

ALASKA LEGISLATURE COMMITTEE FILES 1995-1996 8672

8980 SENATE RESOURCES

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TAYLOR PROPOSAL

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CS FOR SENATE BILL NO. 284()

IN THE LEGISLATURE OF THE STATE OF ALASKA

NINETEENTH LEGISLATURE - SECOND SESSION

BY

Offered:
Referred:

Sponsor(s): SENATE RULES COMMITTEE BY REQUEST OF THE GOVERNOR

A BILL

FOR AN ACT ENTITLED

1 "An Act relating to the four dam pool transfer fund and the power
2 development fund; and providing for an effective date."

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

4 • Section 1. AS 42.45.050(b) is amended to read:

5 (b) Subject to appropriation, the department shall transfer the balance of the
6 four dam pool transfer fund annually as follows: [EACH MONTH IN
7 ACCORDANCE WITH THIS SUBSECTION, SUBJECT TO APPROPRIATION]

8 (1) first, to the power development fund (AS 44.83.382) in the
9 amount, if any, necessary to pay debt service on loans or on bonds issued by the
10 Alaska Energy Authority, only if the proceeds of those loans or bonds were used
11 for the purpose of repairing, improving, or maintaining the initial project as
12 defined in AS 44.83.398;

13 (2) next, the remaining balance, if any, as follows:

14 (A) 40 percent of the balance in the four dam pool transfer fund

1 shall be transferred to the power cost equalization and rural electric
2 capitalization fund to be used for power cost equalization and rural electric
3 projects;

4 ~~(B)~~ [(2)] 40 percent of the balance in the four dam pool transfer
5 fund shall be transferred to the Southeast energy fund to be used for power
6 projects for utilities participating in the power transmission intertie between the
7 Swan Lake and Tyee Lake hydroelectric projects; and

8 ~~(C)~~ [(3)] 20 percent of the balance in the four dam pool transfer
9 fund shall be transferred to the power project fund to be used for statewide
10 utility projects.

11 • Sec. 2. AS 42.45.050(b) is repealed and reenacted to read:

12 (b) Subject to appropriation, the department shall transfer the balance of the
13 four dam pool transfer fund annually as follows:

14 (1) first to the power development fund (AS 44.83.382) in the amount,
15 if any, necessary to pay debt service on loans or on bonds issued by the Alaska Energy
16 Authority, only if the proceeds of those loans or bonds were used for the purpose of
17 repairing, improving, or maintaining the initial project as defined in AS 44.83.398;

18 (2) next, the remaining balance, if any, to the power management
19 committee of the initial project for expenditures identified by the committee for
20 repairs, maintenance, improvements, and new construction related to the power projects
21 in the initial project; in deciding whether a portion or all of the balance should be used
22 for new construction, if the five purchasing utilities agree, the state may not disapprove
23 the construction project;

24 (3) finally, the remaining balance, if any, as follows:

25 (A) 40 percent of the balance in the four dam pool transfer fund
26 shall be transferred to the power cost equalization and rural electric
27 capitalization fund to be used for power cost equalization and rural electric
28 projects.

29 (B) 40 percent of the balance in the four dam pool transfer fund
30 shall be transferred to the Southeast energy fund to be used for power projects
31 for utilities participating in the power transmission intertie between the Swan

1 Lake and Tyee Lake hydroelectric projects; and
2 (C) 20 percent of the balance in the four dam pool transfer fund
3 shall be transferred to the power project fund to be used for statewide utility
4 projects.

5 * Sec. 3. AS 42.45.050 is amended by adding a new subsection to read:

6 (c) In this section,

7 (1) "initial project" has the meaning given in AS 44.83.398(a);

8 (2) "purchasing utilities" means the City of Ketchikan, doing business
9 as Ketchikan Public Utilities; the City of Wrangell, doing business as Wrangell
10 Municipal Light and Power; the City of Petersburg, doing business as Petersburg
11 Municipal Power and Light; Copper Valley Electric Association, Inc.; and Kodiak
12 Electric Association, Inc.

13 * Sec. 4. AS 44.83.384(a) is amended to read:

14 (a) The fund may be used by the authority to provide money for

15 (1) the defeasance of bonds, or the payment of debt service on loans
16 for or on an issue of bonds sold in connection with a power project constructed or
17 acquired before August 11, 1993;

18 (2) the cost of operating, repairing, improving, and maintaining power
19 projects constructed or acquired before August 11, 1993; and

20 (3) debt service on power projects constructed or acquired before
21 August 11, 1993.

22 * Sec. 5. (a) Sections 2 and 3 of this Act take effect only if, on or before June 30, 1997,
23 the state and the purchasing utilities have failed to enter an agreement providing for the
24 transfer of ownership of the initial project from the state to the purchasing utilities. The
25 Alaska Energy Authority shall immediately notify the revisor of statutes and the lieutenant
26 governor when the state and purchasing utilities enter into such an agreement.

27 (b) In this section, "initial project" and "purchasing utilities" have the meanings given
28 in AS 42.45.050(c), enacted by sec. 3 of this Act.

29 * Sec. 6. If secs. 2 and 3 of this Act take effect under sec. 5 of this Act, they take effect
30 July 1, 1997.

*Revised
added by
Committee*

CS FOR SENATE BILL NO. 284(RES)

IN THE LEGISLATURE OF THE STATE OF ALASKA

NINETEENTH LEGISLATURE - SECOND SESSION

BY THE SENATE RESOURCES COMMITTEE

Offered:

Referred:

Sponsor(s): SENATE RULES COMMITTEE BY REQUEST OF THE GOVERNOR

A BILL

FOR AN ACT ENTITLED

1 "An Act relating to bonds issued to repair, improve, or maintain the four dam
2 pool; and relating to the four dam pool transfer fund and the power
3 development fund."

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

5 • **Section 1. PURPOSE.** (a) The purpose of this Act is to facilitate the issuance of bonds
6 or other debt by the Alaska Energy Authority so that needed repairs can be made to the
7 hydroelectric facilities that make up the initial project.

8 (b) It is the intent of the legislature that the authority and the purchasing utilities
9 continue to negotiate in good faith with respect to the transfer of ownership of the initial
10 project to the utilities, and that a transfer plan or other long-term solution to the economic
11 difficulties of the initial project be presented to the Twentieth Alaska State Legislature.

12 (c) In this section,

13 (1) "initial project" means the power project described as the initial project in
14 AS 44.83.398(a), consisting of the Tye Lake, Swan Lake, Solomon Gulch, and Terror Lake

1 hydroelectric facilities:

2 (2) "purchasing utilities" means the City of Ketchikan, doing business as
3 Ketchikan Public Utilities; the City of Wrangell, doing business as Wrangell Municipal Light
4 and Power; the City of Petersburg, doing business as Petersburg Municipal Power and Light;
5 Copper Valley Electric Association, Inc.; and Kodiak Electric Association, Inc.

6 * Sec. 2. AS 42.45.050(b) is amended to read:

7 (b) Subject to appropriation, the department shall transfer the balance of the
8 four dam pool transfer fund annually as follows: [EACH MONTH IN
9 ACCORDANCE WITH THIS SUBSECTION. SUBJECT TO APPROPRIATION]

10 (1) first, to the power development fund (AS 44.83.382) in the
11 amount, if any, necessary to pay debt service on loans or on bonds issued by the
12 Alaska Energy Authority, only if the proceeds of those loans or bonds were used
13 for the purpose of repairing, improving, or maintaining the initial project as
14 defined in AS 44.83.398;

15 (2) next, the remaining balance, if any, as follows:

16 (A) 40 percent of the balance in the four dam pool transfer fund
17 shall be transferred to the power cost equalization and rural electric
18 capitalization fund to be used for power cost equalization and rural electric
19 projects:

20 (B) [(2)] 40 percent of the balance in the four dam pool transfer
21 fund shall be transferred to the Southeast energy fund to be used for power
22 projects for utilities participating in the power transmission intertie between the
23 Swan Lake and Tyee Lake hydroelectric projects; and

24 (C) [(3)] 20 percent of the balance in the four dam pool transfer
25 fund shall be transferred to the power project fund to be used for statewide
26 utility projects.

27 * Sec. 3. AS 44.83.100(b) is amended to read:

28 (b) Bonds shall be authorized by resolution of the authority, and shall be dated
29 and shall mature as the resolution may provide, consistent with the requirements of
30 this subsection [EXCEPT THAT NO BOND MAY MATURE MORE THAN 50
31 YEARS FROM THE DATE OF ITS ISSUE]. Bonds shall bear interest at the rates,

1 be in the denominations, be in the form, either coupon or registered, carry the
2 registration privileges, be executed in the manner, be payable in the medium of
3 payment, at the places, and be subject to the terms of redemption which the resolution
4 or a subsequent resolution may provide. A bond issued on or after the effective date
5 of this bill section whose proceeds were used for the purpose of repairing,
6 improving, or maintaining the initial project as defined in AS 44.83.398 must
7 mature within eight years from the date of issue. Other bonds issued under this
8 subsection must mature within 50 years from the date of issue.

9 * Sec. 4. AS 44.83.384(a) is amended to read:

10 (a) The fund may be used by the authority to provide money for

11 (1) the defeasance of bonds, or the payment of debt service on loans
12 for or on an issue of bonds sold in connection with a power project constructed or
13 acquired before August 11, 1993;

14 (2) the cost of operating, repairing, improving, and maintaining power
15 projects constructed or acquired before August 11, 1993; and

16 (3) debt service on power projects constructed or acquired before
17 August 11, 1993.

18 * Sec. 5. AS 44.88.090(b) is amended to read:

19 (b) Bonds shall be authorized by resolution of the authority, and be dated and
20 shall mature as the resolution may provide, consistent with the requirements of this
21 subsection [EXCEPT THAT A BOND MAY NOT MATURE MORE THAN 40
22 YEARS FROM THE DATE OF ITS ISSUE]. Bonds shall bear interest at the rate or
23 rates, be in the denominations, be in the form, either coupon or registered, carry the
24 registration privileges, be executed in the manner, be payable in the medium of
25 payment, at the place or places, and be subject to the terms of redemption which the
26 resolution or a subsequent resolution may provide. A bond issued on or after the
27 effective date of this bill section whose proceeds were used for the purpose of
28 repairing, improving, or maintaining the initial project as defined in AS 44.83.398
29 must mature within eight years from the date of issue. Other bonds issued under
30 this subsection must mature within 40 years from the date of issue.

1/10/88
CMAA bonds
included 3
initial text




Alaska State Legislature

Official Business

State Capitol
Juneau AK 99801

MEMO

TO: Legal Services
via fax: X2029

FROM: Annette E. Kreitzer, Aide to
Senate Resources Committee 

DATE: April 8, 1996

RE: CS SB 284 (RES)

Please prepare a Resources Committee Substitute for SB284 using the following language. I need the CS by Tuesday, April 9 at 5:00 p.m. for distribution to Resources Committee members.

- 1) The CS must incorporate an 8-year financing term for the bonds.
- 2) Add in a Purpose Clause with the following language:

*Section 1. (a) The purpose of this Act is to facilitate the issuance of bonds or other debt by the Alaska Energy Authority (AEA), the proceeds of which bonds or other debt will be used to make certain needed repairs to the initial project.

(b) It is the intent of the Legislature that the AEA and the purchasing utilities continue to negotiate in good faith with respect to the transfer of the initial project to the utilities and that a transfer plan or other long term solution to the economic difficulties of the initial project be presented to the 20th Alaska Legislature.

(c) In this section "initial project" means the power project described as the initial project in AS 44.83.398(a), consisting of the Tyee Lake, Swan Lake, Solomon Gulch, and Terror Lake hydroelectric facilities.

Purpose Language for SB 284

***Section 1.** (a) The purpose of this act is to facilitate the issuance of bonds or other debt by the Alaska Energy Authority ("AEA"), the proceeds of which bonds or other debt will be used to make certain needed repairs to the initial project.

(b) It is the intent of the legislature that any bonds or other debt issued by the AEA, in accordance with subsection (a), have a term of no more than 10 years.

(c) It is the intent of the legislature that the AEA and the purchasing utilities continue to negotiate in good faith with respect to the transfer of the initial project to the utilities and that a transfer plan or other long term solution to the economic difficulties of the initial project be presented to the 20th Alaska Legislature.

(d) In this section, "initial project" means the power project described as the initial project in AS 44.83.398(a), consisting of the Tyee Lake, Swan Lake, Solomon Gulch, and Terror Lake hydroelectric facilities.

FAX

Date: Sunday, April 07, 1996

Time: 2:02:01 PM

2 Pages

To: Annette Kretzer

From: Keith Laufer

Fax: 907-465-3810

Fax: 907-345-9161

Voice:

Voice: 907-345-9090

Comments:

Attached is draft purpose language to be considered for inclusion into SB 284. AEA will provide you with a letter regarding the ability to market bonds if the bill limits the utilities' self-help waiver. You can reach me through AIDEA on Monday at 269-3000. Hope you had a nice weekend.



ALASKA INDUSTRIAL DEVELOPMENT
AND EXPORT AUTHORITY



480 WEST TUDOR

ANCHORAGE, ALASKA 99503

907 / 269-3000

FAX 907 / 269-3044

April 8, 1996

The Honorable Loren Leman
Alaska State Senate
State Capitol, Room 115
Juneau, Alaska 99801-1182

Subject: SB284

Dear Chairman Leman:

At last Thursday's hearing of the Senate Resources Committee, Senator Taylor requested that an amendment be drafted to SB284 which would fully restore the four dam pool purchasing utilities' self help rights in the event divestiture to the utilities of the projects fails to occur by a certain date. As you know, the purpose of SB284 is to facilitate the issuance of bonds by the Alaska Energy Authority ("AEA") to provide funds to initiate certain needed repairs to the four dam pool projects. In support of this bond issuance, the purchasing utilities have entered into an agreement with AEA where among other things they have agreed to reduce their self-help rights under the power sales agreement to the limited extent of the debt service on the bonds. In other words, the utilities have already agreed that they will not invoke self help to the limited extent of the debt service on any bonds issued for these repairs. This limited self help waiver is one of two necessary components in order to provide a secure revenue stream for the payment of the repair bonds. The second necessary component is set forth in SB284. SB284 provides the mechanism to insure that the payments made by the utilities are first pledged to the debt service on the bonds.

As we understand the amendment that Senator Taylor requested be drafted, if divestiture of the projects to the utilities did not occur by a certain date, the utilities contractual agreement to partially limit their self help right would be abrogated. Accordingly, under Senator Taylor's proposal, a secure payment stream for the bonds could not be assured.

We have had preliminary discussions with AEA's financial advisor and with one of AEA's underwriters regarding Senator Taylor's proposed amendment. Both of these

The Honorable Loren Leman
April 8, 1996
Page 2

advisors have indicated that it is their opinion that, if the utilities agreement to limit their self help right can be abrogated in the manner contemplated by Senator Taylor's proposed amendment, it will be extremely difficult or impossible to market the bonds. If marketable at all, the interest rate and other costs of the bonds would be prohibitive. Accordingly, if Senator Taylor's proposed amendment were included in the bill, it is unlikely AEA would be able to issue the bonds for the needed repairs and the purpose of SB284 would be thwarted.

I would be happy to answer any questions you or the Committee might have.

Sincerely,



D. Randy Simmons
Development & Finance Manager

cc: William R. Snell, Executive Director
David Ramiseur, Office of the Governor
Pat Pourchot, Office of the Governor
Shari Kochman, Office of the Governor

SB284:

8 yrs -

provision to restore self-help; -
incentive to force Admin toward closure and net face

Entire bond set drops back into AID's lap;

* 8 yr term w- 1-yr. payment deferral

remains -/

bonds

deps upon Admin w/

some tickle if disturbance doesn't occur,
self-help works - job ready.



ALASKA INDUSTRIAL DEVELOPMENT
AND EXPORT AUTHORITY



480 WEST TUDOR

ANCHORAGE, ALASKA 99503

907 / 269-3000

FAX 907 / 269-3044

MEMORANDUM

TO: Dennis Lewis
General Manager

FROM: Dennis V. McCrohan, P.E. *DVM*
Deputy Director - Energy

DATE: March 1, 1996

SUBJECT: Senate Hearing on "Short Term Financing"
Tyee Repairs

Attached is a notification of the Senate Resources Hearing on SB 284 on March 6. I have also attached a copy of Senate Bill No. 284. We request that the PMC participate in the hearing and suggest that as Chairman of the PMC and also the representative from Petersburg that you attend the hearing. Please feel free to involve Wrangell at your discretion. Mr. Randy Simmons will represent AEA in Juneau at the hearing and please discuss the details with him. The AEA staff will be conferenced into the hearing from Anchorage.

Please call Randy or me if you have any questions.

Attachments

cc: Keith Laufer
Randy Simmons
Riley Snell

Randy Simmons

From: Katelyn Ohmer
To: Randy Simmons; Riley Snell
Subject: Legislation
Date: Friday, March 01, 1996 11:20AM

It is shaping up to be a busy week in Juneau next week for AIDEA/AEA related bills. You may already know about these meetings/hearings, but I'll share the information anyway so it is all in one place:

March 5 (Tuesday)

House Finance Committee sub-hearing on DCRA energy related matters
8 a.m.

March 6 (Wednesday)

Senate Resources, SB 284 (4-Dam Pool), Sen. Leman 3:30p

March 8 (Friday)

House Labor and Commerce, HB526 (Kott's AIDEA bill), 3p

March 14 (Thursday)

PCE meeting

I'll contact Sen. Leman's office to see if they need additional information on the bill. Will you guys be down to testify??? Or via teleconference.

Petersburg Municipal Power & Light

P.O. Box 329 • Petersburg, Alaska 99833

Phone: 907-772-4203

FOUR DAM POOL PURCHASING UTILITIES POSITION PAPER

Introduction

Since 1985, the electric utilities in Wrangell, Petersburg, Ketchikan and the Kodiak and Copper Valley Electric Associations have purchased power from four State-owned dams. Recently efforts intended to transfer actual ownership of the dams to the local utilities failed. This paper sets forth the history of the projects, the contractual relationship, and the obstacles to ownership transfer. This paper sets forth the utilities' position on both the project ownership issue and also the AEA's current proposal for financing immediate repairs.

Initial Project

In 1981, The legislature enacted the Energy Program for Alaska. The Energy Program was created to facilitate the financing and construction of power projects through direct State capital contributions using appropriated funds, as well as providing a mechanism for pooling any debt financing related to these projects.

During the early 1980s, the AEA financed with appropriated funds and constructed or acquired four hydroprojects under the Energy Program for Alaska (Lake Tyee, Swan Lake, Terror Lake, and Solomon Gulch). The purpose of the acquisitions was to provide a long-term, reliable source of power for the communities of Petersburg, Wrangell, Ketchikan, Kodiak, Glennallen and Valdez, at an ongoing operating cost that was expected to be less than the costs of operating the diesel generation units that were in operation in those communities. The financing, operation and management of the four projects were combined, statutorily named "The Initial Project," and are commonly known as the "Four Dam Pool."

The costs for construction or acquiring the Initial Project was initially paid by bond financing that was replaced with money lent to the AEA by the Department of Commerce and Economic Development. There is no fixed annual payment schedule; AEA collects "debt service" from the utilities on a kilowatt hour basis, which varies depending on the amount of energy sold from the projects.

AEA has contracted for the O&M of the four facilities with the local utility involved. AEA retains the right and responsibility to review and approve the annual budget for the operation and maintenance of the project. The cost of O&M is paid as a kWh charge based upon the combined annual O&M budgets.

The PSA

The final cost of construction for the four projects far exceeded the estimates, depriving both the State and the utilities of the intended arrangement--State financed and constructed projects for which the utilities would pay only operating costs with no obligation to repay capital costs paid by the State. Because of the serious cost overruns, utilities and the State each paid significantly more for power from these projects than any party intended or would have considered acceptable.

In 1985, after the projects were completed, the AEA and the cities of Ketchikan, Wrangell and Petersburg, Copper Valley Electric Association, and Kodiak Electric Association ("Purchasing Utilities") signed a Power Sales Agreement ("PSA"). The purpose of the agreement was to establish the conditions under which the power from the State-owned facilities would be sold. One key term was the creation of the Project Management Committee ("PMC") composed of a representative of each utility and the AEA, and the delegation to the PMC of broad decision-making authority.

Because of the serious construction cost overruns, the State required the utilities to make payments intended to repay to the state part of the construction cost. Because of this added debt burden, and the limited resources of the utilities to pay both capital and O&M costs, it was necessary for the State to retain ongoing financial responsibility for "major risks" (non-routine maintenance and replacements, catastrophic events, uninsured losses etc.).

Under the terms of the PSA, the AEA sells wholesale power to the five Purchasing Utilities, who, in turn, sell the power to their retail electric customers. The utilities, through purchase of power from the project, bear direct responsibility for certain defined "Power Production Costs" (such as routine operation and maintenance costs, insurance, PMC and certain AEA project-specific administrative costs). In addition, the Purchasing Utilities agreed to pay a fixed (i.e., "capped") contribution to a "Renewal and Replacement" (R&R) Fund (for the routine replacement of components as they need replacement or refurbishing), and to make a "debt-service" payment to the State based on a fixed cents per kilowatt hour charge. The current Four Dam Pool power rate is 50% higher than the Railbelt utilities pay for power from the AEA owned Bradley Lake project. The power rates in the Four Dam Pool communities are among the highest non-subsidized (i.e., not eligible for Power Cost Equalization) rates in the State.

In return for the utility commitment to bear the costs identified, the AEA agreed to bear the risks of substandard facility performance, insufficiency of the R&R Fund, uninsured losses, and other defined risks. To insure that there would be adequate funds to cover these risks, the PSA provides that the PMC may withhold debt-service payments from the State and use that money for repairs or renewals and replacements. This PMC right is commonly referred to as "self-help".

Needed System Repairs

Over the past few years, it has become clear that there are serious problems with certain Initial Project facilities, which include the four dams, transmission lines and related facilities. The vast majority of these problems are beyond the normal O&M costs paid by the Purchasing Utilities and are the AEA's financial responsibility to remedy.

Major repairs are needed on the Tye transmission line. A report prepared by Dryden and LaRue (consulting engineers retained by AEA) analyzed the failures and identified \$30 million of repairs to correct design deficiencies, of which \$16 million is essential to the reliability and safe and prudent operation of the project. A subsequent preliminary estimate provided to AEA by another engineering firm, Power Engineers, confirms that the Tye transmission line could need \$20 million in immediate repairs.

The AEA recognized its legal responsibility for the repair of the transmission line. In June 1995, AEA signed an agreement acknowledging its obligation to pay for Tye repairs as part of the settlement of the lawsuit brought by four of the Purchasing Utilities. However, how AEA will pay for the work remains an issue.

In addition, AEA has also acknowledged significant responsibility for major problems with the Terror Lake project on Kodiak island. The full extent of AEA responsibility and its financial requirements are yet to be determined. A repair project in 1994 and a mandatory FERC five-year inspection in 1995 identified a number of problems that impact the economic life of the Terror Lake project. The problems included excessive leakage, erosion, rock damage and rock accumulation endangering continued operation of the project. The 1994 repair project expected that the required work would cost \$1.8 million, take the dam out of service during one construction season, and result in a significant increase in energy sales after repairs were made. However, the repair project went badly. The tunnel was restored to service on October 1, 1994, without any increase in energy production and the work identified in the initial contract not completed, and with extensive additional repairs identified (AEA estimated the cost to complete repairs at over \$3 million dollars).

In addition to these, and other AEA repair obligation, all parties agree that the costs of normal renewals and replacements will soon exceed the payments to the R&R Fund. As a result, AEA will have significant responsibility for an ongoing, annual insufficiency in that Fund.

AEA Financing Proposal For Immediate Repair Needs

AEA proposes to sell up to \$25 million in bonds to pay for AEA's obligations for immediate repairs to the project. AEA and the Purchasing Utilities entered into an agreement in January 1996 in which the utilities agreed to cooperate with AEA in this financing. Specifically, the AEA again acknowledged its financial responsibility for the Tye and Terror Lake repairs and the Purchasing Utilities agreed to support the AEA's efforts to obtain legislative approval to use part of the "debt service" payments to repay debt service on the bonds. The utilities' right to "self-help," The uncommitted portion of the "debt-service," is unaffected.

Terms of the financing were left to AEA and the legislature. Because AEA and the Purchasing Utilities were in serious ownership transfer discussions, AEA proposed to delay debt service payments on the theory that such delay would allow the ownership transfer to be completed before the repayment obligation commenced. The utilities reluctantly agreed that the financing could be "up to" 25 years in length and initial debt service payment could be deferred until 1998. However, the utilities clearly would prefer a shorter term and to begin payment of debt service as soon as July 1996.

Divestiture Talks

In 1993, the State legislature passed a bill that restructured the AEA. Prior to the Act, the AEA was a public corporation of the State of Alaska, with a separate and independent legal existence. After enactment, AEA's power to acquire new facilities was eliminated, the AEA was transferred to the domain of AIDEA, and AIDEA's Board now directs AEA operations. That legislation directed AEA to seek ways to turn over ownership and control of AEA owned projects to the utilities.

That legislation, coupled with tension over AEA's financial responsibility for necessary repairs, led the parties to begin discussing the possibility of the AEA transferring ownership of the four hydroprojects to the Purchasing Utilities. The parties to these discussions have called this effort "divestiture talks."

In August 1995, the parties met at Chena Hot Springs for two days of intense discussions. The result was a memorandum of Understanding that set out a basic agreement for negotiation of an ownership transfer:

- * The PSA will remain in effect throughout the transfer. (The PSA cannot be changed without unanimous approval by the parties.)
- * As part of the transfer, AEA's obligations under the PSA will be transferred to the new owner, and AEA will be fully released from its duties as owner.
- * The AEA will receive value in exchange for the transfer as determined through the negotiation process.
- * The transfer must provide economic benefit to the utilities. (The utilities need both short term and long term rate reductions.)
- * Any ownership transfer will be subject to review of the legislature and will require the approval of the AIDEA board of directors and the governing bodies of all five utilities.

To provide a common factual basis for the talks, the AEA and the Purchasing Utilities contracted with Harza Northwest, Inc. to perform a risk assessment for the four projects. The purpose of the risk assessment was to identify the risks associated with the ownership and operation of the projects.

Harza prepared a Risk Assessment of the present condition, expected future maintenance and repair costs above normal operating costs, and risks associated with unpredictable events. The Harza Report identified expected risk-related repair costs of approximately \$1.1 million per year for the four projects, and an annual shortfall in the R&R Fund of about \$2 million. It also identified about \$30 million of repairs needed within the next five years. Virtually all of these costs will be the responsibility of AEA under the Power Sales Agreement. As a result, the costs identified by Harza become a major factor in setting a fair price for the project if sold to the utilities.

In addition to the facility risks reviewed by Harza, there are other risks to factor into the divestiture price negotiations. Two major concerns of the Purchasing Utilities are risks of inflation and the "market" for power sales in their communities.

Under the PSA, the utility payments into the R&R Fund and to the AEA as "debt service" are fixed. In other words, they do not escalate with inflation, and, therefore, the utilities are protected from any rate impacts as a result of inflationary increases to repair or renewal costs. If the utilities assume ownership, they would be exposed to the effects of inflation on such costs, and therefore believe it is critical that any divestiture price negotiations reflect the value to the State of transferring this risk to the utilities.

Another significant risk the utilities must factor into any purchase price is that the markets for the power are not guaranteed and face real uncertainty. The power generated at these projects serves relatively small and isolated communities. These communities are reliant on one or two primary industries, such as timber or fishing and their economic viability is threatened. If a plant or mill closes or the fishing season is restricted or a customer installs its own generation, the revenues and economics of the serving utility is then a major concern.

Over the past several months, the Purchasing Utilities have done extensive legal review, performed a detailed review of the Harza work, and retained a financial advisor to determine the financial consequences to the communities of assuming ownership. The most serious issue is the proposed transfer of risks from AEA to the utilities.

Currently AEA bears the risks of "major repairs," inflation, loss of load, etc. If AEA were prepared to retain some of these risks, the utilities are prepared to discuss a significant payment to the State for ownership of the projects. However, AEA has insisted that the utilities must accept all risks as part of an ownership transfer. The utilities determined that the present value of the financial risks they would assume is high enough that it essentially offsets value of the payments the utilities currently make to the State. In other words, although the utilities are willing to consider a "modest" payment to the State for the project, they believe the basic deal needs to be that the price they pay the State is to accept (and therefore relieve the State from) the significant risks facing AEA over the next few decades.

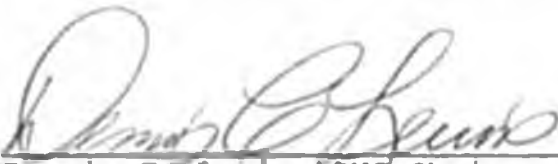
At the last negotiating session, AEA shocked the Purchasing Utilities by proposing that the utilities (1) pay to AEA \$84 million, (2) assume the full burden of the already identified costs of repairing Tyee and Terror Lake, and (3) assume all current State risks under the PSA. To establish the value of the Project, the State discounted the risks established in the Harza report and maximized potential revenues. The utilities ended negotiations because this AEA proposal is so far from anything considered reasonable. Before the meeting ended, the utilities listed the other considerations and risks not addressed in the State's proposal as follows: Southeast Intertie (construction and operation), the potential of an early catastrophic event, the need for a warranty on Tyee repairs, future regulatory risk, Terror Lake repairs, cost of setting up and operating a new entity, inflation and market risk.

Conclusion

Under the PSA, the utility risks related to the project are very limited. The State is contractually responsible for extraordinary costs like repairing the Tyee line, and the debt service component of the rate is effectively capped. These were very important victories for the utilities in the 1985 negotiations, and continue to be important contract obligation of the State.

It is important to remember that the Purchasing Utilities however, are paying some of the highest wholesale power rates in the State. The current rate for Initial project power is more than 50% higher than the costs for wholesale power generated at the Bradley Lake hydroelectric project. Add to that, the future risks outlined in the Harza Report, and the rate could rise significantly in the next several years and worsen the economic problems faced by the served communities.

Lowering wholesale power rates and obtaining local control was the motivation of the Purchasing Utilities for entering the divestiture talks. The motivation is still real. The utilities, however, cannot take on the operational and economic risks of these projects without sufficient consideration in the divestiture process. AEA must recognize the original State goal of rate relief to isolated communities and the need for any transfer of ownership to lead to less expensive rates.



Dennis C. Lewis, PMC Chairman
In Behalf Of The Purchasing Utilities



- TYEE LAKE HYDROELECTRIC PROJECT -

P O BOX 1318 WRANGELL, ALASKA 99929 (907) 874-3834 FAX (907) 874-2581

DATE: March 4, 1996
 TO: Senate Resource Committee, Alaska State Senate
 FROM: Dick Olson, President TBPA
 SUBJECT: Senate Bill 284

As you already know, the Thomas Bay Power Authority, a Joint Agency of Petersburg and Wrangell, contracts with the State of Alaska to operate the Tyee Hydroelectric project.

Our responsibility has been to operate the project in a prudent manner and to provide our communities with reliable electrical energy and to also protect the States investment in this project.

Everyone is aware that the Tyee transmission line is substandard, and has been at risk of failure for several years due to a shortage of funding for repairs.

After many years of investigative work by many engineering firms, AIDEA and the Project Management Committee (Four Dam Pool) believe they have arrived at a level of confidence with the engineering and planning to go forward with the repair of the Tyee Transmission line when financing can be obtained.

Through an agreement between AIDEA and the Purchasing utilities, AIDEA is asking the legislature for authority to sell bonds to provide funds to complete the repairs of the Tyee line and critical work needed for other Four Dam Pool projects

The method of repayment of the bonds will insulate the legislature from the need to appropriate funds for repairs from other sources to protect the States investment.

Post-It® Fax Note	7071	Date	3/5/96	# of pages	▶
To	Dennis Lewis	From	Dick Olson		
Co./Dept.		To			
Phone #		Phone #			
Fax #		Fax #			

Final Draft

March 4, 1996

Page 2

The Thomas Bay Power Authority urges you to approve the sale of bonds so work can begin this year for repair of these projects.

Sincerely,



Dick Olson, President

Thomas Bay Power Authority



ALASKA INDUSTRIAL DEVELOPMENT
AND EXPORT AUTHORITY

MAR 22 1996



480 WEST TUDOR

ANCHORAGE, ALASKA 99503

907 / 269-3000

FAX 907 / 269-3044

March 20, 1996

Senator Loren Leman, Chairman
Senate Resources
Alaska State Legislature
State Capitol (MS 3100)
Juneau, AK 99801-1182

RE: SB 284

Dear Senator Leman:

This letter is in response to questions raised at the Senate Resource Committee hearing on SB 284 held on March 6, 1996.

Senator Halford requested specific statutory and regulatory citations authorizing the Alaska Energy Authority (AEA) to negotiate and enter into a Long Term Power Sales Agreement for the sale of Four Dam Pool power. Enclosed is a letter from Keith Laufer, Assistant Attorney General, addressing this issue.

You requested examples of bonding scenario's showing how the term of the bond issuance will affect the yearly debt service and overall cost to the State. Examples, on a comparable basis, showing terms of 5, 10 and 25 years, at current rates, follow.

Term	Initial Payment Date	Total Issuance	Amount Available For Construction	Annual Debt Service Payments	Total Debt Service
5	7/1/97	\$25 Million	\$24,131,066	\$6,217,100	\$31,077,086
5	7/1/98	\$25 Million	\$21,418,081	\$7,237,932 ⁽¹⁾	\$31,766,081
10	7/1/97	\$25 Million	\$24,208,600	\$3,732,744	\$37,301,674
10	7/1/98	\$25 Million	\$21,470,156	\$3,866,300 ⁽²⁾	\$37,674,942
25	7/1/97	\$25 Million	\$24,069,808	\$2,386,944 ⁽³⁾	\$60,297,540
25	7/1/98	\$25 Million	\$21,191,503	\$2,386,944 ⁽³⁾	\$60,297,540

- (1) Initial annual payment of \$2,823,750; annual payment of \$7,237,932 thereafter.
- (2) Initial annual payment of \$2,900,478; annual payment of \$3,866,300 thereafter.
- (3) Initial annual payment of \$3,059,202; annual payment of \$2,386,944 thereafter.

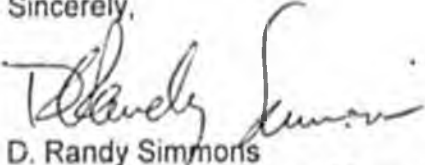
Senator Loren Leman, Chairman
March 20, 1996
Page Two

The differences between total issuance and the amount available for construction is made up of issuance costs and capitalized interest, if applicable.

Based on the information we currently have, a 10 year term with a one year payment deferral would be the alternative that we would most likely choose. The deferral would give us two years to find a long term solution to the Four Dam Pool issues, without affecting the current allocation of the payment stream that the State receives. If we are unsuccessful, the debt service amount would be set at a level that would still allow between \$6-7 million to be allocated to PCE, the Southeast Intertie and DCRA's power project fund.

I hope this information is helpful. If you need any additional information, please do not hesitate to call me.

Sincerely,



D. Randy Simmons
Development & Finance Manager

DRS/ylf
h:\r\simmons\ee\sb284.doc

Enclosure

cc: William R. Snell, Executive Director
Senator Drue Pearce
Senator Steve Frank
Senator Rick Halford
Senator Robin Taylor
Senator Georgianna Lincoln
Senator Lyman Hoffman
Percy Frisby, Director, Division of Energy, DCRA
Dennis Lewis, Chairman, PMC

STATE OF ALASKA

DEPARTMENT OF LAW

OFFICE OF THE ATTORNEY GENERAL

March 18, 1995

Randy Simmons
Alaska Industrial Development and Export Authority
480 West Tudor
Anchorage, Alaska 99503-6690

RE: SB 284
Our file 661-95-0723

Dear Randy:

At your request, I am writing this letter to respond to certain questions Senator Halford raised at the Senate Resource Committee hearing on Wednesday, March 6, 1996. Specifically, Senator Halford requested information regarding the statutory authority of the Alaska Energy Authority (AEA) to enter into the Long Term Power Sales Agreement for the Four Dam Pool Power (the PSA) and the provision therein allowing the purchasing utilities to withhold payments under certain circumstances and use the money withheld to effect repairs to the projects.

Pursuant to AS 44.83.080 (as in effect when the PSA was executed), AEA was granted broad powers to enter into agreements regarding the sale of energy produced by its projects. Specifically, AS 44.83.080 (10) provided that the AEA had the power to enter into contracts

for the financing, construction, acquisition, operation and maintenance of all or any part of a power project, either inside or outside the state, and for the sale and transmission of power from a project

This power was reiterated in AS 44.83.080 (11) where AEA was provided the power to enter into contracts "for the purchase, sale, exchange, transmission or use of power from a project or any right to any capacity of it."

In addition to these specific contractual powers, the AEA was provided with the power

to enter into contracts or agreements with respect to the exercise of any of its powers, and to do all things necessary or convenient to carry out the corporate purposes and exercise the powers granted in this chapter.

TONY KNOWLES, GOVERNOR

PLEASE REPLY TO:

- 1031 WEST 4TH AVENUE, SUITE 200
ANCHORAGE, ALASKA 99501-1994
PHONE: (907)269-5100
FAX: (907)276-3697
- KEY BANK BUILDING
100 CUSHMAN ST., SUITE 400
FAIRBANKS, ALASKA 99701-4679
PHONE: (907)451-2811
FAX: (907)451-2846
- P.O. BOX 110300-DIMOND COURT HOUSE
JUNEAU, ALASKA 99811-0300
PHONE (907)465-3600
FAX (907)465-6735

AS 44.83.080(14) (effective at the time PSA was executed).

With respect to the sale of power from the Four Dam Pool projects, AS 44.83.398 set forth factors that were to be considered in computing the wholesale power rate. Under that provision, the rate established must equal the amount AEA estimates is necessary to produce revenue sufficient to pay for the operation, maintenance and equipment replacement costs of the projects, the power projects proportionate share of the debt service, and safety inspections of the power project. The provisions of the PSA take each of these components into account in establishing the wholesale power rate from the Four Dam Pool. (See PSA Section 5 and specifically Section 5(f)).

Under the PSA negotiated by AEA, AEA remained responsible for certain risks related to project ownership. These risks included the risks of uninsured facility failures, substandard facility performance, inadequacy of the R&R fund, or failure of any purchasing utility to make payments required under the agreement. Under Section 6(a) of the PSA, in the event AEA was unable to fulfill its obligations with respect to these risks, the utilities could withhold payments due under the PSA in order to fulfill those obligations. This type of arrangement is common in many commercial transactions. It is often the case that one party to a contract may withhold payment to another party and apply the withheld sums to fulfill the other party's obligations. This makes particular sense in the context of the PSA. Under the PSA, the utilities are only required to pay for power actually produced. Thus, if a facility failure prevents power from being produced by the projects, the entire payment stream to the state could be disrupted. Under the mechanism provided in the PSA, the utilities can utilize funds to effect repairs ensuring that power continues to be produced and that the disruption to the state's payment stream is minimized. I have found nothing in AEA's statutes or otherwise that would prevent AEA from entering into this type of arrangement.

To summarize, the PSA entered into by the Alaska Energy Authority appears consistent with AEA's statutes. AEA was granted broad powers as it pertains to entering into power sales agreements with utilities. The PSA entered into between the AEA and the purchasing utilities of the Four Dam Pool appears within the broad powers granted to AEA.

Randy Simmons
Alaska Industrial Development and Export Authority
661-95-0723

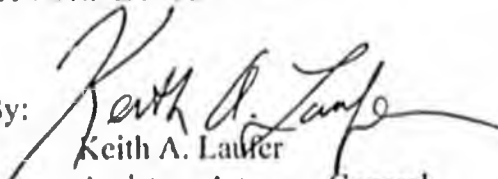
March 18, 1996
Page 3

Should you have any questions do not hesitate to call.

Very truly yours,

BRUCE M. BOTELHO
ATTORNEY GENERAL

By:


Keith A. Laufer
Assistant Attorney General

KAL:aw



— TYEE LAKE HYDROELECTRIC PROJECT —

P. O. BOX 1318 WRANGELL, ALASKA 99929 (907) 874-3834 FAX (907) 874-2581

DATE: March 4, 1996
TO: Senate Resource Committee, Alaska State Senate
FROM: Dick Olson, President TBPA
SUBJECT: Senate Bill 284

As you already know, the Thomas Bay Power Authority, a Joint Agency of Petersburg and Wrangell, contracts with the State of Alaska to operate the Tyee Hydroelectric project.

Our responsibility has been to operate the project in a prudent manner and to provide our communities with reliable electrical energy and to also protect the States investment in this project.

Everyone is aware that the Tyee transmission line is substandard, and has been at risk of failure for several years due to a shortage of funding for repairs.

After many years of investigative work by many engineering firms, AIDEA and the Project Management Committee (Four Dam Pool) believe they have arrived at a level of confidence with the engineering and planning to go forward with the repair of the Tyee Transmission line when financing can be obtained.

Through an agreement between AIDEA and the Purchasing utilities, AIDEA is asking the legislature for authority to sell bonds to provide funds to complete the repairs of the Tyee line and critical work needed for other Four Dam Pool projects.

The method of repayment of the bonds will insulate the legislature from the need to appropriate funds for repairs from other sources to protect the States investment.

March 4, 1996
Page 2

The Thomas Bay Power Authority urges you to approve the sale of bonds so work can begin this year for repair of these projects.

Sincerely,

A handwritten signature in cursive script that reads "Dick Olson".

Dick Olson, President
Thomas Bay Power Authority

TONY KNOWLES
GOVERNOR



P.O. Box 110001
Juneau, Alaska 99811-0001
(907) 465-3500
Fax (907) 465-3532

STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

February 9, 1996

287

The Honorable Drue Pearce
President of the Senate
Alaska State Legislature
State Capitol
Juneau, AK 99801-1182

Dear President Pearce:

Under the authority of art. III, sec. 18, of the Alaska Constitution, I am transmitting a bill modifying the distribution of money from the four dam pool transfer fund and making necessary changes to the power development fund. These changes are needed to allow the Alaska Energy Authority (AEA) to issue bonds for needed repairs to the four dam pool projects.

The Tyee transmission line links the communities of Wrangell and Petersburg to the Tyee Lake hydroelectric project. The transmission line has been out of operation on three occasions over the last several years because of significant deficiencies in the line. Repairs are immediately needed to ensure that the line can operate without a catastrophic failure. In addition, repairs are required to the Terror Lake hydroelectric project power tunnel. Due, at least in part, to design deficiencies, the Terror Lake power tunnel has not performed in accordance with reasonable standards.

Under the long-term power sales agreement between the AEA and the purchasing utilities of the four dam pool, the required repairs to the Tyee transmission line and some of the repairs to the Terror Lake power tunnel are obligations of the AEA. Under the agreement, the utilities make annual debt service payments to the state. Over the past several years, these payments have amounted to between \$8 million and \$11 million annually. The utilities may reduce or withhold this payment, however, if the AEA lacks sufficient money to fulfill its obligations under the agreement.

The ability to withhold payment is generally referred to as the utilities self-help right. Since the Tyee transmission line repairs and some of the Terror Lake tunnel repairs are obligations of the AEA, the purchasing utilities could withhold the annual debt service payment to provide money for these repairs. In fact, under a settlement agreement with AEA, the purchasing utilities invoked their self-help right last fiscal year and withheld \$4 million to conduct engineering for the required repairs.

The debt service payment made by the utilities is deposited into the four dam pool transfer fund. Under current law, subject to appropriation, 40 percent of the balance in the four dam pool transfer fund is transferred to the power cost equalization and rural electric capitalization fund; 40 percent goes to the Southeast energy fund, and 20 percent goes to the power project fund.

AEA intends to issue up to \$25 million of bonds to finance the immediately needed Tyece transmission line repairs and the obligations of the AEA with respect to the Terror Lake power tunnel for these repairs. That would prevent the utilities from withholding their debt service payments. Under existing law, AEA has the authority to issue these bonds and they may carry the moral obligation of the state. The bonds will have a term of no more than 25 years. Annual payments are estimated at between \$3 million and \$5 million and will begin no later than July 1, 1998.

The purpose of the deferral of bond payments to July 1, 1998, is to give the AEA time to develop a long-term plan for the four dam pool facilities. The AEA is currently negotiating to sell the dams to the utilities. If the sales take place, the bonds will be paid off before any debt service payments are due.

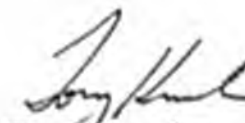
In order to make the proposed bonds marketable, bond investors must be assured that a secure revenue source is available for the debt service on the bonds. There are two critical elements to ensure this secure revenue source. First, the utilities must limit the self-help right under the power sales agreement to guarantee that a sufficient payment is made to the AEA to cover the debt service. In that regard, the four dam pool project management committee and the AEA entered into an agreement whereby the utilities will limit their self-help right. The second critical element is to ensure that the first call on the payments made by the utilities is for the debt service related to the bond issue. This bill accomplishes that second critical element.

Section 1 of the bill modifies current law so that, subject to appropriation, an amount necessary to cover the debt service on the loans or bonds will be transferred from the four dam pool fund to the AEA power development fund. Section 2 of the bill clarifies that money in the AEA power development fund can also be used for repairing and improving power projects constructed or acquired before August 11, 1993.

This bill will allow the immediately needed repairs on the four dam pool facilities to go forward. Meanwhile, discussions will continue with the utilities to develop a long-term solution to the financing and economic needs of the projects.

I urge your passage of this bill.

Sincerely,



Tony Knowles
Governor

City of Wrangell, Alaska



Terry Nikodym
Council

205 Brungor
P.O. Box 531
Wrangell, AK 99929

907-874-2381
Fax 907-874-3952

Terrence J. Nikodym



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Wrangell, AK 99929
907-874-2081

SB

285

Division Data: _____ Dept. Affected: Revenue
 Title: Discrete Salmon Stock Management and Assessment BRU: Revenue Operations
 Component: Income and Excise Audit
 Sponsor: Senator Hallford
 Requestor: Senate Resources COMPONENT SERIAL NO. 113

Expenditures/Revenues:

(Thousands of Dollars)

OPERATING EXPENDITURES	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	00	00	00	00	00	00

CAPITAL EXPENDITURES						
----------------------	--	--	--	--	--	--

CHANGE IN REVENUES ()
------------------------	-------	-------	-------	-------	-------	-------

FUND SOURCE

(Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1037 GF/Mental Health						
Other						
TOTAL	00	00	00	00	00	00

Estimate of any current year (FY96) cost \$ _____

POSITIONS

FULL-TIME						
PART-TIME						
TEMPORARY						

ANALYSIS: (Attach a separate page if necessary)

See Attached

Prepared by: Carl A. Meyer Phone: 445-2343
 Division: Income and Excise Audit Date: March 12, 1996
 Approved by Commissioner: Wilson L. Condon Date: March 12, 1996
 Agency: Department of Revenue

PREPARED TO PROVIDE ALL DISTRIBUTION COPIES TO GOVERNOR'S LEGISLATIVE OFFICE
 For further distribution information call the Governor's Legislative Office

SB 285 Analysis

SB 285 requires the Board of Fisheries to adopt and implement a discrete salmon stock management plan. The commissioner of Fish & Game is given authority to establish by regulation a tax rate for a salmon management assessment. The tax rate is determined for each area by dividing the estimated annual cost of conducting the research and data collection for each Board of Fisheries salmon management area by the preceding 5 year average of total annual taxable value of salmon taken in each such area.

The tax is on limited entry or interim use permit holders. A buyer must collect the assessment and remit it to DOR by the last day of the following month. DOR assumes the tax rate is based on the costs and values for the previous year.

For DOR to prepare a meaningful fiscal note, it would be necessary to isolate the taxable value of salmon taken in each management area for the last five years and to have an estimation of the costs to be incurred by the state in adopting and implementing a discrete salmon stock management policy in each area. DOR does not collect value data by management regions nor can it estimate the Fish & Game management costs. Therefore, DOR is unable to estimate the new revenue impact of the bill.

Operating

We can administer the tax collection program with current staff resources. no increase in our operating budget is necessary.

SENATE COMMITTEE REPORT

First Committee of Referral

DATE: 2/9/96

FURTHER: Finance

Date of 5-Day Notice: 3-7-96
(in accordance with Uniform Rule 23)

DATE TURNED INTO OFFICE: 4-18-96

The Resources Committee considered SB 285

Relating to management of discrete salmon stocks and to a salmon management assessment.

and recommends:

- be replaced with _____ CS _____
- adopt previous _____ CS _____
- attached amendment(s)
- adopt Letter of Intent by _____ Committee
- further referral to the _____ Committee

- Senate Bill:**
- same title
 - new title
- House Bill:**
- same title
 - technical title
 - new: SCR# _____

SIGNING DO PASS	DP	OTHER RECOMMENDATIONS	NR	DNP	AM
		<i>[Signature]</i>			✓
		<i>[Signature]</i>			✓
<i>[Signature]</i>	✓				
<i>[Signature]</i>	✓				
<i>[Signature]</i>	✓				
CHAIR:		<i>[Signature]</i>			X

NEW FISCAL NOTE(S):

Department	Date	Zero	Fiscal
Revenue	7/1/96	✓	
FCG - FISH MGMT	7/1/96		1,777

PREVIOUS FISCAL NOTE(S):*

Department	Date	Zero	Fiscal
Revenue	7/1/96	✓	
FCG	7/1/96		

APPROPRIATION -- no fiscal note

*include fiscal notes accompanying Governor's bill

Revision Date: _____ Dept. Affected: Revenue
 Title: Discrete Salmon Stock Management and Assessment BRU: Revenue Operations
 Component: Income and Excise Audit
 Sponsor: Senator Halford
 Requestor: Senate Resources COMPONENT SERIAL NO. 113

Expenditures/Revenues: (Thousands of Dollars)

OPERATING EXPENDITURES	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	0.0	0.0	0.0	0.0	0.0	0.0

CAPITAL EXPENDITURES						
----------------------	--	--	--	--	--	--

CHANGE IN REVENUES ()
------------------------	-------	-------	-------	-------	-------	-------

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1037 GF/Mental Health						
Other						
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0

Estimate of any current year (FY96) cost \$ _____

POSITIONS:

FULL-TIME						
PART-TIME						
TEMPORARY						

ANALYSIS: (Attach a separate page if necessary)

See Attached

Prepared by: Carl A. Meyer Phone: 465-2343
 Division: Income and Excise Audit Date: March 12, 1996
 Approved by Commissioner: Wilson L. Condon Date: March 12, 1996
 Agency: Department of Revenue

PREPARER TO PROVIDE ALL DISTRIBUTION COPIES TO GOVERNOR'S LEGISLATIVE OFFICE
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The tax is on limited entry or interim use permit holders. A buyer must collect the assessment and remit it to DOR by the last day of the following month. DOR assumes the tax rate is based on the costs and values for the previous year.

For DOR to prepare a meaningful fiscal note, it would be necessary to isolate the taxable value of salmon taken in each management area for the last five years and to have an estimation of the costs to be incurred by the state in adopting and implementing a discrete salmon stock management policy in each area. DOR does not collect value data by management regions nor can it estimate the Fish & Game management costs. Therefore, DOR is unable to estimate the new revenue impact of the bill.

Operating

We can administer the tax collection program with current staff resources, no increase in our operating budget is necessary.

April 12, 1996

TESTIMONY ON S. B. 285 - DISCRETE SALMON STOCK MANAGEMENT
AND ASSESSMENT

To: Chairperson/Committee Members
Senate Resources Committee

From: James L. Evenson
P. O. Box 324
Kenai, AK 99611-0324

I strongly oppose S. B. 285 for the following reasons:

1. Salmon stock management is a function of the Board of Fisheries and the Alaska Department of Fish and Game. The legislature should not interfere.
2. The Board of Fisheries and the Department of Fish and Game have been successfully managing salmon by specific stocks since statehood when and where possible and practical.
3. Further assessments on the commercial salmon fisheries of Alaska are unwarranted and unfair.
4. The motivation for this bill is largely to increase available fish in streams in the Susitna drainage that have been overfished and suffered habitat destruction by the sport fishing and guide industry.
5. The Cook Inlet mixed stock commercial salmon industry is being singled out as the scapegoat for these destructive in-river practices.

James L. Evenson

Petersburg Vessel Owners Association

P.O. Box 232
Petersburg, Alaska 99833
Phone (907) 772-9323 Voice and Fax

Testimony on Senate Bill 285
before the
Senate Resources Committee
on April 12, 1996

Mr. Chairman and members of the committee, my name is Liz Cabrera. I am director of the Petersburg Vessel Owners Association and am testifying on their behalf.

Given the proven success of the state's current salmon management strategy, our organization is opposed to any attempt to significantly alter the way the state manages our salmon fisheries; and definitely opposed to the provisions contained in S.B. 285.

Discreet stock management dictates that individual streams be guaranteed their escapement goal regardless of how it effects escapement of other species of salmon and escapement in other stream systems. In other words, the Department of Fish and Game could be prevented from opening a district until individual streams with discrete stocks achieved their escapement, even though the escapement goal for the watershed itself may have been reached. This could result in some watersheds having overescapement problems and reduced fishing opportunity for the commercial fleet. It could also force the commercial fleet into terminal areas, and reduce overall quality of fish being harvested.

SWSE,
Alaska
does not
have in-river
commercial
fisheries,

In addition to directing the Department to implement a discrete stock management policy, S.B. 285 also allows the Department to assess salmon permit holders for covering the costs associated with the development of this new policy. Collecting the data necessary to manage fisheries this way would cost millions of dollars. We do not believe the commercial salmon fishermen of Alaska should be paying to develop a management strategy which could ultimately jeopardize the salmon resource. Also, considering the trend in salmon prices over the last few years, and particularly the low prices expected this year, many commercial salmon fishermen will be hard pressed to make boat and permit payments nevermind fund a new and expensive management scheme. We urge you to oppose this legislation.

.Thank you for the opportunity to comment.

**STATE OF ALASKA
THE LEGISLATURE
LEGISLATIVE AFFAIRS AGENCY
DIVISION OF PUBLIC SERVICES**

PETERSBURG LEGISLATIVE INFORMATION OFFICE

PHONE: 772-3741 FAX: 772-3779

FAX TRANSMISSION

To: Senate Resources Committee

Fax: #907-465-3810

Date: *April 12, 1996*

Message:

*Statement on S.B. 285
from Liz Cabrera, P.V.O.A.*



Alaska State Legislature

Please enter into the record my testimony to the Resource
 committee on SB 285 , dated 4/13/96
 committee name
 bill/subject

I cannot understand why my fellow Republicans have proposed this new Tax Bill, SB 285. I thought the caucus was adamately clear on "no new taxes". If changing the name of a new tax to "MANAGEMENT ASSESSMENT" makes it OK with the caucus, then we can antcipate a rash of remaning such as "tobacco health management assessment" or "highway surface management assessment". I am dumbfounded that you would consider giving unlimited tax rate authority to the executive branch - even specifying that a single Commissioner will set the (value), tax rate to cover whatever the management bureaucracy spends or decides it needs to spend to implement this open ended reseach and analysis.

The salmon stock composition analysis called for in SB285 requires O.J. Simpson style genetic analysis that is extremely expensive. The facillities for such massive testing do not even exist in the State. The stock composition data currently available with scale analysis would not meet the statutory requirement because all rivers are cannot be segregated without having having all other contributing streams tested which has been impractical and financially prohibitive.

In small fisheries like the Lower Cook Inlet set net fishery at China poot, English Bay and Port Graham, the mandated assessment would exceed the entire value of the fishery.

Please drop this tax bill and allow the Board of Fisheries and the Department of Fish and Game do their job.

Sincerely,

Paul K. Seaton
 58360 Bruce Dr.
 Homer, AK 99603
 (907)235-6342

ALASKA SPORTFISHING ASSOCIATION
P.O. BOX 241847
ANCHORAGE, AK 99524

Senator Rick Halford
Senator Lyda Green
Alaska State Senate
State Capitol
Juneau, AK 99801-1182

Dear Senators Halford and Green,

The Alaska Sportfishing Association's Board of Directors, representing the state's largest sport fishing group, have unanimously voted to support Senate Bill 285 "An Act relating to the management of discrete salmon stocks".

This legislation is a key document in the evolution of the management of our salmon stocks. The recent Board of Fisheries meeting on Upper Cook Inlet fishing issues highlighted the need for more emphasis on management for genetic diversity of our mixed stocks. The era of managing for maximum yield (harvest) of a single dominant species without regard for the other species and their natal streams must come to an end if we want to preserve our incredible salmon resource for future generations of Alaskans.

Both the "Upstream: Salmon and Society in the Pacific Northwest" report, the reports by Dr. Phillip Mundy, as well as several ADF&G staff reports to the Alaska Board of Fisheries last month emphasize that more attention must be placed on management of the weaker stocks of fish or they will cease to exist.

We feel that the Board of Fisheries, by adopting a list of fishery management principles, have taken a giant step towards better salmon management. SB 285, by requiring the Board of Fisheries to manage for these discrete stocks, and by requiring ADF&G to provide them with the information to do so, will provide the vehicle to make salmon management in Alaska more consistent with our Constitutional mandate of sustained yield.

Please call us if we can help work this bill through the process.

Phil Cutler, President 3/11/96

ALASKA SPORTFISHING ASSOCIATION
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Phil Cutler, President 3/11/96



Alaska Trollers Association

130 Seward St., No. 505
Juneau, Alaska 99801
(907) 586-9400
(907) 586-4473 Fax

April 12, 1996

Senator Loren Leman, Chair
Senate Resources Committee
Alaska State Legislature
State Capitol (MS 3100)
Juneau, AK 99811

Dear Senator Leman:

I am writing to inform you of the Alaska Trollers Association's opposition to SB 285, which seeks to mandate a discrete stock policy for the management of salmon. Our reasons are as follows:

Weak Stock Management Doesn't Work

I can think of no better reason to oppose this bill than the condition of Washington State's salmon resource and fisheries. There, weak stock management was mandated by the courts twenty years ago and has failed to recover stocks of concern. Historic fisheries collapsed right along with the salmon in the Pacific Northwest.

Contrast Washington's program with the State of Alaska's. Our program combines a strong commitment to habitat with a management system that involves fisheries professionals and fishing representatives dedicated to healthy fish and fisheries. Considering our recent chain of record breaking returns, Alaska is doing something right when it comes to managing for sustained yield.

Alaska's abundance driven management regime has worked in most areas around the state, in part because it provides wide latitude to address individual stocks as needed. Obviously there are still allocative disputes, but no management system will completely eradicate this problem and weak stock management could make it worse.



Weak Stock Management Is Contrary to the State's ESA Position

Under the Endangered Species Act, Alaska fishermen have lost fishing time and 56,000 chinook since 1993, to save a handful of Snake River fall chinook that spawn 1000 miles away. This is weak stock management in action. The State opposed Alaska's loss of fish administratively and legally.

Senator Drue Pearce and Representative Gail Phillips took issue with weak stock management in their April 24, 1995 testimony on the Endangered Species Act, stating that it is "contrary to common sense" because it is impossible to "protect every species from naturally expanding or contracting". They went on to ask that Congress concentrate on "species" and drop the term "distinct population segment".

ADF&G Has Much More Serious Research and Analysis Needs

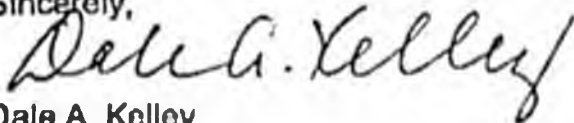
ATA doesn't support research for research sake. While we would like to know everything about the stocks we harvest, this just isn't practical in the face of declining budgets. This bill would demand valuable staff time for escapement goal analysis which may not be critical to the management of our fisheries.

Through General Fund Contributions Commercial Fishing Industry Is Already a Substantial Provider to ADF&G

The state collects millions of dollars each year from the commercial fishing industry. In FY 94, that figure was \$79 million dollars. This money provides substantial revenue to address fisheries management and research needs, in addition to money that is used by our communities for roads, schools and other needs they would otherwise ask the state to finance. Still, SB 285 seeks to impose another tax on fishermen. This state of affairs is confusing for an industry that generates state revenue at a rate second only to oil and gas.

In conclusion, I am amazed to read a sponsor statement that refers to "experts" in the field of salmon management as if Alaska was somehow lacking in technical expertise. I have spent years in the presence of some of the same "experts" the sponsor quotes and I assure you, Alaska can be proud of the fact that we have the finest management team on the Pacific coast. As proof positive, remember the state of our fisheries at statehood, look at the vibrant health of our salmon resources today and compare this to the decisions and subsequent success rate of the "experts" to the south. Alaska knows how to manage fish, don't fix what's not broke!

Sincerely,



Dale A. Kelley
Executive Director



Alaska State Legislature

Please enter into the record my testimony to the SENATE RESOURCES
 committee name
 committee on SB 285, dated 3-13-96
 bill/subject

This is another example of government entering into arenas delegated to agencies already existing, and doing a rather poor job of it. Only in a perfect world would all of the information requested in the bill be available. The fisheries have a mixed-stock policy. It is absurd to expect the industry to fund a research program of this magnitude. The ADF&G is the agency that should develop and bring forward proposals on drastic management changes such as this, not the legislature.

Signed: Donald Basset
 Testifier
self.
 Representing (Optional)
Box 541 Kasilof AK 99610
 Address
(907) 262-7215
 Phone No.



Alaska State Legislature

Please enter into the record my testimony to the SENATE RESOURCES
 committee name
 committee on SB 285, dated 3-13-96
 bill/subject

As in any business, information is the key to success. This bill has some good merit in its request for more conclusive information on biological data; unfortunately, there are several flaws that make this bill "die on the vine." In order to get maximum benefit, study models should be based on maximum sustained yield to adequately protect the state's investment in its natural resources. Cost / payment should be spread out among all user groups / residents who benefit from the natural resource. Discrete stock management is a myth and unmanageable by the technologies of today. This SB 285 will create economic harm and devastation to the infrastructure of the good state of Alaska.

Signed: Paul A. Shudson Jr
 Testifier
P.A.S. Inc.
 Representing (Optional)
P.O. Box 1632 Kenai, AK 99611
 Address
907-283-5098
 Phone No.

3/13/96

To: Alaska State Legislature
From: James L. Mykland

Re: Written testimony on SB 285

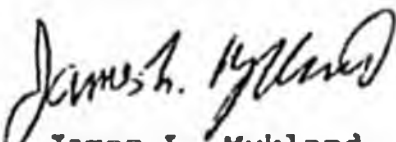
I am in opposition to SB 285. The Alaska Dept. of Fish & Game's budget has been slashed by the legislature to the point that important escapement survey's and hard data research has been severely curtailed the last five years. When we do not properly fund the very agency that has the most important job of management of our state's fishing industry then we lose the data that we need to have to make the decisions regarding the fisheries management in the future.

This bill does nothing to make ADF&G's job easier. We have had record salmon runs the past five years. Alaska is producing more salmon then it ever has before. If there was a problem with the way ADF&G is managing the fisheries it would show up in decreased runs. That is not the case.

What I do see is that the legislature feels that ADF&G can continue to do their job with less funds. Nothing could be further from the truth. If we do not fund ADF&G adequately then we run the risk of severely impacting the management of our fisheries in a negative way in the future.

If you want the ADF&G to provide more studies and research please provide them with proper adequate funding. Thank you for the opportunity to address my concerns.

Sincerely,



James L. Mykland
Box 1241
Cordova, AK 99574
907-424-7115

MESSAGE TEXT: TC TO EXTEND TO 3:30 OR MORE

RT TCN: 60446 SCHEDULED FOR: 03/07/96 13:30 TO 15:00
SPONSOR: HOUSE COMMUNITY AND REGIONAL AFFAIRS PURPOSE: PUBLIC HEARING

03/07/96 15:07:06 LEGISLATIVE TELECONFERENCE NETWORK SYSTEM
MESSAGE FROM: LIGCERI IN JUNEAU
COR LTH1120



Alaska State Legislature

Written Testimony Form

Please enter into the record my testimony to the Senate Resource
 (committee name)
 Discrete salmon
 committee on SB 285/management dated 3/13/96
 (bill/subject)

See additional page

Signed: James L. Myrland
 Testifier Name

Representing (Optional)
P.O. Box 1241 Cordova, AK 99574
 Address
907-424-7115
 Phone Number

**UCIDA**

UNITED COOK INLET DRIFT ASSOCIATION
P.O. Box 389 • Kenai, Alaska 99611 • 0389
(907) 283-3600 • FAX (907) 283-3306

March 13, 1996
Sent by telefax

Mr. Loren Lehman
Chair, Senate Resources Committee

Subject: UCIDA opposition to SB 285, An Act relating to management of discrete salmon stocks and to a salmon management assessment.

Dear Chairman Lehman:

United Cook Inlet Drift Association (UCIDA) represents the 585 salmon drift permit holders in Upper Cook Inlet. Some 350 permit holders are current members of our association. UCIDA is also active at the state and federal levels as a member of the Executive Committee of United Fisherman of Alaska (UFA).

I will be testifying in behalf of UCIDA in opposition to SB 285 this afternoon. I would very much appreciate it if the following enclosures could be distributed to committee members prior to the hearing:

A) Alaska's Salmon Management: A Success Story by the Office of the Governor.

B) Fighting misperceptions about Alaska's salmon, Juneau Empire editorial reprinted in the Peninsula Clarion 3/13/96.

C) Canada park report pins blame for loss of native fish stocks, AP press report printed in Anchorage Daily News, 3/12/96.

Thank you for your consideration.

Sincerely,

A handwritten signature in cursive script that reads 'Theo Matthews'.

Theo Matthews
Executive Director, UCIDA

Alaska's Salmon Management: *A Success Story*

Alaska's Conservation Mandate:

Successful Salmon Management, In Law & In Practice

Conservation of salmon stocks is required under the Alaska state constitution. Alaska's constitution, unique among the 50 states, has an article solely devoted to the management and utilization of natural resources. The constitution mandates that renewable resources "shall be utilized, developed and maintained on the sustained yield principle."

With Statehood, the Alaska Department of Fish and Game was formed. Alaska law states:

"The Commissioner shall manage, protect, maintain, improve, and extend the fish, game and aquatic plant resources of the state in the interest of the economy and general well-being of the state...through rehabilitation, enhancement, and development programs. [the department must] do all things necessary to insure perpetual and increasing production and use of the food resources of state waters and continental shelf areas."

To ensure the sustained yield of salmon stocks which is constitutionally and statutorily mandated, the Alaska Department of Fish and Game manages salmon fisheries, while the Alaska Board of Fisheries is given the responsibility for allocating the yield of salmon among users.

The clear separation of management authority from allocation authority is one of the strengths of the Alaska management system. ■

Alaska's Environmental Record:

Protecting Salmon Habitat

Alaska has always made a strong commitment to conserving and protecting important salmon habitat:

- Alaska has strict regulations governing development activities, such as road building and mining, to protect vital spawning and rearing salmon streams.
- Alaska has a Forest Practices Act requiring buffer zones from logging along salmon streams to prevent erosion and protect spawning and rearing habitat.
- Water discharges, such as sewage and other potential pollutants, are closely regulated to ensure high water quality.

Alaska has also been willing to forego the economic benefits from other activities such as hydropower development to sustain salmon resources for future generations. For example, although the option of constructing and operating large-scale, hydropower facilities on both the Susitna River and the Yukon River were closely examined, neither was built. The native salmon resources of these Alaskan drainages with their dependent fisheries was a major reason that Alaska chose the no-dam option.

Alaska has a long and successful track record at managing and conserving salmon resources. Alaska's world-famous salmon program is built on the principles of conservative management, sound science and habitat protection. Alaska's record salmon runs are the proof of this successful approach. ■

"A model fishery management program that is produced, supported, and accepted politically by those that are managed."
Prominent Washington fishery scientist W.F. Royce, referring to Alaska's management program.

Alaska: Refining the Tools for Long-Term Solutions

The Abundance-Based Approach

To address the need for a scientifically-based, long-term management regime for chinook salmon stocks, Alaska developed an "abundance-based" approach for our chinook fishery that is responsive to changes in chinook abundance. This approach represents a significant technical and policy advancement in chinook salmon management. It replaces fixed quotas with an active program responsive to stock status and conservation needs. It is rational, reasonable, and a model for how the chinook fisheries up and down the coast should be managed. It has been a decade-long goal

of the Pacific Salmon Treaty to implement such an abundance-based chinook management system. Alaska's conservation-based position that takes into account Canadian concerns regarding declining returns to the West Coast of Vancouver Island, specifically Robertson Creek Hatchery.

Alaska's approach incorporates some of the lowest harvest rates Alaska has experienced during the life of the Treaty and would establish a rate which is more than 40% lower than the Pacific Salmon Treaty base period. ■



Produced by the Office of the Governor

For more information, please contact:

State of Alaska	Department of Fish & Game
Governor Tony Knowles	Commissioner Frank Rue
P.O. Box 110001	P.O. Box 25526
Juneau, AK 99811	Juneau, AK 99802-5526
(907)465-3500 / (907)465-3532 (FAX)	(907)465-4100 / (907)465-2332

Or, via the Internet: <http://www.state.ak.us>

Alaska's Record Under the Pacific Salmon Treaty:

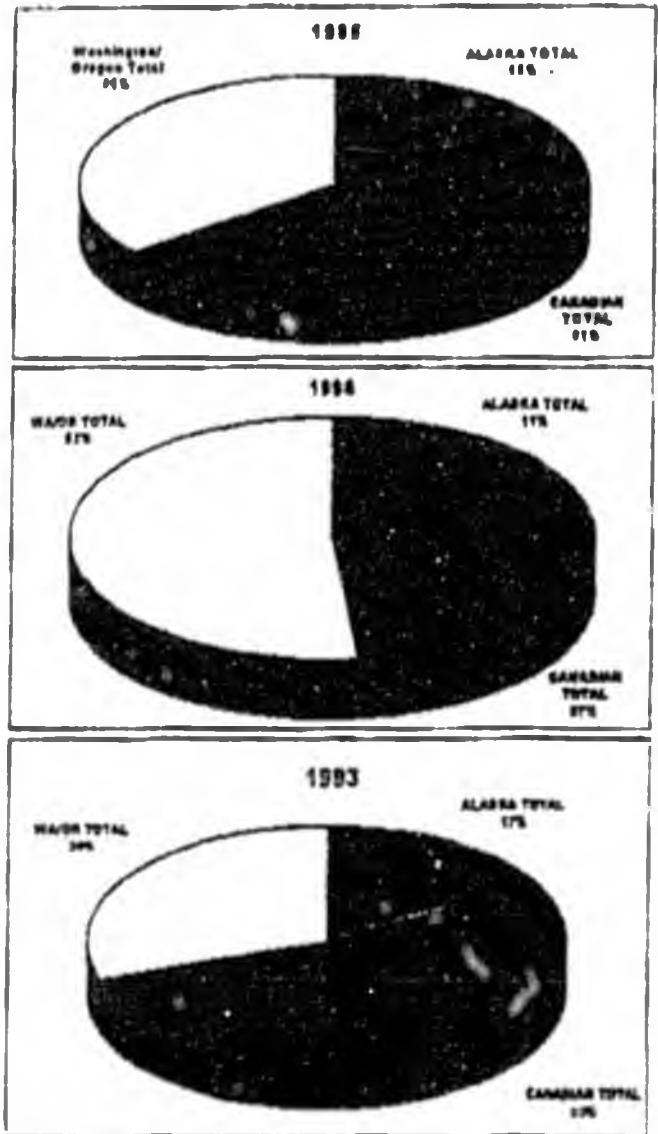
Setting the Record Straight

Alaska has worked hard in the Pacific Salmon Commission to conserve chinook salmon. Alaska began a chinook rebuilding program several years before the Pacific Salmon Treaty was signed. The Treaty harvest ceiling agreed to by Alaska in 1985 was 263,000 chinook salmon, a reduction from pre-Treaty harvest levels of approximately 350,000.

This means that on average, Alaska catches only 15% of the total Pacific West Coast chinook under the Treaty, the rest being caught by Canada, Washington and Oregon. Alaska continues to harvest chinook salmon at levels 30% below those that existed prior to the Treaty.

By comparison, Canada has historically taken 800,000-1,000,000 chinook salmon each year under the Treaty (through 1993). Additionally, significant and expanding recreational fisheries in British Columbia are not even counted in their quota.

Over the life of the Treaty, Alaska has continued to meet its conservation responsibilities. In the late 1980's, even when chinook stocks had rebounded significantly, Alaska's harvest remained stable. At the same time, Canadian and Southern U.S. fisheries were harvesting at levels, in some cases, over four times the historical harvest amounts.



Alaska's Science-Based Management:

Letting the Managers Manage

With the constitutional and statutory mandates to conserve, the Alaska Department of Fish and Game has effectively managed Alaska's Pacific salmon stocks to ensure conservation and to promote production.

As a result, stocks of salmon spawning in Alaska are generally healthy and fisheries dependent upon these stocks have benefited, with statewide harvests ranging from about 100 to 200 million salmon per year over the past 15 years.

Alaska did not always have healthy salmon stocks. Prior to statehood, overfishing was a major factor in the declines of the Alaska salmon fishery that occurred between 1940 and the time of statehood, 1959. Salmon stocks and the fishing industry were in such bad shape that President Eisenhower declared Alaska a federal disaster area in 1953.

In 1959, statewide harvests totaled only about 25 million salmon - a level equivalent to less than 20% of current sustained production. Over the last 20 years, sound state management with gradually increasing funding for research and management has rebuilt salmon runs from the dismal conditions inherited at statehood to the healthy levels experienced today. Alaska has been at the leading edge of salmon research.

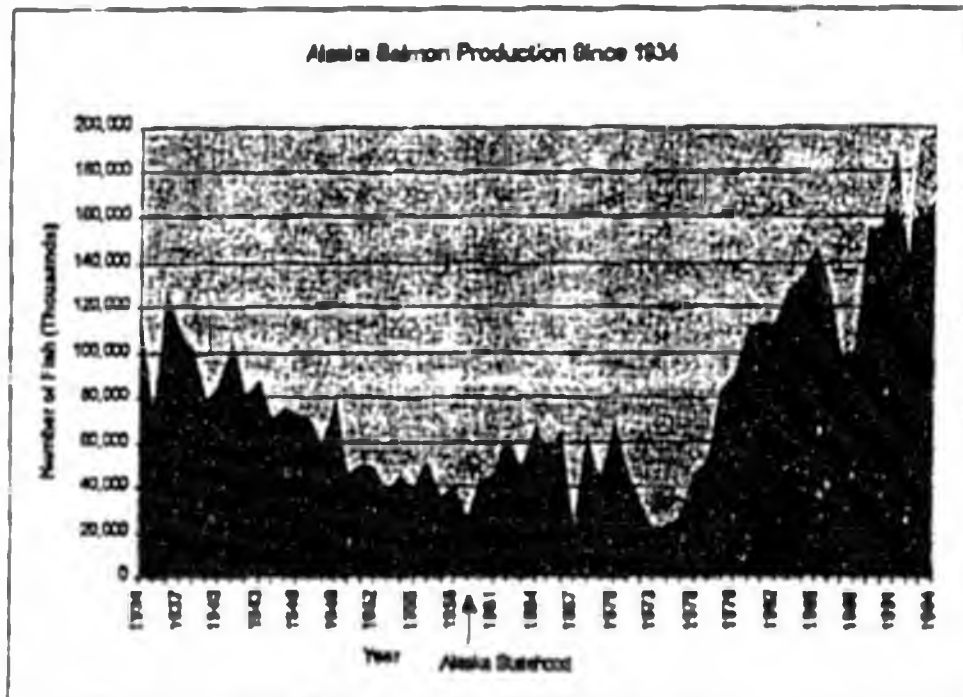
State of Alaska management has been intensive, conducted on a real-

Over the last 20 years, sound state management ...has rebuilt salmon runs from the dismal conditions inherited at statehood to the healthy levels experienced today.

time basis with regulations implemented by local area biologists in-season, with a clear legal mandate and delegated authority. Delegated emergency authority provides for immediate conservation by area biologists. Salmon managers open and close fisheries on a daily basis to ensure that adequate spawning escapements are annually achieved.

When runs are strong, managers liberalize harvest regulations to utilize surpluses. When runs are poor, managers close fisheries to provide for predetermined escapement needs and hence ensure long-term sustainable yields.

Alaska's focused emphasis on in-season management by local biologists with delegated regulatory authority to ensure sustained yields is a key ingredient to successful salmon management. ■



The success of Alaska's salmon management program since statehood.

Peninsula Clarion

3/13/96

What Others Say

Fighting misperceptions about Alaska's salmon

ECOLOGICAL DAMAGE TO SALMON RUNS IN THE PACIFIC Northwest and a federal judge's temporary ban on salmon fishing in (parts of) Alaska because of a fish feud between Canada and Northwest states has created a misperception in the Lower 48 that Alaska salmon is endangered.

Reinforcing that misperception, a recent *Weekly Reader* distributed to students in the classrooms of America featured a story about Alaska salmon as an example of an endangered species.

Some salmon species of the Columbia River and Snake River systems in Oregon and Washington state have been placed on the endangered species list, but Alaska salmon fisheries produced a record 988 million pounds last year.

Thor Lassen, president of Ocean Trust, a nonprofit conservation foundation, said, "The data does not support these claims that the world's fisheries are in trouble."

Combine those statistics with the fact that salmon farming around the world has been so successful that a glut of salmon now exists. That glut, and a consumer afraid of buying the world's last wild salmon, combine to threaten Alaska's salmon industry.

We appreciate the Knowles administration and our Washington delegation for taking the misperception seriously. Although science shows our wild salmon stocks to be healthy, misinformation could have a disastrous effect on Alaska's economy. The seafood industry accounts for one-sixth of Alaska's employment.

At Sen. Frank Murkowski's urging, the U.S. Department of Agriculture says it will give Alaska fishermen some relief by buying canned pink salmon unsold from last year.

But Murkowski and state seafood marketing officials say the department's plan won't do much to ease a salmon glut because the federal agency only wants salmon packed under a voluntary inspection program. That requirement would limit Agriculture to purchasing a small percentage of the salmon backlog, because most pinks were packed without the voluntary inspection.

While Murkowski and others search for ways to ease the surplus, Gov. Tony Knowles wrote to *Weekly Reader* editors to correct the magazine's claims. Lt. Gov. Fran Ulmer, meantime, has begun her own campaign to change the nation's way of looking at Alaska salmon.

She and representatives of the Alaska Seafood Marketing Institute — like Bob Hope and Bing Crosby — are on the road singing the praise of Alaska's wild salmon, explaining it is plentiful and the fish runs in this state are unaffected by the disastrous environmental conditions in the Pacific Northwest.

Their efforts have taken the Salmon Dog and Pony Show from the West Coast to the East.

While in the nation's capital, Ulmer pulled a stunt worthy of a scene from an old Hope-and-Crosby movie. During an appearance at the prestigious National Press Club, she had reporters served with heaping plates of salmon flown in from the Copper River. If that doesn't persuade the national press corps of the bounty of Alaska salmon, then we don't know what will.

We urge the Washington delegation and the Knowles administration to continue their efforts. With the fishing season just months away, industry officials say they still expect to be sitting on nearly 1.8 million cases of canned pink salmon left over from last year. Those surplus cans of salmon and a near-record salmon harvest expected this year have helped drive down salmon prices.

Selling more salmon may be the only way to ward off disaster to Alaska's salmon fishing industry. While state and federal surplus programs will help, and we applaud Murkowski for his efforts, the Ulmer-ASMI educational road show currently is the best way to convince American consumers that Alaska salmon is plentiful.

—Juneau Emp.
March

Anchorage Daily News
2/12/96

Canada park report pins blame for loss of native fish stocks

The Associated Press

NORTHWEST

CALGARY, Alberta — Overfishing, introduced species and dams have devastated native fish populations in the region surrounding Western Canada's mountain national parks, a report says.

Of 33 species believed to be native to the region, 10 have suffered serious setbacks. The abundant fish populations once praised by early surveyors and settlers are a thing of the past, said Dave Mayhood, the aquatic ecologist who wrote the report commissioned by Banff National Park.

Banff, Jasper, Yoho and Kootenay national parks and surrounding areas comprise the Central Canadian Rockies region studied by Mayhood.

"The native species that produced these large populations and great fish have disappeared from huge lengths of previously occupied stream habitat," Mayhood, president of Freshwater Research Ltd., said.

"We can't put the toothpaste back in the tube, but we can salvage what's left and restore some stocks on a selective basis."

The westslope cutthroat trout has been decimated by overfishing, habitat damage, displacement by introduced species and interbreeding with other species, he said. Bull trout, the official fish of Alberta, also has suffered from overfishing, habitat loss and introduction of non-native species.

"The losses and depletion of so many bull trout stocks ... is a serious threat to the continued ex-

istence of the species in the study area," the report said.

King salmon used to spawn in the Columbia River at the outlet of Windermere Lake, and once were so abundant that they were an impediment to river navigation, Mayhood said. When the Grand Coulee Dam was built in Washington state, it blocked their migration and they were eliminated from Canada.

Only a few native species — lake chub, longnose dace and some suckers — have benefited from human intervention, the report said.

But of 21 non-native species introduced to the area, 13 have managed to survive. Non-native brook, rainbow and brown trout — introduced to provide fishing variety — have been especially successful, largely replacing native cutthroat and bull trout in the Alberta Rockies.

The ecological integrity of the natural ecosystem has been irretrievably lost, the report said. It urges emergency measures "to salvage whatever remains of the natural state."

Mayhood said the first step should be to halt development in pristine watersheds, particularly in national and provincial parks.

"I actually choked writing this report," Mayhood said. "It's obvious that so much damage has been done that it can never be fixed, and it's tragic."

FINAL REPORT

**COOK INLET FISHERIES
MANAGEMENT STRATEGY**

Submitted to the

ALASKA DEPARTMENT OF FISH AND GAME

by

**THE MEDIATION INSTITUTE OF ALASKA
217 Second Street, Suite 204
Juneau, Alaska 99801**

February 14, 1996

Contract #IHP 96-002

**THE MEDIATION INSTITUTE
OF ALASKA**

**217 Second Street, Suite 204, Juneau, Alaska 99801
Tele (907) 586-2701 Fax: (907) 586-8059**

**Dr. Gerald W. Cormick
15629 Cascadian Way
Mill Creek, Washington 98012-5928
(206) 745-8792
(206) 743-6103 (fax)
cormick@cases.pubaf.washington.edu**

**Dr. Phillip R. Mundy
1015 Sher Lane
Lake Oswego, Oregon 97034-1744
(503) 636-6335 (ph. and fax)
mundy@teleport.com**

**Paul H. Grant, Esq.
217 Second Street, Suite 204
Juneau, Alaska 99801
(907) 586-2701
(907) 586-8059 (fax)
grant@alaska.net**

Cook Inlet Fisheries Management Strategy

CIFMS Science Committee Final Report and
Minutes of October 16, 1995, as amended by review of the committee

Present:

Terry Bendock, 907-262-9368, 907-262-4709 fax // Stephen Braund, 276-8222, 276-6117 fax // Al Carson, 907-267-2335, 907-267-2464 fax // Loren Flagg, 907-262-2492, 907-262-2898 fax // Stephen Fried, 907-267-2130, 907-267-2442 fax // Theo Matthews, 283-3600, 283-3366 fax // Tom Mears, 907-283-5761, 283-9433 fax // Doug McBride, 907-267-2227, 907-267-2424 fax // Phil Mundy, 503-636-6335, 503-636-6335 fax // Larry Peltz, 907-745-5016, 907-745-7362 fax // Jim Richardson, 907-279-2883, 907-276-0830 fax // Gary Sonnevil 907-262-9863, 907-262-7145 fax // Lance Trasky, 907-267-2335, 907-267-2464 fax // Mark Wenger, 907-224-3374, 907-224-3268 fax //

Not present, but participating in process: Suzanne Fidler, 907-262-5581, 907-262-3717 fax //

Correspondents: Phil Cutler, 564-5828, 564-4637 fax // Jim Fall, 267-2359, 267-2450 fax // Jim Sumner 653-7308

I. Introduction

A.. Statement of Purpose

The Science Committee is a fact finding body for the mediation process known as the Cook Inlet Fisheries Management Strategy. The Science Committee is formed to identify data gaps which may inhibit conservation of Cook Inlet salmon, and to further support the mediation process by addressing the ability of available information to permit implementation of proposed allocation regulations, and to identify data gaps that make a proposed allocation regulation untenable. The Science Committee is expected to identify, define, integrate, and synthesize relevant information. The Science Committee is charged to remain free of advocacy, proposal of allocation actions, and debate of allocation options, other than in a scientific context.

Specifically, the function of the CIFMS Science Committee is to develop a list of data gaps which are either relevant to conservation of the salmon resources, or which may foreclose options for managing all types of the harvest of the resource. The list of data gaps is to be placed in order of priority to the extent possible. As the mediation process develops, the Committee is likely to be asked to address the kinds of information necessary to implement specific management options, as well as the feasibility of acquiring of such information. A further task is to identify relevant bibliographic sources and data bases for the final report of the Committee.

The basic ground rules for the committee are; 1) Committee work is limited to scientific issues, including harvest management, habitat and land use; individuals contribute professional expertise without regard to institutional affiliation, 2) Comments made within the committee process are not for attribution; contributors remain anonymous in the work of the Committee. 3) Members take the floor when recognized by the convener; everyone gets to speak in the order recognized.

B. Networking information from the committee

1. Other current committees working on comprehensive plans or reports of relevance, committee contact in parentheses.

- Economic study of marginal impacts of salmon allocation, U. Alaska Anchorage. Institute for Social and Economic Research (Richardson)
- Exxon Valdez Oil Spill Trustee Council Research (Mundy, Fried)
- Kenai Peninsula Borough Kenai River Working Group (Mears)
- Kenai River Interagency Habitat Task Force, Board of Fisheries (Doug Vincent-Lang, ADFG/SFD)
- Kenai River Special Management Area Plan Update (Richardson, Pres. of the SMA board)
- Kenai Area Land Use Plan, Alaska Department of Natural Resources (Trasky)
- Interagency Planning Team on the Upper Kenai River (Sonnevil)
- Mat-Su Valley Forest Plan, Mat-Su Borough (Trasky)
- Public Use Planning, USFWS, Kenai National Wildlife Refuge (Sonnevil)
- Regional Planning Team, Salmon Enhancement (Mears)
- State/federal Interagency Summit on the Kenai River, Nov. 1, 1995. (Wenger; Chair Steve Zemke, USFS)
- Statewide Sport Fishing Guide Task Force, Alaska Board of Fisheries, (McBride; Doug Vincent-Lang)

2. Past committees working on comprehensive plans or reports:

- Kenai River Sockeye Salmon Task Force (McBride)
- Kenai River Comprehensive Management Plan (ADNR: Trasky)
- Comprehensive Summary of Actions. Glenn Siemans
- Carrying Capacity Study, (ADNR: Trasky)

3. Reports of past committees

- Recommendations for Protection of Fish Spawning and Rearing Habitat on the Kenai River, Kenai Peninsula Borough Working Group
- McBride and Hammarstrom (1995)
- Governor's (Cowper) Fisheries Task Force (Meacham)
- State Game Refuge Management Plans (Palmer Hay Flats, Training Bay, Redoubt Bay, Kustatan, MacArthur) (Trasky)
- Board of Fisheries Reports
- Kodiak Interceptions Task Force. Ivan Vining Report (Swanton. ADFG/CFMDD)

4. Comprehensive data bases available, electronic copies

- Commercial Fisheries Entry Commission
- fish tickets and limited entry permit registration data, commercial catch by species, date, locality
- Commercial Fisheries Management and Development Division
- Registration of permits by subdistrict, since 1993; Annual Management Reports have summaries of commercial catch and effort, prices paid by species
- Private Nonprofit Hatchery Annual Reports (Fried; Ellen Simpson and Steve McGee, ADFG/CFMDD),
- Commercial catches and escapements by year, system, and age
- Sport Fish Division ADFG
- Annual Harvest, Catch, and Participation
- Kenai Sockeye Salmon Task Force, Summaries and Analysis of Catch, Escapement
- Fish Transport Permit records, ADFG, Irv Brock (SFD)

- Board of Fisheries
- History of fishing regulations, the codifieds. (Laird Jones, ADFG)

- Cook Inlet Aquaculture Association
- Hatchery releases and rack returns, eggs taken. (Mears)
- Alaska Department of Environmental Conservation
- List of impaired water bodies

- Habitat and Restoration ADFG
- Anadromous Waters Catalogs Atlas
- Alaska Habitat Guides, 1986 (abundance, distribution, life history, harvest)
- Alaska Department of Natural Resources Geographic Information System on the 29 areas of the Kenai Peninsula scheduled for logging within next five years

- Coded Wire Tag Recoveries of Upper Cook Inlet hatchery reared salmon
- Fishing Guide Data Base for Kenai and Deep Creek, ADNR
- Kenai Area Land Use Plan (ADFG/HRD)
- Public Access Data Base, ADNR
- Susitna Area Plan (ADFG/HRD)
- Subsistence (Tyonek, Nanwalek, Port Graham), educational (Kenaitze, Ninilchik and Eklutna), and personal use fisheries data bases (Jeff Fox and Linda Brannian, ADFG/CFMDD; see also Sport Fish Division Annual Management Reports)
- Recreation Rivers Management Plan (Susitna) (ADFG/HRD)
- List of current and proposed logging sites
- Library automated reference database

5. Bibliographies, Bibliographic sources, electronic copies

- ADFG/CFMDD Library, Anchorage (Fried)
- Technical Data Reports (1972-1988)
- Technical Fishery Reports (1987-1994) now
- Regional Information Report
- Informational Leaflets, (1961-1988)
- Fishery Research Bulletin (1987-1992)
- Alaska Fishery Research Bulletin (1994-present)

- Upper Cook Inlet Management Reports (1974-1987) merged with Regional Information Reports
- Upper Cook Inlet Data Reports, (1961-1987) merged with Regional

Information Reports

- Regional Information Reports. Upper Cook Inlet, 1988-present, including Annual Management Reports
- ADFG/HR Library, Anchorage (Trasky)
- ADFG/CFMDD Library, Juneau (Paul DeSloover)
- Special Publications
- Professional Publications (journal manuscripts)
- ADFG/CFMDD Publications Juneau (Bob Wilbur)
- US Fish and Wildlife Publications List (Sonnevil)
- US Forest Service - Forest Service Information (Wenger)
- ADNR/Various information bases

II. Data Gaps: Information Necessary to Salmon Conservation or Allocation Presently Unavailable

The Science Committee has not placed the data gaps in order of priority. The data gaps are broadly organized into allocation and conservation, although there is some overlap between the two.

II. A. Data Gaps Relating Primarily to Conservation of Fisheries Resources

II. A. 1. Relative importance of freshwater, nearshore marine and offshore marine survivals to salmon productivities

A better understanding of freshwater salmon productivity, as measured by survivals, and early marine survivals is needed. This information is needed to set escapement objectives for salmon species appropriate to sustained yield management, to identify and maintain critical freshwater and nearshore marine habitats, and to forecast future adult salmon returns and harvest levels. Better information is available for Kenai River sockeye than other drainage-species combinations. Relatively little information on survival by life history stage is available for species other than sockeye salmon. It is important to develop understandings of survival for coho and chinook salmon, because populations of these species can be heavily exploited due to strong public demand, particularly among sports harvesters.

The full extent of freshwater rearing areas has not been confirmed by direct observation for most species, so this information is needed to complete the anadromous stream catalog. Under existing laws, state biologists can only control

activities in streams where the presence of salmon has been physically confirmed. Such information is therefore essential to managing the effects of urbanization and development on salmon, and it is essential to understanding and predicting the effects of development on salmon productivities.

Partitioning freshwater effects from marine effects is essential to understanding the effects of habitat degradation on salmon production. Smolt to adult survivals, when measured close to the estuary, provide a composite of nearshore and offshore marine effects which can be distinguished from egg to smolt freshwater effects. Return per spawner analyses integrate the effects of all life history stages, marine and freshwater. Consequently, marine and freshwater habitat effects are statistically confounded in return per spawner analyses. In a return per spawner analysis, excellent marine conditions for salmon rearing can mask the effects of freshwater habitat degradation on salmon productivity for extended periods of time, approximately ten to fifteen years. This is undesirable in a sustained-yield salmon management context because, when poor marine conditions for salmon rearing return, either the habitat degradation is too far advanced for remedies to be socially acceptable, or the losses in freshwater continue to be ascribed to marine conditions until salmon population levels reach critically low levels. Both circumstances are contrary to the interests of sustained yield management of the salmon resources. Hence being able to distinguish freshwater mortalities from marine mortalities is essential to sustained yield salmon management.

Measuring adult escapements is an essential part of sustained yield salmon management. Upper Cook Inlet Coho salmon in general, and early and late run Kenai River coho escapements in particular, need attention in enumeration and escapement goal formulation (see Fried 1994, Table 3).

II. A. 2. Impacts of resource extraction and land development on habitat

There are data gaps on the effects of logging, road building, residential and commercial construction on fish bearing habitat. Such habitat alterations result in erosion, siltation, introduction of contaminants such as petroleum products, blockage of migratory fish movements, and alteration of flow and thermal regimes. Although information is available for other regions such as southeastern Alaska and British Columbia, quantitative data are needed on the status of Cook Inlet's salmon bearing habitat, and approaches for estimating impacts of habitat alterations on salmon production. Some relevant information exists for riparian zones of the Kenai River (Liepitz 1994), but more work is needed, both on the Kenai and in other watersheds. There are not enough local studies to keep up with

the number of habitat alterations now occurring.

Some studies are now in progress. For example, the Division of Forestry, ADNR, has a \$500K study in progress, and the Tongass National Forest has a history of studies. Assessment (model) of impacts of logging and roading on the salmon productivities of affected streams. Refer to the U.S. Forest Service's Moose Pass Plan for an example of a study of proposed logging.

II. A. 3. Impacts of fishing activities on habitat

There are data gaps on the effects of fishery activities on salmon bearing habitat. Such activities as stream bank erosion from stream bank angling, disturbance of stream banks and spawning grounds from walking and motoring to fishing sites, results in increased siltation which probably lowers primary productivity and renders spawning habitat unsuitable. Studies are needed in the areas of the habitat impacts of fisheries management actions, and the role of boat wakes in stream bank erosion. A model which relates horsepower and number of angler trips to stream bank erosion would be useful. Follow-up studies on the effects of past remediation efforts could provide useful information on how to design future efforts.

II. A. 4. Impacts of exotic species of fish on production of salmon and resident native fish species. At present four species of piscivorous (fish eating) fishes have been introduced into the Kenai River from some other locality (Arctic grayling, Alaska blackfish, Northern pike and burbot (lush). Northern pike, an especially effective predator species, are now known to occur in parts of the Kenai River system which support rearing of coho juveniles, a suitable prey species. The extent to which these introductions have impacted salmon production in the Kenai needs to be understood. Further introductions by members of the public is a matter of serious concern in an area as heavily utilized by the public as the Kenai Peninsula.

II. B. Data Gaps Relating Primarily to Allocation of Fisheries Resources

II. B. 1. Stock identification of catches

Stock identification information is essential to sustained yield management, and to allocation among user groups, for any species or stock of salmon which is harvested extensively in mixed stock situations. Resource managers need to know when and where the various spawning stocks are to be found in the harvest areas, if they are to effectively control harvests. Specifically, it is important to understand where salmon originating in Cook Inlet are harvested in directed fisheries and as

bycatch, in the waters of Cook Inlet, and elsewhere, such as in fisheries in Shelikof Strait and near Kodiak Island. Whenever hatchery contributions become a factor in the management of the populations, it is important to be able to identify hatchery contributions to catches, and to be able to identify hatchery reared salmon on the spawning grounds.

At present the stock identification capabilities contributing to harvest management decisions are limited to Kenai River sockeye salmon (genetic stock identification), wild chinook salmon from Deep Creek and the Kenai River (coded wire tagged) and hatchery reared chinook and coho salmon, all of which are presently coded wire tagged. Since 1995 genetic stock identification of Kenai River sockeye has been available to managers during the harvest season. Coho salmon smolt (juveniles) have been marked with coded wire tags and adipose fin clips in the Kenai River since 1992, and in the Deep Creek since 1995. Chinook and coho salmon juveniles have been similarly marked in the Kenai River and in Deep Creek since 1993.

II. B. 2. Migratory paths and relative timings of stocks and species

Understanding where and when salmon species and stocks transit harvest areas is essential to understanding the impact of mixed-stock harvests on these species and stocks. Distinct differences in migratory paths and timings among stocks in mixed stock harvest areas can serve the purposes of stock identification information. At present the best understanding and implementation of stock identification capability in Upper Cook Inlet is for Kenai River sockeye. Historical information is available for the Central District of Upper Cook Inlet as a whole for the four major sockeye drainages (i.e. Mundy et al. 1993). Unfortunately the programs which produced the historical sockeye salmon stock identification information had to be discontinued. These programs (see Marshall et al. and Cross in Mundy et al. 1993) were replaced by genetic stock identification techniques which presently identify only the Kenai River sockeye in commercial catches.

The information on coded wire tags recovered from adult catches now accumulating for hatchery produced coho and chinook holds promise for understanding the migratory paths of these stocks. Recoveries of adult wild chinook and coho which were marked in Deep Creek and the Kenai River as juveniles may provide the ability to discern migratory paths and timings for these stocks. It may also be possible to make crude inferences on wild coho and chinook paths and timings of stocks which are not presently tagged by analogy to the coded wire tag recoveries from those stocks which are.

Stock identification capabilities and programs for chum and pink salmon originating in Cook Inlet are presently lacking, although genetic stock identification tools may be appropriate.

II. B. 3. Organization and accessibility of information

The public needs ready access to harvest and biological data, and analyses of these data by the concerned agencies in an understandable format. There are publication series by the agencies, and there are electronic data bases from which the public may draw, if they know how. Yet there is no one source which the public and concerned scientists can access in a common format and location for Cook Inlet salmon data. As item number I.B.4 above attests, there are many sources located across a large number of concerned agencies.

II. C. Data gaps submitted by individual members after the meeting of October 16, 1995.

II. C. 1. Analysis of existing data on Knik arm drainages with respect to run sizes, escapements, and factors limiting production for each salmon species.

II. C. 2. Integration and analysis of present status of critical harvest management information, including genetic stock identification, Central District marine sonar, freshwater sonar escapement estimation, Anchor Point offshore test fishing, and historical scale pattern analysis. An analysis is needed on the current status of the ability of the Anchor Point offshore test fishery to estimate sockeye catches and abundances in light of new knowledge on Central District run strength developed from sonar surveys and genetic stock identification. To what extent can the Anchor Point Test fishery now be calibrated without using catches from the drift gill net fleet? To what extent will it still be necessary to use drift catch data to calibrate the offshore test fishery in order to make estimates of total abundance of sockeye salmon in the Central District? The report should focus on the ability of the test fishery to make total abundance estimates by time period, and by locality, in order to provide more precision in harvest management.

II. C. 3. Analysis of sport harvest rates in the rivers on Northern Cook Inlet chinook and coho salmon stocks and habitats.

II. C. 4. Timely reporting of harvest by sport fishing guides.

II. C. 5. Analysis of the socioeconomic effects of the Upper Cook Inlet Management Plan on the native village of Tyonek. Has the historical pattern of

reliance on commercial fishing by the village been sustained? What is the time series of the number of commercial fisheries entry permits at Tyonek from 1974 to present? What are the reasons for the changes in commercial fishing activities, and how do these impact the social and economic factors in the community?

III. Questions posed by the Strategy Group

The following are questions raised by the participants at the meetings of Oct 13-14, except that questions with the same general answer are grouped under a single question in square brackets [].

1. Are there harvest management methods [for the set nets] which promote delivery of kings into the Kenai River? [Please identify size and species specific harvest methods as they may be applicable to Cook Inlet salmon.] [Please look into the feasibility of limits on commercial bycatch of individual commercial harvesters daily, annual.]

Yes. Time and area closures can promote delivery of chinook salmon into the Kenai River, however little information exists which would permit the effects from these types of actions to be evaluated. A study now in progress under the ADFG Sports Fish Division is designed to produce this type of information. Gear modifications, web material, reductions in length, and depth of net, may also provide reduction of king salmon bycatch in sockeye set net fisheries. ADFG Sport Fish Division initiated a study (under Mike Bethe) on July 1, 1995 to address information needed to design such regulations. The Eastside Set Net Monitoring Program (ADFG/CFD March 1984) provides some information relevant to management measures. The 1984 study noted a problem with catch reporting in that fish retained for personal use by commercial harvesters were not required to be reported. Personal use fish are now required by law to be reported. Data on the amount of set net gear by harvest period fished in each period are also lacking. Legal counsel is needed to determine if it would be possible to draw closure lines that would exclude harvest of individual permit holders.

2. Can we partition freshwater and marine mortality in order to determine the ability of freshwater habitat to support spawning and rearing?

Yes, we can, but so far we have not done so for most salmon stocks. This constitutes a major data gap for sustained yield management of Cook Inlet salmon. Studies on the sockeye salmon of the Kenai and Kasilof Rivers have provided data which infer density dependent freshwater mortality, and which could permit differentiation of marine and freshwater effects for some brood years. Survival

studies of Bristol Bay sockeye salmon production are available for comparison. Smolt-to-adult survivals (mostly marine) may become available for chinook and coho stocks to which coded wire tags have been applied. While the technologies are available, each application entails substantial expense to adapt the technology to the stocks, species and localities of interest in Upper Cook Inlet.

3. Questions related to the "overescapement" issue. What are the differences between single stock or single species Maximum Sustained Yield (MSY) strategies and multiple stock and multiple species sustained yield management? How do these differ in terms of management objectives and information requirements?[Please describe means to maximize productivity of all Cook Inlet salmon. How do we maximize productivity?] [Please contrast information needs for single stock, single species versus integrated management of multiple stocks and species.][Please develop a discussion paper on the overescapement issue, and the implications and impacts of overescapement, as an introduction to a joint policy and science committee briefing on the issue.]

Salmon allocation issues in Cook Inlet often involve the concept of overescapement. While there is only one basic biological theory relevant to "overescapement," the variability in the quality and quantity of data available for a salmon stock can cause reasonable scientists to have different opinions on what constitutes overescapement. The purpose of the text which follows is to explain how the concept of overescapement is defined, and how the fact of overescapement for one salmon stock can mean underescapement for another stock or species of salmon.

The question of how best to divide any salmon resource between catch and escapement is complex, regardless of how the catch is allocated. In principle there is an annual number of spawners, an escapement goal, which allows each spawner in a salmon stock to produce the most offspring which survive to adults (recruits). The appropriate catch limit then becomes what is left over after the escapement goal is subtracted from the total number of adult salmon in the stock that year. That much is easy, at least in principle. With respect to this single stock of salmon, any number of spawners in excess of the escapement goal may be termed, overescapement, and any number of spawners less than the escapement goal may be termed, underescapement.

The complexity is introduced because, in practice, escapement goals are often set for species of salmon in river systems, and not for individual salmon stocks. The escapement goal for sockeye salmon in a river system such as the

Kenai is the average of the escapement goals of all the stocks in that drainage, so that even when the river's escapement goal is achieved exactly, there will necessarily be overescapements and underescapements with respect to the individual salmon stocks. This combination of overescapements and underescapements also can occur when mixtures of salmon species, such as sockeye and coho, are managed to attain the escapement goal for one of the species in one, or more, river systems.

The foundation of escapement goals is the concept that managers can influence the productivity of stocks (groups of spawners, usually from the same watershed or river) by harvest which is widely accepted in all areas of natural resource management, including wildlife, fisheries and forest management. The basic idea is that populations such as Douglas fir trees, coyotes, sockeye, and other types of plants and animals grow fastest when they number about half the maximum amount the environment can support, the carrying capacity. At this level there are not so many individuals as to create competition for limiting resources such as food and sun light, but there are enough individuals around to make full use of the limiting resources to produce wood or fish. The exact population level, i.e. escapement level, at which the total amount of wood or fish grows the fastest is the level of maximum sustained yield, MSY, or so the theory goes. Through controlled harvests fish populations can be kept at levels of sustained yield other than those at which the harvestable surplus is the greatest, if other constraints compel.

Each identifiable group of spawners, a stock, may have a different level of maximum sustained yield, due to differences in the number of eggs per female, the average size of the eggs produced, and the critical qualities of the spawning and rearing environments. There are obvious differences in MSY among species; salmon produce more offspring per female than do coyotes. But within species there are differences in MSY as well, even if all the biological factors are the same. For example, sockeye salmon stocks coming from two lakes identical in every way, except that one is smaller than the other, will have different MSY harvest levels. This is true because the population level at which total production is the fastest is about one-half the carrying capacity of the environment. In general, big environment means big MSY, and conversely, all other factors being equal. So the actual population level, or escapement goal, which provides the greatest rate of return on a mixture of stocks is not the escapement goal which gives the theoretical maximum sustained yield on a single stock. The mixed stock MSY is a somewhat higher escapement level than the single-stock MSY which permits the mixture of stocks actually harvested to survive and produce at the highest rate possible for the combination of stocks. All salmon escapement goals

in Alaska are most likely to be based on data collected from mixtures of stocks, although the mixture may be arbitrarily designated a single stock. For example, the many spawning aggregates of the Kvichak River sockeye of Bristol Bay have been managed effectively as a single stock, even though one of its two major rearing lakes, Iliamna, has more surface area than Puget Sound.

In a mixed stock management context, as well as in an ecosystem management context, overescapement and underescapement for individual stocks and species is a given, no matter what the escapement goal may be. Even when escapement goals can be identified for individual salmon stocks, when these stocks are harvested in mixed stock fisheries, some stocks experience "overescapement" relative to their theoretical MSY escapement level, and some experience "underescapement," even when the average escapement goal for the stock mixture is perfectly achieved. In this context, overescapement is not waste. Overescapement is the price to be paid for keeping the entire mixture of stocks producing on a sustained yield basis. Further, when the importance of escapements to the production of other species resident in the watershed such as rainbow trout, grayling, char, bald eagle, bear, and others is considered, overescapement of a salmon stock may be fully consistent with maximum sustained yield objectives for these other species.

So far, the approach of most fishery management agencies to sustained yield is to harvest the most economically prominent group of fish stocks at an annual rate which produces the maximum average rate of return for that mixture of stocks. The more stocks and species which are managed simultaneously in a mixed stock scenario, the greater the information requirements, and the greater the costs. The "economically important stocks" approach is so often taken because governments typically provide only enough funds to collect the information necessary to manage the economically most important stocks, if for those. So, as previously noted, the management escapement goal is not defined in terms of the yields or productivities of other stocks of the same species, or of other species.

When it comes to the question of maximizing the productivity of a natural resource, there are several questions which policy makers must answer before scientists can even begin to frame an answer. Which species? Which stocks? Within what time frame, years, decades, or centuries? What do you want to maximize; present dollar value to a gear type, future dollar value to a gear type, biomass, population viabilities, recreational opportunities, or whatever? Which stocks or species are you willing to sacrifice to this maximization? How much are you willing to pay to have what you want? Each of these questions has already been answered explicitly in Board of Fisheries actions, or during the

implementation of the Board's intentions during the management season. In framing proposals to the Board it is important to 1) understand the present answers to each question, and 2) the answers your own interests would pose to each of these questions.

4. Please look at the feasibility of weak stock management.

Weak stock management may or may not be feasible depending on the nature of information available for the smallest, or most chronically under seeded, group of spawners. A "weak stock" is the smallest identifiable spawning group of salmon for which 1) there is sufficient information on which to base fishing regulations, and 2) for which the responsible parties have agreed to provide a stated escapement or harvest rate objective. In general, the wider the data gaps, the more terminal the harvest management regime must be in order to effect weak stock management. Terminal fishing refers to fishing as near to the spawning grounds as product quality concerns permit. For example, the east side Bristol Bay sockeye salmon fisheries in the nearshore marine waters adjacent to the river mouths of the Naknek, Kvichak, Egegik and Ugashik are considered terminal fisheries, whereas the west side Bristol Bay sockeye fisheries in Nushagak Bay are mixed stock, working on the salmon from at least three river systems. Mixed stock fisheries generally require more information and are much more expensive to manage on a sustained yield basis than are terminal fisheries. See also the answer to number three, immediately above.

5. Please look at the impacts of hatchery fish on the fishery management and reproduction of wild stocks in Cook Inlet.

In general, production of salmon from hatcheries, and the harvest of that production, may impact wild salmon stocks in a number of different ways. Salmon from hatcheries may interbreed with wild salmon producing effects which appear to depend on the degree to which the hatchery and wild stocks differ. Transmission of disease among hatchery and wild stocks is another concern. Mixed stock harvest of wild and hatchery stocks at rates appropriate to the hatchery stock would result in loss of productivity and increased risk of extirpation for the wild stock. Data gaps exist on all three of these areas of impact.

Data are not available to address the degree to which hatchery salmon may have spawned with wild salmon, nor is it possible to tell what effects this may have had on the fitness or viability of the wild population, if they did. Since hatchery coho and chinook are now all coded wire tagged, in instances where spawning ground surveys allow collection of carcasses, if any, the proportion of

hatchery fish in the escapement might be roughly estimated. Collection of carcasses would not give any indication of whether the hatchery fish spawned successfully, nor whether it may have spawned with a wild salmon as opposed to another hatchery fish.

Contributions of hatchery production of coho and chinook salmon to Cook Inlet, and other, harvests can now be determined by the recovery of coded wire tags. All such production is being coded wire tagged prior to release from the hatcheries, and there is a program in place to sample fisheries for the tagged fish which are recognizable by the absence of an adipose fin, clipped at time of tagging, or by the use of a metal detector. The extent to which fishery management decisions for these species are influenced by the presence of hatchery fish can be determined in post season analysis of tag recoveries. It should be noted that harvest decisions for wild chinook salmon in Crooked Creek, the Ninilchik River and salt water south of Bluff Point are being driven by the real and perceived levels of returning hatchery fish.

Harvest decisions for wild stocks of sockeye salmon in Upper Cook Inlet have not been determined by the level of returning hatchery sockeye, but by the total numbers of wild and hatchery fish escaping to the Kenai River, as measured at the sonar site. Between 1976 and 1995 sockeye salmon escapements to Hidden Creek hatchery program averaged 3.5% of the total escapement to the Kenai River. In only two of those years, 1990 and 1991, did hatchery escapements exceed 10% of the Kenai River total, reaching the maximum of 17.5% in 1991, and 11.8% in 1990. Since the brood years which produced the bulk of the 1990 and 1991 escapements, levels of hatchery production of sockeye salmon have been deliberately held at levels which produce returns far smaller than the natural return. Hatchery escapements as a percent of total Kenai river sockeye salmon escapement were 3.3%, 1.4%, 0.6%, and 1.2% in 1992 through 1995, respectively. In the peak year of hatchery escapements, 1991, the difference between the hatchery escapement of 112,792 and the sonar count of 645,000 sockeye was above the lower boundary of the Kenai River sockeye escapement goal, as was the case in the next largest hatchery escapement year, 1990. Since the hatchery escapement had an effect on the apparent rate of increase in Kenai River sockeye salmon escapement in 1990 and 1991, and since fishery management decisions in the commercial fishery take into account the rate at which the Kenai River sockeye salmon escapement is building, it is fair to say that the hatchery escapements could have influenced fishery management decisions. As a consequence of the ability to identify hatchery production in the samples at the Kenai river fishwheels, hatchery escapements on the fishery management decisions of 1990 and 1991, did not inhibit managers from providing the Kenai River with wild sockeye salmon

escapements within the optimum range.

During the 1991 sockeye harvest management season, escapements were sampled from fish wheel catches in the lower Kenai River at the sonar counting sites. Hatchery sockeye from Hidden Lake were identified by examining growth rings on the fish scales. Sockeye scales of the hatchery origin sockeye reflect the large amount of freshwater growth which typically occurs in Hidden Lake relative to other sockeye rearing Lakes in the Kenai River system. Sockeye smolt (emigrants) from Hidden Lake commonly attain the length of 120 mm, whereas smolt from the larger glacial lakes, such as Skilak, would be quite a bit shorter, usually less than 100 mm. As it happened in 1991, sockeye salmon from Hidden Lake were obvious in the escapements from inspection of scale samples. Consequently harvest management intentionally tried to attain escapements toward the upper end of the Kenai River sockeye escapement goal of 700,000 in order to achieve full seeding of spawning areas other than those attendant to Hidden Lake. In the opinion of management it would have exceeded their statutory authorities to intentionally permit escapements of sockeye above the upper limit set by the Board of Fisheries.

Concerns over the ability to manage the large hatchery related sockeye returns to Hidden Lake have lead to the current conservative stocking limit of two million spring fry. The stocking limit also serves to address water quality concerns of the U.S. Fish and Wildlife Service. The Service supported the limit in order to control financial and habitat costs of managing the harvest of very large sockeye returns to Hidden Lake. In order to harvest Hidden Lake surplus it is estimated to have cost the Service approximately \$1.00/fish and the large number of harvesters had negative impacts on the habitat.

6. Do we need better detection of in season impacts in terms of who is catching what?

Yes we do, especially at the level of stocks. At present it is only possible to determine the origin of Kenai River sockeye salmon caught by commercial harvesters in mixed stock areas. When harvests occur inside major river systems, such as the Susitna or the Kenai, it is not usually possible to identify the spawning grounds to which the fish were returning. The river of origin of coho and chinook salmon caught in the commercial fisheries of the Central District is a matter of speculation, although those caught near the river mouths are presumed to be from that river. Studies of straying behavior in chinook salmon using radio tags do not necessarily support this presumption. Implementation of multiple species sustained yield management, any Susitna Management Plan, or any Coho

Management Plan will require some assumptions about the origins of the harvests in the Central District based on timing and geographic location.

8. Please identify methods to increase passage to Northern Cook Inlet with minimum impact on the [catches of non-Susitna sockeye in the] Central District.

Corridor openings which hold the drift gill net fleet relatively close to the east side beaches have been effective at reducing the efficiency of the commercial drift fleet (Mundy et al. 1993) with respect to Susitna bound sockeye in the Central District, while permitting harvest of Kenai bound fish. Kasilof special harvest areas have allowed targeting of commercial fishing effort on Kasilof bound sockeye, while apparently sparing Kenai and Susitna bound sockeye. Impacts of corridor openings on rate of catch of other species, such as Kenai River king salmon, need to be examined. Possibilities other than corridor openings have been identified in proposals to the Board of Fisheries which involve time and area closures need to be evaluated.

9. Describe harvest methods and regulations that promote the avoidance of waste.

Time and area regulations which avoid peak periods of abundance, and which evenly space relatively short openings, and which control the amount of gear which an individual harvester may employ, are all conducive to controlling waste in general. Specific objectives in terms of times, areas, and harvests, and/or escapement objectives by species and/or stock need to be supplied in order for the science committee to respond further.

10. Comment on the feasibility of developing a management plan for the Susitna.

Specific objectives in terms of times, areas, and harvests, and/or escapement objectives by species and/or stock need to be supplied in order for the science committee to respond. Data gaps and basic salmon migratory behavior may define the degree of specificity which management could achieve with respect to stocks and species.

11. Comment on the feasibility of developing a coho management plan for Cook Inlet.

See answer to preceding question on Susitna Plan.

12. Identify the effects on commercial harvesters of reducing the commercial season from July 1 - August 15 to July 7 - August 9.

The impacts on commercial harvesters can be estimated from available historical data for each fishery (gear-locality combination) by looking at the percent of the annual harvest which occurs during these time periods, July 1 - July 6, and August 10 - 15, as an average over all available years of record. Each fishery may experience a different impact from this option. Such information may be available from previous analyses, or it may require requesting a fish ticket run from Juneau. The Science Committee needs clarification of whether the request includes deletion of special openings for commercial fishing prior to July 1 under circumstances indicating an early and or heavy sockeye run? If so, the best approach may be to consider all commercial harvest prior to July 7 as an average percent of total annual harvest.

Miscellaneous issues, briefly addressed due to lack of time

1. Spread sport fish impact on Kenai River habitat by opening other areas to fisheries (fairness). Data gap exists, impacts are not quantifiable.

2. Allocation of current sport priority to other sectors (early run/late run). Specific objectives in terms of times, areas, and harvests need to be supplied in order for the science committee to respond.

3. Non residents commercial harvesting with sport gear. Legal tools may not be available to enforcement. Need a legal opinion. Specific objectives in terms of times, areas, and harvests need to be supplied in order for the science committee to respond.

4. Enforcement (limits). Specific objectives in terms of times, areas, and harvests need to be supplied in order for the science committee to respond.

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