of this memo shows a base period between 1969 and 1973 for the 19 salmon fisheries which have limited entry. This appears to be reasonably representative of dollars produced by these fisheries. Even though production was about average, total revenues reached record and near record levels, even adjusting for inflation.

The following definition of "base period" is offered for the committee's consideration based on the above comments:

"Base period," means any five years after 1960, not necessarily continuous, during which a fishery produced a reasonably representative total annual catch value as determined by the council."

### Definition of Fisheries Failure

In the present bill a fisheries failure "means income to the participants in a fishery dropped below 50 per cent of the average annual income for the base period..." The first problem with the existing language is that it appears to be comparing total revenue produced by a fishery with individual earnings. Suppose a fishery has a base period income of 10 million dollars with 1,000 participants, or in other words an average income of \$10,000 per fisherman. Does the language in the existing bill mean that if the number of fishermen increases to say 2,500 fishermen that a fishery failure has occurred, since average income to participants in the fishery will have dropped to \$4,000?

It is suggested that this ambiguity be removed and that the committee adopt language that would make it clear that in all cases the total catch value of the fishery will be used, if that is in fact the committee's intent.

There is nothing in the present language that makes it clear that the council is dealing primarily with biological failures. For example, in the present bill a large price reduction could be considered a "fisheries failure." On several occasions prices in shellfish fisheries have more than dropped in half when catches have remained constant. In addition, the Board of Fisheries may well make "man made" fisheries failures by a decision to eliminate a certain type of gear in an area or reduce the catch allocation to a particular fishery. For example, it is likely that increased restrictions on the interception of Bristol Bay fish by Alaska Peninsula fishermen will be forthcoming. In 1972 the Board eliminated the Southeast set net fishery. Should this be considered a

"fisheries failure"?

There does not appear to be an adequate definition of a "fishery." Does this mean the Alaska salmon fishery or the Prince William Sound drift gill net fishery?

It is not stated that the council should adjust for inflation. With a 7% rate of inflation, fish prices could well double over the next 10 years along with operating costs and related items, yet the council would have to wait until revenues dropped to 25% of their present level before a fisheries failure could be declared.

Also, no justification has been submitted for requiring the total annual catch value to drop below 50% of the average for the base period. As the analysis at the end of this memo shows, this may not be practical. In certain fisheries where incomes are already low and where there is little alternative employment, acute problems may be felt long before this, particularly in fisheries that do not fluctuate as widely as the salmon fisheries, such as halibut. Furthermore, since the purpose of the council is to advise and recommend action to the governor, there does not appear any reason why the council should be locked into a rigid mechanical formula.

The second requirement for a fisheries failure is that "the average family income of all residents of the designated area as determined by the council is below the Federal Social Security Administration Poverty Guideline ..." There appear to be several problems with this requirement; two technical and the other more philosophical. First, there do not appear to be adequate statistics relating to family incomes. The main source of earnings information is unemployment insurance and state and local government payroll information. This information is related to

individuals, not families. Second, there are several federal agencies which publish poverty guidelines depending on the purpose of their program. Those used by the Limited Entry Commission, for example, are published by the Community Services Administration. It appears that Social Security Administration guidelines are contingent upon, among other things, bank deposits, home ownership, and other assets held by an applicant for benefits. The best approach would appear to be to leave out the specific agency who would supply poverty guideline statistics and leave this up to the council's discretion. The third problem is that, regardless of the number of families that may be above or below the poverty guideline in a certain locality, fishermen impacted by a fisheries failure may still not be able to find employment. Thus the real issue appears to be whether alternative employment is available. It would appear that one duty of the council could be to define availability or lack of alternative employment. For example, it could be a function of population, economic diversification, regional unemployment or some combination. This approach would appear to have the advantages of relying on existing data as well as dealing with the fundamental problem, which is to provide employment to fishermen who cannot find work in other fisheries or other sectors of the economy. Again, no justification or studies are submitted by the administration to show that the existing formula is practical or workable.

The following definition of a fisheries failure is offered for the committee's consideration. This definition still leaves the method of calculating inflation up to the council, and it is possible that it will still be difficult to sort out biological from economic causes of fisheries

failures. In addition, a definition of "fishery" borrowed from AS 16.-43.380 is used here since extensive data files of both the department of Fish and Game and the Limited Entry Commission are organized this way.

"Fisheries failure" means that the total catch value in a fishery, adjusted for inflation, has, for biological reasons, dropped significantly below the base period total catch value and that few alternative employment opportunities exist for fishermen in the region.

"Fishery" means the commercial taking of a specific fishery resource in a specific administrative area with a specific type of gear.

#### Analysis of "Acceptable" Incomes in Certain Alaskan Salmon Fisheries

In 1974 an economic survey of fishermen examined what fishermen themselves felt was a reasonable level of gross earnings. The following table shows the average response for each fishery. The response fishermen gave appears fairly realistic in view of operating costs in each fishery and a comparison with prevailing wage scales in such industries as logging and contract construction. In the second column of the table, this figure has been multiplied by the number of entry permit holders in each fishery to provide an estimate of the total revenue each fishery would have to produce so that the average earnings of fishermen would equal an "acceptable" level. This amount can then be compared to the average total earnings in each fishery over the five years between 1969 and 1973.

What is immediately apparent is the wide difference between what may be considered "acceptable" and what has actually occurred even

during a period of relative prosperity in the salmon fisheries (see graph). In fact, the average earnings of fishermen over the five year period, even adjusting for inflation, is less than half what was considered "acceptable." In many fisheries, even record high years did not produce an "acceptable" level of earnings.

J0:jm

70 + MILLIONS  
OF DOLLARS

60 +

50 +

40 +

30 +

20 +

10 +

1960-1964  
AVERAGE = \$36.8 MILLION

1965-1969  
AVERAGE = \$43.8 MILLION

1970-1974  
AVERAGE = \$58 MILLION

BASE YEARS, ALASKA SALMON FISHERIES

60 61 62 63 64 65 66 67 68 69 70 71 72 73 74

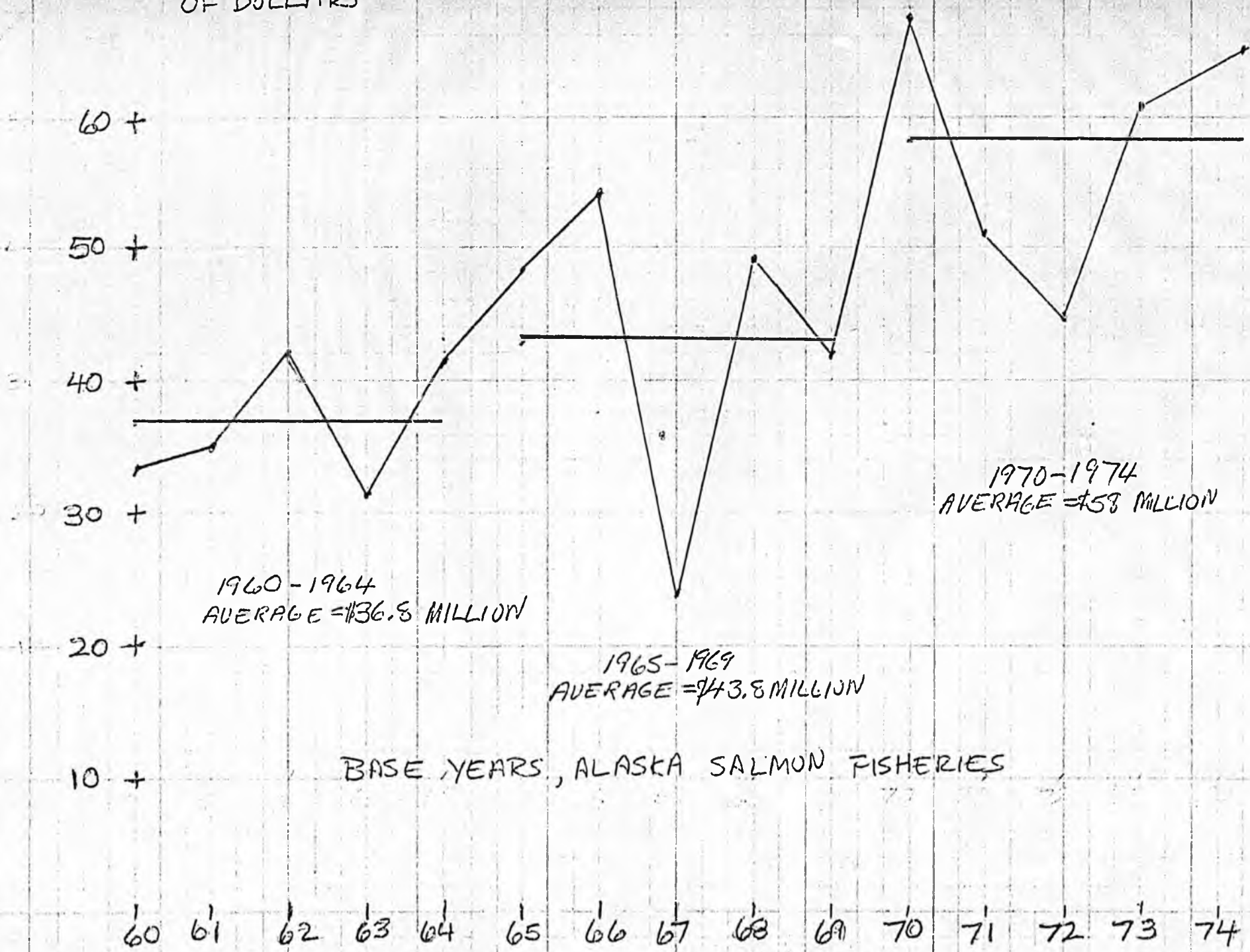


TABLE 1  
TOTAL REVENUE BY SALMON FISHERY  
ADJUSTED BY WHOLESALE PRICE INDEX

1969-1973  
(In thousands of dollars)

	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>5 year Average</u>
<u>Southeast</u>						
Purse Seine	\$4,177	\$9,456	\$8,573	\$13,168	\$13,376	\$9,750
Drift gill Net	2,785	3,108	3,054	5,489	7,588	4,404
<u>Yakutat</u>						
Set Gill Net	329	226	394	479	952	476
<u>Prince William Sound</u>						
Purse Seine	3,997	2,584	6,163	1/	4,796	4,385
Drift Gill Net	2,472	3,680	2,656	2,780	3,727	3,063
Set Gill Net	177	84	2/	133	83	119
<u>Cook Inlet</u>						
Purse Seine	204	650	500	229	752	467
Drift Gill Net	1,454	2,164	1,297	2,237	4,023	2,235
Set Gill Net	1,071	1,444	906	1,842	2,281	1,508
<u>Kodiak</u>						
Purse Seine	9,345	8,720	5,534	4,019	1,893	5,902
Beach Seine	25	91	.57	40	13	45
Set Gill Net	611	706	464	331	186	459

TABLE 1  
TOTAL REVENUE BY SALMON FISHERY  
ADJUSTED BY WHOLESALE PRICE INDEX

(Continued)

1969-1973  
(In thousands of dollars)

	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>5 year Average</u>
<u>Chignik</u> Purse Seine	\$1,973	\$3,962	\$2,579	\$1,129	\$3,066	\$2,541
<u>Peninsula</u> Purse Seine	1,268	3,489	1,968	789	502	1,603
Drift Gill Net	1,480	2,055	1,529	1,413	1,155	1,526
Set Gill Net	188	345	210	119	272	226
<u>Bristol Bay</u> Drift Gill Net	12,399	30,952	17,309	5,633	3,372	13,953
Set Gill Net	1,560	2,214	1,875	372	221	1,248
<u>Statewide</u> Power Troll <u>3/</u>	2,772	5,490	4,536	5,332	8,047	5,235

Gross earnings have been adjusted by the wholesale price index using 1973 as a base year.

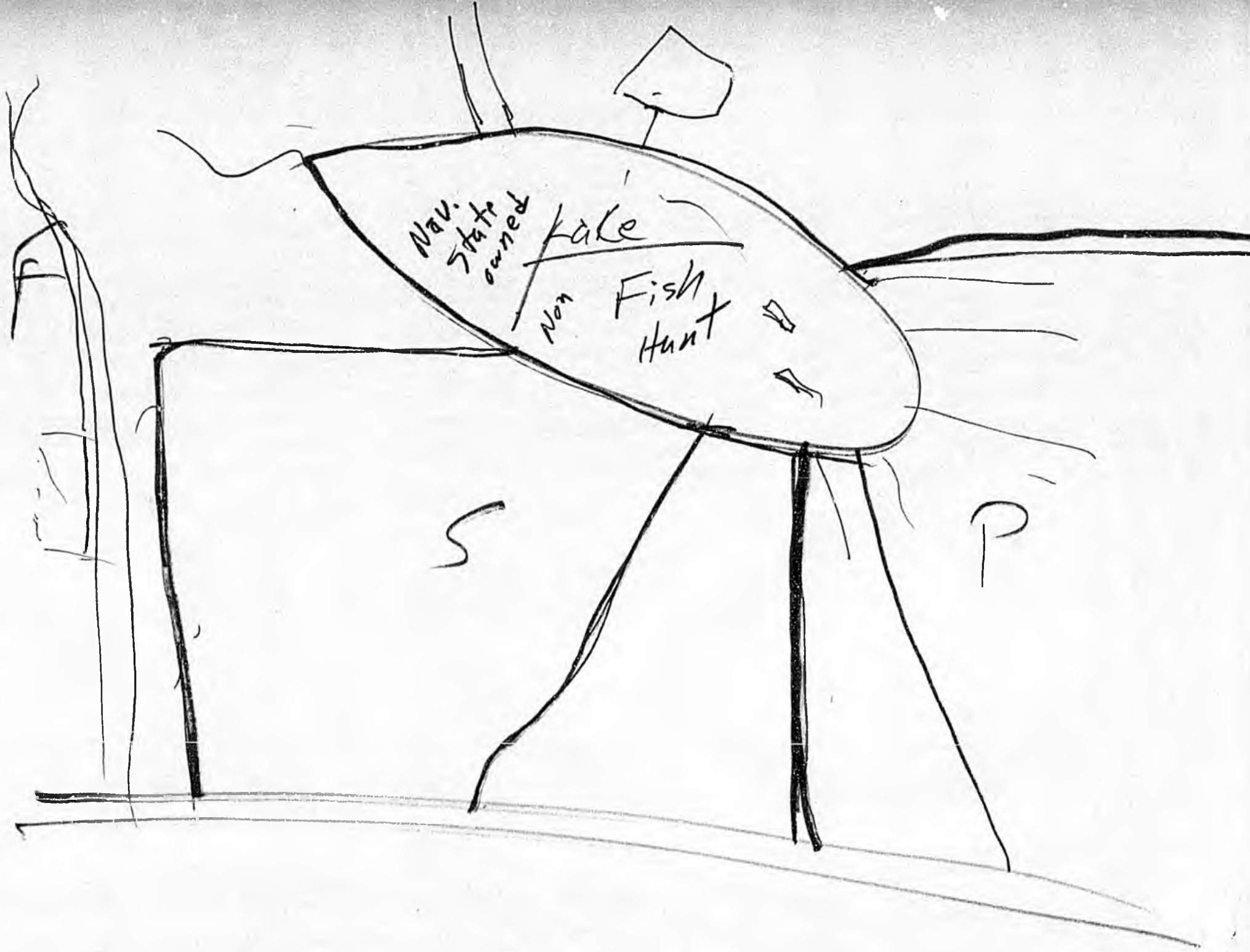
1/ closed in 1972

2/ closed in 1971

3/ estimated from total catch of both hand and power trollers

"ACCEPTABLE" EARNINGS IN ALASKA'S SALMON FISHERIES  
(all figures in thousands of dollars)

	"Reasonable Gross Earnings as Estimated by Fishermen	Total Earnings from Fishery Required to Produce Reason- able Earnings for all Operat- ing Units	Actual Average Total Earnings 1969-1973
<u>Southeastern</u>			
Purse Seine	\$ 31.9	\$ 12,660	\$ 9,750
Drift Gill Net	22.6	10,237	4,404
<u>Yakutat</u>			
Set Gill Net	14.9	2,235	476
<u>Prince William Sound</u>			
Purse Seine	26.9	6,402	4,385
Drift Gill Net	19.6	10,015	3,063
Set Gill Net	14.9	476	119
<u>Cook Inlet</u>			
Purse Seine	24.2	1,645	467
Drift Gill Net	14.5	7,902	2,235
Set Gill Net	14.9	10,221	1,508
<u>Kodiak</u>			
Purse Seine	32.8	12,070	5,902
Set Gill Net	11.1	2,031	459
<u>Chignik</u>			
Purse Seine	39.5	3,160	2,541
<u>Peninsula-Aleutians</u>			
Purse Seine	12.2	1,354	1,603
Drift Gill Net	17.9	2,774	1,526
Set Gill Net	7.8	600	226
<u>Bristol Bay</u>			
Drift Gill Net	16.4	27,371	13,953
Set Gill Net	12.4	9,957	1,248
<u>Statewide</u>			
Power Troll	15.3	13,693	5,235
TOTAL		\$134,803	\$53,865



Nav.  
State  
owned

Lake

Non Fish  
Hunt

S

P

ESTIMATE SUMMARY  
1976 FISH AND GAME FUND  
ENHANCEMENT PROJECTS

<u>Project Name</u>	<u>Fry Production</u>	<u>Capital Cost</u>
Tutka, Halibut Cove, Big Lake & Crooked Creek	4 million coho	\$ 530,000
Hidden Skilak	20 million sockeye, 6 million coho	2,350,000
Cook Inlet (Kenai)	25 million pink/chum, 10 million coho	3,890,000
Cook Inlet (Susitna)	25 million pink/chum, 10 million coho	3,890,000
<hr/> Cook Inlet Total	100 million	\$10,660,000
Cannery Creek	25 million (including 1 million coho)	\$ 2,670,000
Whittier	100,000 coho post-smolts	300,000
Prince William Sound	30 million (including 1 million coho)	3,530,000
<hr/> Prince William Sound Total	55 million	\$ 6,500,000
Karluk	20 million sockeye	\$ 3,150,000
Russell Creek	50 million pink/chum	4,850,000
<hr/> AP/Kodiak Total	70 million	\$ 8,000,000
Hidden Falls	50 million (including 3 million coho)	\$3,630,000
Tenakee	1 million coho post-smolts	1,300,000
Klawak Lake	50 million (including 3 million coho)	3,820,000
Thorne River	50 million (including 3 million coho)	5,250,000
<hr/>	150 million	\$14,000,000
 Statewide	375 million	\$39,160,000

COHO ENHANCEMENT  
TUTKA/HALIBUT COVE/BIG LAKE/CROOKED CREEK\*  
Rearing Tank & Feed Storage Installation  
4 Million Coho

Mobilization & Site Preparation			
Incubation Space _____ Sq.Ft. @ _____			
Incubators			
Support Space _____ Sq.Ft. @ _____			
Feed Storage Units <u>4</u> @ <u>10,000</u>			40,000
Water Supply, Distribution & Waste <u>4</u> @ <u>40,000</u>			160,000
Power Generation			
Rearing Tanks <u>16,000</u> Cu.Ft. @ <u>\$5</u>			80,000
Rearing Pens <u>40,000</u> Cu.Ft. @ <u>\$3</u>			120,000
Adult Holding/Egg Take Facility			
Employee Living Space _____ Sq.Ft. @ _____			
	1975 Total		400,000
	Contract Total	1977 Purchase	480,000
	Engineering & Contingencies @ _____		None
	Design & Administration @ _____	5%	24,000
	Revolving Fund _____	5%	26,000
	Total Project Cost		\$530,000

\*Project Description: Rearing tanks and freezers shall be provided to accommodate 4 million coho fingerling (300/pound) at the existing facilities mentioned. 200,000 shall be reared to post-smolt (10/pound) at Halibut Cove Lagoon. The remainder shall be stocked in lakes or streams.

SOCKEYE/COHO ENHANCEMENT  
HIDDEN/SKILAK PROJECT\*  
(Urban Const.)  
20 Million Sockeye, 6 Million Coho

Mobilization & Site Preparation	<u>100,000 + 100,000</u>	<u>200,000</u>
Incubation Space	<u>10,000 Sq.Ft. @ \$50</u>	<u>500,000</u>
Incubators		<u>80,000</u>
Support Space	<u>3,000 Sq.Ft. @ \$65</u>	<u>200,000</u>
Furnishing		<u>20,000</u>
Water Supply, Distribution & Waste		<u>150,000</u>
Power Generation		<u>50,000</u>
Rearing Tanks	<u>20,000 Cu.Ft. @ \$5</u>	<u>100,000</u>
Adult Holding/Egg Take Facility		<u>60,000</u>
Employee Living Space	<u>3,200 Sq.Ft. @ \$45</u>	<u>150,000</u>
1975 Total		<u>1,510,000</u>
Contract Total	<u>1977 Const. Cost.</u>	<u>2,000,000</u>
Engineering & Contingencies	@ <u>12%</u>	<u>240,000</u>
Design & Administration	@ <u>General Fund Obligation</u>	
Revolving Fund	<u>5%</u>	<u>110,000</u>
Total Project Cost		<u>\$2,350,000</u>

\*Project Description Facilities are provided for incubation of 25 million sockeye eggs and 7.5 million coho (or king) eggs to produce 20 million sockeye and 6 million coho fry. Sockeye shall be short term reared (aprox. 1 month). Coho shall be reared in (outside) tanks to fingerling (300/pound) for lake or stream stocking. Housing for 3 employees is provided on site. This estimate is applicable for 1977 construction at any reasonable site adjacent to highway system in Cook Inlet area.

COHO/PINK/CHUM ENHANCEMENT  
COOK INLET PROJECT\*  
(Urban Const.)  
25,000,000 Pink/Chum plus 10,000,000 Coho

Mobilization & Site Preparation	<u>200,000 + 100,000</u>	<u>300,000</u>
Incubation Space	<u>10,000 Sq.Ft. @ \$50</u>	<u>500,000</u>
Incubators		<u>100,000</u>
Support Space	<u>4,000 Sq.Ft. @ \$65</u>	<u>260,000</u>
Furnishing		<u>20,000</u>
Water Supply, Distribution & Waste		<u>150,000</u>
Power Generation		<u>50,000</u>
Rearing Ponds	<u>80,000 Cu.Ft. @ \$5</u>	<u>400,000</u>
Adult Holding/Egg Take Facility		<u>100,000</u>
Employee Living Space	<u>3,200 Sq.Ft. @ \$45</u>	<u>150,000</u>
1975 Total		<u>2,030,000</u>
Contract Total	<u>1978 Const. Cost</u>	<u>3,090,000</u>
Engineering & Contingencies	@ <u>12%</u>	<u>370,000</u>
Design & Administration	@ <u>8%</u>	<u>250,000</u>
Revolving Fund	<u>5%</u>	<u>180,000</u>
Total Project Cost		<u><u>\$3,890,000</u></u>

\*Project Description: Facilities are provided for incubation of 31.5 million pink or chum eggs and 12.5 million coho (or king) eggs to produce 25 million pink or chum fry and 10 million coho fry. Pink or chum shall be short term reared (approx. 1 month). Coho shall be reared in (outside) ponds to fingerling (300/pound) for lake or stream stocking. This estimate is applicable for 1978 construction at any reasonable site adjacent to highway system in Cook Inlet area. Housing for three employees is provided on site.

PINK/CHUM ENHANCEMENT  
CANNERY CREEK PROJECT\*  
(Remote Const. PWS)  
30 Million Fry, Including 1 Million Coho

Mobilization & Site Preparation	<u>160,000 + 80,000</u>	<u>240,000</u>
Incubation Space	<u>6,000 Sq.Ft. @ 70</u>	<u>420,000</u>
Incubators		<u>100,000</u>
Support Space	<u>2,500 Sq.Ft. @ 90</u>	<u>220,000</u>
Furnishing		<u>20,000</u>
Water Supply, Distribution & Waste		<u>200,000</u>
Power Generation		<u>70,000</u>
Rearing Pens	<u>100,000 Cu.Ft. @ 3.0</u>	<u>300,000</u>
Adult Holding/Egg Take Facility		<u>70,000</u>
Employee Living Space	<u>2,200 Sq.Ft. @ 70</u> <u>2,000 @ 40</u>	<u>230,000</u>
1975 Total		<u>1,870,000</u>
Contract Total	<u>1977 Const. Cost</u>	<u>2,470,000</u>
Engineering & Contingencies	@ <u>12%</u>	<u>300,000</u>
Design & Administration	@ <u>8%</u>	<u>200,000</u>
Revolving Fund	<u>5%</u>	<u>150,000</u>
Total Project Cost		<u>\$3,120,000</u>
(5m fry) 1974 Bond Money		<u>450,000</u>
(25m fry) 1976 Bond Money		<u>\$2,670,000</u>

\*Project Description: Facilities are provided for incubation of 37.5 million eggs to produce 30 million fry. Pink or chum fry shall be short term reared (approx. 1 month). Space is provided to rear 1 million coho to fingerling (300/pound) for stocking nearby lakes or streams. A duplex and bunkhouse for 3 permanent employees and temporaries are provided on site. This estimate is applicable for 1977 construction at similar remote sites in Prince William Sound.

COHO REARING  
WHITTIER PROJECT\*  
(Estuary Const. PWS).  
100,000 Coho Post Smolts

Mobilization & Site Preparation		_____
Incubation Space _____ Sq.Ft. @ _____		_____
Incubators		_____
Support Space <u>500</u> Sq.Ft. @ <u>80</u>		<u>40,000</u>
Floating Lab/Work Area		_____
Furnishing		_____
Water Supply, Distribution & Waste		_____
Power Generation		_____
Work Float - 10 x 110		<u>40,000</u>
Rearing Pens <u>16</u> Each Cu.Ft. @ <u>\$3125</u>		<u>50,000</u>
Adult Holding/Egg Take Facility		_____
Employee Living Space _____ Sq.Ft. @ _____		<u>50,000</u>
1 Houseboat @ 50,000		<u>50,000</u>
1975 Total		<u>180,000</u>
Contract Total <u>1977 Const. Cost</u>		<u>238,000</u>
Engineering & Contingencies @ <u>12%</u>		<u>29,000</u>
Design & Administration @ <u>8%</u>		<u>19,000</u>
Revolving Fund <u>5%</u>		<u>14,000</u>
Total Project Cost		<u><u>\$300,000</u></u>

\*Project Description: Facilities are provided for saltwater rearing (and/or holding) of 100,000 coho (or king) smolts from 60/pound to 10/pound. Housing for one employee is provided on site. This estimate is applicable for 1977 construction at other accessible estuaries in Prince William Sound.



SOCKEYE ENHANCEMENT  
KARLUK LAKE PROJECT\*  
(Remote-Kodiak)  
20 Million Fry

Mobilization & Site Preparation	250,000 + 100,000	<u>350,000</u>
Incubation Space	<u>4,800</u> Sq.Ft. @ <u>85</u>	<u>410,000</u>
Incubators		<u>80,000</u>
Support Space	<u>2,400</u> Sq.Ft. @ <u>110</u>	<u>260,000</u>
Furnishing		<u>20,000</u>
Water Supply, Distribution & Waste		<u>150,000</u>
Power Generation		<u>100,000</u>
Rearing Pens	- Cu.Ft. @ -	<u>-</u>
Adult Holding/Egg Take Facility		<u>-</u>
Employee Living Space	<u>2,200</u> Sq.Ft. @ <u>90</u> <u>1,800</u> @ <u>50</u>	<u>290,000</u>
1975 Total		<u>1,660,000</u>
Contract Total	1978 Const. Cost	<u>2,500,000</u>
Engineering & Contingencies	@ <u>12%</u>	<u>300,000</u>
Design & Administration	@ <u>8%</u>	<u>200,000</u>
Revolving Fund	<u>5%</u>	<u>150,000</u>
Total Project Cost		<u><u>\$3,150,000</u></u>

\*Project Description: Facilities are provided to incubate 25 million sockeye eggs to produce 20 million fry. (Pens may be added later for short term rearing.) A duplex residence and bunkhouse for 3 permanent employees and temporaries are provided on site. This estimate is applicable for 1978 construction at a reasonable site on Karluk Lake (or similar lake on Kodiak Island).

PINK/CHUM ENHANCEMENT  
RUSSELL CREEK PROJECT\*  
(Urban Site Alaska Peninsula)  
60 Million Fry

Mobilization & Site Preparation	<u>300,000 + 100,000</u>	<u>400,000</u>
Incubation Space	<u>12,000 Sq.Ft. @ \$70</u>	<u>840,000</u>
Incubators		<u>200,000</u>
Support Space	<u>3,000 Sq.Ft. @ \$90</u>	<u>270,000</u>
Furnishing		<u>30,000</u>
Water Supply, Distribution & Waste		<u>250,000</u>
Power Generation		<u>150,000</u>
Rearing Ponds	<u>150,000 Cu.Ft. @ \$5.50</u>	<u>820,000</u>
Adult Holding/Egg Take Facility		<u>100,000</u>
Employee Living Space	<u>2,400 Sq.Ft. @ \$70</u> <u>2,600 @ \$40</u>	<u>270,000</u>
1975 Total		<u>3,330,000</u>
Contract Total	<u>1977 Const. Cost</u>	<u>4,400,000</u>
Engineering & Contingencies	@ <u>12%</u>	<u>530,000</u>
Design & Administration	@ <u>8%</u>	<u>350,000</u>
Revolving Fund	<u>5%</u>	<u>270,000</u>
Total Project Cost		<u>\$5,550,000</u>
(10m fry) 1974 Bond Money		<u>700,000</u>
(50m fry) 1976 Bond Money		<u>\$4,850,000</u>

\*Project Description: Facilities are provided for incubation of 75 million pink or chum eggs to produce 60 million fry. The fry will be reared (approx. 1 month) in ponds on shore. A duplex residence and bunkhouse for 3 permanent employees and temporaries are provided on site. This estimate is applicable for 1977 construction at a very accessible site on the Alaska Peninsula.



COHO REARING  
TENAKEE PROJECT\*  
(Estuary Const.-Southeastern)  
1 Million Coho (Post Smolts)

Mobilization & Site Preparation	<u>10,000</u>	<u>10,000</u>
Incubation Space _____ Sq.Ft. @ _____		<u>-</u>
Incubators		<u>-</u>
Support Space <u>500</u> Floating Lab & Office Sq.Ft. @ <u>80</u>		<u>40,000</u>
Furnishing		<u>5,000</u>
Water Supply, Distribution & Waste Saltwater Pumps		<u>30,000</u>
Power Generation		<u>-</u>
Rearing Pens <u>150,000</u> Cu.Ft. @ <u>3.0</u>		<u>450,000</u>
Adult Holding/Egg Take Facility		<u>50,000</u>
Employee Living Space _____ Sq.Ft. @ _____		<u>100,000</u>
2 Houseboats @ 50,000		
1975 Total		<u>685,000</u>
Contract Total 1978 Const. Cost		<u>1,040,000</u>
Engineering & Contingencies @ <u>12%</u>		<u>120,000</u>
Design & Administration @ <u>8%</u>		<u>80,000</u>
Revolving Fund <u>5%</u>		<u>60,000</u>
Total Project Cost		<u>\$1,300,000</u>

\*Project Description: Facilities are provided for saltwater rearing (or holding) of 1 million coho (or king) smolts from 60/pound to 10/pound. Housing for 2 employees is provided on site. This estimate is applicable for 1978 construction at other accessible (and protected) estuaries in Southeast Alaska.

PINK/CHUM ENHANCEMENT  
KLAWAK LAKE PROJECT\*  
(Rural Land Based-Southeastern)  
60 Million Fry, Including 3 Million Coho

Mobilization & Site Preparation	<u>220,000 + 110,000</u>	<u>330,000</u>
Incubation Space	<u>12,000 Sq.Ft. @ 60</u>	<u>720,000</u>
Incubators		<u>180,000</u>
Support Space	<u>3,000 Sq.Ft. @ 80</u>	<u>240,000</u>
Furnishing		<u>30,000</u>
Water Supply, Distribution & Waste		<u>180,000</u>
Power Generation		<u>120,000</u>
Rearing Pens	<u>160,000 Cu.Ft. @ 3.00</u>	<u>480,000</u>
Adult Holding/Egg Take Facility		<u>100,000</u>
Employee Living Space	<u>2,400 Sq.Ft. @ 60</u>	<u>140,000</u>
1975 Total		<u>2,520,000</u>
Contract Total	<u>1978 Const. Cost</u>	<u>3,830,000</u>
Engineering & Contingencies	@ <u>12%</u>	<u>460,000</u>
Design & Administration	@ <u>8%</u>	<u>300,000</u>
Revolving Fund	<u>5%</u>	<u>230,000</u>
Total Project Cost		<u>\$4,820,000</u>
(10m fry) 1974 Bond Money		<u>1,000,000</u>
(50m Fry) 1976 Bond Money		<u>3,820,000</u>

\*Project Description: Facilities are provided for incubation of 75 million eggs to produce 60 million fry. Pink or chum fry will be short term reared (approx. 1 month) in saltwater pens. 3 million coho will be reared to fingerling (300/pound) size in freshwater pens for lake stocking. One duplex residence is provided on site. This estimate is applicable for 1978 construction at other reasonable sites adjacent to the highway system in Southeastern Alaska.

PINK/CHUM ENHANCEMENT  
THORNE RIVER PROJECT\*  
(Remote Const.-Southeastern)  
50 Million Fry, Including 3 Million Coho

Mobilization & Site Preparation	<u>280,000 + 240,000</u>	<u>520,000</u>
Incubation Space	<u>10,000 Sq.Ft. @ 65</u>	<u>650,000</u>
Incubators		<u>150,000</u>
Support Space	<u>3,000 Sq.Ft. @ 85</u>	<u>250,000</u>
Furnishing		<u>20,000</u>
Water Supply, Distribution & Waste		<u>230,000</u>
Power Generation		<u>100,000</u>
Rearing Pens	<u>135,000 Cu.Ft. @ 3.00 + dock</u>	<u>460,000</u>
Adult Holding/Egg Take Facility		<u>100,000</u>
Employee Living Space	<u>2,400 Sq.Ft. @ 65</u> <u>2,600 @ 40</u>	<u>260,000</u>
1975 Total		<u>2,740,000</u>
Contract Total	<u>1978 Const. Cost</u>	<u>4,170,000</u>
Engineering & Contingencies	@ <u>12%</u>	<u>500,000</u>
Design & Administration	@ <u>8%</u>	<u>330,000</u>
Revolving Fund	<u>5%</u>	<u>250,000</u>
Total Project Cost		<u>\$5,250,000</u>

\*Project Description: Facilities are provided for incubation of 62.5 million eggs to produce 50 million fry. Pink or chum fry will be short term reared (approx. 1 month) in saltwater pens. 3 million coho will be reared to fingerling (300/pound) size in freshwater pens for lake stocking. A duplex residence and bunkhouse are provided on site for 3 permanent employees and temporary employees. This estimate is applicable for 1978 construction at other reasonably accessible remote sites in Southeastern Alaska.

STATE OF ALASKA  
THE LEGISLATURE

POUCH Y - STATE CAPITOL  
JUNEAU, ALASKA 99811  
907-465-3800

LEGISLATIVE AFFAIRS AGENCY

MEMORANDUM

April 1, 1976

SUBJECT: HB 615 - Enhancement Facility Bond Issue (W.O. #2386)

TO: The Honorable Nels Anderson

FROM: James Owers *J. Owers*  
Research Analyst

As you requested, we have reviewed HB 615, which would involve the state in a major long-term commitment to salmon enhancement programs. The principal amount of the bond proposal is \$44.5 million, but when interest payments, maintenance and operational cost are included, it will result in a total expenditure of public funds likely to exceed \$130 million over a 20 year period. It is our opinion that this legislation raises serious questions of policy and that it should be critically examined in light of the following comments.

1. Enhancement vs. Rehabilitation

As used here, enhancement means the continued reliance upon artificial means for salmon production as opposed to rehabilitation which means relying on those actions necessary to rebuild natural runs. Alaska has produced harvests of salmon nearly triple those of the present from habitat that is still, in most cases, in virtually the same natural condition. This is in marked contrast to Japan, Oregon, Washington and the Frazier River of British Columbia where artificial propagation has been used primarily to compensate for habitat losses.

Enhancement facilities in Alaska will not take maximum advantage of natural systems. In fact, their operation may result in even less utilization of natural habitat because enhancement facility fish are likely to lead in the long run to further destruction of natural runs for a variety of biological reasons. Rehabilitation, by relying on rebuilding natural runs, may prove far more cost effective.

## 2. Solving Present Economic Distress Through Enhancement Programs

As stated, the goal of the administration is "to get more fish in the water" to bring the salmon fisheries out of their economic distress. This is an overly simplistic view of the problem that is likely to compound biological problems in the future as discussed above and probably will not result in very substantial short-run benefits to those in the industry. First, it is likely that it will take from four to six years to bring a hatchery into full production (the time varies depending upon the species produced). There is approximately a 15 to 20 percent rate of turnover among salmon fishermen every year. Thus, many of those now suffering economic hardship will, in all likelihood, not be in the industry by the time the hatchery is producing at full capacity. Second, the projections of economic benefits submitted by the Department of Fish and Game assume that the price of salmon will remain the same with production increases. In fact, significant price declines may be necessary in order to clear the market. Third, present technology is more advanced in the area of pink and chum salmon production, yet Bristol Bay, the area which for the past four years has been most consistently depressed, depends upon red salmon.

### 3. Allocation of Benefits

Substantial but undetermined benefits from the Alaska salmon fisheries leave the state. If the public makes a major commitment of state funds to increased salmon production it would appear reasonable for the state to take measures to insure that these benefits are not siphoned off by non-resident corporations. In part, this would probably require the state to become more involved in marketing of salmon. In any event, the cost-benefit ratios presented by the Department of Fish and Game to the House Resources Committee do not make any distinction between those who receive the benefits and those who pay the costs.

### 4. Planning for the Bond Issue

In 1971 the legislature created the F.R.E.D. division in the Department of Fish and Game. AS 16.05.92 provides that the division shall:

"develop and continually maintain a comprehensive, coordinated state plan for the orderly present and long-range rehabilitation, enhancement and development of all aspects of the state's fisheries for the perpetual use, benefit and enjoyment of all citizens and revise and update this plan annually."

Comprehensive planning began ten months ago with a contract with the engineering consulting firm of Kramer, Chin and Mayo. (For our review of this contract see our memo to you of February 13). No full scale production facilities of the type envisioned by the bond proposal have been built in Alaska. HB 615 would authorize up to seven facilities, depending on the size of each hatchery.

The following would seem to be at least a partial list of those items which both the public and the department should resolve before a

bond issue is authorized:

- exact project location
- project design and cost based on this location
- estimated production by species
- location of streams for egg takes
- operational costs
- estimated time necessary to reach full production
- construction start-up date
- management methods for segregating natural from hatchery fish

Without most of this information there is no basis for determining whether projects are feasible or desirable. Furthermore, it would appear that without actually building a fully operational hatchery it is not possible to iron out design problems and reduce other uncertainties of constructing such facilities in Alaska.

The Prince William Sound Aquaculture Corporation has published a plan for their proposed hatcheries which could serve as a good model for the type of analysis that is required.

##### 5. Public vs. Private Non-profit Efforts

It would appear that a state's first responsibility is to insure the viability of natural runs or where natural systems have been destroyed by habitat losses, to either rebuild runs through artificial means or to see that those who suffer losses are compensated. It is questionable whether Alaska should be involved directly in enhancement programs to relieve economic distress when it is still possible to rebuild natural

runs. Enhancement could more appropriately be handled by the private sector with the state assisting their efforts through low interest loans, grants, research, and other programs similar to those in agriculture.

6. Summary

(1) Programs which have been applied elsewhere cannot be compared to Alaska which still has extensive natural habitat.

(2) Because of the time lag involved in hatchery construction and for other reasons, enhancement programs are not likely to ease the present financial condition of the fisheries.

(3) Substantial benefits from hatcheries are likely to "leak" out of Alaska unless a comprehensive approach to developing the resource is taken.

(4) Planning for the bond issue has not been adequate.

(5) A question must be resolved on whether enhancement-type programs could not be better pursued through aid to the private sector.

The committee would be justified in reducing the bond proposal to between \$10 to \$15 million for the reasons outlined above. This would provide enough funds for construction of one or two fully operational facilities. It would also be very desirable for the bond issue to provide funds for planning to reduce uncertainties for future construction.

Association of Village Council Presidents, Inc.  
P.O. Box 219  
Bethel, Alaska 99559

Resolution 76-02-16

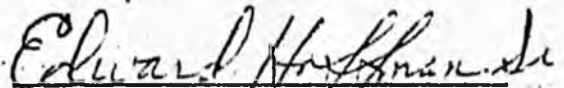
WHEREAS THE ASSOCIATION OF VILLAGE COUNCIL PRESIDENTS, INC. REPRESENTS THE 57 MEMBER VILLAGES OF THE LOWER YUKON AND KUSKOKWIM RIVERS AND

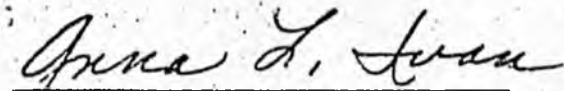
WHEREAS, the King Salmon, the Chinook stocks on the Kuskokwim and Yukon Rivers have suffered a decline in number and sex ratio due to weather, improper commercial and subsistence harvest management, and distant sea fishing by the Japanese east of the 1952 Abstention Line; and

WHEREAS, the people of the Association of Village Council Presidents, Inc. Region have determined that aquaculture of King Salmon is in the best interest of its member villages,

Therefore be it RESOLVED by the Association of Village Council Presidents, Inc. that the Alaskan State Legislature and the State Department of Fish and Game allow for the harvest of King Salmon Eggs for aquaculture purposes within the permit system, which now allows only Pink and Chum egg harvest for aquaculture purposes.

APPROVED AND PASSED THIS 21st DAY OF FEBRUARY, 1976.

  
Edward Hoffman, Sr.  
President, AVCP, Inc.

  
Anna L. Ivan  
Secretary, AVCP, Inc.

# OLD HARBOR NATIVE CORP.

P.O. Box 69  
Old Harbor, Alaska 99643

*file  
need  
4/30  
HB 615*

Dear Rep Anderson:

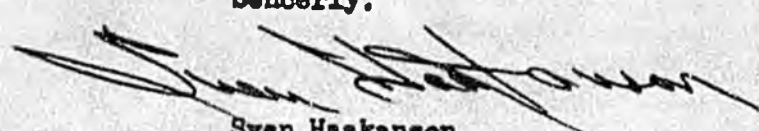
We are greatly concerned about the matter to cancel the fish hatchery bill that is coming up for approval.

We strongly urge you as a representative of the People of Alaska to act on this matter, as the only chance our Salmon industry has of ever regaining its strength is by fish hatcheries and limited entry.

Kodiak Island is one area that has a very great need of fish hatcheries and the plans to do away with a bill that will be of tremendous value to the State of Alaska and its people seem somewhat foolish at this time.

We ask you for your wholehearted support to keep this Bill in gear.

Sincerely,



Sven Haakanson

Pres. Old Harbor Native Corporation

ROUGH DRAFT OF COMMENTS

BY

HOUSE RESOURCES COMMITTEE STAFF

RE: HB 615

In determining the amount of the bonds, consideration was first given to the original request by the Dept. of Fish and Game, and Administration for \$4,455,000. After meeting with Fish and Game the majority of the projects were agreed upon by the committee. One project was eliminated and several were reduced. One, the Bear Lake facility, was increased.

Second, consideration was given to the projects proposed under SS HB 615 which utilized natural passages i.e. Russian River fish passage and Anan Creek. . These were given priority.

Third, consideration shall be given to the overall hatchery program. The committee did not feel that enough background, research, planning, or justification was presented to allow a forty-four million bond proposal to be put before the public. Since the proposal seemed to be an experimental program to determine if the hatchery system would work. the committee felt that the FRED program could plan, utilize the research and information gathered from one hatchery in each area of the state. Hence, one hatchery in SE instead of three, one hatchery in S.C.I: instead of three, one hatchery in Kodiak as planned, and one hatchery on the Alaska Peninsula as planned. The reason Prince William Sound wasn't included was that the committee felt information and research discovered by the Prince William Sound Aquaculture Association would be used by FRED for determining further hatchery programs in that area.

It was felt that in the A.Y.K. area research should be carried on throughout the area, not just in one area.

The committee also felt that the FRED Division was not staffed or funded adequately to carry out the responsibilities of administering a 44 million dollar project without substantial increases in the Fiscal Year requests.

Finally, it was felt by the committee that as proposed the public would not accept a forty million dollar proposal. There are public factions who disagree with the hatchery concept. However, the public may be willing to accept a 19 million dollar proposal and if the beginning hatchery proves successful the public may be willing to accept more development in the future.