

AK LEGISLATURE SPECIAL COMMITTEE FILES SCOMM 156 3344<sub>248</sub>

Figure 3. Unalakleet Test Net Chinook Salmon Catch.

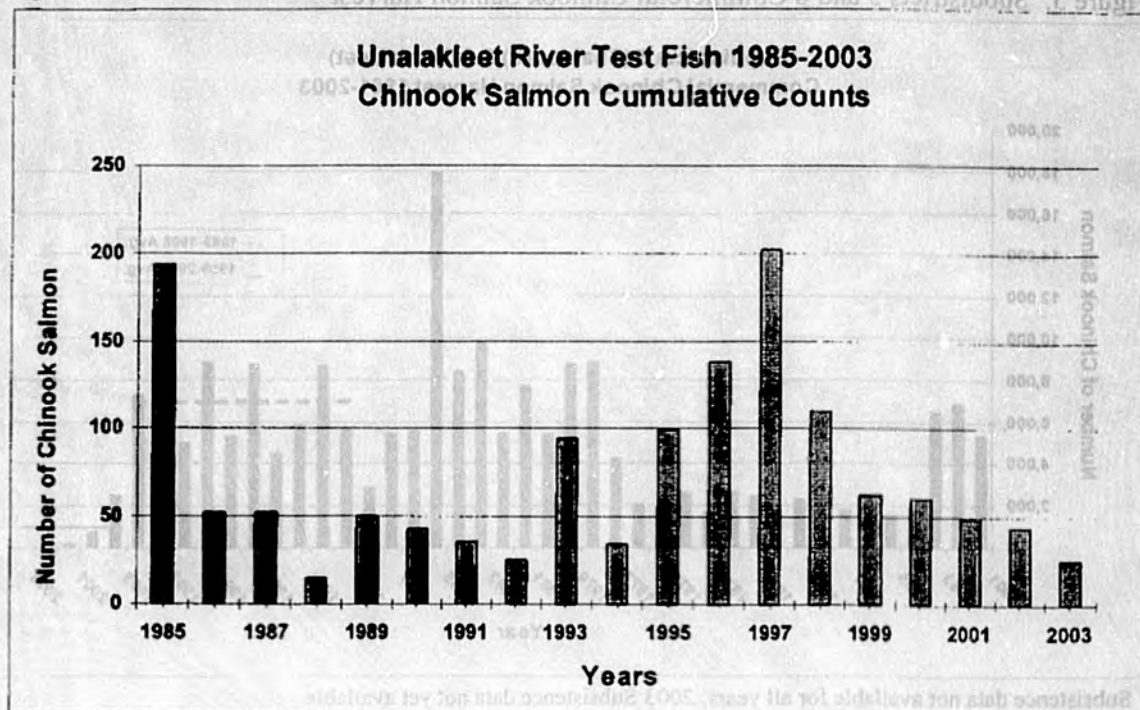


Figure 4. North River Chinook Salmon Escapement.

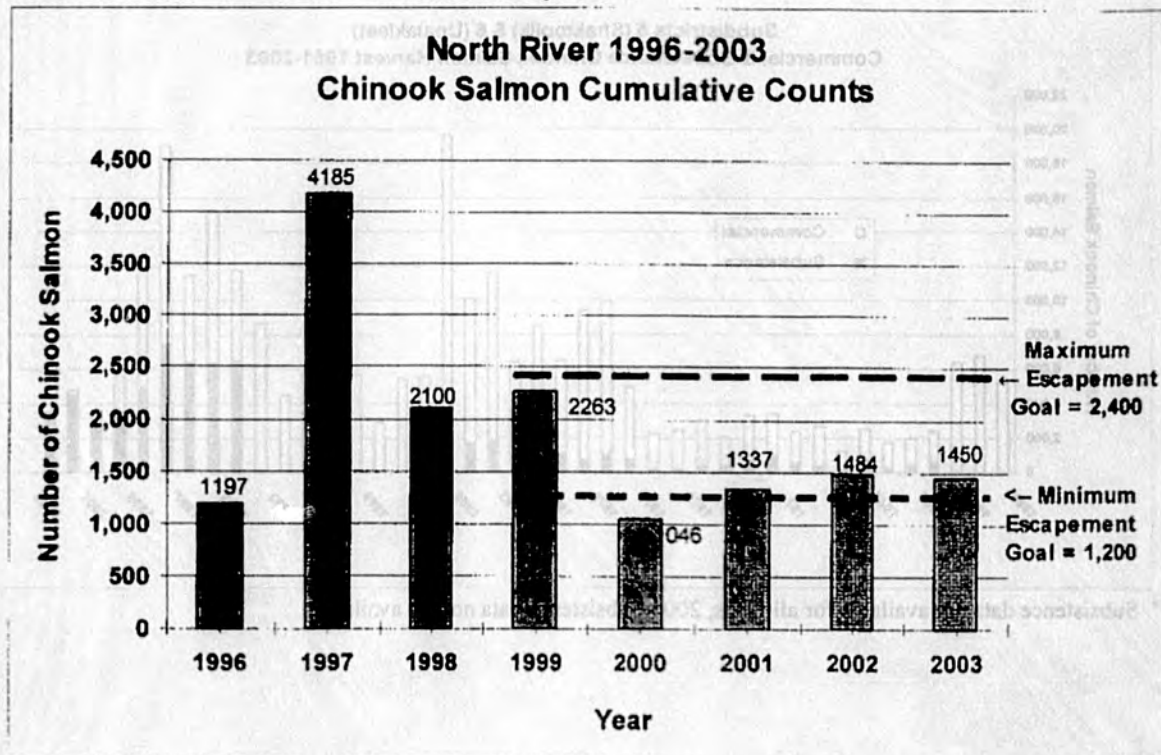
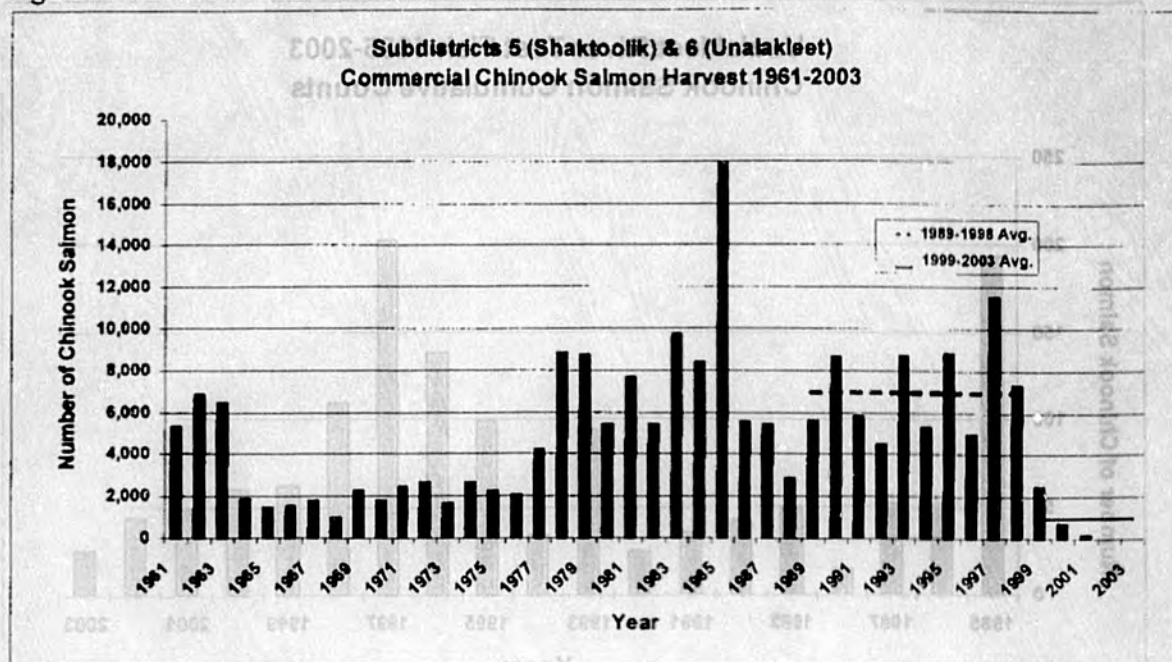
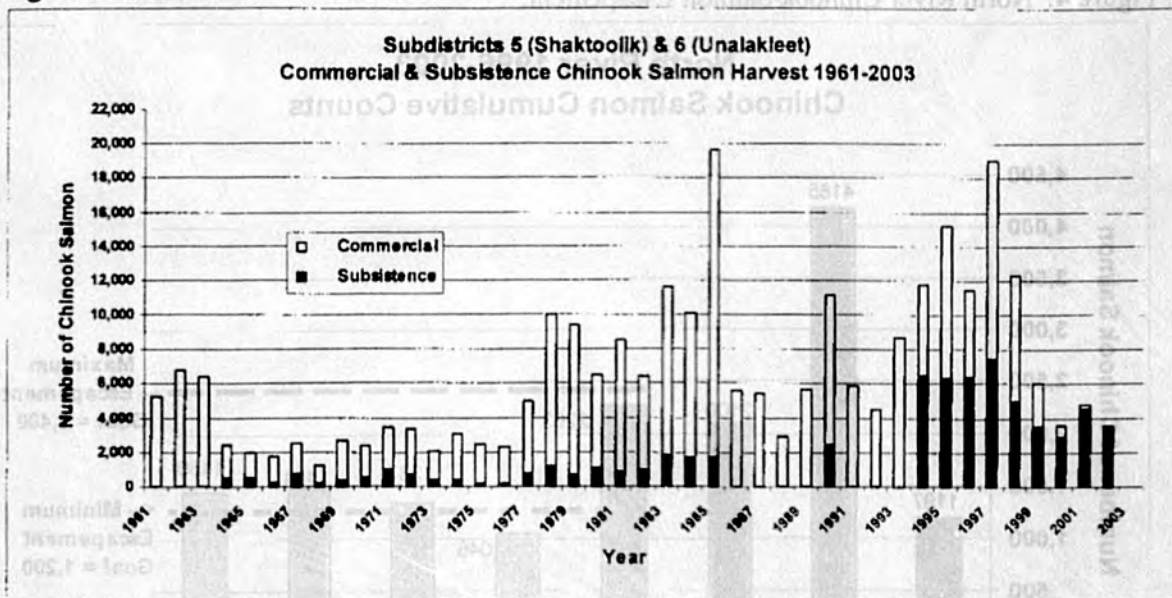


Figure 5. Subdistricts 5 and 6 Commercial Chinook Salmon Harvest<sup>a</sup>.



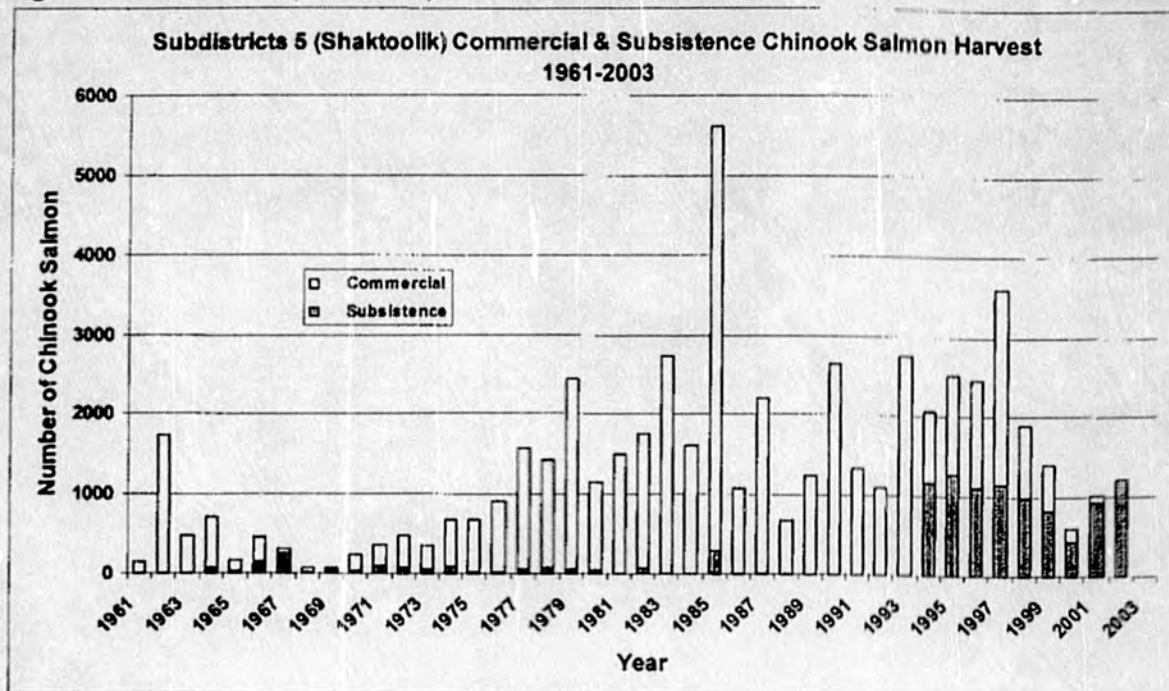
<sup>a</sup> Subsistence data not available for all years, 2003 Subsistence data not yet available.

Figure 6. Subdistricts 5 and 6 Combined Chinook Salmon Harvest<sup>a</sup>.



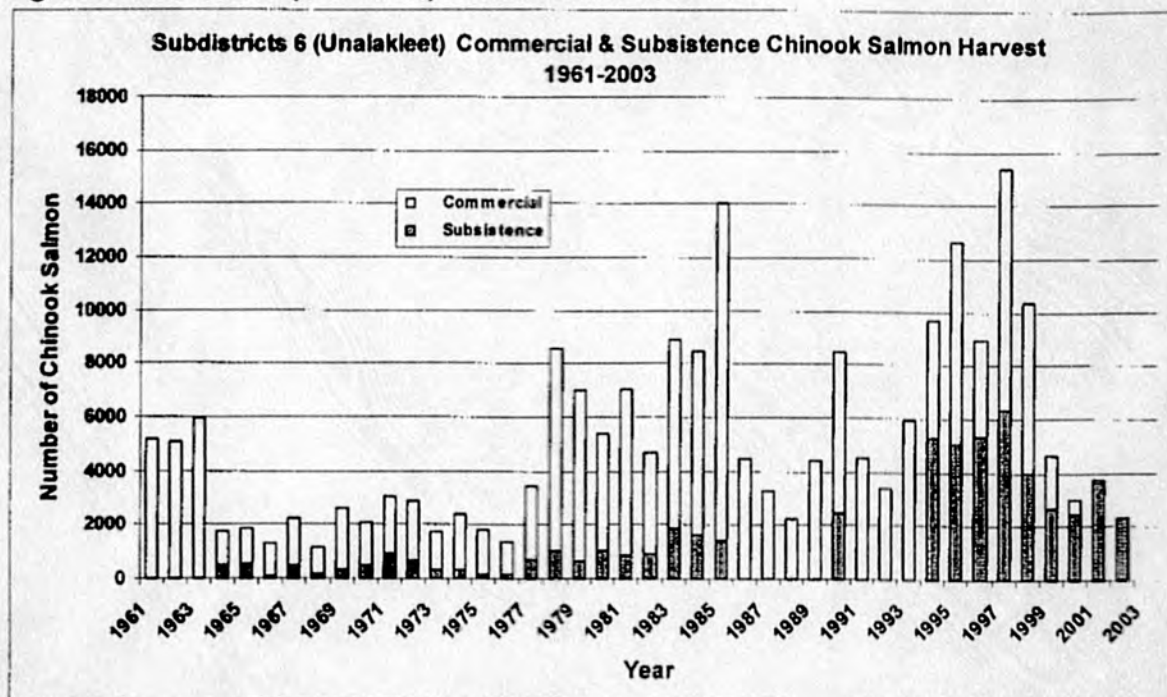
<sup>a</sup> Subsistence data not available for all years, 2003 Subsistence data not yet available.

Figure 7. Subdistrict 5 (Shaktoolik) Chinook Salmon Harvest<sup>a</sup>.

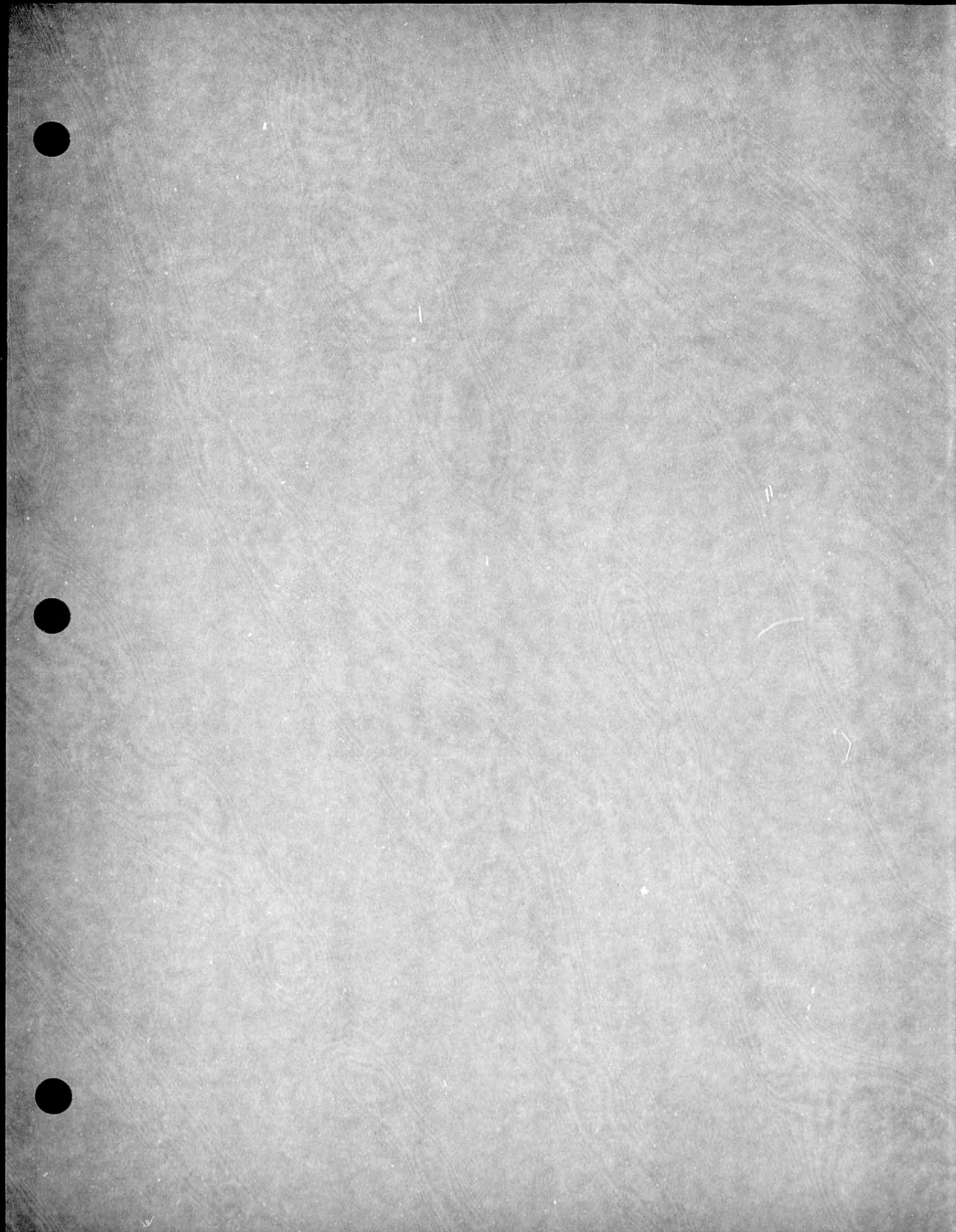


<sup>a</sup> Subsistence data not available for all years, 2003 Subsistence data not yet available.

Figure 8. Subdistrict 6 (Unalakleet) Chinook Salmon Harvest<sup>a</sup>.



<sup>a</sup> Subsistence data not available for all years, 2003 Subsistence data not yet available.





# COOK INLETKEEPER

PROTECTING ALASKA'S COOK INLET WATERSHED AND THE LIFE IT SUSTAINS

VIA EMAIL ONLY  
([representative\\_craig\\_johnson@legis.state.ak.us](mailto:representative_craig_johnson@legis.state.ak.us))

June 3, 2008

Craig Johnson, Chairman  
Cook Inlet Salmon Task Force  
716 W 4th Avenue, Suite 640  
Anchorage, AK 99501

Dear Representative Johnson:

## I. INTRODUCTION

Cook Inletkeeper is a community-based nonprofit organization whose members include sport, commercial and subsistence fishermen concerned about the health of wild salmon fisheries throughout the Cook Inlet watershed. Please include these comments in the proceedings of the 2008 Cook Inlet Salmon Task Force.

## II. COMMENTS

### A. *Climate change is making salmon increasingly vulnerable to pollution, predation and disease*

For the past eight years, Inletkeeper and its partners have been collecting temperature data in Cook Inlet salmon streams.<sup>1</sup> Among other things, these data show routine violations of state Water Quality Standards established under the Clean Water Act to protect spawning and migrating fish. Inletkeeper's research also shows that such temperature changes have been wrought by climate rather than landscape change, and that such changes are expected to continue for the foreseeable future. Because elevated stream temperatures are known to cause stress in fish, Cook Inlet salmon are increasingly vulnerable to stress-related deficiencies stemming from pollution, habitat disturbance, predation and disease. As a result, salmon management strategies must increasingly embrace a precautionary approach that recognizes the significant ecosystem changes ongoing throughout the Cook Inlet watershed.

<sup>1</sup> See [www.inletkeeper.org/salmon/networkoverview.htm](http://www.inletkeeper.org/salmon/networkoverview.htm)

**B. *Mixing zones in spawning areas reflect short-sighted fisheries policy***

Mixing zones are controversial regulatory tools that embrace the notion that dilution is the solution to pollution. Instead of measuring regulatory compliance at the end of the pollution discharge pipe as originally intended, mixing zones allow compliance to be measured far from the discharge point, after pollutants have mixed with the receiving waters. Although Congress never once mentioned the term "mixing zone" in passing the Clean Water Act in 1972, these sacrifice zones have become common in marine waters throughout Alaska.

Prior to the Murkowski Administration, mixing zones had rightly been banned in salmon spawning areas. However, despite broad-based opposition from Alaskans across the state, the Murkowski Administration pushed through rules in 2006 that allow pollution mixing zones in spawning areas. As you know, legislation has been introduced to remedy this salmon habitat rollback, and most recently, the House Resources Committee – which you Chair – has not had a hearing on the current bill (HB 74).

While industry and government proponents of the new mixing zone rule argue that agencies need discretion to address specific discharges on a case-by-case basis, we know from experience that agencies frequently abuse that discretion. For example, in the recent Clean Water Act proceeding regarding oil and gas discharges from Cook Inlet facilities, the ADEC authorized a nearly three-fold increase in the amount of toxic pollutants that may be dumped into mixing zones in Cook Inlet marine fisheries each year. Accordingly, for the reasons cited above in Section II.A, it's imperative for the Legislature to create a bright line standard that prohibits toxic and other pollution discharges into salmon habitat.

**C. *Cook Inlet facilities and projects routinely ignore impacts to salmon habitat***

Cook Inlet is the most populated and heavily-developed watershed in Alaska, and as the state's economic hub, it's subject to a variety of pollution streams that affect water quality, and projects that directly impact salmon habitat. While many of these impacts stem from large projects and discharges (see below), perhaps the gravest threat to Cook Inlet salmon habitat entails the so-called "death by a thousand cuts" – i.e., the piecemeal permitting and decisionmaking around smaller, seemingly unconnected projects that nonetheless can pose significant cumulative effects to salmon habitat. These projects reflect the very development philosophy that has led to the decimation of once-thriving salmon habitat in the Pacific Northwest. Throughout Anchorage and the Kenai Peninsula and Mat-Su Boroughs we see such projects on a routine basis, yet no management regime exists to collectively consider, understand and manage these growing threats.

For example, the Knik River Public Use Area has been plagued for years by poor management and oversight, yet DNR appears unable or unwilling to adequately protect salmon resources in the area. While the Palin Administration's decision to return habitat biologists to their rightful domain within ADFG is a good first step, the Murkowski Administration's rollbacks to the Alaska Coastal Management Program have rendered that once-proud program virtually useless. While there may be no single "silver bullet" to address these complex management problems, one immediate solution is to employ more ADFG habitat biologists, to ensure that each and

every project gets the attention it deserves when salmon habitat is implicated. As for larger projects and discharges, these include, but are not limited to:

1. Existing Major Pollution Discharges & Risks

- Nonpoint Source Pollution: Each year, billions of gallons of snowmelt and stormwater run off from de-icing activities, fertilizers and pesticides, pet wastes, motor vehicles and construction activities enter Cook Inlet from the developed communities of Kenai, Anchorage, Girdwood, Eagle River, Palmer, Wasilla and other areas. These sources represent the largest pathways of chronic pollution into salmon habitat in Cook Inlet, and also pose some of the thorniest regulatory challenges. Enhanced land use management controls coupled with regular monitoring and testing are two management responses that can help alleviate stormwater impacts.
- Anchorage Sewage: The Asplund Sewage Treatment Plant is authorized to discharge up to 40 million gallons of primary-treated sewage each day. While the Clean Water Act envisions at least secondary treatment for such discharges, the Asplund plant enjoys a loophole in the law that allows discharges to marine waters lesser scrutiny. In addition to the nutrients, bacteria, chlorine and other pollutants that traditionally flow from sewage wastes, these discharges contain a wide array of chemicals (such as pharmaceutical drugs) that can impact salmon but for which no sampling and testing occurs. As a result, upgrading the treatment efficiency at the Asplund and other sewage treatment plants in Cook Inlet should be a high priority for the Task Force.
- Oil & Gas Discharges: As discussed above, EPA and ADEC recently re-issued a Clean Water Act permit for oil and gas discharges that allows industry to dump over a billion gallons of toxic and other wastes annually into important salmon migration corridors in Upper Cook Inlet. While the technology exists to properly treat (i.e., reinject) these wastes, Chevron and XTO Energy have chosen to continue the archaic strategy of dumping the wastes directly into Cook Inlet, despite record high oil and gas prices. In response, Inletkeeper, commercial fishermen and Native subsistence users have been forced to litigate to protect Cook Inlet salmon. As a result, the Task Force should urge industry, ADEC and EPA to immediately deploy readily-available zero discharge technologies.
- Eagle River Flats Firing Range: Each year the Department of Defense discharges tens of thousands of pounds of toxic and other pollutants to waters and wetlands that support salmon in the Eagle River estuary. Pursuant to a federal court consent decree, the DOD was to obtain a Clean Water Act permit for such discharges, but after five years, a permit is still not in place. As a result, the Task Force should urge EPA and ADEC to immediately proceed with a permit proceeding to determine whether such discharges should continue.
- Oil Tanker & Other Vessel Traffic: Cook Inlet supports major transit routes for crude oil, LNG, and refined petroleum products, including vessel fuel oil. In 2006, the oil tanker *Seabulk Pride* ran aground laden with 5 million gallons of oil product in the heart of Cook Inlet salmon habitat. Luck and a highly competent response averted a disaster, and Tesoro Alaska recently brought into service a high-powered tug to assist vessels at the Nikiski docks. Nonetheless, this past winter, we experienced at least two forced departures from the Nikiski

docks by tanker vessels due to extreme tides and ice. As a result, the Task Force should press for enhanced navigational safeguards in Cook Inlet, including but not limited to mandatory vessel traffic shut-downs when conditions warrant, enhanced vessel tracking systems, and fulltime escort tugs from the Forelands to points north.

## 2. Proposed Projects in Salmon Habitat in Cook Inlet

- **Port of Anchorage Expansion:** The Port of Anchorage is moving ahead with a \$700 million expansion project that will fill 135 acres of Essential Fish Habitat (EFH) in Knik Arm. The Army Corps issued the necessary permit over the objections of EPA, USFWS and NMFS, and despite the fact the Port can point to no concrete need for an expansion this large, decisionmakers have turned a blind eye to fisheries impacts stemming from this mega-project. As a result, the Task Force should review and understand the objections from the above-referenced federal agencies, and press for meaningful mitigation measures that will offset the salmon impacts from this project.
- **Port Mackenzie Expansion:** While nowhere near as large as the Port of Anchorage expansion, the Port Mackenzie facility is also undergoing an expansion that will fill important fish habitat in Cook Inlet. Similar to the recommendation above, the Task Force should review the impacts from this project, to understand its potential individual and cumulative impacts on salmon habitat.
- **Knik Arm Bridge:** The proposed Knik Arm Bridge would bisect Essential Fish Habitat in Knik Arm, and constrict Knik Arm by building two miles of gravel-filled, intertidal causeway fill (permanent loss of approximately 90 acres of intertidal and subtidal EFH habitat). The project will entail significant construction impacts, including but not limited to pile driving and habitat filling, to salmon and other fish habitat. Furthermore, constriction of Knik Arm likely will eliminate significant shoreline foraging habitat for juvenile salmon (especially Chinook and coho salmon), and will force some juvenile and adult salmon to move into the higher velocity waters under the bridge, thus making them more vulnerable to deep-water predators. Additionally, motor vehicle fluids and stormwater run-off from the bridge and its access roads likely will adversely affect the Knik Arm environment. As a result, the Task Force should understand how this proposed project will individually and cumulatively impact salmon in Knik Arm.
- **Chuitna Coal Strip Mine:** A Delaware corporation – PacRim Coal – is moving ahead with plans to build a massive coal strip mine near the communities of Beluga and Tyonek on the West side of Cook Inlet. According to DNR, this would be the first mine ever in Alaska to actively mine through a salmon stream, despite the fact no one has been able to re-construct a salmon stream in the cold, wet conditions found in the area. Furthermore, according to permit applications, the project would dump an average of 7 million gallons of mine waste and run-off into the salmon-bearing waters of the Chuitna River, would entail the construction of an offshore gravel island that will displace set net and subsistence fishermen, and would include a 10,000 foot long dock and trestle out into Cook Inlet. As a result, the Task Force should recognize the important precedent this project represents, and ask ADFG whether salmon will be adequately projected under projected mine development plans.

### III. CONCLUSION

As climate change continues throughout the state, effective fisheries management can and must include smart, forward-looking mechanisms to protect the vital habitat that sustains our magnificent salmon runs in Cook Inlet. We need look no further than the Pacific Northwest to understand that turning a blind eye toward landscape and climate change results in denuded fisheries. Accordingly, we strongly urge the Task Force to include the specific recommendations referenced above for salmon habitat management and oversight in its final report.

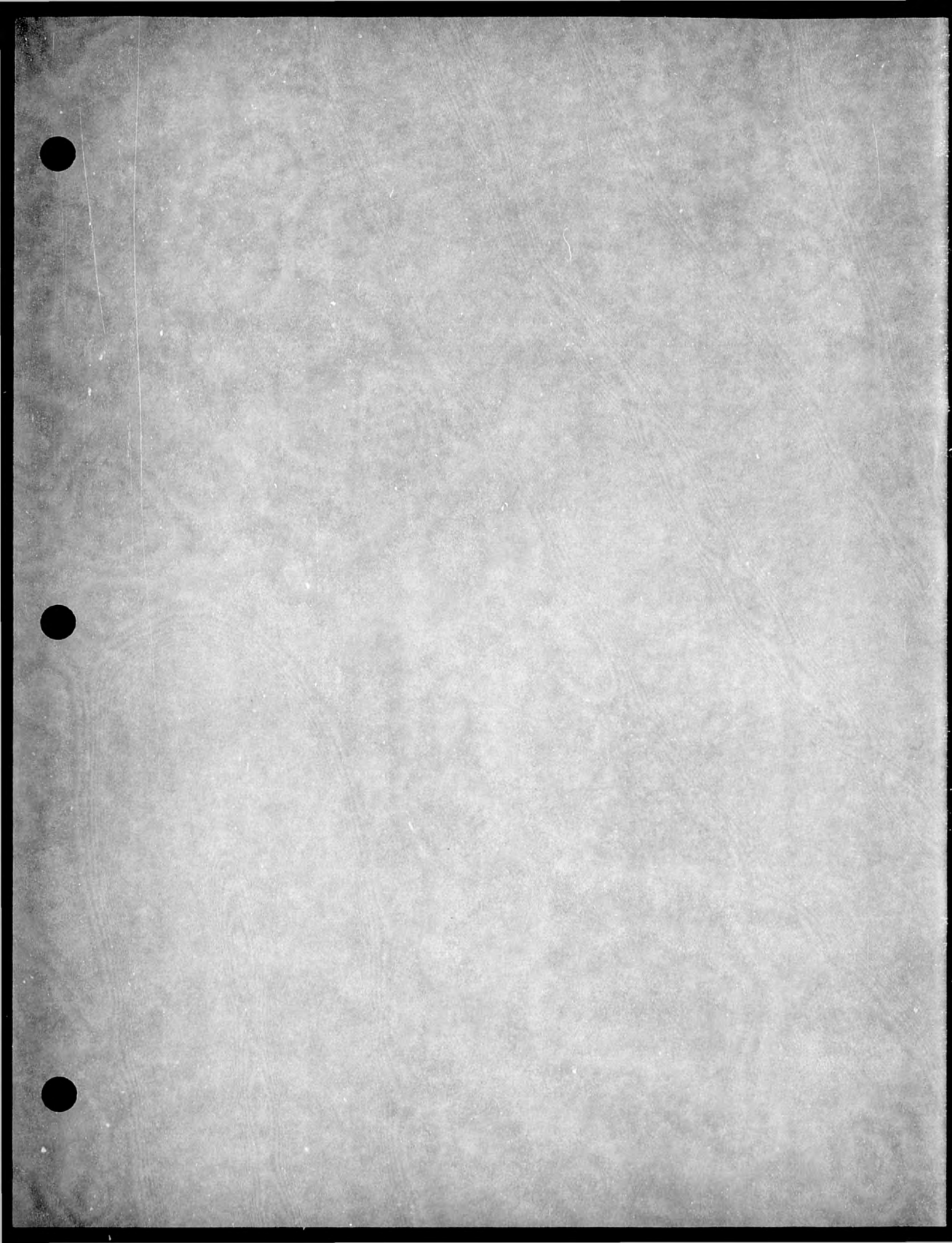
Thank you for your attention to these important matters, and please do not hesitate to contact me if you have any questions or comments.

Very truly yours,



Bob Shavelson  
Executive Director

Cc: (VIA EMAIL ONLY)  
Representative Kyle Johansen  
Representative Mark Neuman  
Representative Bill Stoltze  
Representative Mike Doogan  
Representative Paul Seaton  
Senator Lyda Green  
Senator Charlie Huggins  
Senator Lesil McGuire  
Senator Bill Wielechowski  
Senator Tom Wagoner  
Senator Gary Stevens  
Mayor Mark Begich, Municipality of Anchorage  
Mayor John Williams, Kenai Peninsula Borough  
Mayor Curt Menard, Mat Su Borough  
United Fisherman of Alaska  
United Cook Inlet Drift Association  
Kenai Peninsula Fisherman's Association  
Northern District Set Netters Association  
Cook Inlet Fishermans Fund  
Kenai River Sports Fisherman's Association  
Fish & Game Advisory Committees for Anchorage, Central Peninsula, Cooper Landing,  
Homer, Kenai/Soldotna, Matanuska Valley, Seldovia, Susitna Valley & Tyonek  
(via Sherry Wright, ADFG)



## Guide to Meeting Documents from the February 1-12, 2008 Board of Fisheries Upper Cook Inlet Finfish Meeting

*Prepared by Boards Support Section, Alaska Department of Fish and Game  
May 12, 2008*

This is a quick reference guide to the 3,366 pages of written materials from the Board of Fisheries (board) meeting on Upper Cook Inlet Finfish issues held in Anchorage February 1-12, 2008. It provides a very brief description of the types of information presented to the board; however, it does not attempt to summarize the information given the large number of issues considered. During the 12 day meeting the board acted on 286 regulatory proposals, many of which addressed various aspects of the management plans established by the board for the Upper Cook Inlet fisheries.

The complete set of written materials submitted to the board for the record is available on the Board of Fisheries website under the link to meeting document archives: <http://www.boards.adfg.state.ak.us/archive/bof/farch.php> (or see "Document Archives" link on left side of the Board of Fisheries main webpage). All the files are in PDF format and can be downloaded. The larger sections such as public comments or department reports were broken into multiple PDF files. Still, the files are up to 10MB so a high speed internet connection will shorten downloading time. Many of these materials were available to the board and public weeks or months in advance of the meeting. Table 1 provides a reference guide to the materials.

**Table 1. Description of meeting documents (February 2008 meeting)**

| Link                                   | Description                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Agenda/Roadmap</u><br>(4 pages)     | The <b>agenda</b> describes the basic schedule for staff reports, public testimony, committee work, and deliberations. The "roadmap" shows the tentative committee structure, that is the thematic grouping of the 286 proposals into seven board committees.                                                                                                            |
| <u>Legal Notice</u><br>(4 pages)       | This is the formal <b>legal notice</b> as required by the Alaska Administrative Procedures Act. (The notice was also posted on the state's legal notice page.)                                                                                                                                                                                                           |
| <u>Board of Fisheries</u><br>(3 pages) | <b>Board membership roster</b> , contact info for Boards Support Section, and meeting schedule for the 2007/2008 meeting cycle.                                                                                                                                                                                                                                          |
| <u>Findings/Policies</u><br>(24 pages) | Selected <b>findings and policies</b> of the board pertinent to this particular meeting, including a description of the board's committee process. (The complete set of all 260 findings and policies is available on the board's website.)                                                                                                                              |
| <u>Dept. of Law</u><br>(11 pages)      | This <b>Department of Law memo</b> to the board is a succinct overview of board procedures and an explanation of guiding statutes and policies. It notes requirements relative to ethics, open meetings, sustained yield, allocation criteria, subsistence priority, and Sustainable Salmon Fisheries Policy (SSFP). It also included a checklist for applying the SSFP. |

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Proposals</u><br>(505 pages)                                                                                                                                                                                                                                   | <b>Proposals.</b> These are the 286 proposals scheduled for consideration during the Upper Cook Inlet meeting. All were received by the April 10, 2007 proposal deadline and were available for public review starting July 2007. This format as presented during the meeting shows a cross-reference to the relevant timely public comment and indicates support or opposition. Comments are numbered by "AC#" or "PC#" (AC refers to advisory committee comment, PC refers to public comment).                                              |
| <u>AC Comments1-7</u><br><u>AC Comments8</u><br><u>AC Comments9-12</u><br>(107 pages)                                                                                                                                                                             | <b>Advisory committee comments (AC#).</b> Included here are comments received before the two-week written comment deadline (1/18/08). A committee's support or opposition to specific proposals is shown along with the rationale for the position. Page 1 of the first file provides a <b>list</b> . Eight of the 11 advisory committees in the Cook Inlet area submitted timely comments. Comments from the remaining 3 area committees were included as record copies (see below).                                                         |
| <u>Public Comments 1-5</u><br><u>Public Comments 6-20</u><br><u>Public Comments 21-26</u><br><u>Public Comments 27</u><br><u>Public Comments 28-31</u><br><u>Public Comment 32</u><br><u>Public Comments 33-45</u><br><u>Public Comments 46-52</u><br>(396 pages) | <b>Public comments (PC#)</b> included here are those received prior to the two-week written comment deadline. These came from wide variety of stakeholder groups, associations, and individuals. These show support or opposition to specific proposals and offer other information to the board. Page 1 of the first file provides a <b>list</b> of comment sources.                                                                                                                                                                         |
| <u>RC Index</u><br>(6 pages)                                                                                                                                                                                                                                      | This handy reference is an <b>index</b> of the 225 various documents submitted to the board during the course of the meeting from all sources. Each <b>Record Copy</b> (or "RC") is numbered. Documents include late advisory committee comments, other public comments, background on specific proposals, deliberation materials, the seven committee reports, and draft regulatory wording.                                                                                                                                                 |
| <u>RC 2.1</u><br><u>RC 2.2</u><br>(382 pages)                                                                                                                                                                                                                     | <b>Staff Comments (RC 2)</b> explain the department's preliminary position on each proposal. See pages 14-20 of the first PDF file for a summary. Positions indicate support, opposition, neutral, or a recommendation for no action. Department positions are neutral on the allocation aspects of proposals.<br><br>For each proposal there is a description of 1) what the proposal is asking, 2) the current regulations, 3) the effect of the proposal, 4) background, 5) department position, and 6) potential cost to private persons. |
| <u>RC 3.1</u><br><u>RC 3.2</u><br><u>RC 3.3</u><br>(775 pages)                                                                                                                                                                                                    | <b>Department Written Reports (RC 3)</b> contain all seven written reports. See Page 2 of the first file for a list of report titles. Included are topics such as fishery overviews, escapement goal reviews, and stock composition analysis. The last section (third file, pages 166-191) is a collection of useful maps.                                                                                                                                                                                                                    |

|                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>RC 4</u><br>(147 pages)                                                                                                          | <b>Department Oral Reports</b> (RC 4) contain the PowerPoint slides from all 11 staff presentations. See Page 2 for report titles.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <u>RC 5-37</u><br><u>RC 38-51</u><br><u>RC 52-76</u><br><u>RC 77-114</u><br><u>RC 115-132</u><br><u>RC 133-255</u><br>(1,002 pages) | <p>Other <b>Record Copies</b> submitted during the meeting. See <b>RC Index</b> above for the complete list. Selected documents of general interest include the following:</p> <p>RC 8 - "<b>Options Memo</b>" from ADF&amp;G summarizing potential management options facing the board for Upper Cook Inlet.</p> <p>RC 12 - Memo from ADF&amp;G discussing <b>stock of concern status</b> for Yentna River sockeye.</p> <p>RC 33, RC 34, RC 35, RC 36, RC 48, RC 83 - <b>Deliberation materials</b> presented by ADF&amp;G for proposals in each of the seven board committees.</p> <p>RC 72 - <b>List of oral public testimony</b> identifies the 125 individuals, organizations, and advisory committees that signed up to testify before the board.</p> <p>RC 101, RC 102, RC 103, RC 104, RC 105, RC 106, RC 107 - <b>Committee Reports</b> are the written product from the seven board committees. Listed for each proposal is 1) a summary of key points in support and opposition, 2) a cross-reference to pertinent documents in the record, 3) a consensus if any among board committee members or among public panel members, and 4) suggested substitute language.</p> <p>RC 154 - Preliminary draft <b>action plan</b> to address Susitna River sockeye salmon stock developed in response to the stock of concern finding.</p> <p>RC 224 - Draft <b>board finding</b> on Upper Cook Inlet salmon management plans. (See 2008-259-FB for final version.)</p> |

Note: references to page numbers listed above refer to the page of the PDF file and not the page listed on the original document.

### Other background information available

Board of Fisheries website main page:

<http://www.boards.adfg.state.ak.us/fishinfo/index.php>

Audio files of the meeting are available. Please submit requests to Boards Support Section, Department of Fish and Game (465-4110).

A list of the actions taken on the 286 proposals is available on the Board of Fisheries website (see: <http://www.boards.adfg.state.ak.us/fishinfo/meetsum/meetsum.php> or follow links to "Summary of Actions" for the 2007/2008 cycle).

Board finding on Upper Cook Inlet salmon management (2008-259-FB):

<http://www.boards.adfg.state.ak.us/fishinfo/regs/2008/2008-259-FB.pdf>

Also available on the board's website is a map depicting the general location of the 11 local fish and game advisory committees in the Cook Inlet portion of the Southcentral Region. All 11 were active participants of the 2008 Upper Cook Inlet meeting.

Link: <http://www.boards.adfg.state.ak.us/advisory/listac/acreg.php>

The Sustainable Salmon Fisheries Policy (SSFP) can be found in 5 AAC 39.222.

Link: <http://www.boards.adfg.state.ak.us/fishinfo/regs/ssfptext.pdf>

The Board of Fisheries allocation criteria can be found in AS 16.05.251(e) and Board Finding #91-121-FB.

Link: <http://www.boards.adfg.state.ak.us/fishinfo/regs/ff91129x.pdf>

For additional information on the Board of Fisheries, please contact:

Jim Marcotte

Executive Director, Alaska Board of Fisheries

Alaska Department of Fish and Game

465-4110

Other background information available

Board of Fisheries website main page:

<http://www.boards.adfg.state.ak.us/fishinfo/index.php>

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**The Commercial Alaska Salmon Fisheries  
Managed by the Alaska Department of Fish and Game  
A 5-Year Re-Assessment Based on the  
Marine Stewardship Council Program**

Contract Number: IHP-05-069

Version: SCS\_Final Draft Assessment Report for Posting

Date: 30 October 2007

Client: Alaska Department of Fish and Game (ADF&G)

MSC reference standards:

MSC Accreditation Manual Issue 4,

MSC Fisheries Certification Methodology (FCM) Version 5,

MSC TAB Directives (All)

MSC Chain of Custody Certification Methodology (CoC CM) Version 6.

Accredited Certification Body:

Scientific Certification Systems, Inc.

Marine Fisheries Conservation Program

2200 Powell Street, Suite 725

Emeryville, CA 94608, United States

Assessment Team

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Dr. Louis W. Botsford (University of California, Davis, California, USA)

*This is the body  
that confirms the  
sustainability of  
Alaska Salmon  
w/o their stamp  
of approval, Alaska  
salmon cannot be  
sold as sustainable  
which is key to  
marketing in Europe  
and other markets.*

### 8.1.8 Upper Cook Inlet Gillnet

All five species of Pacific salmon are subject to commercial harvest in upper Cook Inlet set net and drift net fisheries (Fox and Shields 2005). Sockeye are the primary target species. Recent 10-year harvests have averaged 3.1 million sockeye, 221,000 coho, 194,000 pink, 168,000 chum, and 15,700 chinook (Fox 2005). Chinook, sockeye, and coho are also subject to significant sport and personal use fisheries (Pappas and Marsh 2004).

Management of directed sockeye fisheries is based on production from the five largest sockeye salmon producing drainages (Kenai, Kasilof, Susitna, and Crescent rivers and Fish Creek) (ADFG 2005). Chinook return to a number of large rivers and streams with the largest runs into the Kenai, Deshka, and Kasilof rivers (ADFG 2005). Coho are found in approximately 1,100 streams and rivers in UCI (Lafferty et al. 2005). Chum return to rivers and streams throughout the inlet. Pink salmon return in even years to rivers and streams throughout the Inlet. Escapement goals have been identified for 8 sockeye, 21 chinook, 3 coho, 1 chum, and 0 pink stocks (Hasbrouck and Edmundson 2005).

Commercial fisheries are regulated in two districts and 8 subdistricts encompassing about 3,400 square miles (Fox and Shields 2005). A series of species and area management plans provide detailed guidance on goals, allocations, and fishery implementation in upper Cook Inlet. Enhancement activities include limited releases of sockeye in the Kenai River, chinook in the Kasilof River and Ship Creek, and coho in Ship Creek (Eggertsen-Goff 2004, White 2005). Enhancement of Kasilof and Fish Creek sockeye has been discontinued.

#### Summary Assessment

The upper Cook Inlet commercial fishery passes Principle I criteria based on a weighted average score exceeding 80. However, scores for several specific indicators fell between 60 and 80.

| Upper Cook Inlet                                                                                  |                                                       | Criteria @ 100 |     |     |     |   |   |   | Criteria @ 80 |     |    |   |   |   |   | Criteria @ 60 |   |   |   |   |   |   | Score | Weight |       |       |
|---------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------|-----|-----|-----|---|---|---|---------------|-----|----|---|---|---|---|---------------|---|---|---|---|---|---|-------|--------|-------|-------|
|                                                                                                   |                                                       | 1              | 2   | 3   | 4   | 5 | 6 | 7 | 1             | 2   | 3  | 4 | 5 | 6 | 7 | 8             | 1 | 2 | 3 | 4 | 5 | 6 | 7     | 8      | 0-100 |       |
| PRINCIPLE I - Fishery Management for Target Populations                                           |                                                       |                |     |     |     |   |   |   |               |     |    |   |   |   |   |               |   |   |   |   |   |   |       |        |       |       |
| Criterion 1.1 - Maintain high productivity of target population & associated ecological community |                                                       |                |     |     |     |   |   |   |               |     |    |   |   |   |   |               |   |   |   |   |   |   |       |        |       |       |
| Subcriterion 1.1.1 - Stock units                                                                  |                                                       |                |     |     |     |   |   |   |               |     |    |   |   |   |   |               |   |   |   |   |   |   |       |        |       |       |
| Indicator 1.1.1.1                                                                                 | Stock management units defined                        | 1              | 0.5 |     |     |   |   |   | 1             | 1   |    |   |   |   |   |               | 1 | 1 |   |   |   |   |       |        | 95    | 0.317 |
| Indicator 1.1.1.2                                                                                 | Scientific agreement on units                         | 1              | 0.5 | na  |     |   |   |   | 1             | 1   |    |   |   |   |   |               | 1 |   |   |   |   |   |       |        | 95    | 0.194 |
| Indicator 1.1.1.3                                                                                 | Geographic distribution known                         |                |     |     |     |   |   |   | 1             | 0.5 | na |   |   |   |   |               | 1 |   |   |   |   |   |       |        | 77    | 0.108 |
| Indicator 1.1.1.4                                                                                 | Indicator Stocks                                      | 0.5            | 1   | 0.5 | 0.5 |   |   |   | 1             | 1   |    |   |   |   |   |               | 1 | 1 |   |   |   |   |       |        | 93    | 0.064 |
| Indicator 1.1.1.5                                                                                 | Enhanced Stocks                                       |                | 0.5 | 1   |     |   |   |   | 1             | 1   |    |   |   |   |   |               | 1 | 1 |   |   |   |   |       |        | 95    | 0.317 |
| Subcriterion 1.1.2 - Monitoring and assessment                                                    |                                                       |                |     |     |     |   |   |   |               |     |    |   |   |   |   |               |   |   |   |   |   |   |       |        |       |       |
| Indicator 1.1.2.1                                                                                 | Reliable estimates of removals                        | 0.5            | 1   | 1   | 1   |   |   |   | 1             | 1   | 1  | 1 |   |   |   |               | 1 | 1 | 1 |   |   |   |       |        | 98    | 0.274 |
| Indicator 1.1.2.2                                                                                 | Reliable estimates of escapement                      |                |     |     |     |   |   |   | 0.5           | na  | 1  | 1 |   |   |   |               | 1 | 1 | 1 |   |   |   |       |        | 77    | 0.369 |
| Indicator 1.1.2.3                                                                                 | Information on fish age and size                      | 0.5            |     |     |     |   |   |   | 1             | 1   |    |   |   |   |   |               | 1 |   |   |   |   |   |       |        | 90    | 0.112 |
| Indicator 1.1.2.4                                                                                 | Productivity estimates                                | 0.5            | 0.5 |     |     |   |   |   | 1             | na  | na |   |   |   |   |               | 1 | 1 |   |   |   |   |       |        | 90    | 0.246 |
| Subcriterion 1.1.3 - Management goals                                                             |                                                       |                |     |     |     |   |   |   |               |     |    |   |   |   |   |               |   |   |   |   |   |   |       |        |       |       |
| Indicator 1.1.3.1                                                                                 | Limit reference points                                |                |     |     |     |   |   |   | 1             | 1   |    |   |   |   |   |               | 1 |   |   |   |   |   |       |        | 80    | 0.667 |
| Indicator 1.1.3.2                                                                                 | Target reference points                               | 1              | 0.5 | 0.5 |     |   |   |   | 1             | 1   |    |   |   |   |   |               | 1 | 1 | 1 |   |   |   |       |        | 93    | 0.333 |
| Criterion 1.2 - Fishery allows for the recovery of depleted stocks (Target Stocks)                |                                                       |                |     |     |     |   |   |   |               |     |    |   |   |   |   |               |   |   |   |   |   |   |       |        |       |       |
| Indicator 1.2.1                                                                                   | Well-defined and effective strategy                   |                |     |     |     |   |   |   |               |     |    |   |   |   |   |               | 1 | 1 |   |   |   |   |       |        | 60    | 0.158 |
| Indicator 1.2.2                                                                                   | Stocks not depleted and harvest rates are sustainable |                |     |     |     |   |   |   |               |     |    |   |   |   |   |               | 1 | 1 |   |   |   |   |       |        | 60    | 0.158 |
| Criterion 1.3 - Fishing does not impair reproductive capacity                                     |                                                       |                |     |     |     |   |   |   |               |     |    |   |   |   |   |               |   |   |   |   |   |   |       |        |       |       |
| Indicator 1.3.1                                                                                   | Age, sex and genetic structure are monitored          |                |     |     |     |   |   |   | 0.5           | 0.5 | 1  |   |   |   |   |               | 1 | 1 | 1 |   |   |   |       |        | 74    | 0.07  |

### 1.1 Productivity / 1.1.1 Stock Units.

*1.1.1.1: Stock units defined.* - There is a description of each stock unit, including: its geographic location, run timing, details on all the component stocks, and rationale for its definition. The rationale for sockeye and chinook stock units is generally clear with regard to conservation, fisheries management and stock assessment requirements. Coho, pink, and chum stock units combine component stocks for management purposes. The conservation and stock assessment rationale for this aggregate species approach is sometimes unclear. These species are generally harvested at a significantly lower rate than sockeye and chinook.

*1.1.1.2: Scientific agreement on units.* - Review of stock units has been primarily limited to within the management system. The stock units have been reviewed and found to be scientifically defensible by ADFG. The degree of review by other management authorities such as NMFS and the USFW is unclear although we are not aware of any significant objections from those quarters. A focused review of stock units by regional fisheries scientists outside the management system might not produce a consensus on aggregate stock units for coho, pink, and chum, particularly in the face of evidence for significant genetic differences among many populations (Seeb et al. 2000, Spearman 2000). There are no non-target species of salmon in upper Cook Inlet by our working definition as species that are actively avoided by management.

*1.1.1.3: Geographic distribution known.* - Harvest of Upper Cook Inlet salmon occurs within a known geographic range which is primarily upper Cook Inlet with limited interception of some species in Peninsula and Kodiak fisheries. Current information appears generally adequate to ensure that escapement goals for all stocks are met in most but not all years. In-season assessments of stock composition in mixed stock commercial fisheries of Cook Inlet are generally based on assumed time and area patterns inferred from post-season analysis of scale patterns for sockeye and historical tag recovery data for selected chinook and coho populations. In-river escapement estimates also provide some indication of relative run size and stock contribution. Time and area patterns may or may not be accurate in any given year. Previous attempts to infer sockeye stock composition in-season from scale patterns have been discontinued. Questions have been raised within the management system regarding the accuracy of historical stock composition data and an extensive sockeye GSI program is being implemented in 2006 for the Upper Cook Inlet commercial fisheries. The lack of accurate in-season information on sockeye stock composition can confound attempts to manage mixed stock commercial sockeye fisheries for stock-specific escapement goals, particularly in years of disparate returns of different stocks.

In-season information is not available on chinook and or stock composition although stock structure of Chinook in particular is less complex than that of sockeye during periods of intensive commercial salmon fisheries. ADFG believes that the need for improved stock composition data for Chinook salmon is minor in comparison with sockeye. UCI chinook salmon stocks are well known based on geographic and temporal proximity of fishing to spawning aggregates. The early run stocks (Susitna, early-run Kenai and a few relatively smaller stocks e.g. Anchor, Kasilof) have not been subjected to significant commercial fishing since the 1970s when the early run period was closed by regulation in face of low Chinook runs. Because of the lack of early run sockeye, ADFG notes that the early run period commercial fisheries have and will likely continue to be restricted for allocative reasons. The Kenai stock is the primary late-run stock and the UCI fishery management plan has many provisions to protect this stock, and expressly limits the interceptions of late run Kenai Chinook in face of strong Kenai late run

sockeye returns. There have been numerous radio telemetry studies of the Kenai (to verify sonar counts, etc), and the components of the early and late run Kenai Chinook are well known. However, significant questions remain regarding the status of late run Chinook in the Kasilof River and ADFG has initiated an assessment of that stock. With the advent in recent years of intensive fisheries for large returns of Kasilof sockeye, the relative contribution of late run Kasilof and Kenai Chinook stocks in Kasilof area fisheries has come into question. The fishery did not meet the 80 scoring guidepost for monitoring of the geographic range of all target stocks during the fishing season sufficient to prevent over harvest. Significant questions are remain for sockeye and to a lesser extent Kasilof Chinook.

**Condition 35. Complete evaluations of sockeye and assess Kasilof chinook stock composition in fisheries to ensure accuracy of post-season analyses and clarify effectiveness of in-season time and area management. [Upper Cook Inlet]**

*1.1.1.4: Indicator stocks.* - The status of the indicator stocks is somewhat but not entirely correlated with the stocks that are most at risk from a conservation point of view. The stocks used have been reviewed by ADFG although it is unclear how much outside review has been made. Formal analyses of the relationships between stocks and stocks of interest are not assessed every three to five years for all species. Management decisions in Upper Cook Inlet are heavily influenced by a subset of stocks, particularly the large productive Kenai and Kasilof sockeye runs. It is unclear to what degree current indicator stocks are representative of other unrepresented stocks for all species. Some information is available on the relationships among stocks of sockeye and chinook. Information is lacking on how representative the index stocks are of the larger groups of stocks in the region for coho, pink, and chum although fishery risks are somewhat ameliorated by reduced fishery interest in those species.

*1.1.1.5: Enhanced stocks.* - Enhancement activities are limited in upper Cook Inlet relative to Southeast Alaska and Prince William Sound. The scale of salmon enhancement of Upper Cook Inlet stocks is minor particularly since the elimination of the Tustumena Lake (Kasilof) sockeye program, which produced the majority of enhanced returns to UCI. Small Chinook and coho enhancement projects directed primarily at providing additional sport harvest opportunities for urban anglers while deflecting fishing effort from small wild stocks. Contribution estimates of UCI hatchery coho projects to commercial and sport harvests and stocked stream escapements during 1999-2001 have been evaluated by Bosch and Evans (2006). Sockeye salmon enhancement in UCI is now limited to fry plants into Hidden Lake (Kenai) and Big Lake (Fish Creek). Simpson and Edmundson (1999) have evaluated potential impacts of the Hidden Lake program. Litchfield and Willette (2002) provide a technical review of Fish Creek sockeye production. All enhancement programs are reviewed annually by ADF&G through the hatchery annual management plan process for the respective facilities, and must comply with department policies, including the genetics policy. The Cook Inlet Regional Salmon Enhancement Plan is currently being updated to provide direction for future salmon enhancement throughout the Cook Inlet area. Fisheries harvest both enhanced and wild (un-enhanced) stocks at the same time but harvest guidelines are generally based on the goals and objectives established for the wild (un-enhanced) stocks. No obvious hatchery problems have been reported. Given the limited scale of hatchery releases in this area, data and analyses appear to be adequate for evaluating the effects of enhanced fish in the management units on the wild (un-enhanced) fish stocks. Mark and recovery programs are operated for specific systems where enhanced: wild interactions are a potential concern.

**1.1 Productivity / 1.1.2 Monitoring and Assessment.**

*1.1.2.1: Reliable estimates of removals.* – Accurate and timely catch estimates are available for commercial fisheries based on daily in-season reporting. Catch estimates of sport and personal use fisheries that also affect escapement rely on in-season indices and post season estimates. Salmon are not released or discarded by the commercial fishery. Significant harvests of upper Cook Inlet salmon do not occur outside U.S. waters. Catch estimates are available for enhanced (e.g., hatchery) fish.

*1.1.2.2: Reliable estimates of escapement.* – Estimates are available for the annual escapement of most significant sockeye and chinook stocks harvested in the fishery. However, the reliability of sockeye sonar escapement estimates, particularly in the Susitna, has been called into question and is subject to an evaluation by the management system. Chinook escapement data is lacking for the Kasilof. In-season escapement data is collected for key sockeye and chinook stocks and used to regulate the fishery. Escapement estimates, particularly fishery independent in-season estimators, are lacking or limited for other species including coho, pink and chum although these species are not currently subject to intensive target fisheries. Estimates are available for the annual escapement and natural spawning of enhanced (e.g., hatchery) sockeye in the Kenai but not the Kasilof although the latter program has been discontinued. The fishery did not meet the 80 scoring guidepost for estimates of annual escapement of each target stock harvested in the fishery. New Susitna sockeye and Kasilof Chinook escapement assessment programs are in the process of being implemented.

**Condition 36. Develop appropriately reliable estimates or indices of escapement for Susitna sockeye and Kasilof Chinook and incorporate into fishery management practices. [Upper Cook Inlet]**

*1.1.2.3: Information on age and size.* – Annual monitoring programs collect data on the age and size of the catch and escapement for some but not all species and stocks. Extensive age, size, and length (ASL) data is collected from the commercial fishery catch. Annual ASL data is also collected from the escapement of most key sockeye and chinook stocks. This data used to reconstruct stock-recruitment relationships and to forecast future run sizes. Periodic monitoring programs have collected ASL data from the escapement of additional stocks although the scientific basis for sampling frequency of non-driver stocks is unclear.

*1.1.2.4: Productivity estimates.* – Scientifically defensible productivity estimates have been derived for some but not all target stocks. Stock-recruitment data based on run reconstructions is adequate to identify biological or sustainable escapement goals for most sockeye and chinook stocks. However, information is incomplete or lacking on the productivity of some key stocks including Susitna sockeye, Kasilof chinook, and coho. Risk assessments have considered uncertainty in productivity but formal assessments have concentrated on key fishery stocks. For instance, management considerations in recent years have included a substantial focus on productivity concerns associated with exceeding the upper end of Kenai and Kasilof sockeye escapement goals.

**1.1 Productivity / 1.1.3 Management Goals.**

*1.1.3.1: Limit Reference Points.* – For the purposes of this evaluation, sustainable and biological escapement goals (SEGs and BEGs) established for indicator stocks are treated as the operational equivalent of limit reference points. These goals are defined in Alaska's policy for the management of sustainable salmon fisheries (5 AAC 39.222). LRPs are defined as a state of the fishery that is not considered desirable where management action should severely curtail or stop

the fishery if it is reached. The LRP definition would appear to more closely fit the sustainable escapement threshold definition in Alaska's Sustainable Salmon Policy but no technical basis for establishing an SET has been established by ADFG and no SETs have been adopted. ADFG has recently defined a sustainable escapement goal threshold (SEGT) which is analogous to the lower end of an SEG range rather than an SET. The lack of SETs has been driven by the lack of an empirical basis for application of this theoretical concept as well as a belief system within the management agency that conservation risks of overfishing are practically nil for salmon stocks where the habitat is intact. Conditioned on this operational definition, there is some scientific basis for the LRP's for target stocks, these LRP's are defined to protect the stocks harvested by the fisheries, and there is no significant scientific disagreement regarding the LRP's used by the management system to formulate management decision for the fishery. Use of this operational definition will have implications for interpretation of other indicators that reference the LRP.

*1.1.3.2: Target Reference Points.* – Escapement goal ranges (SEGs and BEGs) established for indicator stocks clearly fit the definition of a Target Reference Point (TRP) as the desirable fishery level that management action should aim at maintaining. Escapement goals provide TRP's for the dominant fishery stocks and a subset of the other stocks in upper Cook Inlet. These goals have undergone extensive review and found to be scientifically defensible by ADFG. The extent of review and agreement among regional fisheries scientist outside the management system is unclear.

## **1.2 Recovery of Depleted Stocks**

*1.2.1: Recovery strategy and plan.* – Under the operational definition of an LRP used in the evaluation, this evaluation identified depleted stocks based on a consistent failure to meet the lower end of the prescribed escapement goal range. This is equivalent to the definition of a "stock of concern" in Alaska's sustainable fisheries policy (SSFP) where yield, management, or conservation concerns are identified based on a chronic inability to meet escapement thresholds over a four to five year period. The SSP defines a "depleted salmon stock" based on identification of a conservation concern which is a chronic inability, despite the use of specific management measures, to maintain escapements for a stock above a sustained escapement threshold (SET). However, SETs have not been established for any Alaska stock and so conservation concerns have never been formally recognized by the management system. Lacking definition of specific SETs, application of sustainability criterion relative to LRPs and identification of depleted stocks was based on designated SEGs and BEGs.

No stocks of concern have been formally designated by the board of Fisheries for Upper Cook Inlet. Fish Creek sockeye were previously designated as a species of management concern but this designation has been removed based on new information and the response to management actions. However, Yentna sockeye met our operational definition of a depleted stock based on failure to meet escapement goals in 4 of last 5 years. Failure to meet the minimum escapement goal for this stock is particularly concerning because goals have been reduced on two previous occasions.

According to ADFG, escapement goals and stock status of Cook Inlet sockeye stocks were reviewed during the 2004 Board of Fisheries cycle. At that time, the Yentna stock had not met the Sustainable Escapement Goal for the stock for 3 of the previous 5 years. It was not considered by ADF&G or the BOF as a SOC. The escapement goal for the Yentna was again not reached in 2005. An agenda change request for designation of Yentna sockeye as a stock of concern was rejected by the BOF at its fall work session. Comments submitted to the BOF on the ACR stated that ADF&G did not believe the sustainability of this stock, as defined by the SSFP

is jeopardized despite failure to reach escapement goals. ADF&G has expressed concerns with regard to Susitna River sockeye (for which the Yentna has served as an index). Time and area management actions were taken in Northern and Central Districts to limit harvest of Susitna sockeye based on low in-season returns in 2005. ADF&G has also implemented major stock assessment research including a genetic stock identification program that will provide information of where, when and in what numbers Susitna sockeye (and other Cook Inlet stocks) are harvested in Upper Cook Inlet, and a large mark-recapture program to estimate escapement to the Susitna River.

Our qualitative assessment of the management response to stock depletion suggests that planned time and area restrictions under existing management plans adopted by the Board of Fisheries and intensive stock assessments that have been implemented, provide a reasonable expectation for significant improvements in Yentna sockeye escapements within the scale and time period prescribed at the 60 scoring guidepost. However, recovery plans do not rise to the standard of the 80 scoring guidepost due to the lack of a formal stock of concern designation contrary to the SSFP definition based on chronic inability to meet escapement thresholds over a four or five year period, lack of a written action or recovery plan, absence of specific targets consistent with recovery within 3 reproductive cycles, and absence of specific fishery closure triggers consistent with the intent of a true limit reference point.

Yentna sockeye have failed to meet minimum escapement goals in 4 of the last 5 years and are a depleted stock based on our operational definition of limit reference points. ADF&G reviews stock status relative to identification of stocks of concern for consideration by the Board of Fisheries. Final content of action plans is determined in an open public process by ADF&G and the Board. However, the BOF did not elect to designate Yentna sockeye as a stock of concern at the 2005 meeting. The management response to depletion of Yentna sockeye does not meet the requirements of the 80 scoring guidepost with respect development and implementation of a specific plan for recovery within 3 reproductive cycles and or limitations of the fishery which allow the stock to recover to more than 150% of the LRP for abundance before any fisheries are permitted that target these stocks.

**Condition 37. Review stock status of Susitna sockeye and develop an action plan intended to ensure achievement of Susitna sockeye escapement goals. Action plan should provide specific goals and an anticipated timeline for achieving the goals (see condition under Principle 3 for Indicator 3.4.1.2 [Upper Cook Inlet])**

*1.2.2: Stocks not depleted.* - There is general agreement among regional fisheries scientist inside the management system that the methods of estimating escapements and exploitation rates for the majority of target stocks are scientifically defensible. Management actions have reduced fishing as the target stocks approach the LRP (i.e. escapement goals) and fisheries have only resulted in escapements that approach or are below the LRP escapement goal in no more than two years in a period of the most recent 5 consecutive years, for the majority of the target stocks. This fishery fails the 80 scoring guidepost for this indicator which is based on any rather than most target stocks. Yentna sockeye have failed to reach escapement goals in 4 of 5 recent years and significant questions exist regarding the accuracy of methods for estimating escapement and exploitation rates of this stock. The fishery did not meet the 80 scoring guidepost for this indicator due to failure of Yentna sockeye to reach escapement goals in 4 of 5 recent years and significant questions exist regarding the accuracy of methods for estimating escapement and exploitation rates of this stock. ADF&G is improving its assessment program for Yentna/Susitna sockeye salmon, and is taking management actions to limit commercial harvests of these fish in

2006. Improved management tools and performance are expected from improved assessment programs.

Application of this criterion recognizes that salmon management agencies cannot ensure ALL target stock escapements will meet goals four out of every five consecutive years given the variable nature of salmon returns. For instance, short-term declines in productivity as a result of environmental conditions can result in escapement goals not being met even when a management agency has closed fisheries in response to low returns. This is not the case for Yentna sockeye. Significant sockeye fisheries have been prosecuted in Cook Inlet despite a chronic failure to meet the Yentna escapement goal. Continuing strong returns of other sockeye stocks in Cook Inlet and other portions of Alaska indicate favorable environmental conditions for ocean rearing and maturation. The fact that Yentna sockeye have apparently declined during a period of favorable ocean productivity could be indicative of changes in local productivity in the Susitna system, problems with the assessment methods, a fishery effect. Any of these causes could be construed as a basis for significant concern from the standpoint of stock sustainability.

Condition 38. Develop a method for specifically setting an LRP that is comparable to the SET (Sustainable Escapement Threshold) outlined in the Sustainable Escapement Goal Policy (see Condition under Principle 3, Indicator 3.1.1) [Upper Cook Inlet]

### 1.3 Reproductive capacity

*1.3.1: Age, size, sex and genetic considerations.* - Extensive information on biological characteristics such as the age, size, sex and component stocks provides a reasonable basis for detection of fishing threats to the reproductive capacity of the target stocks. The management system includes provisions to minimize any adverse impacts to the genetic structure of wild (un-enhanced) stocks that may be due to the enhancement of other stocks. The significance of these considerations is specifically identified in the SSFP. Fishery management plans include specific actions aimed at protecting diversity and reproductive capacity.

ADFG believes its existing management and assessment programs are adequate to assure the long-term biological characteristics and reproductive capacity of UCI salmon stocks. Important elements include distributing escapements temporally across runs through use of time and area fishery restrictions, establishing and managing for escapement goals, and extensive age, sex and size sampling of runs. ADFG is unaware of no demonstrated detrimental effects of selective fishing that have occurred in salmon populations managed to maintain escapements, including several sockeye stocks from different areas of Alaska that have been harvested extensively with size selective gillnets for over a century "without measurable effects".

However, given the intensive nature of UCI fisheries, it is unclear whether management actions are adequate for the health of all target stocks relative to biological characteristics such as age, size, sex and genetic structure. Fishery assessments have considered potential selective fishery impacts on some species such as early run Kenai chinook which is primarily a sport fishery species. It is unclear whether similar assessments have been completed for other species and stocks, particularly in large systems like the Kenai, Susitna, and Kasilof where genetic data has identified significant genetic substock structure. The fishery did not completely meet the 80 scoring guidepost for this indicator with respect to the consistency of management actions with maintaining healthy biological characteristics such as age, size, sex, and genetic structure of all target stocks.

Harvest rates in many of these fisheries are high. High harvest rates have the potential for differential harvest of stock components. Genetic studies using ever-advancing techniques are

documenting high diversity among and within subcomponents of a stock. Salmon conservationists have increasingly recognized the close relationship between diversity and productivity. All of this adds up to a real, albeit theoretical risk that intensive fisheries could exert a directional selective pressure which, over a period of time, could alter the genetic composition and performance of a stock. Of particular concern to the reviewers has been a prevailing belief in the management system that fisheries cannot pose a significant risk to salmon sustainability where habitats are intact. Until this belief has been thoroughly vetted, documented, and published in the scientific literature, this review must continue to treat this view as an untested hypothesis. Further, precautionary management requires that the burden of proof fall on demonstration that selective fisheries do not jeopardize diversity.

**Condition 39. Evaluate appropriate existing age-sex-size information to determine if fisheries are exerting significant selectivity; continue ASL sampling in fisheries and several spawning stocks to continue a database for long-term evaluation of potential fishery selectivity. [Upper Cook Inlet]**

|              |       |       |       |
|--------------|-------|-------|-------|
| Norton Sound | 80.56 | 82.12 | 92.73 |
| Kodiak       | 82.48 | 82.12 | 92.73 |
| Chignik      | 87.55 | 82.12 | 92.73 |
| Peninsula    | 80.13 | 82.12 | 92.73 |

## 12 Requirements for Continued Certification

To be awarded an MSC certificate for a fishery, the applicants or client must agree in written contract to develop an action plan for meeting the required 'Conditions'; a plan that must provide specific information on what actions will be taken, who will take the actions, and when the actions will be completed. An Action Plan has been submitted by ADF&G and approved by SCS (see Appendix 6).

As the applicant, ADF&G must also provide proof to SCS that a written contract is in place that obligates ADF&G to be both financially and technically responsible for annual surveillance visits by an MSC accredited certification body. The contract must also specify that ADF&G will endeavor to meet all specific "Conditions" and that evidence of not meeting the "Conditions" specified in the original assessment report is cause for the revocation of the MSC certificate.

The MSC allows fishery clients to switch Certification Bodies from the original CB and its assessment team to one with little background in the fisheries that have been assessed, and with no requirement to use any of the original assessment team members to ensure consistency of quality with the original assessment and original Conditions. Stakeholders in this process have identified to SCS some concern that switching CBs may, at a minimum, provide the potential for unintentional gaps in performance against the original assessment team's intent in the Conditions placed on each fishery. To ensure this is not a problem, any future review of the Conditions in this report requires that the CB of record for all future surveillance audits contact the team leader and team members of the original assessment team and provide the opportunity for both to comment on the management of the fisheries, as well as the opportunity to review and comment on the level of performance identified by Moody Marine and ADF&G in answering each Condition.

The contract for future annual surveillance audits is in place prior to certification being awarded.

### 12.1.1 General Requirements for Continued Certification

Surveillance audits will be comprised in general of (1) checking on compliance with the agreed action plan for meeting pre-specified 'Conditions', and (2) sets of selected questions that allow the certifier to determine whether the fishery is being maintained at a level of performance similar to or better than the performance recognized during the initial assessment.

The general 'Conditions' set for the Alaska salmon fisheries are:

- ADF&G must recognize that MSC standards require regular monitoring inspections at least once a year, focusing on compliance with the 'Conditions' set forth in this report (as outlined below) and continued conformity with the standards of certification.
- ADF&G must agree by contract to be responsible financially and technically for compliance with required surveillance audits by an accredited MSC certification body, and a contract must be signed and verified by SCS prior to certification being awarded.
- ADF&G must recognize that MSC standards require a full re-evaluation for certification (as opposed to yearly monitoring for update purposes) every five years.
- Prior to receiving final certification, ADF&G shall develop an 'Action Plan for Meeting the Condition for Continued Certification' and have it approved by SCS.

#### 12.1.2 Specific Requirements (Conditions) for Continued Certification

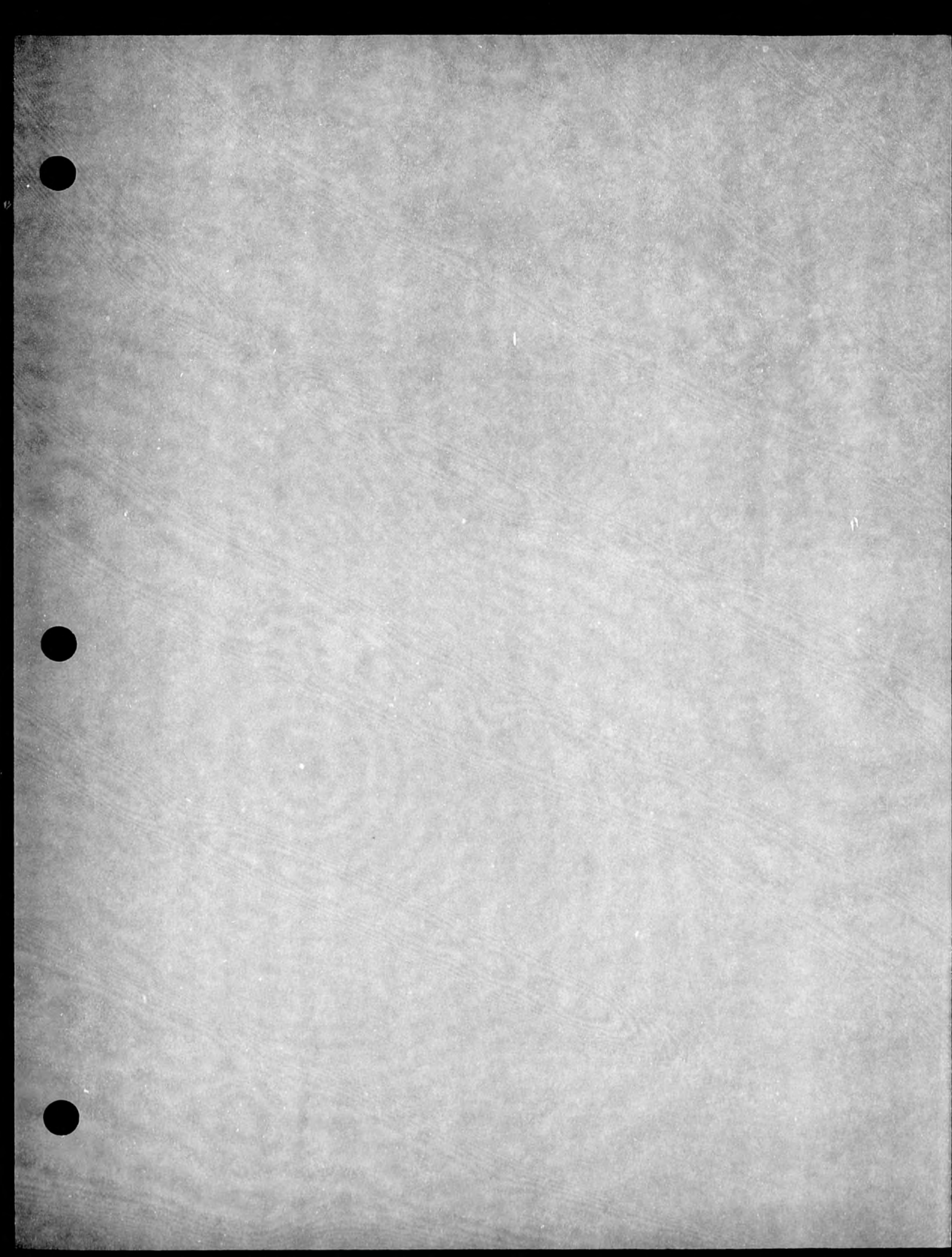
ADF&G must agree in a written contract with an accredited MSC certification body to meet the specific conditions as described in Section 8 of this report (within the agreed timelines that will be agreed in the 'Action Plan for Meeting the Condition for Continued Certification' to be approved by SCS).

An Action Plan has been submitted by ADF&G and reviewed by SCS. A contract for future surveillance audits has been signed between Alaska Department of Fish and Game and Moody Marine for surveillance audits beginning in 2008.

As stated above, the MSC allows fishery clients to switch Certification Bodies from the original CB and its assessment team to one with little background in the fisheries that have been assessed, and with no requirement to use any of the original assessment team members to ensure consistency of quality with the original assessment and original Conditions. Stakeholders in this process have identified to SCS some concern that switching CBs may, at a minimum, provide the potential for unintentional gaps in performance against the original assessment team's intent in the Conditions placed on each fishery. To ensure this is not a problem, any future review of the Conditions in this report requires that the CB of record for all future surveillance audits (Moody Marine) contact the team leader and team members of the original SCS assessment team and provide the opportunity for all to comment on the management of the fisheries, as well as on any information provided or summary reports on the level of performance identified by Moody Marine and ADF&G in answering each Condition.

### 13 MSC Logo Licensing Responsibilities

As the "applicant" for certification of the Alaska salmon fisheries, ADF&G is the only entity that has the right to apply for a license to use the MSC logo. It is also the case that ADF&G has the right to approve the use of the logo for others associated with the fishery at its discretion.



# A New Story for Salmon





## The Matanuska Susitna Basin Salmon Conservation Partnership

Every year, the streams of the Matanuska Susitna Basin (Mat-Su) fill with hundreds of thousands of salmon returning to their natal homes to spawn. Ocean-bright Chinook, coho, sockeye, pink and chum pour into the rivers, feeding everything from world-class rainbow trout, char and grayling to bald eagles, brown bears and humans.

People travel from around the world to fish for these salmon and trout and to view the wildlife that feed on them. Alaskans depend on these fish for sportfishing, subsistence, commercial fishing and the economic benefits of tourism. Salmon are at the heart of the Alaskan economy and way of life.

The greatest risk to salmon and other freshwater fish arises from many small actions compounding over time to degrade riparian habitat and water quality, change water flow and quantity, and block access to habitat. This steady loss of valuable habitat is the story behind declining and extinct wild fish in the rest of the country.

With rapidly growing communities and increased demand for natural resources in the

basin, Mat-Su citizens now have the opportunity to write a different story, one that combines economic prosperity with healthy salmon and fish habitat. That story is beginning now with the Mat-Su Basin Partnership, which is comprised of local communities, landowners, agencies, businesses and non-profit organizations.

The new story for salmon is a story of balance—a story of thriving fish and wildlife, healthy sport, commercial and subsistence fisheries, economic growth, and dynamic human communities. We believe this work can be accomplished cost effectively with sufficient planning, wise development and modest investment in fish habitat protection, restoration, and enhancement.

Few opportunities remain in the world to do it right the first time around. Conservation funding is limited. We must invest in places where there is great likelihood of strong return and success on the ground. The Mat-Su Basin is one of those places and the timing couldn't be better for this effort.

Denali, North America's highest mountain, reigns supreme over the headwaters of the Susitna. The king of salmon—the Chinook—also thrives in this watershed; the Susitna and its tributaries host the fourth largest run of Chinook in Alaska. Though the upper watershed includes some of the country's wildest lands, the lower watershed is one of the most densely populated areas in Alaska.



The basin offers world-class fly-in and road-accessible sportfishing, a pillar of the local economy. Many Alaskans rely on these fisheries to put food on the table, harvesting roughly 115,000 Chinook and coho from area streams each year. More than 160,000 rainbow trout are caught annually. Each year, the Mat-Su Basin sees nearly 300,000 angler days of sportfishing effort.



The region's many lakes, rivers, streams and creeks are abundant with fish; they are also desirable places to site homes and businesses. With its convenient location near Alaska's largest city and its wealth of recreational opportunities and extraordinary scenery, the Mat-Su is one of the fastest growing areas in the U.S. From 1990 to 2000, the basin grew at a rate of 49 percent—nearly four times the statewide growth rate of 13 percent. In 1990, the population was roughly 40,000. The borough projects that before 2025 the population will top 100,000 people.

Our Vision:

With its rich history of farming, the Mat-Su Basin is Alaska's heartland. As in many places in the U.S., however, agricultural areas are rapidly being converted to residential and recreational subdivisions, with accompanying commercial development. Moreover, the basin boasts mineral, timber, petroleum and other natural resources. As populations grow and resource demand soars, the potential impacts to fish habitat rise. Citizens, developers, and agencies are challenged to address issues of water quality, water quantity, and habitat degradation and fragmentation. Cooperative local actions are necessary now so that the Mat-Su develops responsibly—balancing economic growth with the fish habitat conservation necessary to maintain bountiful fish for future generations.

Ken Gifford / Alaskanature.com

Chad Jones / Mat-Su

The Mat-Su Basin's rivers, lakes, wetlands, tundra, boreal forest, glaciers and mountain ranges cover an area of 24,500 square miles, roughly the combined size of Vermont, New Hampshire and Massachusetts. From small cities and suburban homes to recreational subdivisions and isolated cabins, the basin possesses one of the most diverse and fragmented land ownership patterns in Alaska. Cooperation and partnership among stakeholders is essential for habitat conservation success.



The Nature Conservancy



Alaskans love their fish. In some areas of the Mat-Su Basin, Alaskans inadvertently risk loving fish habitat to death by trampling or removing important riparian habitat when fishing or improving lake and stream views. Local efforts to restore trampled vegetation and streambanks and to couple better fishing access

with stream bank management are underway with great success. Residents are learning easy, everyday techniques for fish habitat conservation, from siting homes and other structures back from lakeshores and streambanks to avoiding ATV use in spawning streams. Education and outreach are vital to this effort.





## Taking Action

*In the next five years, the Mat-Su Basin Partnership will:*

- Complete a comprehensive assessment of Mat-Su watersheds, including a prioritization of fish habitat protection, restoration and enhancement needs;
- Coordinate an outreach and education campaign, and establish an organized network of volunteers, organizations, agencies and businesses working on watershed issues;
- Restore key fish habitat by revegetating damaged stream banks, creating fish-and-people-friendly fishing areas, removing barriers to fish passage, and reestablishing natural stream structure and flow;
- Protect threatened essential fish habitats and public access by working with willing landowners to acquire habitat and conservation easements;
- Improve management of habitat on public lands by increasing coordination between local, state and federal partners; and
- Leverage significant private and public funding in the achievement of the partnership goals for watershed and salmon conservation.

*Local community members and partner organizations work together to restore structure and vegetation to an eroded streambank during a recent restoration workshop.*

## On-the-Ground Results

### *First Project, First Success of the National Fish Habitat Initiative in Alaska*

Athabascan Elders of the Chickaloon Tribe tell stories of Moose Creek abundant with five species of wild salmon. Those stories changed in the early 1900s when coal mining and associated railroad building caused extensive alterations to the creek, damaging in-stream habitat and cutting off the creek's meanders. The channel straightening caused the formation of a 10-foot high waterfall which blocked access by salmon and other fish to miles of upstream habitats. Salmon populations declined, leaving a few remnant Chinook and coho beneath the falls. In 2005, the Chickaloon Village Traditional Council, with support from Mat-Su partners, reconstructed the stream channel in the historic meander bend around the waterfall. Within days of

project completion, adult Chinook salmon were passing the project site, gaining access to more than five miles of reopened spawning and rearing habitats. Phase 2 of the project is scheduled for completion in August 2006. For more information, visit [www.chickaloon.or](http://www.chickaloon.or)

Removing barriers to fish passage, such as improperly sited or sized road culverts, is an easy way to restore access to large areas of aquatic habitat. The Mat-Su partnership expects to improve or reopen 100 miles of salmon habitat in the Matanuska and Susitna watersheds through restoration over the next five years.



*Unnatural waterfall obstruction prevented salmon passage to upper Moose Creek.*



*Construction of the new creekbed following the historic stream meander.*



*Chinook salmon return to upper Moose Creek within days of project completion.*

The Matanuska Susitna Basin Salmon Conservation Partnership is the first National Fish Habitat Initiative (NFHI) project recognized in Alaska and is one of only five fish habitat partnerships selected nationwide as initial pilot programs for the initiative.

NFHI is an unprecedented partnership with a shared interest in protecting, restoring and enhancing the nation's waterways and fisheries. The initiative brings together anglers, farmers, local government planners, conservationists, tribes, community groups, private landowners, state and federal agencies, and many others to focus national attention on fish habitat. The vision: healthy fish, healthy habitats, healthy people and healthy economies.

*The National Fish Habitat Initiative is:*

- Non-regulatory and voluntary;
- Locally and regionally based, and driven by grassroots partners;
- Focused and targeted toward fisheries restoration in key watersheds;
- Based on a consolidation of the best scientific expertise on fisheries and habitat management;
- Linked nationally, to facilitate comprehensive coordination and evaluation of progress; and
- Sustainable and accountable, recognizing the need for long-term investments and demonstrable results.

*The Matanuska Susitna Basin Salmon Conservation Partnership is  
(as of April 6, 2006)*

Alaska Center for the Environment  
Alaska Department of Fish and Game  
Alaska Department of Environmental Conservation  
Alaska Department of Natural Resources  
Alaska Department of Commerce, Community,  
and Economic Development  
Alaska Department of Transportation and  
Public Facilities  
Alaska Railroad Corporation  
Alaskans for Palmer Hay Flats Game Refuge  
Bureau of Land Management  
Chickaloon Village Traditional Council  
ConocoPhillips  
Cook Inletkeeper  
Friends of Mat-Su  
Glacier Ridge Properties

Great Land Trust  
Knik River Watershed Group  
Matanuska River Watershed Coalition  
Matanuska-Susitna Borough  
National Marine Fisheries Service  
National Park Service Rivers, Trails and  
Conservation Assistance Program  
Native Village of Eklutna  
Natural Resources Conservation Service  
The Nature Conservancy  
US Army Corps of Engineers  
US Environmental Protection Agency  
US Fish and Wildlife Service  
US Geological Survey  
USDA Forest Service  
Wasilla Soil and Water Conservation District

*To join, or for more information on the Mat-Su Basin Partnership, contact:*

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333 Raspberry Road  
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907-267-2142  
christopher\_estes@fishgame.state.ak.us

*For more information on the National Fish Habitat Initiative visit [www.fishhabitat.org](http://www.fishhabitat.org) or contact Christopher Estes.*



*Perched culverts on Swiftwater Creek blocked fish passage and impaired stream structure. By replacing the culverts with a bridge, three miles of fish habitat were reopened for juvenile salmon and other species.*



*Local, on-the-ground partnerships are essential for successful restoration of fish habitat.*

Cover Photo: Greg Swenson / Alaskan Nature  
Design: David Friedman  
Printed on 100% post consumer recycled paper

2

8

**SITE:** Wasilla -  
Palmer

**COMMITTEE:** Joint Cook Inlet  
Salmon Task Force

**DATE:** May 29, 2008

**AGENDA:**

Presentation by Dept. of Fish &  
Game; Mat-Su Public Testimony

**TESTIFY**  
Y or N

**PRINT YOUR NAME**

**TOWN/CITY**

**REPRESENTING/AFFILIATION**

|   |                 |               |                                  |
|---|-----------------|---------------|----------------------------------|
| N | April Moore     | Trapper Creek | Self                             |
| Y | Gunnar Knapp    | Anchorage     | UAA-ISER                         |
| Y | Rod Arno        | Wasilla       | Alaska Outdoor Council           |
| Y | Bruce Knowles   | Willow        | Susitna River Advisory Committee |
| Y | Larry Engel     | Palmer        | Self                             |
| Y | Kenny Rodgers   | Anchorage     | Self                             |
| N | Paul Shadura II | Kenai         | Self                             |
| Y | Dennis Hamann   | Wasilla       | Self                             |
| N | Richard Vogt    | Wasilla       | Self                             |
| Y | Andy Couch      | Palmer        | Self                             |
| Y | Drew Sparlin    | Kenai         | Self                             |
| N | Roland Maw      | Ninilchik     | United Cook Inlet Drift Assn.    |
| Y | Tom Kluberton   | Talkeetna     | MSB Blue Ribbon Sportsmen Comm.  |
| Y | Ken Federico    | Wasilla       | Self                             |

COMMITTEE: JOINT COOK INLET

PALMER

SITE: 1

WASILLA

AGENDA: MAT-SU PUBLIC TESTIMONY

PRESENTATION BY DEPT. OF FISH &

AGENDA:

**SITE:** Wasilla -  
**Palmer**

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| TESTIFY<br>Y or N | PRINT YOUR NAME | TOWN/CITY | REPRESENTING/AFFILIATION |
|-------------------|-----------------|-----------|--------------------------|
|-------------------|-----------------|-----------|--------------------------|

|   |                    |           |                                 |
|---|--------------------|-----------|---------------------------------|
| N | Steve Tvenstrup    | Kenai     | Self                            |
| N | Linda Menard       | Wasilla   | Self                            |
| Y | Noel Woods         | Palmer    | Matanuska Valley Sportsmen      |
| N | Corinne Smith      | Anchorage | The Nature Conservancy          |
| N | Katherine Fuselier | Anchorage | Sierra Club                     |
| N | Brian Winnestaffer | Palmer    | Mat Valley Sportsmens Committee |
| Y | Nancy Sult         | Big Lake  | Self                            |
| Y | Carl Grauvogel     | Palmer    | Self                            |
| N | Carl Gatto         | Palmer    | Representative                  |
| Y | Steve Runyan       | Wasilla   | Self                            |
| N | Tom Payton         | Skwenta   | Self                            |
| N | John Davies        | Wasilla   | Self                            |
| N | Jody Simpson       | Wasilla   | Staff to Senator Huggins        |

**SCOMM**

**156:7**

# Economic Comparisons of Commercial and Sport Fisheries: Measures, Things to Keep in Mind, and Potential Misuses

Prepared for  
Cook Inlet Salmon Task Force  
May 22, 2008  
Soldotna, Alaska

Gunnar Knapp  
Professor of Economics  
Institute of Social and Economic Research  
University of Alaska Anchorage  
907-786-7717  
Gunnar.Knapp@uaa.alaska.edu

## Who I Am and Why I am Testifying

- I am a professor of economics at the UAA Institute of Social and Economic Research (ISER). I've been studying economic issues related to Alaska fisheries for many years. I also teach a course at UAA on the Alaska economy, and will be teaching a new online course (beginning September 2008) on "An Introduction to Fisheries Economics and Markets."
- I'm currently engaged in a research project (funded by the Alaska Sea Grant program) on what kinds of economic information exists and does not exist for Alaska's commercial, sport and subsistence fisheries.
- I'm testifying today because Rep. Craig Johnson, co-chair of the Task Force, asked me to testify and provide the task force some background information about what kinds of economic data are available for Cook Inlet salmon fisheries and what they mean.
- I'll testify again next week in Wasilla about "Economic Impacts and Net Economic Value of Cook Inlet Commercial and Sport Salmon Fisheries: What We Know and What We Don't Know."
- I'm available to assist the Task Force over the next few months in providing additional economic information or data if it would be helpful to you.
- I'm not taking any position on any of the issues which the Task Force is addressing.

# Commercial and Sport Fisheries

## What They Produce and Who the Consumers and Producers Are

|                           | Commercial fisheries                                                                                             | Sport fisheries                                                                           |
|---------------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| What the fishery produces | Fish                                                                                                             | Angling experience<br>Aesthetics<br>Fishing<br>Catching fish<br>Fish                      |
| Consumers                 | Fish consumers                                                                                                   | Sport fishermen                                                                           |
| Producers                 | Commercial fishermen<br>Processors<br>Fish transportation industries<br>Distributors<br>Retailers<br>Restaurants | Independent anglers<br>Charter operators<br>Lodges<br>Passenger transportation industries |
| Production measures       | Number of fish                                                                                                   | Number of fishing trips<br>Number of fishing days<br>Number of fish                       |

## How can we measure the economic contributions of a fishery?

|                                           | Economic impact                                     | Net economic value                                                                                 |
|-------------------------------------------|-----------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Definition                                | How the fishery affects the economy                 | What people would be "willing to pay" for what the fishery produces, minus the costs of production |
| Examples of measures                      | Number of jobs<br>\$ of income<br>\$ of tax revenue | \$ of net value                                                                                    |
| How hard is it to understand the concept? | Relatively easy                                     | Relatively hard                                                                                    |
| How hard is it to calculate the measures? | Relatively easy                                     | Relatively hard                                                                                    |
| How much data do we have?                 | Some                                                | Less                                                                                               |

## How economists define “value” . . .

- The value of a product or experience is what someone would be willing to pay for it—regardless of whether they actually do pay for it.

### HYPOTHETICAL EXAMPLES:

- The value of my beat-up old car is \$2300, because that’s what I could sell it for
- The value of a ticket to the Elton John concert in Anchorage is \$500 because that’s what some people would be willing to pay for a ticket, even if the official ticket price is \$65\*
- The value of a day of cross-country skiing at Kincaid Park in Anchorage is probably at least \$20, even though people can ski there for free—because that’s what people pay for that kind of skiing in other places

*\*I made these Elton John concert prices up for the purposes of the example. I have no idea what the actual prices were or what people would have been willing to pay for tickets!*

## “Total Value” vs. “Net Value”

- Total value is consumers' total willingness to pay.
- Net value is consumers' total willingness to pay minus the cost of producing the product or experience.
- Economists often argue that net value is the most useful and important measure of the economic contribution of an industry—for the same reason they argue that profits are a more useful measure of how a business is doing than gross revenues.

## Contrasting “Economic Impact” and “Net Economic Value” Effect of Using More Workers

| Measure          | Effect of more workers                            | Change in the measure        |
|------------------|---------------------------------------------------|------------------------------|
| Economic impacts | Increases number of jobs<br>Increases wage income | Increases<br>economic impact |
| Net value        | Increases costs                                   | Reduces<br>net value         |

Note that “greater economic impact” doesn’t necessarily mean greater net economic value. It might mean less net economic value.

More broadly, our public policy goal shouldn’t necessarily to maximize economic examples. For example, suppose we are building a new road. We could maximize economic impacts such as employment by requiring that the road be built with manual labor (pickaxes and shovels and wheelbarrows) rather than bulldozers. But that might not be the best choice from other perspectives, such as getting the cheapest or best-constructed road.

Here is a simplified hypothetical example of how we might calculate "net value" for a sport fishing day. One thing that makes it difficult is that we can't directly observe an angler's "willingness to pay" for a sport fishing day. Economists have ways of estimating willingness to pay, but they require a lot of data and aren't all that precise.

### Hypothetical Net Value Calculation for a Sport Fishing Day

|               |                                    | Costs and Revenues | Net value | Are data collected on a regular basis? |
|---------------|------------------------------------|--------------------|-----------|----------------------------------------|
| Angler        | Angler's willingness to pay        | \$600              |           | E                                      |
|               | Angler's payment to gas station    | \$50               |           | No*                                    |
|               | Angler's payment for guide service | \$250              |           | No*                                    |
|               | Angler's net value                 |                    | \$300     |                                        |
| Gas Station   | Gas station revenue                | \$50               |           |                                        |
|               | Gas station costs                  | \$40               |           | No                                     |
|               | Gas station net value              |                    | \$10      |                                        |
| Guide service | Guide service revenue              | \$250              |           |                                        |
|               | Guide service costs                | \$100              |           | No                                     |
|               | Guide service net value            |                    | \$150     |                                        |
| Total         |                                    |                    | \$460     |                                        |

E: Can't be observed--can only be estimated

\*ADFG has a study underway which is intended as the first of a regular data collection effort.

Note: This simple example doesn't adjust for what portion of value may be going to non-resident anglers or guides.

Here is a simplified hypothetical example of how we might calculate "net value" for a commercially caught fish. One thing that makes it difficult is that we can't directly observe a consumer's "willingness to pay" for a fish. But in general that's less of an issue for commercial fisheries, partly because consumers pay for the fish, and partly because most of the consumers are non-residents.

### Hypothetical Net Value Calculation for a Commercially Caught Fish

|           |                                | Costs and Revenues | Net value | Are data collected on a regular basis? |
|-----------|--------------------------------|--------------------|-----------|----------------------------------------|
| Consumer  | Consumer's willingness to pay  | \$6.00             |           | E                                      |
|           | Consumer's payment to store    | \$5.00             |           | No                                     |
|           | Consumer net value             |                    | \$1.00    |                                        |
| Store     | Store's revenue                | \$5.00             |           | No                                     |
|           | Store's payment to processor   | \$2.40             |           | Yes                                    |
|           | Store's other costs            | \$2.00             |           | No                                     |
|           | Store's net value              |                    | \$0.60    |                                        |
| Processor | Processor revenue              | \$2.40             |           |                                        |
|           | Processor payment to fisherman | \$1.50             |           | Yes                                    |
|           | Processor's other costs        | \$0.60             |           | No                                     |
|           | Processor net value            |                    | \$0.30    |                                        |
| Fisherman | Fisherman revenue              | \$1.50             |           |                                        |
|           | Fisherman costs                | \$1.00             |           | No                                     |
|           | Fisherman net value            |                    | \$0.50    |                                        |
| Net value |                                |                    | \$2.40    |                                        |

E: Can't be observed--can only be estimated

Note: This simple example doesn't adjust for what portion of value may be going to non-resident consumers, stores, processors or fishermen.

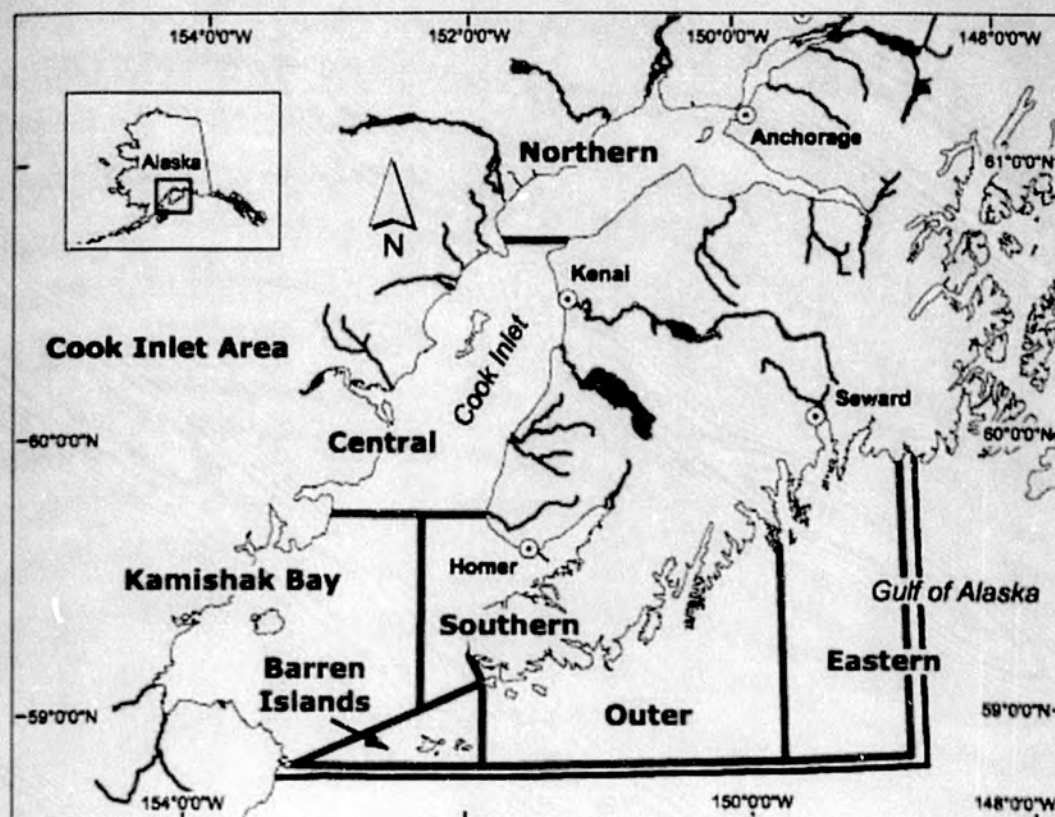
Here are some important things to keep in mind when thinking about economic impacts and net values of commercial and sport fisheries, and using estimates that exist for what these impacts and values are:

- Not all economic impacts or benefits go to residents.
- You may not be interested in all economic impacts or benefits.
- How fisheries are managed affects their economic impacts and value
- Public investments affect fisheries' economic impacts and value
- Even if catches and allocations stay the same, economic impacts and value can change significantly from year to year
- Economic impacts and value aren't necessarily proportional to fish catches
- The effect of catching one more fish on economic impacts and value isn't necessarily the same as average impact and value

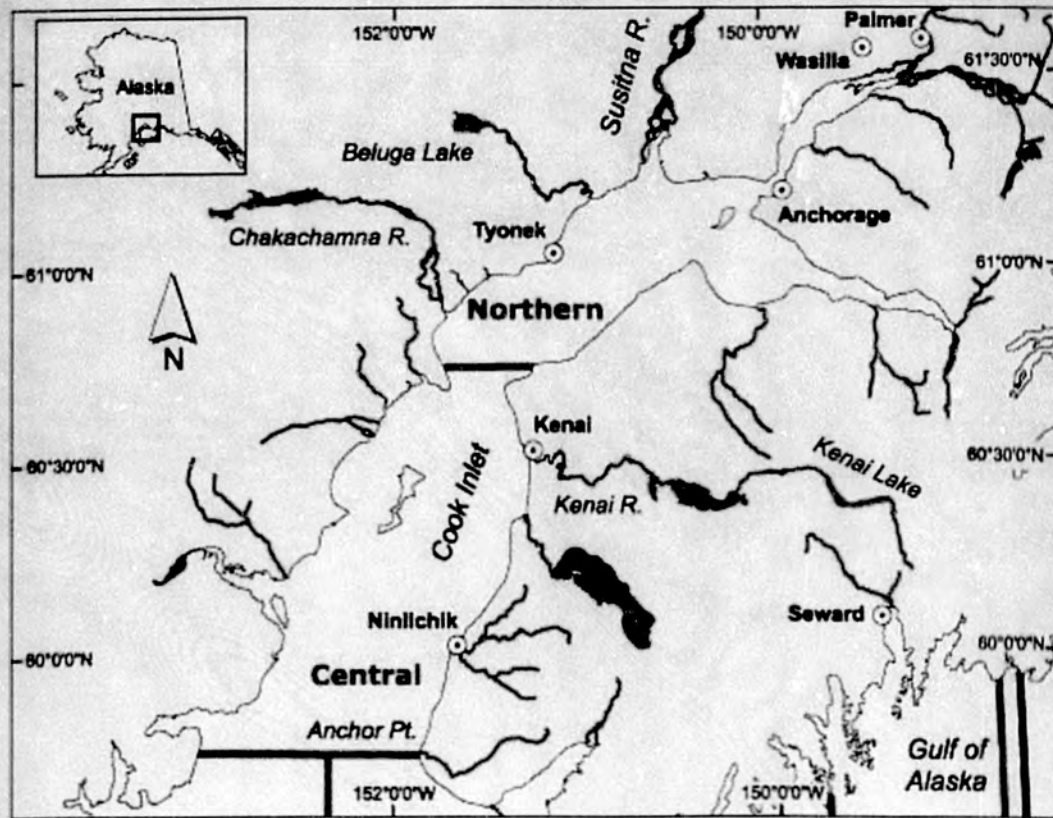
## Comparing Commercial and Sport Fishing Economic Impacts and Values How to Misuse Economics

- Compare economic values with economic impacts
- Compare complete measures of impact and value with incomplete measures of impact and value
- Cherry-pick high or low years to characterize the impact or value of fisheries
- Present economic information that isn't relevant to the policy issue under consideration
- Use average values as economic effects of marginal changes in catches
- Present irrelevant information about economic impacts and values in other areas
- Overstate the accuracy of estimated impacts or values











May 22, 2008

Joint Legislative Cook Inlet Salmon Task Force  
State of Alaska

Committee Members:

I was unable to attend your meeting at the Soldotna Sports Center on May 22, 2008 as I have a bad case of the flu. But, I do wish to offer testimony to the committee and hope that this will be an acceptable alternative based upon my illness.

The task force was formed to hear the concerns of upper Cook Inlet Salmon users about inequitable apportionment of the salmon resources. But, Kenai Peninsula residents have concerns also. We hope you can incorporate our concerns into your consideration of possible remedies.

I firmly believe that all fish and wildlife resources should be managed by "Professional" biologists. When they refuse to do their jobs, or are swayed by political influences, then the Legislature needs to step in and dictate formal direction for them. The very worst option is to apportion these resources from the ballot box by referendum(s). The State of Alaska Constitution has numerous citations that should be strictly adhered to.

Specifically:

In Section 1.23 Resident Preference, the Constitution allows preference to Alaskan residents over non-residents.

In Section 8.1 Statement of Policy, the Constitution makes its' resources available for MAXIMUM use consistent with the public interest.

In Section 8.2 General Authority, the Constitution requires the Legislature to make sure all natural resources are available for the MAXIMUM benefit of its people.

In Sections 8.3 and 8.4 the Constitution provides for common and beneficial users of the resources.

In Section 8.15 No Exclusive Right of Fishery, the Constitution specifically does not allow any exclusive right to the fishery resources.

So, what are my, and fellow Kenai Peninsula residents, concerns? Somehow, the commercial salmon fishery has slowly swung into an exclusive fishery. The rationale seems to hinge on "over escapement" into spawning areas. My question is this - How did the salmon fisheries manage to survive before the arrival of professional biologists? It seems that we must have numerous back to back emergency openings to curb this "over escapement" into rivers. These openings were to the detriment of Alaskan dip netters on the very last weekend of the season last year, to the detriment of resident bank fishermen (some who can only fish on weekends), to the dismay of thousands of tourists who spend a great deal of money to fish on the Kenai River, and to the loss of future tourism when the fishermen return home and report their experiences of barren rivers over several days until a few fish are allowed into the river for the non-commercial fishing interests..

I, and many others, closely monitor the local commercial fishing recording. We do this to determine whether we will have a "good, fair or bad fishing day." When we dial up this recording and listen to a recording from the commercial fisheries biologist paraphrased to say the following: "we will not be extending the emergency opening at the end of this fishing period as we must let some fish into the river or we will have a riot on our hands." This apparent bias to commercial fishing interests totally violates all of the Constitutional citations given above. He needs to be asked why there are more "emergency openings on weekends when working Alaskans have an opportunity to fish. He needs to be asked why an extra effort can not be made to ensure that Alaskan dip netters have a fairly good chance of harvesting their fish - especially this year with the high cost of fuel to travel to the Kenai Peninsula. My guess is that he has absolutely no concerns whether Alaskan sportsmen have any allocation at all. He also apparently does not care if the local tourism suffers as a result of his back-to-back emergency openings. His only concern is to appease the commercial fishing interests. If he can't eliminate his bias, then he should be replaced by someone who can do the job in accordance with the Constitution of Alaska.

You, as Legislators, have the Constitutional power to fix all of the allocation questions - once you have heard the evidence and testimony. You do not need to enter into the "Biology" - just provide direction to the biologists/agency as to what is expected. They can do their job. I hope that you will debunk the "over escapement" issue as part of your direction.

Alaskans deserve a fair share of the fishery resource - whether they dip net them, fish for them, or buy them from a commercial fisherman. Let's make that the priority and make sure that weekends are not a barren desert on the rivers.

Thank you for your time,

Len A. Malmquist  
PO Box 3472  
Soldotna, AK 99669  
(907) 262-7375



## COOK INLET SPORTFISHING CAUCUS

Robert C. Penney, Member  
913 Keystone Drive, Soldotna  
907-262-5782

I have been active in Kenai River sportfishing issues for over thirty years, as some of you know. I have no financial interests in sportfishing, but own a considerable interest in Trapper's Creek Smoking Company of Anchorage and Seattle. We are the largest processors of wild Kings in the state. We buy 800,000 to 1,000,000 pounds of Kings a year. We sell \$300,000 of kippered Kings a month to Costco/Albertson's, etc.

We would be out of business without commercial fishing, so I'm not just a sportfish zealot, commercial fishing is very important to us all, except here in Cook Inlet; and Cook Inlet is different as you will learn. It is our state's population base.

We sincerely thank the legislature for creating this task force and you for your time serving on it. Your in depth review of Cook Inlet fishing issues is long overdue. The Board of Fisheries handling of conservation and allocation of Cook Inlet salmon stocks is broken; it needs fixing. That board answers to you, you created it. You, the legislature is the public's court of last resort, we need your help.

Since statehood, in most of our state, A,D,F & G and the Board have set exemplary standards for managing fishery stocks. They are respected nationwide. But there is never a valid reason to allow any stock to not achieve an escapement goal due to harvest interception of returning spawning stocks and, that is what is happening.

In this complex issue, I have three issues to touch on today – a. stock conservation, b. allocation, c. economic valuation.

- a. Stock conservation – There is no excuse for not meeting escapement goals for Reds and Chums in the "Yentna and Susitna drainages". You will hear reasons for not enough escapement, like, Pike, beaver dams, faulty sonar counters, more studies needed, etc. Don't be deceived, they are all "red herrings"! I remember all of the same type of excuses in Washington and Oregon when they lost their wild runs. Everyone points a finger somewhere else and wants to keep fishing. Blame everyone else while the run dies off.

One simple thing must be done! Stop the interception! Curtail or halt any fishing that infringes on these mixed stock escapement goals. "The fish come first"! You must see that is the rule in Cook Inlet for the future.

- b. Allocation – You have a member of your committee that knows more

about the battle in Cook Inlet than most any one else in the legislature. We understand he doesn't have a Cook Inlet drift permit any longer, but he is very biased on the side of commercial, as we well know and you will hear loud and clear. And that is interesting, as in his District Q, 62% of the households have sportfishing licenses versus only 3% with commercial permits. The same Motznik chart shows on average in Cook Inlet that 48.7% families have sportfishing licenses versus .8 of 1% with commercial permits. The public is the overwhelming majority; and, while quiet, we do vote our fishing rods.

The lopsided allocation of salmon stocks in Cook Inlet is the most unfair example of state management that I have seen in the 55 years we have lived here.

There are 750 set net permits that were issued in Cook Inlet by the Limited Entry commission. There are approximately 610 drift fleet permits. These 1,360 permits have historically been allocated, by the Board of Fisheries, 85% of the salmon harvest. 210,000 licensed anglers are allowed only 15%. The dip net fishery in the Kenai benefits tens of thousands of Alaskan families, yet, the commercial fought us vigorously to take that away at the Board of Fish meeting in February.

Kenai River Kings are the largest salmon in our nation. The ten largest Kings ever caught in the world came from the Kenai and, they all weighed over 90 pounds! Yet, these world class trophy fish are managed primarily as a commercial fishery, with a historic 60% of them taken in set nets. Now, what do you think any other state in the Union, any other nation in the world, would do if they had this wonderful resource? Take them in nets for 10% of their value? Not hardly!

Catching a Kenai King in a net is like cutting down a Redwood tree and using it for firewood. It ought to be against the law.

The population of Cook Inlet is growing. We demand a fairer share of this resource that is accessible on the state's highway system.

- c. Economic valuation – Harvest of surplus salmon stocks above escapement goals is a decision made by people. These surplus stocks could be taken by pitchforks, nets, rod and reels or Hooligan nets. The same highest return that the state uses with leases for oil, gravel, extraction mining, or timber should be used by the Board of fish; the highest economic return. That conclusion, as proven by prior state studies here and on the West Coast, should be followed. The economics are overwhelming for the sportfishery, like 10-15 times as high a value to a sport caught fish. Why isn't the Board of Fish required to elevate that to the top of their harvest

criteria? Why isn't the highest economic return to our communities a mandated directive to fishery management of harvestable stocks?

You will hear many comments of, "Let the biologists manage the fishery." Except for under-escapement, we agree 100% with that. No question, the biologists should manage the stocks. But, after escapement goals are met, the allocation of harvest stocks is a political one made by people, not a biological one.

In Cook Inlet, the public has been treated 'politically' unfairly. We have a constitutional right to our share of the harvest.

Don't complain, unless you can give a solution, right? A three part solution would be:

1. Any time a Cook Inlet escapement goal is not reached for any specie, cause the Board of Fisheries to report an to an oversight committee of the legislature and explain why. You'll see, they will quickly change their harvest practices and achieve the escapement goals, Example: Have the Central District drift fleet use a "corridor", no more than one area-wide regular period per week in the Central District prior to July 20<sup>th</sup>. This would keep the drift fleet off the northern bound Sockeyes and have minimal effect on the overall commercial harvest. It will allow additional escapement of northern stocks.
2. Create with state, federal and sport license money, a fair and equitable buy back of the set net permits and sites in Cook Inlet. Compensate them with money or permits elsewhere. (This will also require changes in the limited entry regulations).

Start such a buy out study right away. It would probably cost \$60-90 thousand. Use the University of Alaska or some other group. Buying out the set nets and sites, at least on the "eastside beaches", and leaving that area as a sanctuary would:

- a. Protect and stop harvest of Kenai Kings.
  - b. Allow the drift Fleet to make even more money.
  - c. End the 'Fish Wars' in Cook Inlet by allowing the public a fairer share of Cook Inlet stocks.
3. Direct the Board of Fisheries to allocate the harvest of salmon stocks to a "50/50 split" in Cook Inlet. Why wouldn't that be fair? It would also create a big economic force in South-central by creating in Cook Inlet the largest sportfishery in our nation. You can do this, you are our "court of last resort". We ask you to be fair.

We thank each of sincerely for the time you are spending on this committee. If you can collectively solve this allocation battle, and that – quite simply – is what most of what this is, you will remember it as one of the most satisfying things you ever did while serving in the legislature.

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Start such a buy out study right away. It would probably cost 260-300 thousand. Use the University of Alaska or some other group. Buying out the set nets and sites, at least on the "eastside beaches", and leaving that area as a sanctuary would:

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- Allow the drift fleet to make even more money.
- End the 'Fish Wars' in Cook Inlet by allowing the public a fairer share of Cook Inlet stocks.

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