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ALASKA DEPARTMENT OF FISH AND GAME

STAFF COMMENTS ON
COMMERCIAL, PERSONAL USE, SPORT, GUIDED SPORT, AND SUBSISTENCE
REGULATORY PROPOSALS
COMMITTEE OF THE WHOLE–GROUPS 1–4 AND
COMMITTEE GROUPS A–B
FOR

UPPER COOK INLET FINFISH

ALASKA BOARD OF FISHERIES MEETING
ANCHORAGE, ALASKA

February 23–March 8, 2017

Regional Information Report No. 2A17-01

The following staff comments were prepared by the Alaska Department of Fish and Game (department) for use at the Alaska Board of Fisheries (board) meeting, February 23–March 8, 2017 in Anchorage, Alaska. The comments are forwarded to assist the public and board. The comments contained herein should be considered preliminary and subject to change, as new information becomes available. Final department positions will be formulated after review of written and oral public testimony presented to the board.

Acronyms and Abbreviations

The following acronyms and abbreviations, and others approved for the Système International d'Unités (SI), are used without definition in the following reports by the Divisions of Commercial Fisheries, Sport Fish, and Subsistence: All others, including deviations from definitions listed below, are noted in the text at first mention, as well as in the titles or footnotes of tables, and in figure or figure captions.

Weights and measures (metric)

centimeter	cm
deciliter	dL
gram	g
hectare	ha
kilogram	kg
kilometer	km
liter	L
meter	m
milliliter	mL
millimeter	mm

Weights and measures (English)

cubic feet per second	ft^3/s
foot	ft
gallon	gal
inch	in
mile	mi
nautical mile	nmi
ounce	oz
pound	lb
quart	qt
yard	yd

Time and temperature

day	d
degrees Celsius	°C
degrees Fahrenheit	°F
degrees kelvin	K
hour	h
minute	min
second	s

Physics and chemistry

all atomic symbols	
alternating current	AC
ampere	A
calorie	cal
direct current	DC
hertz	Hz
horsepower	hp
hydrogen ion activity (negative log of)	pH
parts per million	ppm
parts per thousand	ppt, ‰
volts	V
watts	W

General

Alaska Administrative Code	AAC
all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.
all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.
at	@
compass directions:	
east	E
north	N
south	S
west	W
copyright	©
corporate suffixes:	
Company	Co.
Corporation	Corp.
Incorporated	Inc.
Limited	Ltd.
District of Columbia	D.C.
et alii (and others)	et al.
et cetera (and so forth)	etc.
exempli gratia (for example)	e.g.
Federal Information Code	FIC
id est (that is)	i.e.
latitude or longitude	lat or long
monetary symbols (U.S.)	$, ¢
months (tables and figures): first three letters	Jan,...,Dec
registered trademark	®
trademark	™
United States (adjective)	U.S.
United States of America (noun)	USA
U.S.C.	United States Code
U.S. state	use two-letter abbreviations (e.g., AK, WA)

Acronyms

Alaska Board of Fisheries	board
Alaska Department of Fish and Game	department
Amount Necessary for Subsistence	ANS
Adaptive Resolution Imaging Sonar	ARIS
Biological Escapement Goal	BEG
Commercial Fisheries Entry Commission	CFEC
Cook Inlet Aquaculture Association	CIAA
Customary and Traditional	C&T
Dual frequency Identification Sonar	DIDSON
Emergency Order	EO
Upper Subdistrict Set Gillnet Fishery/Eastside Set Gillnet Fishery	ESSN
Fishery Management Plan	FMP
Joint Base Elmendorf-Richardson	JBER
Kasilof River Special Harvest Area	KRSHA
Maximum Sustained Yield	MSY
Northern Cook Inlet	NCI
North Kalifornsky Beach	NKB
Northern District	ND
Optimal Escapement Goal	OEG
Optimum Yield	OY
Private Nonprofit Salmon Hatchery	PNP
River Mile	RM
Sustainable Escapement Goal	SEG
Sustainable Escapement Threshold	SET
Special Harvest Area	SHA
Statewide Harvest Survey	SWHS
Upper Cook Inlet	UCI

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STAFF COMMENTS ON COMMERCIAL, PERSONAL USE, SPORT, GUIDED SPORT, AND SUBSISTENCE REGULATORY PROPOSALS COMMITTEE OF THE WHOLE–GROUPS 1–4 AND COMMITTEE GROUPS A–B FOR

UPPER COOK INLET FINFISH

ALASKA BOARD OF FISHERIES MEETING ANCHORAGE, ALASKA

February 23–March 8, 2017

by
Alaska Department of Fish and Game

Alaska Department of Fish and Game
Division of Sport Fish, Research and Technical Services
333 Raspberry Road, Anchorage, AK 99518–1565

February 2017

ABSTRACT

This document contains Alaska Department of Fish and Game (department) staff comments on commercial, personal use, sport, guided sport, and subsistence regulatory proposals for Upper Cook Inlet finfish. These comments were prepared by the department for use at the Alaska Board of Fisheries (board) meeting, February 23–March 8, 2017 in Anchorage, Alaska. The comments are forwarded to assist the public and board. The comments contained herein should be considered preliminary and subject to change, as new information becomes available. Final department positions will be formulated after review of written and oral public testimony presented to the board.

Key words: Alaska Board of Fisheries (board), Alaska Department of Fish and Game (department), staff comments, regulatory proposals, fisheries, commercial, personal use, sport, guided sport, subsistence, Upper Cook Inlet, finfish, regulations, management plans, escapement goals, stock of concern, methods, means, bag limits, allocation, herring, salmon.

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Proposal No.	Department Position	Issue
116	S	Review OEG and inriver goals for Kenai River late-run sockeye salmon.
117	N	Amend *Kenai River Late-Run Sockeye Salmon Management Plan* to remove OEG for Kenai River late-run sockeye salmon.
118	N	Remove OEG for Kenai River late-run sockeye salmon and add guided sport fishery to the list of fisheries managed under the plan.
119	N	Amend management plan to achieve inriver goal range of 850,000–1,050,000 late-run sockeye salmon at run strengths less than 2.3 million sockeye salmon and 950,000–1,150,000 late-run sockeye salmon at run strengths greater than 2.3 million sockeye salmon.
120	N	Decrease inriver goal ranges for late-run Kenai River sockeye salmon by 100,000 fish and limit bag and possession of sockeye salmon to three per day and three in possession in Kenai River sport fishery.
121	N	Repeal and readopt management plan to remove OEG, mandatory restrictions and closed fishing periods or windows, and specify that management be based on abundance of late-run Kenai River sockeye salmon.
122	N	Remove mandatory closed fishing periods or windows from the Upper Subdistrict commercial set gillnet fishery.
134	N	Remove restrictions in the Upper Subdistrict commercial set gillnet fishery and allow for regular weekly fishing periods through July 20 with additional fishing periods based on inseason abundance.
135	N/O	Redefine sections and manage the commercial set gillnet fishery in the Upper Subdistrict with three sections with staggered opening dates.
137	N	Remove “one-percent rule”, where the commercial set gillnet fishery will close after July 31, if less than one percent of the season’s total sockeye is harvested in two consecutive fishing periods.
138	N	Remove the one-percent rule that applies to the commercial set gillnet fishery in the Upper Subdistrict after July 31 so that the set gillnet fishery will close August 15 and be managed using regular fishing periods from August 11 through August 15.
139	N	Repeal the one-percent rule, as it applies to the Upper Subdistrict set gillnet fishery so that the set gillnet fishery will close August 15.
136	N	Allow commercial fishing with set gillnets in the North Kalifonsky Beach (NKB), statistical area 244-32, within 660 ft of shore with shallow nets only, when the Kasilof Section is open, on or after July 8.
140	N	Allow a set gillnet to be up to 45 fathoms in length and a CFEC limited entry permit holder to operate up to 135 fathoms of set gillnet gear when commercial fishing with set gillnets 29 meshes or less in depth.
141	N	Limit the depth of all set gillnet gear in Upper Subdistrict of the Central District to no more than 29 meshes deep.
162	N	Establish an optimal escapement goal for Kenai River late-run king salmon.
163	O/N	Prohibit bait on runs less than 22,000 and eliminate 12-hour fishing period restriction.
160	O	Prohibit use of bait in the late-run Kenai River king salmon fishery until escapement goals have been met.
161	O	Start the Kenai River king salmon sport fisheries as unbaited, single-hook, artificial lure, no retention.
173	N	Decrease the projected inriver run of late-run king salmon from 22,500 fish to 19,000 fish that triggers provisions listed in the management plan and remove the Upper Subdistrict commercial set gillnet fishery from “paired” restrictions outlined in the management plan

Note: N = Neutral; S = Support; O = Oppose; NA = No Action, WS = Withdrawn Support.

Summary of department positions on regulatory proposals for Upper Cook Inlet finfish Anchorage, February 23–March 8, 2017.

168	N	Remove "paired" restrictions to the Kenai River sport and personal use fisheries and the Upper Subdistrict commercial set gillnet fishery in July and August.
169	N	Remove "paired" restrictions to the Kenai River sport and personal use fisheries and the Upper Subdistrict commercial set gillnet fishery in July and August.
172	N	Remove "paired" restrictions to the Kenai River sport and personal use fisheries and the Upper Subdistrict commercial set gillnet fishery in July and August.
167	O/N	Close the Kenai River personal use fishery when the late run king salmon sport fishery is closed.
174	N	Remove provisions that restrict the number and/or depth of commercial set gillnets fished by a CFEC limited entry permit holder in the Upper Subdistrict set gillnet fishery when the use of bait is prohibited in the Kenai River king salmon sport fishery.
175	N	Clarify the length and depth of set gillnets that may be used in the Upper Subdistrict commercial salmon fishery, if the use of bait is prohibited in the Kenai River sport fishery.
171	N	Remove Kasilof Section set gillnet fishery from provisions in the Kenai River Late-Run King Salmon Management Plan
176	N	Allow commercial fishing periods in the Kasilof Section and the combined Kenai/East Foreland sections to be managed separately with regard to "paired" restrictions during time periods when the use of bait is prohibited in the Kenai River sport fishery.
177	N	Allow commercial fishing periods in the Kasilof Section and the combined Kenai/East Foreland sections to be managed separately with regard to "paired" restrictions during time periods when the use of bait is prohibited in the Kenai River sport fishery.
165	N	Decrease the trigger for management actions on Kenai River late-run king salmon from 22,500 to 16,500.
166	O	Modify season dates and area for Kenai River late-run king salmon management.
164	O/N	Repeal and readopt the *Kenai River Late-Run King Salmon Management Plan*.
170	N	Amend and adopt numerous provisions in the Kenai River Late-Run King Salmon Management Plan.
106	N	Replace the OEG with the BEG for Kasilof River sockeye salmon.
107	N	Replace the OEG with the BEG for Kasilof River sockeye salmon.
108	N	Replace the OEG with the BEG for Kasilof River sockeye salmon.
99	N	Amend management plan to remove all restrictions and manage the commercial set gillnet fishery to harvest surplus Kasilof River sockeye salmon.
100	N	Open the commercial set gillnet fishery in the Kasilof Section as early as June 20 if the department estimates 50,000 sockeye salmon will be in the Kasilof River before June 25.
101	N	Allow commercial fishing with set gillnets within 600 feet of shore in the Kasilof Section, with fishing time occurring 600 feet or less offshore not subject to the hourly restrictions in the *Kenai River Late-Run Sockeye Salmon Management Plan*.
102	N	Amend management plan to allow commercial fishing with set gillnet gear in the Kasilof Section within one-half mile of shore and eliminate the provision allowing commercial fishing with set gillnet gear only within 600 feet of shore in the Kasilof Section.
103	N	Add a 24-hour no fishing window on Tuesday in the Kasilof Section through July 7 and adopt mandatory no fishing windows in the Kasilof River Special Harvest Area after July 7.
104	N	Reduce the closed fishing period or "window" and increase additional fishing time with set gillnet gear in the Kasilof Section.
105	N	Allow commercial fishing with set gillnet gear in the North Kalifonsky Beach statistical area (NKB - stat area 244-32) when the upper end of the Kasilof sockeye salmon escapement goal range is projected to be exceeded.

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Summary of department positions on regulatory proposals for Upper Cook Inlet finfish Anchorage, February 23–March 8, 2017.

109	S	Provide clarification on the use of gear in the KRSHA for individuals who hold two Cook Inlet set gillnet CFEC limited entry permits.
110	N	Allow a CFEC limited entry permit holder to commercial fish in the KRSHA with one gillnet per limited entry permit held.
111	N	Allow a CFEC limited entry permit holder to commercial fish in the KRSHA with one set gillnet per limited entry permit held.
112	N	Allow holders of two CFEC set gillnet limited entry permits to fish two set gillnets in the KRSHA.
113	S	Remove restrictions on the amount of drift or set gillnet gear a vessel may have on board within the KRSHA.
114	N	Require all nets, buoys, ropes and anchoring devices to be removed from the KRSHA when this area is closed to commercial fishing.
115	S	Define the boundary that separates set gillnet from drift gillnet gear in the KRSHA and define the outside boundaries of the KRSHA.
85	N	Repeal and readopt provisions (a)–(f) of the management plan and add provisions to manage the drift gillnet fishery to harvest surplus sockeye, pink, and chum salmon production and achieve escapement goals.
86	N	Amend provisions (a)–(f) of the management plan and add language to manage the commercial drift gillnet fishery based on the inseason abundance to meet escapement goals and harvest surplus salmon.
89	N	Repeal and readopt *Central District Drift Gillnet Fishery Management Plan* with the amended plan removing mandatory time and area restrictions from July 1–August 15.
87	N	Amend *Central District Drift Gillnet Fishery Management Plan* to maximize commercial harvest of sockeye salmon.
88	N	Remove restrictions to the commercial drift gillnet fishery, so that the fishery would occur during two inlet-wide fishing periods based on test fishery and escapement data.
90	N	Remove restrictions on the commercial drift gillnet fishery from July 1–31 and manage the drift gillnet fishery based on inseason salmon abundance.
91	N	Remove area restrictions imposed on the commercial drift gillnet fishery during July 9–15 and 16–31 time periods.
92	N	Restrict commercial drift gillnet fishery to the Expanded Corridor and Drift Area 1 from August 1–15.
93	N	Amend preamble of management plan and restrict commercial drift gillnet fishery to the Expanded Corridor and Drift Area 1 from August 1–15.
95	N	Restrict commercial drift gillnet fishery to the Expanded Corridors and Drift Area 1 from August 1–15.
94	N	Remove the one-percent rule, as referenced to both the set and drift gillnet fisheries, from the Drift Gillnet Management Plan.
97	N	Repeal the drift and set gillnet one-percent rules that apply to from August 1–15.
96	N	Allow commercial fishing with drift gillnets in all waters of the Central District, except the Kenai and Kasilof Sections, from August 16 until closed by EO.
98	O/N	Reduce sport fishery bag limit for coho salmon on the west side of Cook Inlet and close drift gillnet fishing in Areas 3 and 4 for remainder of season if coho salmon sport fishing is restricted or closed in the Little Susitna River.
14	O	Allow snagging for sockeye salmon in all Cook Inlet freshwater lakes (*This proposal will be considered at the UCI and LCI meetings*).
34	O	Allow party fishing in Cook Inlet fresh and salt water for all species except king salmon (*This proposal will be considered at the UCI and LCI meetings*).
144	O	Require that when proxy fishing in Upper Cook Inlet, once a bag limit is taken the next legal bag limit caught must be retained.
145	O	Allow only barbless hooks in Upper Cook Inlet flowing waters closed to salmon fishing.
146	O	Require the use of circle hooks when fishing for sockeye salmon
233	S	Extend the area closed to sport fishing downstream of the Little Susitna weir.
225	O/N	Reduce the bag limits for salmon, other than king salmon, and prohibit releasing coho salmon.
232	S	Modify the Fish Creek personal use fishery to accommodate a new SEG range.

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Summary of department positions on regulatory proposals for Upper Cook Inlet finfish Anchorage, February 23–March 8, 2017.

228	N/O	Increase the hours open to fishing in Fish Creek.
235	N/O	Increase the hours open to fishing on Cottonwood Creek.
236	N/O	Increase the hours open to fishing in the Wasilla Creek / Rabbit Slough drainage.
234	S	Open waters in a closed area on Wasilla Creek within 300 feet of Palmer Fishhook Road to sport fishing.
224	N	Restrict hours and dates open to fishing on Jim Creek.
237	S	Amend the regulations for the Anchorage Bowl Drainages to allow harvest of salmon, other than king salmon, that are less than 16 inches in length.
238	S	Add Lower Sixmile Lake to the list of stocked lakes.
240	S	Close all fishing on a portion of Campbell Creek when that portion is not open to coho salmon fishing.
239	N	Create a youth-only fishery on Ship Creek.
241	S	Extend the area closed to sport fishing on Ship Creek.
84	S	Clarify closed waters around the Kenai and Kasilof Rivers.
131	O	Define commercial fishing statistical areas in the Upper Subdistrict set gillnet fishery.
132	S	Move the southwestern-most point of the Expanded Kasilof Section 1.2 nm west so it aligns with the northwestern-most point of the Expanded Anchor Point Section.
133	N	Allow a single person holding two CFEC Cook Inlet drift gillnet limited entry permits to operate 200 fathoms of drift gillnet gear.
123	N	Repeal and readopt the management plan to allow for the commercial harvest of surplus pink salmon in the Upper Subdistrict with set and drift gillnet gear.
124	N	Amend the *Cook Inlet Pink Salmon Management Plan* to remove or lower the daily harvest triggers.
125	N	Remove mesh size restrictions on set and drift gillnet gear in the commercial pink salmon fishery.
126	N	Increase maximum mesh size for set gillnets to five-inches and expands the fishing season to August 6–15 in the commercial pink salmon fishery.
127	N	Remove inriver goals from the list of escapement goals in the *Upper Cook Inlet Salmon Management Plan* and realign inriver and escapement goals in the *Kenai River Late-Run Sockeye Salmon Management Plan*.
128	N	Amend plan to prioritize the need to harvest all surplus salmon stocks and to maximize economic yield and the overall benefits from salmon stocks managed under the plan.
129	N	Amend plan to prioritize the need to harvest all surplus salmon stocks and to maximize economic yield and the overall benefits from salmon stocks managed under the plan.
130	O	Amend plan to prioritize the need to harvest all surplus salmon stocks and to maximize economic yield and the overall benefits from salmon stocks managed under the plan.
142	O/N	Close waters within one statute mile of the terminus of Kustatan, Drift, and Big rivers, and Bachatna Creek; as measured from mean lower low water, to commercial fishing.
143	N	Increase the amount of smelt that may be taken in the Cook Inlet commercial smelt fishery from 100 tons to 200 tons annually.

Note: N = Neutral; S = Support; O = Oppose; NA = No Action, WS = Withdrawn Support.

COMMITTEE OF THE WHOLE–GROUP 1: Kenai River Late-Run Sockeye Salmon Management Plan and Upper Subdistrict Set Gillnet Fishery (15 Proposals)

Kenai River Late-Run Sockeye Salmon Management Plan (7 Proposals)

PROPOSAL 116 – 5 AAC 21.360. Kenai River Late-Run Sockeye Salmon Management Plan.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THIS PROPOSALS DO? This asks the board to review the current OEG and inriver goals for Kenai River late-run sockeye salmon.

WHAT ARE THE CURRENT REGULATIONS? The preamble to the *Kenai River Late-Run Sockeye Salmon Management Plan* (a) currently reads, "The department shall manage Kenai River late-run sockeye salmon stocks primarily for commercial uses based on abundance. The department shall also manage commercial fisheries to minimize the harvest of Northern District coho, late-run Kenai River king, and Kenai River coho salmon stocks in order to provide personal use, sport, and guided sport fishermen with a reasonable opportunity to harvest salmon resources."

The department manages commercial, sport, and personal use fisheries in the Kenai River to: 1) meet an OEG range of 700,000–1,400,000 late-run sockeye salmon, 2) achieve inriver goals as established by the board and measured at the Kenai River sonar counter located at river mile 19, and 3) to distribute escapement of sockeye salmon evenly within the OEG range, in proportion to the size of the run. Based on preseason forecasts and inseason projections of Kenai River late-run sockeye salmon, the fishery will be managed as follows: at run strengths of less than 2,300,000 sockeye salmon, the department shall manage for an inriver goal range of 900,000–1,100,000 sockeye salmon past the sonar counter at river mile 19; at run strengths of 2,300,000–4,600,000, the department shall manage for an inriver goal range of 1,000,000–1,200,000 sockeye salmon past the sonar counter; at run strengths greater than 4,600,000, the department shall manage for an inriver goal range of 1,100,000–1,350,000 sockeye salmon past the sonar counter.

The *Policy for the management of sustainable salmon fisheries* (5 AAC 39.222) contains principles and criteria for the management of salmon fisheries by the state. The policy defines an OEG as "a specific management objective for salmon escapement that considers biological and allocative factors and may differ from the SEG or BEG; an OEG will be sustainable and may be expressed as a range with the lower bound above the level of SET, and will be adopted as a regulation by the board; the department will seek to maintain evenly distributed escapements within the bounds of the OEG."

The *Policy for statewide salmon escapement goals* (5 AAC 39.223) recognizes establishment of salmon escapement goals as a joint responsibility of the department and the board and describes concepts, criteria, and procedures for establishing and modifying salmon escapement goals. Under the policy, the board recognizes and describes the department's responsibility for

establishing and modifying BEGs, SEGs, and SETs. The policy also states the board will: "…in recognition of its joint responsibilities, and in consultation with the department, during the regulatory process, review a BEG, SEG, or SET determined by the department and, with the assistance of the department, determine the appropriateness of establishing an OEG; the board will provide an explanation of the reasons for establishing an OEG and provide, to the extent practicable, and with the assistance of the department, an estimate of expected differences in yield of any salmon stock, relative to maximum sustained yield, resulting from implementation of an OEG."

Important definitions included in the *Policy for the management of sustainable salmon fisheries.* (5 AAC 39.222) are:

> (10) "escapement" means the annual estimated size of the spawning salmon stock; quality of the escapement may be determined not only by numbers of spawners, but also by factors such as sex ratio, age composition, temporal entry into the system, and spatial distribution within the salmon spawning habitat;
>
> (19) "inriver run goal" means a specific management objective for salmon stocks that are subject to harvest upstream of the point where escapement is estimated; the inriver run goal will be set in regulation by the board and is comprised of the SEG, BEG, or OEG, plus specific allocations to inriver fisheries;
>
> (25) "optimal escapement goal" or "(OEG)" means a specific management objective for salmon escapement that considers biological and allocative factors and may differ from the SEG or BEG; an OEG will be sustainable and may be expressed as a range with the lower bound above the level of SET, and will be adopted as a regulation by the board; the department will seek to maintain evenly distributed escapements within the bounds of the OEG.

WHAT WOULD BE THE EFFECT IF THIS PROPOSAL WAS ADOPTED? The effects of this proposal would be dependent upon what action the board takes because the proposal does not identify any specific goal changes, rather it points out misalignment of current goals. Aligning and simplifying the OEG and inriver goals would be beneficial to public, users, and department. If inriver goals were modified and aligned with the OEG range, the board may wish to consider simplifying the management plan by removing OEG from regulation. The department currently manages for both OEG and inriver goals, and, if aligned, the two goals would be redundant. In addition, the board would need to determine how any changes affect other management plans that reference these goals.

BACKGROUND: The *Kenai River Sockeye Salmon Management Plan* (5 AAC 21.360) was first adopted in 1980. The purpose of this management plan was to ensure an adequate escapement, as determined by the department, of sockeye salmon into the Kenai River system and to provide management guidelines to the department in an effort to preclude allocation conflicts between various users of this resource. In 1996, the name of the plan was changed to the *Kenai River Late-Run Sockeye Salmon Management Plan* and the plan stated that its purpose is to achieve the BEG, as determined by the department, of late-run sockeye salmon into the Kenai River system and to provide management guidelines to the department. In 1999, the

purpose statement was changed and it now stated that the department shall manage the Kenai River late-run sockeye salmon stocks primarily for commercial uses in order to provide commercial fishermen with an economic yield from the harvest of these salmon resources based on abundance. It also stated the department shall also manage commercial fisheries to minimize harvest of Northern District coho salmon, and late-run Kenai River king and coho salmon stocks, in order to provide personal use, sport, and guided sport fishermen with a reasonable opportunity to harvest salmon resources. Since 1999, the purpose statement has changed slightly over the years as the board has deliberated extensively to balance the allocation needs and desires of the various user groups. In addition, there have been numerous provisions in the plan including no-fishing windows and EO hour limitations (Table 116-1).

Escapement and inriver goals for Kenai River sockeye salmon have undergone numerous changes through time (Table 116-2). From 1978–1986, the escapement goal for Kenai River sockeye salmon was similar to the current inriver goal in that department escapement goal reports completed at the time referred to it as an escapement goal measured at the Kenai River sonar site. Since 1999, the inriver goal has been used to provide sockeye salmon to the inriver sport fishery and distribute escapements throughout the OEG range.

In 1999, the following management principles were also adopted: "The Kenai River late-run sockeye salmon commercial, sport, and personal use fisheries shall be managed to: meet an OEG range of 500,000–1,000,000 late-run sockeye salmon; achieve inriver goals as established by the Alaska Board of Fisheries (board) and measured at the Kenai River sonar counter located at river mile 19; and distribute the escapement of sockeye salmon evenly within the OEG range, in proportion to the size of the run." Finally, in 1999, the three-tiered abundance-based inriver goals for Kenai River sockeye salmon were adopted. Tiers were originally set at less than two million; two million to four million; and greater than four million fish (Table 116-3).

The 1999 goals were based on Bendix sonar counts. Upper end of the OEG range was set at 1,000,000 sockeye salmon in response to a risk analysis indicating spawning escapement in excess of 1,000,000 fish increased the risk of lower returns and yields. Upper end of the inriver goal for large runs was set at 100,000 fish above the OEG. This was done because the smallest harvest observed in the sport fishery above the sockeye salmon sonar counter was 100,000 fish. By setting the upper end of the inriver goal range at 1,100,000 fish, the upper end of the OEG of 1,000,000 fish would not be exceeded. In addition, the three levels or tiers of inriver goals were established to spread escapements evenly throughout the range of both the BEG/SEG and OEG over time, based upon abundance of Kenai River late-run sockeye salmon and in compliance with 5 AAC 39.222. *Policy for the management of sustainable salmon fisheries*. In 2005, the board added 50,000 sockeye salmon to the bottom tier of the inriver goal range (600,000 to 650,000) to account for increased average sport fish harvest above the sockeye salmon sonar counter (Table 116-3).

In 2011, the abundance-based tiers were adjusted as the department transitioned from Bendix sonar to new DIDSON technology (Table 116-3). Sonar transition was completed after three years of comparison counts between the two types of sonar. Tiers were set at less than 2.3 million; 2.3 million to 4.6 million; and greater than 4.6 million fish. As a result of the change in sonar technology, the SEG for Kenai River sockeye salmon was modified from a range of 500,000–800,000 spawners to 700,000–1,200,000 spawners. In theory, the change in the SEG

range resulted in no change in the actual number of spawners in the system; it just reflected that the new sonar technology enumerated more fish passing the sonar than the Bendix system did. Range of 700,000–1,200,000 approximately represented the escapement that on average will produce 90–100% of MSY. Change in the SEG range also led to a change in the OEG range: it was modified from 500,000–1,000,000 fish to 700,000–1,400,000 million fish to reflect the change in the SEG range. The department's 2013 and 2016 escapement goal review recommended no changes to the SEG range for Kenai River late-run sockeye salmon.

Since 1999, the sonar count (or fish passage) for Kenai River late-run sockeye salmon was above the inriver goal range 12 years (67%), within the inriver goal range five years (28%), and below the inriver goal range one year (6%); while escapement was above the OEG range four years (22%), within the OEG range 11 years (61%), and below the OEG range three years (17%)(Table 116-3).

Since 1999, the estimated total run of Kenai River late-run sockeye salmon was in the same run size tier as the preseason forecast seven years and differed 11 years (Table 116-3). For the 11 years that differed, the actual run was in a run-size tier greater than the forecast nine times, while being in a smaller tier than the preseason forecast two times.

Harvest levels of sockeye salmon in the Kenai River drainage by sport anglers increased since 1999 (Table 116-3). Average annual sport harvest of sockeye salmon above the sonar site for the previous 10 years (2006–2015) was 280,000 fish. Below the sonar site, the previous 10-year average was about 68,000 fish each year. Personal use dipnet and Kenaitze educational fishery harvests from the previous 10 years averaged nearly 360,000 sockeye salmon each year.

Since 1999, commercial harvest in the commercial ESSN fishery averaged approximately 8,700 king, 1,242,000 sockeye, 16,000 coho, 80,000 pink, and 1,000 chum salmon (Table 116-4). More recently ((2007–2016), commercial ESSN harvest averaged approximately 6,100 king, 1,100,000 sockeye, 15,000 coho, 84,000 pink, and 1,000 chum salmon.

Since 1999, commercial harvest in the Central District drift gillnet fishery averaged approximately 821 king, 1,591,313 sockeye, 102,527 coho, 132,858 pink, and 130,590 chum salmon. More recently (2007–2016), commercial drift harvest averaged approximately 580 king, 1,700,000 sockeye, 99,000 coho, 153,000 pink, and 140,000 chum salmon.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal. This will provide the board an opportunity to review the current management goals for Kenai River late-run sockeye salmon and consider changes to align and simplify the escapement goals. The OEG range and inriver goals are currently out of alignment. Upper tier of the inriver goal (1,100,000-1,350,000) does not provide enough fish on the upper end to adequately distribute escapements throughout the OEG range over time. Managing for multiple goals (inriver and OEG,) can be unnecessarily complicated inseason and confusing to user groups when one goal is met and another is not.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 116-1.–History of Kenai River late-run sockeye salmon tiers, windows, EO hour limitations, and escapement goals.

Year	Tier	Window	EO Limitation	Inriver Goal	BEG/SEG	OEG
1999	< 2 million	No window	none	600,000–850,000	500,000–800,000	500,000–1,000,000
	2 to 4 million	>July 20, 24 hour window start 12 noon Fri in Kenai/East Forelands sections	none	750,000–950,000		
	> 4 million	No window; extra time for Kenai sockeye only in Kenai/East Forelands sections	none	850,000–1,100,000		
2002	< 2 million	No window	24 hour	600,000–850,000	500,000–800,000	500,000–1,000,000
	2 to 4 million	48 hours floating	36 hour	750,000–950,000		
	> 4 million	36 hours floating	60 hour	850,000–1,100,000		
2005	< 2 million	No window	24 hour	650,000–850,000	500,000–800,000	500,000–1,000,000
	2 to 4 million	36 hour "Friday window" and 24 hour floating	51 hour	750,000–950,000		
	> 4 million	36 hour "Friday window"	84 hour	850,000–1,100,000		
2008		No Change from 2005				
2011	< 2.3 million	No window	24 hour	900,000–1,100,000	700,000–1,200,000	700,000–1,400,000
	2.3 to 4.6 million	36 hour "Friday window and 24 hour fixed "Tuesday Window"	51 hour	1,000,000–1,200,000		
	> 4.6 million	36 hour "Friday window"	84 hour	1,100,000–1,350,000		
2014	< 2.3 million	No window	24 hour	900,000–1,100,000	700,000–1,200,000	700,000–1,400,000
	2.3 to 4.6 million	36 hour "Friday window" and 24 hour floating "Tue or Wed Window"	51 hour	1,000,000–1,200,000		
	> 4.6 million	36 hour "Friday window"	84 hour	1,100,000–1,350,000		

Table 116-2.–History of Kenai River late-run sockeye salmon BEG/SEGs, inriver goals, and OEGs.

Kenai River sockeye salmon goal changes			
Year	BEG/SEG	Inriver	OEG
1969		150,000	
1972		150,000–250,000	
1978	350,000–500,000	350,000–500,000	
1987	330,000–600,000	400,000–700,000	330,000–600,000
1995		450,000–700,000	
1996	330,000–600,000	550,000–800,000	330,000–600,000
1997	330,000–600,000	550,000–825,000	330,000–600,000
1998	330,000–600,000	550,000–850,000	330,000–600,000
1999	500,000–800,000	600,000–1,100,000[a]	500,000–1,000,000
2005	500,000–800,000	650,000–1,100,000[a]	500,000–1,000,000
2011	700,000–1,200,000	1,000,000–1,350,000[a]	700,000–1,400,000
2014	700,000–1,200,000	1,000,000–1,350,000[a]	700,000–1,400,000

[a] Inriver goal is set at one of three tiers depending upon total run size of Kenai River sockeye salmon.

Table 116-3.–History of Kenai River sockeye salmon personal use/subsistence, educational, and sport harvest and escapement goals, 1987-2016.

Year	Personal Use/Subsistence Dip Net, and Educational Harvest [a]	Sport Harvest Below Sonar[b]	Kenai River Sonar Count [c]	Sport Harvest Above Sonar	Spawning Escapement	Inriver Goal	BEG/SEG	OEG	Preseason Forecast (Millions)	**Actual Run Size (Millions)**
1987	24,090	50,274	1,596,871	233,958	1,362,913	400,000–700,000	330,000–600,000	330,000–600,000	3.5	8.6
1988	16,880	29,345	1,021,469	144,093	877,376	400,000–700,000	330,000–600,000	330,000–600,000	5.0	5.8
1989	51,192	66,162	1,599,959	268,958	1,331,001	400,000–700,000	330,000–600,000	330,000–600,000		5.9
1990	3,477	19,640	659,520	155,742	503,778	400,000–700,000	330,000–600,000	330,000–600,000	4.7	2.7
1991	13,433	31,536	647,597	227,697	419,900	400,000–700,000	330,000–600,000	330,000–600,000		1.7
1992	30,454	47,622	994,798	222,482	772,316	400,000–700,000	330,000–600,000	330,000–600,000	4.2	7.7
1993	35,592	27,717	813,617	137,229	676,388	400,000–700,000	330,000–600,000	330,000–600,000	1.9	3.9
1994	15,804	17,954	1,003,446	102,378	901,068	400,000–700,000	330,000–600,000	330,000–600,000	1.5	3.4
1995	15,720	29,451	630,447	108,076	522,371	450,000–700,000	330,000–600,000	330,000–600,000	2.3	2.3
1996	104,110	39,810	797,847	166,166	631,681	550,000–800,000	330,000–600,000	330,000–600,000	2.5	3.2
1997	116,107	43,642	1,064,818	147,057	917,761	550,000–825,000	330,000–600,000	330,000–600,000	4.0	3.9
1998	105,497	33,980	767,558	155,905	611,653	550,000–850,000	330,000–600,000	330,000–600,000	1.7	1.5
1999	150,993	46,043	803,379	187,725	615,654	750,000–950,000	500,000–800,000	500,000–1,000,000	1.6	2.5
2000	99,571	57,978	624,578	203,801	420,777	600,000–850,000	500,000–800,000	500,000–1,000,000	2.5	1.4
2001	152,580	51,374	650,036	168,104	481,932	600,000–850,000	500,000–800,000	500,000–1,000,000	2.4	1.8
2002	182,229	46,693	957,924	213,066	744,858	750,000–950,000	500,000–800,000	500,000–1,000,000	1.7	3.0
2003	227,207	60,722	1,181,309	253,734	927,575	750,000–950,000	500,000800,000	500,000–1,000,000	2.0	3.8
2004	266,937	62,397	1,385,981	254,836	1,131,145	850,000–1,100,000	500,000–800,000	500,000–1,000,000	3.2	5.0
2005	300,105	58,017	1,376,452	254,818	1,121,634	850,000–1,100,000	500,000–800,000	500,000–1,000,000	3.3	5.6
2006	130,486	30,964	1,499,692	172,638	1,327,054	750,000–950,000	500,000–800,000	500,000–1,000,000	1.8	2.5
2007	293,941	60,623	867,572	265,702	601,870	750,000–950,000	500,000–800,000	500,000–1,000,000	2.4	3.4
2008	236,355	46,053	614,946	208,334	406,612	650,000–850,000	500,000–800,000	500,000–1,000,000	3.1	2.3
2009	343,302	45,868	745,170	241,938	503,232	650,000–850,000	500,000–800,000	500,000–1,000,000	2.4	2.4
2010	393,317	59,651	970,662	256,582	714,080	750,000–950,000	500,000–800,000	500,000–1,000,000	1.7	3.3
2011	543,043	92,225	1,599,217	318,484	1,280,733	1,100,000–1,350,000	700,000–1,200,000	700,000–1,400,000	3.9	6.2
2012	530,128	102,376	1,581,555	368,632	1,212,923	1,100,000–1,350,000	700,000–1,200,000	700,000–1,400,000	4.0	4.7
2013	350,114	78,837	1,359,893	379,685	980,208	1,000,000–1,200,000	700,000–1,200,000	700,000–1,400,000	4.4	3.5
2014	384,018	78,057	1,520,340	301,998	1,218,341	1,000,000–1,200,000	700,000–1,200,000	700,000–1,400,000	3.8	3.3
2015	384,095	83,112	1,709,051	309,004	1,400,047	1,000,000–1,200,000	700,000–1,200,000	700,000–1,400,000	3.6	3.9
2016			1,383,692			1,100,000–1,350,000	700,000–1,200,000	700,000–1,400,000	4.7	3.5

Source: Statewide Harvest Surveys from Mills 1982-1994; Howe et al. 1995, 1996, 2001a-d; Walker et al. 2003; Jennings et al. 2004, 2006a-b, 2007, 2009a-b, 2010a-b, 2011; Brannian and Fox 1996; Reimer and Sigurdsson 2004; Dunker and Lafferty 2007; Dunker 2010; K.J. Dunker, Sport Fish Biologist, Anchorage, personal communication; King 1995, 1996; Pappas and Marsh 2004; Shields and Dupuis 2013-2016; P. Shields, Comm Fish Biologist, Soldotna, personal communication; Educaton harvest data, Kenaitze Indian Tribe; 2007-2012 subsistence data, USFWS.

Note: ND = No data available.

[a] Personal use harvest not known in 1982; personal use (1981-1995), subsistence dip net harvest (1991-1995), and Kenaitze educational harvest (1989-1995) from Brannian and Fox 1996. From 1994 to present, the educational harvest is the total late-run harvest.

[b] In 1994 and 1995, a creel survey was condcuted to estimate harvest below the sonar. In 1994, 49.7% of the below Soldotna Bridge harvest was taken below the sonar. In 1995, 68.6% was taken below the sonar. The average of these two percentages was applied to all other year's below-bridge harvest to estimate harvest below the sonar.

[c] Data revised in 2011 when all Bendix data was converted to DIDSON-equivalent estimates.

Table 116-4.–Commercial salmon harvest by drift gillnet and ESSN fisheries, 1987–2016.

	King		Sockeye		Coho		Pink		Chum	
Year	Drift	Set	Drift	Set	Drift	Set	Drift	Set	Drift	Set
1987	4,552	21,159	5,638,916	3,457,724	202,506	74,981	38,714	47,243	211,745	16,733
1988	2,237	12,859	4,139,358	2,428,385	278,828	54,975	227,885	176,043	582,699	11,763
1990	621	4,139	2,305,742	1,117,621	247,453	40,351	323,955	225,429	289,521	4,611
1991	246	4,893	1,118,138	844,603	176,245	30,436	5,791	2,670	215,476	2,387
1992	615	10,718	6,069,495	2,838,076	267,300	57,078	423,738	244,068	232,955	2,867
1993	765	14,079	2,558,732	1,941,798	121,829	43,098	46,463	41,690	88,826	2,977
1994	464	15,575	1,901,475	1,458,162	310,114	68,449	256,248	234,827	249,748	2,927
1995	594	12,068	1,773,873	961,227	241,473	44,751	64,632	53,420	468,224	3,711
1996	389	11,564	2,205,067	1,483,008	171,434	40,724	122,728	95,717	140,987	1,448
1997	627	11,325	2,197,961	1,832,856	78,666	19,668	29,920	32,055	92,163	1,222
1998	335	5,087	599,396	512,306	83,338	18,677	200,382	332,484	88,080	688
1999	575	9,463	1,413,995	1,092,946	64,814	11,923	3,552	9,357	166,612	373
2000	270	3,684	656,427	529,747	131,478	11,078	90,508	23,746	118,074	325
2001	619	6,009	846,275	870,019	39,418	4,246	31,219	32,998	75,599	248
2002	415	9,478	1,367,251	1,303,158	125,831	35,153	224,229	214,771	224,587	1,790
2003	1,240	14,810	1,593,638	1,746,841	52,432	10,171	30,376	16,474	106,468	1,933
2004	1,104	21,684	2,529,642	2,235,810	199,587	30,154	235,524	107,838	137,041	2,019
2005	1,958	21,597	2,520,327	2,534,345	144,753	19,543	31,230	13,619	65,671	710
2006	2,782	9,956	784,771	1,301,275	98,473	22,167	212,808	184,990	59,965	347
2007	912	12,292	1,823,481	1,353,407	108,703	23,610	67,398	69,918	74,836	521
2008	653	7,573	983,303	1,303,236	89,428	21,823	103,867	59,620	46,010	433
2009	859	5,588	968,075	905,853	82,096	11,435	139,676	55,845	77,073	319
2010	538	7,059	1,587,657	1,085,789	110,275	32,683	164,005	121,817	216,977	3,035
2011	593	7,697	3,201,035	1,877,939	40,858	15,560	15,333	15,527	111,082	1,612
2012	218	705	2,924,144	96,675	74,678	6,537	303,216	159,003	264,513	49
2013	493	2,988	1,662,561	921,533	184,771	2,266	30,605	14,671	132,172	102
2014	382	2,301	1,501,678	724,398	76,932	5,908	417,344	213,616	108,345	548
2015	556	7,781	1,012,684	1,481,336	130,720	17,948	21,653	22,983	252,331	2,248
2016	606	6,759	1,266,696	997,768	90,242	11,580	268,908	103,471	113,258	1,235
Averages										
All Years	904	9,686	2,039,717	1,421,995	138,782	27,137	142,480	100,893	172,794	2,386
1999–2016	821	8,746	1,591,313	1,242,338	102,527	16,321	132,858	80,015	130,590	992
2007–2016	581	6,074	1,693,131	1,074,793	98,870	14,935	153,201	83,647	139,660	1,010

Note: 1989 was not included due to Exxon Valdez Oil Spill, which closed or restricted many fisheries in UCI.

PROPOSALS 117 and 118 – 5 AAC 21.360. Kenai River Late-Run Sockeye Salmon Management Plan.

PROPOSED BY: United Cook Inlet Drift Association/Peter Melenchek (proposal 117); and Central Peninsula Fish and Game Advisory Committee (proposal 118).

WHAT WOULD THESE PROPOSALS DO? Proposal 117 would remove OEG from the management plan. Proposal 118 also removes OEG from the management plan and adds guided sport fishery to list of fisheries managed under the plan.

WHAT ARE THE CURRENT REGULATIONS? The preamble to the *Kenai River Late-Run Sockeye Salmon Management Plan* (a) currently reads, "The department shall manage Kenai River late-run sockeye salmon stocks primarily for commercial uses based on abundance. The department shall also manage commercial fisheries to minimize the harvest of Northern District coho, late-run Kenai River king, and Kenai River coho salmon stocks in order to provide personal use, sport, and guided sport fishermen with a reasonable opportunity to harvest salmon resources."

The department manages commercial, sport, and personal use fisheries in the Kenai River to: 1) meet an OEG range of 700,000–1,400,000 late-run sockeye salmon, 2) achieve inriver goals as established by the board and measured at the Kenai River sonar counter located at river mile 19, and 3) to distribute escapement of sockeye salmon evenly within the OEG range, in proportion to the size of the run. Based on preseason forecasts and inseason projections of Kenai River late-run sockeye salmon, the fishery will be managed as follows: at run strengths of less than 2,300,000 sockeye salmon, the department shall manage for an inriver goal range of 900,000–1,100,000 sockeye salmon past the sonar counter at river mile 19; at run strengths of 2,300,000–4,600,000, the department shall manage for an inriver goal range of 1,000,000–1,200,000 sockeye salmon past the sonar counter; at run strengths greater than 4,600,000, the department shall manage for an inriver goal range of 1,100,000–1,350,000 sockeye salmon past the sonar counter.

WHAT WOULD BE THE EFFECT IF THESE PROPOSALS WERE ADOPTED? If the OEG was removed from the management plan, the inriver ranges in regulation would remain the primary inseason management goals for Kenai River late-run sockeye salmon. In addition, removing the OEG without adjustment to the upper tier of the inriver goal would likely not provide enough fish on the upper end to adequately distribute escapements throughout the SEG range.

Adding guided sport fishermen (proposal 118) to the list of fishermen that are managed to meet the various goals would have no effect on management, as guided fishermen and unguided fishermen have always been collectively been managed as one group.

BACKGROUND: The *Kenai River Sockeye Salmon Management Plan* (5 AAC 21.360) was first adopted in 1980. The purpose of this management plan was to ensure an adequate escapement, as determined by the department, of sockeye salmon into the Kenai River system and to provide management guidelines to the department in an effort to preclude allocation conflicts between various users of this resource. In 1996, the name of the plan was changed to the *Kenai River Late-Run Sockeye Salmon Management Plan* and the plan stated that its purpose

is to achieve the BEG, as determined by the department, of late-run sockeye salmon into the Kenai River system and to provide management guidelines to the department. In 1999, the purpose statement was changed and it now stated that the department shall manage the Kenai River late-run sockeye salmon stocks primarily for commercial uses in order to provide commercial fishermen with an economic yield from the harvest of these salmon resources based on abundance. It also stated the department shall manage commercial fisheries to minimize harvest of Northern District coho salmon, and Kenai River late-run king and coho salmon stocks, in order to provide personal use, sport, and guided sport fishermen with a reasonable opportunity to harvest salmon resources. Since 1999, the purpose statement has changed slightly over the years as the board has deliberated extensively to balance the allocation needs and desires of the various user groups. In addition, there have been numerous provisions in the plan including no-fishing windows and EO hour limitations (Table 116-1).

In 1999, the following management principles were also adopted: "The Kenai River late-run sockeye salmon commercial, sport, and personal use fisheries shall be managed to: meet an OEG range of 500,000–1,000,000 late-run sockeye salmon; achieve inriver goals as established by the Alaska Board of Fisheries (board) and measured at the Kenai River sonar counter located at river mile 19; and distribute the escapement of sockeye salmon evenly within the OEG range, in proportion to the size of the run." Finally, in 1999, the three-tiered abundance-based inriver goals for Kenai River sockeye salmon were adopted. Tiers were originally set at less than two million; two million to four million; and greater than four million fish (Table 116-3).

The 1999 goals were based on Bendix sonar counts. Upper end of the OEG range was set at 1,000,000 sockeye salmon in response to a risk analysis indicating spawning escapement in excess of 1,000,000 fish increased the risk of lower returns and yields. Upper end of the inriver goal for large runs was set at 100,000 fish above the OEG. This was done because the smallest harvest observed in the sport fishery above the sockeye salmon sonar counter was 100,000 fish. By setting the upper end of the inriver goal range at 1,100,000 fish, the upper end of the OEG of 1,000,000 fish would not be exceeded. In addition, the three levels or tiers of inriver goals were established to spread escapements evenly throughout the range of both the BEG/SEG and OEG over time, based upon abundance of Kenai River late-run sockeye salmon and in compliance with 5 AAC 39.222. *Policy for the management of sustainable salmon fisheries*. In 2005, the board added 50,000 sockeye salmon to the bottom tier of the inriver goal range (600,000 to 650,000) to account for increased average sport fish harvest above the sockeye salmon sonar counter (Table 116-3).

In 2011, the abundance-based tiers were adjusted as the department transitioned from Bendix sonar to new DIDSON technology (Table 116-3). Sonar transition was completed after three years of comparison counts between the two types of sonar. Tiers were set at less than 2.3 million; 2.3 million to 4.6 million; and greater than 4.6 million fish. As a result of the change in sonar technology, the SEG for Kenai River sockeye salmon was modified from a range of 500,000–800,000 spawners to 700,000–1,200,000 spawners. In theory, the change in the SEG range resulted in no change in the actual number of spawners in the system; it just reflected that the new sonar technology enumerated more fish passing the sonar than the Bendix system did. Range of 700,000–1,200,000 approximately represented the escapement that on average will produce 90–100% of MSY. Change in the SEG range also led to a change in the OEG range: it was modified from 500,000–1,000,000 fish to 700,000–1,400,000 million fish to reflect the

change in the SEG range. The department's 2013 and 2016 escapement goal review recommended no changes to the SEG range for Kenai River late-run sockeye salmon.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on these allocative proposals.

COST ANALYSIS: Approval of these proposals is not expected to result in an additional direct cost for a private person to participate in this fishery.

PROPOSALS 119 and 120 – 5 AAC 21.360. Kenai River Late-Run Sockeye Salmon Management Plan.

PROPOSED BY: Mark Ducker and Jeff Beaudoin (proposal 119) and Suzanne Ducker (proposal 120).

WHAT WOULD THESE PROPOSALS DO? Proposal 119 would amend tiers and inriver goal ranges in the *Kenai River Late-Run Sockeye Salmon Management Plan*. Instead of three tiers with associated inriver goal ranges, the modified plan would contain two tiers and inriver goal ranges as follows:

Current Plan		Modified Plan	
Run Strength	Inriver goal	Run Strength	Inriver goal
< 2.3 million	900,000–1,100,000	< 2.3 million	850,000–1,050,000
2.3–4.6 million	1,000,000–1,200,000	>2.3 million	950,000–1,150,000
> 4.6 million	1,100,000–1,350,000		

Proposal 120 would decrease the inriver goal ranges for late-run Kenai River sockeye salmon as follows:

Current Plan		Modified Plan	
Run Strength	Inriver goal	Run Strength	Inriver goal
< 2.3 million	900,000–1,100,000	< 2.3 million	800,000–1,000,000
2.3–4.6 million	1,000,000–1,200,000	2.3 - 4.6 million	900,000–1,100,000
> 4.6 million	1,100,000–1,350,000	> 4.6 million	1,000,000–1,200,000

Proposal 120 would also limit the bag and possession limit of sockeye salmon to three per day and three in possession in the Kenai River sport fishery for all run sizes.

WHAT ARE THE CURRENT REGULATIONS? The preamble to the *Kenai River Late-Run Sockeye Salmon Management Plan* (a) currently reads, "The department shall manage Kenai River late-run sockeye salmon stocks primarily for commercial uses based on abundance. The department shall also manage commercial fisheries to minimize the harvest of Northern District coho, late-run Kenai River king, and Kenai River coho salmon stocks in order to provide personal use, sport, and guided sport fishermen with a reasonable opportunity to harvest salmon resources."

The department manages commercial, sport, and personal use fisheries in the Kenai River to: 1) meet an OEG range of 700,000–1,400,000 late-run sockeye salmon, 2) achieve inriver goals as established by the board and measured at the Kenai River sonar counter located at river mile 19, and 3) to distribute escapement of sockeye salmon evenly within the OEG range, in proportion to the size of the run. Based on preseason forecasts and inseason projections of Kenai River late-run sockeye salmon, the Upper Subdistrict set gillnet fishery will be managed as follows: at run strengths of less than 2,300,000 sockeye salmon, the department shall manage for an inriver goal range of 900,000–1,100,000 sockeye salmon past the sonar counter at river mile 19 and fish

regular weekly fishing periods with no more than 24 additional fishing hour per week; at run strengths of 2,300,000–4,600,000, the department shall manage for an inriver goal range of 1,000,000–1,200,000 sockeye salmon past the sonar counter, fish regular weekly fishing periods with no more than 51 additional fishing hours per week, and close the fishery for 24 consecutive hours per week beginning between 7:00 p.m. Monday and 7:00 a.m. Wednesday and for 36 consecutive hours per week beginning between 7:00 p.m. Thursday and 7:00 a.m. Friday; and at run strengths greater than 4,600,000, the department shall manage for an inriver goal range of 1,100,000–1,350,000 sockeye salmon past the sonar counter, fish regular weekly fishing periods with no more than 84 additional fishing hours per week, and close the fishery for 36 consecutive hours per week beginning between 7:00 p.m. Thursday and 7:00 a.m. Friday.

Subject to the requirement of achieving the lower end of the OEG range, the department shall manage the sport fishery on the Kenai River, except that portion of the Kenai River from its confluence with the Russian River to an ADF&G regulatory marker located 1,800 yards downstream, as follows: fishing will occur seven days per week, 24 hours per day; and the bag and possession limit for the sport fishery is three per day, with six in possession, unless the department determines that the abundance of late-run sockeye exceeds 2,300,000 salmon, at which time the commissioner may, by EO, increase the bag and possession limit as the commissioner determines to be appropriate; if the projected inriver run of sockeye salmon above the Kenai River sonar counter located at river mile 19 is less than 900,000 fish and the inriver sport fishery harvest is projected to result in an escapement below the lower end of the OEG, the commissioner may, by EO, decrease the bag and possession limit, as the commissioner determines to be appropriate, for sockeye salmon in the sport fishery above the Kenai River sonar counter located at river mile 19.

WHAT WOULD BE THE EFFECT IF THESE PROPOSALS WERE ADOPTED? In proposal 119, changing from the current 3-tier system to a 2-tier system, would affect both drift gillnet fishery and ESSN fishery management plans that currently reference the 3-tier system. Because there are weekly limitations on the number of additional fishing hours that may be allowed in the ESSN fishery based upon the sockeye salmon run-size for three tiers, changing to two tiers would require a board review of the weekly hourly limitations. Lowering inriver goals would increase the commercial harvest of sockeye, king, and coho salmon by an unknown amount and decrease the number of sockeye salmon available for the inriver fisheries. It would also increase the likelihood of restrictions or closures to the inriver sport fishery above the sonar when passage is near the lower bound of both proposed inriver goals.

In proposal 120, lowering the inriver goals for each tier would also increase the commercial harvest of sockeye, king, and coho salmon by an unknown amount and decrease the number of sockeye salmon available for the inriver fisheries. It would also increase the likelihood of restrictions or closures to the inriver sport fishery above the sonar when passage is near the lower bound of all three proposed inriver goals.

These proposals did not specify any changes to the Kenai River late-run sockeye salmon OEG range, so it is assumed it would remain at 700,000–1,400,000 fish. Because the management plan instructs the department to distribute the escapement of sockeye salmon evenly within the OEG range, in proportion to the size of the run, the proposed inriver goal ranges would not provide for

escapements in the upper end of the OEG range. Furthermore, while the SEG of 700,000–1,200,000 Kenai River late-run sockeye salmon is not identified in the management plan, new inriver goals would not provide for escapements in the upper end of the SEG range. Finally, the *Central District Drift Gillnet Fishery Management Plan* references the current 3-tiers of sockeye salmon run sizes to the Kenai River and therefore would need to be modified to be consistent with a 2-tiered approach.

For Kenai River sockeye salmon runs greater than 2.3 million fish, limiting the bag and possession limit to three sockeye salmon per day would also result in a decrease in the number of fish harvested by sport fishermen above the sockeye salmon sonar site located at river mile 19 on the Kenai River.

BACKGROUND: The 3-tiered abundance-based inriver goals for Kenai River sockeye salmon were first adopted in 1999 (Table 116-2). The purpose of the tiers were to: (1) help spread escapements evenly throughout escapement goal ranges in relation to abundance, (2) help stabilize the sport fishery, and (3) allocate harvest of sockeye salmon between sport and commercial fisheries in relation to the size of the sockeye salmon run to the Kenai River. Tiers were originally set at less than two million; two million to four million; and greater than four million sockeye salmon. In 2011, the abundance-based tiers were adjusted as the department transitioned from Bendix sonar to the new DIDSON technology.

Since 1999, the sonar count (or fish passage) for Kenai River late-run sockeye salmon was above the inriver goal range 12 years (67%), within the inriver goal range five years (28%), and below the inriver goal range one year (6%); while escapement was above the OEG range four years (22%), within the OEG range 11 years (61%), and below the OEG range three years (17%)(Table 116-3).

Since 1999, the estimated total run of Kenai River late-run sockeye salmon was in the same run size tier as the preseason forecast seven years and differed 11 years (Table 116-3). For the 11 years that differed, the actual run was in a run-size tier greater than the forecast nine times, while being in a smaller tier than the preseason forecast two times.

Since 1999, the sport fishery above the sonar at river mile 19 has averaged approximately 256,000 sockeye salmon. The most recent 10-year average increased to approximately 282,000 sockeye salmon (Table 116-3). In the past 17 years (1999-2015), the actual run size of Kenai River late-run sockeye salmon has only been at or below 2.3 million three times, in 2000, 2001, and 2008. The sport harvest above the sonar during those years was approximately 204,000, 168,000, and 208,000 sockeye salmon, respectively. The bag and possession limit was six fish in 2000 and 2001, and three fish in 2008.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on these allocative proposals.

COST ANALYSIS: Approval of these proposals is not expected to result in an additional direct cost for a private person to participate in this fishery.

PROPOSAL 121 – 5 AAC 21.360. Kenai River Late-Run Sockeye Salmon Management Plan.

PROPOSED BY: Chris Garcia.

WHAT WOULD THE PROPOSAL DO? This would repeal and readopt the *Kenai River Late-Run Sockeye Salmon Management Plan* with the following changes: 1) remove the OEG; 2) remove weekly EO hour limitations; 3) remove mandatory weekly no-fishing windows; and 4) specify that management be based on abundance of late-run Kenai River sockeye salmon.

WHAT ARE THE CURRENT REGULATIONS? The *Kenai River Late-Run Sockeye Salmon Management Plan* directs the department to manage commercial, sport, and personal use fisheries in the Kenai River to: 1) meet an OEG range of 700,000–1,400,000 late-run sockeye salmon, 2) achieve inriver goals as established by the board and measured at the Kenai River sonar counter located at river mile 19, and 3) to distribute escapement of sockeye salmon evenly within the OEG range, in proportion to the size of the run.

Based on preseason forecasts and inseason projections of the Kenai River late-run sockeye salmon return, the fishery will be managed as follows: at run strengths of less than 2,300,000 sockeye salmon, the department shall manage for an inriver goal range of 900,000–1,100,000 sockeye salmon past the sonar counter at river mile 19, and will fish regular weekly fishing periods, and allow additional fishing of no more than 24 hours per week.

At run strengths of 2,300,000–4,600,000 fish, the department shall manage for an inriver goal range of 1,000,000–1,100,000 sockeye salmon past the sonar counter and allow additional fishing of no more than 51 hours per week. Set gillnet fishery will be closed for one 36-hour period per week beginning between 7:00 p.m. Thursday and 7:00 a.m. Friday, and for a 24-hour closure to begin between 7:00 p.m. on Monday and 7:00 a.m. on Wednesday.

At run strengths greater than 4,600,000 fish, the department shall manage for an inriver goal range of 1,100,000–1,350,000 sockeye salmon past the sonar counter and allow additional fishing of no more than 84 hours per week. Set gillnet fishery will be closed for one 36-hour period per week, beginning between 7:00 p.m. Thursday and 7:00 a.m. Friday.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? If the OEG was removed from the management plan, the inriver ranges in regulation would remain the primary inseason management goals for Kenai River late-run sockeye salmon. In addition, removing the OEG without adjustment to the upper tier of the inriver goal would likely not provide enough fish on the upper end to adequately distribute escapements throughout the SEG range. Managing to the Kenai River sockeye salmon SEG instead of the OEG may decrease the amount of sockeye salmon inriver by 200,000 fish depending on abundance.

Removal of mandatory closed "window" periods and limitations on the number of EO hours that may be fished each week could result in sockeye salmon inriver goals being exceeded less frequently than under status quo management. However, removing "windows" and EO hour limitations may also result in less predictability to Kenai and Kasilof river personal use and sport fishermen trying to gauge when salmon may be entering each river. This proposal would likely

increase the commercial harvest of all salmon by an unknown amount, depending on abundance. Specifying that management be based on abundance of late-run Kenai River sockeye salmon, as the proposal suggests, would have no impact on management, because the current preamble of the management plan already makes that directive.

BACKGROUND: The *Kenai River Sockeye Salmon Management Plan* (5 AAC 21.360) was first adopted in 1980. The purpose of this management plan was to ensure an adequate escapement, as determined by the department, of sockeye salmon into the Kenai River system and to provide management guidelines to the department in an effort to preclude allocation conflicts between various users of this resource. In 1996, the name of the plan was changed to the *Kenai River Late-Run Sockeye Salmon Management Plan* and the plan stated that its purpose is to achieve the BEG, as determined by the department, of late-run sockeye salmon into the Kenai River system and to provide management guidelines to the department. In 1999, the purpose statement was changed and it now stated that the department shall manage the Kenai River late-run sockeye salmon stocks primarily for commercial uses in order to provide commercial fishermen with an economic yield from the harvest of these salmon resources based on abundance. It also stated the department shall also manage commercial fisheries to minimize harvest of Northern District coho salmon, and late-run Kenai River king and coho salmon stocks, in order to provide personal use, sport, and guided sport fishermen with a reasonable opportunity to harvest salmon resources. Since 1999, the purpose statement has changed slightly over the years as the board has deliberated extensively to balance the allocation needs and desires of the various user groups. In addition, there have been numerous provisions in the plan including no-fishing windows and EO hour limitations (Table 134-1).

The *Kasilof River Salmon Management Plan* governs the harvest of Kasilof River salmon excess to spawning escapement needs. It is the intent of the board that Kasilof River salmon be harvested in the fisheries that have historically harvested them, including the methods, means, times, and locations of those fisheries. Openings in the areas historically fished must be consistent with escapement objectives for UCI salmon and with the *Upper Cook Inlet Salmon Management Plan*. Achieving the lower end of the Kenai River sockeye salmon escapement goal takes priority over not exceeding the upper end of the Kasilof River OEG of 160,000–390,000 sockeye salmon. The Kasilof River BEG of 160,000–340,000 sockeye salmon is not mentioned in the *Kasilof River Salmon Management Plan*; however, the board reaffirmed at the 2014 UCI meeting that the Kasilof River sockeye salmon BEG is the primary management objective unless attaining the lower end of the Kenai River sockeye salmon escapement goal is in jeopardy. There have been occasions when the Kasilof River OEG has been the management objective inseason, only to revert to the BEG once the lower end of the Kenai River escapement goal has been assured.

Regular fishing periods in UCI have been 12 hours in duration since at least 1972. Prior to 1984, regular fishing periods in UCI occurred from 6:00 a.m. until 6:00 p.m. on Mondays and Fridays. From 1985 through 1998, regular periods were from 7:00 a.m. until 7:00 p.m. on Mondays and Fridays. Since 1999, regular periods have occurred on Mondays and Thursdays from 7:00 a.m. until 7:00 p.m.

Mandatory no-fishing periods ("windows") were first adopted in the *Kenai River Late-Run Sockeye Salmon Management Plan* in 1999 (Table 134-1). From 1999–2004, only one window per week was in the plan and only for Kenai runs greater than 2 million sockeye salmon. Beginning in 2005, a second 24-hr weekly window was adopted, but the department was provided flexibility to implement it on Tuesday or Wednesday. In 2011, the board fixed the 24-hour window to Tuesdays. In 2014, the board again provided flexibility to implement the 24-hour window on Tuesday or Wednesday. Mandatory windows were adopted into the *Kasilof River Salmon Management Plan* in 2002 (Table 134-2). From 2002–2007, there was a 48-hour window that could occur any day of the management week; in 2008 the window was modified to a 36-hour closure that occurs on Fridays.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. While 5 AAC 21.363(e) provides the department authority to deviate from management plans by EO to achieve established escapement goals, the department prefers that provisions be described in species- and area-specific management plans because doing so provides greater clarity and direction on how a specific fishery should be managed than does the general language contained in 5 AAC 21.363(e).

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

PROPOSAL 122 – 5 AAC 21.360. Kenai River Late-Run Sockeye Salmon Management Plan.

PROPOSED BY: John McCombs.

WHAT WOULD THE PROPOSAL DO? This would remove mandatory closed fishing periods or windows from the Upper Subdistrict commercial set gillnet fishery.

WHAT ARE THE CURRENT REGULATIONS? The *Kenai River Late-Run Sockeye Salmon Management Plan* directs the department to manage commercial, sport, and personal use fisheries in the Kenai River to: 1) meet an OEG range of 700,000–1,400,000 late-run sockeye salmon, 2) achieve inriver goals as established by the board and measured at the Kenai River sonar counter located at river mile 19, and 3) to distribute escapement of sockeye salmon evenly within the OEG range, in proportion to the size of the run.

Based on preseason forecasts and inseason projections of the Kenai River late-run sockeye salmon return, the fishery will be managed as follows: at run strengths of less than 2,300,000 sockeye salmon, the department shall manage for an inriver goal range of 900,000–1,100,000 sockeye salmon past the sonar counter at river mile 19, and will fish regular weekly fishing periods, and allow additional fishing of no more than 24 hours per week.

At run strengths of 2,300,000–4,600,000 fish, the department shall manage for an inriver goal range of 1,000,000–1,100,000 sockeye salmon past the sonar counter and allow additional fishing of no more than 51 hours per week. Set gillnet fishery will be closed for one 36-hour period per week beginning between 7:00 p.m. Thursday and 7:00 a.m. Friday, and for a 24-hour closure to begin between 7:00 p.m. on Monday and 7:00 a.m. on Wednesday.

At run strengths greater than 4,600,000 fish, the department shall manage for an inriver goal range of 1,100,000–1,350,000 sockeye salmon past the sonar counter and allow additional fishing of no more than 84 hours per week. Set gillnet fishery will be closed for one 36-hour period per week, beginning between 7:00 p.m. Thursday and 7:00 a.m. Friday.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Removal of mandatory closed "window" periods and limitations on the number of EO hours that may be fished each week could result in sockeye salmon inriver goals being exceeded less often than under status quo management. However, removing "windows" and EO hour limitations may also result in less predictability to Kenai and Kasilof river personal use and sport fishermen trying to gauge when salmon may be entering each river. This proposal would likely increase the commercial harvest of all salmon by an unknown amount, depending on abundance. The department would continue to manage all fisheries to achieve established escapement goals.

BACKGROUND: Mandatory no-fishing periods or windows were first adopted in the *Kenai River Late-Run Sockeye Salmon Management Plan* in 1999 (Table 116-2). From 1999–2002, only one 24-hour "floating" window per week was in the plan and only for runs greater than two million sockeye salmon. From 2002–2005, there was a 48-hr window for runs between two million and four million fish and a 36-hour window for runs greater than four million fish, both floating windows. From 2005–2011, a second 24-hour floating weekly window was adopted for

runs between two million and four million fish and the 48-hr floating window was changed to a "fixed" 36-hour Friday window. For runs greater than four million fish, the floating 36-hour window also became a fixed Friday window. In 2011, the tiers changed numerically and the board modified the 24-hour floating weekly window to a Tuesday fixed window. In 2014, the duration of windows stayed the same, except the Tuesday fixed window was modified to start between 7:00 p.m. on Monday and 7:00 a.m. on Wednesday.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. While 5 AAC 21.363(e) provides the department authority to deviate from management plans by EO to achieve established escapement goals, the department prefers that provisions be described in species- and area-specific management plans because doing so provides greater clarity and direction on how a specific fishery should be managed than does the general language contained in 5 AAC 21.363(e).

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Upper Subdistrict Set Gillnet Fishery (8 Proposals)

PROPOSAL 134 – 5 AAC 21.320. Weekly Fishing Periods, 5 AAC 21.360. Kenai River Late-Run Sockeye Salmon Management Plan, and 5 AAC 21.365. Kasilof River Salmon Management Plan.

PROPOSED BY: Central Peninsula Fish and Game Advisory Committee.

WHAT WOULD THE PROPOSAL DO? This amends provisions (c)(1)(B), (c)(2)(B), (c)(3)(B) in the *Kenai River Late-Run Sockeye Salmon Management Plan* and provision (c)(2)(A) and (B) in the *Kasilof River Salmon Management Plan*, and would remove restrictions in the Upper Subdistrict commercial set gillnet fishery and allow for regular weekly fishing periods through July 20. Restrictions on additional fishing hours allowed per week would be removed; additional fishing periods would be based solely on inseason abundance of Kenai and Kasilof river sockeye salmon to meet SEGs and harvest surplus salmon. However, which SEGs are not identified in the proposal. It would also remove mandatory no-fishing periods (or "windows"). Additionally, the language "subject to the provisions of other management plans" would be removed from the *Kenai River Late-Run Sockeye Salmon Management Plan*.

WHAT ARE THE CURRENT REGULATIONS? The Upper Subdistrict commercial set gillnet fishery, or eastside setnet (ESSN) fishery is managed primarily under the guidance of two management plans: *Kasilof River Salmon Management Plan* and the *Kenai River Late-Run Sockeye Salmon Management Plan*; however, provisions within the *Kenai River Late-Run King Salmon Management Plan* also guide the prosecution of the fishery during times of low Kenai River late-run king salmon abundance. Weekly fishing periods are set in 5 AAC 21.320 and occur from 7:00 a.m. until 7:00 p.m. on Mondays and Thursdays. Fishing time beyond regularly scheduled periods is allowed by EO.

The *Kasilof River Salmon Management Plan* governs the harvest of Kasilof River salmon excess to spawning escapement needs. It is the intent of the board that Kasilof River salmon be harvested in the fisheries that have historically harvested them, including the methods, means, times, and locations of those fisheries. Openings in the areas historically fished must be consistent with escapement objectives for UCI salmon and with the *Upper Cook Inlet Salmon Management Plan*. The Kasilof Section set gillnet fishery opens on or after June 25, with provisions for an opening as early as June 20 based on a 50,000 sockeye salmon escapement trigger. From the beginning of the season through July 7, the fishery must be closed for a continuous 36-hour period each week ("Friday window") and additional fishing time beyond the two regular Monday/Thursday 12-hour periods is limited to no more than 48 hours per week. Management of the ESSN fishery prior to the opening of the Kenai and East Foreland sections is guided by the *Kasilof River Salmon Management Plan*. The Kenai and East Foreland sections do not open until the first regular period on or after July 8, and with its opening, the entire ESSN fishery is guided by the *Kenai River Late-Run Sockeye Salmon Management Plan.* This plan introduces additional mandatory closed periods ("windows") and limits on extra time each week dependent upon which one of three sockeye salmon run sizes to the Kenai River the run falls within.

The *Kenai River Late-Run Sockeye Salmon Management Plan* directs the department to manage the Kenai River late-run sockeye salmon stocks primarily for commercial uses based on abundance. The department shall also manage the commercial fisheries to minimize the harvest of Northern District coho, late-run Kenai River king, and Kenai River coho salmon stocks in order to provide personal use, sport, and guided sport fishermen with a reasonable opportunity to harvest salmon resources.

According to the *Kenai River Late-Run Sockeye Salmon Management Plan* (5 AAC 21.360 (b)), the Kenai River late-run sockeye salmon commercial, sport, and personal use fisheries shall be managed to:

(1) meet an OEG range of 700,000–1,400,000 late-run sockeye salmon;

(2) achieve inriver goals as established by the board and measured at the Kenai River sonar counter located at river mile 19; and

(3) distribute the escapement of sockeye salmon evenly with the OEG range, in proportion to the size of the run.

The department manages the commercial fisheries based on preseason forecasts and inseason projections of the Kenai River late-run sockeye salmon run, as follows:

- At run strengths of less than 2,300,000 sockeye salmon, the department shall manage for an inriver goal range of 900,000–1,100,000 sockeye salmon past the sonar counter at river mile 19 and will fish regular weekly fishing periods, and allow additional fishing of no more than 24-hours per week (a management week runs from Sunday to Saturday).
- At run strengths of 2,300,000–4,600,000 sockeye salmon, the department shall manage for an inriver goal range of 1,000,000–1,200,000 sockeye salmon past the sonar counter and allow additional fishing of no more than 51 hours per week. The set gillnet fishery will be closed for one 36-hour period per week beginning between 7:00 p.m. Thursday and 7:00 a.m. Friday and for a 24-hour closure beginning between 7:00 p.m. Monday and 7:00 a.m. Wednesday.
- At run strengths greater than 4,600,000 sockeye salmon, the department shall manage for an inriver goal range of 1,100,000–1,350,000 sockeye salmon past the sonar counter and allow additional fishing of no more than 84 hours per week. The set gillnet fishery will be closed for one 36-hour period per week, beginning between 7:00 p.m. Thursday and 7:00 a.m. Friday.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Adoption of this proposal would provide the department greater latitude in managing the ESSN fishery, within provisions of the *Kenai River Late-Run Sockeye Salmon Management Plan* and *Kasilof River Salmon Management Plan*, based on run timing and abundance of various salmon stocks. The department would continue to manage the commercial fishery to achieve established escapement objectives for both sockeye and king salmon. Removal of mandatory closed "window" periods and limitations on the number of EO hours that may be fished each week could result in sockeye salmon escapement objectives being achieved more often. However, removing "windows" and EO hour limitations may also result in less predictability to Kenai and Kasilof river personal use and sport fishermen trying to gauge when salmon may be entering

each river. Removal of "windows" and EO hour limitations would also likely increase the commercial harvest of all salmon by an unknown amount, depending on abundance. Additionally, it is unclear if the current relationship between the *Kenai River Late-Run Sockeye Salmon Management Plan* and the *Kenai River Late-Run King Salmon Management Plan* would be altered. It is also unclear what the effects would be, if any, by adding the SEG to the sockeye salmon management plan because the Kenai River late-run sockeye salmon SEG is encompassed within the current inriver goals. However, managing to the Kenai River sockeye salmon SEG instead of the OEG may decrease the amount of sockeye salmon inriver by 200,000 fish depending on abundance.

BACKGROUND: The *Kenai River Sockeye Salmon Management Plan* (5 AAC 21.360) was first adopted in 1980. The purpose of this management plan was to ensure an adequate escapement, as determined by the department, of sockeye salmon into the Kenai River system and to provide management guidelines to the department in an effort to preclude allocation conflicts between various users of this resource. In 1996, the name of the plan was changed to the *Kenai River Late-Run Sockeye Salmon Management Plan* and the plan stated that its purpose is to achieve the BEG, as determined by the department, of late-run sockeye salmon into the Kenai River system and to provide management guidelines to the department. In 1999, the purpose statement was changed and it now stated that the department shall manage the Kenai River late-run sockeye salmon stocks primarily for commercial uses in order to provide commercial fishermen with an economic yield from the harvest of these salmon resources based on abundance. It also stated the department shall also manage commercial fisheries to minimize harvest of Northern District coho salmon, and late-run Kenai River king and coho salmon stocks, in order to provide personal use, sport, and guided sport fishermen with a reasonable opportunity to harvest salmon resources. Since 1999, the purpose statement has changed slightly over the years as the board has deliberated extensively to balance the allocation needs and desires of the various user groups. In addition, there have been numerous provisions in the plan including no-fishing windows and EO hour limitations (Table 134-1).

The current preamble to the *Kenai River Sockeye Salmon Management Plan* requires the department to manage all fisheries to meet a sockeye salmon OEG, achieve inriver goals, and to spread escapements evenly within the OEG range. All three of these management objectives are complementary to each other. Inriver harvest during the season is unknown (although it is estimated for projection purposes); therefore, the inriver goal is the primary inseason management objective. The OEG is a postseason assessment determined after inriver sport and federal subsistence harvest is accounted for. Achievement of the inriver goal leads towards achieving the two objectives of meeting the OEG and distributing the escapement of sockeye salmon evenly with the OEG range, in proportion to the size of the run.

The *Kasilof River Salmon Management Plan* governs the harvest of Kasilof River salmon excess to spawning escapement needs. It is the intent of the board that Kasilof River salmon be harvested in the fisheries that have historically harvested them, including the methods, means, times, and locations of those fisheries. Openings in the areas historically fished must be consistent with escapement objectives for UCI salmon and with the *Upper Cook Inlet Salmon Management Plan*. Achieving the lower end of the Kenai River sockeye salmon escapement goal takes priority over not exceeding the upper end of the Kasilof River OEG of 160,000–390,000

sockeye salmon. The Kasilof River BEG of 160,000–340,000 sockeye salmon is not mentioned in the *Kasilof River Salmon Management Plan*; however, the board reaffirmed at the 2014 UCI meeting that the Kasilof River sockeye salmon BEG is the primary management objective unless attaining the lower end of the Kenai River sockeye salmon escapement goal is in jeopardy. There have been occasions when the Kasilof River OEG has been the management objective inseason, only to revert to the BEG once the lower end of the Kenai River escapement goal has been assured.

Regular fishing periods in UCI have been 12 hours in duration since at least 1972. Prior to 1984, regular fishing periods in UCI occurred from 6:00 a.m. until 6:00 p.m. on Mondays and Fridays. From 1985 through 1998, regular periods were from 7:00 a.m. until 7:00 p.m. on Mondays and Fridays. Since 1999, regular periods have occurred on Mondays and Thursdays from 7:00 a.m. until 7:00 p.m.

Mandatory no-fishing periods ("windows") were first adopted in the *Kenai River Late-Run Sockeye Salmon Management Plan* in 1999 (Table 134-1). From 1999–2004, only one window per week was in the plan and only for Kenai River runs greater than 2 million sockeye salmon. Beginning in 2005, a second 24-hr weekly window was adopted, but the department was provided flexibility to implement it on Tuesday or Wednesday. In 2011, the board fixed the 24-hour window to Tuesdays. In 2014, the board again provided flexibility to implement the 24-hour window on Tuesday or Wednesday. Mandatory windows were adopted into the *Kasilof River Salmon Management Plan* in 2002 (Table 134-2). From 2002–2007, there was a 48-hour window that could occur any day of the management week; in 2008 the window was modified to a 36-hour closure that occurs on Fridays.

Since 1999, the sonar count (or fish passage) for Kenai River late-run sockeye salmon was above the inriver goal range 12 years (67%), within the inriver goal range five years (28%), and below the inriver goal range one year (6%); while escapement was above the OEG range four years (22%), within the OEG range 11 years (61%), and below the OEG range three years (17%)(Table 134-3).

In the Kasilof River, escapement was above the BEG range in 17 years (57%), within the BEG range in 11 years (37%), and below the BEG range in two years (7%) from 1987–2016; while escapement was above the OEG range nine years (60%), within the OEG range six years (40%), and never below the OEG range from 2002–2016 (Table 134-4).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. While 5 AAC 21.363(e) provides the department authority to deviate from management plans by EO to achieve established escapement goals, the department prefers that provisions be described in species- and area-specific management plans because doing so provides greater clarity and direction on how a specific fishery should be managed than does the general language contained in 5 AAC 21.363(e).

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 134-1.–History of tiers, no-fishing "windows", and limitations on use of EO extra fishing hours in the *Kenai River Late-Run Sockeye Salmon Management Plan*.

Year	Tier	Window	EO Limitation
1999	< 2 million	No window	none
	2 to 4 million	After July 20, 24 hours beginning at 12 noon Friday in Kenai/E. Foreland sections	none
	> 4 million	No window; extra time for Kenai sockeye only in Kenai/E. Foreland sections	none
2002	< 2 million	No window	24 hours/week in July
	2 to 4 million	In July, Upper Subdistrict Set Gillnet Fishery closed for one 48-hour period/week	36 hours/week in July
	> 4 million	In July, Upper Subdistrict Set Gillnet Fishery closed for one 36-hour period/week	60 hours/week in July
2005	< 2 million	No window	24 hours/week
	2 to 4 million	One 36-hour period beginning between 7pm Thursday and 7am Friday	51 hours/week
		One additional 24-hour period/week	
	> 4 million	One 36-hour period beginning between 7pm Thursday and 7am Friday	84 hours/week
2008	No change from 2005.		
2011	< 2.3 million	No window	24 hours/week
	2.3 to 4.6 million	One 36-hour period beginning between 7pm Thursday and 7am Friday	51 hours/week
		One 24-hour period/week on Tuesday	
	> 4.6 million	One 36-hour period beginning between 7pm Thursday and 7am Friday	84 hours/week
2014	< 2.3 million	No window	24 hours/week
	2.3 to 4.6 million	One 36-hour period beginning between 7pm Thursday and 7am Friday	51 hours/week
		One 24-hour period beginning between 7pm Monday and 7 am Wednesday	
	> 4.6 million	One 36-hour period beginning between 7pm Thursday and 7am Friday	84 hours/week

Table 134-2.–History of no-fishing "windows", EO hour limitations, and escapement goals (BEG, SEG, and OEG) for sockeye salmon in the *Kasilof River Salmon Management Plan*.

Year	Dates	Window	EO Limitation	BEG/SEG	OEG
1999	July 1–July 7	No window	None	150,000–250,000	None
	July 8–Aug 15	No window, extra fishing time after July 20 on Kenai runs > 4 million limited to Kenai/E. Foreland Section	None		
2002	June 25–July 7	48-hour floating	48 hours	150,000–250,000	150,000–300,000
	July 8–August 15	per the Kenai plan, based on tiers	per Kenai plan		
	after July 15	per the Kenai plan, based on tiers	24-hour (1/2-mile)[a]		
2005	No Change from 2002.				
2008	June 25–July 7	36-hour fixed (Friday window)	48 hours	150,000–250,000	150,000–300,000
	July 8–August 15	per the Kenai plan, based on tiers	per Kenai plan		
	after July 15	per the Kenai plan, based on tiers	24-hour (1/2-mile)[a]		
2011	June 25–July 7	36-hour fixed (Friday window)	48 hours	160,000–340,000	160,000–390,000[b]
	July 8–August 15	per the Kenai plan, based on tiers	per Kenai plan		
	after July 15	per the Kenai plan, based on tiers	24-hour (1/2-mile)[a]		

[a] After July 15, for Kenai runs <2.0 million (2002–2010) or <2.3 million (2011–2013), if Kasilof OEG projected to be exceeded, 24 additional hours may be used in Kasilof Section ½-mile fishery.

[b] In 2014, the board clarified that the Kasilof River OEG is the management target only to ensure achieving the lower end of the Kenai River sockeye salmon escapement goal.

Table 134-3.–Sonar count (or fish passage), estimated escapement, inriver goal, OEG, and BEG/SEG for sockeye salmon in the Kenai River, 1987-2016. Included is a comparison of the sonar count to the inriver goal range and escapement to the OEG and BEG/SEG ranges (Above, Within or Below).

Year	Sonar Count [a]	Inriver Goal		Escapement	OEG		BEG/SEG	
1987	1,596,871	400000–700000	Above	1,362,913	330,000–600,000	Above	330,000–600,000	Above
1988	1,021,469	400,000–700,000	Above	877,376	330,000–600,000	Above	330,000–600,000	Above
1989	1,599,959	400,000–700,000	Above	1,331,001	330,000–600,000	Above	330,000–600,000	Above
1990	659,520	400,000–700,000	Within	503,778	330,000–600,000	Within	330,000–600,000	Within
1991	647,597	400,000–700,000	Within	419,900	330,000–600,000	Within	330,000–600,000	Within
1992	994,798	400,000–700,000	Above	772,316	330,000–600,000	Above	330,000–600,000	Above
1993	813,617	400,000–700,000	Above	676,388	330,000–600,000	Above	330,000–600,000	Above
1994	1,003,446	400,000–700,000	Above	901,068	330,000–600,000	Above	330,000–600,000	Above
1995	630,447	450,000–700,000	Within	522,371	330,000–600,000	Within	330,000–600,000	Within
1996	797,847	550,000–800,000	Within	631,681	330,000–600,000	Above	330,000–600,000	Above
1997	1,064,818	550,000–825,000	Above	917,761	330,000–600,000	Above	330,000–600,000	Above
1998	767,558	550,000–850,000	Within	611,653	330,000–600,000	Above	330,000–600,000	Above
1999	803,379	750,000–950,000	Within	615,654	500,000–1,000,000	Within	500,000–800,000	Within
2000	624,578	600,000–850,000	Within	420,777	500,000–1,000,000	Below	500,000–800,000	Below
2001	650,036	600,000–850,000	Within	481,932	500,000–1,000,000	Below	500,000–800,000	Below
2002	957,924	750,000–950,000	Above	744,858	500,000–1,000,000	Within	500,000–800,000	Within
2003	1,181,309	750,000–950,000	Above	927,575	500,000–1,000,000	Within	500,000–800,000	Above
2004	1,385,981	850,000–1,100,000	Above	1,131,145	500,000–1,000,000	Above	500,000–800,000	Above
2005	1,376,452	850,000–1,100,000	Above	1,121,634	500,000–1,000,000	Above	500,000–800,000	Above
2006	1,499,692	750,000–950,000	Above	1,327,054	500,000–1,000,000	Above	500,000–800,000	Above
2007	867,572	750,000–950,000	Within	601,870	500,000–1,000,000	Within	500,000–800,000	Within
2008	614,946	650,000–850,000	Below	406,612	500,000–1,000,000	Below	500,000–800,000	Below
2009	745,170	650,000–850,000	Within	503,232	500,000–1,000,000	Within	500,000–800,000	Within
2010	970,662	750,000–950,000	Above	714,080	500,000–1,000,000	Within	500,000–800,000	Within
2011	1,599,217	1,100,000–1,350,000	Above	1,280,733	700,000–1,400,000	Within	700,000–1,200,000	Above
2012	1,581,555	1,100,000–1,350,000	Above	1,212,921	700,000–1,400,000	Within	700,000–1,200,000	Above
2013	1,359,893	1,000,000–1,200,000	Above	980,208	700,000–1,400,000	Within	700,000–1,200,000	Within
2014	1,520,340	1,000,000–1,200,000	Above	1,218,341	700,000–1,400,000	Within	700,000–1,200,000	Above
2015	1,709,051	1,000,000–1,200,000	Above	1,400,047	700,000–1,400,000	Above	700,000–1,200,000	Above
2016	1,383,692	1,100,000–1,350,000	Above	[b]	700,000–1,400,000	Within	700,000–1,200,000	Within
Averages								
1987–2010	969,819			771,860				
1999–2016	1,157,303			887,569				
2011–2016	1,525,625			1,218,450				

Comparison of Sonar Count to Inriver Goal (Since 1999)			
		Years	%
	Above Goal	12	67%
	Within Goal	5	28%
	Below Goal	1	6%
	Total	18	

Comparison of Escapement to OEG and BEG/SEG (Since 1999)				
	Years	%	Years	%
Above Goal	4	22%	8	44%
Within Goal	11	61%	7	39%
Below Goal	3	17%	3	17%
Total	18		18	

[a] Sonar counts and escapement goals prior to 2011 are in Bendix units; 2011 through 2016 are in DIDSON units.
[b] In 2016, final escapement is not known. However, escapement is expected to be within the OEG and BEG/SEG.

Table 134-4.–Estimated escapement, and escapement goals (BEG, OEG) for sockeye salmon in the Kasilof River, 1987–2016. Included is a comparison of the estimated escapement and escapement goals (Above, Within or Below).

Year	Estimated Escapement	BEG		OEG	
1987	249,250	150,000–250,000	Within		
1988	204,000	150,000–250,000	Within		
1989	158,206	150,000–250,000	Within		
1990	144,289	150,000–250,000	Below		
1991	238,269	150,000–250,000	Within		
1992	184,178	150,000–250,000	Within		
1993	149,939	150,000–250,000	Below		
1994	205,117	150,000–250,000	Within		
1995	204,935	150,000–250,000	Within		
1996	249,944	150,000–250,000	Within		
1997	266,025	150,000–250,000	Above		
1998	273,213	150,000–250,000	Above		
1999	312,587	150,000–250,000	Above		
2000	256,053	150,000–250,000	Above		
2001	307,570	150,000–250,000	Above		
2002	226,682	150,000–250,000	Within	150,000–300,000	Within
2003	359,633	150,000–250,000	Above	150,000–300,000	Above
2004	577,581	150,000–250,000	Above	150,000–300,000	Above
2005	348,012	150,000–250,000	Above	150,000–300,000	Above
2006	368,092	150,000–250,000	Above	150,000–300,000	Above
2007	336,866	150,000–250,000	Above	150,000–300,000	Above
2008	301,469	150,000–250,000	Above	150,000–300,000	Above
2009	297,125	150,000–250,000	Above	150,000–300,000	Within
2010	267,013	150,000–250,000	Above	150,000–300,000	Within
2011[a]	245,721	160,000–340,000	Within	160,000–390,000	Within
2012	374,523	160,000–340,000	Above	160,000–390,000	Within
2013	489,654	160,000–340,000	Above	160,000–390,000	Above
2014	439,997	160,000–340,000	Above	160,000–390,000	Above
2015	470,677	160,000–340,000	Above	160,000–390,000	Above
2016	239,981	160,000–340,000	Within	160,000–390,000	Within
Averages					
1985–2010	291,553				
2011–2016	376,759				

Comparison of Escapement to Escapement Goals				
	Years	%	Years	%
Above Goal	17	57%	9	60%
Within Goal	11	37%	6	40%
Below Goal	2	7%	0	0%
Total	30		15	

[a] Counts prior to 2011 are in Bendix units. Counts after 2011 are in DIDSON units

PROPOSAL 135 – 5 AAC 21.200. Fishing districts, subdistricts and sections; 5 AAC 21.310; Fishing seasons; 5 AAC 21.360. Kenai River Late-Run Sockeye Salmon Management Plan; and 5 AAC 21.365. Kasilof River Salmon Management Plan.

PROPOSED BY: Joseph Person.

WHAT WOULD THE PROPOSAL DO? This would redefine sections and manage the commercial set gillnet fishery in the Upper Subdistrict with three sections (instead of two) with staggered opening dates, as follows:

Section	Opening Date
Ninilchik and Cohoe	June 20
North and South Kalifonsky Beach	July 1
Salamatof and East Forelands	July 8

WHAT ARE THE CURRENT REGULATIONS? Commercial fishing districts and subdistricts are defined for Cook Inlet in 5 AAC 21.200. Sections for the commercial set gillnet fishery in the Upper Subdistrict are also defined in 5 AAC 21.200(b)(2). The department identifies six statistical areas in the Upper Subdistrict that are not in regulation, but are defined and used by the department for discrete harvest data recording on fish tickets (Figure 135-1). The Kasilof Section is composed of three statistical areas that include Ninilchik (244-21), Cohoe (244-22), and South Kalifornsky Beach (244-31). The Kenai Section is composed of two statistical areas that include North Kalifornsky Beach (244-32) and Salamatof (244-41). The East Forelands Section is composed of a single statistical area (East Forelands; 244-42). The Kenai and East Forelands sections are functionally treated as a single section within the management plans.

Opening dates for commercial fisheries are identified in 5 AAC 21.310. *Fishing seasons*. The Upper Subdistrict commercial set gillnet fishery is primarily managed under the guidance of two management plans: *Kasilof River Salmon Management Plan* and *Kenai River Late-Run Sockeye Salmon Management Plan*. The Kasilof Section fishery opens on or after June 25, with provisions for an opening as early as June 20 based on a 50,000 sockeye salmon escapement trigger. From the beginning of the season through July 7, the fishery must be closed for 36 hours each week ("Friday window") and extra time beyond the two regular Monday/Thursday 12-hour periods is limited to no more than 48 hours per week. The Kenai and East Foreland sections do not open until on or after July 8, with mandatory closed periods ("windows") and limits on extra time each week dependent upon which one of three sockeye salmon run sizes to the Kenai River the run falls within.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It is difficult to determine the effects of this proposal. The southern-most section would be managed primarily to achieve sockeye salmon escapement objectives in the Kasilof River, while the northern most section would be managed primarily to achieve sockeye salmon escapement objectives in the Kenai River. Management of the middle section, however, would be less clear and involve managing the section to achieve escapement objectives in both the Kasilof and Kenai rivers. The proposal also sets new opening dates that would allow statistical area 244-32 to open earlier than currently allowed, while delaying the opening of statistical area 244-31. The start date of July 1

for the middle section represents as much as a 10-day delay for statistical area 244-31, while allowing for at least an eight day early start for statistical area 244-32. Therefore, this would decrease the harvest of salmon in statistical area 244-31 and increase the salmon harvest in statistical area 244-32 by an unknown amount. In addition, this proposal would open both statistical areas south of the Kasilof River (244-21 and 244-22) by regulation on June 20; currently, these areas only open before June 25, if a 50,000 sockeye salmon escapement trigger is in effect. These changes would likely increase the commercial harvest of sockeye and king salmon early in the season in these statistical areas by an unknown amount, while at the same time potentially decreasing the harvest in others, again by an unknown amount. The proposal would complicate regulations and management plans without clearly defined benefits in managing for escapement goals and maximum sustained yield.

BACKGROUND: The department primarily manages the commercial set gillnet fishery in the Upper Subdistrict following regulations in the 5 AAC 21.365. *Kasilof River Salmon Management Plan* and 5 AAC 21.360. *Kenai River Late-Run Sockeye Salmon Management Plan*. Provisions in the plans specify the sections that may be opened for commercial fishing. The department has authority for time and area in regards to allowing commercial fishing within the Upper Subdistrict. However, the department usually follows the provisions in the management plans and opens only entire sections to commercial fishing. The department has not opened smaller areas within the sections, such as the statistical areas, to commercial fishing. Current season opening dates in the Upper Subdistrict set gillnet fishery have been in place since 2005.

Prior to 1999, the area of beach between the Kasilof and Kenai rivers was one statistical area, 244-30, while the area of beach north of the Kenai River was also just one statistical area, 244-40 (Figure 135-1). In 1999, statistical area 244-30 was split into 244-31 and 244-32 and statistical area 244-40 was split into 244-41 and 244-42 to more accurately track salmon harvest by area of beach.

Prior to 1979, the set gillnet fishery in the Upper Subdistrict opened on or after June 17. From 1979 to 1983, the entire Upper Subdistrict set gillnet fishery opened on or after June 25. In 1984, the Upper Subdistrict set gillnet fishery north of the Kasilof River could open on or after July 10, but could open as early as June 25 if 150,000 sockeye salmon were counted in the Kenai River; the fishery south of the Kasilof River could open on or after July 5, but could open as early as July 25 if 75,000 sockeye salmon were counted in the Kasilof River. From 1985–1996, the season opening date for the entire Upper Subdistrict set gillnet fishery was the first Monday or Friday in July; however, the season could open as early as June 25 in the Kenai and East Foreland sections if 100,000 sockeye salmon were counted in the Kenai River or the Kasilof Section if 50,000 sockeye salmon were counted in the Kasilof River. Since 1997, the set gillnet fishery in the Kenai and East Foreland sections of the Upper Subdistrict has had a season opening date of on or after July 8; however, the provision for an earlier start based upon Kenai River sockeye salmon abundance was removed in 2005. From 1997– 2001, the opening date for the Kasilof Section was on or after July 1 with the option to open as early as June 25 if 50,000 sockeye salmon were counted in the Kasilof River; since 2002, the opening date for the Kasilof Section has remained June 25 and beginning in 2005, the section could open as early as June 20 if 50,000 sockeye salmon were in the Kasilof River.

Since 1999, the average annual harvest in statistical area 244-31 from June 20–30 has been approximately 140 king and 33,000 sockeye salmon (Table 135-1)

From 2007–2016, in the entire ESSN fishery, the average king salmon harvest (all stocks) ranged from 82 in statistical area 244-42 up to 1,744 in statistical area 244-41, while average sockeye salmon harvest ranged from 63,196 in statistical area 244-42 up to 324,127 in statistical area 244-41 (Table 135-2). Since 2007, the Kasilof Section has opened before June 25 during the last three years (2014–2016) based on the 50,000 sockeye salmon trigger. From 2014–2016, in the Kasilof section only from June 20–24, average king salmon harvest ranged from 10–25 in each statistical area, while average sockeye salmon harvest ranged from 6,024–9,778 in each statistical area (Table 135-3). From 2007–2016 in the Kasilof section only from June 20–30, average king salmon harvest ranged from 95–131 in each statistical area, while average sockeye salmon harvest ranged from 26,804–50,623 in each statistical area (Table 135-3).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal but **OPPOSES** aspects of the proposal that complicate regulations and management plans without clearly defined benefits in managing for escapement goals and maximum sustained yield.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 135-1.–Commercial salmon harvest in statistical area 244-30 (K-Beach), 1966-1998, and 244-31(South K-Beach) from June 20–30, 1999–2016.

June 20–30 Statistical Area = 244-30			
Year	King	Sockeye	Days Open
1966	166	6,798	3
1967	184	3,371	3
1968	178	2,308	3
1969	555	2,547	8
1970	68	1,603	7
1971	445	708	3
1972	270	1,293	3
1973	83	592	2
1974	30	740	1
1975	30	538	2
1976	149	4,100	2
1977	440	8,705	2
1978	385	7,379	2
1979	201	6,393	2
1980	206	14,229	2
1981	208	21,330	5
1982	263	3,822	2
1987	338	5,677	2
1992	57	6,481	1
1993	59	4,525	1
1996	67	8,393	1
1997	195	25,735	2
1998	75	4,994	1
Average per year	202	6,185	2.6
Average per day open	78	2,371	

June 20–30 Statistical Area = 244-31			
Year	King	Sockeye	Days Open
2001	165	33,582	3
2002	124	6,794	3
2003	294	15,628	4
2004	187	61,154	5
2005	301	97,497	9
2006	169	26,181	3
2007	276	10,835	4
2008	111	67,868	4
2009	53	34,402	4
2010	81	17,161	3
2011	130	22,635	4
2013	29	20,225	2
2014	39	26,184	4
2015	67	35,830	6
2016	72	18,262	5
Average per year	140	32,949	4.2
Average per day open	33	7,845	

Table 135-2.–King and sockeye salmon harvest in the ESSN fishery by statistical area, 2007–2016.

King Salmon

Year	244-21	244-22	244-31	244-32	244-41	244-42	All
2007	2,256	2,812	2,624	1,344	2,946	146	12,128
2008	1,799	1,966	1,509	553	534	48	6,409
2009	865	1,591	1,379	548	1,117	88	5,588
2010	976	1,481	1,612	1,041	1,880	69	7,059
2011	1,510	1,610	2,005	867	1,622	83	7,697
2012	100	114	158	169	150	14	705
2013	330	641	304	407	890	58	2,630
2014	284	502	290	129	453	18	1,676
2015	861	1,022	1,082	876	3,363	151	7,355
2016	948	1,077	976	791	2,887	80	6,759
Average[a]	1,092	1,411	1,309	728	1,744	82	6,367

Sockeye Salmon

Year	244-21	244-22	244-31	244-32	244-41	244-42	All
2007	315,835	219,673	183,364	105,180	439,200	74,524	1,337,776
2008	337,114	199,372	345,293	108,419	210,784	41,755	1,242,737
2009	253,606	190,799	196,885	61,781	167,341	35,441	905,853
2010	175,885	183,905	157,800	110,536	391,821	65,842	1,085,789
2011	442,514	339,715	234,758	174,980	583,377	102,595	1,877,939
2012	10,032	8,255	12,436	7,021	52,806	6,125	96,675
2013	225,551	131,017	117,210	101,306	251,003	31,296	857,383
2014	178,512	124,510	84,436	34,084	87,454	17,271	526,267
2015	363,681	227,728	203,542	129,440	347,514	107,771	1,379,676
2016	173,269	116,497	87,979	89,105	438,649	92,269	997,768
Average[a]	273,996	192,580	179,030	101,648	324,127	63,196	1,134,576

Sockeye : King Salmon Ratio

Year	244-21	244-22	244-31	244-32	244-41	244-42	All
2007	140	78	70	78	149	510	110
2008	187	101	229	196	395	870	194
2009	293	120	143	113	150	403	162
2010	180	124	98	106	208	954	154
2011	293	211	117	202	360	1,236	244
2012	100	72	79	42	352	438	137
2013	683	204	386	249	282	540	326
2014	629	248	291	264	193	960	314
2015	422	223	188	148	103	714	188
2016	183	108	90	113	152	1,153	148
Average[a]	251	136	137	140	186	768	178

[a] 2012 not included in average

Table 135-3.–King and sockeye salmon harvest in the Kasilof Section, by statistical area, from June 20–24, 2014–2016 and June 20–30, 2007–2016.

June 20-24	**King Salmon**		
Year	244-21	244-22	244-31
2014	5	10	3
2015	37	24	13
2016	33	28	13
Average	25	21	10

June 20-24	**Sockeye Salmon**		
Year	244-21	244-22	244-31
2014	12,407	6,711	3,441
2015	11,073	7,063	12,948
2016	5,855	4,298	5,381
Average	9,778	6,024	7,257

June 20-30	**King Salmon**		
Year	244-21	244-22	244-31
2007	305	196	276
2008	111	136	111
2009	108	149	53
2010	52	110	81
2011	199	176	130
2012[a]			
2013	30	72	29
2014	56	104	39
2015	127	135	67
2016	148	105	72
Average	126	131	95

June 20-30	**Sockeye Salmon**		
Year	244-21	244-22	244-31
2007	39,415	12,803	10,835
2008	79,385	50,710	67,868
2009	89,849	41,244	34,402
2010	28,132	23,056	17,161
2011	34,563	15,423	22,635
2012[a]			
2013	29,594	25,258	20,225
2014	55,099	30,800	26,184
2015	71,764	25,257	35,830
2016	27,808	16,688	18,262
Average	50,623	26,804	28,156

[a] In 2012, the first day of fishing was July 3; therefore, no fishing occurred from June 20–30.

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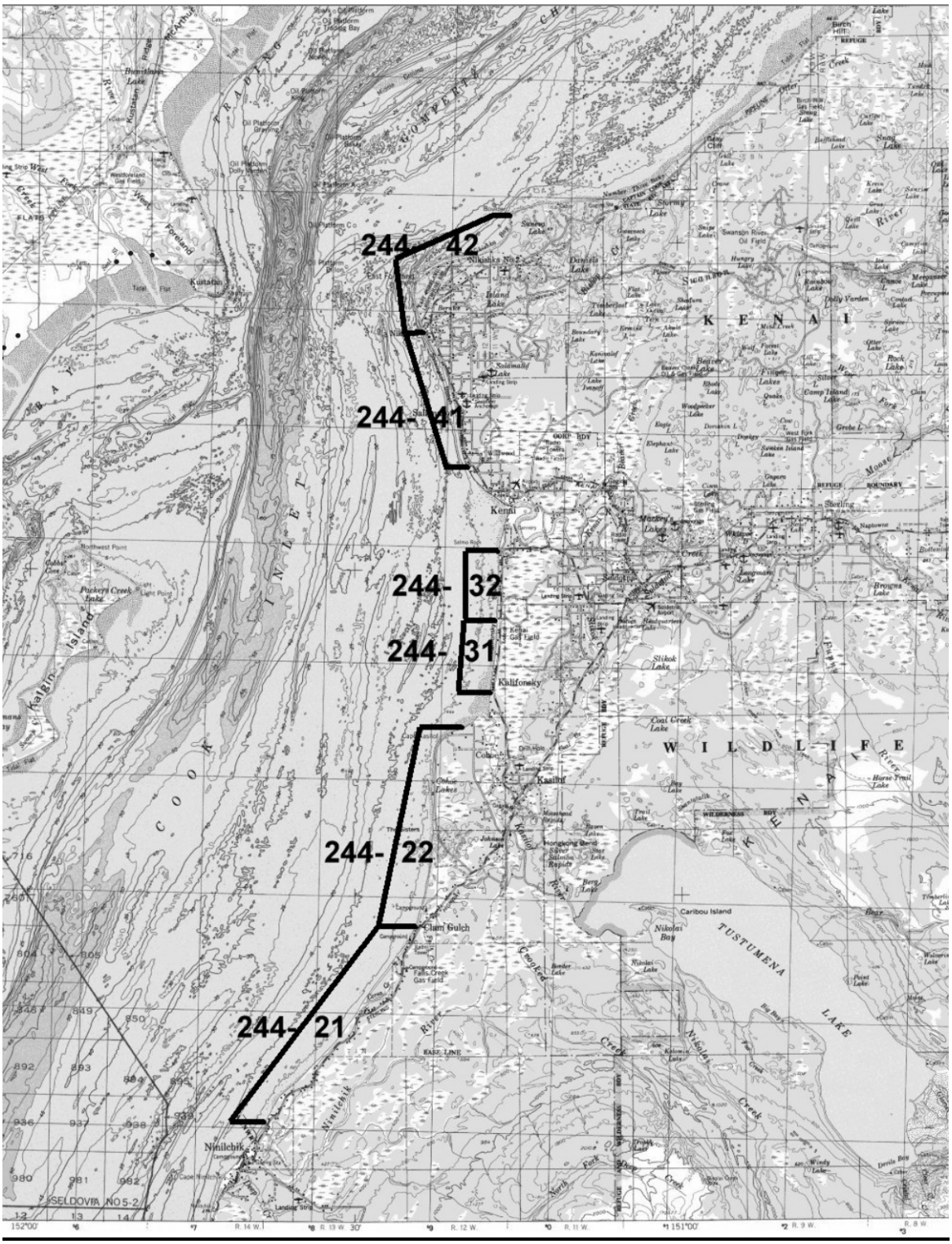

Figure 135-1.–Map of statistical areas for commercial set gillnets areas in Upper Cook Inlet. Note: East Forelands Section = East Forelands (244-42); Kenai Section = Salamatof (244-41) and North K-Beach (244-32); and Kasilof Section = South K-Beach (244-31), Cohoe (244-22, and Ninilchik (244-21).

PROPOSALS 137–139 – 5 AAC 21.310. Fishing seasons.

PROPOSED BY: Central Peninsula Advisory Committee (proposal 137), Kenai Peninsula Fishermen's Association (proposal 138), and Mark Ducker (proposal 139).

WHAT WOULD THESE PROPOSALS DO? These proposals would remove the "one-percent rule," where the commercial set gillnet fishery in the Upper Subdistrict will close after July 31, if less than one percent of the season's total sockeye salmon harvest has been taken per fishing period for two consecutive fishing periods. Additionally, proposal 139 would remove provisions within 5 AAC 21.310 restricting the Upper Subdistrict set gillnet fishery to fishing only regular Monday and Thursday periods between August 11 and August 15.

WHAT ARE THE CURRENT REGULATIONS? In the combined Kenai and East Forelands sections, and separately in the Kasilof Section, the season will close no later than August 15. However, the season may close earlier, by EO, after July 31, if the department determines that less than one percent of the season's total sockeye harvest has been taken per fishing period for two consecutive fishing periods in the combined Kenai and East Forelands Sections, or separately in the Kasilof Section. From August 11 through August 15, the ESSN fishery is open for regular fishing periods only. The term "fishing period" is defined as a time period open to commercial fishing as measured by a 24-hour calendar day from 12:01 a.m. until 11:59 p.m. If the entire ESSN fishery is closed under the one-percent rule, regular fishing periods in the Central District drift gillnet fishery will be restricted to Drift Gillnet areas 3 and 4.

WHAT WOULD BE THE EFFECT IF THESE PROPOSALS WERE ADOPTED? If adopted, the commercial set gillnet fishery in the Upper Subdistrict would not close until August 15, unless the department closed the fishery to achieve the lower end of escapement goals. In addition, proposal 139 would allow the fishery to be open beyond regular periods between August 11 and August 15. These proposals would likely increase the harvest of sockeye, king, coho, pink, and chum salmon after July 31, by an unknown amount. The amount of additional harvest would be dependent upon run timing and run size of the respective salmon stocks in the east side of Cook Inlet after July 31. Removal of these restrictions would increase the department's flexibility in managing the commercial set gillnet fishery in the Upper Subdistrict and the Central District drift gillnet fishery to achieve sockeye salmon escapement goals in the Kenai and Kasilof rivers.

BACKGROUND: In 2005, 5 AAC 21.320(b)(2)(C)(iii) was amended to include, for the first time, what is commonly referred to as the "one-percent" rule. This provision states that any time after July 31, if less than one percent of the season's total sockeye salmon harvest has been taken per fishing period for two consecutive fishing periods in the Kenai, Kasilof, and East Foreland sections set gillnet fishery, the season will close. The provision was adopted by the board as a way to transition from management of sockeye salmon to management of coho salmon. From 2005–2013, the one-percent rule has closed the ESSN fishing season twice (Table 137-1). In 2014, the one-percent rule was modified so it would apply to the combined Kenai and East Forelands sections and the Kasilof Section separately. Since 2014, the Kasilof Section was closed based on the one-percent rule in 2014 and 2015 (Table 137-1). The combined Kenai/East Foreland section was not closed based on the one-percent rule from 2014–2016. If the one-

percent rule had been applied separately to the Kasilof Section and the combined Kenai/East Foreland sections from 2001–2013, the Kasilof Section would have closed early in nine of 13 years and the combined Kenai/East Foreland section would have closed one out of 13 years.

In 2008, the board extended the closing date in the ESSN fishing season from August 10 to August 15. The board added that from August 11 through August 15, the fishery is only open for regular periods. In addition, regular periods for the Central District drift gillnet fishery will be restricted to Drift Gillnet areas 3 and 4, if the ESSN fishery is closed under the one-percent rule. All weekly limitations on EO hours, as well as mandatory closed fishing windows in effect in July apply to the August 1–10 timeframe. The extension of the fishing season to August 15 was adopted largely in response to data that showed an approximately one percent harvest of Kenai River coho salmon per additional day of fishing in the ESSN and Central District drift gillnet fisheries prior to August 15 (Table 137-2). Since 2008, the ESSN fishery has fished a total of three periods (one period each year in 2010, 2012, and 2015) in the August 11–15 time period (Table 137-3).

Currently there are no projects conducted to assess abundance of Kenai River coho salmon. Information gathered from research programs on Kenai River indicate the coho salmon runs averaged about 140,000 fish from 1999–2004, with harvests averaging just over 62,000 fish (Table 137-4). Overall exploitation rates for Kenai River coho salmon runs prior to 2000 were high, in some cases (84% in 1999) under the previous Kenai River coho salmon management plan, which allowed a three-fish bag limit and more liberal commercial fishing in August. Under a plan that allowed a two-fish bag limit and more restrictive commercial fishing, the exploitation rate ranged from 35%–47% from 2000–2004. Based on average harvest and total run during 2000–2004, Kenai River coho salmon harvest rates averaged 38% by sport fisheries, 1% by personal use fisheries, and 3% by commercial fisheries (Table 137-4).

New regulations in 2005 and 2008, which liberalized sport and commercial fisheries, very likely increased exploitation rates of Kenai River coho salmon relative to the rates observed from 1999–2004. Research findings from studies conducted in Southeast Alaska with transboundary coho salmon stocks have indicated that an exploitation rate of about 61% is sustainable

Since 1999, the sonar count (or fish passage) for Kenai River late-run sockeye salmon was above the inriver goal range 12 years (67%), within the inriver goal range five years (28%), and below the inriver goal range one year (6%); while escapement was above the OEG range four years (22%), within the OEG range 11 years (61%), and below the OEG range three years (17%; Table 134-3).

In the Kasilof River, escapement was above the BEG range in 17 years (57%), within the BEG range in 11 years (37%), and below the BEG range in two years (7%) from 1987–2016; while escapement was above the OEG range nine years (60%), within the OEG range six years (40%), and never below the OEG range from 2002–2016 (Table 134-4).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. While 5 AAC 21.363(e) provides the department authority to deviate from management plans by EO to achieve established escapement goals, the department prefers that provisions be described

in species- and area-specific management plans because doing so provides greater clarity and direction on how a specific fishery should be managed than does the general language contained in 5 AAC 21.363(e).

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 137-1.–Season closing date and reason for closure by year in the Upper Subdistrict set gillnet fishery, 2005–2016.

Upper Subdistrict				
Year	Last day of fishing	Closing date in regulation	1% rule (yes/no)	Reason for closing
2005	10-Aug	10-Aug	No	End of season
2006	9-Aug	10-Aug	No	End of season
2007	9-Aug	10-Aug	No	End of season
2008	7-Aug	15-Aug	No	Poor sockeye salmon run to Kenai River
2009	10-Aug	15-Aug	Yes	1% Rule
2010	12-Aug	15-Aug	No	End of season
2011	7-Aug	15-Aug	Yes	1% Rule
2012	13-Aug	15-Aug	No	End of season
2013	23-Jul	15-Aug	No	Poor late-run king salmon run to Kenai River

Kasilof Section				
Year	Last day of fishing	Closing date in regulation	1% rule (yes/no)	Reason for closing
2014	4-Aug	15-Aug	Yes	1% rule
2015	10-Aug	15-Aug	Yes	1% rule
2016	9-Aug	15-Aug	No	Kenai King Plan

Kenai/E. Foreland Sections				
Year	Last day of fishing	Closing date in regulation	1% rule (yes/no)	Reason for closing
2014	6-Aug	15-Aug	No	Kenai King Plan
2015	12-Aug	15-Aug	No	End of season
2016	9-Aug	15-Aug	No	Kenai King Plan

Table 137-2.–Estimated daily harvest of Kenai River coho salmon during August 11–15 in select Upper Cook Inlet commercial fisheries [a,b,c].

Upper Cook Inlet Fisheries	11-Aug	12-Aug	13-Aug	14-Aug	15-Aug	Total	Estimated average daily harvest of Kenai River coho salmon	Daily harvest represented as a percentage of the average annual total Kenai River coho salmon run (2000-2004)[d]
ESSN Setnet [e]	1,954	1,576	1,523	2,278	1,968	9,299	1,860	1.17%
Regular Drift [f]	285	327	200	144	226	1,182	236	0.15%
Corridor only Drift [g]	47	47	47	47	47	236	47	0.03%
Combined Fisheries								
Regular Drift and ESSN	2,239	1,903	1,723	2,422	2,194	10,481	2,096	1.32%
Corridor and ESSN	2,001	1,623	1,570	2,325	2,015	9,535	1,907	1.20%

* Note: The actual number of days when commercial fishing is allowed is unknown, but the most likely scenario is one or two days in the second week of August.

[a] The harvest of Kenai River coho salmon during an extension is calculated by multiplying the average daily harvest of all coho salmon from each fishery (1985-2013) by the average rate of contribution of Kenai River coho salmon estimated harvested from each fishery during 1993-2005.

[b] Commercial coho salmon harvest data source: ADF&G Commercial Fish Division Fish Ticket Database for Salmon (Zephyr) 1985-2013 downloaded on 1/7/13.

[c] Source data for Kenai River coho salmon contribution rates to the UCI commercial harvest: Carlon and Hasbrouck 1996-1998; Carlon 2000 and 2003; Massengill and Carlon 2004 a,b; Massengill and Carlon 2007 a,b; Massengill 2007 a,b and c.

[d] Average 2000-2004 Kenai River coho salmon total run estimate (158,546); source data = Carlon and Evans 2007; Massengill and Evans 2007.

[e] ESSN = all ESSN statistical areas except Kasilof terminal area (244-26).

[f] Regular Drift = Statistical areas 24450, 24460, 24470, 24570, 24580, and 24590.

[g] Corridor drift harvest: due to lack of historical corridor drift harvest during August 11-15, corridor harvest data from August 1-7 (1999-2013) was used as a surrogate for average coho harvest for each corridor opener. The daily estimates for average harvest per opener were then multiplied by the average contribution rate for Kenai River coho salmon estimated for the regular drift harvest during the second week of August (0.0780) during 1992-2005.

Table 137-3.–Coho salmon harvest, number of days fished, and number of regular fishing periods in the Upper Subdistrict set gillnet fishery from August 11–15, 2008–2016.

Year	Coho Harvest	Number of Days Fished	Number of Regular Periods August 11-15
2008	no fishing	0	2
2009	no fishing	0	1
2010	2,019	1	1
2011	no fishing	0	2
2012	1,806	1	1
2013	no fishing	0	2
2014	no fishing	0	2
2015	1,006	1	1
2016	no fishing	0	2

Table 137-4.–Estimated harvest, total run, and harvest rate of Kenai River coho salmon (1999–2004).

		Harvest						
Year	Escapement[a,b]	Sport[c]	Personal Use	Commercial[d]	Research Mortality	Total Run	Total Harvest[e]	Harvest Rate[f]
1999	7,889	35,361	1,009	3,894	193	48,346	40,457	0.837
2000	72,742	52,489	1,449	2,965	555	130,200	56,903	0.437
2001	75,122	55,004	1,555	1,934	540	134,155	58,493	0.436
2002	133,612	66,104	1,721	6,115	968	208,520	73,940	0.355
2003	79,915	51,944	1,332	2,578	209	135,978	55,854	0.411
2004	95,394	72,565	2,661	11,149	2,106	183,875	86,375	0.470
Average								
1999–2004	77,446	55,578	1,621	4,773	762	140,179	62,004	0.491
2000–2004	91,357	59,621	1,744	4,948	876	158,546	66,313	0.422

Note: 1991–1993 and 1998 Kenai River coho salmon creel data was used to calculate the effect of increasing the bag limit from 2 to 3 fish, only boat angler interviews/data were selected for use for 1991–1993 due to the lack of data from shore anglers.

[a] Kenai River coho salmon total returns were estimated during 1999–2004.

[b] Sources: Carlon and Evans 2007, Massengill and Evans 2007.

[c] Source: Statewide Harvest Survey.

[d] Sources: Massengill and Carlon 2004 a,b; Massengill and Carlon 2007 a,b; Massengill 2007.

[e] Aggregate of all harvest estimates (sport, commercial, and personal use/federal subsistence).

[f] (Estimated Grand Total Harvest) / (Estimated Total Return).

PROPOSAL 136 – 5 AAC 21.310. Fishing Seasons.

PROPOSED BY: Gary L. Hollier.

WHAT WOULD THE PROPOSAL DO? This would allow commercial fishing with set gillnets in the North Kalifonsky Beach (NKB), statistical area 244-32, within 600 ft of shore on or after July 8 when the Kasilof Section is open, but the Kenai and East Foreland sections are not open. Set gillnets may not be more than 29 meshes deep and mesh size may not be more than four and three-quarters inches. Length of set gillnets is not specified in the proposal but is assumed to be equal to the amount of gear currently allowed in regulation, which is no longer than 35 fathoms per set gillnet.

WHAT ARE THE CURRENT REGULATIONS? Commercial fishing districts and subdistricts are defined for Cook Inlet in 5 AAC 21.200. Sections for the commercial set gillnet fishery in the Upper Subdistrict are also defined in 5 AAC 21.200(b)(2). The department identifies six statistical areas in the Upper Subdistrict that are not in regulation, but are defined and used by the department for discrete harvest data recording on fish tickets.

Opening dates for commercial fisheries are identified in 5 AAC 21.310. *Fishing seasons*. The Upper Subdistrict commercial set gillnet fishery is primarily managed under the guidance of two management plans: 5 AAC 21.365. *Kasilof River Salmon Management Plan* and 5 AAC 21.360. *Kenai River Late-Run Sockeye Salmon Management Plan*. The Kasilof Section fishery opens on or after June 25, with provisions for an opening as early as June 20 based on a 50,000 sockeye salmon escapement trigger. From the beginning of the season through July 7, the fishery must be closed for 36 hours each week ("Friday window") and extra time beyond the two regular Monday/Thursday 12-hour periods is limited to no more than 48 hours per week. The Kenai and East Foreland sections do not open until on or after July 8, with mandatory closed periods ("windows") and limits on extra time each week dependent upon which one of three sockeye salmon run sizes to the Kenai River the run falls within.

Provisions within the *Kasilof River Salmon Management Plan* state that beginning July 8, if the Kenai and East Foreland sections set gillnet fishery are not open, the fishery in the Kasilof Section may be restricted to within one-half mile of shore. If further restrictions are necessary to aid in achieving the Kenai River sockeye salmon escapement goal, the fishery in the Kasilof Section may be restricted to within 600 ft of the high tide mark.

5 AAC 21.331. *Gillnet Specifications and Operations* states that a set gillnet in Cook Inlet may not be longer than 35 fathoms in length and 45 meshes in depth. A person may not operate more than four set gillnets with more than 105 fathoms of set gillnet in the aggregate, except on Fire Island, a person may operate more than four set gillnets, but the aggregate length may not exceed 105 fathoms. The maximum mesh size for set gillnets is six inches.

In 5 AAC 21.354. *Cook Inlet Pink Salmon Management Plan* set gillnets are limited to a mesh size that may not be more than four and three-quarters inches. This restriction applies only to set and drift gillnets in the Upper Subdistrict in August for a maximum of two fishing periods during even-years only. The purpose of the plan is to harvest surplus pink salmon.

There are 29-mesh depth restriction options in 5 AAC 21.359. *Kenai River King Salmon Management Plan*. There are also 29-mesh depth restrictions as it relates to permit stacking. In Cook Inlet, a person may own two set gillnet permits and operate two full complements of gear. However, in the Upper Subdistrict only, if one person owns and operates two permits, 105 fathoms of the 210 fathoms of total gear must be fished with nets that are not more than 29 meshes in depth and marked with a blue buoy on either end of the net. The buoy must be at least 9.5 inches in diameter.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase the commercial harvest of sockeye and king salmon by an unknown amount, depending on abundance. If adopted, statistical areas would need to be defined and placed into regulation. There is also no mention of fishing within one-half mile of shore or within 600 ft of the high tide mark in the Kenai and East Foreland sections in any management plan.

BACKGROUND: The regulation for the length and depth of a set gillnet has been the same since statehood. The regulation restricting mesh size to six inches was adopted in 1964 to decrease the harvest of king salmon and directly target sockeye salmon.

Prior to 1999, the area of beach between the Kasilof and Kenai rivers was one statistical area, 244-30. In 1999, statistical area 244-30 was split into 244-31 and 244-32 and statistical area to more accurately track salmon harvest by area of beach.

While individual fishermen have always had the option of fishing set gillnets with fewer than 45 meshes, specific regulations restricting set gillnets to 29-meshes under certain circumstances were not adopted until 2014. At the 2014 UCI board meeting, regulations were passed that restricted 105 fathoms of set gillnet gear to no more than 29-meshes in depths for individuals who own and operate two Cook Inlet CFEC set gillnet permits in the Upper Subdistrict. Additionally, the department was given the authority to restrict the number of set gillnets or the depth of set gillnets during times of low Kenai River late-run king salmon abundance. The efficacy of restricting set gillnets depth to no more than 29-meshes in order to conserve king salmon were inconclusive.

A study on the migratory behavior and relative swimming depths of king and sockeye salmon near the ESSN fishery using acoustically tagged fish and an anchored array of acoustic receivers. A total of 25 king and 51 sockeye salmon were captured and fitted with acoustical tags. Of these, 13 king and 27 sockeye salmon were detected by the acoustical array. Two king and four sockeye salmon were determined to have migrated south after capture and tagging. The fate of 10 tagged king and 20 tagged sockeye salmon was not known. Using this information, a model was created to estimate changes in king and sockeye salmon harvests associated with potential regulatory changes affecting surface gillnet depths in this fishery. A response to this paper was published by department staff, and included the following:

> "We are concerned that the modeling exercise paints an unrealistic picture of how simply changing gillnet dimensions would translate into a viable management approach to preserve or increase sockeye salmon harvests while minimizing catch of Chinook salmon. Much of this fishery occurs in very shallow water, and Cook Inlet tides range about 10 m with tidal

current speeds reaching about 9 km hr−1. Model assumptions that gillnets in this dynamic environment were hanging vertically and that gillnets did not reach the bottom are not valid. Gillnets in this fishery billow in strong currents causing the lead lines at the bottom of the nets to rise in the water column, and an unknown but high fraction of all gillnets reach the bottom for some portion of each tide cycle."

Finally, available data are not sufficient to quantitatively estimate the effect of changing set gillnet depths on the relative harvests of king versus sockeye salmon.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. There are inadequate data to predict the effects of a net depth restriction to 29 meshes. Further information and a more sophisticated analysis are needed to realistically model changes in king and sockeye salmon harvests in relation to gillnet depths. The department is concerned about unintended consequences that may arise from unrealistic solutions based on limited data proposed in the regulatory arena.

COST ANALYSIS: Approval of this proposal may result in additional direct costs of commercial set gillnet permit holders to participate in this fishery because they would have to reconfigure their nets to fish 29-mesh depth with mesh size no greater than four and three-quarters inches.

PROPOSAL 140 – 5 AAC 21.331. Gillnet specifications and operations.

PROPOSED BY: Gary L. Hollier.

WHAT WOULD THE PROPOSAL DO? This would allow a set gillnet to be up to 45 fathoms in length and a CFEC limited entry permit holder to operate up to 135 fathoms of set gillnet gear per permit when commercial fishing with set gillnets limited to 29 meshes or less in depth.

WHAT ARE THE CURRENT REGULATIONS? 5 AAC 21.331 states that a set gillnet in Cook Inlet may not be longer than 35 fathoms in length and 45 meshes in depth. A person may not operate more than four set gillnets with more than 105 fathoms of set gillnet in the aggregate, except on Fire Island, a person may operate more than four set gillnets, but the aggregate length may still not exceed 105 fathoms. The maximum mesh size for set gillnets in Cook Inlet is six inches. 5 AAC 21.335. *Minimum Distance Between Units of Gear* also states that no part of a commercial drift gillnet or set gillnet may be set or operated within 600 ft of any part of another commercial set gillnet.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? A 45 fathom set gillnet represents an increase of 29% over one that is 35 fathoms long, while a net depth of 29 meshes represents a decrease of 36% from a 45 mesh net. The increase in length of nets would increase harvest by an unknown amount. However, the decrease in the depth of nets would decrease harvest by an unknown amount. Furthermore, it is unclear how the change in net length would affect shore fishery leases in the Upper Subdistrict. The regulation requiring 600 ft of separation between set gillnets would likely have to be amended to allow for the additional length of fishing gear.

BACKGROUND: The regulation for the length and depth of a set gillnet has been the same since statehood. The regulation restricting mesh size to six inches was adopted in 1964 to decrease the harvest of king salmon and directly target sockeye salmon.

While individual fishermen have always had the option of fishing set gillnets with fewer than 45 meshes, specific regulations restricting set gillnets to 29-meshes under certain circumstances were not adopted until 2014. At the 2014 UCI board meeting, regulations were passed that restricted 105 fathoms of set gillnet gear to no more than 29-meshes in depths for individuals who own and operate two Cook Inlet CFEC set gillnet permits in the Upper Subdistrict. Additionally, the department was given the authority to restrict the number of set gillnets or the depth of set gillnets during times of low Kenai River late-run king salmon abundance. The efficacy of restricting set gillnets depth to no more than 29-meshes in order to conserve king salmon were inconclusive.

A study on the migratory behavior and relative swimming depths of king and sockeye salmon near the Eastside Setnet (ESSN) fishery using acoustically tagged fish and an anchored array of acoustic receivers. A total of 25 king and 51 sockeye salmon were captured and fitted with acoustical tags. Of these, 13 king and 27 sockeye salmon were detected by the acoustical array. Two king and four sockeye salmon were determined to have migrated south after capture and tagging. The fate of 10 tagged king and 20 tagged sockeye salmon was not known. Using this

information, a model was created to estimate changes in king and sockeye salmon harvests associated with potential regulatory changes affecting surface gillnet depths in this fishery. A response to this paper was published by department staff and included the following:

> "We are concerned that the modeling exercise paints an unrealistic picture of how simply changing gillnet dimensions would translate into a viable management approach to preserve or increase sockeye salmon harvests while minimizing catch of Chinook salmon. Much of this fishery occurs in very shallow water, and Cook Inlet tides range about 10 m with tidal current speeds reaching about 9 km hr^{-1}. Model assumptions that gillnets in this dynamic environment were hanging vertically and that gillnets did not reach the bottom are not valid. Gillnets in this fishery billow in strong currents causing the lead lines at the bottom of the nets to rise in the water column, and an unknown but high fraction of all gillnets reach the bottom for some portion of each tide cycle."

Finally, available data are not sufficient to quantitatively estimate the effect of changing set gillnet depths on the relative harvests of king versus sockeye salmon.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. There are inadequate data to predict the effects of a net depth restriction to 29 meshes. Further information and a more sophisticated analysis are needed to realistically model changes in king and sockeye salmon harvests in relation to gillnet depths. The department is concerned about unintended consequences that may arise from unrealistic solutions based on limited data proposed in the regulatory arena.

COST ANALYSIS: Approval of this proposal may result in additional direct costs to commercial set gillnet permit holders in order to participate in this fishery because they would have to reconfigure their nets to 45 fathom in length and 29-mesh depth net specifications. It is also possible that shore fisheries leases would have to be amended to account for different length nets for each lease.

PROPOSAL 141 – 5 AAC 21.331. Gillnet specifications and operations.

PROPOSED BY: Kenai River Sportfishing Association.

WHAT WOULD THE PROPOSAL DO? This would limit the depth of all set gillnet gear in the Upper Subdistrict of the Central District to no more than 29 meshes deep.

WHAT ARE THE CURRENT REGULATIONS? 5 AAC 21.331 states that a set gillnet in Cook Inlet may not be longer than 35 fathoms in length and 45 meshes in depth. A person may not operate more than four set gillnets with more than 105 fathoms of set gillnet in the aggregate, except on Fire Island, where a person may operate more than four set gillnets, but the aggregate length may not exceed 105 fathoms. The maximum mesh size for set gillnets is six inches.

There are 29-mesh depth restriction options in 5 AAC 21.359. *Kenai River King Salmon Management Plan*. Specifically from July 1 to 31, if the inriver run of late-run king salmon is projected to be less than 22,500 fish, in order to achieve the SEG, the sport fishery may be restricted to fishing with no bait or to no bait and no retention of king salmon. If the sport fishery is prosecuted under a no-bait restriction, the ESSN fishery must be managed as follows: no regular Monday/Thursday fishing periods, no mandatory 24-hour closed period (36-hour "Friday" closed period remains), and no more than 36 hours of fishing time per week. The department has the option to restrict the number and depth of nets to either 1) three set gillnets that are each not more than 35 fathoms in length and 29 meshes in depth or two set gillnets that are each not more than 35 fathoms in length and 45 meshes in depth; or 2) two set gillnets that are each not more than 35 fathoms in length and 29 meshes in depth or one set gillnet that is not more than 35 fathoms in length and 45 meshes in depth.

There are also 29-mesh depth restrictions as it relates to permit stacking (5 AAC 21.331(i)). In Cook Inlet, a person may own two set gillnet permits and operate two full complements of gear. However, in the Upper Subdistrict only, if one person owns and operates two permits, 105 fathoms of the 210 fathoms of total gear must be fished with nets that are not more than 29 meshes in depth and marked with a blue buoy on either end of the net. The buoy must be at least 9.5 inches in diameter.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Available data are not sufficient to quantitatively estimate the effect of changing set gillnet depths on the relative harvests of king versus sockeye salmon. A net depth of 29 meshes represents a decrease of 36% from a 45 mesh net. The decrease in the depth of nets would decrease harvest by an unknown amount. The amount of reduction and the precise effect on the harvest of various species is unknown and would vary greatly depending on the location of the net. Fish that escape harvest in offshore nets may end up being harvested in nearshore nets where a 29-mesh deep net would reach the bottom, or nearer the bottom, thus the proposal may simply reallocate fish to other set gillnets.

If sockeye salmon harvests were reduced, it may result in an increase in fishing time and harvest of sockeye salmon for the drift gillnet fishery. This, in turn, would likely increase the harvest of other salmon stocks by the drift fleet.

BACKGROUND: The regulation for the length and depth of a set gillnet has been the same since statehood. The regulation restricting mesh size to six inches was adopted in 1964 to decrease the harvest of king salmon and directly target sockeye salmon.

While individual fishermen have always had the option of fishing set gillnets with fewer than 45 meshes, specific regulations restricting set gillnets to 29-meshes under certain circumstances were not adopted until 2014. At the 2014 UCI board meeting, regulations were passed that restricted 105 fathoms of set gillnet gear to no more than 29-meshes in depths for individuals who own and operate two Cook Inlet CFEC set gillnet permits in the Upper Subdistrict. Additionally, the department was given the authority to restrict the number of set gillnets or the depth of set gillnets during times of low Kenai River late-run king salmon abundance. The efficacy of restricting set gillnets depth to no more than 29-meshes in order to conserve king salmon were inconclusive.

In 2014, the board adopted paired restrictions in the Kenai River king salmon sport fishery, personal use fishery, and Upper Subdistrict commercial set gillnet fishery. The paired restrictions included an option of commercial fishing with 29-mesh depth set gillnets. The department used this option once in 2014 and opened the commercial set gillnet fishery in Upper Subdistrict with the option of fishing with either 1) three set gillnets that are each not more than 35 fathoms in length and up to 29 meshes in depth, or 2) two set gillnets that are each not more than 35 fathoms in length and up to 45 meshes in depth. The department did not use this option in 2015 or 2016.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. There are inadequate data to predict the effects of a net depth restriction to 29 meshes. Further information and a more sophisticated analysis are needed to realistically model changes in king and sockeye salmon harvests in relation to gillnet depths. The department is concerned about unintended consequences that may arise from unrealistic solutions based on limited data proposed in the regulatory arena.

COST ANALYSIS: Approval of this proposal would result in additional direct costs for Upper Subdistrict set gillnet permit holders to participate in this fishery because they would have to reconfigure their nets to meet the new 29-mesh depth restriction.

COMMITTEE OF THE WHOLE–GROUP 2: Kenai River Late-Run King Salmon Management Plan (18 Proposals)

Kenai River Late-Run King Salmon (18 Proposals)

PROPOSAL 162 – 5 AAC 21.359. Kenai River Late-Run King Salmon Management Plan.

PROPOSED BY: Kenai River Sportfishing Association.

WHAT WOULD THE PROPOSAL DO? This would establish an OEG of 15,000–40,000 for Kenai River late-run king salmon.

WHAT ARE THE CURRENT REGULATIONS? The department shall manage the late-run Kenai River king salmon stocks primarily for sport and guided sport uses in order to provide the sport and guided sport fishermen with a reasonable opportunity to harvest these salmon resources over the entire run, as measured by the frequency of inriver restrictions; and to achieve a SEG range of 15,000–30,000 king salmon. If the SEG is projected to be exceeded, the commissioner may, by EO, extend the sport fishing season up to seven days during the first week of August.

WHAT WOULD BE THE EFFECT IF THE PROPOSALS WERE ADOPTED? Managing for a goal that exceeds the upper bound of the SEG for Kenai River late-run king salmon would increase the probability of reduced yields on average in the future. Raising the upper bound of the goal would reduce the years the sport fishery is extended into August, but otherwise would have no impact on angler opportunity, harvest or current management.

BACKGROUND: Following the 2012 season, the board assembled a Cook Inlet king salmon task force during the winter of 2012–2013. The purpose of the task force was to generate recommendations for changes to the regulations within the *Kenai River Late-run King Salmon Management Plan* for consideration during the Statewide Finfish meeting in March 2013. The only change to the plan that occurred was replacing the existing SEG with an interim DIDSON-based SEG range of 15,000–30,000 late-run king salmon (Figures 162-1 & 162-2). In 2013 the department transitioned fully from split-beam to DIDSON technology at RM 8.6, and used the DIDSON for inseason management of the fishery. In 2012, new SEGs were developed for the early and late runs to reflect this new gear type and reassessment of past data. In 2015 the department completed the next stage of the sonar transition by upgrading to the ARIS sonar technology and moving the king salmon sonar site upriver to RM 14. The SEG was evaluated by the department for this meeting and no changes were recommended under the existing scenario. The department has recommended completing the final stage of the sonar transition by adopting an escapement goal for Kenai River king salmon based on large fish. Implementation of this goal would require reconsideration of the SEG.

In 2014, the board considered proposals seeking changes to the *Kenai River Late-Run King Salmon Management Plan.* Modifications to the plan that came out of that meeting were the inclusion of the new SEG and the pairing of restrictions between sport, personal use, and commercial users to share the burden of king salmon conservation in years of low Kenai River king salmon runs. In the three years (2014–2016) since the plan was implemented, the king

salmon SEG of 15,000–30,000 was achieved all three years based on preliminary 2016 data (Table 162-1). The trigger of 22,500 was chosen to reflect a level of inriver run needed to avoid restrictions to the sport fishery based on the average sport harvest of 7,000–8,000 king salmon. The other species affected by the plan, Kenai River sockeye salmon, are managed to meet an OEG of 700,000–140,000 late-run sockeye salmon; achieve inriver goals of salmon counted past the sonar counter established by the board based on projected run strengths; and distribute the escapement of sockeye salmon within the OEG range. In the three years (2014–2016) since the plan was implemented, the Kenai River late-run sockeye OEG has been achieved in two years out of three, and the inriver goal was exceeded all three years (Table 162-2).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal but opposes establishment of escapement goals that increase the probability of reduced yields on average in the future. The board, with the assistance of the department, is responsible for setting OEGs. The department is transitioning to a new goal based on escapement of king salmon 75 cm (mid-eye to fork or approximately 34 inches in total length) and greater in length and will be discussing that goal and its implications at the UCI board meeting. The board will need to review existing management plans to determine what changes need to be made to reconcile the new SEG with existing management plans.

COST ANALYSIS: Approval of these proposals is not expected to result in an additional direct cost for a private person to participate in this fishery.

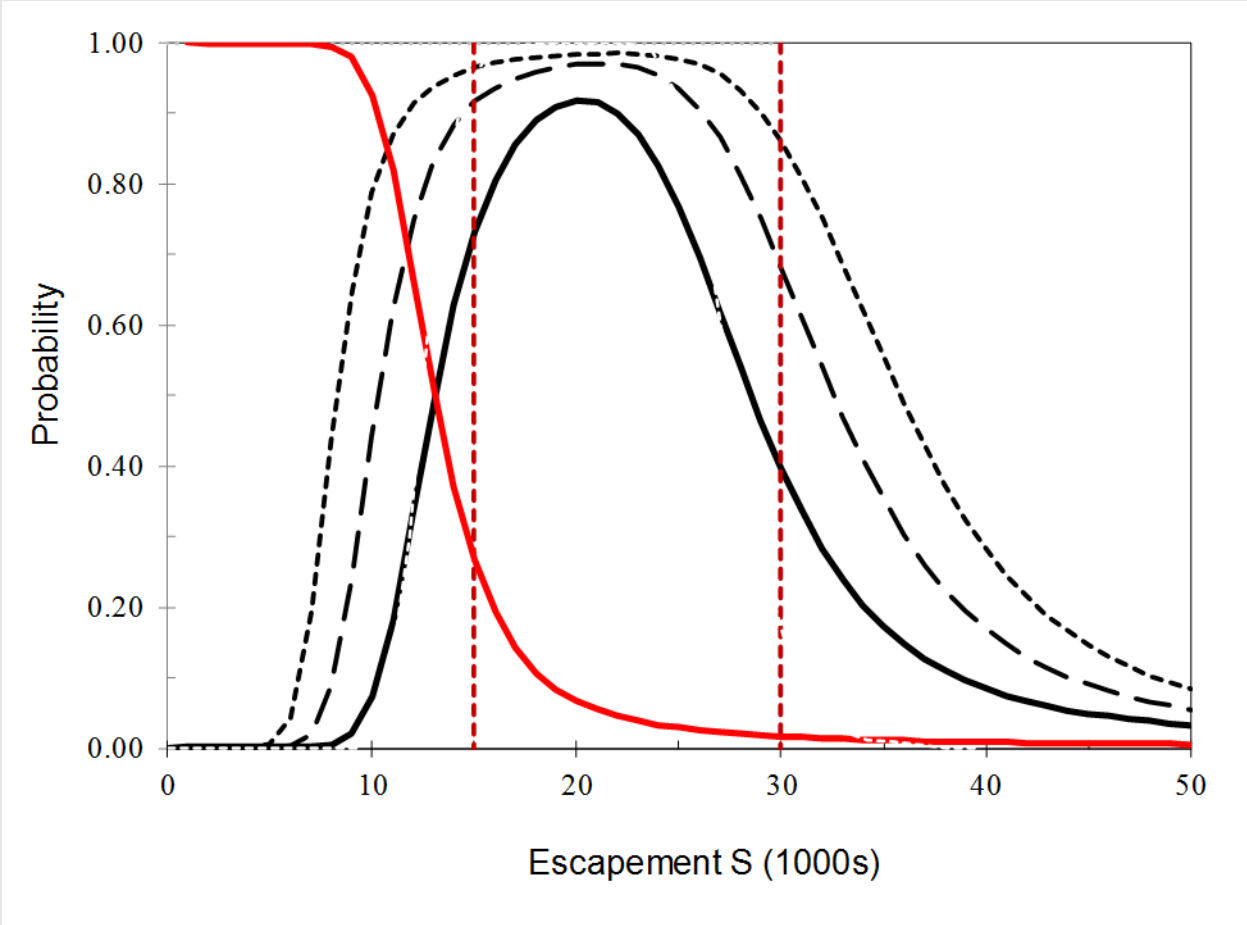

Figure 162-1. Optimal yield profiles (OYPs) and overfishing profile (OFP) for Kenai River late-run king salmon. OYPs (black dome-shaped profiles) show probability that a specified spawning abundance will achieve 70% (short dashes), 80% (long dashes), and 90% (solid line) of maximum sustained yield MSY. OFP (solid red declining line) is the probability that reducing the escapement to a specified spawning abundance will result in less than 90% of MSY. Vertical dashed red lines show the recommended escapement goal range.

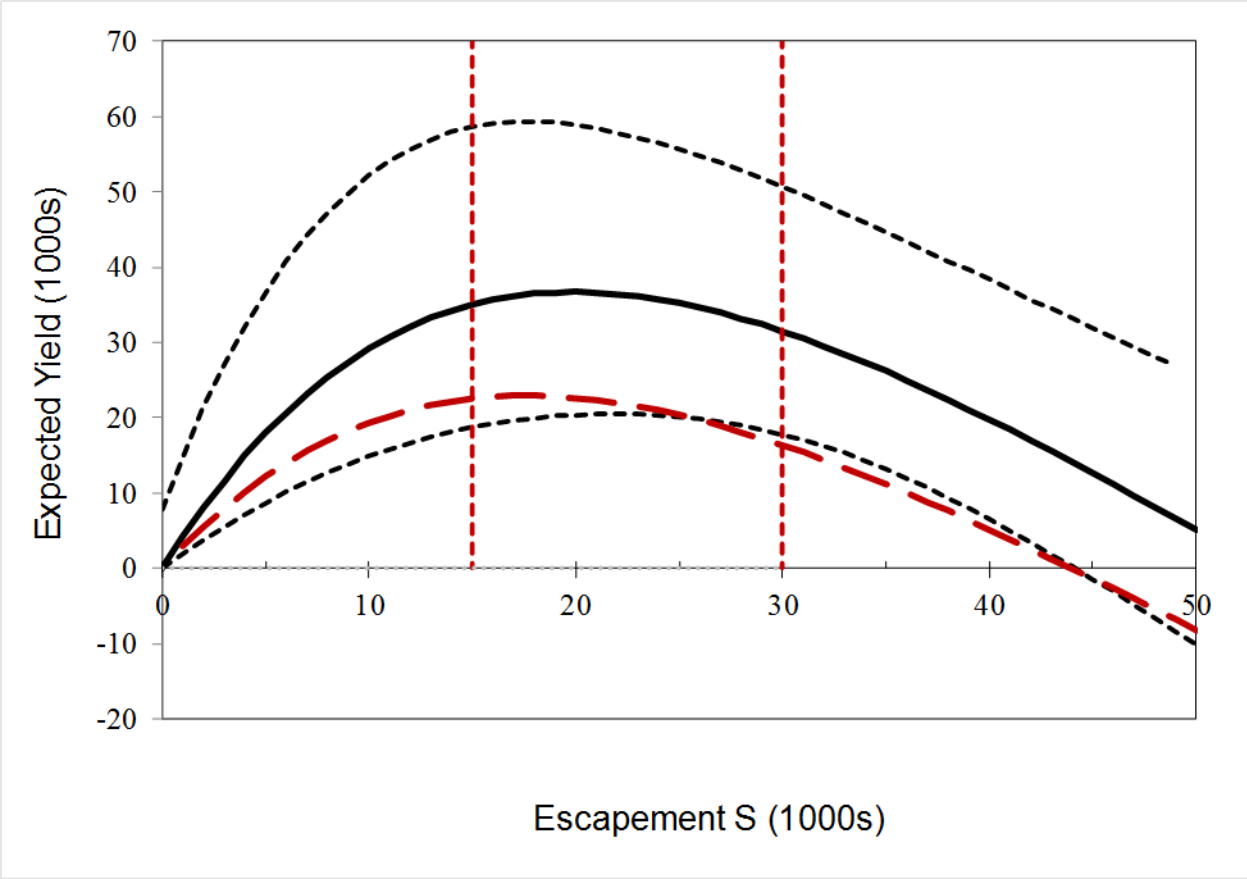

Figure 162-2.–Expected sustained yield (solid black line), and 80% interval (short dashed black lines) versus spawning escapement for Kenai River late-run king salmon, assuming average productivity for brood years 1979–2008. Vertical lines bracket recommended escapement goal range. Expected sustained yield under recent, reduced productivity (brood years 2004–2008) is also shown (long dashed red lines).

Table 162-1.–Kenai River late-run king salmon population data, 1986–2016.

Year	Creek Marine Harvest [a]	Eastside Setnet Harvest [b]	Drift Gillnet Harvest [c]	Kenaitze Educational	Subsistence	Personal Use Dipnet [d]	Sport Harvest Below Sonar [e]	Inriver Run Estimated by Sonar [f]	Sport Harvest Above Sonar [g]	Catch-and-Release Mortality [h]	Spawning Escapement	Total Run	Harvest Rate
1986	378	13,767	1,100	ND	ND	ND	ND	62,740	9,872	316	52,552	77,986	0.32
1987	731	14,693	2,731	ND	ND	235	ND	63,550	13,100	123	50,327	81,940	0.38
1988	892	8,929	1,342	ND	ND	0	ND	61,760	19,695	176	41,889	72,923	0.42
1989	821	7,579	0	ND	22	0	ND	36,370	9,691	88	26,591	44,792	0.40
1990	963	2,874	373	ND	13	ND	ND	34,200	6,897	69	27,234	38,423	0.29
1991	1,023	3,398	148	ND	288	ND	ND	38,940	7,903	16	31,021	43,797	0.29
1992	1,269	7,443	369	ND	402	0	ND	42,290	7,556	234	34,500	51,773	0.33
1993	1,700	9,776	459	ND	27	0	ND	50,210	17,775	478	31,957	62,172	0.48
1994	1,121	10,815	278	1	392	ND	ND	47,440	17,837	572	29,031	60,048	0.51
1995	1,241	8,380	356	3	ND	712	ND	44,770	12,609	472	31,689	55,462	0.42
1996	1,223	8,030	233	1	ND	295	ND	42,790	8,112	337	34,341	52,572	0.34
1997	1,759	7,864	376	20	ND	364	ND	41,120	12,755	570	27,795	51,503	0.45
1998	1,070	3,532	201	2	ND	254	ND	47,110	7,515	595	39,000	52,169	0.24
1999	602	6,571	345	4	ND	488	1,170	43,670	12,425	682	30,563	52,850	0.41
2000	631	2,558	162	6	ND	410	831	47,440	14,391	499	32,550	52,038	0.36
2001	552	4,173	371	8	ND	638	1,336	53,610	15,144	825	37,641	60,688	0.37
2002	256	6,582	249	6	ND	606	1,929	56,800	10,678	665	45,457	66,428	0.31
2003	120	10,284	744	11	ND	1,016	823	85,110	16,120	1,803	67,187	98,108	0.30
2004	996	15,057	662	10	ND	792	2,386	79,690	14,988	1,019	63,683	99,594	0.35
2005	624	14,997 [i]	1,175	11	ND	997	2,287	77,440	15,927	1,267	60,246	97,531	0.37
2006	563	6,913 [i]	1,669	11	ND	1,034	3,322	62,270	12,490	830	48,950	75,783	0.34
2007	478	8,536 [i]	547	6	0	1,509	1,750	47,370	9,690	670	37,010	60,196	0.37
2008	310	5,259 [i]	392	15	0	1,362	1,011	42,840	10,128	370	32,342	51,188	0.36
2009	154	3,880	515	4	0	1,189	1,132	29,940	7,904	626	21,410	36,815	0.40
2010	335	4,611	323	21	0	865	445	18,401	6,762	264	11,375	25,001	0.53
2011	528	5,144	356	5	0	1,243	458	23,713	6,894	479	16,340	31,447	0.47
2012	30	490	131	0	0	40	2	21,613	101	95	21,417	22,305	0.04
2013	369	2,293	296	8	0	11	37	19,931	512	77	19,342	22,945	0.15
2014	591	1,405	229	1	0	0	4	17,815	293	71	17,451	20,045	0.13
2015 [j]	500	6,007	334	10	0	66	392	24,694	1,823	229	22,642	32,003	0.29
2016 [j]	*not avail.*	*not avail.*	*not avail.*	6	1	*not avail.*	*not avail.*	22,535	*not avail.*	*not avail.*	*not avail.*	*not avail.*	*not avail.*
Average (1986-20	899	8,365	584	7	191	425	1,537	52,853	12,550	540	39,763	63,640	0.37
Average (2006-20	386	4,454	479	8	0	732	855	30,102	5,660	371	24,828	37,773	0.31
Average (1986-20	728	7,061	549	7	72	543	1,136	44,780	10,253	484	34,784	55,017	0.35

Source: State-Wide Harvest Surveys from Mills 1987–1994, Howe et al. 1995, 1996, 2001a-d, Walker et al. 2003; Jennings et al. 2004, 2006a-b, 2007, 2009a-b, 2010a-b, 2011a-b, 2015; Romberg et al.,*In Prep* a-d; Hammarstrom and Timmons 2001b; Brannian and Fox 1996; Ruesch and Fox 1996; Reimer and Sigurdsson 2004; Dunker and Lafferty 2007, Dunker, K.J. 2010, 2013, K. J. Dunker, Sport Fish Biologist, ADF&G, Anchorage, personal communication; Shields and Dupuis 2016; Fleischman and McKinley 2013, FMS 13-02; J. Perschbacher, Sport Fish Biologist, ADF&G, Soldotna, personal communication; T. McKinley, Sport Fish Biologist, ADF&G, Soldotna, personal communication; R. Begich Sport Fish Biologist, ADF&G, Soldotna, personal communication.

Note: ND = no data available

[a] 60% of SWHS estimates of Cook Inlet marine sport harvest after 24 June.

[b] 1986-2009 estimates from Fleischman and McKinley 2013, FMS 13-02; 2010-2015 from Eskelin et al. 2013 (FDS 13-63); Eskelin and Barclay 2015 and 2016, (FDS 15-19, FDS 16-16).

[c] 1986-2009 estimates from Fleischman and McKinley 2013, FMS 13-02; 2010-2015 estimates from ESSN GSI allocation.

[d] 1986–1994 from SWHS; 1995 (Ruesch and Fox 1996); 1996–2014 are estimates from returned permits.

[e] Creel survey estimates below RM 8.6 prior to 2013 and below RM 13.7 sonar since 2013.

[f] 1986-2009 inriver run estimates are model derived RM 8.6 sonar estimates from Fleischman and McKinley 2013, FMS 13-02; 2010-2012 iinriver run estimates are RM 8.6 sonar estimates published in Miller et al. 2013-15 (FDS 13-58, FDS 14-18, FDS 15-09) and expanded by inverse of proportion midriver; 2013-2015 inriver run estimates are preliminary ARIS sonar estimates at RM 13.7 plus spawning downstream of RM 13.7 sonar based on radio telemetry. 2013-2015 values subject to change prior to publishing.

[g] Creel survey and SWHS estimates above RM 8.6 sonar prior to 2013 and above RM 13.7 sonar since 2013.

[h] Some catch and release mortality (usually less than 100 fish) occurs below the sonar and is not counted towards escapement.

[i] Harvest estimate does not include Kasilof River terminal fishery which occurred 2005–2008.

[j] These estimates are preliminary until biometrically reviewed and published.

Table 162-2.–Kenai River late-run sockeye salmon inriver-harvest and spawning escapement, 1987–2016.

Year	Personal Use Dip Net, and Educational Harvest [a]	Sport Harvest Below Sonar [b]	Kenai River Sonar Count [c]	Sport Harvest Above Sonar	Spawning Escapement	Inriver Goal	BEG/SEG	OEG	Preseason Forecast	Actual Run Size
1987	24,090	50,274	1,596,871	233,958	1,362,913	400,000-700,000	330,000-600,000	330,000-600,000	3.5	8.6
1988	16,880	29,345	1,021,469	144,093	877,376	400,000-700,000	330,000-600,000	330,000-600,000	5.0	5.8
1989	51,192	66,162	1,599,959	268,958	1,331,001	400,000-700,000	330,000-600,000	330,000-600,000		5.9
1990	3,477	19,640	659,520	155,742	503,778	400,000-700,000	330,000-600,000	330,000-600,000	4.7	2.7
1991	13,433	31,536	647,597	227,697	419,900	400,000-700,000	330,000-600,000	330,000-600,000		1.7
1992	30,454	47,622	994,798	222,482	772,316	400,000-700,000	330,000-600,000	330,000-600,000	4.2	7.7
1993	35,592	27,717	813,617	137,229	676,388	400,000-700,000	330,000-600,000	330,000-600,000	1.9	3.9
1994	15,804	17,954	1,003,446	102,378	901,068	400,000-700,000	330,000-600,000	330,000-600,000	1.5	3.4
1995	15,720	29,451	630,447	108,076	522,371	450,000-700,000	330,000-600,000	330,000-600,000	2.3	2.3
1996	104,110	39,810	797,847	166,166	631,681	550,000-800,000	330,000-600,000	330,000-600,000	2.5	3.2
1997	116,107	43,642	1,064,818	147,057	917,761	550,000-825,000	330,000-600,000	330,000-600,000	4.0	3.9
1998	105,497	33,980	767,558	155,905	611,653	550,000-850,000	330,000-600,000	330,000-600,000	1.7	1.5
1999	150,993	46,043	803,379	187,725	615,654	750,000-950,000	500,000-800,000	500,000-1,000,000	1.6	2.5
2000	99,571	57,978	624,578	203,801	420,777	600,000-850,000	500,000-800,000	500,000-1,000,000	2.5	1.4
2001	152,580	51,374	650,036	168,104	481,932	600,000-850,000	500,000-800,000	500,000-1,000,000	2.4	1.8
2002	182,229	46,693	957,924	213,066	744,858	750,000-950,000	500,000-800,000	500,000-1,000,000	1.7	3.0
2003	227,207	60,722	1,181,309	253,734	927,575	750,000-950,000	500,000-800,000	500,000-1,000,000	2.0	3.8
2004	266,937	62,397	1,385,981	254,836	1,131,145	850,000-1,100,000	500,000-800,000	500,000-1,000,000	3.2	5.0
2005	300,105	58,017	1,376,452	254,818	1,121,634	850,000-1,100,000	500,000-800,000	500,000-1,000,000	3.3	5.6
2006	130,486	30,964	1,499,692	172,638	1,327,054	750,000-950,000	500,000-800,000	500,000-1,000,000	1.8	2.5
2007	293,941	60,623	867,572	265,702	601,870	750,000-950,000	500,000-800,000	500,000-1,000,000	2.4	3.4
2008	236,355	46,053	614,946	208,334	406,612	650,000-850,000	500,000-800,000	500,000-1,000,000	3.1	2.3
2009	343,302	45,868	745,170	241,938	503,232	650,000-850,000	500,000-800,000	500,000-1,000,000	2.4	2.4
2010	393,317	59,651	970,662	256,582	714,080	750,000-950,000	500,000-800,000	500,000-1,000,000	1.7	3.3
2011	543,043	92,225	1,599,217	318,484	1,280,733	1,100,000-1,350,000	700,000-1,200,000	700,000-1,400,000	3.9	6.2
2012	530,128	102,376	1,581,555	368,634	1,212,921	1,100,000-1,350,000	700,000-1,200,000	700,000-1,400,000	4.0	4.7
2013	350,302	78,837	1,359,893	379,685	980,208	1,000,000-1,200,000	700,000-1,200,000	700,000-1,400,000	4.4	3.5
2014	384,018	78,057	1,520,340	301,998	1,218,341	1,000,000-1,200,000	700,000-1,200,000	700,000-1,400,000	3.8	3.3
2015	384,095	83,112	1,709,051	309,004	1,400,047	1,000,000-1,200,000	700,000-1,200,000	700,000-1,400,000	3.6	3.9
2016	*not avail.*	*not avail.*	1,383,692	*not avail.*	*not avail.*	1,100,000-1,350,000	700,000-1,200,000	700,000-1,400,000	4.7	3.5

Sigurdsson 2004, Dunker and Lafferty 2007, Dunker 2010, 2013, K. J. Dunker, Sport Fish biologist, Anchorage, personal communication; King 1995, 1996; Pappas and Marsh 2004; Shields and Dupuis 2016; Educational harvest data, Kenaitze Indian Tribe;
Note: ND = no data available

[a] Personal use harvest not known in 1982; Personal use (1981-1995), Subsistence dip net harvest (1991-1995), and Kenaitze educational harvest (1989-1995) from Brannian and Fox,1996. From 1994 to present, the educational harvest is the total late-run

[b] In 1994 and 1995 a creel survey was conducted to estimate harvest below the sonar. In 1994, 49.7% of the below Soldotna Bridge harvest was taken below the sonar. In 1995, 68.6 % was taken below the sonar. The average of these two percentages is

[c] Bendix sonar counts were used for 1987-2010. Didson sonar counts were used for 2011-2016.

PROPOSAL 163 – 5 AAC 21.359. Kenai River Late-Run King Salmon Management Plan.

PROPOSED BY: Kenai Peninsula Fishermen's Association.

WHAT WOULD THE PROPOSAL DO? The Kenai River late-run king salmon sport fishery would open without the use of bait unless the upper bound of the SEG is projected to be exceeded. This would also prohibit bait in the inriver sport fishery and prohibit retention of king salmon in the personal use fishery when the Kenai River late-run king salmon inriver run is projected to be less than 22,500 during the month of July. This would also eliminate: 1) paired restriction to the commercial ESSN fishery that are required when the use of bait is prohibited and replace it with a paired restriction tied to non-retention of king salmon in the sport fishery; and 2) 12-hour fishing period restriction to the commercial ESSN fishery.

WHAT ARE THE CURRENT REGULATIONS? The department shall manage the late-run Kenai River king salmon stocks primarily for sport and guided sport uses in order to provide the sport and guided sport fishermen with a reasonable opportunity to harvest these salmon resources over the entire run, as measured by the frequency of inriver restrictions; and to achieve a SEG range of 15,000–30,000 king salmon.

From July 1–July 31, if the projected inriver run of late-run king salmon is less than 22,500 fish the commissioner may prohibit the use of bait and/or retention of king salmon, and only one unbaited, barbless, single-hook, artificial lure may be used when sport fishing for king salmon. If the use of bait or retention of king salmon is prohibited in the Kenai River sport fishery, the retention of king salmon is prohibited in the personal use fishery.

If the use of bait is prohibited in the Kenai River late-run king salmon sport fishery, the commercial ESSN fishery is restricted to no more than 36 hours per week, with a 36–hour continuous closure per week beginning between 7:00 p.m. Thursday and 7:00 a.m. Friday, during which the number of set gillnets operated may also be restricted. If the use of bait and retention of king salmon are prohibited in the Kenai River sport fishery, commercial fishing periods are open for no more than 12 hours per week, with a 36–hour continuous closure per week beginning between 7:00 p.m. Thursday and 7:00 a.m. Friday.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Regulatory gear restrictions to the late-run king salmon fishery would have little effect in years of low run strength but would reduce harvest and limit opportunity in years of normal to high run strength when a harvestable surplus of king salmon was available. In years of average to high king salmon runs, angler efficiency and harvest would be reduced to increase king salmon escapement and increase the likelihood of exceeding the upper bound of the SEG. In years of low king salmon runs, removing language that pairs restrictions in the sport fishery to the commercial fishery diminishes the step-down approach in harvest opportunity currently used as a tool to share conservation burden among user groups. This may lead to increased restrictions to the sport and personal use fisheries in order to achieve the SEG. This proposal may limit the department’s ability to manage for the SEG and distribute the harvest throughout the run.

BACKGROUND: Following the 2012 season, the board assembled a Cook Inlet king salmon task force during the winter of 2012–2013. The purpose of the task force was to generate recommendations for changes to the regulations within the *Kenai River Late-run King Salmon Management Plan* for consideration during the Statewide Finfish meeting in March 2013. The only change to the plan that occurred was replacing the existing SEG with an interim DIDSON-based SEG range of 15,000 – 30,000 late-run king salmon (Figures 162-1 &162-2). In 2013, the department transitioned fully from split-beam to DIDSON technology at RM 8.6, and used the DIDSON for inseason management of the fishery. In 2012, new SEG ranges were developed for the early- and late-runs to reflect this new gear type and reassessment of past data. In 2015, the department completed the next stage of the sonar transition by upgrading to the ARIS sonar technology and moving the king salmon sonar site upriver to RM 14. The SEG range was evaluated by the department for the 2017 meeting and the department has recommended completing the final stage of the sonar transition by adopting an SEG range for Kenai River king salmon based on large fish.

At the 2014 UCI board meeting the board considered proposals seeking changes to the *Kenai River Late-Run King Salmon Management Plan.* Key modifications to the plan that came out of that meeting were the inclusion of the new SEG range and the pairing of restrictions between sport, personal use, and commercial users to share the burden of king salmon conservation in years of low Kenai River king salmon runs. The trigger of 22,500 was chosen to reflect a level of inriver run needed to avoid restrictions to the sport fishery based on the average sport harvest of 7,000–8,000 king salmon. The other species affected by the plan, Kenai River sockeye salmon, are managed to meet an OEG of 700,000–140,000 late-run sockeye salmon; achieve inriver goals of salmon counted past the sonar counter established by the board based on projected run strengths; and distribute the escapement of sockeye salmon within the OEG range. In the three years (2014–2016) since the plan was implemented, the Kenai River late-run sockeye salmon OEG has been achieved in two out of three years, and exceeded the inriver goal all three years (Table 162-2).

In 2013, the Kenai River late-run king salmon escapement goal was changed to an SEG range of 15,000–30,000. In the three years (2014–2016) since the plan was implemented, the king salmon SEG was achieved all three years based on preliminary 2016 data (Table 162-1). In each of those years, the department used its EO authority to prohibit bait in the late-run king salmon sport fishery for all or part of the season and restricted the Kenai River personal use and commercial ESSN fisheries.

DEPARTMENT COMMENTS: The department is **OPPOSED** to this proposal as a means to manage to achieve escapement goals. Standard regulations to begin the season are designed to achieve king salmon escapement goals by ensuring sufficient harvest potential exists to accommodate a variety of run strengths. The department has EO authority to restrict fisheries in years of low run strength. The department supports sharing the burden of conservation among users in years of low salmon abundance, but is **NEUTRAL** on the allocative aspects of determining the weight of that burden on various user groups.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

PROPOSAL 160 – 5 AAC 57.121. Special provisions for seasons, bag, possession, and size limits, and methods and means for the Lower Section of the Kenai River Drainage Area.

PROPOSED BY: Kenai Area Fisherman's Coalition.

WHAT WOULD THE PROPOSAL DO? This would prohibit use of bait in the Kenai River late-run king salmon fishery until escapement goals have been met.

WHAT ARE THE CURRENT REGULATIONS? In waters of the Kenai River open to sport fishing for king salmon, regulations pertaining to the use of bait and potential impacts to management are restrictive early in the season and relax in time and area as tributary fish move upriver and the fishery targets late-run mainstem spawning king salmon.

January 1–June 30, from the mouth of the Kenai River upriver to department markers near Skilak Lake, only one unbaited single-hook lure is allowed.

July 1–July 31, from the mouth of the Kenai River upriver to department markers near Slikok Creek, anglers may use bait but only one single-hook is allowed.

July 1–July 14, from department markers near Slikok Creek upriver to department markers near Skilak Lake, only one unbaited single-hook lure is allowed.

July 15–July 31, from department markers near Slikok Creek upriver to department markers near Skilak Lake, anglers may use bait but only one single-hook is allowed.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Gear and retention restrictions on the late-run king salmon fishery would have little effect in years of low run strength when the use of bait is restricted by EO and limit opportunity in years of normal to high run strength when a harvestable surplus of king salmon was available and bait is allowed. This may limit the department's ability to manage for the escapement goal and spread the harvest throughout the run in proportion to the run. In July, if the projected inriver run of late-run king salmon is less than 22,500 fish, restrictions to bait and retention in the late-run sport fishery are paired with restrictions to the commercial ESSN fishery and may limit the hours available to that fishery.

BACKGROUND: King salmon returning to the Kenai River are managed as two distinct runs: early (May 16–June 30) and late (July 1–August 10). Management of the early run is designed to provide for adequate spawning of king salmon in tributary streams, whereas management of the late run is primarily for mainstem spawning locations. King salmon of Kenai River origin are harvested in several fisheries, including a marine sport fishery along the eastern shore of Cook Inlet from Anchor Point to Cape Ninilchik; commercial set and drift gillnet fisheries in Cook Inlet that harvest late-run king salmon; and the freshwater sport fishery and personal use fisheries in the Kenai River itself. Management plans for the Kenai River king salmon sport fishery have been structured to provide fishing opportunity under various run sizes and ensure escapement goals are achieved.

Late-run sonar estimates begin when the late-run fishery opens by regulation (July l) and conclude by mid-August. The passage of late-run king salmon into the river is estimated by sonar at RM 14. The number of king salmon entering the river is estimated by ARIS and may be supplemented with four indices of run strength. Estimates of run strength available to management staff on a daily basis include the ARIS-based estimates of fish greater than about 34 inches in total length, estimates of CPUE from creel surveys, test netting, and eastside set gillnet CPUE.

The spawning escapement is projected inseason by applying sonar count data to a historical, run-timing model. Spawning escapement is the inriver run (from sonar) less the projected sport harvest (from creel survey). The projected sport harvest includes estimated mortality associated with catch-and-release fishing estimates. For the late-run stock assessment the escapement estimate includes an additional 4% of the cumulative sonar passage to account for spawning downstream of the sonar estimated from tagging studies of late-run king salmon by Reimer (2013).

In 2013, the Kenai River late-run king salmon escapement goal was changed to an SEG range of 15,000–30,000. In the three years (2014–2016) since the plan was implemented, the king salmon SEG was achieved all three years based on preliminary 2016 data (Table 160-1). In each of those years, the department used its EO authority to prohibit bait in the late-run king salmon sport fishery for all or part of the season and restricted the Kenai River personal use and commercial ESSN fisheries.

DEPARTMENT COMMENTS: The department is **OPPOSED** to this proposal. Standard regulations to begin the season are designed to achieve king salmon escapement goals by ensuring sufficient harvest potential exists to accommodate a variety of run strengths. The department has EO authority to restrict fisheries in years of low run strength.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 160-1.–Kenai River late-run king salmon population data, 1986–2016.

Year	Creek Marine Harvest [a]	Eastside Setnet Harvest [b]	Drift Gillnet Harvest [c]	Kenaitze Educational	Subsistence	Personal Use Dipnet [d]	Sport Harvest Below Sonar [e]	Inriver Run Estimated by Sonar [f]	Sport Harvest Above Sonar [g]	Catch-and-Release Mortality [h]	Spawning Escapement	Total Run	Harvest Rate
1986	378	13,767	1,100	ND	ND	ND	ND	62,740	9,872	316	52,552	77,986	0.32
1987	731	14,693	2,731	ND	ND	235	ND	63,550	13,100	123	50,327	81,940	0.38
1988	892	8,929	1,342	ND	ND	0	ND	61,760	19,695	176	41,889	72,923	0.42
1989	821	7,579	0	ND	22	0	ND	36,370	9,691	88	26,591	44,792	0.40
1990	963	2,874	373	ND	13	ND	ND	34,200	6,897	69	27,234	38,423	0.29
1991	1,023	3,398	148	ND	288	ND	ND	38,940	7,903	16	31,021	43,797	0.29
1992	1,269	7,443	369	ND	402	0	ND	42,290	7,556	234	34,500	51,773	0.33
1993	1,700	9,776	459	ND	27	0	ND	50,210	17,775	478	31,957	62,172	0.48
1994	1,121	10,815	278	1	392	ND	ND	47,440	17,837	572	29,031	60,048	0.51
1995	1,241	8,380	356	3	ND	712	ND	44,770	12,609	472	31,689	55,462	0.42
1996	1,223	8,030	233	1	ND	295	ND	42,790	8,112	337	34,341	52,572	0.34
1997	1,759	7,864	376	20	ND	364	ND	41,120	12,755	570	27,795	51,503	0.45
1998	1,070	3,532	201	2	ND	254	ND	47,110	7,515	595	39,000	52,169	0.24
1999	602	6,571	345	4	ND	488	1,170	43,670	12,425	682	30,563	52,850	0.41
2000	631	2,558	162	6	ND	410	831	47,440	14,391	499	32,550	52,038	0.36
2001	552	4,173	371	8	ND	638	1,336	53,610	15,144	825	37,641	60,688	0.37
2002	256	6,582	249	6	ND	606	1,929	56,800	10,678	665	45,457	66,428	0.31
2003	120	10,284	744	11	ND	1,016	823	85,110	16,120	1,803	67,187	98,108	0.30
2004	996	15,057	662	10	ND	792	2,386	79,690	14,988	1,019	63,683	99,594	0.35
2005	624	14,997 [i]	1,175	11	ND	997	2,287	77,440	15,927	1,267	60,246	97,531	0.37
2006	563	6,913 [i]	1,669	11	ND	1,034	3,322	62,270	12,490	830	48,950	75,783	0.34
2007	478	8,536 [i]	547	6	0	1,509	1,750	47,370	9,690	670	37,010	60,196	0.37
2008	310	5,259 [i]	392	15	0	1,362	1,011	42,840	10,128	370	32,342	51,188	0.36
2009	154	3,880	515	4	0	1,189	1,132	29,940	7,904	626	21,410	36,815	0.40
2010	335	4,611	323	21	0	865	445	23,553	6,762	264	16,527	30,153	0.44
2011	528	5,144	356	5	0	1,243	458	30,353	6,894	479	22,980	38,087	0.38
2012	30	490	131	0	0	40	2	27,665	101	95	27,469	28,357	0.03
2013	369	2,293	296	8	0	11	37	19,373	512	77	18,784	22,387	0.16
2014	591	1,405	229	1	0	0	4	17,815	293	71	17,451	20,045	0.13
2015[j]	500	6,007	334	10	0	66	392	24,694	1,823	229	22,642	32,003	0.29
2016[j]	*not avail.*	*not avail.*	*not avail.*	6	1	*not avail.*	*not avail.*	22,535	*not avail.*	*not avail.*	*not avail.*	*not avail.*	*not avail.*
Average (1986-2005)	899	8,365	584	7	191	425	1,537	52,853	12,550	540	39,763	63,640	0.37
Average (2006-2015)	386	4,454	479	8	0	732	855	31,673	5,660	371	26,556	39,501	0.29
Average (1986-2015)	728	7,061	549	7	72	543	1,136	45,337	10,253	484	35,361	55,594	0.34

Source: State-Wide Harvest Surveys from Mills 1987–1994, Howe et al. 1995, 1996, 2001a-d, Walker et al. 2003; Jennings et al. 2004, 2006a-b, 2007, 2009a-b, 2010a-b, 2011a-b, 2015; Romberg et al.,*In Prep* a-d; Hammarstrom and Timmons 2001b; Brannian and Fox 1996; Ruesch and Fox 1996; Reimer and Sigurdsson 2004; Dunker and Lafferty 2007, Dunker, K.J. 2010, 2013, K. J. Dunker, Sport Fish Biologist, ADF&G, Anchorage, personal communication; Shields and Dupuis 2016; Fleischman and McKinley 2013, FMS 13-02; J. Perschbacher, Sport Fish Biologist, ADF&G, Soldotna, personal communication; T. McKinley, Sport Fish Biologist, ADF&G, Soldotna, personal communication; R. Begich Sport Fish Biologist, ADF&G, Soldotna, personal communication.

Note: ND = no data available

[a] 60% of SWHS estimates of Cook Inlet marine sport harvest after 24 June.

[b] 1986-2009 estimates from Fleischman and McKinley 2013, FMS 13-02; 2010-2015 from Eskelin et al. 2013 (FDS 13-63); Eskelin and Barclay 2015 and 2016, (FDS 15-19, FDS 16-16).

[c] 1986-2009 estimates from Fleischman and McKinley 2013, FMS 13-02; 2010-2015 estimates from ESSN GSI allocation.

[d] 1986–1994 from SWHS; 1995 (Ruesch and Fox 1996); 1996–2014 are estimates from returned permits.

[e] Creel survey estimates below RM 8.6 prior to 2013 and below RM 13.7 sonar since 2013.

[f] 1986-2009 inriver run estimates are model derived RM 8.6 sonar estimates from Fleischman and McKinley 2013, FMS 13-02; 2010-2012 inriver run estimates are RM 8.6 sonar estimates published in Miller et al. 2013-15 (FDS 13-58, FDS 14-18, FDS 15-09) and expanded by inverse of proportion midriver; 2013-2015 inriver run estimates are preliminary ARIS sonar estimates at RM 13.7 plus spawning downstream of RM 13.7 sonar based on radio telemetry. 2013-2015 values subject to change prior to publishing.

[g] Creel survey and SWHS estimates above RM 8.6 sonar prior to 2013 and above RM 13.7 sonar since 2013.

[h] Some catch and release mortality (usually less than 100 fish) occurs below the sonar and is not counted towards escapement.

[i] Harvest estimate does not include Kasilof River terminal fishery which occurred 2005–2008.

[j] These estimates are preliminary until biometrically reviewed and published.

PROPOSAL 161 – 5 AAC 57.120. General provisions for seasons, bag, possession, annual, and size limits, and methods and means for the Kenai River Drainage Area.

PROPOSED BY: Greg Brush.

WHAT WOULD THE PROPOSAL DO? This would start the Kenai River king salmon sport fisheries as unbaited, single-hook, artificial lure, no retention.

WHAT ARE THE CURRENT REGULATIONS? In waters of the Kenai River open to sport fishing for king salmon, regulations pertaining to the use of bait and potential impacts to management are restrictive early in the season and relax in time and area as tributary fish move upriver and the fishery targets late-run mainstem spawning king salmon.

January 1–June 30, from the mouth of the Kenai River upriver to department markers near Skilak Lake, only one unbaited single-hook lure is allowed.

July 1–July 31, from the mouth of the Kenai River upriver to department markers near Slikok Creek, anglers may use bait, but only one single-hook is allowed.

July 1–July 14, from department markers near Slikok Creek upriver to department markers near Skilak Lake, only one unbaited single-hook lure is allowed.

July 15–July 31, from department markers near Slikok Creek upriver to department markers near Skilak Lake, anglers may use bait, but only one single-hook is allowed.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Gear and retention restrictions to the early- and late-run king salmon fisheries would have little effect in years of low run strength when the use of bait is restricted by EO and limit opportunity in years of normal to high run strength when a harvestable surplus of king salmon was available and bait is allowed. This proposal may limit the department's ability to manage for escapement goals and spread the harvest throughout the run in proportion to the return. In July, if the projected inriver run of late-run king salmon is less than 22,500 fish, restrictions to bait and retention in the late-run sport fishery are paired with restrictions to the commercial set gillnet fishery and may limit the hours available to that fishery.

BACKGROUND: King salmon returning to the Kenai River are managed as two distinct runs: early (May 16–June 30) and late (July 1–August 10). Management of the early run is designed to provide for adequate spawning of king salmon in tributary streams, whereas management of the late-run is primarily for mainstem spawning locations. King salmon of Kenai River origin are harvested in several fisheries, including a marine sport fishery along the eastern shore of Cook Inlet from Anchor Point to Cape Ninilchik; commercial set and drift gillnet fisheries in Cook Inlet that harvest late-run king salmon; and the freshwater sport fishery and personal use fisheries in the Kenai River itself. Management plans for the Kenai River king salmon sport fishery have been structured to provide fishing opportunity under various run sizes and ensure escapement goals are achieved.

Late-run sonar estimates begin when the late-run fishery opens by regulation (July l) and conclude by mid-August. The passage of late–run king salmon into the river is estimated by sonar at RM 14. The number of king salmon entering the river is estimated by ARIS and may be supplemented with four indices of run strength. Estimates of run strength available to management staff on a daily basis include the ARIS–based estimates of fish greater than about 34 inches in total length, estimates of CPUE from creel surveys, and test netting and eastside set gillnet CPUE.

The spawning escapement is projected inseason by applying sonar count data to a historical, run-timing model. Spawning escapement is the inriver run (from sonar) less the projected sport harvest (from creel survey). The projected sport harvest includes estimated mortality associated with catch-and-release fishing estimates. For the late-run stock assessment, the escapement estimate includes an additional 4% of the cumulative sonar passage to account for spawning downstream of the sonar estimated from tagging studies of late–run king salmon (Reimer 2013).
In 2013, the Kenai River late-run king salmon escapement goal was changed to an SEG range of 15,000–30,000. In the three years (2014–2016) since the plan was implemented, the king salmon SEG was achieved all three years based on preliminary 2016 data (Table 160-1). In each of those years, the department used its EO authority to prohibit bait in the late-run king salmon sport fishery for all or part of the season and restricted the Kenai River personal use and commercial ESSN fisheries.

DEPARTMENT COMMENTS: The department is **OPPOSED** to this proposal. Standard regulations to begin the season are designed to achieve king salmon escapement goals by ensuring sufficient harvest potential exists to accommodate a variety of run strengths. The department has EO authority to restrict fisheries in years of low run strength.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

PROPOSAL 173 – 5 AAC 21.359. Kenai River Late-Run King Salmon Management Plan.

PROPOSED BY: Jeff Beaudoin.

WHAT WOULD THE PROPOSAL DO? This would decrease the Kenai River late-run king salmon inriver run projection that triggers restrictive management plan provisions from 22,500 fish to 19,000 fish and remove the ESSN commercial fishery from "paired" restrictions outlined in the management plan. Specifically, this proposal would delete (e)(3)(A), (e)(3)(B), and (f) from the management plan. It would also add a statement to the management plan referencing AS 16.05.060 on the commissioner's use of EO authority to achieve established escapement goals.

WHAT ARE THE CURRENT REGULATIONS? In July and August, the *Kenai River Late-Run King Salmon Management Plan* identifies provisions and options for the department to use in order to reduce the harvest of king salmon in the personal use, sport, and commercial fisheries during periods of low king salmon abundance (often referred to as "paired restrictions").

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would likely result in an increased harvest of king and sockeye salmon in the ESSN fishery by an unknown amount depending on abundance of king and sockeye salmon. If there was an increased harvest in the ESSN fishery, this could result in a reduction in harvest of king and sockeye salmon in the Kasilof and Kenai River personal use and sport fisheries by an unknown amount. However, decreasing the inriver run trigger from 22,500 to 19,000 king salmon before restrictive provisions were implemented in the personal use fishery and the king salmon sport fishery could result in an increase in the harvest of king salmon in these fisheries by an unknown amount. Since the trigger point of 22,500 was based on the most recent harvest trends in an unrestricted Kenai River late-run king salmon sport fishery, decreasing the trigger point could lead to more severe inriver restrictions later in the run. In years of low king salmon runs, removing language that pairs restrictions in the sport and personal use fisheries to the commercial fishery diminishes the step-down approach to shared conservation currently in regulation which may lead to increased restrictions to inriver users in order to achieve the escapement objectives. This proposal may require the department to deviate from the management plan by EO to achieve established escapement goals as directed under 5 AAC 21.363(e).

BACKGROUND: In 2014, the board modified the *Kenai River Late-Run King Salmon Management Plan* to include for the first time what is commonly referred to as "paired restrictions." Based on projections of the inriver run of late-run king salmon in July, the board identified restrictive provisions in personal use, sport, and commercial fisheries for the department to implement in order to reduce the harvest of king salmon during periods of low abundance.

The inriver run projection target of 22,500 king salmon was based on harvest trends in an unrestricted Kenai River late-run king salmon sport fishery prior to 2011 which resulted in 7,000–8,000 king salmon above the sonar. The inriver run is the number of fish entering the mouth of the river before any inriver harvest occurs. The intent of the trigger point was to provide the public an idea of when restrictions to the fisheries may occur during the month of

July. Prior to the trigger point being placed in the management plan, the department would begin to restrict the inriver sport fishery around mid-July, if the spawning escapement was projected to be near or below the low end of the escapement goal. Management of the commercial fisheries was primarily based on sockeye salmon abundance but managers reduced ESSN fishing time beginning in 2012 in an effort to achieve the king salmon escapement goal.

From August 1–15, after the personal use and sport fisheries have closed, the board identified specific king salmon escapement projections that would trigger additional restrictive provisions in the ESSN fishery. The August trigger point differs from the July trigger point primarily by changing from an inriver run projection (which takes into account potential harvest above what is needed to achieve the escapement goal), to a projection of spawning escapement. In 2014 discussions relative to the establishment of the escapement target assumed an approximate 10% error in the sonar passage estimate for king salmon of all sizes, resulting in a lower bound escapement target of 16,500 (1,500 fish above the lower end of the 15,000–30,000 SEG). The August stipulation of 22,500 for the upper bound of the escapement target was created as a way for the commercial fishery to get out of the restrictions that they may have been under during July.

The board recognized the department has the management flexibility to exercise EO authority in years when a large number of sockeye salmon return in August. The department has the authority to open the commercial fishery up to keep within the Kenai River late-run sockeye salmon inriver goal or OEG, so long as the escapement of Kenai River late-run king salmon is not projected to be less than 16,500 fish.

Since 2014, when "paired restrictions" were adopted, some to all of the restrictive provisions of the management plan have been implemented in all three years. The department started the late-run sport fishery under a no-bait restriction in all three years. In 2014 and 2015 the bait restriction was based on an inriver run projection of less than 22,500 which incorporated information from a preseason outlook, performance of the early-run king salmon fishery, and trends in poor production from other Cook Inlet streams. In 2016, using the same information, the inriver run projection prior to the start of the season was slightly greater than 22,500 fish. Due to the uncertainty associated with the preseason projection, the department started the sport fishery precautionary by restricting the use of bait. Although the ESSN fishery was not limited to 36-hours per week, utilization of additional hours beyond regular 12 hours periods was to be predicated upon achieving escapement objectives of both sockeye sand king salmon stocks.

Also in 2016, on August 2, the final escapement of late-run king salmon was projected to be less than 22,500 fish. This projection enacted the 36-hour limitation in the ESSN fishery. From August 3-7, a total of 36 hours were fished in the ESSN fishery. On August 9, the department provided an additional 12 hours in the ESSN fishery under the authority provided by 5 AAC 21.636(e)*Upper Cook Inlet Salmon Management Plan* because the inriver goal range for sockeye salmon was projected to be exceeded.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. The addition of the July and August trigger points has increased the complexity of managing the king and sockeye salmon fisheries. In the absence of trigger points, the department would continue to manage the late-run king salmon fishery based upon achievement of escapement

goals instead of inriver run projections. The department is transitioning to a goal based on escapement of king salmon 75 cm and greater in length and will be discussing that goal and its implications at the UCI board meeting. The board will need to review existing management plans to determine what changes need to be made to reconcile the new SEG with current management plans.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery

PROPOSALS 168, 169, and 172 – 5 AAC 21.359. Kenai River Late-Run King Salmon Management Plan.

PROPOSED BY: Joel Doner (Proposal 168), Paul Shadura, SOKI (Proposal 169), and John McCombs (Proposal 172).

WHAT WOULD THESE PROPOSALS DO? These proposals would delete the mandatory "paired" restriction provisions (e) and (f) from the management plan. These restrictions affect the Kenai River sport and personal use fisheries and the commercial ESSN fishery in July and August during time periods of low king salmon abundance.

WHAT ARE THE CURRENT REGULATIONS? In July and August, the *Kenai River Late-Run King Salmon Management Plan* identifies provisions and options for the department to use in order to reduce the harvest of king salmon in the personal use, sport, and commercial fisheries during periods of low king salmon abundance (often referred to as "paired restrictions").

From July 1–31, both the inriver sport and personal use fisheries and the commercial ESSN fishery are to be managed to meet a Kenai River late-run king salmon SEG of 15,000–30,000 fish. If the inriver run of late-run king salmon is projected to be less than 22,500 fish, the sport fishery may be restricted to fishing with no bait or to no bait and no retention of king salmon. If the sport fishery is prosecuted under a no-bait restriction, then retention of king salmon is prohibited in the personal use fishery, and the ESSN fishery must be managed as follows: no regular Monday/Thursday fishing periods, no mandatory 24-hour closed period (36-hour "Friday" closed period remains), and no more than 36 hours of fishing time per week. The department has the option to restrict the number and depth of nets to either 1) three set gillnets that are each not more than 35 fathoms in length and 29 meshes in depth or two set gillnets that are each not more than 35 fathoms in length and 45 meshes in depth; or 2) two set gillnets that are each not more than 35 fathoms in length and 29 meshes in depth or one set gillnet that is not more than 35 fathoms in length and 45 meshes in depth. If the sport fishery is restricted to no bait and king salmon retention is prohibited, the ESSN fishery is to be restricted to no more than 12 hours of fishing time per week with the 36-hour "Friday" closed period. There are no options for gear restrictions under this scenario.

From August 1–15, management of the ESSN fishery is largely dependent upon the projected final escapement of Kenai River late-run king salmon. If the projected escapement is less than 16,500 fish, the set gillnet fishery closes; if the escapement is projected to be 16,500–22,500 fish, then the set gillnet fishery is restricted to no more than 36 hours of total fishing time in August; if the king salmon escapement is projected to exceed 22,500 fish, then management of the set gillnet fishery falls within the provisions of the Kenai River Late-Run Sockeye Salmon Management Plan.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The effect of these proposals on the harvest of king and sockeye salmon in the aforementioned fisheries is difficult to estimate. The mandatory paired restriction provisions that occur in July were first added to the king salmon management plan in 2014. Without these provisions, the harvest of king and sockeye salmon in the Kenai River personal use and commercial ESSN fisheries may

increase by an unknown amount depending on abundance. In years of low king salmon runs, removing language that pairs restrictions in the sport and personal use fisheries to the commercial fishery may diminish the step-down approach to shared conservation currently in regulation which may lead to increased restrictions to inriver users in order to achieve the escapement objectives. These proposals may also require the department to deviate from the management plan by EO to achieve established escapement goals as directed under 5 AAC 21.363(e).

BACKGROUND: There are two management plans that provide the department with direction on minimizing commercial harvest of late-run Kenai River king salmon. The *Kenai River Late-Run King Salmon Management Plan* states that the purposes of this management plan are to ensure an adequate escapement of late-run king salmon into the Kenai River system and to provide management guidelines to the department. The subsection also states that the department shall manage late-run Kenai River king salmon stocks primarily for sport and guided sport uses in order to provide sport and guided sport fishermen with a reasonable opportunity to harvest these salmon resources over the entire run, as measured by frequency of inriver restrictions.

The Kenai River Late-Run Sockeye Salmon Management Plan directs the department to manage the Kenai River late-run sockeye salmon stocks primarily for commercial uses based on abundance. The department shall also manage commercial fisheries to minimize harvest of Northern District coho, late-run Kenai River king, and Kenai River coho salmon stocks in order to provide personal use, sport, and guided sport fishermen with a reasonable opportunity to harvest salmon resources.

In 2014, the board modified the *Kenai River Late-Run King Salmon Management Plan* to include what is commonly referred to as "paired restrictions." Based on projections of the inriver run of Kenai River late-run king salmon in July, the board identified restrictive provisions in personal use, sport, and commercial fisheries for the department to implement in order to reduce the harvest of king salmon during periods of low abundance. The inriver run target of 22,500 king salmon was based on the most recent harvest trends in an unrestricted Kenai River late-run king salmon sport fishery prior to 2011 which ranged from 7,000–8,000 king salmon above the sonar. The inriver run is the number of fish entering the mouth of the river before any inriver harvest occurs. From August 1–15, after the personal use and sport fisheries have closed by regulation, the board identified specific king salmon spawning escapement projections that would trigger additional restrictive provisions in the ESSN fishery.

Since 2014, when "paired restrictions" were adopted, some to all of the restrictive provisions of the management plan have been implemented in all three years. For example, in 2014 and 2015 the ESSN fishery was restricted to 36 hours fishing time per week for all or part of the July 1–30 time frame, the personal use fishery was non-retention for king salmon, and the sport fishery started the season without bait and was also either restricted to non-retention or closed for part of the season. Additionally, the 36-hour restriction for the August 1–15 time period in the ESSN fishery was imposed in each of the past three years (2014–2016).

In each of the last three years (2014–2016), the Kenai River late-run sockeye salmon inriver goal range was exceeded and the OEG and SEG were achieved. During this same time period, the Kenai River late-run king salmon SEG was achieved in all three years.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on these allocative proposals. The department is transitioning to a new escapement goal based on escapement of king salmon 75 cm and greater in length and will be discussing the goal and its implications at the UCI board meeting. The board will need to review existing management plans to determine what changes need to be made to reconcile the new SEG with existing management plans.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

PROPOSAL 167 – 5 AAC 21.359. Kenai River Late-Run King Salmon Management Plan.

PROPOSED BY: Steve Vanek.

WHAT WOULD THE PROPOSAL DO? This would close the Kenai River personal use fishery when the late-run king salmon sport fishery is closed.

WHAT ARE THE CURRENT REGULATIONS? The purposes of the *Kenai River Late-Run King Salmon Management Plan* are to ensure an adequate escapement of late-run king salmon into the Kenai River system and to provide management guidelines to the department. The department shall manage the late-run Kenai River king salmon stocks primarily for sport and guided sport uses in order to provide the sport and guided sport fishermen with a reasonable opportunity to harvest these salmon resources over the entire run, as measured by the frequency or inriver restrictions. The department shall manage the late-run Kenai River king salmon stocks to achieve a SEG range of 15,000–30,000 king salmon.

If the use of bait is prohibited in the Kenai River sport fishery; the retention of king salmon is prohibited in the personal use fishery.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would reduce opportunity and harvest of sockeye salmon in the personal use fishery with no measurable savings of king salmon.

BACKGROUND: From 1996–2011, when retention of king salmon was not prohibited for the entire season in the Kenai River personal use fishery, the personal use harvest of king salmon in the Kenai River dip net fishery ranged from 254 to 1,509 fish, averaging 816 fish (Table 167-1). Retention of king salmon in the Kenai River personal use dip net fishery has been prohibited from 2012–2015, in an effort to achieve the Kenai River late-run king salmon sustainable escapement goal and was unrestricted in 2016. The *Kenai River Late-Run King Salmon Management Plan* directs the department to prohibit retention of king salmon in the personal use fishery when bait is prohibited in the Kenai River sport fishery. Additionally, the department has EO authority to prohibit the retention of king salmon in the Kenai River personal use dip net fishery inseason if the department projects that the escapement goal for late-run king salmon will not be met.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal as a conservation measure. The department is **NEUTRAL** on the allocative aspects of this proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 167-1.–Kenai River personal use dipnet fishery salmon harvest by year, 1996–2015.

Year	Salmon Harvest					Total
	Sockeye	King	Coho	Pink	Chum	
1996	102,821	295	1,932	2,404	175	107,627
1997	114,619	364	559	619	58	116,219
1998[a]	103,847	254	1,011	1,032	85	106,229
1999	149,504	488	1,009	1,666	102	152,769
2000	98,262	410	1,449	1,457	193	101,771
2001	150,766	638	1,555	1,326	155	154,440
2002	180,028	606	1,721	5,662	551	188,568
2003	223,580	1,016	1,332	1,647	249	227,824
2004	262,831	792	2,661	2,103	387	268,774
2005	295,496	997	2,512	1,806	321	301,132
2006[a]	127,630	1,034	2,235	11,127	551	142,577
2007	291,270	1,509	2,111	1,939	472	297,301
2008	234,109	1,362	2,609	10,631	504	249,215
2009	339,993	1,189	2,401	5,482	285	349,350
2010	389,552	865	2,870	3,655	508	397,450
2011[b]	537,765	1,243	4,745	3,914	915	548,583
2012[b]	526,992	40	4,008	3,770	425	535,236
2013[b]	347,222	11	3,169	3,625	701	354,727
2014[b]	379,823	0	4,710	19,140	1,194	404,866
2015[b]	377,532	66	4,150	4,147	957	386,852
2016	259,057	638	3,277	7,834	717	271,524
Average						
1996–2011	225,130	816	2,045	3,529	344	231,864
2012–2015	407,892	29	4,009	7,671	819	420,420

Source: Reimer and Sigurdsson 2004; Dunker and Lafferty 2007; Dunker 2010, 2013; K. J. Dunker, Sport Fish Biologist, ADF&G, Anchorage, personal communication.

[a] Personal use dip net fishery restricted by time at some point during the season.

[b] Personal use dip net fishery prohibited retention of king salmon for either part, or for the whole season.

PROPOSAL 174 – 5 AAC 21.359. Kenai River Late-Run King Salmon Management Plan.

PROPOSED BY: Anchorage Fish and Game Advisory Committee and Jeff Beaudoin.

WHAT WOULD THE PROPOSAL DO? This would remove provisions (e)(3)(A)(i) and (ii) that provide the department with the option to restrict the number and/or depth of set gillnets fished by a CFEC limited entry permit holder in the ESSN fishery if the use of bait is prohibited in the Kenai River king salmon sport fishery.

WHAT ARE THE CURRENT REGULATIONS? From July 1–31, if the use of bait is prohibited in the Kenai River king salmon sport fishery, the *Kenai River Late-Run King Salmon Management Plan* includes options, if warranted, where the department may restrict the number and depth of set gillnets in the ESSN fishery. This is in addition to the restriction of opening the ESSN fishery for no more than 36 hours per week.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It is unclear what the effects of this proposal would be. Since these provisions were adopted in 2014, gear reductions have only been authorized for one commercial fishing period in 2014. The proposal would remove the option of restricting the number of nets or depths of nets in the commercial ESSN fishery. It is unclear how this would affect harvest of king and sockeye as available data are not sufficient to quantitatively estimate the effect of changing set gillnet depths on the relative harvests of king versus sockeye salmon.

BACKGROUND: The regulation for the length and depth of a set gillnet has been the same since statehood. The regulation restricting mesh size to six inches was adopted in 1964 to decrease the harvest of king salmon and direct the harvest on sockeye salmon. A preliminary study to look into vertical distribution of the catch of king and sockeye salmon in set gillnets near the mouth of the Kenai River was conducted in 1996. The report generated from this study concludes "Results from this study were to provide the basis for recommending and designing future studies. It was not designed to directly suggest potential management or regulatory actions." The main drawback of this study is the way the catch was recorded into either the upper two-thirds or the lower one-third of the net. Had the study recorded which one-third or smaller increment of the net each fish was caught in, it would likely have resulted in a conclusion that both the lower and upper one-third of the net catch less fish and that most fish are caught near the middle, both vertically and horizontally. The difference in harvest rates between sockeye and king salmon caught in the lower one-third is 25% for sockeye salmon and 36% for king salmon. The range, however, is from 11% to 52% for sockeye and from 7% to 65% for king salmon. Another problem is that roughly 80% of the "sets" did not have a king salmon; applying the average could have the opposite effect from what is desired. Finally, all study sets were restricted to approximately 4–5 miles on either side of the Kenai River. The Kasilof Section may have vastly different results from a restriction of this nature. Due to the high level of measurement error, limited sampling, low number of king salmon observed, limited area of study and use of voluntary sites, there is a high level of uncertainty in the outcome of setting the maximum depth at 29 meshes, especially outside of the study area.

Welch et al. (Anim. Biotelem. 2:18, 2014) published the paper, 'Migration behavior of maturing sockeye (*Oncorhynchus nerka*) and Chinook salmon (*O. tshawytscha*) in Cook Inlet, Alaska, and implications for management.' The paper includes report data on the migratory behavior and relative swimming depths of king and sockeye salmon near the ESSN fishery, Cook Inlet, Alaska, using acoustically tagged fish and an anchored array of acoustic receivers. A total of 25 king and 51 sockeye salmon were captured and fitted with acoustical tags. Of these, 13 king and 27 sockeye salmon were detected by the acoustical array. Two king and four sockeye salmon were determined to have migrated south after capture and tagging. The fate of 10 tagged king and 20 tagged sockeye salmon was not known. Using this information, Welch et al. provided a model to estimate changes in king and sockeye salmon harvests associated with potential regulatory changes affecting surface gillnet depths in this fishery. A response to this paper was published by department staff, 'Oversimplification of complex harvest model issues outlined in Welch at al. (2014)' (Willette et al. Anim. Biotelem.3:4, 2015) and included the following:

> "We are concerned that the modeling exercise paints an unrealistic picture of how simply changing gillnet dimensions would translate into a viable management approach to preserve or increase sockeye salmon harvests while minimizing catch of Chinook salmon. Much of this fishery occurs in very shallow water, and Cook Inlet tides range about 10 m with tidal current speeds reaching about 9 km hr−1. Model assumptions that gillnets in this dynamic environment were hanging vertically and that gillnets did not reach the bottom are not valid. Gillnets in this fishery billow in strong currents causing the lead lines at the bottom of the nets to rise in the water column, and an unknown but high fraction of all gillnets reach the bottom for some portion of each tide cycle."

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

PROPOSAL 175 – 5 AAC 21.359. Kenai River Late-Run King Salmon Management Plan.

PROPOSED BY: Joseph Person.

WHAT WOULD THE PROPOSAL DO? This would allow up to four set gillnets (instead of three) that are each not more than 35 fathoms in length with more than 105 fathoms in the aggregate and 29 meshes in depth; or two set gillnets that are each not more than 35 fathoms in length and 45 meshes in depth to be used in the commercial ESSN fishery if the use of bait is prohibited in the Kenai River sport fishery.

WHAT ARE THE CURRENT REGULATIONS? If the use of bait is prohibited in the Kenai River king salmon sport fishery in response to an inriver run projection of less than 22,500 fish, then the department may choose to limit gear in the setnet fishery to: three set gillnets per permit that are each not more than 35 fathoms in length and 29 meshes in depth or two set gillnets per permit that are each not more than 35 fathoms in length and 45 meshes in depth. All nets that are 29 meshes or less in depth must be identified with an attached blue buoy that is not less than nine and one-half inches in diameter. In UCI, a set gillnet may not be more than 35 fathoms in length and a person may operate up to four set gillnets as long as there is no more than 105 fathoms of set gillnet in the aggregate.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would clarify the length and depth of set gillnets that may be used in the ESSN fishery. When this regulation was passed in 2014, it was not intended to reduce the amount of gear a permit holder could fish if they chose to use nets that were not more than 29 meshes deep. There would be no change in the management of the fishery or harvest.

BACKGROUND: In 2014, the board modified the *Kenai River Late-Run King Salmon Management Plan* to include for the first time what is commonly referred to as "paired restrictions." Because the department does not have EO authority to reduce gear in a commercial fishery, the board gave the department the discretionary authority to modify setnet gear during times of low king salmon abundance. In this case, that discretionary authority included options to reduce number of nets or the depth of nets in response to an inriver run projection of less than 22,500 late-run king salmon and a prohibition on the use of bait in the Kenai River king salmon sport fishery.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on any allocative aspects of this proposal. The department supports the board clarifying their intent on gear reduction options in the ESSN fishery when the use of bait is prohibited in the Kenai River king salmon sport fishery.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery

PROPOSAL 171 – 5 AAC 21.359. Kenai River Late-Run King Salmon Management Plan.

PROPOSED BY: Jeff Goodman.

WHAT WOULD THE PROPOSAL DO? This would remove the Kasilof Section set gillnet commercial fishery from "paired" restrictions by amending subsection (h) of the management plan to include the Kasilof Section set gillnet fishery.

WHAT ARE THE CURRENT REGULATIONS? Subsections (e) and (f) of the *Kenai River Late-Run King Salmon Management Plan* identify provisions and options for the department to use in order to reduce the harvest of king salmon in the personal use, sport, and commercial fisheries during periods of low king salmon abundance (often referred to as "paired restrictions"). Subsection (h) of the management plan excludes the KRSHA from all provisions of the management plan.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would likely increase the harvest of king and sockeye salmon in the Kasilof Section set gillnet fishery by an unknown amount during time periods when low Kenai River late-run king salmon abundance triggered paired restriction provisions in personal use, sport, and commercial fisheries. If the Kasilof Section set gillnet fishery was exempt from paired restrictions, and this area was opened while the Kenai and East Foreland sections set gillnet fishery were closed, this could reduce harvestable surplus of king and sockeye salmon available to the Kenai and East Foreland sections fishery. This additional harvest in the Kasilof Section could, however, result in a higher probability of meeting Kasilof River sockeye salmon escapement objectives. Modification of the paired restriction provisions could result in a decrease in harvest of sockeye salmon to the Kenai River personal use fishery and a reduction of king and sockeye salmon harvest in the Kenai River sport fishery, by an unknown amount. In years of low king salmon runs, removing language that pairs restrictions in the sport and personal use fisheries to the commercial fishery diminishes the step-down approach to shared conservation currently in regulation which may lead to increased restrictions to inriver users in order to achieve the escapement objectives.

BACKGROUND: Originally developed in 1988, the *Upper Subdistrict King Salmon Management Plan* provided the department with direction on how to manage the ESSN fishery by identifying a limit on the number of king salmon that could be harvested before closing the fishery; however, king salmon harvested in the KRSHA did not count toward the limit. In 1989, the plan was renamed the *Kenai River Late-Run Chinook Salmon Management Plan* and several modifications were made. Beginning in 1991, and occurring in the management plan ever since, there has been a statement that has exempted the KRSHA from provisions of the king salmon management plan.

From 2007–2016, commercial harvest in the Kasilof Section averaged 3,812 king and 645,606 sockeye salmon; which comprised 60% of the total king salmon harvest and 57% of the total sockeye salmon commercial harvest in the ESSN fishery (Table 171-1). Commercial harvest of Kenai River late-run king salmon in the Kasilof Section averaged 1,843 fish per year (Table 171-2).

From 2007–2016, commercial harvest averaged 2,472 king and 425,775 sockeye salmon in the Kenai Section and 82 king and 63,196 sockeye salmon in the East Forelands Section (Table 171-1). The average sockeye to king salmon ratio (or the number of sockeye salmon harvested for every king salmon harvested) was 209 in the Kasilof Section, 197 in the Kenai Section, and 816 in the East Foreland Section. Based on this, a similar number of sockeye salmon were harvested for every king salmon harvested in both the Kasilof and Kenai sections. It should be noted this is the number of all king salmon stocks and not just Kenai River king salmon.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. The department is transitioning to a new escapement goal based on escapement of king salmon 75 cm and greater in length and will be discussing the goal and its implications at the UCI board meeting. The board will need to review existing management plans to determine what changes need to be made to reconcile the new SEG with existing management plans.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 171-1.–Commercial harvest of king and sockeye salmon in the Kasilof, Kenai and East Foreland sections, 2007–2016.

	King Salmon[a]						
Year	Kasilof Section	Percent	Kenai Section	Percent	East Forelands Section	Percent	Total
2007	7,692	63%	4,290	35%	146	1%	12,128
2008	5,274	82%	1,087	17%	48	1%	6,409
2009	3,835	69%	1,665	30%	88	2%	5,588
2010	4,069	58%	2,921	41%	69	1%	7,059
2011	5,125	67%	2,489	32%	83	1%	7,697
2012	372	53%	319	45%	14	2%	705
2013	1,275	48%	1,297	49%	58	2%	2,630
2014	1,076	64%	582	35%	18	1%	1,676
2015	2,965	40%	4,239	58%	151	2%	7,355
2016	3,001	44%	3,678	54%	80	1%	6,759
Average[b]	3,812	60%	2,472	39%	82	1%	6,367
	Sockeye Salmon						
Year	Kasilof Section	Percent	Kenai Section	Percent	East Forelands Section	Percent	Total
2007	718,872	54%	544,380	41%	74,524	6%	1,337,776
2008	881,779	71%	319,203	26%	41,755	3%	1,242,737
2009	641,290	71%	229,122	25%	35,441	4%	905,853
2010	517,590	48%	502,357	46%	65,842	6%	1,085,789
2011	1,016,987	54%	758,357	40%	102,595	5%	1,877,939
2012	30,723	32%	59,827	62%	6,125	6%	96,675
2013	473,778	55%	352,309	41%	31,296	4%	857,383
2014	387,458	74%	121,538	23%	17,271	3%	526,267
2015	794,951	58%	476,954	35%	107,771	8%	1,379,676
2016	377,745	38%	527,754	53%	92,269	9%	997,768
Average[b]	645,606	57%	425,775	38%	63,196	6%	1,134,576
	Sockeye to King Ratio						
Year	Kasilof Section		Kenai Section		East Forelands		Combined
2007	93		127		510		110
2008	167		294		870		194
2009	167		138		403		162
2010	127		172		954		154
2011	198		305		1,236		244
2012	83		188		438		137
2013	372		272		540		326
2014	360		209		960		314
2015	268		113		714		188
2016	126		143		1,153		148
Average[b]	209		197		816		204

[a] Harvest represents all king salmon stocks.

[b] 2012 not included in average

Table 171-2.–Commercial harvest of Kenai River late-run king salmon and sockeye salmon in the Kasilof Section, 2007–2016.

Year	Total King Harvest	Kenai King Harvest[a]	Sockeye Harvest	Days Fished	Kenai King Harvest/day	Sockeye Harvest/day
2007	7,692	4,354	718,872	31	140	23,189
2008	5,274	2,985	881,779	25	119	35,271
2009	3,835	2,171	641,290	28	78	22,903
2010	4,069	2,303	517,590	32	72	16,175
2011	5,125	2,901	1,016,987	28	104	36,321
2012	372	211	30,723	7	30	4,389
2013	1,275	929	473,778	12	77	39,482
2014	1,076	643	387,458	14	46	27,676
2015	2,965	1,598	794,951	34	47	23,381
2016	3,001	1,538	377,745	27	57	13,991
Average[a]	3,812	2,158	645,606	26	82	26,488

[a] Kenai River late-run king salmon harvest in the Kasilof Section was estimated based on genetic stock identification (GSI) estimates of Kenai River king salmon mainstem proportions from 2013 (0.73), 2014(0.60), 2015 (0.54) and 2016 (0.51). The average of those 4 years (0.57) was applied to 2007–2012. 2016 data are preliminary.

[b] Average does not include 2012.

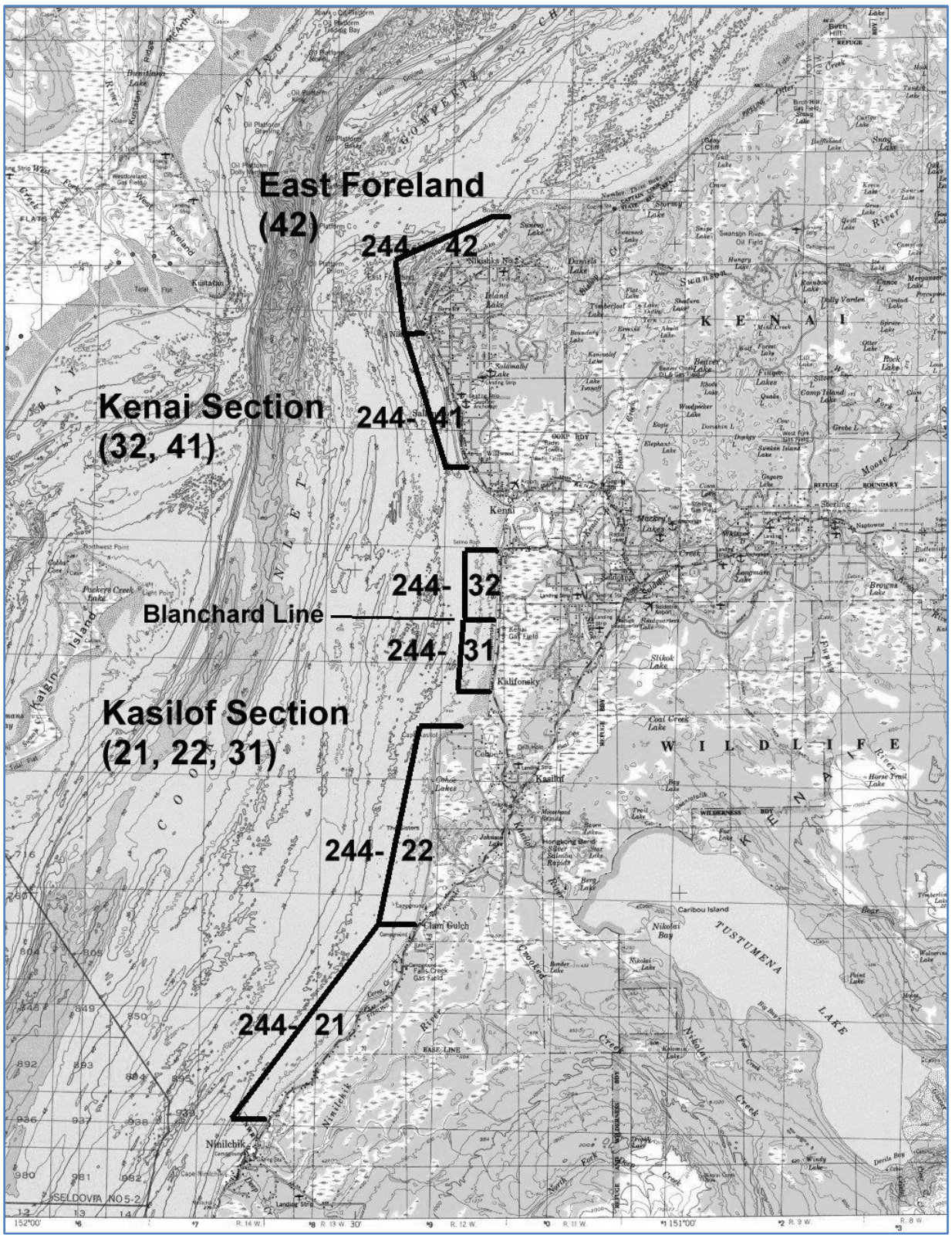

Figure 171-1.–Map of Upper Subdistrict set gillnet fishery (ESSN) statistical areas and sections.

PROPOSALS 176 and 177 – 5 AAC 21.359. Kenai River Late-Run King Salmon Management Plan.

PROPOSED BY: Paul Shadura, SOKI (proposal 176) and Anchorage Fish and Game Advisory Committee (proposal 177).

WHAT WOULD THESE PROPOSALS DO? These proposals would allow commercial set gillnet fishing periods in the Kasilof Section and in the combined Kenai/East Foreland sections to be managed independent of each other regarding weekly hour restrictions during periods of paired restrictions when the use of bait is prohibited in the Kenai River sport fishery for king salmon.

WHAT ARE THE CURRENT REGULATIONS? The *Kenai River Late-Run King Salmon Management Plan* specifies a limit on the number of hours per week (in July) or per month (in August) that may be fished in the commercial ESSN fishery in response to low king salmon abundance and are triggered by prohibiting the use of bait in the Kenai River king salmon sport fishery.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The department would have the option to open the Kasilof and Kenai/East Foreland sections set gillnet fisheries independently of each other during times when the fishery was operated under the restrictive weekly or monthly hourly provisions in the *Kenai River Late-Run King Salmon Management Plan*. The weekly or monthly hour limitations would be applied to each section separately. This change would likely affect the management and resultant harvest of salmon in each section by an unknown amount. Any change in harvest would be dependent on distribution, run strength, and run timing of king and sockeye salmon returning to the Kenai and Kasilof rivers. This would allow the department to open each section during time periods that could more efficiently target the harvest on either Kasilof or Kenai sockeye salmon stocks; likely resulting in increased harvest.

BACKGROUND: The ESSN fishery occurs along approximately 60 miles of beach and targets sockeye salmon returning to both the Kenai and Kasilof rivers (Figure 176-1). Run timing differences between the two river systems and geographic scale can make abundance-based management with limited hours challenging because fish can build up in localized areas and not be distributed throughout the length of the fishery. Prior to 2014, the number of hours allowed in the ESSN fishery was regulated specifically by the *Kenai River Late-Run Sockeye Salmon Management Plan* (5 AAC 21.360) and the *Kasilof River Salmon Management Plan* (5 AAC 21.365).

In 2014, the board modified the *Kenai River Late-Run King Salmon Management Plan* to include for the first time what is commonly referred to as "paired restrictions." From July 1–30, if the inriver run projection is less than 22,500 late-run king salmon and a prohibition on the use of bait in the Kenai River king salmon sport fishery is implemented, the entire ESSN fishery is limited to fishing no more than 36 hours per week. From August 1–15, if the escapement projection of late-run king salmon is between 16,500 and 22,500 fish, the entire ESSN fishery is limited to no

more than 36 hours of fishing time for the entire month. If only part of the ESSN fishery was open, any of the hours used counted toward the 36-hour limit.

Since 2014, when "paired restrictions" were adopted, some to all of the restrictive provisions of the management plan have been implemented in all three years. For example, the ESSN fishery was restricted to 36 hours per week for all or part of the July 1–30 time frame in 2014 and 2015. Additionally, the 36-hour restriction for the August 1–15 time period was imposed in each of the past three years (2014–2016). In each of these three years, the Kenai River sockeye salmon inriver goal was exceeded and the Kenai River late-run king salmon SEG was achieved.

Per this proposal, the department would be able to fish each section independently of each other, with hours used in one section not counting toward the other section's weekly hourly limitation unless both sections were opened at the same time. The department might employ this strategy, for example, if there was a build-up of sockeye salmon in one section, while observations did not reveal this kind of abundance in the other section. This fish behavior has been observed in the past.

From 1999–2016, commercial harvest in the Kasilof Section averaged 5,491 king and 674,947 sockeye salmon, while commercial harvest in the Kenai/East Forelands sections averaged 2,994 king and 519,560 sockeye salmon (Table 176-1).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on these allocative proposals.

COST ANALYSIS: Approval of these proposals is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 176-1.–Commercial salmon harvest in the ESSN fishery, by Section, 1999–2016.

Year	King Salmon[a]		Sockeye Salmon	
	Kasilof Section	Kenai/East Forelands Section	Kasilof Section	Kenai/East Forelands Section
1999	6,506	2,957	811,101	281,845
2000	2,996	688	261,276	268,471
2001	4,928	1,081	683,933	186,086
2002	6,805	2,673	734,877	568,281
2003	10,266	4,544	1,027,432	719,409
2004	14,929	6,687	994,743	1,236,163
2005	11,948	9,020	1,139,135	1,317,303
2006	5,779	2,912	655,290	307,830
2007	7,692	4,436	718,872	618,904
2008	5,274	1,135	881,779	360,958
2009	3,835	1,753	641,290	264,563
2010	4,069	2,990	517,590	568,199
2011	5,125	2,572	1,016,987	860,952
2012	372	333	30,723	65,952
2013	1,275	1,355	473,778	383,605
2014	1,076	600	387,458	138,809
2015	2,965	4,390	794,951	584,725
2016	3,001	3,758	377,830	620,023
Average	5,491	2,994	674,947	519,560

[a] Harvest represents all king salmon stocks.

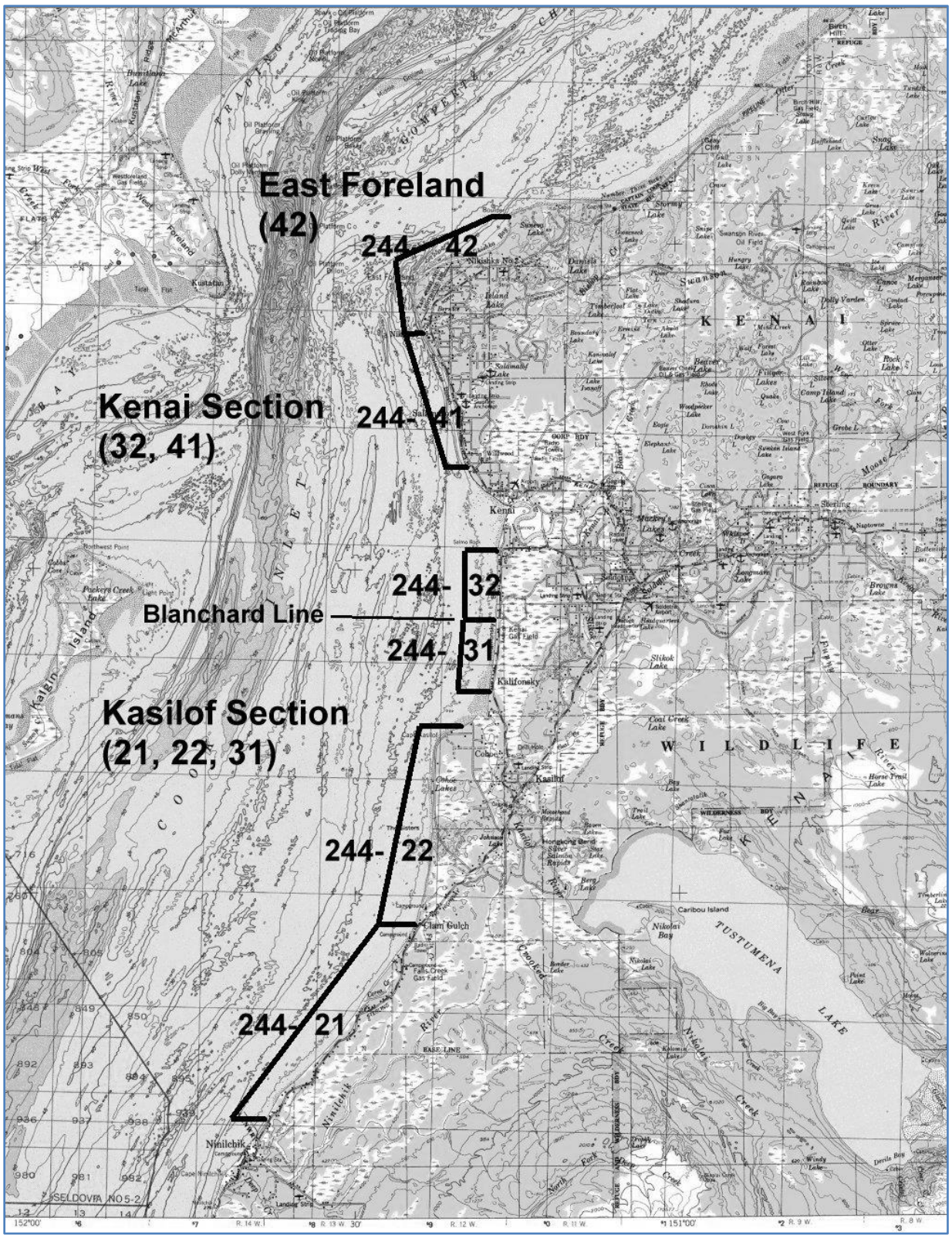

Figure 176-1.–Map of the Kasilof, Kenai, and East Foreland sections, with statistical areas.

PROPOSAL 165 – 5 AAC 21.359. Kenai River Late-Run King Salmon Management Plan.

PROPOSED BY: Gary L. Hollier.

WHAT WOULD THE PROPOSAL DO? This would decrease the trigger for management actions on Kenai River late-run king salmon from the current range of 16,500–22,500 fish to 15,000–16,500 fish.

WHAT ARE THE CURRENT REGULATIONS? The purposes of the *Kenai River Late-Run King Salmon Management Plan* are to ensure an adequate escapement of late-run king salmon into the Kenai River system and to provide management guidelines to the department. The department shall manage the late-run Kenai River king salmon stocks primarily for sport and guided sport uses in order to provide the sport and guided sport fishermen with a reasonable opportunity to harvest these salmon resources over the entire run, as measured by the frequency of inriver restrictions. The department shall manage the late-run of Kenai River king salmon to achieve a SEG range of 15,000–30,000 king salmon.

From August 1–August 15, if the projected escapement of king salmon into the Kenai River is at least 16,500, but less than 22,500 fish, the commissioner may open the commercial set gillnet fishery in the Upper Subdistrict to no more than 36 hours of fishing time.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? King salmon harvests may increase by an unknown amount in years of low run strength since the commercial fishery is the only harvester of Kenai king salmon in August. It would not likely jeopardize achieving the king salmon SEG because the average harvest of king salmon from 1987 to present by the commercial set gillnet fishery is 1,219 fish.

BACKGROUND: At the 2014 UCI meeting the board considered proposals seeking changes to the *Kenai River Late-Run King Salmon Management Plan.* Key modifications to the plan that came out of that meeting were the inclusion of the new SEG and the pairing of restrictions between sport, personal use, and commercial users to share the burden of king salmon conservation in years of low Kenai River king salmon runs. The August management trigger of 16,500 fish that restricts the commercial set gillnet fishery in the Upper Subdistrict to no more than 36 hours of fishing time was also established by the board. The 1,500 trigger was set as a buffer to account for uncertainty in the August projection to ensure the lower end of 15,000 would be met. In the three years (2014–2016) since the plan was implemented, the king salmon SEG of 15,000–30,000 was achieved all three years based on preliminary 2016 data (Table 165-1).

The department has projected the escapement of late-run Kenai River king salmon in August was going to be between 16,500 and 22,500 each year from 2014–2016. In two of those years the department used EO authority to fish more than 36 hours in the Upper Subdistrict commercial set gillnet fishery based on escapement of sockeye salmon.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. The department supports sharing the burden of conservation in years when the Kenai River king salmon goal may not be achieved, but could apply the August restrictions outlined in (f) to

manage for the established SEG range rather than the 16,500 and 22,500 fish triggers. As the regulation is currently worded, these triggers are redundant and changing from a inriver run projection of king salmon to the Kenai River mouth during July, to a projection of spawning escapement in August increases regulatory complexity. The department is transitioning to an escapement goal based on escapement of king salmon 75 cm and greater in length and will be discussing that goal and its implications at the UCI board meeting. The board will need to review existing management plans to determine what changes need to be made to reconcile the new SEG range with current management plans.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 165-1.–Kenai River late-run king salmon population data, 1986–2016.

Year	Creek Marine Harvest [a]	Eastside Setnet Harvest [b]	Drift Gillnet Harvest [c]	Kenaitze Educational	Subsistence	Personal Use Dipnet [d]	Sport Harvest Below Sonar [e]	Inriver Run Estimated by Sonar [f]	Sport Harvest Above Sonar [g]	Catch-and-Release Mortality [h]	Spawning Escapement	Total Run	Harvest Rate
1986	378	13,767	1,100	ND	ND	ND	ND	62,740	9,872	316	52,552	77,986	0.32
1987	731	14,693	2,731	ND	ND	235	ND	63,550	13,100	123	50,327	81,940	0.38
1988	892	8,929	1,342	ND	ND	0	ND	61,760	19,695	176	41,889	72,923	0.42
1989	821	7,579	0	ND	22	0	ND	36,370	9,691	88	26,591	44,792	0.40
1990	963	2,874	373	ND	13	ND	ND	34,200	6,897	69	27,234	38,423	0.29
1991	1,023	3,398	148	ND	288	ND	ND	38,940	7,903	16	31,021	43,797	0.29
1992	1,269	7,443	369	ND	402	0	ND	42,290	7,556	234	34,500	51,773	0.33
1993	1,700	9,776	459	ND	27	0	ND	50,210	17,775	478	31,957	62,172	0.48
1994	1,121	10,815	278	1	392	ND	ND	47,440	17,837	572	29,031	60,048	0.51
1995	1,241	8,380	356	3	ND	712	ND	44,770	12,609	472	31,689	55,462	0.42
1996	1,223	8,030	233	1	ND	295	ND	42,790	8,112	337	34,341	52,572	0.34
1997	1,759	7,864	376	20	ND	364	ND	41,120	12,755	570	27,795	51,503	0.45
1998	1,070	3,532	201	2	ND	254	ND	47,110	7,515	595	39,000	52,169	0.24
1999	602	6,571	345	4	ND	488	1,170	43,670	12,425	682	30,563	52,850	0.41
2000	631	2,558	162	6	ND	410	831	47,440	14,391	499	32,550	52,038	0.36
2001	552	4,173	371	8	ND	638	1,336	53,610	15,144	825	37,641	60,688	0.37
2002	256	6,582	249	6	ND	606	1,929	56,800	10,678	665	45,457	66,428	0.31
2003	120	10,284	744	11	ND	1,016	823	85,110	16,120	1,803	67,187	98,108	0.30
2004	996	15,057	662	10	ND	792	2,386	79,690	14,988	1,019	63,683	99,594	0.35
2005	624	14,997 [i]	1,175	11	ND	997	2,287	77,440	15,927	1,267	60,246	97,531	0.37
2006	563	6,913 [i]	1,669	11	ND	1,034	3,322	62,270	12,490	830	48,950	75,783	0.34
2007	478	8,536 [i]	547	6	0	1,509	1,750	47,370	9,690	670	37,010	60,196	0.37
2008	310	5,259 [i]	392	15	0	1,362	1,011	42,840	10,128	370	32,342	51,188	0.36
2009	154	3,880	515	4	0	1,189	1,132	29,940	7,904	626	21,410	36,815	0.40
2010	335	4,611	323	21	0	865	445	18,401	6,762	264	11,375	25,001	0.53
2011	528	5,144	356	5	0	1,243	458	23,713	6,894	479	16,340	31,447	0.47
2012	30	490	131	0	0	40	2	21,613	101	95	21,417	22,305	0.04
2013	369	2,293	296	8	0	11	37	19,931	512	77	19,342	22,945	0.15
2014	591	1,405	229	1	0	0	4	17,815	293	71	17,451	20,045	0.13
2015 [j]	500	6,007	334	10	0	66	392	24,694	1,823	229	22,642	32,003	0.29
2016 [j]	*not avail.*	*not avail.*	*not avail.*	6	1	*not avail.*	*not avail.*	22,535	*not avail.*	*not avail.*	*not avail.*	*not avail.*	*not avail.*
Average (1986-20	899	8,365	584	7	191	425	1,537	52,853	12,550	540	39,763	63,640	0.37
Average (2006-20	386	4,454	479	8	0	732	855	30,102	5,660	371	24,828	37,773	0.31
Average (1986-20	728	7,061	549	7	72	543	1,136	44,780	10,253	484	34,784	55,017	0.35

Source: State-Wide Harvest Surveys from Mills 1987–1994, Howe et al. 1995, 1996, 2001a-d, Walker et al. 2003; Jennings et al. 2004, 2006a-b, 2007, 2009a-b, 2010a-b, 2011a-b, 2015; Romberg et al. *In Prep* a-d; Hammarstrom and Timmons 2001b; Brannian and Fox 1996; Ruesch and Fox 1996; Reimer and Sigurdsson 2004; Dunker and Lafferty 2007, Dunker, K.J. 2010, 2013, K. J. Dunker, Sport Fish Biologist, ADF&G, Anchorage, personal communication; Shields and Dupuis 2016; Fleischman and McKinley 2013, FMS 13-02; J. Perschbacher, Sport Fish Biologist, ADF&G, Soldotna, personal communication; T. McKinley, Sport Fish Biologist, ADF&G, Soldotna, personal communication; R. Begich Sport Fish Biologist, ADF&G, Soldotna, personal communication.

Note: ND= no data available

[a] 60% of SWHS estimates of Cook Inlet marine sport harvest after 24 June.

[b] 1986-2009 estimates from Fleischman and McKinley 2013, FMS 13-02; 2010-2015 from Eskelin et al. 2013 (FDS 13-63); Eskelin and Barclay 2015 and 2016, (FDS 15-19, FDS 16-16).

[c] 1986-2009 estimates from Fleischman and McKinley 2013, FMS 13-02; 2010-2015 estimates from ESSN GSI allocation.

[d] 1986–1994 from SWHS; 1995 (Ruesch and Fox 1996); 1996–2014 are estimates from returned permits.

[e] Creel survey estimates below RM 8.6 prior to 2013 and below RM 13.7 sonar since 2013.

[f] 1986-2009 inriver run estimates are model derived RM 8.6 sonar estimates from Fleischman and McKinley 2013, FMS 13-02; 2010-2012 iinriver run estimates are RM 8.6 sonar estimates published in Miller et al. 2013-15 (FDS 13-58, FDS 14-18, FDS 15-09) and expanded by inverse of proportion midriver; 2013-2015 inriver run estimates are preliminary ARIS sonar estimates at RM 13.7 plus spawning downstream of RM 13.7 sonar based on radio telemetry. 2013-2015 values subject to change prior to publishing.

[g] Creel survey and SWHS estimates above RM 8.6 sonar prior to 2013 and above RM 13.7 sonar since 2013.

[h] Some catch and release mortality (usually less than 100 fish) occurs below the sonar and is not counted towards escapement.

[i] Harvest estimate does not include Kasilof River terminal fishery which occurred 2005–2008.

[j] These estimates are preliminary until biometrically reviewed and published.

PROPOSAL 166 – 5 AAC 57.121. Special provisions for the seasons, bag, possession, and size limits, and methods and means for the Lower Section of the Kenai River Drainage Area.

PROPOSED BY: Kenai Area Fisherman's Coalition.

WHAT WOULD THE PROPOSAL DO? This would modify season dates and area for Kenai River late-run king salmon management by limiting the king salmon sport fishery to downstream of RM 13.7 from July 1–7. The sport fishery would then expand upstream to 300 years below Slikok Creek for the remainder of July and upstream from Slikok Creek to the outlet of Skilak Lake from July 8–14.

WHAT ARE THE CURRENT REGULATIONS? In waters of the Kenai River open to sport fishing for king salmon, management is restrictive early in the season and relaxes time and area as tributary fish move upriver and the fishery targets late-run mainstem spawning king salmon. King salmon, 20 inches or greater in length, may be taken only from January 1–July 31, in the Kenai River from its mouth upstream to an ADF&G regulatory marker located at the outlet of Skilak Lake, with a bag and possession limit of one king salmon, 20 inches or greater in length, and a two fish annual limit.

January 1–June 30, from the mouth of the Kenai River upriver to department markers near Skilak Lake, only one unbaited single-hook lure is allowed. Only king salmon that are less than 42 inches in length or 55 inches or greater in length may be retained.

July 1–July 31, from the mouth of the Kenai River upriver to department markers near Slikok Creek, anglers may use bait but only one single-hook is allowed.

July 1–July 14, from department markers near Slikok Creek upriver to department markers near Skilak Lake, only one unbaited single-hook lure is allowed. Only king salmon that are less than 42 inches in length or 55 inches or greater in length may be retained.

July 15–July 31, from department markers near Slikok Creek upriver to department markers near Skilak Lake, anglers may use bait but only one single-hook is allowed.

King salmon may be landed only with the aid of a landing net or by hand. A king salmon, 20 inches or greater in length, that is removed from the water must be retained and becomes part of the bag limit of the person originally hooking it. A person may not remove a king salmon from the water before releasing the fish. A king salmon 55 inches or greater in length taken from the Kenai River must be sealed.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would reduce the days and area open to fishing for king salmon, further restricting how the fishery on late-run mainstem spawning king salmon progresses upriver. This loss of opportunity and harvest may allow some tributary spawning fish that return to the river in July to be added to escapement, but would have a greater positive impact on the late-run mainstem spawning fish. This proposal may limit the department’s ability to manage for achieving king salmon escapement goals. Adopting this regulation would increase use and crowding in the lower river.

It would also increase regulatory complexity when added to the existing sanctuary areas and boat fishing closures.

BACKGROUND: King salmon of Kenai River origin are harvested in several fisheries, including a recreational marine fishery along the eastern shore of Cook Inlet from Anchor Point to Cape Ninilchik; commercial set and drift gillnet fisheries in Cook Inlet that harvest late-run king salmon; and the sport fishery and personal use fisheries in the Kenai River itself. Management plans for the Kenai River king salmon sport fishery have been structured to provide fishing opportunity under various run sizes and ensure escapement goals are achieved.

King salmon returning to the Kenai River are managed as two distinct runs: tributary spawning king salmon (May 16–June 30) and mainstem spawning king salmon (July 1–August 10). Fish entering the river during the early-run management plan spawn primarily in tributary streams, whereas fish entering during the late-run management plan are destined primarily for mainstem spawning locations. There is a small period of time when these two stocks are present in the fishery at the same time and regulations governing the harvest of these stocks vary depending on when and where the fish are present.

Kenai River king salmon radiotelemetry study results from 2010–2013 indicates at least 96% of the radiotagged, tributary-spawning king salmon were located in closed waters (existing king salmon sanctuaries or spawning tributaries) by July 16 in every year studied (Table 166-1; Figures 166-1 & 166-2).

As expected, the July 1 cut-off for differentiating the early and late runs is imperfect, but still practical for management of both runs (McKinley et al. 2013). The approximate date where 50% of the king salmon entering the Kenai River at rm 8.6 are mainstem spawners on average is June 20 (Figure 166-3 & Table 166-1). The first time stratum where the proportion of mainstem spawning king salmon entering the river was greater than 50% was June 24–30.

Harvest of early-run tributary king salmon above the Soldotna Bridge from July 1 thru July 16 ranged from 19.1% to 35.5% from 2007–2010 (McKinley et al. 2013; Table 166-2).

The proportion of mainstem spawning king salmon that enter the Kenai River prior to July 1 averaged 21% from 2010–2014 compared to 11% during 1980, 81, 90, 91 (Reimer 2013 and Eskelin *in prep*.; Table 166-3). The distribution of mainstem spawning king salmon within the Kenai River from 2012–2014 is similar to the distribution observed in 1979, 80, 81, 89, 90, 91 (Table 166-4). Based on recent radio telemetry and genetic research, the abundance and distribution of mainstem spawning king salmon that enter the river prior to July 1 has not changed. Also, both mainstem and tributary spawning fish are more widely distributed in the drainage than previously known, and mainstem spawning fish enter the river earlier than previously documented in earlier studies.

In 2013, the Kenai River late-run king salmon escapement goal was changed to an SEG range of 15,000–30,000 in 2013. In the three years (2014–2016) since the plan was implemented, the king salmon SEG was achieved all three years based on preliminary 2016 data (Table 166-5).

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal as a conservation measure. Tributary-spawning king salmon already have adequate protection through existing regulations and the department's use of EO authority to restrict the sport fishery as necessary to achieve escapement goals.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 166-1.–Distribution of early-run, mainstem spawning king salmon by date and area, Kenai River 2010–2014.

			Upstream of Slikok Creek[a]	
		Downstream of Slikok Creek[a]	Unrestricted	Closed or restricted
Year	Date	Prop. (SE)	Prop. (SE)	Prop. (SE)
2010				
	16 Jun	1.00 (0.0)	0.0 (0.0)	0.0 (0.0)
	21 Jun	0.5 (0.35)	0.0 (0.0)	0.5 (0.35)
	26 Jun	0.6 (0.22)	0.0 (0.0)	0.4 (0.22)
	1 Jul	0.56 (0.17)	0.11 (0.1)	0.33 (0.16)
	6 Jul	0.56 (0.17)	0.22 (0.14)	0.22 (0.14)
	11 Jul	0.63 (0.17)	0.13 (0.12)	0.25 (0.15)
	16 Jul	0.5 (0.18)	0.38 (0.17)	0.13 (0.12)
	21 Jul	0.38 (0.17)	0.5 (0.18)	0.13 (0.12)
	26 Jul	0.43 (0.19)	0.43 (0.19)	0.14 (0.13)
	31 Jul	0.29 (0.17)	0.43 (0.19)	0.29 (0.17)
2011				
	16 Jun	0.75 (0.22)	0.0 (0.0)	0.25 (0.22)
	21 Jun	0.86 (0.13)	0.14 (0.13)	0.0 (0.0)
	26 Jun	0.69 (0.13)	0.15 (0.1)	0.15 (0.1)
	1 Jul	0.73 (0.09)	0.14 (0.07)	0.14 (0.07)
	6 Jul	0.59 (0.1)	0.18 (0.08)	0.23 (0.09)
	11 Jul	0.57 (0.11)	0.19 (0.09)	0.24 (0.09)
	16 Jul	0.43 (0.11)	0.29 (0.1)	0.29 (0.1)
	21 Jul	0.30 (0.1)	0.5 (0.11)	0.2 (0.09)
	26 Jul	0.16 (0.08)	0.47 (0.11)	0.37 (0.11)
	31 Jul	0.16 (0.08)	0.32 (0.11)	0.53 (0.11)
2012				
	16 Jun	1.0 (0.0)	0.0 (0.0)	0.0 (0.0)
	21 Jun	1.0 (0.0)	0.0 (0.0)	0.0 (0.0)
	26 Jun	0.67 (0.27)	0.0 (0.0)	0.33 (0.27)
	1 Jul	0.43 (0.19)	0.29 (0.17)	0.29 (0.17)
	6 Jul	0.29 (0.17)	0.71 (0.17)	0.0 (0.0)
	11 Jul	0.14 (0.13)	0.43 (0.19)	0.43 (0.19)
	16 Jul	0.14 (0.13)	0.71 (0.17)	0.14 (0.13)
	21 Jul	0.17 (0.15)	0.67 (0.19)	0.17 (0.15)
	26 Jul	0.17 (0.15)	0.5 (0.2)	0.33 (0.19)
	31 Jul	0.17 (0.15)	0.5 (0.2)	0.33 (0.19)
2013				
	16 Jun	1.0 (0.0)	0.0 (0.0)	0.0 (0.0)
	21 Jun	1.0 (0.0)	0.0 (0.0)	0.0 (0.0)
	26 Jun	0.8 (0.18)	0.0 (0.0)	0.2 (0.18)
	1 Jul	0.50 (0.18)	0.25 (0.15)	0.25 (0.15)
	6 Jul	0.25 (0.15)	0.38 (0.17)	0.38 (0.17)
	11 Jul	0.13 (0.12)	0.5 (0.18)	0.38 (0.17)
	16 Jul	0.0 (0.0)	0.63 (0.17)	0.38 (0.17)
	21 Jul	0.0 (0.0)	0.71 (0.17)	0.29 (0.17)
	26 Jul	0.0 (0.0)	0.57 (0.19)	0.43 (0.19)
	31 Jul	0.0 (0.0)	0.57 (0.19)	0.43 (0.19)
2014				
	16 Jun	1.0 (0.0)	0.0 (0.0)	0.0 (0.0)
	21 Jun	0.8 (0.18)	0.0 (0.0)	0.2 (0.18)
	26 Jun	0.75 (0.15)	0.25 (0.15)	0.0 (0.0)
	1 Jul	0.54 (0.14)	0.31 (0.13)	0.15 (0.1)
	6 Jul	0.31 (0.13)	0.38 (0.13)	0.31 (0.13)
	11 Jul	0.23 (0.12)	0.46 (0.14)	0.31 (0.13)
	16 Jul	0.09 (0.09)	0.27 (0.13)	0.64 (0.15)
	21 Jul	0.1 (0.09)	0.2 (0.13)	0.7 (0.14)
	26 Jul	0.2 (0.13)	0.2 (0.13)	0.6 (0.15)
	31 Jul	0.11 (0.1)	0.33 (0.16)	0.56 (0.17)

[a] "Downstream of Slikok Creek" includes Cook Inlet to Slikok Creek (RM 0–19). The unrestricted portion of "Upstream of Slikok Creek" includes Slikok Creek to Skilak Lake (RM 19–50) excluding closed or restricted fishing areas around Slikok Creek, Centennial Park, Funny River, Morgan's Landing, and Killey River. Closed or restricted waters describe the exclusions noted above plus the Kenai River upstream of and including Skilak Lake and all tributaries to the Kenai River drainage.

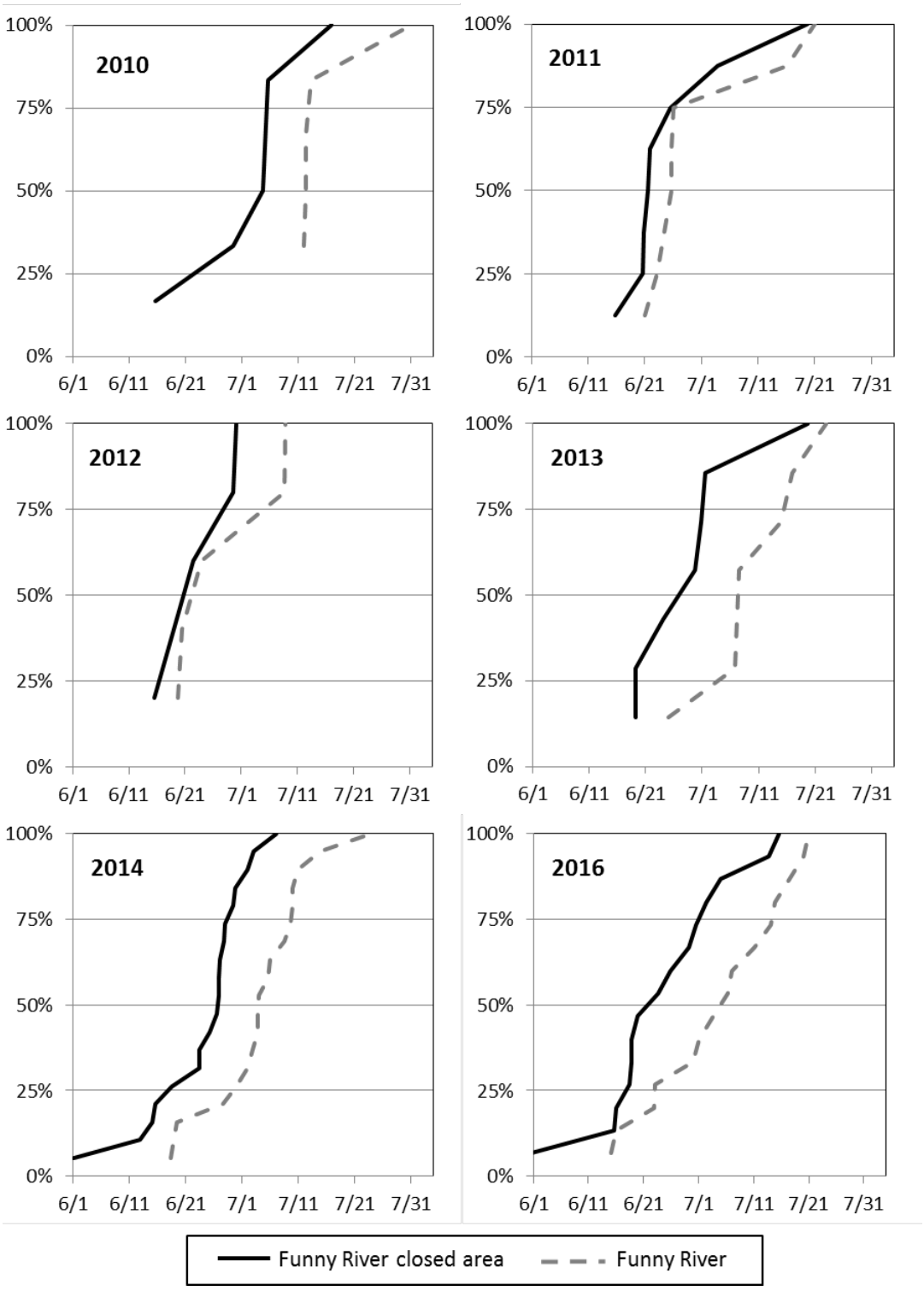

Figure 166-1.–Cumulative entry timing of Funny River bound king salmon into the Funny River closed area and into the Funny River drainage, 2010–2014 and 2016.

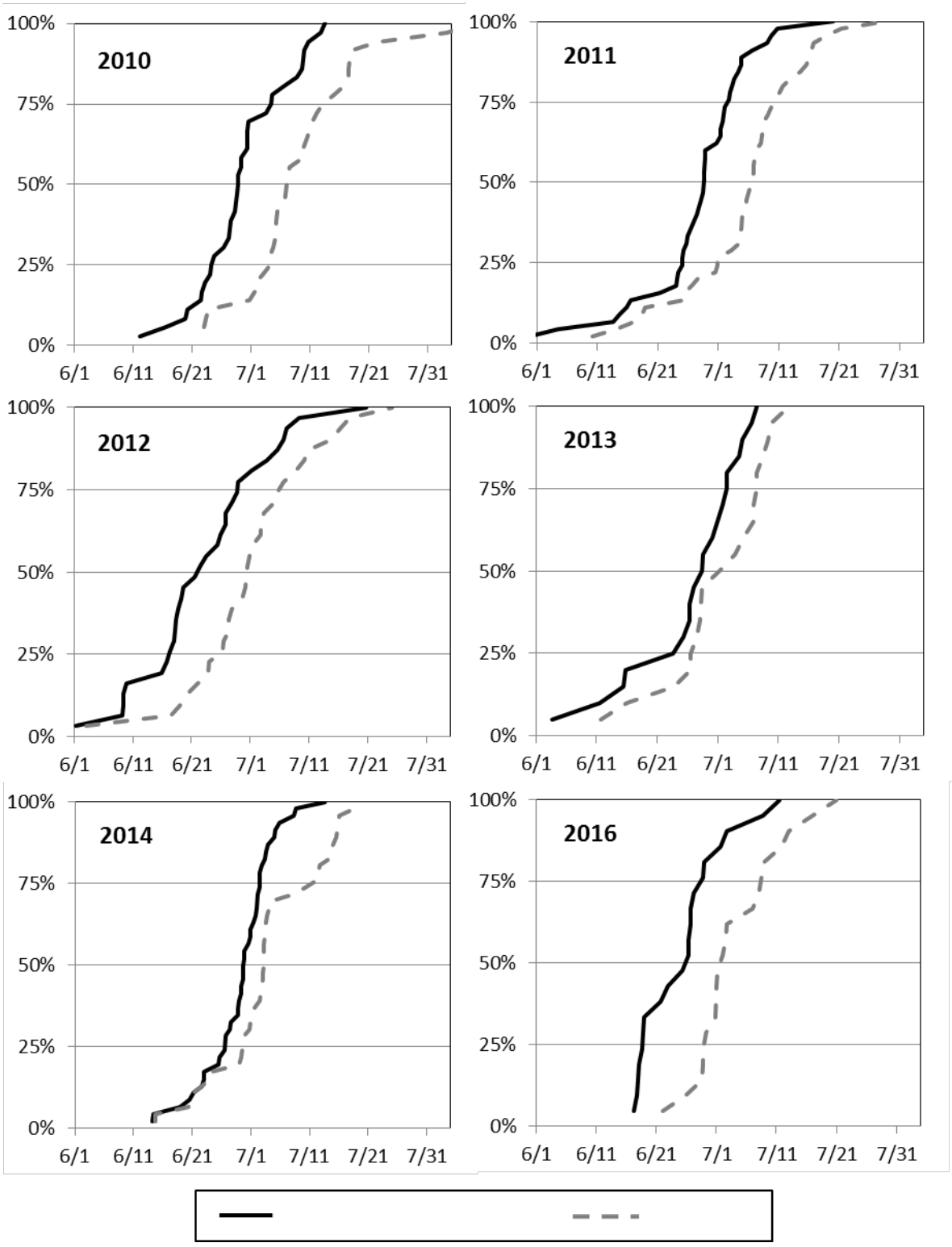

Figure 166-2.–Cumulative entry timing of Killey River/Benjamin Creek-bound king salmon into the Killey River closed area and into the Killey River drainage, 2010–2014 and 2016.

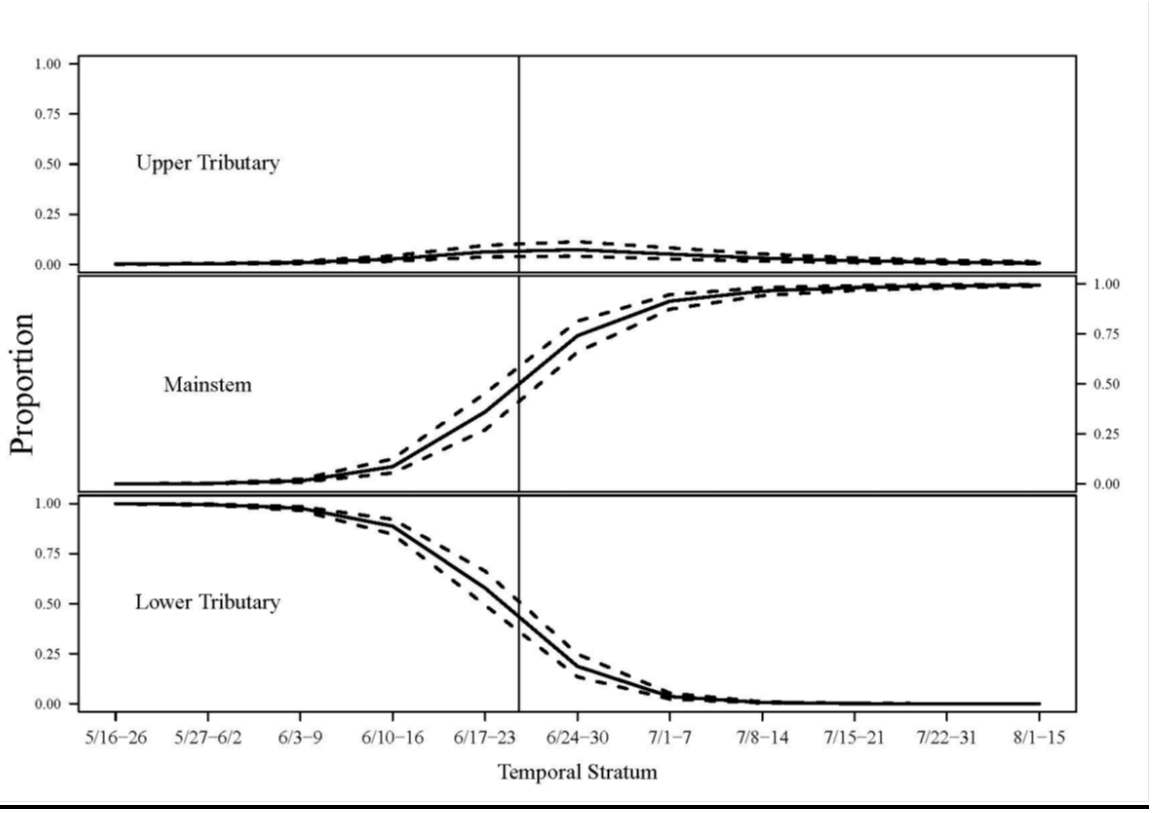

Figure 166-3.– Global mean proportions (solid lines) and 90% credibility intervals (dashed lines) for temporal strata from the inriver run from 2003–2013.

Table 166-2.–Mean proportional run estimates by stratum, and reporting groups for Kenai River king salmon, 2003–2013.

	Temporal Stratum										
Reporting Group	16-26 May	27 May - 2 June	3-9 June	10-16 June	17-23 June	24-30 June	1-7 July	8-14 July	15-21 July	22-31 July	1-15 August
Mainstem	0.0%	0.2%	1.5%	8.7%	36.0%	74.1%	91.3%	96.4%	98.1%	99.0%	99.4%
Upper Tributary	0.1%	0.2%	0.8%	2.7%	6.2%	7.3%	5.1%	3.0%	1.8%	1.0%	0.6%
Lower Tributary	99.9%	99.5%	97.7%	88.7%	57.8%	18.7%	3.6%	0.6%	0.1%	0.0%	0.0%

Note: Upper Tributaries are Quartz/Dave's, Crescent, Grant Creeks and Russian River. Lower tributaries are Benjamin Creek, Killey River, Funny River, and Slikok Creek.

Table 166-3.–Middle Kenai River king salmon sport harvest stock composition estimates (%), and standard deviations (SD), by reporting groups and date ranges, 2007–2010.

		Dates		
Year	Reporting Group	17-30 June	1-16 July	17-31 July
2007	Tributary	87.8% (0.05)	26.5% (0.08)	1.0% (0.01)
	Mainstem	12.2% (0.05)	73.5% (0.08)	99.0% (0.01)
2008	Tributary	89.0% (0.04)	35.5% (0.06)	2.1% (0.02)
	Mainstem	11.1% (0.04)	64.5% (0.06)	98.0% (0.02)
2009	Tributary	87.6% (0.06)	22.3% (0.07)	1.2% (0.02)
	Mainstem	12.4% (0.06)	77.7% (0.07)	98.8% (0.02)
2010	Tributary	85.6% (0.05)	19.1% (0.06)	1.0% (0.01)
	Mainstem	14.4% (0.05)	80.9% (0.06)	99.0% (0.01)

Table 166-4.–Tributary and mainstem composition for early run Kenai River king salmon tagged near RM 8.6.

	Tributary				Mainstem	
Year	N	%	SE	% (SE)	N	% (SE)
1980	21	100%	0%	100% (0%)	0	0% (0%)
1981	18	95%	5%	95% (5%)	1	5% (5%)
1990	66	70%	5%	70% (5%)	28	30% (6%)
1991	70	91%	3%	91% (3%)	7	9% (3%)
2010	65	81%	9%	81% (9%)	15	19% (5%)
2011	56	72%	5%	72% (5%)	22	28% (5%)
2012	39	85%	5%	85% (5%)	7	15% (5%)
2013	29	78%	7%	78% (7%)	8	22% (7%)
2014	76	81%	4%	81% (4%)	18	19% (4%)
Historical averages						
1980, 1981	20	98%	2%	98% (2%)	1	3% (2%)
1990, 1991	68	80%	3%	80% (3%)	18	20% (3%)
2010–2014	50	79%	3%	79% (3%)	14	21% (3%)
All years	49	81%	2%	81% (2%)	12	19% (2%)

Source: 1980 & 1981 (Burger et al. 1983), 1990 & 1991 (Bendock and Alexanderdottir 1990, 1991), 2010–2013 (Reimer 2013).

Table 166-5.- Spawning distributions determined by geographic area of mainstem spawning Kenai River king salmon tagged at RM 8.6, 2012–2014.

	Kenai River Geographic Area							
	Honeymoon Cove to Soldotna Bridge		Soldotna Bridge to Moose River		Moose River to Skilak Lake		Skilak Lake to Kenai Lake	
Year	%	SE (%)	%	SE (%)	%	SE (%)	%	SE (%)
2012	40%	5%	27%	5%	20%	4%	12%	4%
2013	35%	6%	24%	5%	27%	5%	14%	4%
2014	39%	6%	16%	4%	35%	5%	11%	4%
2012–2014 Avg.	38%	6%	22%	5%	27%	5%	12%	4%
1979,80,81,89,90,91 Avg.	39%	13%	25%	23%	23%	14%	13%	13%

Note: Geographic boundaries are slightly different for the 2012–2014 compared to the older tagging studies. The older studies used the Moose River as the boundary between the middle two geographic boundaries, whereas Moose River is used during the recent studies to align with SWHS estimates and recent management actions. Very little spawning occurs between the Moose River confluence and Naptowne Rapids.

PROPOSAL 164 – 5 AAC 21.359. Kenai River Late-Run King Salmon Management Plan.

PROPOSED BY: Dan Ducker.

WHAT WOULD THE PROPOSAL DO? This would repeal the *Kenai River Late-Run King Salmon Management Plan* and readopt a new version of the plan that would: remove paired restrictions in the sport fishery and commercial ESSN fisheries; establish an SEG range of 12,000–27,000 late-run king salmon; change the end date of the early-run plan to June 22 and the start of the late-run plan to June 23; prohibit the use of bait during the late-run king salmon sport fishery; and restrict the area open to king salmon sport fishing to that portion of the Kenai River downstream of sonar project at RM 14.

WHAT ARE THE CURRENT REGULATIONS? The purposes of the management plan are to ensure an adequate escapement of late-run king salmon into the Kenai River system and to provide management guidelines to the department. The department shall manage the late-run Kenai River king salmon stocks primarily for sport and guided sport uses in order to provide the sport and guided sport fishermen with a reasonable opportunity to harvest these salmon resources over the entire run, as measured by the frequency of inriver restrictions. The department shall manage the late-run of Kenai River king salmon to achieve a SEG range of 15,000–30,000 king salmon.

The *Kenai River Late-Run King Salmon Management Plan* establishes single hook and only one unbaited, barbless, single-hook, artificial lure regulations for the sport fishery; unguided nonmotorized vessel Mondays in July; and restrictions to sport and commercial users with triggers at 15,000 and 22,500 Kenai River late-run king salmon. The plan describes paired restrictions, actions taken in times of poor king salmon runs to share the burden of conservation among all user groups:

If the use of bait is prohibited in the Kenai River sport fishery; the retention of king salmon is prohibited in the personal use fishery; commercial fishing periods are open for no more than 36 hours per week, with a 36-hour continuous closure per week during which the number of set gillnets operated may also be restricted.

If the use of bait and the retention of king salmon are prohibited in the Kenai River sport fishery, commercial fishing periods are open for no more than 12 hours per week, with a 36–hour continuous closure per week beginning between 7:00 p.m. Thursday and 7:00 a.m. Friday.

From August 1–August 15, if the projected escapement of king salmon into the Kenai River is at least 16,500, but less than 22,500 fish, the commissioner may open the commercial set gillnet fishery in the Upper Subdistrict to no more than 36 hours of fishing time.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Establishing the lower bound of the SEG range at 12,000 fish from the current SEG of 15,000–30,000 king salmon would decrease the likelihood of achieving MSY and multiple escapements at the lower bound of the range potentially impact productivity of the stock. Lowering the goal range would also likely reduce restrictions to sport and commercial users that would be needed to achieve the goal.

Eliminating escapement triggers and actions that tie restrictions in the sport and personal use fishery to actions in the commercial fisheries would provide more opportunity to commercial users likely increasing harvests of sockeye and king salmon in years of low Kenai River king salmon runs.

Regulatory gear restrictions to the late-run king salmon fishery would have little effect in years of low run strength but would reduce harvest and limit opportunity in years of normal to high strength when a harvestable surplus of king salmon was available. In years of average to high king salmon runs, angler efficiency and harvest would be reduced to increase king salmon escapement and increase the likelihood of exceeding the SEG. In years of low king salmon runs, removing language that pairs restrictions in the sport fishery to the commercial fishery diminishes the step-down approach in harvest opportunity currently used as a tool to share conservation burden among user groups. This may lead to increased restrictions to the sport and personal use fisheries in order to achieve the SEG. This proposal may limit the department's ability to manage for the escapement goal and distribute the harvest throughout the run.

BACKGROUND: Following the 2012 season, the board assembled a Cook Inlet king salmon task force during the winter of 2012–2013. The purpose of the task force was to generate recommendations for changes to the regulations within the *Kenai River Late-run King Salmon Management Plan* for consideration during the Statewide Finfish meeting in March 2013. The only change to the plan that occurred was replacing the existing SEG with an interim DIDSON–based SEG range of 15,000–30,000 late-run king salmon (Figures 164-1 and 164-2). In 2012, new SEG ranges were developed for the early- and late-run to reflect this new gear type and reassessment of past data. In 2013, the department transitioned fully from split-beam to DIDSON technology at RM 8.6, and used the DIDSON for inseason management of the fishery. In 2015, the department completed the next stage of the sonar transition by upgrading to the ARIS technology and moving the king salmon sonar site upriver to RM 14. The SEG range was evaluated by the department for the 2017 meeting and the department recommended completing the final stage of the sonar transition by adopting an SEG range for Kenai River king salmon based on large fish.

In 2014, the board considered proposals seeking changes to the *Kenai River Late-Run King Salmon Management Plan.* Modifications to the plan that came out of that meeting were the inclusion of the new SEG range and the pairing of restrictions between sport, personal use, and commercial users to share the burden of king salmon conservation in years of low Kenai River king salmon runs. In the three years (2014–2016) since the plan was implemented, the king salmon SEG range of 15,000–30,000 was achieved all three years (Table 164-1). The other species affected by the plan, Kenai River sockeye salmon, are managed to meet an OEG of 700,000–140,000 late-run sockeye salmon; achieve inriver goals of salmon counted past the sonar counter established by the board based on projected run strengths; and distribute the escapement of sockeye salmon within the OEG range. In the three years (2014–2016) since the plan was implemented, the Kenai River late-run sockeye OEG was achieved in two of three years, and the inriver goal was exceeded all three years (Table 164-2).

King salmon returning to the Kenai River are managed as two distinct runs: tributary spawning king salmon (May 16–June 30) and mainstem spawning king salmon (July 1–August 10). Fish

entering the river during the early-run management plan spawn primarily in tributary streams, whereas fish entering during the late-run management plan are destined primarily for mainstem spawning locations. There is a small period of time when these two stocks are present in the fishery at the same time and regulations governing the harvest of these stocks vary depending on when and where the fish are present.

As expected, the July 1 cut-off for differentiating the early and late runs is imperfect, but still practical for management of both runs (McKinley et al. 2013). The approximate date where 50% of the king salmon entering the Kenai River at RM 8.6 are mainstem spawners on average is June 20 (Figure 164-3 and Table 164-3). The first time stratum where the proportion of mainstem spawning king salmon entering the river was greater than 50% was June 24–30.
Harvest of early-run tributary king salmon above the Soldotna Bridge from July 1 thru July 16 ranged from 19.1% to 35.5% from 2007–2010 (McKinley et al. 2013; Table 164-4).

The proportion of mainstem spawning king salmon that enter the Kenai River prior to July 1 averaged 21% from 2010–2014 compared to 11% during 1980, 1981, 1990, and 1991 (Reimer 2013 and Eskelin *in prep*.; Table 164-4). The distribution of mainstem spawning king salmon within the Kenai River from 2012–2014 is similar to the distribution observed in 1979, 1980, 1981, 1989, 1990, and 1991 (Table 164-5). Based on recent radio telemetry and genetic research, the abundance and distribution of mainstem spawning king salmon entering the river prior to July 1 has not changed. Also, both mainstem and tributary spawning fish are more widely distributed in the drainage than previously known, and mainstem spawning fish enter the river earlier than previously documented.

DEPARTMENT COMMENTS: The department is **OPPOSED** to this proposal. The department is responsible for establishing and modifying BEGs and SEGs. The department opposes changing the date late-run management begins and closing 36 miles of river to fishing without biological justification. The department has EO authority to restrict fisheries in years of low run strength. The department is transitioning to an escapement goal based on escapement of king salmon 75 cm and greater in length and will be discussing that goal and its implications at the UCI board meeting. The board will need to review existing management plans to determine what changes need to be made to reconcile the new SEG range with current management plans. The department supports sharing the burden of conservation among users in years of low salmon abundance, but is **NEUTRAL** on the allocative aspects of determining the weight of that burden on various user groups.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

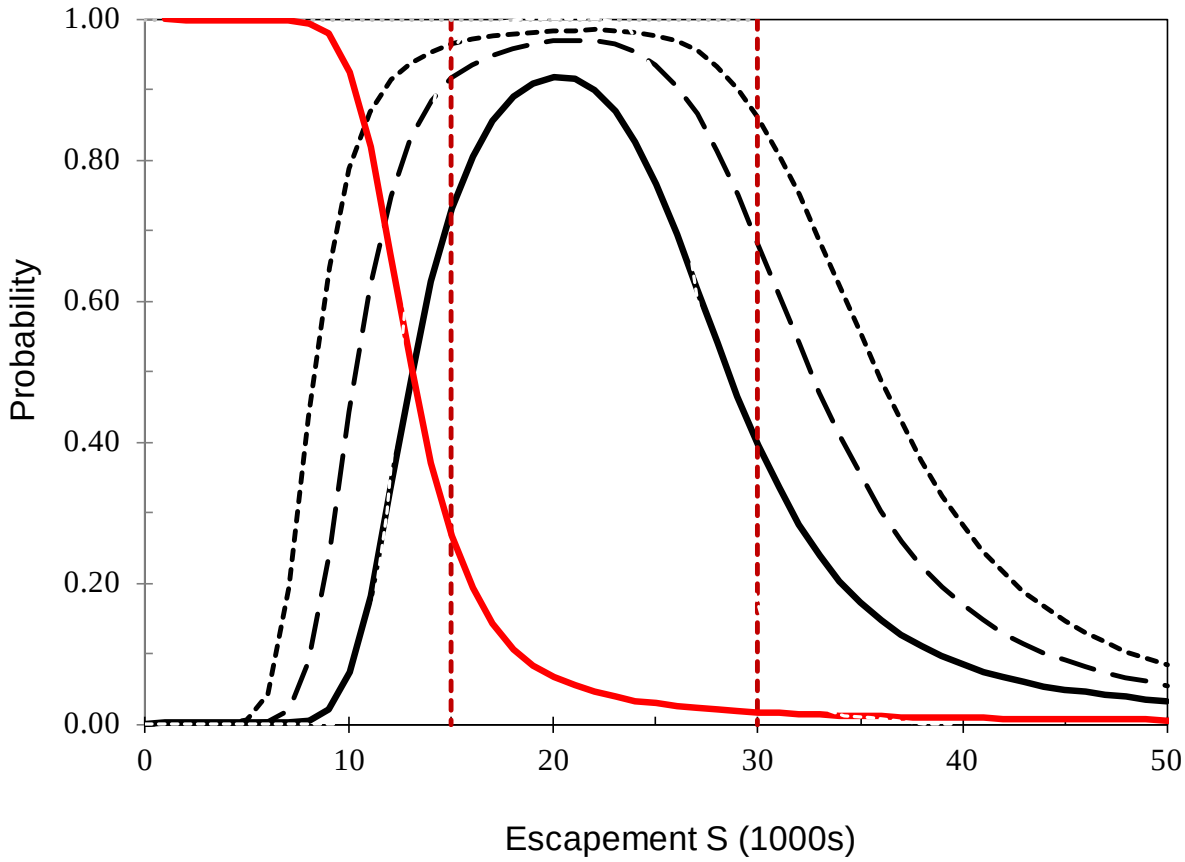

Figure 164-1. Optimal yield profiles (OYPs) and overfishing profile (OFP) for Kenai River late-run king salmon. OYPs (black dome-shaped profiles) show probability that a specified spawning abundance will achieve 70% (short dashes), 80% (long dashes), and 90% (solid line) of maximum sustained yield MSY. OFP (solid red declining line) is the probability that reducing the escapement to a specified spawning abundance will result in less than 90% of MSY. Vertical dashed red lines show the recommended escapement goal range.

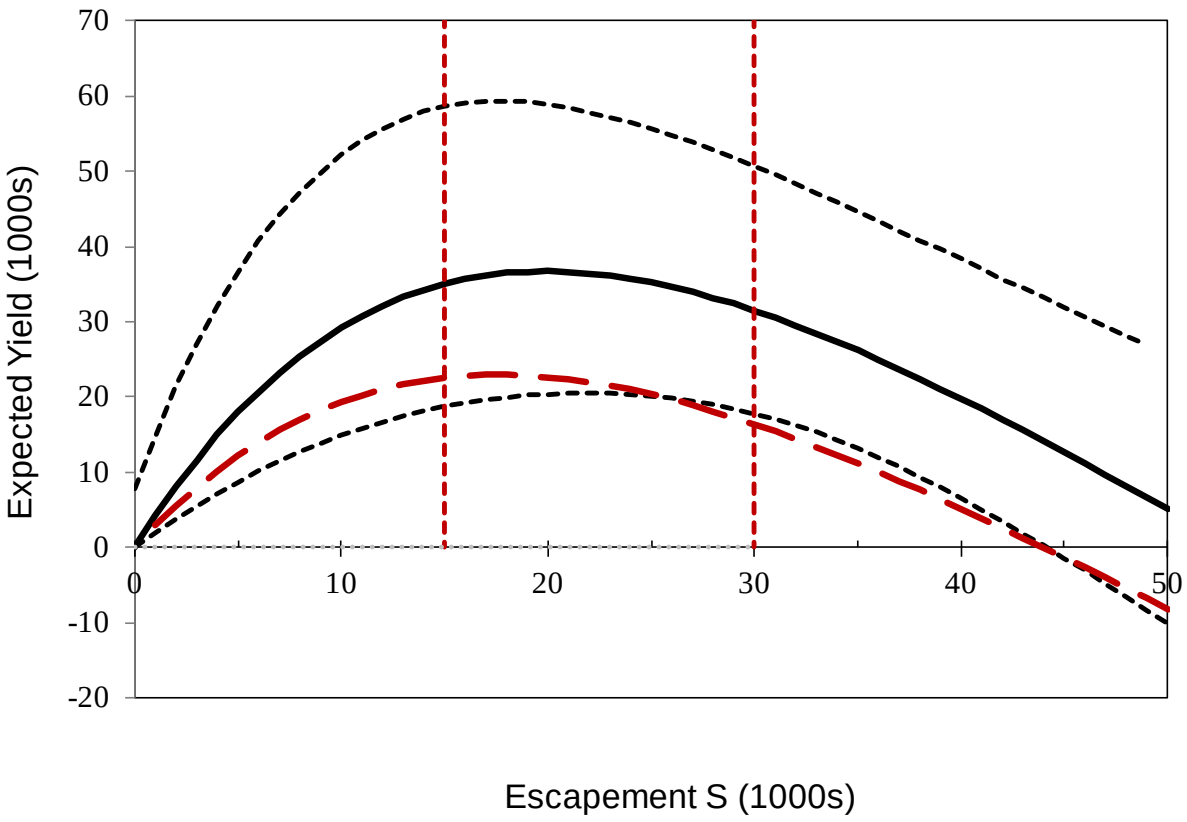

Figure 164-2.–Expected sustained yield (solid black line), and 80% interval (short dashed black lines) versus spawning escapement for Kenai River late-run king salmon, assuming average productivity for brood years 1979–2008. Vertical lines bracket recommended escapement goal range. Expected sustained yield under recent, reduced productivity (brood years 2004–2008) is also shown (long dashed red lines).

Table 164-1.–Kenai River late-run king salmon population data, 1986–2016.

Year	Creek Marine Harvest [a]	Eastside Setnet Harvest [b]	Drift Gillnet Harvest [c]	Kenaitze Educational	Subsistence	Personal Use Dipnet [d]	Sport Harvest Below Sonar [e]	Inriver Run Estimated by Sonar [f]	Sport Harvest Above Sonar [g]	Catch-and-Release Mortality [h]	Spawning Escapement	Total Run	Harvest Rate
1986	378	13,767	1,100	ND	ND	ND	ND	62,740	9,872	316	52,552	77,986	0.32
1987	731	14,693	2,731	ND	ND	235	ND	63,550	13,100	123	50,327	81,940	0.38
1988	892	8,929	1,342	ND	ND	0	ND	61,760	19,695	176	41,889	72,923	0.42
1989	821	7,579	0	ND	22	0	ND	36,370	9,691	88	26,591	44,792	0.40
1990	963	2,874	373	ND	13	ND	ND	34,200	6,897	69	27,234	38,423	0.29
1991	1,023	3,398	148	ND	288	ND	ND	38,940	7,903	16	31,021	43,797	0.29
1992	1,269	7,443	369	ND	402	0	ND	42,290	7,556	234	34,500	51,773	0.33
1993	1,700	9,776	459	ND	27	0	ND	50,210	17,775	478	31,957	62,172	0.48
1994	1,121	10,815	278	1	392	ND	ND	47,440	17,837	572	29,031	60,048	0.51
1995	1,241	8,380	356	3	ND	712	ND	44,770	12,609	472	31,689	55,462	0.42
1996	1,223	8,030	233	1	ND	295	ND	42,790	8,112	337	34,341	52,572	0.34
1997	1,759	7,864	376	20	ND	364	ND	41,120	12,755	570	27,795	51,503	0.45
1998	1,070	3,532	201	2	ND	254	ND	47,110	7,515	595	39,000	52,169	0.24
1999	602	6,571	345	4	ND	488	1,170	43,670	12,425	682	30,563	52,850	0.41
2000	631	2,558	162	6	ND	410	831	47,440	14,391	499	32,550	52,038	0.36
2001	552	4,173	371	8	ND	638	1,336	53,610	15,144	825	37,641	60,688	0.37
2002	256	6,582	249	6	ND	606	1,929	56,800	10,678	665	45,457	66,428	0.31
2003	120	10,284	744	11	ND	1,016	823	85,110	16,120	1,803	67,187	98,108	0.30
2004	996	15,057	662	10	ND	792	2,386	79,690	14,988	1,019	63,683	99,594	0.35
2005	624	14,997 [i]	1,175	11	ND	997	2,287	77,440	15,927	1,267	60,246	97,531	0.37
2006	563	6,913 [i]	1,669	11	ND	1,034	3,322	62,270	12,490	830	48,950	75,783	0.34
2007	478	8,536 [i]	547	6	0	1,509	1,750	47,370	9,690	670	37,010	60,196	0.37
2008	310	5,259 [i]	392	15	0	1,362	1,011	42,840	10,128	370	32,342	51,188	0.36
2009	154	3,880	515	4	0	1,189	1,132	29,940	7,904	626	21,410	36,815	0.40
2010	335	4,611	323	21	0	865	445	18,401	6,762	264	11,375	25,001	0.53
2011	528	5,144	356	5	0	1,243	458	23,713	6,894	479	16,340	31,447	0.47
2012	30	490	131	0	0	40	2	21,613	101	95	21,417	22,305	0.04
2013	369	2,293	296	8	0	11	37	19,931	512	77	19,342	22,945	0.15
2014	591	1,405	229	1	0	0	4	17,815	293	71	17,451	20,045	0.13
2015[j]	500	6,007	334	10	0	66	392	24,694	1,823	229	22,642	32,003	0.29
2016[j]	*not avail.*	*not avail.*	*not avail.*	6	1	*not avail.*	*not avail.*	22,535	*not avail.*	*not avail.*	*not avail.*	*not avail.*	*not avail.*
Average (1986-20	899	8,365	584	7	191	425	1,537	52,853	12,550	540	39,763	63,640	0.37
Average (2006-20	386	4,454	479	8	0	732	855	30,102	5,660	371	24,828	37,773	0.31
Average (1986-20	728	7,061	549	7	72	543	1,136	44,780	10,253	484	34,784	55,017	0.35

Source: State-Wide Harvest Surveys from Mills 1987–1994, Howe et al. 1995, 1996, 2001a-d, Walker et al. 2003; Jennings et al. 2004, 2006a-b, 2007, 2009a-b, 2010a-b, 2011a-b, 2015; Romberg et al.,*In Prep* a-d; Hammarstrom and Timmons 2001b; Brannian and Fox 1996; Ruesch and Fox 1996; Reimer and Sigurdsson 2004; Dunker and Lafferty 2007, Dunker, K.J. 2010, 2013, K. J. Dunker, Sport Fish Biologist, ADF&G, Anchorage, personal communication; Shields and Dupuis 2016; Fleischman and McKinley 2013, FMS 13-02; J. Perschbacher, Sport Fish Biologist, ADF&G, Soldotna, personal communication; T. McKinley, Sport Fish Biologist, ADF&G, Soldotna, personal communication; R. Begich Sport Fish Biologist, ADF&G, Soldotna, personal communication.

Note: ND = no data available

[a] 60% of SWHS estimates of Cook Inlet marine sport harvest after 24 June.

[b] 1986-2009 estimates from Fleischman and McKinley 2013, FMS 13-02; 2010-2015 from Eskelin et al. 2013 (FDS 13-63); Eskelin and Barclay 2015 and 2016, (FDS 15-19, FDS 16-16).

[c] 1986-2009 estimates from Fleischman and McKinley 2013, FMS 13-02; 2010-2015 estimates from ESSN GSI allocation.

[d] 1986–1994 from SWHS; 1995 (Ruesch and Fox 1996); 1996–2014 are estimates from returned permits.

[e] Creel survey estimates below RM 8.6 prior to 2013 and below RM 13.7 sonar since 2013.

[f] 1986-2009 inriver run estimates are model derived RM 8.6 sonar estimates from Fleischman and McKinley 2013, FMS 13-02; 2010-2012 iinriver run estimates are RM 8.6 sonar estimates published in Miller et al. 2013-15 (FDS 13-58, FDS 14-18, FDS 15-09) and expanded by inverse of proportion midriver; 2013-2015 inriver run estimates are preliminary ARIS sonar estimates at RM 13.7 plus spawning downstream of RM 13.7 sonar based on radio telemetry. 2013-2015 values subject to change prior to publishing.

[g] Creel survey and SWHS estimates above RM 8.6 sonar prior to 2013 and above RM 13.7 sonar since 2013.

[h] Some catch and release mortality (usually less than 100 fish) occurs below the sonar and is not counted towards escapement.

[i] Harvest estimate does not include Kasilof River terminal fishery which occurred 2005–2008.

[j] These estimates are preliminary until biometrically reviewed and published.

Table 164-2.–Kenai River late-run sockeye salmon inriver-harvest and spawning escapement, 1987–2016.

Year	Personal Use Dip Net, and Educational Harvest [a]	Sport Harvest Below Sonar [b]	Kenai River Sonar Count [c]	Sport Harvest Above Sonar	Spawning Escapement	Inriver Goal	BEG/SEG	OEG	Preseason Forecast	Actual Run Size
1987	24,090	50,274	1,596,871	233,958	1,362,913	400,000-700,000	330,000-600,000	330,000-600,000	3.5	8.6
1988	16,880	29,345	1,021,469	144,093	877,376	400,000-700,000	330,000-600,000	330,000-600,000	5.0	5.8
1989	51,192	66,162	1,599,959	268,958	1,331,001	400,000-700,000	330,000-600,000	330,000-600,000		5.9
1990	3,477	19,640	659,520	155,742	503,778	400,000-700,000	330,000-600,000	330,000-600,000	4.7	2.7
1991	13,433	31,536	647,597	227,697	419,900	400,000-700,000	330,000-600,000	330,000-600,000		1.7
1992	30,454	47,622	994,798	222,482	772,316	400,000-700,000	330,000-600,000	330,000-600,000	4.2	7.7
1993	35,592	27,717	813,617	137,229	676,388	400,000-700,000	330,000-600,000	330,000-600,000	1.9	3.9
1994	15,804	17,954	1,003,446	102,378	901,068	400,000-700,000	330,000-600,000	330,000-600,000	1.5	3.4
1995	15,720	29,451	630,447	108,076	522,371	450,000-700,000	330,000-600,000	330,000-600,000	2.3	2.3
1996	104,110	39,810	797,847	166,166	631,681	550,000-800,000	330,000-600,000	330,000-600,000	2.5	3.2
1997	116,107	43,642	1,064,818	147,057	917,761	550,000-825,000	330,000-600,000	330,000-600,000	4.0	3.9
1998	105,497	33,980	767,558	155,905	611,653	550,000-850,000	330,000-600,000	330,000-600,000	1.7	1.5
1999	150,993	46,043	803,379	187,725	615,654	750,000-950,000	500,000-800,000	500,000-1,000,000	1.6	2.5
2000	99,571	57,978	624,578	203,801	420,777	600,000-850,000	500,000-800,000	500,000-1,000,000	2.5	1.4
2001	152,580	51,374	650,036	168,104	481,932	600,000-850,000	500,000-800,000	500,000-1,000,000	2.4	1.8
2002	182,229	46,693	957,924	213,066	744,858	750,000-950,000	500,000-800,000	500,000-1,000,000	1.7	3.0
2003	227,207	60,722	1,181,309	253,734	927,575	750,000-950,000	500,000-800,000	500,000-1,000,000	2.0	3.8
2004	266,937	62,397	1,385,981	254,836	1,131,145	850,000-1,100,000	500,000-800,000	500,000-1,000,000	3.2	5.0
2005	300,105	58,017	1,376,452	254,818	1,121,634	850,000-1,100,000	500,000-800,000	500,000-1,000,000	3.3	5.6
2006	130,486	30,964	1,499,692	172,638	1,327,054	750,000-950,000	500,000-800,000	500,000-1,000,000	1.8	2.5
2007	293,941	60,623	867,572	265,702	601,870	750,000-950,000	500,000-800,000	500,000-1,000,000	2.4	3.4
2008	236,355	46,053	614,946	208,334	406,612	650,000-850,000	500,000-800,000	500,000-1,000,000	3.1	2.3
2009	343,302	45,868	745,170	241,938	503,232	650,000-850,000	500,000-800,000	500,000-1,000,000	2.4	2.4
2010	393,317	59,651	970,662	256,582	714,080	750,000-950,000	500,000-800,000	500,000-1,000,000	1.7	3.3
2011	543,043	92,225	1,599,217	318,484	1,280,733	1,100,000-1,350,000	700,000-1,200,000	700,000-1,400,000	3.9	6.2
2012	530,128	102,376	1,581,555	368,634	1,212,921	1,100,000-1,350,000	700,000-1,200,000	700,000-1,400,000	4.0	4.7
2013	350,302	78,837	1,359,893	379,685	980,208	1,000,000-1,200,000	700,000-1,200,000	700,000-1,400,000	4.4	3.5
2014	384,018	78,057	1,520,340	301,998	1,218,341	1,000,000-1,200,000	700,000-1,200,000	700,000-1,400,000	3.8	3.3
2015	384,095	83,112	1,709,051	309,004	1,400,047	1,000,000-1,200,000	700,000-1,200,000	700,000-1,400,000	3.6	3.9
2016	*not avail.*	*not avail.*	1,383,692	*not avail.*	*not avail.*	1,100,000-1,350,000	700,000-1,200,000	700,000-1,400,000	4.7	3.5

Source: State-Wide Harvest Surveys from Mills 1982-1994; Howe et al. 1995, 1996, 2001a-d; Walker et al. 2003; Jennings et al. 2004, 2006a-b, 2007, 2009a-b, 2010a-b, 2011a-b, 2015; Romberg et al., *In Prep* a-d; Brannian and Fox 1996; Reimer and Sigurdsson 2004, Dunker and Lafferty 2007, Dunker 2010, 2013, K. J. Dunker, Sport Fish biologist, Anchorage, personal communication; King 1995, 1996; Pappas and Marsh 2004; Shields and Dupuis 2016;

Note: ND = no data available

[a] Personal use harvest not known in 1982; Personal use (1981-1995), Subsistence dip net harvest (1991-1995), and Kenaitze educational harvest (1989-1995) from Brannian and Fox,1996. From 1994 to present, the educational harvest is the total late-run harvest.

[b] In 1994 and 1995 a creel survey was conducted to estimate harvest below the sonar. In 1994, 49.7% of the below Soldotna Bridge harvest was taken below the sonar. In 1995, 68.6 % was taken below the sonar. The average of these two percentages is applied to all other year's below-bridge harvest to estimate the harvest below the sonar.

[c] Bendix sonar counts were used for 1987-2010. Didson sonar counts were used for 2011-2016.

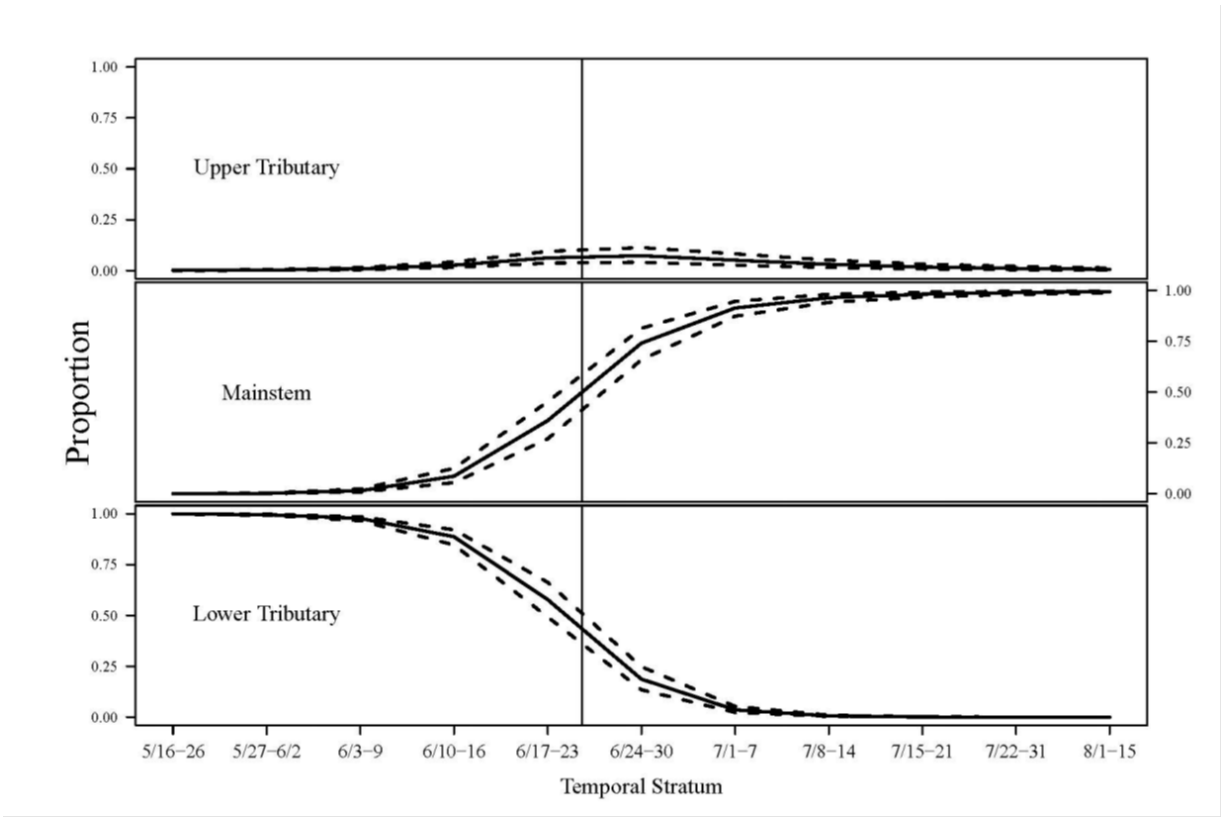

Figure 164-3.–Global mean proportions (solid lines) and 90% credibility intervals (dashed lines) for temporal strata from the inriver run, 2003–2013.

Table 164-3.–Mean proportional run estimates by stratum, and reporting groups for Kenai River king salmon, 2003–2013.

	Temporal Stratum										
Reporting Group	16-26 May	27 May - 2 June	3-9 June	10-16 June	17-23 June	24-30 June	1-7 July	8-14 July	15-21 July	22-31 July	1-15 August
Mainstem	0.0%	0.2%	1.5%	8.7%	36.0%	74.1%	91.3%	96.4%	98.1%	99.0%	99.4%
Upper Tributary	0.1%	0.2%	0.8%	2.7%	6.2%	7.3%	5.1%	3.0%	1.8%	1.0%	0.6%
Lower Tributary	99.9%	99.5%	97.7%	88.7%	57.8%	18.7%	3.6%	0.6%	0.1%	0.0%	0.0%

Note: Upper Tributaries are Quartz/Dave's, Crescent, Grant Creeks and Russian River. Lower tributaries are Benjamin Creek, Killey River, Funny River, and Slikok Creek.

Table 164-4.–Middle Kenai River king salmon sport harvest stock composition estimates (%), and standard deviations (SD), by reporting groups and date ranges, 2007–2010.

		Dates		
Year	Reporting Group	17-30 June	1-16 July	17-31 July
2007	Tributary	87.8% (0.05)	26.5% (0.08)	1.0% (0.01)
	Mainstem	12.2% (0.05)	73.5% (0.08)	99.0% (0.01)
2008	Tributary	89.0% (0.04)	35.5% (0.06)	2.1% (0.02)
	Mainstem	11.1% (0.04)	64.5% (0.06)	98.0% (0.02)
2009	Tributary	87.6% (0.06)	22.3% (0.07)	1.2% (0.02)
	Mainstem	12.4% (0.06)	77.7% (0.07)	98.8% (0.02)
2010	Tributary	85.6% (0.05)	19.1% (0.06)	1.0% (0.01)
	Mainstem	14.4% (0.05)	80.9% (0.06)	99.0% (0.01)

Table 164-5.–Tributary and mainstem composition for early run Kenai River king salmon tagged near RM 8.6.

	Tributary				Mainstem	
Year	N	%	SE	% (SE)	N	% (SE)
1980	21	100%	0%	100% (0%)	0	0% (0%)
1981	18	95%	5%	95% (5%)	1	5% (5%)
1990	66	70%	5%	70% (5%)	28	30% (6%)
1991	70	91%	3%	91% (3%)	7	9% (3%)
2010	65	81%	9%	81% (9%)	15	19% (5%)
2011	56	72%	5%	72% (5%)	22	28% (5%)
2012	39	85%	5%	85% (5%)	7	15% (5%)
2013	29	78%	7%	78% (7%)	8	22% (7%)
2014	76	81%	4%	81% (4%)	18	19% (4%)
Historical averages						
1980, 1981	20	98%	2%	98% (2%)	1	3% (2%)
1990, 1991	68	80%	3%	80% (3%)	18	20% (3%)
2010–2014	50	79%	3%	79% (3%)	14	21% (3%)
All years	49	81%	2%	81% (2%)	12	19% (2%)

Source: 1980 & 1981 (Burger et al. 1983), 1990 & 1991 (Bendock and Alexanderdottir 1990, 1991), 2010–2013 (Reimer 2013).

Table 164-6.–Spawning distributions determined by geographic area of mainstem spawning Kenai River king salmon tagged at RM 8.6, 2012–2014.

	Kenai River Geographic Area							
	Honeymoon Cove to Soldotna Bridge		Soldotna Bridge to Moose River		Moose River to Skilak Lake		Skilak Lake to Kenai Lake	
Year	%	SE (%)	%	SE (%)	%	SE (%)	%	SE (%)
2012	40%	5%	27%	5%	20%	4%	12%	4%
2013	35%	6%	24%	5%	27%	5%	14%	4%
2014	39%	6%	16%	4%	35%	5%	11%	4%
2012–2014 Avg.	38%	6%	22%	5%	27%	5%	12%	4%
1979,80,81,89,90,91 Avg.	39%	13%	25%	23%	23%	14%	13%	13%

Note: Geographic boundaries are slightly different for the 2012–2014 compared to the older tagging studies. The older studies used the Moose River as the boundary between the middle two geographic boundaries, whereas Moose River is used during the recent studies to align with SWHS estimates and recent management actions. Very little spawning occurs between the Moose River confluence and Naptowne Rapids.

PROPOSAL 170 – 5 AAC 21.359. Kenai River Late-Run King Salmon Management Plan.

PROPOSED BY: Brandi Ware.

WHAT WOULD THE PROPOSAL DO? This would amend "paired" restrictions in the management plan as follows: (1) reduce the hours that Kenai River inriver fisheries are open from 168 hours per week to 56 hours per week; (2) modify the Kenai River sport fishery to harvest king salmon by age in proportion to the run; (3) harvest age 1.1 and 1.2 king salmon under 30 inches in length in the same proportion that the ESSN fishery takes, or 50% of the harvest; (4) close the Kenai River fisheries that harvest sockeye salmon when the ESSN fishery is restricted as a result of the king salmon sport fishery operating under a no-bait provision; and (5) compensate the ESSN commercial fishery with a presently unavailable and comparable commercial fishing opportunity to offset lost time and benefits due to restrictions on the fishery in July.

WHAT ARE THE CURRENT REGULATIONS? The purposes of the management plan are to ensure an adequate escapement of late-run king salmon into the Kenai River system and to provide management guidelines to the department. The department shall manage the late-run Kenai River king salmon stocks primarily for sport and guided sport uses in order to provide the sport and guided sport fishermen with a reasonable opportunity to harvest these salmon resources over the entire run, as measured by the frequency or inriver restrictions. The department shall manage the late run of Kenai River king salmon to achieve a SEG of 15,000–30,000 king salmon.

The *Kenai River Late-Run King Salmon Management Plan* establishes single hook and only one unbaited, barbless, single-hook, artificial lure regulations for the sport fishery; unguided nonmotorized vessel Mondays in July; and restrictions to sport and commercial users with triggers at 15,000 and 22,500 Kenai River late-run king salmon. The plan describes paired restrictions, actions taken in times of poor king salmon runs to share the burden of conservation among all user groups:

If the use of bait is prohibited in the Kenai River sport fishery; the retention of king salmon is prohibited in the personal use fishery; commercial fishing periods are open for no more than 36 hours per week, with a 36-hour continuous closure per week during which the number of set gillnets operated may also be restricted.

If the use of bait and the retention of king salmon are prohibited in the Kenai River sport fishery, commercial fishing periods are open for no more than 12 hours per week, with a 36-hour continuous closure per week beginning between 7:00 p.m. Thursday and 7:00 a.m. Friday.

From August 1 through August 15, if the projected escapement of king salmon into the Kenai River is at least 16,500, but less than 22,500 fish, the commissioner may open the commercial set gillnet fishery in the Upper Subdistrict to no more than 36 hours of fishing time.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It is very difficult to determine what the effects of this proposal would be because of the number of proposed changes to the management plan. During times of low king salmon abundance, when paired restrictions are implemented, the Kenai River inriver fisheries that harvest sockeye

salmon would only be open for 56 hours per week, or closed entirely, which would result in a reduction in sockeye salmon harvest by an unknown amount and increase sockeye salmon escapement. It would be very difficult, perhaps not even possible, to manage the king salmon sport fishery to attain the same age structure in the harvest as is taken in the ESSN fishery. It is unclear how the department could "compensate" the commercial fishery for lost sockeye salmon harvest opportunity through the additions of other currently unavailable commercial fisheries.

BACKGROUND: In 2014, the board modified the *Kenai River Late-Run King Salmon Management Plan* to include for the first time what is commonly referred to as "paired restrictions." Based on projections of the inriver run of late-run king salmon in July, the board identified restrictive provisions in personal use, sport, and commercial fisheries for the department to implement in order to reduce the harvest of king salmon during periods of low abundance. From August 1–15, after the personal use and sport fisheries have closed by regulation, the board identified specific king salmon escapement projections that would trigger additional restrictive provisions in the ESSN fishery.

Since 2014, when "paired restrictions" were adopted, some to all of the restrictive provisions of the management plan have been implemented in all three years. For example, in 2014 and 2015 the ESSN fishery was restricted to 36 hours fishing time per week for all or part of the July 1–30 time frame, the personal use fishery was non-retention for king salmon, and the sport fishery started the season without bait and was also either restricted to non-retention or closed for part of the season.. Additionally, the 36-hour restriction for the August 1–15 time period in the ESSN fishery was imposed in each of the past three years (2014–2016).

In each of the last three years, the Kenai River sockeye salmon inriver goal range was exceeded and the OEG and SEG were achieved. During this same time period, the Kenai River late-run king salmon SEG was achieved.

Data from the sport fishery and the inriver netting program indicate that the late run age-class composition of the total run is relatively stable and within the bounds experienced historically since 1986 (tables 170-1 and 170-2). Sport harvest selectivity of late-run king salmon favors older, larger king salmon (Table 170-3). However, gear used in the commercial harvest of late-run king salmon tends to select smaller, younger fish due to the mesh size used in the fishery (Table 170-3). The age and size composition of the combined harvest tends to be in proportion to that of the total late run each year, although recently, more younger, smaller king salmon are being selected for, likely due to their increased abundance (Figure 170-2).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal. The department is opposed to aspects of this proposal that are functionally impossible to implement, are simply punitive in nature, and do not offer any conservation benefit.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 170-1.–Total run by age class for Kenai River late-run king salmon, 1986–2016.

	Age Class					
Year	1.1	1.2	1.3	1.4	1.5	Total
1986	153	11,146	33,226	30,204	3,256	77,986
1987	645	3,805	23,730	52,873	886	81,940
1988	337	1,903	3,926	55,734	11,023	72,923
1989	258	4,899	6,164	28,230	5,240	44,792
1990	50	5,291	6,104	25,150	1,828	38,423
1991	284	3,865	7,485	29,460	2,702	43,797
1992	198	4,074	9,159	36,956	1,384	51,773
1993	645	5,485	9,265	43,344	3,434	62,172
1994	744	4,050	7,136	45,304	2,814	60,048
1995	484	12,213	12,866	26,802	3,098	55,462
1996	369	4,718	17,954	28,974	558	52,572
1997	708	2,938	12,076	34,864	917	51,503
1998	503	8,101	7,651	34,270	1,644	52,169
1999	520	7,583	11,581	30,850	2,315	52,850
2000	315	2,310	16,527	31,602	1,283	52,038
2001	642	8,728	11,266	38,493	1,560	60,688
2002	1,997	12,001	13,866	36,617	1,946	66,428
2003	1,497	31,488	19,992	44,484	648	98,108
2004	1,581	14,745	28,497	53,519	1,252	99,594
2005	546	10,042	18,375	64,919	3,649	97,531
2006	2,054	20,999	12,036	35,837	4,857	75,783
2007	718	14,447	16,016	24,566	4,448	60,196
2008	1,587	4,683	11,131	30,235	3,553	51,188
2009	870	11,898	4,312	18,409	1,326	36,815
2010	2,023	6,266	10,427	9,896	1,540	30,153
2011	1,050	11,505	7,752	17,039	741	38,087
2012	541	2,865	11,345	12,533	1,074	28,357
2013	2,016	5,025	5,691	9,168	486	22,387
2014	792	4,338	6,997	7,542	376	20,045
2015	1,744	8,204	7,714	13,223	1,117	32,003
2016	477	5,730	13,545	11,816	1,266	32,834
Historical Mean	850	8,237	12,381	31,062	2,330	55,594
Recent 10-yr. Mean	1,182	7,496	9,493	15,443	1,593	39,501
Recent 5-yr. Mean	1,114	5,233	9,058	10,856	864	28,176

Notes: 7.5" mesh gillnets used for inriver run during 1986-2001,
5.0" and 7.5" mesh gillnets used for inriver run during 2002-2016.
Nearshore netting data included in age composition after 2013.
2013-2016 estimates preliminary until published.

Table 170-2.–Percentage of total run by age class for Kenai River late-run king salmon, 1986–2016.

	Age Class				
Year	1.1	1.2	1.3	1.4	1.5
1986	0.2	14.3	42.6	38.7	4.2
1987	0.8	4.6	29.0	64.5	1.1
1988	0.5	2.6	5.4	76.4	15.1
1989	0.6	10.9	13.8	63.0	11.7
1990	0.1	13.8	15.9	65.5	4.8
1991	0.6	8.8	17.1	67.3	6.2
1992	0.4	7.9	17.7	71.4	2.7
1993	1.0	8.8	14.9	69.7	5.5
1994	1.2	6.7	11.9	75.4	4.7
1995	0.9	22.0	23.2	48.3	5.6
1996	0.7	9.0	34.2	55.1	1.1
1997	1.4	5.7	23.4	67.7	1.8
1998	1.0	15.5	14.7	65.7	3.2
1999	1.0	14.3	21.9	58.4	4.4
2000	0.6	4.4	31.8	60.7	2.5
2001	1.1	14.4	18.6	63.4	2.6
2002	3.0	18.1	20.9	55.1	2.9
2003	1.5	32.1	20.4	45.3	0.7
2004	1.6	14.8	28.6	53.7	1.3
2005	0.6	10.3	18.8	66.6	3.7
2006	2.7	27.7	15.9	47.3	6.4
2007	1.2	24.0	26.6	40.8	7.4
2008	3.1	9.1	21.7	59.1	6.9
2009	2.4	32.3	11.7	50.0	3.6
2010	6.7	20.8	34.6	32.8	5.1
2011	2.8	30.2	20.4	44.7	1.9
2012	1.9	10.1	40.0	44.2	3.8
2013	9.0	22.4	25.4	41.0	2.2
2014	4.0	21.6	34.9	37.6	1.9
2015	5.5	25.6	24.1	41.3	3.5
2016	1.5	17.5	41.3	36.0	3.9
Historical Average	1.9	15.5	23.3	55.1	4.3
Recent 10-yr. Average	3.8	21.4	28.1	42.8	4.0
Recent 5-yr. Average	4.4	19.5	33.1	40.0	3.0

Notes: 7.5" mesh gillnets used for inriver run during 1986-2001,
5.0" and 7.5" mesh gillnets used for inriver run during 2002-2016.
Nearshore netting data included in age composition after 2013.
2013-2016 estimates preliminary until published.

Table 170-3.–Kenai River late-run king salmon age composition proportions of commercial set gillnet and inriver sport harvests, 1986–2016.

	Age composition proportions														
	of total Kenai River late-run					of commercial set gillnet harvest					of inriver sport harvest				
Year	3[a]	4[b]	5[c]	6[d]	7[e]	3[a]	4[b]	5[c]	6[d]	7[e]	3[a]	4[b]	5[c]	6[d]	7[e]
1986	0.00	0.14	0.43	0.39	0.04	0.01	0.23	0.37	0.34	0.03	0.00	0.10	0.39	0.45	0.05
1987	0.01	0.05	0.29	0.65	0.01	0.02	0.13	0.33	0.51	0.01	0.00	0.01	0.23	0.73	0.03
1988	0.00	0.03	0.05	0.76	0.15	0.03	0.11	0.15	0.69	0.03	0.01	0.00	0.03	0.79	0.17
1989	0.01	0.11	0.14	0.63	0.12	0.01	0.15	0.21	0.53	0.09	0.00	0.01	0.11	0.71	0.17
1990	0.00	0.14	0.16	0.65	0.05	0.01	0.30	0.30	0.34	0.05	0.01	0.10	0.16	0.62	0.12
1991	0.01	0.09	0.17	0.67	0.06	0.01	0.25	0.33	0.39	0.02	0.00	0.05	0.12	0.77	0.06
1992	0.00	0.08	0.18	0.71	0.03	0.02	0.15	0.28	0.50	0.04	0.00	0.02	0.15	0.76	0.06
1993	0.01	0.09	0.15	0.70	0.06	0.03	0.13	0.21	0.59	0.04	0.00	0.02	0.06	0.86	0.06
1994	0.01	0.07	0.12	0.75	0.05	0.04	0.13	0.15	0.60	0.07	0.00	0.02	0.04	0.91	0.03
1995	0.01	0.22	0.23	0.48	0.06	0.03	0.24	0.31	0.35	0.06	0.01	0.08	0.10	0.71	0.11
1996	0.01	0.09	0.34	0.55	0.01	0.04	0.19	0.34	0.40	0.02	0.00	0.06	0.37	0.55	0.02
1997	0.01	0.06	0.23	0.68	0.02	0.08	0.15	0.30	0.45	0.02	0.01	0.03	0.23	0.72	0.01
1998	0.01	0.16	0.15	0.66	0.03	0.12	0.24	0.23	0.39	0.02	0.02	0.12	0.12	0.71	0.03
1999	0.01	0.14	0.22	0.58	0.04	0.02	0.26	0.25	0.44	0.03	0.00	0.11	0.28	0.57	0.04
2000	0.01	0.04	0.32	0.61	0.02	0.09	0.13	0.39	0.38	0.01	0.02	0.03	0.31	0.63	0.01
2001	0.01	0.14	0.19	0.63	0.03	0.12	0.40	0.15	0.32	0.01	0.02	0.12	0.15	0.69	0.02
2002	0.03	0.18	0.21	0.55	0.03	0.13	0.30	0.36	0.20	0.01	0.02	0.05	0.23	0.68	0.02
2003	0.02	0.32	0.20	0.45	0.01	0.04	0.52	0.24	0.19	0.02	0.02	0.15	0.19	0.64	0.01
2004	0.02	0.15	0.29	0.54	0.01	0.06	0.24	0.43	0.26	0.01	0.01	0.09	0.27	0.59	0.03
2005	0.01	0.10	0.19	0.67	0.04	0.03	0.27	0.21	0.48	0.02	0.00	0.03	0.18	0.76	0.03
2006	0.03	0.28	0.16	0.47	0.06	0.13	0.35	0.22	0.27	0.03	0.01	0.11	0.21	0.62	0.06
2007	0.01	0.24	0.27	0.41	0.07	0.05	0.43	0.23	0.29	0.01	0.00	0.11	0.30	0.52	0.07
2008	0.03	0.09	0.22	0.59	0.07	0.10	0.20	0.28	0.41	0.02	0.00	0.05	0.28	0.59	0.09
2009	0.02	0.32	0.12	0.50	0.04	0.14	0.51	0.12	0.22	0.01	0.00	0.16	0.20	0.61	0.02
2010	0.07	0.21	0.35	0.33	0.05	0.20	0.26	0.34	0.19	0.01	0.04	0.14	0.40	0.38	0.04
2011	0.03	0.30	0.20	0.45	0.02	0.05	0.34	0.25	0.35	0.01	0.01	0.16	0.21	0.58	0.03
2012	0.02	0.10	0.40	0.44	0.04	0.10	0.18	0.37	0.36	0.00	0.25	0.00	0.00	0.75	0.00
2013	0.09	0.22	0.25	0.41	0.02	0.23	0.43	0.15	0.19	0.00	0.02	0.28	0.23	0.43	0.03
2014	0.04	0.22	0.35	0.38	0.02	0.18	0.32	0.29	0.21	0.00	0.10	0.27	0.30	0.33	0.00
2015	0.05	0.26	0.24	0.41	0.03	0.14	0.37	0.24	0.24	0.00	0.03	0.19	0.28	0.47	0.03
2016	0.01	0.17	0.41	0.36	0.04	0.07	0.29	0.36	0.27	0.02	0.02	0.19	0.50	0.26	0.02
Average	0.02	0.16	0.23	0.55	0.04	0.08	0.27	0.27	0.37	0.02	0.02	0.09	0.21	0.63	0.05

[a] Age 3 fish are comprised of age classes 0.2 and 1.1. Average length of this age class is 16.9 inches.
[b] Age 4 fish are comprised of age classes 0.3, 1.2, and 2.1. Average length of this age class is 25.6 inches.
[c] Age 5 fish are comprised of age classes 0.4, 1.3, and 2.2. Average length of this age class is 32.6 inches.
[d] Age 6 fish are comprised of age classes 0.5, 1.4, and 2.3. Average length of this age class is 40.1 inches.
[e] Age 7 fish are comprised of age classes 1.5 and 2.4. Average length of this age class is 43.7 inches.

Figure 170-1.–Relative harvest selectivity by age for Kenai River late-run king salmon by the two primary fisheries, and by all fisheries combined, for 1986–2016. Selectivity estimates less than 1 equate to no selectivity for that age class, 1 equates to no selectivity or neutral for that age class, and values greater than 1 equates to selectivity for that age class.

COMMITTEE OF THE WHOLE–GROUP 3: Kasilof River Salmon Management Plan (17 Proposals)

Kasilof River Salmon Management Plan (17 Proposals)

PROPOSALS 106–108 – 5 AAC 21.365. Kasilof River Salmon Management Plan.

PROPOSED BY: Earl C. Young (proposal 106), Central Peninsula Advisory Committee (proposal 107), and Jeff Beaudoin (proposal 108).

WHAT WOULD THESE PROPOSALS DO? These proposals replace the Kasilof River sockeye salmon OEG range of 160,000–390,000 fish with the BEG range of 160,000–340,000 fish in the *Kasilof River Salmon Management Plan*. Additionally, proposal 106 removes the priority of achieving the lower end of the Kenai River sockeye salmon escapement goal over exceeding the upper end of the Kasilof River sockeye salmon OEG.

WHAT ARE THE CURRENT REGULATIONS? The *Kasilof River Salmon Management Plan* governs commercial harvest of Kasilof River salmon excess to spawning escapement needs. It is the intent of the board that Kasilof River salmon be harvested in fisheries that have historically harvested them, including methods, means, times, and locations of those fisheries. Openings in areas historically fished must be consistent with escapement objectives for UCI salmon and with the *Upper Cook Inlet Salmon Management Plan*. Achieving the lower end of the Kenai River sockeye salmon escapement goal range takes priority over not exceeding the upper end of the Kasilof River OEG range of 160,000–390,000 sockeye salmon.

WHAT WOULD BE THE EFFECT IF THESE PROPOSALS WERE ADOPTED? Removal of the OEG from the *Kasilof River Salmon Management Plan* could result in additional fishing time for Kasilof Section set gillnet fishery in years when the Kasilof River sockeye salmon run was strong and the Kenai River sockeye salmon run was weak. During those years, this could increase harvest of salmon in the Kasilof Section by an unknown amount. However, because the department manages all commercial fisheries to meet various salmon escapement goals, the effect of these proposals would be difficult to determine because they are linked with efforts to meet other escapement objectives.

BACKGROUND: In 1986, the *Kasilof River Sockeye Salmon Special Harvest Area Management Plan* (5 AAC 21.365) was adopted. From 1986–2002, the primary function of this management plan was to regulate the KRSHA. From 1978–1986, the BEG for Kasilof River sockeye salmon was 75,000–150,000 fish and in 1987, the BEG range was increased to 150,000–250,000 fish (Table 106-1).

In 2002, the board made numerous changes to the plan. A major change to the plan was creation of an OEG range of 150,000–300,000 fish. The OEG was adopted primarily in response to poor sockeye salmon runs to the Kenai River in 2000 and 2001, when the department struggled to achieve the minimum Kenai River inriver goal. At the same time, the Kasilof River experienced strong runs both years. In this case, the department was challenged with how to reduce Kasilof River sockeye salmon escapement through additional set gillnet harvest, while minimizing

harvest of Kenai River sockeye salmon. The board responded by setting the upper end of the Kasilof River OEG 50,000 fish above the upper end of the BEG range of 150,000–250,000 fish, with the rationale for setting an OEG being to provide 50,000 additional fish above the Kasilof River BEG during years when the Kenai River sockeye salmon run was weak. Exact wording of the plan (5 AAC 21.365(b) from 2002–2005 regulations) stated: "Achieving the lower end of the Kenai River sockeye salmon escapement goal shall take priority over not exceeding the upper end of the Kasilof River OEG of 150,000–300,000 sockeye salmon." Additional changes to the plan in 2002 included: renaming the plan the *Kasilof River Sockeye Salmon Management Plan*; creation of a 48-hour floating no-fishing "window" each week from June 25–July 7; limiting use of additional fishing hours beyond the two regular periods during this timeframe to no more than 48 hours per week; and creating specific times that the one-half mile fishery could be used. In 2008, the board also clarified that achieving established escapement goals was the primary management objective. There have been occasions when the Kasilof River OEG has been the management objective inseason, only to revert to the BEG once the lower end of the Kenai River escapement goal has been assured.

In 2011, the department transitioned the Kasilof River sockeye sonar program from Bendix sonar to DIDSON. Although the difference in the number of fish detected by the two sonars was small in the Kasilof River, the department's escapement goal analysis supported an increase of the Kasilof River BEG range from 150,000–250,000 fish to 160,000–340,000 fish. Based on this change, the board also modified the Kasilof River OEG range to 160,000–390,000 fish. Because there was very little difference in enumeration estimates between the two sonar technologies in the Kasilof River, the change in escapement goals represented an increase in actual number of spawners in the system. A reassessment of that goal in 2013 and 2016 did not result in any recommended changes to the BEG for this stock. In 2014, the board clarified that the BEG is the primary management target unless achieving the lower end of the Kenai River sockeye salmon escapement goal range is in doubt.

Since 1987, Kasilof River sockeye salmon escapement has been above the BEG range 17 years (57%), within the BEG range 11 years (37%), and below the BEG two years (7%; Table 106-1). More recently (2007–2016), Kasilof River sockeye salmon escapement has been within or above the BEG range in every year; with escapement exceeding the upper bound of the BEG in eight of 10 years. Since 2002 (15 years total), Kasilof River sockeye salmon escapement has been within the OEG range six years (40%) and above the OEG nine years (60%). Since the OEG range was changed to 160,000–390,000 fish in 2011, it has been within the OEG range in three years (50%) and above the BEG in three years (50%).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on these allocative proposals.

COST ANALYSIS: Approval of these proposals is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 106-1.–Estimated escapement, and escapement goals (BEG, OEG) for sockeye salmon in the Kasilof River, 1987–2016. Included is a comparison of the estimated escapement and escapement goals (Above, Within or Below).

Year	Estimated Escapement	BEG		OEG	
1987	249,250	150,000–250,000	Within		
1988	204,000	150,000–250,000	Within		
1989	158,206	150,000–250,000	Within		
1990	144,289	150,000–250,000	Below		
1991	238,269	150,000–250,000	Within		
1992	184,178	150,000–250,000	Within		
1993	149,939	150,000–250,000	Below		
1994	205,117	150,000–250,000	Within		
1995	204,935	150,000–250,000	Within		
1996	249,944	150,000–250,000	Within		
1997	266,025	150,000–250,000	Above		
1998	273,213	150,000–250,000	Above		
1999	312,587	150,000–250,000	Above		
2000	256,053	150,000–250,000	Above		
2001	307,570	150,000–250,000	Above		
2002	226,682	150,000–250,000	Within	150,000–300,000	Within
2003	359,633	150,000–250,000	Above	150,000–300,000	Above
2004	577,581	150,000–250,000	Above	150,000–300,000	Above
2005	348,012	150,000–250,000	Above	150,000–300,000	Above
2006	368,092	150,000–250,000	Above	150,000–300,000	Above
2007	336,866	150,000–250,000	Above	150,000–300,000	Above
2008	301,469	150,000–250,000	Above	150,000–300,000	Above
2009	297,125	150,000–250,000	Above	150,000–300,000	Within
2010	267,013	150,000–250,000	Above	150,000–300,000	Within
2011[a]	245,721	160,000–340,000	Within	160,000–390,000	Within
2012	374,523	160,000–340,000	Above	160,000–390,000	Within
2013	489,654	160,000–340,000	Above	160,000–390,000	Above
2014	439,997	160,000–340,000	Above	160,000–390,000	Above
2015	470,677	160,000–340,000	Above	160,000–390,000	Above
2016	239,981	160,000–340,000	Within	160,000–390,000	Within
Averages					
1985–2010	291,553				
2011–2016	376,759				

Comparison of Escapement to Escapement Goals

	Years	%	Years	%
Above Goal	17	57%	9	60%
Within Goal	11	37%	6	40%
Below Goal	2	7%	0	0%
Total	30		15	

[a] Counts prior to 2011 are in Bendix units. Counts after 2011 are in DIDSON units

PROPOSAL 99 – 5 AAC 21.365. Kasilof River Salmon Management Plan.

PROPOSED BY: Debra Blossom.

WHAT WOULD THE PROPOSAL DO? This would remove the Kasilof River sockeye salmon OEG range of 160,000–390,000 fish from the management plan. Several provisions within the plan are changed or deleted including: removing language that states making the lower end of the Kenai River sockeye salmon escapement goal range will take priority over exceeding the upper end of the Kasilof River sockeye salmon goal range; remove EO hour limitations and the 36-hour closed period from the season opening through July 7; remove the option to fish after July 15 within one-half mile of shore; remove the option to fish the Kasilof Section within 600 ft of the high tide mark; allow the KRSHA to be used only after July 24 and when it is projected that Kasilof River sockeye salmon escapement will exceed 365,000 fish; increases the area that set gillnets can be used in the KRSHA from within 1,200 ft to within 1,800 ft of the mean high tide mark; and increases the amount of set and drift gillnet gear allowed to be on board a vessel in the KRSHA.

WHAT ARE THE CURRENT REGULATIONS? The *Kasilof River Salmon Management Plan* governs commercial harvest of Kasilof River salmon excess to spawning escapement needs. It is the intent of the board that Kasilof River salmon be harvested in the fisheries that have historically harvested them, including methods, means, times, and locations of those fisheries. Openings in areas historically fished must be consistent with escapement objectives for UCI salmon and with 5 AAC 21.363. *Upper Cook Inlet Salmon Management Plan.* Achieving the lower end of the Kenai River sockeye salmon escapement goal range takes priority over not exceeding the upper end of the Kasilof River OEG range of 160,000–390,000 sockeye salmon. The Kasilof River biological BEG range of 160,000–340,000 fish is currently not mentioned in the plan; however, in 2014 the board clarified that the BEG is the primary management target unless achieving the lower end of the Kenai River sockeye salmon escapement goal range is in doubt.

This plan provides instruction for management of commercial fisheries that primarily target Kasilof River sockeye salmon from the beginning of the season through July 7. During this time, there are two restrictive weekly provisions in the Kasilof Section set gillnet fishery. First, there is a limit of no more than 48 hours of additional time beyond the Monday and Thursday 12-hour regular fishing periods. Secondly, there is a mandatory 36-hour no-fishing window each week that must begin sometime between 7:00 p.m. on Thursday and 7:00 a.m. on Friday.

Beginning July 8, the set gillnet fishery in the Kasilof Section is to be managed as specified in 5 AAC 21.360. *Kenai River Late Run Sockeye Salmon Management Plan*. However, the Kasilof Plan identifies specific provisions unique to the Kasilof Section that apply after July 8. These provisions identify times when the Kasilof Section set gillnet fishery may be limited to fishing within one-half mile of shore or within 600 ft of high tide.

After July 8, if the Kasilof Section set gillnet fishery is restricted to fishing within the first one-half mile of shore, KRSHA may be opened to both set and drift gillnet fishing for fishing periods not to exceed 48 hours in duration, without one period of 24 consecutive hours of closure. The KRSHA may also be opened without any restrictions when it is projected that Kasilof River

sockeye salmon escapement will exceed 365,000 fish. However, it is the intent of the board that the KRSHA should rarely, if ever, be opened under this subsection and only for conservation reasons. Before the department opens KRSHA, fishing time should be allowed in the remainder of the Kasilof Section first, and secondly, mandatory closures specified in regulation be reduced in duration, if necessary, to meet the escapement goals contained within this and other management plans.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It is difficult to determine all the effects of this proposal because of the large number of proposed changes to the plan. The department would manage the Kasilof Section set gillnet fishery primarily to achieve the sockeye salmon BEG in the Kasilof River. This may increase commercial harvest of sockeye and king salmon by an unknown amount, depending on abundance. However, any change in salmon harvest would be dependent on management actions taken inseason to achieve sockeye and king salmon escapement goals in the Kasilof and Kenai rivers. Removal of the OEG from the *Kasilof River Salmon Management Plan* could result in additional fishing time for Kasilof Section set gillnet fishery in years when the Kasilof River sockeye salmon run was strong and the Kenai River sockeye salmon run was weak. During those years, this could increase harvest of salmon in the Kasilof Section by an unknown amount. However, because the department manages all commercial fisheries to meet various salmon escapement goals, the effect of these proposals would be difficult to determine because they are linked with efforts to meet other escapement objectives. Removing "windows" and EO hour limitations may also result in less predictability to Kasilof River personal use and sport fishermen trying to gauge when salmon may be entering each river.

BACKGROUND: In 1986, the *Kasilof River Sockeye Salmon Special Harvest Area Management Plan* (5 AAC 21.365) was adopted. From 1986–2002, the primary function of this management plan was to regulate the KRSHA. From 1978–1986, the BEG for Kasilof River sockeye salmon was 75,000–150,000 fish and in 1987, the BEG range was increased to 150,000–250,000 fish (Table 106-1).

In 2002, the board made numerous changes to the plan, including the creation of an OEG range of 150,000–300,000 fish (Table 99-1). The OEG was adopted primarily in response to the poor sockeye salmon runs to the Kenai River in 2000 and 2001, when the department struggled to achieve the minimum Kenai River inriver goal, while the Kasilof River experienced strong sockeye salmon runs both years. In this case, the department was challenged with how to reduce Kasilof River sockeye salmon escapement through additional set gillnet harvest, while minimizing harvest of Kenai River sockeye salmon. The upper end of the OEG was 50,000 fish more than the upper end of the BEG range of 150,000–250,000 fish. The rationale for setting an OEG was to provide 50,000 additional fish above the Kasilof River BEG during years when the Kenai River sockeye salmon run was weak. Exact wording of the plan (5 AAC 21.365(b) from 2002–2005 regulations) stated, "Achieving the lower end of the Kenai River sockeye salmon escapement goal shall take priority over not exceeding the upper end of the Kasilof River OEG of 150,000 to 300,000 sockeye salmon." Additional changes to the plan in 2002 included: renaming the plan to *Kasilof River Sockeye Salmon Management Plan*; creating a 48-hour floating no-fishing window each week from June 25–July 7; limiting use of additional fishing

hours beyond the two regular periods during this timeframe to no more than 48 hours per week; and creating specific times that the one-half mile fishery could be used.

In 2008, the floating closed window of 48 hours was reduced to a "fixed" window closure of 36 hours to begin between Thursday at 7:00 p.m. and Friday at 7:00 a.m. (Table 99-1). The board also clarified that achieving established escapement goals was the primary management objective.

From 1986–2007, one provision for use of the KRSHA was that the department may open the KRSHA to the taking of salmon by gillnets when it is projected that Kasilof River sockeye salmon escapement will exceed 275,000 fish. In 2008, after extensive use of the KRSHA from 2004–2007, the board added the following criteria for use of the KRSHA: "It is the intent of the board that the KRSHA should rarely, if ever, be opened under this subsection and only for conservation reasons. Before the department opens the KRSHA, it is the board's intent that additional fishing time be allowed in the remainder of the Kasilof Section first, and secondly that the mandatory closures specified in regulation be reduced in duration, if necessary, to meet the escapement goals contained within this and other management plans."

In 2011, the board again modified the *Kasilof River Salmon Management Plan* to include provisions beginning and after July 8 (Table 99-1). Beginning July 8, the set gillnet fishery in the Kasilof Section will be managed as specified in 5 AAC 21.360(c). In addition to provisions of 5 AAC 21.360(c), the department may limit fishing during regular weekly periods and any extra fishing periods to those waters within one-half mile of shore, if the set gillnet fishery in the Kenai and East Foreland sections is not open for the fishing period. If the department determines that further restrictions are necessary to aid in achieving the lower end of the Kenai River escapement goal range, the department may further restrict fishing to within 600 ft of the high-tide mark in the Kasilof Section. After July 8, if the Kasilof Section set gillnet fishery is restricted to fishing within the first one-half mile of shore, the department may open the KRSHA described in (f) of this section to both set and drift gillnet fishing using only one gillnet, for fishing periods not to exceed 48 hours in duration without one period of 24 consecutive hours of closure. The provisions in (f)(1–8) of this section apply during these openings. Additionally, the board increased the escapement trigger for unlimited use of the KRSHA to times when it is projected that Kasilof River sockeye salmon escapement will exceed 365,000 fish. The 90,000 fish increase in the escapement trigger was commensurate with a 90,000 fish increase in the upper end of the BEG range that was recommended by the department and adopted by the board at this meeting.

The department transitioned the Kasilof River sockeye sonar program from Bendix sonar to DIDSON in 2011. Although the difference in the number of fish detected by the two sonars was small in the Kasilof River, the department's escapement goal analysis suggested a modification of the Kasilof River BEG range from 150,000–250,000 fish to 160,000–340,000 fish; based on this change, the board also modified the Kasilof River OEG range to 160,000–390,000 fish. Because there was very little difference in enumeration estimates between the two sonar technologies in the Kasilof River, the change in escapement goals represented an increase in actual number of spawners in the system. A reassessment of that goal in 2013 and 2016 did not suggest any changes to the BEG range for this stock. In 2014 the board clarified that the BEG is

the primary management target unless achieving the lower end of the Kenai River sockeye salmon escapement goal range is in doubt.

Since 1987, Kasilof River sockeye salmon escapement has been above the BEG range 17 years (57%), within the BEG range 11 years (37%), and below the BEG two years (7%; Table 106-1). More recently (2007–2016), Kasilof River sockeye salmon escapement has been within or above the BEG range in every year; with escapement exceeding the upper bound of the BEG in eight of 10 years. Since 2002 (15 years total), Kasilof River sockeye salmon escapement has been within the OEG range six years (40%) and above the OEG nine years (60%). Since the OEG range was changed to 160,000–390,000 fish in 2011, it has been within the OEG range in three years (50%) and above the BEG in three years (50%).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 99-1.–History of no-fishing windows, EO hour limitations, and escapement goals (BEG, SEG, and OEG) for sockeye salmon in the *Kasilof River Salmon Management Plan*.

Year	Dates	Window	EO Limitation	BEG/SEG	OEG
1999	July 1–July 7	No window	None	150,000–250,000	None
	July 8–Aug 15	No window, extra fishing time after July 20 on Kenai runs > 4 million limited to Kenai/E. Foreland Section	None		
2002	June 25–July 7	48-hour floating window	48 hours	150,000–250,000	150,000–300,000
	July 8–August 15	per the Kenai plan, based on tiers	per Kenai plan		
	after July 15	per the Kenai plan, based on tiers	24-hour (1/2-mile)[a]		
2005	No change from 2002				
2008	June 25–July 7	36-hour fixed (Friday window)	48 hours	150,000–250,000	150,000–300,000
	July 8–August 15	per the Kenai plan, based on tiers	per Kenai plan		
	after July 15	per the Kenai plan, based on tiers	24-hour (1/2-mile)[a]		
2011	June 25–July 7	36-hour fixed (Friday window)	48 hours	160,000–340,000	160,000–390,000[b]
	July 8–August 15	per the Kenai plan, based on tiers	per Kenai plan		
	after July 15	per the Kenai plan, based on tiers	24-hour (1/2-mile)[a]		

[a] After July 15, for Kenai runs <2.0 million (2002–2010) or <2.3 million (2011–2013), if Kasilof OEG projected to be exceeded, 24 additional hours may be used in Kasilof Section 1/2-mile fishery.

[b] The board clarified that it was their intent for the department to manage to the BEG unless achieving the lower end of the Kenai River sockeye salmon escapement goal range was in doubt.

PROPOSAL 100 – 5 AAC 21.310. Fishing seasons.

PROPOSED BY: Jeff Beaudoin.

WHAT WOULD THE PROPOSAL DO? This would require the department to open the set gillnet fishery in the Kasilof Section prior to June 25, if on or after June 20, 50,000 sockeye salmon are in the Kasilof River.

WHAT ARE THE CURRENT REGULATIONS? The Kasilof Section set gillnet fishery is open from June 25 through August 15, with an option for an earlier opening any time after June 20, if the department estimates that 50,000 sockeye salmon are in the Kasilof River prior to June 25. The Kenai and East Foreland sections set gillnet fishery is open from July 8 through August 15. From August 11–15, the Upper Subdistrict set gillnet fishery may fish regular periods only.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase the likelihood of an early opening in the Kasilof Section set gillnet fishery; thereby, increasing the harvest of salmon bound to the Kenai and Kasilof rivers and decreasing the likelihood of exceeding the Kasilof River sockeye salmon escapement goals.

BACKGROUND: From 1981–1983, set gillnet fisheries in all of the Upper Subdistrict opened on June 25, with no provision for an earlier opening. In 1984, the season opened in the Kasilof Section on July 5, with a 75,000 escapement trigger for an early (June 25) opening. From 1985–2001, the season opened on the first regular period in July, with an escapement trigger of 50,000 fish for a June 25 opening. From 2002–2004, the Kasilof Section opened on June 25, with no early season trigger. From 2005 to present, the season opened on June 25 with a 50,000 fish trigger for an opening as early as June 20.

Since 2007, the Kasilof Section opened prior to the scheduled season opening date in 5 of 10 years, based on the 50,000 fish trigger; however, in 2011, 2013, 2014, and 2015, the section was not opened immediately upon reaching the 50,000 fish trigger (Table 100-1). This resulted in several potential fishing periods not being fished. The Kasilof Section was not opened immediately in these years due to concerns over Kenai River early-run king salmon abundance. Recent genetic stock identification analyses show that prior to July 8 the Kasilof Section set gillnet fishery harvests very few Kenai River early-run king salmon.

In 2002, the BEG range for Kasilof River sockeye salmon was 150,000–250,000 fish. The Kasilof River sockeye salmon OEG range of 150,000–300,000 fish was first established in 2002, after poor sockeye salmon runs to the Kenai River in 2000 and 2001 (Table 106-1). In 2011, the department recommended a new BEG range for Kasilof River sockeye salmon of 160,000–340,000 fish and the board adopted a new OEG range of 160,000–390,000 fish. The 50,000 fish trigger for an early opening in the Kasilof Section set gillnet fishery was left at 50,000 sockeye salmon.

Since 1987, Kasilof River sockeye salmon escapement has been above the BEG range 17 years (57%), within the BEG range 11 years (37%), and below the BEG two years (7%; Table 106-1). More recently (2007–2016), Kasilof River sockeye salmon escapement has been within or above the BEG range in every year; with escapement exceeding the upper bound of the BEG in eight of

10 years. Since 2002 (15 years total), Kasilof River sockeye salmon escapement has been within the OEG range six years (40%) and above the OEG nine years (60%). Since the OEG range was changed to 160,000–390,000 fish in 2011, it has been within the OEG range in three years (50%) and above the BEG in three years (50%).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 100-1.–Date that 50,000 sockeye salmon were enumerated in the Kasilof River. Date the Kasilof Section set gillnet fishery opened for the season. Date the Kasilof Section was scheduled to open and the number of possible fishing periods missed prior to the scheduled season opening date, 2007–2016.

Year	Date 50,000 Sockeye salmon were enumerated	Date Kasilof Section opened	Date Kasilof Section scheduled to open	Possible days not fished
2007	1-Jul	25-Jun	25-Jun	0
2008	26-Jun	26-Jun	26-Jun	0
2009	29-Jun	25-Jun	25-Jun	0
2010	27-Jun	27-Jun	28-Jun	0
2011	24-Jun	25-Jun	27-Jun	1
2012	30-Jun	3-Jul	25-Jun	0
2013	22-Jun	27-Jun	27-Jun	3
2014	19-Jun	23-Jun	26-Jun	3
2015	20-Jun	22-Jun	25-Jun	2
2016	24-Jun	23-Jun	27-Jun	0

PROPOSAL 101 – 5 AAC 21.365. Kasilof River Salmon Management Plan.

PROPOSED BY: Paul Shadura, SOKI.

WHAT WOULD THE PROPOSAL DO? This would modify the commissioner's authority to restrict the Kasilof Section set gillnet fishery within 600 ft of the mean high tide mark and stipulate that fishing hours used in this area do not count toward hourly restrictions found in 5 AAC 21.359. *Kenai River Late-Run King Salmon Management Plan*. This provision would also be used for king salmon conservation.

WHAT ARE THE CURRENT REGULATIONS? The provision for fishing the Kasilof Section set gillnet fishery within 600 ft of the high tide mark is found in 5 AAC 21.365(c)(3). Use of this area is intended as a step-down measure in order to provide fishing opportunity for Kasilof River sockeye salmon in the event of a weak Kenai River late-run sockeye salmon run. Fishing hours authorized in this area are not exempt from the weekly EO hour limitations found in 5 AAC 21.365, 5 AAC 21.360, and 5 AAC 21.359.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would broaden the scope of board intent for use of nearshore Kasilof Section set gillnet fishing by stipulating that it could be used as an aid in achieving the lower end of the Kenai River late-run sockeye and king salmon escapement goal ranges. It would also redefine the distance from shore as 600 ft from mean high tide rather than simply the high tide mark. The mean high tide mark is a static point, defined as the average of all high tides, which is 18.4 ft at Ninilchik, whereas the daily high tide mark changes daily depending on lunar gravitational pull. Finally, this proposal would make fishing time utilized in this area exempt from the various weekly EO hour restrictions. These changes would likely increase frequency of openings in the Kasilof Section within 600 ft of mean high tide during times of low Kenai River late-run sockeye and king salmon runs. Harvest of salmon bound for the Kenai and Kasilof rivers would likely increase by an unknown amount.

BACKGROUND: In 2011, the board modified the *Kasilof River Salmon Management Plan* to include provisions beginning after July 8. Beginning July 8, the set gillnet fishery in the Kasilof Section will be managed as specified in 5 AAC 21.360(c) *Kenai River Late-Run Sockeye Salmon Management Plan*. In addition to provisions of 5 AAC 21.360(c), the department may limit fishing in the Kasilof Section during the regular weekly periods and any extra fishing periods to those waters within one-half mile of shore, if the set gillnet fishery in the Kenai and East Foreland sections is not open for the fishing period. If the department determines that further restrictions are necessary to aid in achieving the lower end of the Kenai River escapement goal range, the department may further restrict fishing to within 600 ft of the high-tide mark in the Kasilof Section. After July 8, if the Kasilof Section set gillnet fishery is restricted to fishing within the first one-half mile of shore, the department may open the KRSHA described in (f) of this section to both set and drift gillnet fishing using only one gillnet, for fishing periods not to exceed 48 hours in duration without one period of 24 consecutive hours of closure. The provisions in (f)(1–8) of this section apply during these openings.

From 2011–2016, the Kasilof Section has only been fished within 600 ft of the high-tide mark in 2015. In 2015, this area was fished on six separate days between July 15 and July 31 producing a total harvest of 209 king salmon and 109,386 sockeye salmon (Table 101-1). Genetic stock identification analyses of the king salmon harvest showed that 79 (38%) of the king salmon were Kenai River mainstem stock (late-run), while 126 (60%) were Kasilof River mainstem stock. None of the time used to fish in this area was applied to the limited EO hours. The first three fishing periods were used instead of the KRSHA, and the other three periods were used in conjunction with the KRSHA. The first four periods were used to harvest surplus Kasilof River sockeye salmon during a time when ESSN fishing time was restricted for king salmon conservation. On July 23, bait was allowed in the sport fishery and the 36-hour limitation on the ESSN fishery was removed. Kenai River late-run sockeye salmon was never projected to be below the lower end of the escapement goal.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. While 5 AAC 21.363(e) provides the department authority to deviate from management plans by EO to achieve established escapement goals, the department prefers that provisions be described in species- and area-specific management plans because doing so provides greater clarity and direction on how a specific fishery should be managed than does the general language contained in 5 AAC 21.363(e).

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 101-1.–Commercial harvest of king and sockeye salmon in the Kasilof Section within 600 ft of the high-tide mark, and genetic stock composition estimates of the king salmon harvest within 600 ft of the high-tide mark, 2015.

		Harvest	
Year	Date	King	Sockeye
2015	15-Jul	35	19,596
	19-Jul	50	27,771
	21-Jul	49	21,559
	22-Jul	43	20,712
	28-Jul	23	12,799
	31-Jul	9	6,949
Total		209	109,386

		Credibility Interval	
Reporting Group	Harvest	5%	95%
Kenai River tributaries	1	0	12
Kenai River mainstem	79	48	111
Kasilof River mainstem	126	95	156
Cook Inlet other	2	0	16
Total	209		

PROPOSAL 102 – 5 AAC 21.365. Kasilof River Salmon Management Plan.

PROPOSED BY: Dan Ducker.

WHAT WOULD THE PROPOSAL DO? This would remove provisions of the *Kasilof River Salmon Management Plan* allowing the Kasilof Section set gillnet fishery to be opened within 600 ft of the high tide mark and would require the Kasilof Section be opened within one-half mile from shore if KRSHA is open.

WHAT ARE THE CURRENT REGULATIONS? Regulations governing fishing time in the Kasilof Section within one-half mile of shore are described in in 5 AAC 21.365(c)(3) and(5). In the Kasilof Section, after July 8, the commissioner may limit fishing during regular weekly fishing periods and any extra fishing periods to those waters within one-half mile from shore, if the set gillnet fishery in the Kenai and East Foreland sections is not open for those periods. In addition, if the commissioner determines that further restrictions are necessary to aid in achieving the lower end of the Kenai River sockeye salmon escapement goal range, the fishery can be further restricted to within 600 ft of the high tide mark in the Kasilof Section. After July 15, if the department projects the Kenai River late-run sockeye salmon run to be less than 2,300,000 fish and the upper bound of the Kasilof River sockeye salmon OEG range of 390,000 fish will be exceeded, the Kasilof Section may be opened for an addition 24 hours per week within one-half mile of shore.

Fishing hours authorized in both of these areas are deducted from the weekly EO hour limitations found in 5 AAC 21.359, 5 AAC 21.360, and 5 AAC 21.365.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would reduce likelihood of fishing in the Kasilof Section within 600 ft of the high-tide mark and would increase likelihood of fishing in the Kasilof Section within one-half mile from shore during times of low Kenai River sockeye salmon abundance. By removing language specifying use of the 600-ft area, flexibility of managers to control sockeye salmon passage to the Kasilof River would be reduced. Requiring the entire Kasilof Section within one-half mile of shore to be open whenever the KRSHA is open would increase the harvest of salmon bound for the Kenai and Kasilof Rivers by an unknown amount.

BACKGROUND: The *Kasilof River Sockeye Salmon Special Harvest Area Management Plan* was adopted in 1986. The plan preamble stated it was the intent of the board that Kasilof River sockeye salmon be harvested in traditional fisheries, including, but not limited to, methods, means, times, and locations of those fisheries. Openings in traditional areas must be consistent with escapement objectives for UCI salmon and with the *Upper Cook Inlet Salmon Management Plan*. From 1986–2002, the primary function of this management plan was to regulate the KRSHA.

In 2002, the board made numerous changes to the plan. A major change to the plan was creation of an OEG range of 150,000–300,000 fish (Table 99-1). The OEG range was adopted primarily in response to the poor sockeye salmon runs to the Kenai River in 2000 and 2001, when the department struggled to achieve the minimum Kenai River escapement goal, while the Kasilof

River experienced strong runs both years. In this case, the department was challenged with how to reduce Kasilof River sockeye salmon escapement through additional set gillnet harvest, while minimizing harvest of Kenai River sockeye salmon. The upper end of the OEG range was 50,000 fish more than the upper end of the BEG range of 150,000–250,000 fish. The rationale for setting an OEG was to provide 50,000 additional fish above the Kasilof River BEG range during years when the Kenai River sockeye salmon run was weak. Exact wording of the plan (5 AAC 21.365(b) from 2002–2005 regulations) stated, "Achieving the lower end of the Kenai River sockeye salmon escapement goal shall take priority over not exceeding the upper end of the Kasilof River OEG of 150,000–300,000 sockeye salmon." Additional changes to the plan in 2002 included: renaming the plan the *Kasilof River Sockeye Salmon Management Plan*; creating a 48-hour floating no-fishing window each week from June 25–July 7; limiting use of additional fishing hours beyond the two regular periods during this timeframe to no more than 48 hours per week; and creating specific times that the one-half mile fishery could be used.

From 1986–2007, one provision for use of KRSHA was that the department may open the KRSHA to the taking of salmon by gillnets when it is projected that Kasilof River sockeye salmon escapement will exceed 275,000 fish. In 2008, after extensive use of the KRSHA from 2004–2007, the board added the following criteria for use of the KRSHA: "It is the intent of the board that the KRSHA should rarely, if ever, be opened under this subsection and only for conservation reasons. Before the department opens the KRSHA, it is the board's intent that additional fishing time be allowed in the remainder of the Kasilof Section first, and secondly that the mandatory closures specified in regulation be reduced in duration, if necessary, to meet the escapement goals contained within this and other management plans."

In 2011, the board modified the *Kasilof River Salmon Management Plan* to include provisions beginning and after July 8 (Table 99-1). Beginning July 8, the set gillnet fishery in the Kasilof Section will be managed as specified in 5 AAC 21.360(c). In addition to provisions of 5 AAC 21.360(c), the department may limit fishing during the regular weekly periods and any extra fishing periods to those waters within one-half mile of shore, if the set gillnet fishery in the Kenai and East Foreland sections is not open for the fishing period. If the department determines that further restrictions are necessary to aid in achieving the lower end of the Kenai River escapement goal range, the department may further restrict fishing to within 600 ft of the high-tide mark in the Kasilof Section. After July 8, if the Kasilof Section set gillnet fishery is restricted to fishing within the first one-half mile of shore, the department may open the KRSHA described in (f) of this section to both set and drift gillnet fishing using only one gillnet, for fishing periods not to exceed 48 hours in duration without one period of 24 consecutive hours of closure. The provisions in (f)(1–8) of this section apply during these openings. Additionally, the board increased the escapement trigger for unlimited use of the KRSHA to times when it is projected that Kasilof River sockeye salmon escapement will exceed 365,000 fish. The 90,000 fish increase in the escapement trigger was commensurate with a 90,000 fish increase in the upper end of the BEG bound that was recommended by the department and adopted by the board at this meeting.

From 2011–2016, the Kasilof Section has only been fished within 600 ft of the high-tide mark in 2015. In 2015, this area was fished on six separate days between July 15 and July 31 producing a total harvest of 209 king salmon and 109,386 sockeye salmon (Table 101-1). The average

harvest per day was 35 king salmon and 18,231 sockeye salmon. Genetic stock identification analyses of the king salmon harvest showed that 79 (38%) of the king salmon were Kenai River mainstem stock (late-run), while 126 (60%) were Kasilof River mainstem stock. From 2007–2016, the Kasilof Section within one-half mile from shore has been fished in eight of 10 years. From these years, the average daily harvest of king salmon and sockeye salmon was 175 fish and 31,000 fish, respectively.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

PROPOSAL 103 – 5 AAC 21.365. Kasilof River Salmon Management Plan.

PROPOSED BY: Kenai River Sport Fishing Association.

WHAT WOULD THE PROPOSAL DO? This would add a 24-hour closed period on Tuesdays in the Kasilof Section prior to July 8 and adopt closed periods for KRSHA after July 8 similar to those found in 5 AAC 21.360(c)(2)(C) and (c)(3)(C).

WHAT ARE THE CURRENT REGULATIONS? The Kasilof Section set gillnet fishery opens June 25, or as early as June 20, if 50,000 sockeye salmon are in the Kasilof River. From the beginning of the season through July 7, the department may open additional fishing periods or extend regular weekly fishing periods to a maximum of 48 hours of additional fishing time per week. In addition, the fishery shall remain closed for at least one continuous 36-hour period per week to begin between 7:00 p.m. Thursday and 7:00 a.m. Friday (Table 99-1).

While the *Kenai River Late-Run Sockeye Salmon Management Plan* primarily governs the Kasilof Section set gillnet fishery after July 8, the *Kasilof River Salmon Management Plan* does identify specific provisions unique to the Kasilof Section. After July 8, if the Kasilof Section set gillnet fishery is restricted to fishing within the first one-half mile of shore, KRSHA may be opened to both set and drift gillnet fishing for fishing periods not to exceed 48 hours in duration, without one period of 24 consecutive hours of closure. KRSHA may also be opened without any restrictions when it is projected that Kasilof River sockeye salmon escapement will exceed 365,000 fish. However, it is the intent of the board that KRSHA should rarely, if ever, be opened under this subsection and only for conservation reasons. Before the department opens the KRSHA, fishing time should be allowed in the remainder of the Kasilof Section first, and secondly, that the mandatory closures specified in regulation be reduced in duration, if necessary, to meet the escapement goals contained within this and other management plans.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would add additional restrictions to the management plan, which could decrease sockeye and king salmon harvest by an unknown amount, depending on abundance. Adding an additional mandatory no-fishing window of 24 hours on Tuesday in the Kasilof Section prior to July 8 would limit the department's management flexibility and increase the likelihood of exceeding the Kasilof River sockeye salmon escapement goal and likely decrease yield. This would also limit the use of the KRSHA after July 8 by implementing the mandatory closed periods specified in the *Kenai River Late Run Sockeye Salmon Management Plan*, again possibly resulting in decreased harvest of Kasilof and Kenai River king and sockeye salmon, when this area is being utilized. This proposal may increase the amount of times the department deviates from the management plans by EO to achieve established escapement goals as directed under 5 AAC 21.363(e).

BACKGROUND: A management plan specific to the Kasilof River was first adopted in 1986 titled the *Kasilof River Sockeye Salmon Special Harvest Area Management Plan*(5 AAC 21.365). From 1986 until 2002, the primary function of this management plan was to regulate the KRSHA. In 2002, the board made numerous changes to the plan. These changes included: 1) renaming the plan the *Kasilof River Sockeye Salmon Management Plan*, 2) creation of a 48-hour floating no-fishing window each week from June 25–July 7, 3) limiting use of additional fishing

hours beyond the two regular periods during this timeframe to no more than 48 hours per week, and 4) creating specific times that the one-half mile fishery could be used.

In 2008, the floating closed window of 48 hours was reduced to a window closure of 36 hours to begin between Thursday at 7:00 p.m. and Friday at 7:00 a.m. The board also clarified that achieving established escapement goals was the primary management objective.

Mandatory no-fishing periods ("windows") were first adopted in the *Kenai River Late-Run Sockeye Salmon Management Plan* in 1999. From 1999–2004, only one window per week was in the plan and only for Kenai River runs greater than 2 million sockeye salmon. Beginning in 2005, a second 24-hr weekly window was adopted, but the department was provided flexibility to implement it on Tuesday or Wednesday. In 2011, the board fixed the 24-hour window to Tuesdays. In 2014, the board again provided flexibility to implement the 24-hour window on Tuesday or Wednesday. Mandatory windows were adopted into the *Kasilof River Salmon Management Plan* in 2002 (Table 99-1). From 2002–2007, there was a 48-hour window that could occur any day of the management week; in 2008 the window was modified to a 36-hour closure that occurs on Fridays.

Since 1987, Kasilof River sockeye salmon escapement has been above the BEG range 17 years (57%), within the BEG range 11 years (37%), and below the BEG two years (7%; Table 106-1). More recently (2007–2016), Kasilof River sockeye salmon escapement has been within or above the BEG range in every year; with escapement exceeding the upper bound of the BEG in eight of 10 years. Since 2002 (15 years total), Kasilof River sockeye salmon escapement has been within the OEG range six years (40%) and above the OEG nine years (60%). Since the OEG range was changed to 160,000–390,000 fish in 2011, it has been within the OEG range in three years (50%) and above the BEG in three years (50%).

The Kasilof River supports both early-and late-run king salmon. King salmon returning to the Kasilof River prior to July 1 originate primarily from Crooked Creek, a Kasilof River tributary, and are managed as early-run fish. Late-run king salmon return from July through early September and originate primarily from the mainstem and, to a lesser extent, Crooked Creek. Late-run king salmon are thought to spawn from mid-August through September. There is no escapement goal for Kasilof River late-run king salmon. In 2005, the department began a late-run king salmon assessment program to estimate run-timing and spawning distribution. Results indicate that spawning king salmon aggregations occur during August throughout the Kasilof River upstream of the Sterling Highway bridge crossing. The estimated abundance of late-run king salmon ranged from 8,276 to 12,097 fish from 2005–2008.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal and is **OPPOSED** to aspects of the proposal limiting the department's ability to manage for Kenai and Kasilof river salmon escapement goals, particularly additional fixed closure periods that are not tied directly to salmon abundance and escapement needs. While 5 AAC 21.363(e) provides the department authority to deviate from management plans by EO to achieve established escapement goals, the department prefers that provisions be described in species- and area-specific management plans because doing so provides greater clarity and direction on how a specific fishery should be managed than does the general language contained in 5 AAC 21.363(e).

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

PROPOSAL 104 – 5 AAC 21.365. Kasilof River Salmon Management Plan.

PROPOSED BY: Mark Ducker.

WHAT WOULD THE PROPOSAL DO? This would modify several provisions within the *Kasilof River Salmon Management Plan* by reducing the 36-hour mandatory closed period to 24-hours, increasing the allowed EO hours from 48 to 63, moving the date when management of the Kasilof Section is governed primarily by 5 AAC 21.360. *Kenai River Late-Run Sockeye Salmon Management Plan* from July 8 to July 15 and adding an additional 24 hours of fishing time in the Kasilof Section within one-half mile of the high tide mark after July 15.

WHAT ARE THE CURRENT REGULATIONS? The Kasilof Section set gillnet fishery opens June 25, or as early as June 20, if 50,000 sockeye salmon are in the Kasilof River. From the beginning of the season through July 7, the department may open additional fishing periods or extend regular weekly fishing periods to a maximum of 48 hours of additional fishing time per week. In addition, the fishery shall remain closed for at least one continuous 36-hour period per week to begin between 7:00 p.m. Thursday and 7:00 a.m. Friday (Table 99-1).

Beginning on July 8, the set gillnet fishery in the Kasilof Section is to be managed as specified in the *Kenai River Late Run Sockeye Salmon Management Plan* (5 AAC 21.360). Based on preseason forecasts and inseason projections of the Kenai River late-run sockeye salmon return, the commercial fishery will be managed as follows: at run strengths of less than 2,300,000 sockeye salmon, the department shall manage for an inriver goal range of 900,000–1,100,000 sockeye salmon past the sonar counter at river mile 19 and will fish regular weekly fishing periods, and allow additional fishing of no more than 24-hours per week; at run strengths of 2,300,000–4,600,000, the department shall manage for an inriver goal range of 1,000,000–1,100,000 sockeye salmon past the sonar counter and allow additional fishing of no more than 51 hours per week. The set gillnet fishery will be closed for one 36-hour period per week beginning between 7:00 p.m. Thursday and 7:00 a.m. Friday and for a 24-hour closure that occurs between 7:00 p.m. Monday and 7:00 a.m. Wednesday; at run strengths greater than 4,600,000, the department shall manage for an inriver goal range of 1,100,000–1,350,000 sockeye salmon past the sonar counter and allow additional fishing of no more than 84 hours per week and the set gillnet fishery will be closed for one 36-hour period per week, beginning between 7:00 p.m. Thursday and 7:00 a.m. Friday.

While the *Kenai River Late-Run Sockeye Salmon Management Plan* primarily governs the Kasilof Section set gillnet fishery after July 8, the *Kasilof River Salmon Management Plan* does identify specific provisions unique to the Kasilof Section. After July 8, if the Kasilof Section set gillnet fishery is restricted to fishing within the first one-half mile of shore, the KRSHA may be opened to both set and drift gillnet fishing for fishing periods not to exceed 48 hours in duration, without one period of 24 consecutive hours of closure. The KRSHA may also be opened without any restrictions when it is projected that Kasilof River sockeye salmon escapement will exceed 365,000 fish. However, it is the intent of the board that the KRSHA should rarely, if ever, be opened under this subsection and only for conservation reasons. Before the department opens the KRSHA, fishing time should be allowed in the remainder of the Kasilof Section first, and the mandatory closures specified in regulation should be reduced in duration, if necessary, to meet escapement goals contained within this and other management plans.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase the likelihood of commercial fishing opportunity in the Kasilof Section and increase the harvest of king and sockeye salmon bound for the Kenai and Kasilof Rivers by an unknown amount, depending on abundance.

BACKGROUND: A management plan specific to the Kasilof River commercial salmon fishery was first adopted in 1986 titled the *Kasilof River Sockeye Salmon Special Harvest Area Management* Plan(5 AAC 21.365). From 1986 until 2002, the primary function of this management plan was to regulate the KRSHA.

From 1986–2007, provisions for use of the KRSHA were as follows: the department may, by EO, open the KRSHA to the taking of salmon by gillnets when it is projected that Kasilof River sockeye salmon escapement will exceed 275,000 fish. In 2008, after extensive use of the KRSHA from 2004–2007, the board added the following criteria for use of the KRSHA: "It is the intent of the board that the KRSHA should rarely, if ever, be opened under this subsection and only for conservation reasons. Before the department opens the KRSHA, it is the board's intent that additional fishing time be allowed in the remainder of the Kasilof Section first, and secondly that the mandatory closures specified in regulation be reduced in duration, if necessary, to meet the escapement goals contained within this and other management plans." At the 2011 meeting, the board increased the escapement trigger for unlimited use of the KRSHA to times when it is projected that Kasilof River sockeye salmon escapement will exceed 365,000 fish.

Since 1987, Kasilof River sockeye salmon escapement has been above the BEG range 17 years (57%), within the BEG range 11 years (37%), and below the BEG two years (7%; Table 106-1). More recently (2007–2016), Kasilof River sockeye salmon escapement has been within or above the BEG range in every year; with escapement exceeding the upper bound of the BEG in eight of 10 years. Since 2002 (15 years total), Kasilof River sockeye salmon escapement has been within the OEG range six years (40%) and above the OEG nine years (60%). Since the OEG range was changed to 160,000–390,000 fish in 2011, it has been within the OEG range in three years (50%) and above the BEG in three years (50%).

The Kasilof River supports both early-and late-run king salmon. King salmon returning to the Kasilof River prior to July 1 originate primarily from Crooked Creek, a Kasilof River tributary, and are managed as early-run fish. Late-run king salmon return from July through early September and originate primarily from the mainstem and, to a lesser extent, Crooked Creek. Late-run king salmon are thought to spawn from mid-August through September. There is no escapement goal for Kasilof River late-run king salmon. In 2005, the department began a late-run king salmon assessment program to estimate run-timing and spawning distribution. Results indicate that spawning king salmon aggregations occur during August throughout the Kasilof River upstream of the Sterling Highway bridge crossing. From 2005–2006, the estimated abundance of late-run king salmon ranged from 8,276 to 12,097 fish.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

PROPOSAL 105 – 5 AAC 21.365. Kasilof River Salmon Management Plan.

PROPOSED BY: Chris Every.

WHAT WOULD THESE PROPOSALS DO? This would allow fishing in the North Kalifornsky Beach statistical area (Figure 105-1) when the upper bound of the Kasilof River sockeye salmon escapement goal range is projected to be exceeded. Additional fishing time may occur as early as June 25. Gear for open periods could be restricted to set gillnets with a mesh size not exceeding four and three-quarters inches and distance from shore could be 600 ft, one-quarter mile, or one-half mile.

WHAT ARE THE CURRENT REGULATIONS? The *Kasilof River Salmon Management Plan* governs commercial harvest of Kasilof River salmon excess to spawning escapement needs. Achieving the lower end of the Kenai River sockeye salmon escapement goal range takes priority over not exceeding the upper end of the Kasilof River OEG range of 160,000–390,000 sockeye salmon. The Kasilof River BEG range of 160,000–340,000 fish is currently not mentioned in the plan; however, it is the intent of the board that the BEG range is the primary management target unless achieving the lower end of the Kenai River sockeye salmon escapement goal range is in doubt (Table 99-1).

This plan provides instruction for management of commercial fisheries that primarily target Kasilof River sockeye salmon from the beginning of the season through July 7. During this time, there are two restrictive weekly provisions in the Kasilof Section set gillnet fishery. First, there is a limit of no more than 48 hours of additional time beyond the Monday and Thursday 12-hour regular periods. Secondly, there is a mandatory 36-hour no-fishing window each week that must begin sometime between 7:00 p.m. on Thursday and 7:00 a.m. on Friday.

The Kasilof Section fishery opens on or after June 25, with provisions for an opening as early as June 20 based on a 50,000 sockeye salmon escapement trigger. The North Kalifornsky Beach statistical area (244-32) is part of the Kenai Section of the Upper Subdistrict. Currently, the Kenai and East Foreland sections open on or after July 8. Beginning on July 8, the Upper Subdistrict set gillnet fishery is to be managed as specified in the 5 AAC 21.360. *Kenai River Late-Run Sockeye Salmon Management Plan*. Based on preseason forecasts and inseason projections of the Kenai River late-run sockeye salmon return, the commercial fishery will be managed as follows: at run strengths of less than 2,300,000 sockeye salmon, the department shall manage for an inriver goal range of 900,000–1,100,000 sockeye salmon past the sonar counter at river mile 19 and will fish regular weekly fishing periods, and allow additional fishing of no more than 24-hours per week; at run strengths of 2,300,000–4,600,000, the department shall manage for an inriver goal range of 1,000,000–1,100,000 sockeye salmon past the sonar counter and allow additional fishing of no more than 51 hours per week. The set gillnet fishery will be closed for one 36-hour period per week beginning between 7:00 p.m. Thursday and 7:00 a.m. Friday and for a 24-hour closure that occurs between 7:00 p.m. Monday and 7:00 a.m. Wednesday; at run strengths greater than 4,600,000, the department shall manage for an inriver goal range of 1,100,000–1,350,000 sockeye salmon past the sonar counter and allow additional fishing of no more than 84 hours per week and the set gillnet fishery will be closed for one 36-hour period per week, beginning between 7:00 p.m. Thursday and 7:00 a.m. Friday (Table 105-1).

There are provisions within 5 AAC 21.365. *Kasilof River Salmon Management Plan* allowing the Kasilof Section to be opened within 600 ft of the high tide mark in order to prevent opening of the KRSHA. Additionally, the plan states that any extra fishing time may be authorized in the Kasilof Section after July 8, the fishery is to be restricted to within one-half mile of shore. There are no provisions that allow for limited fishing in the North Kalifornsky Beach statistical area under these circumstances.

5 AAC 21.331 states that a set gillnet in Cook Inlet may not be longer than 35 fathoms in length and 45 meshes in depth. A person may not operate more than four set gillnets with more than 105 fathoms of set gillnet in the aggregate, except on Fire Island, a person may operate more than four set gillnets, but the aggregate length may not exceed 105 fathoms. The maximum mesh size for set gillnets is six inches.

5 AAC 21.354. *Cook Inlet Pink Salmon Management Plan* provides for a commercial fishery in the Upper Subdistrict targeting pink salmon in even years only. If a pink salmon fishery is open, there is a gear restriction that limits mesh size to no more than 4¾ inches in order to reduce the harvest of non-target stocks.

WHAT WOULD BE THE EFFECT IF THIS PROPOSAL WAS ADOPTED? This would likely increase frequency of openings in the North Kalifornsky Beach statistical area and increase harvest of salmon bound to the Kenai and Kasilof Rivers by an unknown amount, depending on abundance. Because the proposal is unclear in several key aspects of how to regulate these openings, the magnitude of increased harvest is difficult to assess. It is unclear which escapement goal would need to be projected to be exceeded, the OEG or BEG range and under what circumstances mesh size and distance from shore restrictions should be implemented. Upper Subdistrict statistical areas would need to be defined and placed into regulation.

BACKGROUND: Prior to 1999, the area of beach between the Kasilof and Kenai rivers was one statistical area, 244-30. In 1999, statistical area 244-30 was split into 244-31 and 244-32 to more accurately track salmon harvest by area of beach.

Since 1987, Kasilof River sockeye salmon escapement has been above the BEG range 17 years (57%), within the BEG range 11 years (37%), and below the BEG two years (7%; Table 106-1). More recently (2007–2016), Kasilof River sockeye salmon escapement has been within or above the BEG range in every year; with escapement exceeding the upper bound of the BEG in eight of 10 years. Since 2002 (15 years total), Kasilof River sockeye salmon escapement has been within the OEG range six years (40%) and above the OEG nine years (60%). Since the OEG range was changed to 160,000–390,000 fish in 2011, it has been within the OEG range in three years (50%) and above the BEG in three years (50%).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal.

COST ANALYSIS: Approval of this proposal may result in additional direct costs of commercial set gillnet permit holders to participate in this fishery because they may have to reconfigure their nets to fish 4 ¾-inch mesh nets.

Table 105-1.–History of tiers, windows, and limitations on use of EO extra fishing hours in the *Kenai River Late-Run Sockeye Salmon Management Plan*.

Year	Tier	Window	EO Limitation
1999	< 2 million	No window	none
	2 to 4 million	After July 20, 24 hours beginning at 12 noon Friday in Kenai/E. Foreland sections	none
	> 4 million	No window; extra time for Kenai sockeye only in Kenai/E. Foreland sections	none
2002	< 2 million	No window	24 hours/week in July
	2 to 4 million	In July, Upper Subdistrict Set Gillnet Fishery closed for one 48-hour period/week	36 hours/week in July
	> 4 million	In July, Upper Subdistrict Set Gillnet Fishery closed for one 36-hour period/week	60 hours/week in July
2005	< 2 million	No window	24 hours/week
	2 to 4 million	One 36-hour period beginning between 7pm Thursday and 7am Friday	51 hours/week
		One additional 24-hour period/week	
	> 4 million	One 36-hour period beginning between 7pm Thursday and 7am Friday	84 hours/week
2008	No change from 2005		
2011	< 2.3 million	No window	24 hours/week
	2.3 to 4.6 million	One 36-hour period beginning between 7pm Thursday and 7am Friday	51 hours/week
		One 24-hour period/week on Tuesday	
	> 4.6 million	One 36-hour period beginning between 7pm Thursday and 7am Friday	84 hours/week
2014	< 2.3 million	No window	24 hours/week
	2.3 to 4.6 million	One 36-hour period beginning between 7pm Thursday and 7am Friday	51 hours/week
		One 24-hour period beginning between 7pm Monday and 7 am Wednesday	
	> 4.6 million	One 36-hour period beginning between 7pm Thursday and 7am Friday	84 hours/week

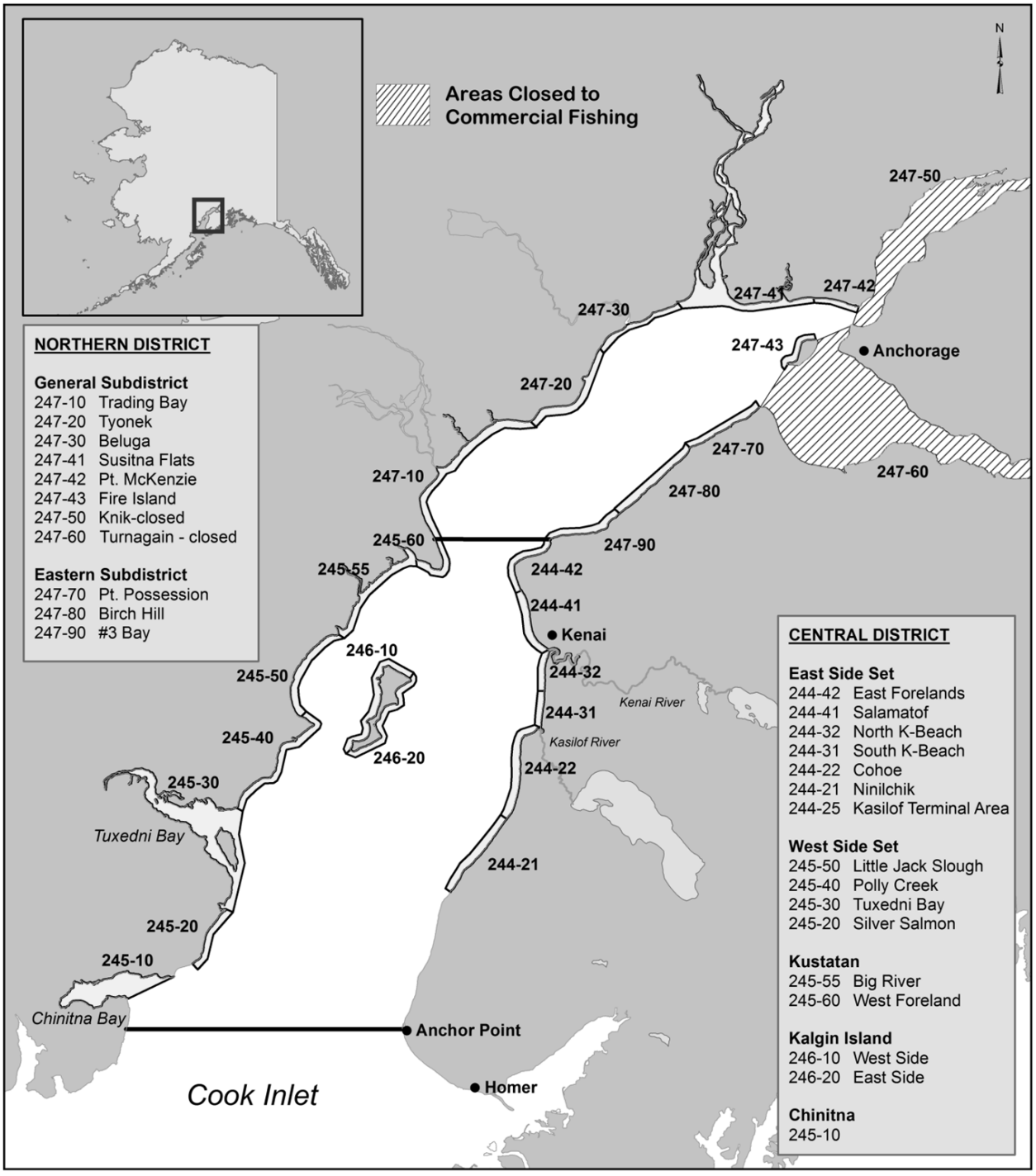

Figure 105-1.–Map of statistical areas for commercial set gillnets areas in UCI (Note: North K-Beach = 244-32).

PROPOSALS 109–112 – 5 AAC 21.365. Kasilof River Salmon Management Plan.

PROPOSED BY: Alaska Department of Fish and Game (proposal 109), Richard Person (proposal 110), Paul Shadura, SOKI (proposal 111), and Gary Hollier (proposal 112).

WHAT WOULD THESE PROPOSALS DO? Proposal 109 seeks board clarification on the use of gear in the KRSHA for individuals who hold two CFEC limited entry permits; Proposals 110–112 would allow an individual who owns two CFEC limited entry permits to operate one set gillnet per permit in the KRSHA.

WHAT ARE THE CURRENT REGULATIONS? 5 AAC 21.365(f)(5) states that "a permit holder may not use more than one gillnet to take salmon at any one time" within the KRSHA. Fishermen using set gillnet gear are restricted to using one 35-fathom gillnet and drift gillnet fishermen are restricted to using one 50-fathom gillnet. According to 5 AAC 21.331. *Gillnet specifications and operations*, a CFEC permit holder who holds two Cook Inlet set gillnet CFEC permits may operate up to 210 fathoms of set gillnet gear.

WHAT WOULD BE THE EFFECT IF THESE PROPOSALS WERE ADOPTED? These proposals could allow an individual who holds two Cook Inlet set gillnet permits to operate two 35-fathom set gillnets in the KRSHA, i.e., one net per permit. Clarifying the intent to allow one net per permit holder would likely increase set gillnet harvest of salmon in the KRSHA by an unknown amount, depending on abundance.

BACKGROUND: The KRSHA was first put into regulation in 1986. Provisions regulating use of set and drift gillnet gear in the KRSHA have changed little since they were first adopted in 1986. Specific provision requiring a permit holder to fish no more than one gillnet within the KRSHA has remained unchanged since 1986.

The KRSHA has been opened for five different years since the 2007 season (Table 109-1). During this time, the average harvest from set gillnet gear was 547 king and 88,014 sockeye salmon per year, while fishermen using drift gillnet gear caught 102 king and 12,959 sockeye salmon per year.

House Bill 286 was passed into law in 2002, allowing an individual to own two commercial salmon permits in the same fishery. In 2006, House Bill 251 was passed allowing the board to authorize additional gear with ownership of a second permit.

In 2008, the board adopted 5 AAC 21.333. *Requirements and specifications for use of 200 fathoms of drift gillnet in the Cook Inlet Area*. This provided drift gillnetters in UCI with the option of having a second permit holder on board a vessel. When this occurs, a "D-boat" vessel may fish one additional shackle (50 fathoms) of fishing gear, increasing the legal complement of gear from three shackles, or 150 fathoms, to four shackles, or 200 fathoms.

In 2011, the board allowed a single person to operate two legal complements of set gillnet fishing gear in UCI if he or she owned two S04H permits. Prior to 2011, a person could own two set gillnet fishing permits, but could only fish one of them.

There has been confusion over the interpretation of 5 AAC 21.365(f)(5) with regard to whether the provision is intended to limit the use of set gillnets in the KRSHA to one net per person, regardless if that person holds more than one S04H permit, or is it the board's intent to limit gear to one net per permit, meaning a person who owns two S04H permits could fish a total of two nets.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** proposal 109 clarifying board intent regarding interpretation of gear use in KRSHA. The department is **NEUTRAL** on the allocative aspects of proposals 110–112.

COST ANALYSIS: Approval of these proposals is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 109-1.–Commercial salmon harvest in the KRSHA, 2007–2015.

Set Gillnet						
Year	King	Sockeye	Coho	Pink	Chum	Permits
2007	164	15,631	452	104		51
2008	1,164	60,499	5,202	23,441	5	82
2013	358	64,150	633	2426	2	98
2014	625	198,131	345	21,204	86	132
2015	426	101,660	126	1,346	9	103
Average	547	88,014	1,352	9,704	26	93

Drift Gillnet						
Year	King	Sockeye	Coho	Pink	Chum	Permits
2007	16	4,659	54	24	2	51
2008	358	17,370	1,071	6,123	55	99
2013	11	2,701	31	89	12	15
2014	36	11,676	61	3,964	164	51
2015	89	28,387	311	352	282	118
Average	102	12,959	306	2,110	103	67

PROPOSAL 113 – 5 AAC 21.365. Kasilof River Salmon Management Plan.

PROPOSED BY: Central Peninsula Fish and Game Advisory Committee.

WHAT WOULD THE PROPOSAL DO? This would remove restrictions on the amount of drift or set gillnet gear a vessel may have on board within the KRSHA when that area is open to commercial fishing.

WHAT ARE THE CURRENT REGULATIONS? 5 AAC 21.365(f)(8) currently states that a vessel may not have more than 150 fathoms of drift gillnet or 105 fathoms of set gillnet on board within the KRSHA when that area is open to commercial fishing. However, 5 AAC 21.333. *Requirements and specifications for the use of 200 fathoms of drift gillnet in the Cook Inlet Area,* allows up to 200 fathoms of drift gillnet gear to be operated from a single vessel if two CFEC permit holders are on board. Section (f) of this regulation states that a vessel with two registered CFEC permit holders on board, when transiting through any area where the legal limit of gillnet gear is less than 200 fathoms, may have on board up to 200 fathoms of gillnet gear as long as no portion of the gear is deployed into the water.

5 AAC 39.240(a) *General gear specifications and operations* states that a salmon fishing vessel may only have one legal limit of salmon fishing gear on board.

5 AAC 21.331(i) *Gillnet specifications and operations* states that a CFEC permit holder who holds two Cook Inlet set gillnet CFEC permits may operate an aggregate length of set gillnets not to exceed 210 fathoms in length and 45 meshes in depth, except that in the Upper Subdistrict no more than 105 fathoms in length may be more than 29 meshes in depth.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The amount of gear allowed to be on board a salmon fishing vessel within the KRSHA while that area is open would be regulated by 5 AAC 39.240(a). This would allow a drift gillnet vessel with 200 fathoms of drift gillnet on board and a set gillnet vessel with up to 210 fathoms of set gillnet on board to participate in the KRSHA fishery. This would not modify the amount of set or drift gillnet gear currently allowed to take salmon within the KRSHA. This could result in an increase in the salmon harvest by drift or set gillnetters within the KRSHA by an unknown amount. The most significant effect of the proposal would be to allow dual permit drift gillnet vessels to participate in the KRSHA with the same 50-fathom limit on gear that single permit vessels operate under.

BACKGROUND: The KRSHA was first put into regulation in 1986. Provisions regulating the use of set and drift gillnet gear in the KRSHA have changed little since they were first adopted in 1986. Specific provisions limiting the amount of set and drift gillnet gear that may be on board within the KRSHA having remained unchanged since 1986.

House Bill 286 was passed into law in 2002, allowing an individual to own two commercial salmon permits in the same fishery. In 2006, House Bill 251 was passed allowing the board to authorize additional gear with ownership of a second permit.

In 2008, the board adopted 5 AAC 21.333. *Requirements and specifications for use of 200 fathoms of drift gillnet in the Cook Inlet Area*. This provided drift gillnetters in UCI with the option of having a second permit holder on board a vessel. When this occurs, a "D-boat" vessel may fish one additional shackle (50 fathoms) of fishing gear, increasing the legal complement of gear from three shackles, or 150 fathoms, to four shackles, or 200 fathoms.

In 2011, the board allowed a single person to operate two legal complements of set gillnet fishing gear in UCI if he or she owned two S04H permits. Prior to 2011, a person could own two set gillnet fishing permits, but could only fish one of them.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal and **SUPPORTS** clarifying board intent regarding regulations governing the use of gear in the KRSHA similar to proposal 109.

COST ANALYSIS: Approval of this proposal is not expected to result in any additional direct cost for a private person to participate in this fishery.

PROPOSAL 114 – 5 AAC 21.365. Kasilof River Salmon Management Plan.

PROPOSED BY: Richard Person.

WHAT WOULD THE PROPOSAL DO? This would require that all nets, buoys, ropes, and anchoring devices be removed from the KRSHA when this area is closed to commercial fishing.

WHAT ARE THE CURRENT REGULATIONS? Currently there are no regulations requiring any fishing gear be removed, with the exception of nets, from the waters of the KRSHA when this area is closed to commercial fishing. Gear is defined as "any type of fishing apparatus."

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It is unclear if this proposal would result in any change in harvest by the set gillnet fishery in the KRSHA. Drift gillnet fishermen would not be affected by this proposal.

BACKGROUND: The KRSHA was first put into regulation in 1986. Provisions regulating the use of set and drift gillnet gear in the KRSHA have changed little since they were first adopted in 1986. Specific provisions limiting the amount of set and drift gillnet gear that may be on board a vessel within KRSHA has remained unchanged since 1986.

At the 2014 board meeting, the area in which set gillnets can operate within the KRSHA was increased from 600 ft to 1,200 ft from the mean high tide mark.

The KRSHA has been opened for five different years since the 2007 season (Table 109-1). During this time the average harvest from set gillnet gear was 547 king and 88,014 sockeye salmon per year, while fishermen using drift gillnet gear caught 102 king and 12,959 sockeye salmon per year.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal.

COST ANALYSIS: Approval of this proposal would likely result in additional operational costs to remove and reset anchors, running lines, etc. between fishing periods.

PROPOSAL 115 – 5 AAC 21.365. Kasilof River Salmon Management Plan.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This would establish in regulation a series of waypoints defining the north, south, and offshore boundaries of the KRSHA, as well as a demarcation line between set and drift gillnet gear within the KRSHA. These waypoints have already been in effect through EOs issued in 2014 and 2015 during KRSHA openings. (Figure 115-1).

WHAT ARE THE CURRENT REGULATIONS? In 5 AAC 21.365(f), the KRSHA is defined as those waters within one and one-half miles of the navigational light located on the south bank of the Kasilof River, excluding waters of the Kasilof River upstream of ADF&G regulatory markers located near the terminus of the river and waters open to set gillnetting under 5 AAC 21.330(b)(3)(C)(ii) and (iii). Set gillnets may be operated only within 1,200 ft of the mean high tide mark and drift gillnetting may not occur in waters within 1,200 ft of the mean high tide mark. Additionally, there is no minimum distance between gear, except that a gillnet may not be set or operated within 600 ft of another set gillnet located outside of the special harvest area.

During fishing periods in the KRSHA, the navigation channel is closed to all commercial fishing with set gillnet gear including nets and anchor lines. The outside terminal area boundaries are approximately 600 feet south of the normal commercial regulatory marker located one mile north of the Kasilof River to 600 feet north of the normal commercial regulatory marker located one mile south of the Kasilof River.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would clearly define boundaries open to commercial fishing. This would reduce confusion and benefit the public, users, department, and enforcement. The department would not have to include these waypoints in EOs when opening the KRSHA.

BACKGROUND: KRSHA was first put into regulation in 1986. Provisions regulating the use of set and drift gillnet gear in the KRSHA have changed little since they were first adopted in 1986. Specific provisions limiting the amount of set and drift gillnet gear that may be on board within the KRSHA has remained unchanged since 1986. The regulation defining the outer boundary of the KRSHA has remained unchanged since 1986. At the 2014 board meeting, the area in which set gillnets can operate within the KRSHA was increased from 600 ft to 1,200 ft from the mean high tide mark. The department has included the proposed waypoints in EOs issued in 2014 and 2015.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

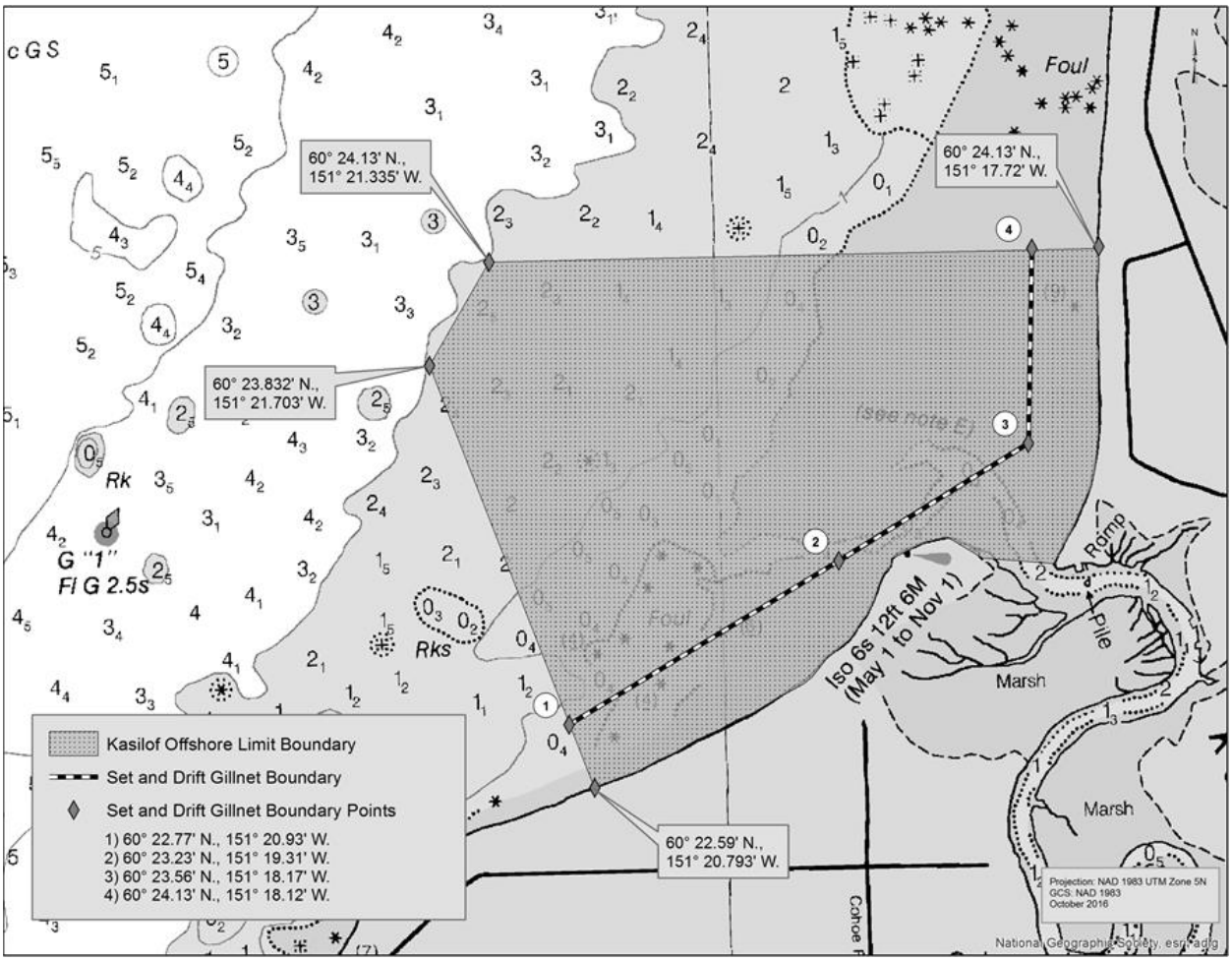

Figure 115-1.–Map of proposed waypoints defining the KRSHA.

COMMITTEE OF THE WHOLE–GROUP 4: CENTRAL DISTRICT DRIFT GILLNET FISHERY MANAGEMENT PLAN (14 PROPOSALS)

Central District Drift Gillnet Fishery Management Plan (14 Proposals)

PROPOSALS 85, 86, and 89 – 5 AAC 21.353. Central District Drift Gillnet Fishery Management Plan.

PROPOSED BY: Chris Garcia (proposal 85), Central Peninsula Fish and Game Advisory Committee (proposal 86), and United Cook Inlet Drift Association (proposal 89).

WHAT WOULD THESE PROPOSALS DO? Proposal 85 would repeal and readopt provisions (a)–(f) of the management plan to: 1) rewrite the purpose statement which would be to direct the harvest of surplus salmon in the Central District of UCI by the drift gillnet fishery to achieve salmon escapement goals; 2) maintain season opener dates; 3) delete mandatory closed areas during certain fishing periods; 4) remove one percent rule provisions; 5) remove definitions of Drift Gillnet Areas 1–4; 6) allow for regular fishing periods on Mondays and Thursdays and additional time by EO based on the abundance of sockeye, pink and chum salmon. Additional fishing time would be allowed in one of more of the following areas: Expanded Kasilof Section, Expanded Kenai Section, Anchor Point Section, Drift Area 1, and all of the Central District (Figures 85-1 and 85-2); and 7) from August 16 until closed by EO, drift fishing would be allowed in the Central District; except those waters within 5 nm of the Kenai Peninsula shoreline during regular periods.

Proposal 86 would amend provisions (a)–(f) of the management plan and add language to manage the commercial drift gillnet fishery based on the inseason abundance to meet escapement goals and harvest surplus salmon. Specific provisions in this proposal are similar to proposal 85, except there is not a provision included for fishing after August 15.

Proposal 89 would repeal and readopt the management plan with the amended plan removing mandatory time and area restrictions from July 1–August 15. Specific provisions in this proposal are identical to proposal 85.

WHAT ARE THE CURRENT REGULATIONS? The purpose of the *Central District Drift Gillnet Fishery Management Plan* (drift plan) is to ensure adequate escapement of salmon into Northern District drainages and to provide management guidelines to the department. The department manages the commercial drift gillnet fishery primarily to harvest sockeye salmon returning to Kenai and Kasilof rivers, while minimizing harvest of Northern District and Kenai River coho salmon in order to provide sport and guided sport fishermen a reasonable opportunity to harvest these salmon stocks over the entire run, as measured by the frequency of inriver restrictions. The commissioner may depart from provisions of the management plan under this section as provided in 5 AAC 21.363(e).

Fishing with drift gillnet gear begins on the third Monday in June or June 19, whichever is later. Regular fishing periods are Mondays and Thursdays from 7:00 a.m. to 7:00 p.m.

From July 9–15, for all Kenai River sockeye salmon run sizes, fishing during the two regular fishing periods is restricted to the Expanded Kenai and Expanded Kasilof sections of the Upper Subdistrict and Drift Area 1 (Figures 85-1 and 85-2). At run strengths greater than 2.3 million sockeye salmon to the Kenai River, the commissioner may open one additional 12-hour fishing period in the Kenai and Kasilof sections of the Upper Subdistrict and Drift Area 1. Any additional fishing time provided during the July 9–15 time frame is allowed only in the Expanded Kenai and Expanded Kasilof sections of the Upper Subdistrict.

From July 16–31, at run strengths of less than 2.3 million sockeye salmon to the Kenai River, fishing during all regular 12-hour fishing periods will be restricted to the Expanded Kenai and Expanded Kasilof sections of the Upper Subdistrict. At run strengths of 2.3 million to 4.6 million sockeye salmon to the Kenai River, fishing during one regular 12-hour fishing period per week will be restricted to one or more of the following: Expanded Kasilof Section, Expanded Kenai Section, Anchor Point Section, or Drift Area 1. The remaining 12-hour weekly fishing period and all additional fishing time during this time period will be restricted to one or more of the following: Expanded Kasilof Section, Expanded Kenai Section, or Anchor Point Section. At run strengths greater than 4.6 million sockeye salmon to the Kenai River, one regular 12-hour fishing period per week will be restricted to the Expanded Kenai, Expanded Kasilof, and Anchor Point sections.

From August 1–15, there are no mandatory area restrictions to regular periods, except that if the entire Upper Subdistrict set gillnet fishery is closed because of the one-percent rule, or if the department determines that less than one-percent of the season's total drift gillnet sockeye salmon harvest has been taken per fishing period for two consecutive fishing periods in the drift gillnet fishery, regular fishing periods will be restricted to Drift areas 3 and 4 (Figure 85-3). From August 16 until closed by EO, Drift areas 3 and 4 are open for fishing during regular fishing periods.

WHAT WOULD BE THE EFFECT IF THESE PROPOSALS WERE ADOPTED? It is difficult to determine all the effects of these proposals because they make numerous changes to the management plan. All of the proposed changes would likely increase commercial harvest of all salmon species by an unknown amount, depending on abundance, run timing and migratory patterns of salmon returning to UCI, including the Kenai, Kasilof, and Susitna rivers. The department would manage the drift gillnet fishery with the primary management objective of achieving established escapement goals throughout Cook Inlet.

BACKGROUND: In 1996, the *Northern District Coho Salmon Management Plan* (5 AAC 21.358) was first adopted to minimize the harvest of Susitna River coho salmon and to limit the commercial harvest of coho salmon bound for freshwater streams and rivers of the Northern District. It included a restriction to the Central District drift gillnet fishery where the first regularly scheduled drift gillnet fishing period after July 25 was restricted to the Kenai and Kasilof sections, and the fishery closed on August 9.

In 1999, the plan was renamed the *Northern District Salmon Management Plan* and included new restrictions on the drift gillnet fishery. One regular fishing period (designated by the department), from July 9–15, was restricted to the Kenai and Kasilof sections. In addition, for the first regular fishing period immediately before or on July 25 and the first regular period after July

25, fishing was restricted to either or both the Kenai and Kasilof sections and/or that portion of the Central District south of Kalgin Island (now referred to as Drift Area 1). If Kenai River sockeye salmon run was projected to be more than four million fish, there were no mandatory restrictions during regular fishing periods. The August 9 season closure remained unchanged.

In 2002, additional changes were made to the *Northern District Salmon Management Plan*. The one regular period restriction to the Kenai and Kasilof sections, from July 9–15, designated by the department, remained unchanged (Table 85-1). From July 16–31, however, fishing with drift gillnet gear was now restricted for two consecutive regular fishing periods to either or both of the Kenai and Kasilof sections of the Upper Subdistrict, or that portion of the Central District south of Kalgin Island (Drift Area 1). However, if Kenai River sockeye salmon run was greater than three million fish, the plan provided options to liberalize restrictions to include Drift Area 2 during the July 16–31 timeframe. If Kenai River sockeye salmon run was greater than four million fish, the plan provided for an option for districtwide openings for the periods on or before July 25 and the first period after July 25. Drift gillnet fishing was only authorized in this additional area if the department determined that 1) sockeye salmon escapement goals were being met in the Kenai, Kasilof, and Yentna rivers; 2) abundance of pink salmon and chum salmon stocks were sufficient to withstand commercial harvest; and 3) coho salmon stocks were sufficient enough to withstand commercial harvest and that additional harvest would not lead to restrictions in the coho salmon sport fisheries. The August 9 season closure remained unchanged.

In 2005, the board eliminated all specific references to the drift gillnet fishery in the *Northern District Salmon Management Plan* and established a new management plan for the drift gillnet fishery, the *Central District Drift Gillnet Fishery Management Plan* (5 AAC 21.353). In this plan, the board provided for an earlier opening date (the third Monday in June or June 19, whichever is later); this was done largely in response to strong Kasilof River sockeye salmon runs during the previous nine years (Table 85-1). Restrictions to the drift gillnet fishery now required both fishing periods between July 9–15 to be limited to the Kenai and Kasilof sections and Drift Area 1. Restrictions during this time period were put in place because of difficulty achieving the minimum sockeye salmon escapement goal in the Yentna River. From July 16–31, restrictions were based upon run strength of Kenai River sockeye salmon. At run strengths of less than two million sockeye salmon to the Kenai River, fishing during any two regular 12-hour fishing periods was restricted to the Kenai and Kasilof sections of the Upper Subdistrict and Drift Area 1; at run strengths of two million to four million sockeye salmon to the Kenai River, fishing during two regular 12-hour fishing periods was restricted to the Kenai and Kasilof sections and Drift areas 1 and 2 (Figure 85-2); at run strengths greater than four million sockeye salmon to the Kenai River, there were no mandatory restrictions during regular fishing periods.

The fishery remained open until closed by EO, except that beginning August 11 fishing with drift gillnet gear was limited to the newly described Drift Areas 3 and 4 (Figure 85-4). Finally, in 2005, the board established an OEG range for Yentna River sockeye salmon of 75,000–180,000 fish when Kenai River sockeye salmon runs exceeded 4 million fish. The OEG was 15,000 fish below the Yentna River SEG range of 90,000–160,000 fish on the bottom end and 20,000 fish above the SEG range on the upper end. Specifically, the *Northern District Salmon Management Plan* stated, "Achievement of the lower end of the Yentna River optimal escapement goal shall take priority over not exceeding the upper end of the Kenai River escapement goal."

In 2008, no significant changes were made to the drift gillnet fishery management plan, but the *Pink Salmon Management Plan* was repealed and the drift gillnet fishery was extended for regularly scheduled fishing periods only between August 11–15 in Drift Areas 1 and 2. Previously, drift gillnet fishermen were restricted to Drift areas 3 and 4 after August 10.

In 2011, the drift gillnet plan was changed as follows: 1) fishing during the second regular fishing period from July 9–15 was restricted to the Kenai and Kasilof sections (not the Expanded Kenai and Kasilof sections) of the Upper Subdistrict and Drift area 1; 2) at run strengths greater than 2.3 million sockeye salmon to the Kenai River, the department may, by EO, open one additional 12-hour fishing period in the Kenai and Kasilof sections (not the Expanded Kenai and Kasilof sections) of the Upper Subdistrict and Drift Area 1; 3) at run strengths of 2.3 million to 4.6 million sockeye salmon to the Kenai River, fishing during one regular 12-hour fishing period per week was to be restricted to either the Expanded Kenai or Expanded Kasilof sections (or both together) of the Upper Subdistrict or to Drift Area 1, but not to both areas concurrently; and (4) at run strengths greater than 4.6 million sockeye salmon to the Kenai River, there were no mandatory restrictions during regular fishing periods (Table 85-1). In 2014, modifications were made to the drift gillnet plan as reflected in the current regulations.

In 2008, because of the apparent declining productivity of Susitna River sockeye salmon stock, the board designated this stock as a stock of yield concern. In 2009, the department determined Yentna River sockeye salmon escapement estimates and escapement goal were inappropriate given uncertainties associated with species allocation of daily sonar estimates of passage. Because of considerable uncertainty in estimating sockeye salmon escapement at the Yentna River, the sockeye salmon SEG of 90,000–160,000 fish was eliminated and replaced with three weir-based lake goals at Chelatna, Judd, and Larson lakes. An SEG for each lake was established in 2008 and applied starting in 2009: Chelatna (20,000–65,000), Judd (25,000–55,000), and Larson (15,000–50,000) lakes (Table 85-2). Since 2009, Chelatna Lake escapement was below the SEG one year, within the SEG four years, and above the SEG three years. Judd Lake escapement was below the SEG four years and within the SEG three years. Larson Lake was below the SEG three years and within the SEG five years. It should be noted that the department is recommending the goals be changed as follows: Chelatna (20,000–45,000), Judd (15,000–40,000), and Larson (15,000–35,000) lakes. Beginning in 2016, however, enumeration of escapement at Judd Lake was terminated due to declining department budgets.

Since 1999, the sonar count (or fish passage) for Kenai River late-run sockeye salmon was above the inriver goal range 12 years (67%), within the inriver goal range five years (28%), and below the inriver goal range one year (6%); while escapement was above the OEG range four years (22%), within the OEG range 11 years (61%), and below the OEG range three years (17%)(Table 85-3).

Since 1985, the Kasilof River sockeye salmon escapement was above the BEG range in 21 years (62%), within the BEG range in 11 years (32%), and below the BEG range in two years (6%; Table 85-4). More recently (2007–2016), Kasilof River sockeye salmon escapement has been within or above the BEG range in every year; with escapement exceeding the upper bound of the BEG range in eight of 10 years. Since 2002 (15 years total), Kasilof River sockeye salmon escapement has been within the OEG six years (40%) and above the OEG range nine years

(60%). Since the OEG range was changed to 160,000–390,000 fish in 2011, it has been within the OEG in three years (50%) and above the OEG range in three years (50%).

In 2002, the coho salmon SEG at the Little Susitna River was set at 10,100–17,700 fish (Table 85-5). Since then (15 years), the SEG has been met four years (33%), exceeded four years (27%) and not met six years (40%). At Fish Creek, the SEG of 1,200–4,400 coho salmon was met six years (40%), and exceeded nine years (60%) since 2002. At Jim Creek, there is an SEG of 400–700 coho salmon, assessed via a foot index survey of a section of McRoberts Creek. Since 2002, the SEG at Jim Creek was been met three years (20%), exceeded seven years (47%) and not met five years (33%).

From 1987–2016, commercial harvest in the Central District drift gillnet fishery averaged approximately 935 king, 2,100,000 sockeye, 151,000 coho, 158,000 pink, and 201,000 chum salmon (Table 85-6). More recently (2007–2016), commercial drift gillnet fishery harvest averaged approximately 580 king, 1,700,000 sockeye, 99,000 coho, 153,000 pink, and 140,000 chum salmon.

Since 1979, the department conducted an OTF project near the southern boundary of the Central District and UCI salmon management area. In addition, the department conducted an OTF in the northern part of Central District from 2012–2014. The department investigated the temporal and spatial distributions of Kenai and Susitna River sockeye and coho salmon (all stocks combined) in UCI using southern OTF CPUE and sockeye salmon genetic data from 2006–2012, 2014 and northern OTF CPUE and sockeye salmon genetic data from 2012–2014. These spatial CPUE patterns indicate that in general Kenai River sockeye salmon may be harvested at a higher rate compared to Susitna River sockeye salmon and coho salmon along the eastern side of Cook Inlet, but harvest rates on Kenai River sockeye salmon would be highest near the center of the inlet. The department also concluded that there was no consistent pattern (spatially or temporally) of Susitna River sockeye salmon migration through the Central District where commercial fishing restrictions could take place in order to reduce harvest of this stock without significant reductions in the harvest of Kenai River sockeye salmon.

The department has conducted mark-recapture experiments to estimate abundance of adult salmon in the Mainstem Susitna (Susitna River above the Yentna River confluence) and Yentna rivers as part of Susitna-Watana dam studies. Sockeye salmon estimates are available for 2006–2008, coho salmon for 2010–2015, chum salmon 2010–2012, and king salmon for 2013–2015 (Table 85-7). Drainagewide sockeye salmon abundance point estimates ranged from 418,197 in 2006 to 327,732 in 2007. Coho salmon ranged from a high of 262,821 in 2015 to a low of 158,698 in 2014. Chum salmon ranged from 1,752,032 in 2011 to 329,345 in 2012. Drainagewide king salmon abundance estimates are only available for two years, 2014 and 2015, with run sizes of 90,492 and 137,000 respectively. In 2013, the Mainstem king salmon abundance was estimated to be 89,463, and the Yentna River abundance was not estimated as only distribution was studied that year.

Northern Cook Inlet coho salmon stocks are harvested in Central District drift and setnet fisheries. Genetic stock composition estimates of the commercial harvest of coho salmon are

currently underway and preliminary results will be made available at the 2017 UCI board meeting.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on these allocative proposals. While 5 AAC 21.363(e) provides the department authority to deviate from management plans by EO to achieve established escapement goals, the department prefers that provisions be described in species- and area-specific management plans because doing so provides greater clarity and direction on how a specific fishery should be managed than does the general language contained in 5 AAC 21.363(e).

COST ANALYSIS: Approval of these proposals is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 85-1.–History of season dates, weekly fishing periods, and restrictions in the Central District drift gillnet fishery.

Year	Description
SEASON OPENING/CLOSING DATES	
1970	June 17 until closed by EO.
1979	June 25 until closed by EO.
1986	June 25 until closed by EO. However, the fishing season can now open prior to June 25 if certain sockeye salmon passage triggers are met in the Kenai and Kasilof rivers (1986–2004).
1996	June 25 through August 9.
2005	3rd Monday in June or June 19 (whichever is later) until closed by EO.
WEEKLY FISHING PERIODS	
1970	Prior to July 15: Mondays, Wednesdays, and Fridays from 6 a.m. until 6 p.m. After July 15: Mondays, Wednesdays, and Fridays from 6 a.m. until 10 p.m.
1971	Mondays and Fridays from 6 a.m. until 6 p.m.
1985	Mondays and Fridays from 7 a.m. until 7 p.m.
1999	Mondays and Thursdays from 7 a.m. until 7 p.m.
JULY RESTRICTIONS/TIER RESTRICTIONS	
1996	The first regular fishing period after July 25 is restricted to the Kenai and Kasilof sections (1996–1998).
1999	One regular fishing period from July 9–15 is restricted to the Kenai and Kasilof sections (1999–2004). First regular period before and after July 25 is restricted to either the Kenai and Kasilof sections or the area south of Kalgin Island (1999–2001). Regular period restrictions removed if Kenai River sockeye salmon run strength is great than 4 million fish (1999–2004).
2002	From July 16–31 (2002–2004): two consecutive regular periods are restricted to either or both the Kenai and Kasilof sections or Drift Area 1. However, if Kenai River sockeye salmon run strength is greater than 3 million fish, fishing is allowed the first regular period on or before July 25 and the first regular period after July 25 in the Kenai/Kasilof sections, Drift Area 1, and in the area south and east of the north tip of Kalgin Island. If two consecutive fishing restrictions are used during two regular periods from July 16–31, no further restrictions are necessary on the periods before or after July 25. After July 20, if the Kenai River sockeye salmon run strength is greater than 4 million fish, the first regular period after July 25 may be fished districtwide.
2005	Both regular periods from July 9–15 are restricted to Drift Area 1 and the Kenai/Kasilof sections (2005–2010). From July 16–31, if Kenai River sockeye salmon run strength is: less than 2 million fish, two regular periods restricted to Drift Area 1 and the Kenai/Kasilof sections (2005–2010); between 2 million and 4 million fish, two regular periods restricted to Drift areas 1 and 2 and the Kenai/Kasilof sections (2005 through 2010); and greater than 4 million fish, there are no mandatory restrictions (2005–2010).
2011	From July 9–15: 1st regular fishing period restricted to the Expanded Corridor (Expanded Kenai and Expanded Kasilof sections; 2011–2013); 2nd regular fishing period restricted to Drift Area 1 and the narrow corridor (2011–2013); and additional fishing time is allowed only in the Expanded Corridor (2011–present). From July 16–31: if the Kenai River sockeye salmon run strength is: less than 2.3 million fish, one period is restricted to the Expanded Corridor (2011–2013); between 2.3 million and 4.6 million fish, one period per week is restricted to Drift Area 1 and/or the Expanded Corridor (2011–2013); and greater than 4.6 million fish, there are no mandatory restrictions (2011–2013).
2014	From July 9–15: 1st and 2nd regular fishing periods restricted to the Expanded Corridor and Drift Area 1. From July 16–31: if the Kenai River sockeye salmon run strength is: less than 2.3 million fish, all 12-hour fishing periods restricted to the Expanded Corridor; between 2.3 and 4.6 million fish, one 12-hour period per week is restricted to one or more of the following areas: Drift Area 1, Expanded Corridor, Anchor Point section; the remaining weekly 12-hour period is restricted to one or more of the following areas: Expanded Corridor, Anchor Point Section; greater than 4.6 million, one regular 12-hour fishing period per week is restricted to the Expanded Corridor and the Anchor Point Section; and additional fishing time in this time period is allowed only in the Expanded Corridor and Anchor Point Section.

Table 85-2.–Sockeye salmon SEGs and escapement in the Susitna River drainage, monitored at weirs on Chelatna, Judd, and Larson lakes, 2009–2016.

Lake	Chelatna	Judd	Larson
SEG	20,000–65,000	25,000–55,000	15,000–50,000
2009	17,721	44,616	40,929
2010	37,784	18,446	20,324
2011	70,353	39,984	12,413
2012	36,736	18,715	16,566
2013	70,555	14,088	21,821
2014	26,212	22,416	12,040
2015	69,750	47,684	23,214
2016	60,785[a]	[b]	14,313

[a] Weir was pulled early (August 6, 2016) due to flooding.

[b] Judd Lake weir was not operated in 2016.

Table 85–3.–Sonar count (or fish passage), escapement, inriver goal, OEG, and BEG/SEG for sockeye salmon in the Kenai River, 1987–2016. Included is a comparison of sonar count to the inriver goal and escapement to the OEG and BEG/SEG (Above, Within or Below).

Year	Sonar Count [a]	Inriver Goal		Escapement	OEG		BEG/SEG	
1987	1,596,871	400,000–700,000	Above	1,362,913	330,000–600,000	Above	330,000–600,000	Above
1988	1,021,469	400,000–700,000	Above	877,376	330,000–600,000	Above	330,000–600,000	Above
1989	1,599,959	400,000–700,000	Above	1,331,001	330,000–600,000	Above	330,000–600,000	Above
1990	659,520	400,000–700,000	Within	503,778	330,000–600,000	Within	330,000–600,000	Within
1991	647,597	400,000–700,000	Within	419,900	330,000–600,000	Within	330,000–600,000	Within
1992	994,798	400,000–700,000	Above	772,316	330,000–600,000	Above	330,000–600,000	Above
1993	813,617	400,000–700,000	Above	676,388	330,000–600,000	Above	330,000–600,000	Above
1994	1,003,446	400,000–700,000	Above	901,068	330,000–600,000	Above	330,000–600,000	Above
1995	630,447	450,000–700,000	Within	522,371	330,000–600,000	Within	330,000–600,000	Within
1996	797,847	550,000–800,000	Within	631,681	330,000–600,000	Above	330,000–600,000	Above
1997	1,064,818	550,000–825,000	Above	917,761	330,000–600,000	Above	330,000–600,000	Above
1998	767,558	550,000–850,000	Within	611,653	330,000–600,000	Above	330,000–600,000	Above
1999	803,379	750,000–950,000	Within	615,654	500,000–1,000,000	Within	500,000–800,000	Within
2000	624,578	600,000–850,000	Within	420,777	500,000–1,000,000	Below	500,000–800,000	Below
2001	650,036	600,000–850,000	Within	481,932	500,000–1,000,000	Below	500,000–800,000	Below
2002	957,924	750,000–950,000	Above	744,858	500,000–1,000,000	Within	500,000–800,000	Within
2003	1,181,309	750,000–950,000	Above	927,575	500,000–1,000,000	Within	500,000–800,000	Above
2004	1,385,981	850,000–1,100,000	Above	1,131,145	500,000–1,000,000	Above	500,000–800,000	Above
2005	1,376,452	850,000–1,100,000	Above	1,121,634	500,000–1,000,000	Above	500,000–800,000	Above
2006	1,499,692	750,000–950,000	Above	1,327,054	500,000–1,000,000	Above	500,000–800,000	Above
2007	867,572	750,000–950,000	Within	601,870	500,000–1,000,000	Within	500,000–800,000	Within
2008	614,946	650,000–850,000	Below	406,612	500,000–1,000,000	Below	500,000–800,000	Below
2009	745,170	650,000–850,000	Within	503,232	500,000–1,000,000	Within	500,000–800,000	Within
2010	970,662	750,000–950,000	Above	714,080	500,000–1,000,000	Within	500,000–800,000	Within
2011	1,599,217	1,100,000–1,350,000	Above	1,280,733	700,000–1,400,000	Within	700,000–1,200,000	Above
2012	1,581,555	1,100,000–1,350,000	Above	1,212,921	700,000–1,400,000	Within	700,000–1,200,000	Above
2013	1,359,893	1,000,000–1,200,000	Above	980,208	700,000–1,400,000	Within	700,000–1,200,000	Within
2014	1,520,340	1,000,000–1,200,000	Above	1,218,341	700,000–1,400,000	Within	700,000–1,200,000	Above
2015	1,709,051	1,000,000–1,200,000	Above	1,400,047	700,000–1,400,000	Above	700,000–1,200,000	Above
2016	1,383,692	1,100,000–1,350,000	Above	[b]	700,000–1,400,000	Within	700,000–1,200,000	Within
Averages								
1987–2010	969,819			771,860				
1999–2016	1,157,303			887,569				
2011–2016	1,525,625			1,218,450				

Comparison of Sonar Count to Inriver Goal (Since 1999)				Comparison of Escapement to OEG and BEG/SEG (Since 1999)				
		Years	%		Years	%	Years	%
	Above Goal	12	67%	Above Goal	4	22%	8	44%
	Within Goal	5	28%	Within Goal	11	61%	7	39%
	Below Goal	1	6%	Below Goal	3	17%	3	17%
	Total	18		Total	18		18	

[a] Sonar counts and escapement goals prior to 2011 are in Bendix units; 2011 through 2016 are in DIDSON units.
[b] In 2016, final escapement is not known. However, escapement is expected to be within the OEG and BEG/SEG.

Table 85-4.–Escapement, and escapement goals (BEG, OEG) for sockeye salmon in the Kasilof River, 1985–2016. Included is a comparison of the number of years the escapement was above, within, and below escapement goals (BEG, OEG).

Year	Escapement	BEG		OEG	
1985	505,049	75,000–150,000	Above		
1986	275,963	75,000–150,000	Above		
1987	249,250	150,000–250,000	Within		
1988	204,000	150,000–250,000	Within		
1989	158,206	150,000–250,000	Within		
1990	144,289	150,000–250,000	Below		
1991	238,269	150,000–250,000	Within		
1992	184,178	150,000–250,000	Within		
1993	149,939	150,000–250,000	Below		
1994	205,117	150,000–250,000	Within		
1995	204,935	150,000–250,000	Within		
1996	249,944	150,000–250,000	Within		
1997	266,025	150,000–250,000	Above		
1998	273,213	150,000–250,000	Above		
1999	312,587	150,000–250,000	Above		
2000	256,053	150,000–250,000	Above		
2001	307,570	150,000–250,000	Above		
2002	226,682	150,000–250,000	Within	150,000–300,000	Within
2003	359,633	150,000–250,000	Above	150,000–300,000	Above
2004	577,581	150,000–250,000	Above	150,000–300,000	Above
2005	348,012	150,000–250,000	Above	150,000–300,000	Above
2006	368,092	150,000–250,000	Above	150,000–300,000	Above
2007	336,866	150,000–250,000	Above	150,000–300,000	Above
2008	301,469	150,000–250,000	Above	150,000–300,000	Above
2009	297,125	150,000–250,000	Above	150,000–300,000	Within
2010	267,013	150,000–250,000	Above	150,000–300,000	Within
2011[a]	245,721	160,000–340,000	Within	160,000–390,000	Within
2012	374,523	160,000–340,000	Above	160,000–390,000	Within
2013	489,654	160,000–340,000	Above	160,000–390,000	Above
2014	439,997	160,000–340,000	Above	160,000–390,000	Above
2015	470,677	160,000–340,000	Above	160,000–390,000	Above
2016	239,981	160,000–340,000	Within	160,000–390,000	Within
Averages					
1985–2010	279,502				
2011–2016	376,759				

Comparison of escapement to escapement goals

	BEG		OEG	
	Years	%	Years	%
Above Goal	21	62%	9	60%
Within Goal	11	32%	6	40%
Below Goal	2	6%	0	0%
Total	34		15	

[a] Counts prior to 2011 are in Bendix units. Counts after 2011 are in DIDSON units.

Table 85-5.–Coho salmon sport harvest and escapement on select streams in Northern Cook Inlet, 2002–2016.

	Little Susitna			Fish Creek			Jim Creek		Deshka River		
	Harvest	Weir count	[a]	Harvest	Weir Count		Harvest	Foot count (McRoberts Creek)	Harvest	Weir count	
2002	19,278	47,938		1,233	14,651	[d]	14,707	2,473	3,616	24,612	[b]
2003	13,672	10,877		112	1,231	[d]	6,415	1,421	4,946	17,305	
2004	15,307	40,199		774	1,415	[c d]	11,766	4,652	4,440	62,940	
2005	10,203	16,839	[b]	535	3,011	[c d]	10,114	1,464	3,616	47,887	
2006	12,399	8,786	[b]	281	4,967	[c d]	19,259	2,389	6,042	59,419	[b]
2007	11,089	17,573		120	6,868	[c d]	11,848	725	2,550	10,575	
2008	13,498	18,485		993	4,868	[c d]	17,545	1,890	3,426	12,724	
2009	8,346	9,523		1,178	8,214	[d]	11,573	1,331	4,060	27,348	
2010	10,662	9,214		966[d]	6,977	[d]	8,442	242	5,690	10,393	
2011	2,452	4,826		414	1,428	[c d]	3,132	261	2,282	7,508	[b]
2012	1,618	6,779	[b]	274	1,237		1,858	213	1,358	6,825	
2013	5,229	13,583	[b]	356	7,593	[b]	3,258	663	2,658	22,341	
2014	6,922	24,211		622	10,283		3,045	122	2,598	11,578	
2015	8,880	12,756	[b]	2,041	7,912		2,910	571	2,221	10,775	
2016	NA	10,049		NA	2,484	[c]	NA	106	NA	6,820	[b]
SEG		10,100-17,700			1,200-4,400			450-700		No goal	

NA=data not available.

[a] Weir located at river mile (rm) 32 in 2012-2016; rm 71 from 1996-2011.

[b] incomplete count due to high water or pulling weir early.

[c] 2004-2008, 2011, and 2016 weir was removed on August 15 before the majority of the coho run.

[d] Coho salmon counted below weir after it was pulled: 536 (2002), 911 (2003), 1,840 (2004), 825 (2005), 756 (2006), 2,750 (2007), 4,735 (2008), 452 (2009), 57 (2010), 872(2011).

Table 85-6.–Commercial salmon harvest by Central District drift gillnet fishery, 1987–2016.

Year	King	Sockeye	Coho	Pink	Chum	Total
1986	1,834	2,837,857	506,818	615,522	1,012,669	4,974,700
1987	4,552	5,638,916	202,506	38,714	211,745	6,096,433
1988	2,237	4,139,358	278,828	227,885	582,699	5,231,007
1990	621	2,305,742	247,453	323,955	289,521	3,167,292
1991	246	1,118,138	176,245	5,791	215,476	1,515,896
1992	615	6,069,495	267,300	423,738	232,955	6,994,103
1993	765	2,558,732	121,829	46,463	88,826	2,816,615
1994	464	1,901,475	310,114	256,248	249,748	2,718,049
1995	594	1,773,873	241,473	64,632	468,224	2,548,796
1996	389	2,205,067	171,434	122,728	140,987	2,640,605
1997	627	2,197,961	78,666	29,920	92,163	2,399,337
1998	335	599,396	83,338	200,382	88,080	971,531
1999	575	1,413,995	64,814	3,552	166,612	1,649,548
2000	270	656,427	131,478	90,508	118,074	996,757
2001	619	846,275	39,418	31,219	75,599	993,130
2002	415	1,367,251	125,831	224,229	224,587	1,942,313
2003	1,240	1,593,638	52,432	30,376	106,468	1,784,154
2004	1,104	2,529,642	199,587	235,524	137,041	3,102,898
2005	1,958	2,520,327	144,753	31,230	65,671	2,763,939
2006	2,782	784,771	98,473	212,808	59,965	1,158,799
2007	912	1,823,481	108,703	67,398	74,836	2,075,330
2008	653	983,303	89,428	103,867	46,010	1,223,261
2009	859	968,075	82,096	139,676	77,073	1,267,779
2010	538	1,587,657	110,275	164,005	216,977	2,079,452
2011	593	3,201,035	40,858	15,333	111,082	3,368,901
2012	218	2,924,144	74,678	303,216	264,513	3,566,769
2013	493	1,662,561	184,771	30,605	132,172	2,010,602
2014	382	1,501,678	76,932	417,344	108,345	2,104,681
2015	556	1,012,684	130,720	21,653	252,331	1,417,944
2016	606	1,266,696	90,242	268,908	113,258	1,739,710
Averages						
1986–2016	935	2,066,322	151,050	158,248	200,790	2,577,344
2007–2016	581	1,693,131	98,870	153,201	139,660	2,085,443

[a] Drift harvest from 1989 was excluded because of the commercial drift fishery was restricted or closed for most the season due to the *Exxon Valdez* oil spill.

Table 85-7.–Susitna River drainage mark-recapture abundance estimates for sockeye salmon in 2006–2008, coho salmon 2010–2015, chum salmon 2010–2012, and king salmon 2013–2015.

		Abundance Estimate						
Species	Return Year	Mainstem Susitna R.	95% CI	Yentna River	95% CI	Total	95% CI	Source
Sockeye	2006	107,000	(49,180 - 164,820)	311,197	(252,000 - 391,000)	418,197	(335,448 - 500,946)	FDS 07-83
Salmon	2007	87,883	(79,712 - 96,054)	239,849	(205,955 - 273,743)	327,732	(292,867 - 362,597)	FDS 11-19
	2008	70,552	(60,882 - 80,221)	288,988	(251,436 - 326,540)	359,540	(320,763 - 398,317)	FDS 11-12
Coho	2010	73,640	(42,590 - 139,753)	122,777	(89,067 - 178,817)	196,417	(153,498 - 281,020)	FDS 13-05
Salmon	2011	131,878	(100,712 - 193,164)	84,677	(67,473 - 106,704)	216,555	(182,995 - 281,825)	FDS 16-35
	2012	90,397	(46,672 - 173,872)	93,919	(75,101 - 116,974)	184,316	(139,469 - 267,485)	FDS 16-52
	2013	130,026	(100,411 - 193,403)	Not Done				AEA 2014
	2014	84,879	(68,799 - 106,083)	73,819	(61,120 - 87,004)	158,698	(137,817 - 183,294)	AEA 2015
	2015	152,500	(120,552 - 184,448)	110,321	(97,157 - 123,869)	262,821	(228,128 - 297,514)	*FDS In prep.*
Chum	2010	151,127	(103,911 - 251,314)	205,869	(150,499 - 268,455)	356,996	(284,573 - 476,270)	FDS 13-05
Salmon	2011	1,468,231	(1,271,724 - 1,758,917)	283,801	(216,660 - 386,754)	1,752,032	(1,556,974 - 2,073,042)	FDS 16-35
	2012	229,903	(143,362 - 528,890)	99,442	(62,712 - 228,990)	329,345	(237,012 - 735,368)	FDS 16-52
King	2013	89,463	(77,720 - 114,954)	Not Done				AEA 2014
Salmon	2014	68,225	(53,473 - 94,240)	22,267	(17,466 - 28,701)	90,492	(74,498 - 116,748)	AEA 2015
	2015	88,600	(77,500 - 101,100)	48,400	(39,500 - 60,400)	137,000	(122,207 - 153,764)	*FDS In prep.*

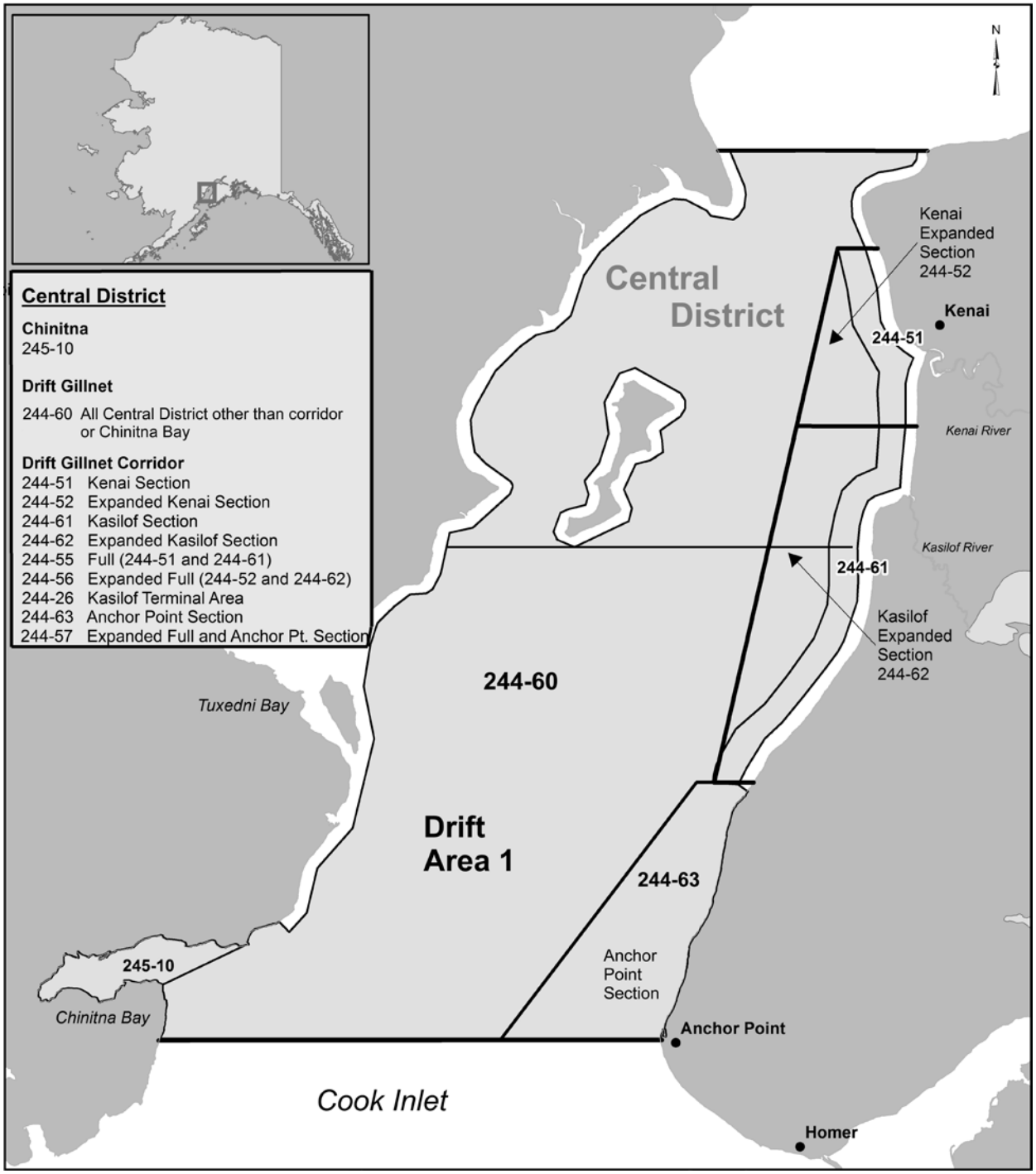

Figure 85-1.–Map of the Kenai, Expanded Kenai, Kasilof, Expanded Kasilof, and Anchor Point sections in UCI.

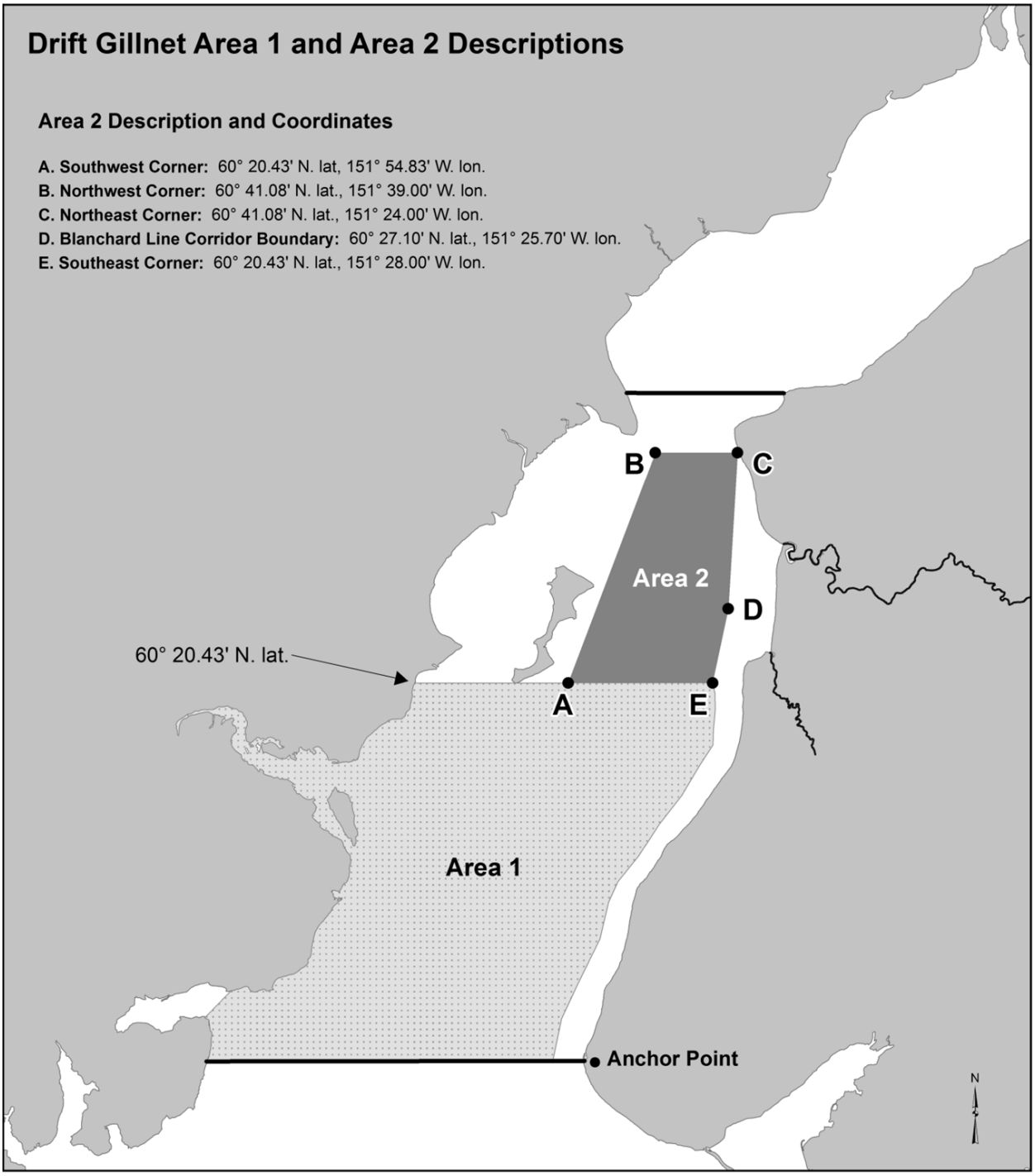

Figure 85-2.–Map and descriptions of Drift areas 1 and 2.

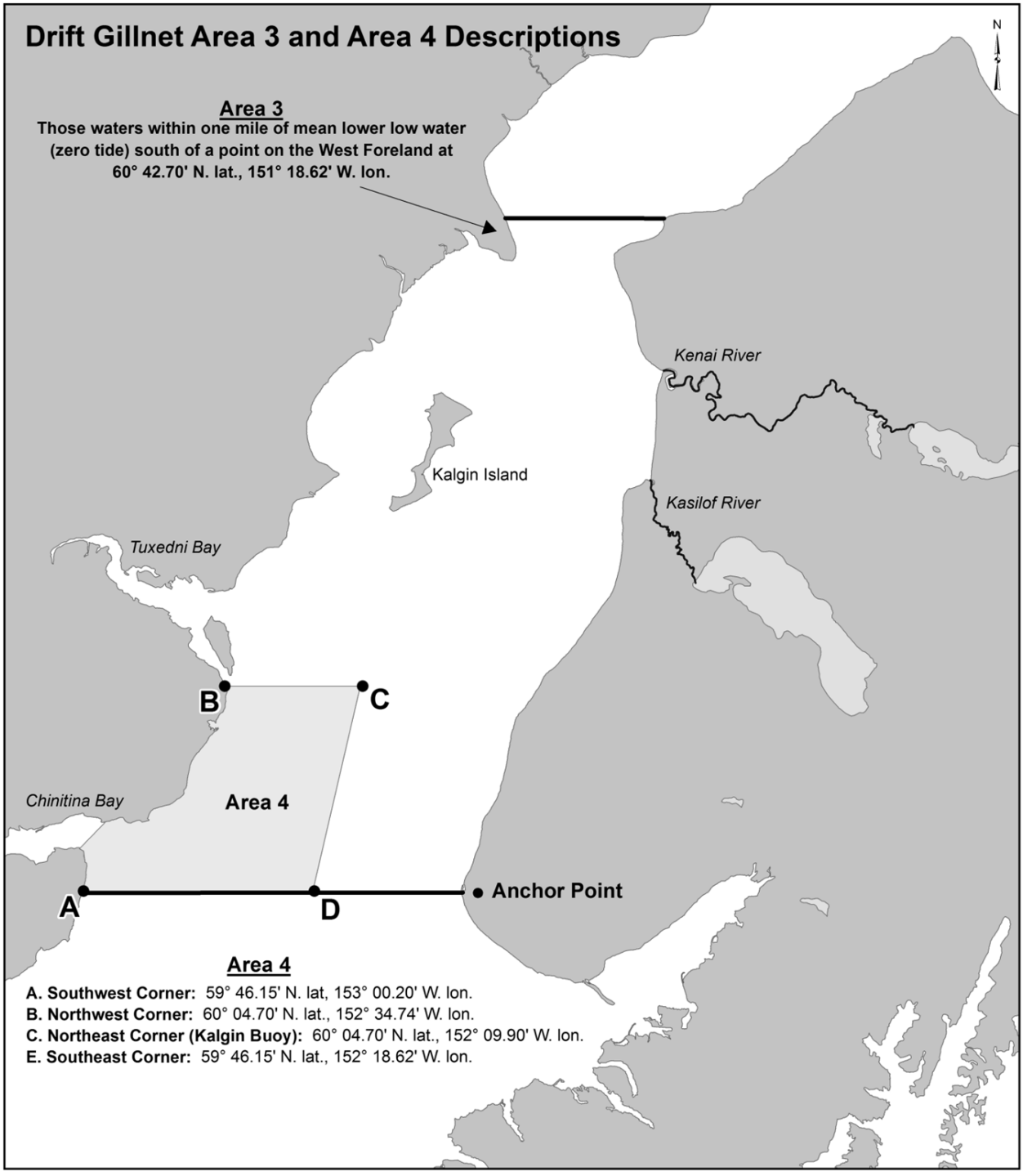

Figure 85-3.–Map and descriptions of Drift areas 3 and 4.

PROPOSAL 87 – 5 AAC 21.353. Central District Drift Gillnet Fishery Management Plan.

PROPOSED BY: David Hillstrand.

WHAT WOULD THE PROPOSAL DO? This would amend the management plan to maximize commercial harvest of sockeye salmon. More specifically, additional fishing time for the commercial drift fishery would be allowed in areas including the Expanded Corridor, Drift areas 1 and 2, and the entire Central District.

WHAT ARE THE CURRENT REGULATIONS? The purpose of the *Central District Drift Gillnet Fishery Management Plan* is to ensure adequate escapement of salmon into Northern District drainages and to provide management guidelines to the department. The department manages the commercial drift gillnet fishery primarily to harvest sockeye salmon returning to Kenai and Kasilof rivers, while minimizing harvest of Northern District and Kenai River coho salmon in order to provide sport and guided sport fishermen a reasonable opportunity to harvest these salmon stocks over the entire run, as measured by the frequency of inriver restrictions. The commissioner may depart from the provisions of the management plan under this section as provided in 5 AAC 21.363(e).

Fishing with drift gillnet gear begins on the third Monday in June or June 19, whichever is later. Regular fishing periods are Mondays and Thursdays from 7:00 a.m. to 7:00 p.m. The drift plan specifies where commercial fishing may occur from July 9–15, July 16–31, and in August; specific restrictions are dependent on the run strength of Kenai River sockeye salmon.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It is difficult to determine all the effects of this proposal because it makes numerous changes to the management plan. All of the proposed changes would likely increase commercial harvest of salmon of all species by an unknown amount, depending on abundance, run timing and migratory patterns of salmon returning to UCI, including the Kenai, Kasilof, and Susitna rivers. The department would manage the drift gillnet fishery with the primary management objective of achieving established escapement goals throughout Cook Inlet.

BACKGROUND: From July 1–15 in the years 2011–2016, there were 3–4 drift gillnet fishing periods each year in non-corridor (Districtwide/Area 1) areas and 1–2 fishing periods each year in the Expanded Corridor (Table 87-1). Total sockeye salmon harvest averaged 543,800 fish in the non-corridor areas and 85,840 fish in the Expanded Corridor; and total coho salmon harvest averaged 12,702 fish in the non-corridor areas and 797 fish in the Expanded Corridor.

From July 16–31 in the years 2011–2016, there were 4–6 drift gillnet fishing periods each year in non-corridor areas and 9–10 fishing periods each year in the Expanded Corridor (Table 87-1). Total sockeye salmon harvest averaged 731,065 fish per year in the non-corridor areas and 447,443 fish in the Expanded Corridor; and total coho salmon harvest averaged 39,422 in the non-corridor areas and 12,129 in the Expanded Corridor.

The proportion of Susitna River (Susitna mainstem, Yentna River, & Judd/Chelatna/Larson reporting groups combined) sockeye salmon was slightly higher in Expanded Corridor versus

non-corridor drift fishery harvests in four of five years (2011–2015), and the average proportion of Susitna River sockeye salmon was higher in Expanded Corridor (9.4%) versus non-corridor (6.9%) harvests (Table 87-2). The proportion of Kenai River sockeye salmon was also slightly higher in Expanded Corridor versus non-corridor drift fishery harvests in four of five years (2011–2015), and the average proportion of Kenai River sockeye salmon was slightly higher in Expanded Corridor (78.3%) versus non-corridor (75.2%) harvests (Table 87-2).

Harvest rates on Susitna River sockeye salmon averaged 10% in Expanded Corridor openings and 23% in non-corridor openings, and total Susitna River sockeye salmon harvest averaged 2.1 times higher in non-corridor versus Expanded Corridor openings (Table 87-3). Harvest rates on Kenai River sockeye salmon averaged 9% in Expanded Corridor openings and 26% in non-corridor openings, and total Kenai River sockeye salmon harvest averaged 2.8 times higher in non-corridor versus Expanded Corridor openings (Table 87-4).

The average (2011–2015) ratio of Kenai-to-Susitna sockeye salmon harvested was greater in non-corridor (11.7) versus Expanded Corridor (9.7) openings and this ratio was higher in the non-corridor fisheries in four of five years (Table 87-5). These data indicate that Kenai River sockeye salmon can be harvested more efficiently in non-corridor fisheries without disproportionately increasing harvest rates on Susitna River sockeye salmon.

The ratio of sockeye salmon harvest was 3.0 to 4.5 times greater in non-corridor versus Expanded Corridor fishing periods in July (Table 87-6). The ratio of sockeye to coho salmon harvested was smaller in the non-corridor than in the Expanded Corridor. Average coho salmon harvest per fishing period was higher in the non-corridor than in the Expanded Corridor. Based on this information, there would need to be 3.0–4.5 times the number of drift gillnet fishing periods in the Expanded Corridor to equal the commercial harvest in non-corridor areas. However, fishing in the Expanded Corridor only would reduce coho salmon harvest by about half when compared to non-corridor areas.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. While 5 AAC 21.363(e) provides the department authority to deviate from management plans by EO to achieve established escapement goals, the department prefers that provisions be described in species- and area-specific management plans because doing so provides greater clarity and direction on how a specific fishery should be managed than does the general language contained in 5 AAC 21.363(e).

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 87-1.–Number of fishing periods and total commercial drift gillnet harvest of sockeye and coho salmon in non-corridor (Districtwide, Area 1) and Expanded Corridor (Expanded Kenai and Expanded Kasilof sections) areas during July 1–15, July 9–15, and July 16–31, 2011–2016.

July 1–15

Year	Non-Corridor (Districtwide/Area 1)			Expanded Corridor[a]		
	Fishing Periods	Sockeye	Coho	Fishing Periods	Sockeye	Coho
2011	3	809,897	3,960	1	105,866	103
2012	4	441,806	1,487	1	3,584	0
2013	4	836,877	25,126	2	83,578	807
2014	5	586,888	7,509	4	156,393	808
2015	4	130,338	19,863	2	30,029	1,119
2016	5	456,994	18,266	2	135,590	1,947
Total	25	3,262,800	76,211	12	515,040	4,784
Avg/period		130,512	3,048		42,920	399
Avg/year		543,800	12,702		85,840	797

July 9–15

Year	Drift Area 1			Expanded Corridor[a]		
	Fishing Periods	Sockeye	Coho	Fishing Periods	Sockeye	Coho
2011	1	691,622	2,982	1	105,866	103
2012	2	347,665	1,386	1	3,584	0
2013	1	432,662	14,034	2	83,578	807
2014	3	414,729	5,484	4	156,393	808
2015	2	92,561	17,443	2	30,029	1,119
2016	3	342,971	15,574	2	135,590	1,947
Total	12	2,322,210	56,903	12	515,040	4,784
Avg/period		193,518	4,742		42,920	399
Avg/year		387,035	9,484		85,840	797

July 16–31

Year	Non-Corridor (Districtwide/Area 1)			Expanded Corridor		
	Fishing Periods	Sockeye	Coho	Fishing Periods	Sockeye	Coho
2011	6	1,359,274	17,762	9	822,916	6,894
2012	6	1,872,061	59,306	9	583,219	7,002
2013	4	447,528	92,724	10	249,434	10,513
2014	2	356,535	25,481	11	283,768	12,887
2015	2	170,423	19,415	8	373,322	22,856
2016	2	180,570	21,961	8	371,996	12,620
Total	22	4,386,391	236,649	55	2,684,655	72,772
Avg/period		199,381	10,757		48,812	1,323
Avg/year		731,065	39,442		447,443	12,129

[a] Prior to July 9, only regular corridors are fished.

Table 87-2.–Genetic stock composition estimates of sockeye salmon harvests in Expanded Corridor versus non-corridor drift fishery openings, 2011–2015.

	SusYen/JCL		Kenai	
Year	Non-corridor	Expanded Corridor	Non-corridor	Expanded Corridor
2011	5.7%	6.8%	77.5%	77.6%
2012	6.1%	4.9%	83.0%	88.1%
2013	7.1%	10.3%	78.0%	77.2%
2014	5.0%	12.0%	69.9%	71.7%
2015	10.7%	13.2%	67.7%	76.8%
Average	6.9%	9.4%	75.2%	78.3%

Table 87-3.–Drift fishery harvests and harvest rates for Susitna River sockeye salmon in Expanded Corridor and non-corridor openings, 2011–2015.

	SusYen/JCL Harvest		SusYen/JCL Harvest Rate		Total
Year	Non-corridor	Expanded Corridor	Non-corridor	Expanded Corridor	Susitna Run
2011	128,940	63,248	0.23	0.12	549,140
2012	142,567	28,753	0.43	0.09	330,524
2013	93,287	34,300	0.22	0.08	425,269
2014	52,100	34,098	0.18	0.12	295,965
2015	55,975	60,558	0.11	0.12	505,089
Average	94,574	44,192	0.23	0.10	421,198

Table 87-4.–Drift fishery harvests and harvest rates for Kenai River sockeye salmon in Expanded Corridor and non-corridor openings, 2011–2015.

	Kenai Harvest		Kenai Harvest Rate		Total
Year	Non-corridor	Expanded Corridor	Non-corridor	Expanded Corridor	Kenai Run
2011	1,753,134	721,772	0.28	0.12	6,246,877
2012	1,939,844	516,973	0.41	0.11	4,725,761
2013	1,024,848	257,085	0.30	0.07	3,463,880
2014	728,354	203,736	0.22	0.06	3,278,731
2015	354,158	352,337	0.09	0.09	3,887,601
Average	1,160,068	410,381	0.26	0.09	4,320,570

Table 87-5.–Ratios of the number of Kenai versus Susitna River sockeye salmon harvested in Expanded Corridor versus non-corridor drift fishery openings, 2011–2015.

	Ratio Kenai/Susitna Harvest		Total Drift Harvest	
Year	Non-corridor	Expanded Corridor	Non-corridor	Expanded Corridor
2011	13.6	11.4	2,262,108	930,119
2012	13.6	18.0	2,337,161	586,803
2013	11.0	7.5	1,313,908	333,012
2014	14.0	6.0	1,041,994	284,150
2015	6.3	5.8	523,129	458,772
Average	11.7	9.7	1,495,660	518,571

Table 87-6.–Ratios of the number of sockeye salmon harvested per period, sockeye to coho salmon harvested, and average coho salmon harvested per period in non-corridor versus Expanded Corridor drift fishery openings.

	Sockeye Ratio	Sockeye-Coho Salmon Ratio		Average Coho Salmon Harvest per Period	
Period	Non-Corridor/ Expanded Corridor	Non-Corridor	Expanded Corridor	Non-Corridor	Expanded Corridor
July 1–15	3.0	42.8	107.6	3,048	399
July 9–15	4.5	40.8	107.6	4,742	399
July 16–31	4.1	18.5	36.9	10,757	1,323

PROPOSALS 88, 90, and 91 – 5 AAC 21.353. Central District Drift Gillnet Fishery Management Plan.

PROPOSED BY: John McCombs (proposal 88), United Cook Inlet Drift Association (proposal 90) and Central Peninsula Advisory Committee (proposal 91).

WHAT WOULD THESE PROPOSALS DO? These proposals would effectively remove all area restrictions to regular Monday/Thursday drift gillnet fishing periods from July 9–31; all regular fishing periods would be districtwide. Any additional fishing time provided to the drift gillnet fishery would be based on offshore test fishery and other inseason abundance data. These proposals would effectively allow two 12-hour commercial drift gillnet fishing periods each week in the entire Central District from July 9–31. This would not affect the areas currently open to commercial fishing from the beginning of season through July 8 and in August. From July 9–15, this would expand the area open to drifting from Drift Gillnet Area 1 to all of the Central District for both fishing periods. This would also increase the area open to commercial fishing during at least one regular fishing period each week from during July 9–31, depending upon which run size tier the department was managing for.

WHAT ARE THE CURRENT REGULATIONS? The purpose of the *Central District Drift Gillnet Fishery Management Plan* is to ensure adequate escapement of salmon into Northern District drainages and to provide management guidelines to the department. The department manages the commercial drift gillnet fishery primarily to harvest sockeye salmon returning to the Kenai and Kasilof rivers, while minimizing the harvest of Northern District and Kenai River coho salmon in order to provide sport and guided sport fishermen a reasonable opportunity to harvest these salmon stocks over the entire run, as measured by the frequency of inriver restrictions. The commissioner may depart from the provisions of the management plan under this section as provided in 5 AAC 21.363(e).

Fishing with drift gillnet gear begins on the third Monday in June or June 19, whichever is later. Regular fishing periods are Mondays and Thursdays from 7:00 a.m. to 7:00 p.m. The drift plan specifies where commercial fishing may occur from July 9–15, July 16–31, and in August; specific restrictions are dependent on the run strength of Kenai River sockeye salmon.

WHAT WOULD BE THE EFFECT IF THESE PROPOSALS WERE ADOPTED? These proposals would likely increase the commercial harvest of sockeye and coho salmon during regular periods. Any effect on total salmon harvest would be dependent upon how much additional commercial drift gillnet fishing time was provided outside of regular periods. If only regular periods were fished in non-corridor areas, the effects on total sockeye salmon harvest might be minimal. If regular periods were fished in non-corridor areas and additional time in the Expanded Corridors was allowed, sockeye, coho, and chum salmon harvests would increase by an unknown amount. Fishing two non-corridor fishing periods per week would likely decrease commercial drift fishing periods in the Expanded Corridor. The department would continue to manage the drift gillnet fishery with the primary management objective of achieving established escapement goals in UCI. Adoption of proposal 88 would require language to be developed as the proposal does not provide specific changes to the management plan.

BACKGROUND: In 1996, the *Northern District Coho Salmon Management Plan* (5 AAC 21.358) was first adopted. In 1999, the plan was renamed to the *Northern District Salmon Management Plan* and included new restrictions to the drift gillnet fishery. In 2002, additional changes were made to the Northern District Salmon Management Plan. In 2005, the board eliminated all specific references to the drift gillnet fishery in the *Northern District Salmon Management Plan* and established a new management plan for the drift gillnet fishery, *Central District Drift Gillnet Fishery Management Plan* (drift plan; 5 AAC 21.353). In 2008, there were no significant changes to the drift plan. In 2011, a number of changes were made to the plan regarding areas open to drift fishing in July and there was difficulty implementing the changes during the 2011 season. The 2012 and 2013 seasons were managed using regulations in effect in 2011. In 2014, additional changes were made to areas open to fishing with drift gillnet gear in July. The drift gillnet fishery was managed under these regulations in 2014–2016. A listing of changes made to the plan including season opening and closing dates, weekly fishing periods, and July/Tier restrictions is provided in Table 85-1.

In 2008, because of the apparent declining productivity of Susitna River sockeye salmon stock, the board designated it as a stock of yield concern. In 2009, the department determined Yentna River sockeye salmon escapement estimates and escapement goal were inappropriate given uncertainties associated with species allocation of daily sonar estimates of passage. Because of considerable uncertainty in estimating sockeye salmon escapement at the Yentna River, the sockeye salmon SEG of 90,000–160,000 fish was eliminated and replaced with three weir-based lake goals at Chelatna, Judd, and Larson lakes. An SEG for each lake was established in 2008 and applied starting in 2009: Chelatna (20,000–65,000), Judd (25,000–55,000), and Larson (15,000–50,000) lakes (Table 85-2). Since 2009, Chelatna Lake escapement has been below the SEG once, Larson Lake has been below the SEG three times, and Judd Lake has been below the SEG four times. Note that the Judd Lake weir was not operated in 2016 due to lack of funding. Beginning in 2016, however, enumeration of escapement at Judd Lake was terminated due to declining department budgets. The department recommends no change to the status of Susitna River sockeye salmon stock of concern.

Since 2011, all drift gillnet fishing periods from July 9–15 were restricted to Drift Area 1 and the Expanded Corridors, where average harvest of sockeye salmon per fishing period was approximately 194,000 fish, or about 4.5 times the harvest per period from the Expanded Corridors during the same time period (Table 87-1). From July 16–31, average sockeye salmon harvest during non-corridor periods was approximately 199,000 fish per period, which was about 4.1 times the average harvest per period of 43,000 fish from the same time period in the Expanded Corridors; which was approximately 150,000 more sockeye salmon harvested during a non-corridor fishing period than Expanded Corridor fishing periods.

From July 1–15 in the years 2011–2016, there were 3–4 four fishing periods each year in non-corridor (Districtwide/Area 1) areas and 1–4 fishing periods each year in the Expanded Corridor (Table 87-1). Total sockeye salmon harvest averaged 543,800 fish per year in non-corridor areas and 85,840 fish per year in the Expanded Corridor; and total coho salmon harvest averaged 12,702 in non-corridor areas and 797 per year in the Expanded Corridor.

From July 16–31 in the years 2011–2016, there were 4–6 four fishing periods each year in non-corridor areas and 9–11 fishing periods each year in the Expanded Corridor (Table 87-1). Total

sockeye salmon harvest averaged about 199,000 fish per period or 731,000 fish per year in the non-corridor areas and 49,000 fish per period and 447,000 fish per year in the Expanded Corridor. Coho salmon harvests averaged about 11,000 fish per period and 39,000 fish per year in the non-corridor areas and 1,300 fish per period and 12,000 fish per year in the Expanded Corridor.

The proportion of Susitna River (Susitna R., Yentna R. and Judd, Chelatna lakes reporting groups combined) sockeye salmon was slightly higher in Expanded Corridor versus non-corridor drift fishery harvests in four of five years (2011–2015), and the average proportion of Susitna River sockeye salmon was higher in Expanded Corridor (9.4%) versus non-corridor (6.9%) harvests (Table 87-2). The proportion of Kenai River sockeye salmon was also slightly higher in Expanded Corridor versus non-corridor drift gillnet fishery harvests in four of five years (2011–2015), and the average proportion of Kenai River sockeye salmon was slightly higher in Expanded Corridor (78.3%) versus non-corridor (75.2%) harvests (Table 87-2).

Harvest rates on Susitna River sockeye salmon averaged 10% in Expanded Corridor openings and 23% in non-corridor openings, and total Susitna River sockeye salmon harvest averaged 2.1 times higher in non-corridor versus Expanded Corridor openings (Table 87-3). Harvest rates on Kenai River sockeye salmon averaged 9% in Expanded Corridor openings and 26% in non-corridor openings, and total Kenai River sockeye salmon harvest averaged 2.8 times higher in non-corridor versus Expanded Corridor openings (Table 87-4).

The average (2011–2015) ratio of Kenai-to-Susitna sockeye salmon harvested was greater in non-corridor (11.7) versus Expanded Corridor (9.7) openings and this ratio was higher in the non-corridor fisheries in four of five years (Table 87-5). These data indicate that Kenai River sockeye salmon can be harvested more efficiently in non-corridor fisheries without disproportionately increasing harvest rates on Susitna sockeye salmon.

The ratio of sockeye salmon harvest was 3.0 to 4.5 times greater in non-corridor versus Expanded Corridor fishing periods in July (Table 87-6). The ratio of sockeye to coho salmon harvested was smaller in non-corridor areas than in the Expanded Corridor. Average coho salmon harvest per fishing period was higher in non-corridor areas than in the Expanded Corridor. Based on this information, there would need to be 3.0–4.5 times the number of drift gillnet fishing periods in the Expanded Corridor to equal commercial harvest in non-corridor areas. However, fishing in the Expanded Corridor only would reduce coho salmon harvest by about half when compared to non-corridor areas.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on these allocative proposals. While 5 AAC 21.363(e) provides the department authority to deviate from management plans by EO to achieve established escapement goals, the department prefers that provisions be described in species- and area-specific management plans because doing so provides greater clarity and direction on how a specific fishery should be managed than does the general language contained in 5 AAC 21.363(e).

COST ANALYSIS: Approval of these proposals is not expected to result in an additional direct cost for a private person to participate in this fishery.

PROPOSALS 92, 93, and 95 – 5 AAC 21.353. Central District Drift Gillnet Fishery Management Plan.

PROPOSED BY: Matanuska Valley Fish and Game Advisory Committee (proposal 92), Alaska Outdoor Council (proposal 93) and Alaska Sport Fishing Association (proposal 95).

WHAT WOULD THESE PROPOSALS DO? Proposals 92 and 95 would restrict regular Monday/Thursday drift gillnet fishing periods from August 1–15 to the Expanded Corridors/Anchor Point Section and Drift Area 1. Additional fishing time outside of regular fishing periods would only be allowed in the Expanded Corridors and Anchor Point Section.

Proposal 93 would amend the preamble of the management plan and restrict regular periods in the commercial drift gillnet fishery to the Expanded Corridors and Drift Area 1 from August 1-15. Additional fishing time outside of regular fishing periods would only be allowed in the Expanded Corridors and Anchor Point Section.

WHAT ARE THE CURRENT REGULATIONS? The purpose of the *Central District Drift Gillnet Fishery Management Plan* is to ensure adequate escapement of salmon into Northern District drainages and to provide management guidelines to the department. The department manages the commercial drift gillnet fishery primarily to harvest sockeye salmon returning to the Kenai and Kasilof rivers, while minimizing the harvest of Northern District and Kenai River coho salmon in order to provide sport and guided sport fishermen a reasonable opportunity to harvest these salmon stocks over the entire run, as measured by the frequency of inriver restrictions. The commissioner may depart from the provisions of the management plan under this section as provided in 5 AAC 21.363(e).

In the Central District drift gillnet fishery, there are no mandatory area restrictions to regular fishing periods from August 1–15, except that if the entire Upper Subdistrict set gillnet fishery is closed under the one-percent rule (5 AAC 21.310(b)(2)(C)(iii)) or the department determines that less than one percent of the season's total drift gillnet sockeye salmon harvest has been taken per fishing period for two consecutive regular fishing periods in the drift gillnet fishery, regular fishing periods will be restricted to Drift areas 3 and 4. In addition, if the entire Upper Subdistrict set gillnet fishery is closed under the one-percent rule, regular fishing periods in the Central District drift gillnet fishery will be restricted to Drift areas 3 and 4. For purposes of the calculating the one-percent rule, fishing period means a time period open to commercial fishing as measured by a 24-hour calendar day from 12:01 a.m. until 11:59 p.m.

WHAT WOULD BE THE EFFECT IF THESE PROPOSALS WERE ADOPTED? These proposals would reduce waters open to the drift gillnet fishery in August. This would likely reduce commercial harvest of salmon by the drift gillnet fishery in August by an unknown amount, depending on abundance, run timing and migratory patterns of salmon returning to UCI, including the Kenai, Kasilof, and Susitna rivers. This would decrease the department's ability to manage the drift gillnet fishery inseason to achieve established escapement goals in UCI. The department may have to deviate from the management plans by EO to achieve established escapement goals as directed under 5 AAC 21.363(e).

BACKGROUND: In 1996, the *Northern District Coho Salmon Management Plan* (5 AAC 21.358) was first adopted. In 1999, the plan was renamed to the *Northern District Salmon*

Management Plan and included new restrictions to the drift gillnet fishery. In 2002, additional changes were made to the *Northern District Salmon Management Plan*. In 2005, the board eliminated all specific references to the drift gillnet fishery in the *Northern District Salmon Management Plan* and established a new management plan for the drift gillnet fishery, *Central District Drift Gillnet Fishery Management Plan* (drift plan; 5 AAC 21.353). In 2008, there were no significant changes to the drift plan. In 2011, a number of changes were made to the plan regarding areas open to fishing with drift gillnet gear in July and there was difficulty implementing the changes during the 2011 season. The 2012 and 2013 seasons were managed using regulations in effect in 2011. In 2014, additional changes were made to areas open to fishing with drift gillnet gear in July. The drift gillnet fishery was managed under these regulations in 2014–2016. A listing of changes made to the plan including season opening and closing dates, weekly fishing periods, and July/Tier restrictions is provided in Table 85-1.

In 2005, 5 AAC 21.310(b)(2)(C)(iii) was amended to include, for the first time, what is commonly referred to as the "one-percent" rule. This provision states that any time after July 31, if less than one percent of the season's total sockeye salmon harvest has been taken per fishing period for two consecutive fishing periods in the Kenai, Kasilof, and East Foreland sections set gillnet fishery, the season will close. In 2008, the board extended the closing date for the Upper Subdistrict set gillnet and also for the Central District drift gillnet fishing season in all of the Central District from August 10 to August 15; however, in the set gillnet fishery, regular periods only may be fished from August 11–15. If the Upper Subdistrict set gillnet fishery is closed per the one-percent rule, regular fishing periods in drift gillnet fishery will be restricted to Drift areas 3 and 4. In 2014, the one-percent rule was modified so it would apply to the combined Kenai and East Forelands sections and Kasilof Section separately; the board also added a second one-percent rule to the drift gillnet fishery, as described in the current regulations section.

From 2005 through 2010, a "fishing period" was defined as a time period open to commercial fishing without closure. In 2011, the board modified the definition of a fishing period to a time period open to commercial fishing as measured by a 24-hour calendar day from 12:01 a.m. until 11:59 p.m.

From 2014–2016, the drift gillnet fishery one-percent rule was applied two times. In 2014, regular fishing periods on August 4 and 7 produced sockeye salmon harvests less than one-percent of the total season harvest; thus, regular fishing periods on August 11 and 14 were restricted to Drift areas 3 and 4. In 2016, drift gillnet fishery sockeye salmon harvest from regular periods on August 4 and August 8 were less than one-percent of the season total harvest; therefore, regularly scheduled Monday/Thursday fishing periods on August 11 and 15 were restricted to Drift areas 3 and 4.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on these allocative proposals. While 5 AAC 21.363(e) provides the department authority to deviate from management plans by EO to achieve established escapement goals, the department prefers that provisions be described in species- and area-specific management plans because doing so provides greater clarity and direction on how a specific fishery should be managed than does the general language contained in 5 AAC 21.363(e).

COST ANALYSIS: Approval of these proposals is not expected to result in an additional direct cost for a private person to participate in this fishery.

PROPOSALS 94 and 97 – 5 AAC 21.353. Central District Drift Gillnet Fishery Management Plan.

PROPOSED BY: Central Peninsula Fish and Game Advisory Committee and United Cook Inlet Drift Association (proposal 94) and John McCombs (proposal 97).

WHAT WOULD THESE PROPOSALS DO? These proposals would remove the one-percent rule from the management plan, as applied to both the Upper Subdistrict set and Central District drift gillnet fisheries. Proposal 97 would also remove all mandatory time and area restrictions to drift gillnet regular fishing periods from August 1–15.

WHAT ARE THE CURRENT REGULATIONS? In the Central District drift gillnet fishery, there are no mandatory area restrictions to regular fishing periods from August 1–15, except that if the entire Upper Subdistrict set gillnet fishery is closed under the one-percent rule (5 AAC 21.310(b)(2)(C)(iii)) or the department determines that less than one percent of the season's total drift gillnet sockeye salmon harvest has been taken per fishing period for two consecutive regular fishing periods in the drift gillnet fishery, regular fishing periods will be restricted to Drift areas 3 and 4. In addition, if the entire Upper Subdistrict set gillnet fishery is closed under the one-percent rule, regular fishing periods in the Central District drift gillnet fishery will be restricted to Drift areas 3 and 4. For purposes of the calculating the one-percent rule, fishing period means a time period open to commercial fishing as measured by a 24-hour calendar day from 12:01 a.m. until 11:59 p.m.

WHAT WOULD BE THE EFFECT IF THESE PROPOSALS WERE ADOPTED? These proposals would likely increase commercial harvest of salmon in August by an unknown amount, depending on abundance, run timing and migratory patterns of salmon returning to UCI, including the Kenai, Kasilof, and Susitna rivers. Removal of the one-percent rule would likely increase the proportion of years in which the Kenai and Kasilof river sockeye salmon escapement goal ranges are not exceeded.

BACKGROUND: In 2005, 5 AAC 21.310(b)(2)(C)(iii) was amended to include, for the first time, what is commonly referred to as the "one-percent" rule. This provision states that any time after July 31, if less than one percent of the season's total sockeye salmon harvest has been taken per fishing period for two consecutive fishing periods in the Kenai, Kasilof, and East Foreland sections set gillnet fishery, the season will close. In 2008, the board extended the closing date for the Upper Subdistrict set gillnet and also for the Central District drift gillnet fishing season in all of the Central District from August 10 to August 15; however, in the set gillnet fishery, regular periods only may be fished from August 11–15. If the Upper Subdistrict set gillnet fishery is closed per the one-percent rule, regular fishing periods in drift gillnet fishery will be restricted to Drift areas 3 and 4. In 2014, the one-percent rule was modified so it would apply to the combined Kenai and East Forelands sections and Kasilof Section separately; the board also added a second one-percent rule to the drift gillnet fishery, as described in the current regulations section.

From 2005 through 2010, a "fishing period" was defined as a time period open to commercial fishing without closure. In 2011, the board modified the definition of a fishing period to a time period open to commercial fishing as measured by a 24-hour calendar day from 12:01 a.m. until 11:59 p.m.

From 2014–2016, the drift gillnet fishery one-percent rule was applied two times. In 2014, regular fishing periods on August 4 and 7 produced sockeye salmon harvests less than one-percent of the total season harvest; thus, regular fishing periods on August 11 and 14 were restricted to Drift areas 3 and 4. In 2016, drift gillnet fishery sockeye salmon harvest from regular periods on August 4 and August 8 were less than one-percent of the season total harvest; therefore, regularly scheduled Monday/Thursday fishing periods on August 11 and 15 were restricted to Drift areas 3 and 4.

Information gathered from research programs on Kenai River indicate the coho salmon runs averaged about 140,000 fish from 1999 to 2004, with harvests averaging just over 62,000 fish (Table 94-1). Overall harvest rates for Kenai River coho salmon runs prior to 2000 were high, in some cases (84% in 1999) under the previous Kenai River coho salmon management plan, which allowed a three-fish bag limit and more liberal commercial fishing in August; under a plan that allowed a two-fish bag limit and more restrictive commercial fishing, the harvest rate ranged from 35% to 47% from 2000 to 2004. New regulations in 2005 and 2008, which liberalized sport and commercial fisheries, very likely increased harvest rates of Kenai River coho salmon relative to the rates observed from 1999–2004. Research findings from studies conducted in Southeast Alaska with transboundary coho salmon stocks have indicated that an exploitation rate of about 61% is sustainable.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on these allocative proposals. The department does not have any new data regarding coho salmon runs or exploitation rates but believes current management is sustainable. The Kenai River coho salmon stock is not monitored. Inriver harvest data indicate harvest of Kenai River coho salmon is relatively stable under existing regulations. While 5 AAC 21.363(e) provides the department authority to deviate from management plans by EO to achieve established escapement goals, the department prefers that provisions be described in species- and area-specific management plans because doing so provides greater clarity and direction on how a specific fishery should be managed than does the general language contained in 5 AAC 21.363(e).

COST ANALYSIS: Approval of these proposals is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 94-1.–Estimated harvest, total run, and exploitation rate of Kenai River coho salmon from 1999–2004.

Year	Escapement[a,b]	Harvest			Research Mortality	Total Run	Total Harvest[e]	Harvest Rate[f]
		Sport[c]	Personal Use	Commercial[d]				
1999	7,889	35,361	1,009	3,894	193	48,346	40,457	0.837
2000	72,742	52,489	1,449	2,965	555	130,200	56,903	0.437
2001	75,122	55,004	1,555	1,934	540	134,155	58,493	0.436
2002	133,612	66,104	1,721	6,115	968	208,520	73,940	0.355
2003	79,915	51,944	1,332	2,578	209	135,978	55,854	0.411
2004	95,394	72,565	2,661	11,149	2,106	183,875	86,375	0.470
Average 1999–2004	77,446	55,578	1,621	4,773	762	140,179	62,004	0.491
2000–2004	91,357	59,621	1,744	4,948	876	158,546	66,313	0.422

Note: 1991–1993 and 1998 Kenai River coho salmon creel data was used to calculate the effect of increasing the bag limit from 2 to 3 fish, only boat angler interviews/data were selected for use for 1991–1993 due to the lack of data from shore anglers.

[a] Kenai River coho salmon total runs were estimated only during 1999–2004.

[b] Sources: Carlon and Evans 2007, Massengill and Evans 2007.

[c] Source: Statewide Harvest Survey.

[d] Sources: Massengill and Carlon 2004 a,b; Massengill and Carlon 2007 a,b; Massengill 2007.

[e] Aggregate of all harvest estimates (sport, commercial, and personal use).

[f] Total Harvest divided by Total Run.

ND = No Data

PROPOSAL 96 – 5 AAC 21.353. Central District Drift Gillnet Fishery Management Plan.

PROPOSED BY: David Hillstrand.

WHAT WOULD THE PROPOSAL DO? This would allow commercial fishing with drift gillnet gear in all waters of the Central District, except the Kenai and Kasilof Sections, from August 16 until closed by EO.

WHAT ARE THE CURRENT REGULATIONS? In the Central District Drift Gillnet fishery, there are no mandatory area restrictions to regular fishing periods from August 1–15, except that if the entire Upper Subdistrict set gillnet fishery is closed under the one-percent rule (5 AAC 21.310(b)(2)(C)(iii)) or the department determines that less than one percent of the season's total drift gillnet sockeye salmon harvest has been taken per fishing period for two consecutive regular fishing periods in the drift gillnet fishery, regular fishing periods will be restricted to Drift areas 3 and 4. For purposes of calculating the one-percent rule, fishing period means a time period open to commercial fishing as measured by a 24-hour calendar day from 12:01 a.m. until 11:59 p.m. From August 16 until closed by EO, the drift gillnet fishery is restricted to Drift areas 3 and 4 for regular fishing periods.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase commercial drift gillnet harvest of sockeye and coho salmon after August 15 by an unknown amount, depending on abundance, run timing and migratory patterns of salmon returning to UCI, including the Kenai, Kasilof, and Susitna rivers. The one-percent rule for the commercial drift gillnet fishery, as currently written, would very likely affect the drift gillnet fishery after August 15, resulting in the fishery being restricted to Drift areas 3 and 4.

BACKGROUND: In 2005, 5 AAC 21.310(b)(2)(C)(iii) was amended to include, for the first time, what is commonly referred to as the "one-percent" rule. This provision states that any time after July 31, if less than one percent of the season's total sockeye salmon harvest has been taken per fishing period for two consecutive fishing periods in the Kenai, Kasilof, and East Foreland sections set gillnet fishery, the season will close. In 2008, the board extended the closing date for the Upper Subdistrict set gillnet and also for the Central District drift gillnet fishing season in all of the Central District from August 10 to August 15; however, in the set gillnet fishery, regular periods only may be fished from August 11–15. If the Upper Subdistrict set gillnet fishery is closed per the one-percent rule, regular fishing periods in drift gillnet fishery will be restricted to Drift areas 3 and 4. In 2014, the one-percent rule was modified so it would apply to the combined Kenai and East Forelands sections and Kasilof Section separately; the board also added a second one-percent rule to the drift gillnet fishery, as described in the current regulations section.

From 2005 through 2010, a "fishing period" was defined as a time period open to commercial fishing without closure. In 2011, the board modified the definition of a fishing period to a time period open to commercial fishing as measured by a 24-hour calendar day from 12:01 a.m. until 11:59 p.m.

From 2014–2016, the drift gillnet fishery one-percent rule was applied two times. In 2014, regular fishing periods on August 4 and 7 produced sockeye salmon harvests less than one-percent of the total season harvest; thus, regular fishing periods on August 11 and 14 were

restricted to Drift areas 3 and 4. In 2016, drift gillnet fishery sockeye salmon harvest from regular periods on August 4 and August 8 were less than one-percent of the season total harvest; therefore, regularly scheduled Monday/Thursday fishing periods on August 11 and 15 were restricted to Drift areas 3 and 4.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

PROPOSAL 98 – 5 AAC 21.353. Central District Drift Gillnet Fishery Management Plan.

PROPOSED BY: Mark Glassmaker.

WHAT WOULD THE PROPOSAL DO? This would reduce the sport fishery bag limit for coho salmon on the west side of Cook Inlet from three to two, and close drift gillnet fishing in Drift areas 3 and 4 for remainder of season if coho salmon sport fishing is restricted or closed in the Little Susitna River.

WHAT ARE THE CURRENT REGULATIONS? From January 1–December 31, salmon, other than king salmon, 16 inches or greater in length may be taken in flowing waters of West Cook Inlet; the limit is three fish per day and six fish in possession; all may be coho salmon. From January 1–December 31, salmon, other than king salmon, 16 inches or greater in length may be taken in flowing waters of the Little Susitna River from its mouth upstream to the Parks Highway; bag and possession limit is three fish, of which no more than two per day and two in possession may be coho salmon.

The department manages the Central District commercial drift gillnet fishery based on the *Central District Drift Gillnet Fishery Management Plan*. The purpose of this management plan is to ensure adequate escapement of salmon into Northern District drainages and to provide management guidelines to the department. The department shall manage the commercial drift gillnet fishery to minimize the harvest of Northern District and Kenai River coho salmon in order to provide sport and guided sport fishermen a reasonable opportunity to harvest these salmon stocks over the entire run, as measured by the frequency of inriver restrictions. The plan goes on to identify specific time and area restrictions to the drift gillnet fishery in July intended to reduce the harvest of northern-bound sockeye and coho salmon.

In the Central District Drift Gillnet fishery, there are no mandatory area restrictions to regular fishing periods from August 1–15, except that if the entire Upper Subdistrict set gillnet fishery is closed under the one-percent rule (5 AAC 21.310(b)(2)(C)(iii)) or the department determines that less than one percent of the season's total drift gillnet sockeye salmon harvest has been taken per fishing period for two consecutive fishing periods in the drift gillnet fishery, regular fishing periods will be restricted to Drift Areas 3 and 4. For purposes of the calculating the one-percent rule, fishing period means a time period open to commercial fishing as measured by a 24-hour calendar day from 12:01 a.m. until 11:59 p.m. From August 16 until closed by EO, the drift gillnet fishery is restricted Drift areas 3 and 4 for regular fishing periods.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would likely decrease the commercial harvest of coho and sockeye salmon by an unknown amount, depending on the number of restrictions, and abundance, run timing and migratory patterns of salmon returning to UCI. This would also decrease the sport harvest of coho salmon in the fresh waters of West Cook Inlet. The restrictions would also provide an unknown additional amount of salmon migrating north and to the Kenai and Kasilof rivers. The department would continue to manage the drift gillnet fishery with the primary management objective of achieving established escapement goals. The department may have to deviate from the management plans by EO to achieve established escapement goals as directed under 5 AAC 21.363(e).

BACKGROUND: In 1996, the *Northern District Coho Salmon Management Plan* (5 AAC 21.358) was first adopted. In 1999, the plan was renamed to the Northern District Salmon Management Plan and included new restrictions to the drift gillnet fishery. In 2002, additional changes were made to the *Northern District Salmon Management Plan*. In 2005, the board eliminated all specific references to the drift gillnet fishery in the *Northern District Salmon Management Plan* and established a new management plan for the drift gillnet fishery, the *Central District Drift Gillnet Fishery Management Plan* (drift plan; 5 AAC 21.353). In 2008, there were no significant changes to the drift plan. In 2011, a number of changes were made to the plan and there was difficulty implementing these changes during the 2011 season. The 2012 and 2013 seasons were managed using regulations currently in effect. By the management plans, the drift gillnet fleet is restricted during two different time frames in July: from July 9–15, and July 16–31 for the purpose of passing sockeye and coho salmon into NCI streams. In addition, the setnet fishery in the ND is restricted to one or two set gillnets per permit from July 20-August 6 to reduce sockeye salmon harvest rates, which also reduces coho salmon harvest.

The department has conducted mark-recapture experiments to estimate abundance of adult salmon in the Mainstem Susitna (Susitna River above the Yentna River confluence) and Yentna rivers as part of Susitna-Watana dam studies. Sockeye salmon estimates are available for 2006-2008, coho salmon for 2010–2015, chum salmon 2010–2012, and king salmon for 2013-2015 (Table 87-7). Drainagewide sockeye salmon abundance point estimates ranged from 418,197 in 2006 to 327,732 in 2007. Coho salmon ranged from a high of 262,821 in 2015 to a low of 158,698 in 2014. Chum salmon ranged from 1,752,032 in 2011 to 329,345 in 2012. Drainagewide king salmon abundance estimates are only available for two years, 2014 and 2015, with run sizes of 90,492 and 137,000 respectively. In 2013, the Mainstem king salmon abundance was estimated to be 89,463, and the Yentna River abundance was not estimated as only distribution was studied that year.

The department does not monitor coho salmon escapement on WCI area streams and relies on the Statewide Harvest Survey to monitor changes in sport fishery effort and harvest over time. The sport fishery has been managed under existing regulations to ensure sustainable harvest. Current regulations allow three coho salmon per day and six in possession. From 1996–2015, sport fishery harvests for coho salmon on the Kustatan River averaged 3,700 fish annually (Table 98-2). This level of harvest has been sustained since the mid-1980s.

Sport fishing for coho salmon in the Big River system is spread between several small streams, including Wolverine Creek, which drains into Big River Lake and several locations within the lake. Sport fishery effort and harvest on the Big River system increased beginning in 2003 due to large runs and a corresponding increase in guided effort. Effort increased from about 1,000 angler-days prior to 2003, to 3,800 angler-days since that year. Much of this effort is directed at sockeye salmon. Harvest of coho salmon prior to 2003 averaged about 300 fish. Harvest since 2003 has averaged 2,800 coho salmon and has been stable, with the exception of 2011 and 2012 (Table 98-1). Poor coho salmon runs of 2011 and 2012 likely affected sport harvest on WCI and other Cook Inlet streams.

Approximately 40 guides provide sport fishing guide services on each of these systems (Table 98-2). Guided clients fish about 1,100 days to harvest nearly 3,000 coho on the Kustatan River, while 3,300 client-days have been expended to harvest an average of 4,200 coho salmon on Big River Lakes since 2006. The majority of guided effort is from three air charters providing service from the Kenai Peninsula. Other air charters are Anchorage based.

The SEG range for Little Susitna River coho salmon is 10,100–17,700 fish (Table 98-3). Average annual sport harvest since 2002 is approximately 10,000 coho salmon, while the average escapement for the same period is 17,000 coho salmon. Since then (15 years), the SEG range has been met four years (33%), exceeded four years (27%) and not met six years (40%). Poor runs were observed in 2011 and 2012, and the SEG was not achieved in each of those two years despite actions taken to reduce sport and commercial harvest inseason (Table 98-4). The SEG was also not achieved in 2016, despite actions taken to reduce harvest the sport and commercial fisheries.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal as a means to conserve coho salmon on the west side of Cook Inlet and is **NEUTRAL** on the allocative aspects. This would unnecessarily restrict waters currently open to sport and commercial fishing based on Little Susitna River coho salmon abundance. The current level of sport and commercial harvests appear to be sustainable across the majority of years. This proposal would reduce the department's flexibility and EO authority to manage sport and commercial fisheries to achieve escapement goals and utilize surplus salmon production.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 98-1.–Sport effort and harvest of coho salmon on the Kustatan River and Big River Lakes, 1996-2015.

	Kustatan		Big River Lakes	
	Angler-days	Harvest	Angler-days	Harvest
1996	2,699	6,266	1,251	600
1997	2,684	3,605	976	305
1998	2,749	3,999	729	264
1999	3,234	3,178	1,341	463
2000	4,393	5,699	2,504	325
2001	3,336	4,920	902	508
2002	5,254	5,795	678	490
2003	3,915	3,967	3,497	2,830
2004	2,854	3,984	3,322	2,648
2005	2,649	3,551	5,365	3,916
2006	2,515	3,556	4,957	3,953
2007	3,517	4,057	2,203	1,644
2008	3,416	3,868	2,837	3,560
2009	2,238	2,639	3,829	3,032
2010	2,152	2,832	4,859	3,627
2011	1,215	1,876	2,452	1,270
2012	1,949	2,136	3,908	1,634
2013	2,485	2,550	2,931	2,293
2014	1,497	1,822	3,949	2,737
2015	2,468	4,231	3,462	2,383
Average				
1996-2015	2,861	3,727	2,798	1,924
1996-2005	3,377	4,496	2,057	1,235
2006-2015	2,345	2,957	3,539	2,613

Table 98-2.–Guided effort and harvest of coho salmon from the Kustatan River and Big River Lakes, 2006–2015.

Kustatan River					
	Guides	Trips	Client Days	Harvest	Released
2006	43	253	1,110	2,841	1,609
2007	45	330	1,421	3,576	1,049
2008	42	309	1,375	3,648	889
2009	34	242	996	2,446	943
2010	32	215	914	2,421	506
2011	40	269	1,097	2,718	306
2012	36	240	1,004	2,408	300
2013	41	297	1,278	3,221	361
2014	33	162	695	1,606	119
2015	35	352	1,530	4,327	780
average	38	267	1,142	2,921	686

Big River Lakes					
	Guides	Trips	Client Days	Harvest	Released
2006	43	912	3,490	6,329	2,924
2007	44	956	3,624	4,613	1,330
2008	51	1,351	5,327	9,401	1,574
2009	40	822	3,094	3,081	1,032
2010	35	674	2,620	4,726	936
2011	32	749	2,838	2,937	584
2012	42	705	2,707	2,610	351
2013	37	821	3,179	3,719	508
2014	38	754	2,935	2,272	224
2015	40	778	3,018	2,638	239
average	40	852	3,283	4,233	970

Table 98-3.–Sport harvest and escapement coho salmon on the Little Susitna River, 1996–2016.

	Sport Harvest	Escapement (weir count) [a]
1996	16,753	15,803
1997	7,756	9,894 [b]
1998	14,469	15,159
1999	8,864	3,017
2000	20,357	15,436
2001	17,071	30,587
2002	19,278	47,938
2003	13,672	10,877
2004	15,307	40,199
2005	10,203	16,839 [b]
2006	12,399	8,786 [b]
2007	11,089	17,573
2008	13,498	18,485
2009	8,346	9,523
2010	10,662	9,214
2011	2,452	4,826
2012	1,681	6,779 [b]
2013	5,229	13,583 [b]
2014	6,922	24,211
2015	8,880	12,756 [b]
2016	NA	10,049
Mean	11,244	18,193 [c]

NA=Data not available.

[a] BEG 7,500 from 1994 to 1998; BEG 9,600-19,200 from 1999 to 2001; SEG 10,100-17,700 from 2002 to 2016.

[b] incomplete count due to high water or pulling weir early (2015).

[c] complete count years only.

Table 98-4. Summary of actions taken to manage the Little Susitna coho salmon fishery.

Year	Sport	Commercial
2011	Closed to coho salmon fishing August 27.	
2012	Bait prohibited August 6.	Closed General Subdistrict of the Northern District on August 9 and 13.
	Closed to coho salmon fishing August 10.	Closed Northern District on August 16 and 20.
2016	Bait prohibited August 6.	Closed General Subdistrict of the ND east of Susitna River on August 26 for the remainder of the season.

COMMITTEE–GROUP A: Cook Inlet Areawide and Northern Cook Inlet Sport Fisheries (18 Proposals)

Cook Inlet – Areawide Sport Fisheries (5 Proposals)

(Proposal 14 will be heard and public testimony will be taken at both the LCI and UCI meetings and deliberated at the UCI meeting.)

PROPOSAL 14 – 5AAC 56.122. Special provisions for the seasons, bag, possession, annual, and size limits, and methods and means for the Kenai Peninsula Area.

PROPOSED BY: Andy Housh.

WHAT WOULD THE PROPOSAL DO? Allow sockeye salmon not hooked in the mouth (snagged) to be retained in freshwater lakes in the Kenai Peninsula Area.

WHAT ARE THE CURRENT REGULATIONS? Statewide, it is unlawful to intentionally snag or attempt to snag any fish in fresh water. Fish unintentionally hooked elsewhere than in the mouth must be released immediately. "Snag" means to hook a fish elsewhere than in the mouth. Snagging is also not allowed in the salt waters of Cook Inlet north of Anchor Point.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase the sport harvest of sockeye salmon by improving angler efficiency, open areas currently closed to sockeye salmon fishing, and could increase fishing effort towards sockeye salmon. Catch-and-release mortality of sockeye salmon and non-target species may increase by an unknown amount. Area regulations would deviate from statewide regulations which prohibit snagging in fresh water. It would make the enforcement of snagging for other species difficult. In addition, it could encourage anglers to target sockeye salmon on lake spawning grounds.

BACKGROUND: Snagging has been illegal in the fresh waters of Alaska since before statehood. The majority of the sport fisheries for sockeye salmon occur in flowing waters. According to the most recent Statewide Harvest Survey data (SWHS; 2006–2015), in the Kenai Peninsula Area an average of 1,610 sockeye salmon are reported caught in lakes and, 804 of those were harvested (50%). In comparison, 581,052 sockeye salmon are caught in streams and 393,781 (68%) were harvested. There are approximately 9,053 lakes in the Kenai Peninsula Area and few are open to sockeye salmon fishing.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. Snagging has been illegal in all fresh waters of Alaska since before statehood and the department continues to oppose the practice in fresh waters. Snagging in freshwater lakes could result in increased injury to salmon and non-target fish species, and would complicate the enforcement of snagging for other species.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

(Proposal 34 will be heard and public testimony will be taken at both LCI and UCI meetings and deliberated at the UCI meeting.)

PROPOSAL 34 – 5AAC 58.022. Waters; seasons; bag, possession, annual, and size limits; and special provisions for the Cook Inlet – Resurrection Bay Saltwater Area; and 5 AAC 56.122. Special provisions for the seasons, bag, possession, annual, and size limits, and methods and means for the Kenai Peninsula Area.

PROPOSED BY: Andy Housh.

WHAT WOULD THE PROPOSAL DO? Allow party fishing by group or vessel in fresh and salt waters of Cook Inlet. Anglers who have harvested a bag limit of fish (other than king salmon) could harvest more of these fish, if someone in their party has not yet caught a bag limit of that species.

WHAT ARE THE CURRENT REGULATIONS? Under statewide regulations a fish when landed and not immediately released becomes part of the bag limit of the person who originally hooked it. Anglers are required to keep track of their individual harvest.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would create an areawide exception to statewide individual-based bag limits. Based on SWHS data this proposal would impact an estimated 200,000 anglers that annually participate in Cook Inlet salt and fresh water fisheries, and create inconsistent regulations for halibut because currently individual-based harvest limits are set by federal regulation. Party limits would likely increase harvest by an unknown amount. A clear definition of a "vessel" or "party" bag limit would need to be established. There may be conflict within a vessel or group if any angler did not want to participate in a party limit.

BACKGROUND: Party fishing has not been implemented at any time in Alaska. A similar proposal was addressed by the board during the 2015 Southeast Alaska Finfish meeting. During this meeting it was discussed that the definition of bag limit is consistent statewide and changing the definition would need to be addressed at a statewide meeting due to such broad implications.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. Allowing party fishing would increase harvest of all fish by an unknown amount, add complexity to the regulations, make enforcement challenging, and may require other management measures if harvest were to exceed sustainable levels.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

PROPOSAL 144 – 5 AAC 56.XXX. Sport fishing by proxy., 5 AAC 57.XXX. Sport fishing by proxy., 5 AAC 58.XXX. Sport fishing by proxy., 5 AAC 59.XXX. Sport fishing by proxy., 5 AAC 60.XXX. Sport fishing by proxy., and 5 AAC 61.XXX. Sport fishing by proxy.

PROPOSED BY: Anchorage Fish and Game Advisory Committee.

WHAT WOULD THE PROPOSAL DO? It would require that when proxy fishing in Upper Cook Inlet, once a bag limit is taken the next legal bag limit caught must be retained.

WHAT ARE THE CURRENT REGULATIONS? Proxy fishing is regulated by statewide provisions in 5 AAC 75.011. A proxy must have in possession a validated proxy fishing form when taking, attempting to take, or transporting finfish or shellfish on behalf of a beneficiary. A proxy, fishing on behalf of a beneficiary, may fish for their own use at the same time. A proxy may not have more than twice the bag and possession limit of a species for the waters they are fishing, and may not fish with more than one legal limit of gear.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It would not likely have a measureable impact on the harvest or mortality of salmon or resident species in Cook Inlet fisheries. A proxy who wanted to catch-and-release fish would still be allowed to release fish until they harvest one bag limit. Aside from participating in a catch-and-release fishery, there are many reasons anglers release fish. This would require a proxy to keep fish that are injured with open wounds, fish other than the target species, or overly mature salmon of poor quality. This would add to regulatory complexity by creating an exception to statewide regulations for Cook Inlet proxy fishing.

BACKGROUND: Statute allows the taking of fish and game harvested primarily for food on behalf of another person. The recent ten-year (2006-2015) average of proxy sport and personal use permits issued to residents of southcentral Alaska is 3,146 permits annually. In that time the number of permits issued has increased from approximately 3,000 in 2006 to 3,480 in 2015.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal and the requirement of mandatory retention when release is a viable option. The department encourages anglers to use best practices through outreach efforts. The board has adopted regulations to promote best practices for releasing fish and reducing release-related mortality by prohibiting removal of fish from the water if it is to be released.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

PROPOSAL 145 – 5 AAC 57.121. Special provisions for the seasons, bag, possession, and size limits, and methods and means for the Lower Section of the Kenai River Drainage Area., 5 AAC 57.122. Special provisions for the seasons, bag, possession, and size limits, and methods and means for the Middle Section of the Kenai River Drainage Area., 5 AAC 57.123. Special provisions for the seasons, bag, possession, and size limits, and methods and means for the Upper Section of the Kenai River Drainage Area., 5 AAC 59.122. Special provisions for the seasons, bag, possession, annual, and size limits, and methods and means for the Anchorage Bowl Drainages Area., 5 AAC 60.122. Special provisions for the seasons, bag, possession, annual, and size limits, and methods and means for the Knik Arm Drainages Area., 5 AAC 61.112. Special provisions for the seasons, bag, possession, and size limits, and methods and means for Unit 1 of the Susitna River Drainage Area., 5 AAC 61.114. Special provisions for the seasons, bag, possession, and size limits, and methods and means for Unit 2 of the Susitna River Drainage Area., 5 AAC 61.118. Special provisions for the seasons, bag, possession, and size limits, and methods and means for Unit 4 of the Susitna River Drainage Area., 5 AAC 61.120. Special provisions for the seasons, bag, possession, and size limits, and methods and means for Unit 5 of the Susitna River Drainage Area., and 5 AAC 61.122. Special provisions for the seasons, bag, possession, and size limits, and methods and means for Unit 6 of the Susitna River Drainage Area.

PROPOSED BY: Patrick McCormick.

WHAT WOULD THE PROPOSAL DO? This would allow only barbless hooks in Upper Cook Inlet flowing waters closed to salmon fishing.

WHAT ARE THE CURRENT REGULATIONS? Unless otherwise provided in regulation, sport fishing may be conducted only by use of a single line attached to not more than one plug, spoon, spinner, or series of spinners, or two flies, or two hooks.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Prohibiting the use of barbed hooks would reduce angler efficiency by an unknown amount. Reduced angler efficiency would result in either anglers fishing longer in order to achieve bag limits, or a reduced harvest. Prohibiting barbed hooks would not reduce mortality of released fish by a measurable amount. Requiring anglers to use barbless hooks only in Cook Inlet flowing waters closed to salmon fishing, including those waters closed inseason by EO, would add complexity to the regulations and increase the likelihood of violations.

BACKGROUND: Mortality of released fish is dependent mostly on hook placement. Hooking mortality is often higher for fish that have been hooked in vital areas, such the esophagus or gills. Other factors, such as fish size, gear type, bleeding, and elapsed time to unhook the fish, can influence survival to a lesser degree than hook location. Studies of mortality rates on fish released using barbed and barbless hooks are inconclusive. Results largely suggest there is no significant difference in mortality rates of fish caught on barbed versus barbless hooks, although due to the vast body of research on the topic, some studies do support the use of barbless hooks for specific species in some fisheries. It is important to consider the species and fishery when reviewing the results of release mortality studies.

A 2010 study by California Department of Fish and Game examined capture efficiency of artificial flies fished with barbed and barbless hooks in trout fisheries in California. The study found angler efficiency decreased by 11–24%, with young and inexperienced anglers disproportionately affected.

Some western states have implemented barbless hook regulations. Washington and Oregon have barbless regulations for salmon, steelhead (Endangered Species Act listed) and cutthroat trout on sections of the Columbia and Willamette rivers as part of a broad based policy to restructure Columbia River sport fisheries and address allocation issues by reducing angler efficiency. Montana, Colorado, Wyoming, Utah, and Nevada have either rejected barbless hook proposals or repealed barbless regulations for reasons including regulatory complexity and lack of measurable biological benefit.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. Anglers may currently use barbless hooks. The department encourages anglers to use best practices through outreach efforts, but does not support regulation requiring the practice because of the added complexity to regulations and the negative effects it would cause to sport fishing harvest and opportunity in the absence of a measurable biological benefit.

COST ANALYSIS: Approval of this proposal may result in an additional direct cost for a private person to purchase barbless hooks to participate in this fishery.

PROPOSAL 146 – 5 AAC 56.120. General provisions for seasons, bag, possession, annual, and size limits, and methods and means for the Kenai Peninsula Area., 5 AAC 57.120. General provisions for seasons, bag, possession, annual, and size limits, and methods and means for the Kenai River Drainage Area., 5 AAC 58.030. Methods, means, and general provisions – Finfish., 5 AAC 59.120. General provisions for seasons, bag, possession, annual, and size limits, and methods and means for the Anchorage Bowl Drainages Area., 5 AAC 60.120. General provisions for seasons, bag, possession, annual, and size limits, and methods and means for the Knik Arm Drainages Area., 5 AAC 61.110. General provisions for seasons, bag, possession, annual, and size limits, and methods and means for the Susitna River Drainage Area., and 5 AAC 62.120. General provisions for seasons, bag, possession, annual, and size limits, and methods and means for the West Cook Inlet Area.

PROPOSED BY: Central Peninsula Advisory Committee.

WHAT WOULD THE PROPOSAL DO? This would require the use of circle hooks when fishing for sockeye salmon.

WHAT ARE THE CURRENT REGULATIONS? Unless otherwise provided in regulation, sport fishing may be conducted only by use of a single line attached to not more than one plug, spoon, spinner, or series of spinners, or two flies, or two hooks.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Requiring the use of circle hooks when fishing for sockeye salmon would significantly reduce the sport harvest of sockeye salmon in Cook Inlet as the gear is not as efficient as the most common method of catching sockeye salmon. Reduced harvest by anglers would increase the inriver abundance of sockeye salmon and may result in fewer sport fishery restrictions. Adoption of this proposal would increase regulatory complexity.

BACKGROUND: The board has adopted regulations to promote best practices for releasing fish and reducing release related mortality by prohibiting removing a fish from the water if it is to be released, prohibiting bait which can affect hook placement and increase catch rates, prohibiting multiple hooks, and prohibiting fishing after a limit of a specific species is harvested. The department uses the commissioner's emergency order authority to reduce mortality when necessary to achieve goals or provide sustainability by prohibiting use of bait, multiple hooks, or closing fisheries. The department promotes best practices for releasing fish through education and outreach.

For circle hooks to perform as designed, anglers must alter the method by which they set the hook relative to the method used for standard hooks. Instead of "setting" the hook by jerking the rod, the angler must apply gentle, steady pressure to the hook. To function properly, the entire circle hook needs to be ingested by a fish. The angler must provide the fish with sufficient time to actually ingest the entire hook. If the angler jerks the rod to set the hook, the circle hook will often be pulled out of the fish's mouth. This is why the use of circle hooks is generally combined with bait.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. Anglers may currently use circle hooks. The department encourages anglers to use best practices through outreach efforts, but does not support regulation requiring circle hooks as a conservation method.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Knik River, Anchorage Area (13 Proposals)

PROPOSAL 233 – 5 AAC 60.122. Special provisions for the seasons, bag, possession, annual, and size limits, and methods and means for the Knik Arm Drainages Area.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? Extend the area closed to sport fishing downstream of the Little Susitna weir.

WHAT ARE THE CURRENT REGULATIONS? Waters within 300 feet of a fish weir or fish ladder are closed to sport fishing, unless a lesser distance is indicated by department markers.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Additional fish beyond those protected by the statewide regulation at a weir would be protected from harvest.

BACKGROUND: 5 AAC 75.050 designates a 300-foot area around any fish weir as closed to sport fishing in order to provide uninterrupted passage for fish and minimize vulnerability of salmon and potential for overharvest of fish that can become concentrated prior to passing a weir. The 300-foot area immediately downstream of the Little Susitna weir is not suitable for holding salmon under normal to below average water level as is typical at most weirs. EOs have been issued to extend the area closed downstream of the weir since the weir was moved back to its original location in 2012.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal. Additional area beyond 300 feet is needed to incorporate an additional bend in the river and holding area for fish preparing to pass the weir.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

PROPOSAL 225 – 5 AAC 60.120. General provisions for seasons, bag, possession, annual, and size limits, and methods and means for the Knik Arm Drainages Area.

PROPOSED BY: Earl Young.

WHAT WOULD THE PROPOSAL DO? In Knik Arm, reduce the bag limits for salmon, other than king salmon, from three to two fish, of which only one (instead of two) may be coho salmon. In addition, this proposal would require all coho salmon caught to be retained, thereby prohibiting the release of coho salmon.

WHAT ARE THE CURRENT REGULATIONS? The bag limit for salmon, other than king salmon, greater than 16 inches in length is three fish, of which only two may be coho salmon. In the stocked terminal fishery at Eklutna Tailrace, all three salmon may be a coho salmon. A coho salmon, 16 inches or greater in length, that is removed from the water must be retained, becoming part of the anglers bag limit. Under special provision sections for major fisheries, such as Little Susitna River and Fish, Cottonwood, Wasilla, and Jim creeks, a person who takes a bag limit of salmon may not sport fish for any species of finfish that same day in waters open to salmon fishing.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would reduce harvest and catch-and-release related mortality of salmon by an unknown amount. In average to above average runs, this may lead to exceeding the escapement goal.

BACKGROUND: The Knik Arm area supports major sport fisheries for salmon, other than king salmon, at the Little Susitna River and Jim Creek and minor weekend only fisheries at Fish, Cottonwood, and Wasilla creeks. While coho salmon are primarily targeted, other species such as sockeye, chum, and pink salmon are harvested. Sustained yield of these species is maintained by conservative bag limits and seasons in the sport fisheries. The current bag limit for coho salmon has been in effect since 2000 when the board met out of cycle to reduce coho salmon harvest throughout Knik Arm after poor runs were experienced in 1997 and 1999. Aside from the general regulations, these streams are managed separately. The small streams of Fish, Cottonwood, and Wasilla creeks are often managed together as a unit as they share similarities in fishery structure and salmon production and because a past study found coho salmon weir counts on these streams to be significantly correlated. These small streams are restricted primarily to intertidal fisheries, and have been open to salmon fishing on weekends only (Saturday and Sunday) since 1971 because harvestable surpluses cannot normally accommodate continuous daily exploitation. A 6 a.m.–6 p.m. fishery was a restriction added during the 2000 board meeting. Coho salmon are the targeted species in these small and restrictive sport fisheries and sockeye salmon are secondarily targeted at Cottonwood Creek. These systems are small producers of chum and pink salmon; therefore harvest of those species in low or negligible (Table 225-1). The Fish Creek SEG range of 1,200–4,400 coho salmon has been achieved in every year since 2000, including some below average or weak run years observed areawide (Table 225-1). Fish Creek has been liberalized inseason in 7 of the past 10 years by EO and weir counts used to liberalize Cottonwood and Wasilla creeks as well. While there are no SEGs on Cottonwood or Wasilla creeks, escapement index surveys are conducted annually on these streams by foot. Foot surveys are an index of spawning escapement and represent only a fraction

of the true escapement. Trends in abundance on Cottonwood and Wasilla creeks, with few exceptions, have mirrored that of Fish Creek since 2000.

The Little Susitna River supports a high use coho salmon fishery on a large run of coho salmon relative to other Northern Cook Inlet salmon producing streams. The fishery is open seven days per week with no limitation to hours; however, regulations are in place to minimize catch-and-release mortality by prohibiting bait use for the first half of the fishing season and by prohibiting fishing after a bag limit is reached, a measure added during the 2011 board meeting. Weir counts are used to gauge run strength and as an inseason indicator of run strength to the Knik Arm area. The weir was moved downstream from river mile 71 to river mile 32.5 in 2012 for more timely management of the fishery. Anglers fish an average of 27,000 days annually during the last 10 years; over half is directed at coho salmon and the rest is directed at king salmon (Table 225-2). The SEG range of 10,100–17,700 coho salmon is based on weir counts. Under current regulation (since 2000), harvest has averaged 10,500 coho salmon and average escapement for the same period was 17,600 coho salmon. The inriver harvest rate is 44%, varying widely from 29% to 75% due to large variations in run size, while fishing power is more constant. The SEG was achieved or exceeded 11 times since 2000 (16 years). Note that the weir flooded in 2006, but likely the goal would have been exceeded in that year. The escapement goal has been missed on below average run years of 2009–2010 and weak run years of 2011–2012 and 2016 in which coho salmon runs across Northern Cook Inlet were also weak.

The Jim Creek coho salmon fishery has doubled in terms of effort and harvest since 2002. In 2014, the board reduced fishing time and area in an effort to reduce harvest to more historical levels after the SEG was not achieved from 2010–2012 (Table 225-3). The impact of these restrictions is currently being evaluated by a weir program initiated in 2015.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal as a means of conserving salmon, and is **NEUTRAL** on the allocative aspects. There is currently no biological reason to reduce the general sport harvest of salmon, other than king salmon, across Knik Arm streams. Salmon sport fishing regulations on individual streams already provide for achievement of escapement goals and the department has inseason assessment projects and EO authority to maintain sustainable harvests.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 225-1.–Salmon escapement and harvest on small Knik Arm streams, 2001–2016.

	Fish Creek					Cottonwood Creek				
		Other salmon harvest					Other salmon harvest			
	Coho Escapement (weir count)	Coho	Sockeye	Chum	Pink	Coho Escapement (foot count)	Coho	Sockeye	Chum	Pink
2001	9,247 [b]	361	10	0	11	983	647	314	0	0
2002	14,651 [b]	1233	147	9	65	1,191	561	319	0	0
2003	1,231 [b]	112	57	0	0	229	665	961	0	0
2004	1,415 [ab]	774	400	0	0	430	532	719	0	0
2005	3,011 [ab]	535	79	0	0	619	668	538	0	0
2006	4,967 [ab]	281	0	13	28	912	789	279	0	0
2007	6,868 [ab]	120	289	16	48	1,024	856	766	0	0
2008	4,868 [ab]	993	26	0	153	1,821	308	672	0	0
2009	8,214 [b]	1,178	647	22	0	942	1503	341	0	0
2010	6,977 [b]	805	632	0	227	756	301	256	0	0
2011	1,428 [ab]	414	87	0	0	698	619	893	0	0
2012	1,237	274	548	0	94	467	616	193	0	0
2013	7,593 [c]	356	193	0	0	1,618	297	80	0	0
2014	10,283	622	242	0	222	1,698	275	238	0	62
2015	7,912	2,041	180	0	0	1,068	53	216	0	156
2016	2,484 [a]					373				

	Wasilla Creek				
		Other salmon harvest			
	Coho Escapement (foot count)	Coho	Sockeye	Chum	Pink
2001	505	0			
2002	1,196	664	12	81	0
2003	294	261	0	28	0
2004	1,148	488	33	0	0
2005	130	347	0	18	0
2006	737	857	260	0	0
2007	430	324	70	0	29
2008	1,536	1086	30	0	0
2009	978	1002	165	13	14
2010	1,223	2,149	242	0	0
2011	576	372	161	70	15
2012	[d]	191	0	0	0
2013	460	1,286	320	0	0
2014	1,059	853	69	40	0
2015	375	1,471	39	32	0
2016	301				

[a] 2004-2008, 2011, and 2016 weir was removed on August 15 at the historical 35th percertile of the coho run.

[b] Coho salmon counted below weir after it was pulled:
Fish Creek 2000-2011: 761 (2000), 800 (2001), 536 (2002), 911 (2003), 1,840 (2004), 825 (2005), 756 (2006), 2,750 (2007), 4,735 (2008), 452 (2009), 57 (2010), 872(2011).
Cottonwood Creek1999-2004: 20 (1999), 406 (2000), 604 (2001), 189 (2002), 85 (2003), 266 (2004)

[c] Incomplete or partial count due to weir submersion.

[d] No survey conducted.

Table 225-2.–Effort, harvest, and escapement of coho salmon on the Little Susitna River, 1994–2016.

		Coho escapement			Other harvest			
	Angler-days	Weir count	[a] Inriver harvest rate		Coho	Sockeye	Chum	Pink
1994	45,149	27,820		39%	17,665	ND	ND	ND
1995	41,119	11,817		55%	14,451	ND	ND	ND
1996	24,575	15,803		51%	16,753	ND	ND	ND
1997	27,883	9,894	[b]		7,756	ND	ND	ND
1998	22,108	15,159		49%	14,469	ND	ND	ND
1999	30,437	3,017		75%	8,864	ND	ND	ND
2000	39,556	15,436		57%	20,357	ND	ND	ND
2001	33,521	30,587		36%	17,071	1,959	513	163
2002	40,346	47,938		29%	19,278	2,133	1,227	283
2003	31,993	10,877		56%	13,672	3,337	838	30
2004	33,819	40,199		28%	15,307	2,776	326	346
2005	27,490	16,839	[b]		10,203	1,442	602	181
2006	28,547	8,786	[b]		12,399	1,556	720	517
2007	35,636	17,573		39%	11,089	2,387	278	181
2008	31,989	18,485		42%	13,498	1,699	370	118
2009	28,151	9,523		47%	8,346	1,152	387	226
2010	24,846	9,214		54%	10,662	1,257	455	292
2011	12,779	4,826		34%	2,452	295	538	138
2012	10,115	6,779	[b]		1,681	506	722	72
2013	12,012	13,583	[b]		5,229	271	284	93
2014	13,636	24,211		22%	6,922	66	700	208
2015	17,845	12,756	[b]		8,880	166	740	154
2016		10,049			ND	ND	ND	ND
mean	27,889	16,573		44%	11,682	1,400	580	200

[a] BEG 7,500 from 1994 to 1998; BEG 9,600-19,200 from 1999 to 2001; SEG 10,100-17,700 from 2002 to 2013.
[b] incomplete count due to high water or pulling weir early.

Table 225-3.–Salmon escapement and harvest on Jim Creek drainage, 1993–2016.

		Coho escapement				Other harvest			
		Foot index count							
	Effort	McRoberts Creek [a]	Upper Jim Creek	Total Index	Weir Count	Coho	Sockeye	Chum	Pink
1993	6,824	503	535	1,038	5,532	2,878	1,041	46	0
1994	9,658	506	2,119	2,625	6,451	3,946	1,258	169	9
1995	10,893	702	1,288	1,990		3,549	990	433	58
1996	7,561	72	439	511		3,911	1,077	321	10
1997	5,349	701	563	1,264		1,786	864	0	9
1998	5,272	922	560	1,482		4,197	1,220	77	22
1999	6,860	12	320	332		2,612	614	162	13
2000	10,975	657	2,561	3,218		5,653	1,543	61	41
2001	13,028	1,019	575	1,594		8,374	922	122	176
2002	17,989	2,473	1,630	4,103		14,707	1,268	101	27
2003	13,474	1,421	393	1,814		6,415	1,554	105	22
2004	19,342	4,652	1,045	5,697		11,766	2,499	144	302
2005	19,605	1,464	1,883	3,347		10,114	848	32	27
2006	25,271	2,389	1,750	4,139		19,259	2,173	0	140
2007	21,342	725	1,150	1,875		11,848	3,001	49	14
2008	27,874	1,890	1,029	2,919		17,545	4,187	250	33
2009	16,486	1,331	1,193	2,524		11,573	2,612	229	47
2010	16,140	242	420	662		8,442	2,440	12	57
2011	9,810	261	229	490		3,132 [b]	1,852	7	141
2012	7,474	213 [c]	495	708		1,858 [b]	1,348	60	0
2013	8,474	663	1,029	1,692		3,258	1,596	0	55
2014	9,376	122	618	740		3,045	1,021	38	210
2015	3,425	571	374	945	3,572	2,910 [b]	1,050	0	12
2016		106	307	413	1,764	[b]			
1993-2002 mean	9,441	757	1,059	1,816		5,161	1,080	149	37
2003-2012 mean	17,682	1,459	959	2,418		10,195	2,251	89	78
2011-2015 mean	7,712	366	549	915		2,841	1,373	21	84

[a] SEG 450-700

[b] fishery restricted or closed early.

[c] foot survey conducted late.

PROPOSAL 232 – 5 AAC 77.540. Upper Cook Inlet Personal Use Salmon Fishery Management Plan.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? Modify the Fish Creek personal use fishery to accommodate a new SEG range. This would set a new trigger point to complement the new goal range, change the start date to align with historical run strength levels needed to open the fishery, and change daily fishing times to reflect what has been written into EOs in past years to spread harvest over the run.

WHAT ARE THE CURRENT REGULATIONS? The commissioner may open, by EO, the personal use dip net fishery in Fish Creek from July 10 through July 31, if the department projects that the escapement of sockeye salmon into Fish Creek will be more than 50,000 fish.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The personal use fishery would likely be opened more frequently and fishing opportunity would increase; which would also likely increase harvest in the personal use fishery in years when a harvestable surplus is available.

BACKGROUND: From 1996–2001, the Fish Creek personal use salmon fishery was opened by regulation from June 10 through June 30. The SEG during this period was 50,000 sockeye salmon counted through a weir. Low runs experienced in 1997–2001 prompted closing the fishery by EO during each of these seasons in an effort to achieve the goal. The SEG was not met from 1998–2001. In 2002, in response to low sockeye salmon returns, the board modified the management strategy to open the fishery by EO when an SEG of 20,000–70,000 sockeye salmon was projected to be exceeded. This strategy helped to achieve the SEG and avoid overharvesting sockeye salmon during years of low or average sockeye salmon runs. Under this strategy, the fishery was opened during the last week in July of 2009 and 2010 when above-average runs were observed. In 2011, the board lowered the value set to trigger the opening the fishery from 70,000 to 50,000 in order to provide additional fishing opportunity on above-average runs. The fishery was opened in 2011 and 2014–2015 under this strategy (Table 232-1). A 50,000 fish trigger has worked well to ensure the escapement goal is achieved. Fishing power is high in this fishery, capable of reducing daily weir counts by 95%. The department recently recommended lowering the SEG range for sockeye salmon from 20,000–70,000 fish to 15,000–45,000 fish, therefore a new trigger point is needed for management of the fishery.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal**.** Lowering the trigger from 50,000 to 35,000 sockeye salmon will ensure the new goal is met most of the time. Review of past years data indicates that when projections exceed 35,000 between July 15 and July 31, surplus fish are available to support a dipnet fishery and most often when below 35,000, cannot sustain this fishery.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 232-1.–Fish Creek personal use salmon harvest and escapement, 1996–2016.

	Harvest (dip net)						Escapement
Year	Sockeye	Coho	Chum	Pink	Chinook	Total	Sockeye
1996	17,260	2,414	153	331	37	20,195	63,164
1997	3,277	63	4	53	0	3,397	55,035
1998	4,036	649	29	80	1	4,795	22,865
1999	1,083	17	0	12	0	1,112	26,725
2000	6,925	958	29	83	0	7,995	19,533
2001	463 [a]	13	1	4	1	482	43,498
2002	No fishery						90,482
2003	No fishery						91,952
2004	No fishery						22,157
2005	No fishery						14,215
2006	No fishery						32,562
2007	No fishery						27,948
2008	No fishery						19,339
2009	9,898 [b]	53	33	66	10	10,060	83,480
2010	23,705 [c]	3,576	290	1,721	12	29,303	126,836
2011	5,236 [d]	905	72	155	2	6,370	66,678
2012	No fishery						18,823
2013	No fishery						18,912
2014	5,829 [e]	1,895	227	4,218	0	12,169	43,915
2015	19,260 [f]	3,321	329	1,329	0	24,239	102,367
2016	No fishery						46,202
Average	9,174	1,260	106	732	6	10,920	49,366

[a] Closed by EO on July 12 at 11pm (3 days of harvest).

[b] opened by EO at 6:00am August 1 through 11:00pm August 11.

[c] opened by EO at 6:00am July 24 through 11:00pm July 31.

[d] Opened by EO at 6:00am July 29 through 11:00pm July 31.

[e] Opened by EO at 6:00am July 25 through 11:00pm July 31.

[f] Opened by EO at 6:00am July 24 through 11:00pm July 31.

PROPOSAL 228 – 5 AAC 60.122. Special provisions for the seasons, bag, possession, annual, and size limits, and methods and means for the Knik Arm Drainages Area.

PROPOSED BY: Julie Busch.

WHAT WOULD THE PROPOSAL DO? Increase the hours open to fishing in Fish Creek, both in the general and youth-only fisheries from 6 a.m. – 6 p.m. to 5 a.m. – 10 p.m.

WHAT ARE THE CURRENT REGULATIONS? Fish Creek is open from its mouth upstream to a regulatory marker located one quarter mile upstream of Knik Goose Bay Rd to fishing from the second Saturday in August through December 31 on Saturdays and Sundays from 6 a.m.–6 p.m., except that sport fishing for king salmon is closed. A youth-only fishery is open the first Saturday and Sunday in August from 6 a.m.–6 p.m.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Fishing time and opportunity would be increased by one hour in the morning and four hours in the evening, likely resulting in a small increase in harvest that would be no different from a 24-hr fishery. The fishery would remain closed at night for a reduced number of hours to provide some enforcement benefit as is currently being experienced in the present fishery.

BACKGROUND: Fish Creek supports a small sport fishery targeting coho salmon in the Knik Arm area. The small streams of Fish, Cottonwood, and Wasilla creeks are often managed together as they share similarities in fishery structure and salmon production and because a past study found coho salmon weir counts on these streams to be significantly correlated. These small streams are restricted primarily to intertidal fisheries, and have been open to salmon fishing on weekends only (Saturday and Sunday) since 1971 because harvestable surpluses cannot normally accommodate continuous daily exploitation. A 6 a.m.–6 p.m. fishery was a restriction added during an out-of-cycle board meeting held in 2000 to address the poor coho salmon runs of 1997 and 1999. During that meeting, the coho salmon bag limit was also reduced by one fish. The Fish Creek SEG range of 1,200–4,400 coho salmon has been achieved in every year since 2000, including some below average or weak run years observed area wide (Table 228-1). Fish Creek has been liberalized inseason in 7 of the past 10 years by EO and Fish Creek weir counts used to liberalize Cottonwood and Wasilla creeks on these years.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. A small increase in harvest (<300 fish) would likely be sustainable. For purposes of management and consistency in regulation, the department recommends Fish, Wasilla, and Cottonwood creeks continue to share the same regulations; the department is **OPPOSED** to increasing fishing hours on only one, and not all three streams. Proposals 235 and 236, individually, seek the same increase in fishing hours on Cottonwood and Wasilla creeks.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 228-1. Fish Creek coho salmon harvest and escapement, 2001–2016.

	Escapement (weir count)		Harvest	Inriver harvest rate
2001	9,247	[b]	361	3.8%
2002	14,651	[b]	1,233	7.8%
2003	1,231	[b]	112	8.3%
2004	1,415	[ab]	774	
2005	3,011	[ab]	535	
2006	4,967	[ab]	281	
2007	6,868	[ab]	120	
2008	4,868	[ab]	993	
2009	8,214	[b]	1,178	12.5%
2010	6,977	[b]	805	10.3%
2011	1,428	[ab]	414	
2012	1,237		274	18.1%
2013	7,593	[c]	356	4.5%
2014	10,283		622	5.7%
2015	7,912		2,041	20.5%
2016	2,484	[a]		
Average	7,483	[d]	776	0.10

[a] 2004-2008, 2011, and 2016 weir was removed on August 15 at the historical 35th percertile of the coho run.

[b] Coho salmon counted below weir after it was pulled:
2001-2011: 800 (2001), 536 (2002), 911 (2003), 1,840 (2004), 825 (2005), 756 (2006), 2,750 (2007), 4,735 (2008), 452 (2009), 57 (2010), 872 (2011).

[c] Incomplete or partial count due to weir submersion.

[d] average includes complete count years only of fish counted through the weir..

PROPOSAL 235 – 5 AAC 60.122. Special provisions for the seasons, bag, possession, annual, and size limits, and methods and means for the Knik Arm Drainages Area.

PROPOSED BY: Frede Stier.

WHAT WOULD THE PROPOSAL DO? Increase the hours open to fishing on Cottonwood Creek from 6 a.m.–6 p.m. to 5 a.m.–10 p.m.

WHAT ARE THE CURRENT REGULATIONS? Cottonwood Creek is open from its mouth upstream to a regulatory marker located one mile upstream of the Palmer Hayflats State Game Refuge access road to fishing for all species except king salmon, June 15–April 14, from 6 a.m.–6 p.m. on Saturdays and Sundays only.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Fishing time and opportunity would be increased by one hour in the morning and four hours in the evening, likely resulting in a small increase in harvest that would not be discernable from a 24-hr fishery. The fishery would remain closed at night for a reduced number of hours to provide some enforcement benefit as is currently being experienced in the present fishery.

BACKGROUND: Cottonwood Creek supports a small sport fishery targeting coho salmon in the Knik Arm area. The small streams of Fish, Cottonwood, and Wasilla creeks are often managed together as they share similarities in fishery structure and salmon production and because a past study found coho salmon weir counts on these streams to be significantly correlated. These small streams are restricted primarily to intertidal fisheries, and have been open to salmon fishing on weekends only (Saturday and Sunday) since 1971 because harvestable surpluses cannot normally accommodate continuous daily exploitation. A 6 a.m.-6 p.m. fishery was a restriction added during an out-of-cycle board meeting held in 2000 to address the poor coho runs of 1997 and 1999. During that meeting, the coho bag limit was also reduced by one fish. A foot survey is conducted annually on portions of Cottonwood Creek and is considered an index of the spawning escapement. An average escapement of 927 coho salmon has been stable since 2000 (Table 235-1). The average harvest during this time period was 579 fish. Cottonwood Creek has been liberalized inseason in 7 of the past 10 years by emergency order along with Fish and Wasilla creeks. Trends in abundance on Cottonwood and Wasilla creeks, with few exceptions, have mirrored that of Fish Creek since 2000.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. However, a small increase in harvest (<200 fish) would likely be sustainable. For purposes of management and consistency in regulation, the department recommends Fish, Wasilla, and Cottonwood creeks continue to share the same regulations; the department is **OPPOSED** to increasing fishing hours on only one, and not all three streams. Proposals 228 and 236, individually, seek the same increase in fishing hours on Fish and Wasilla creeks.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 235-1. Cottonwood Creek coho salmon harvest and escapement, 2001-2016.

	Escapement		
	(foot count)	(weir count)	Harvest
2001	983	2,921	647
2002	1,191	4,081	561
2003	229	706	665
2004	430	1,772	532
2005	619	ND	668
2006	912	ND	789
2007	1,024	ND	856
2008	1,821	ND	308
2009	942	ND	1,503
2010	756	ND	301
2011	698	ND	619
2012	467	ND	616
2013	1,618	ND	297
2014	1,698	ND	275
2015	1,068	ND	53
2016	373	ND	ND
Average	927	2,370	579

PROPOSAL 236– 5 AAC 60.122. Special provisions for the seasons, bag, possession, annual, and size limits, and methods and means for the Knik Arm Drainages Area.

PROPOSED BY: Paul Warta.

WHAT WOULD THE PROPOSAL DO? Increase the hours open to fishing in the Wasilla Creek / Rabbit Slough drainage from 6 a.m. – 6 p.m. to 5 a.m. – 10 p.m.

WHAT ARE THE CURRENT REGULATIONS? Wasilla Creek is open from its mouth upstream to the Alaska Railroad bridge to fishing for all species except king salmon, June 15-April 14, from 6 a.m. – 6 p.m. on Saturdays and Sundays only.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Fishing time and opportunity would be increased by one hour in the morning and four hours in the evening, likely resulting in a small increase in harvest that would be no different from a 24-hr fishery. The fishery would remain closed at night for a reduced number of hours to provide some enforcement benefit as is currently being experienced in the present fishery.

BACKGROUND: Wasilla Creek supports a small sport fishery targeting coho salmon in the Knik Arm area. The small streams of Fish, Cottonwood, and Wasilla creeks are often managed together as they share similarities in fishery structure and salmon production and because a past study found coho salmon weir counts on these streams to be significantly correlated. These small streams are restricted primarily to intertidal fisheries, and have been open to salmon fishing on weekends only (Saturday and Sunday) since 1971 because harvestable surpluses cannot normally accommodate continuous daily exploitation. A 6 a.m.–6 p.m. fishery was a restriction added during an out-of-cycle board meeting held in 2000 to address the poor coho salmon runs of 1997 and 1999. During that meeting, the coho salmon bag limit was also reduced by one fish. A foot survey is conducted annually on portions of Wasilla Creek and is considered an index of the spawning escapement. Good quality counts can be difficult to obtain on Wasilla Creek due to frequent changes in water level and clarity during the fall. An average escapement of 850 coho salmon has been stable since 2000 (Table 236-1). The average harvest during this time period was 757 fish. Wasilla Creek has been liberalized inseason in 7 of the past 10 years by EO along with Fish and Cottonwood creeks. Trends in abundance on Wasilla and Cottonwood creeks, with few exceptions, have mirrored that of Fish Creek since 2000.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. However, a small increase in harvest (<300 fish) would likely be sustainable. For purposes of management and consistency in regulation, the department recommends Fish, Wasilla, and Cottonwood creeks continue to share the same regulations; the department is **OPPOSED** to increasing fishing hours on only one, and not all three streams. Proposals 228 and 235, individually, seek the same increase in fishing hours on Fish and Cottonwood creeks.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 236-1.–Wasilla Creek coho salmon harvest and escapement, 2001–2016.

	Escapement		
	(foot count)	(weir count)	Harvest
2001	505	6,508	0
2002	1,196	12,495	664
2003	294	2,962	261
2004	1,148	ND	488
2005	[a]	ND	347
2006	737 [b]	ND	857
2007	430 [b]	ND	324
2008	1,536	ND	1,086
2009	978	ND	1,002
2010	1,223	ND	2,149
2011	576	ND	372
2012	[a]	ND	191
2013	460	ND	1,286
2014	1,059	ND	853
2015	375	ND	1,471
2016	301 [b]	ND	ND
Average	850	7,322	757

[a] not counted due to high water.

[b] poor water clarity may have affected count.

PROPOSAL 234 – 5 AAC 60.122. Special provisions for the seasons, bag, possession, annual, and size limits, and methods and means for the Knik Arm Drainages Area.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? Open waters in a closed area on Wasilla Creek within 300 feet of Palmer Fishhook Road to sport fishing.

WHAT ARE THE CURRENT REGULATIONS? Wasilla Creek is closed to all sport fishing within 300 feet of the Palmer-Fishhook Road.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would allow opportunity to fish for resident species, such as Dolly Varden in the area within 300 feet of Palmer Fishhook Road.

BACKGROUND: King salmon used to hold downstream of the highway in a deep pool that was created over time by perched culverts. The board adopted regulations to protect those salmon from harassment and poaching in 1988 by closing a section of stream. Those culverts have recently been replaced and the stream bed returned to a natural state, thereby eliminating the large hole and the holding behavior of king salmon. Fishing opportunity for Dolly Varden, particularly by children, was lost when the closure went into effect.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

PROPOSAL 224 – 5 AAC 60.122. Special provisions for the seasons, bag, possession, annual, and size limits, and methods and means for the Knik Arm Drainages Area.

PROPOSED BY: Andy Couch.

WHAT WOULD THE PROPOSAL DO? Restrict hours open to fishing on Jim Creek from 24 hours per day to 5 a.m. – 10 p.m. beginning July 20. This would also change the start date for when fishing is closed on Mondays and Tuesdays to a fixed date of August 10.

WHAT ARE THE CURRENT REGULATIONS? Upper Jim Creek (upstream of Leaf Lake), Leaf Lake, Jim Lake, Mud Lake and McRoberts Creek are closed to sport fishing for salmon. Other areas of Jim Creek drainage are open to fishing through the second Saturday in August, after which, fishing is closed on Mondays and Tuesdays. Bag and possession limit is three salmon, of which, only two may be coho salmon. Fishing is allowed 24 hours per day.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This may reduce harvest in the sport fishery by an unknown, but likely small amount. Opportunity to fish would be reduced by seven hours each day. Regulatory compliance would likely be improved.

A nighttime closure would assist with enforcement of the fishery and may allow fish to pass upstream unimpeded while the fishery is closed, especially on low water years. If this proposal is adopted, the department recommends the start date for when fishing time is restricted be aligned with the date when fishing is closed on Mondays and Tuesdays. A common date of August 1 (first percentile of historical run) would provide protection throughout the entire coho run and simplify the regulations. The Jim Creek coho salmon stock continues to recover from a period of low escapements that occurred 2010–2012 and effects of the 2014 regulatory change has not been adequately assessed against an average run of fish. The weir will continue to be used to make adjustments to harvest until the stock recovers and these regulatory changes can be assessed.

BACKGROUND: The Jim Creek coho salmon fishery has grown since the early 2000s. From 2006–2009, it supported the second largest freshwater coho salmon sport harvest in the state. From 1993–2002, sport harvest averaged 5,200 coho salmon. Sport harvest doubled to 10,200 fish between 2003 and 2012 (Table 224-1). An average of 9,400 angler-days were expended from 1993–2002, increasing to 17,700 angler-days from 2003–2012. The SEG range of 450–700 coho salmon (based upon a foot survey of an index area on McRoberts Creek) was not met 2010–2012 despite specific management actions to reduce sport harvest. The SEG was achieved in 2013 without inseason restrictions to the fishery. In 2014, the board reduced fishing time and area in an effort to reduce harvest to more historical levels. Additionally, the board increased protection for spawners by closing two lakes where fish stage for spawning and defined a Jim Creek management area to assist with enforcement of the fishery. A weir program was initiated in 2015 and is used to evaluate run strength and better manage the fishery inseason. The fishery was closed midseason in 2015 and 2016 by EO. The SEG was achieved in 2015 and missed in 2016. Regulatory compliance has long been an issue at Jim Creek. Reports of snagging during nighttime hours and over limits are common.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal. Restricting fishing time 5 a.m. – 10 p.m. would likely do little to conserve fish as these hours nearly mirror hours currently fished. The department supports providing enforcement tools they need to improve regulatory compliance. The department is **NEUTRAL** on the allocative aspects of this proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 224-1.–Coho salmon harvest and escapement on Jim Creek drainage, 1993–2016.

			Escapement			
			Foot index count			
	Effort	Harvest	McRoberts Creek [a]	Upper Jim Creek	Total Index	Weir Count
1993	6,824	2,878	503	535	1,038	5,532
1994	9,658	3,946	506	2,119	2,625	6,451
1995	10,893	3,549	702	1,288	1,990	
1996	7,561	3,911	72	439	511	
1997	5,349	1,786	701	563	1,264	
1998	5,272	4,197	922	560	1,482	
1999	6,860	2,612	12	320	332	
2000	10,975	5,653	657	2,561	3,218	
2001	13,028	8,374	1,019	575	1,594	
2002	17,989	14,707	2,473	1,630	4,103	
2003	13,474	6,415	1,421	393	1,814	
2004	19,342	11,766	4,652	1,045	5,697	
2005	19,605	10,114	1,464	1,883	3,347	
2006	25,271	19,259	2,389	1,750	4,139	
2007	21,342	11,848	725	1,150	1,875	
2008	27,874	17,545	1,890	1,029	2,919	
2009	16,486	11,573	1,331	1,193	2,524	
2010	16,140	8,442	242	420	662	
2011	9,810	3,132 [b]	261	229	490	
2012	7,474	1,858 [b]	213 [c]	495	708	
2013	8,474	3,258	663	1,029	1,692	
2014	9,376	3,045	122	618	740	
2015	3,425	2,910 [b]	571	374	945	3,572
2016		[b]	106	307	413	1,764
1993-2002 mean	9,441	5,161	757	1,059	1,816	
2003-2012 mean	17,682	10,195	1,459	959	2,418	
2011-2015 mean	7,712	2,841	366	549	915	

[a] SEG 450-700

[b] fishery restricted or closed early.

[c] foot survey conducted late.

PROPOSAL 237 – 5 AAC 59.120. General provisions for seasons, bag, possession, annual, and size limits, and methods and means for the Anchorage Bowl Drainages Area.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? Establishes an open season and bag and possession limits for salmon, other than king salmon, less than 16 inches in length, in flowing waters and unstocked lakes and ponds already open to salmon fishing in Anchorage Bowl drainages.

WHAT ARE THE CURRENT REGULATIONS? In Anchorage Bowl drainages open to fishing for salmon, other than king salmon, there are no bag limits. Salmon, other than king salmon, may not be retained or possessed in flowing waters and unstocked lakes and ponds. The bag and possession limits in stocked streams for salmon, other than king salmon, 16 inches or greater in length is three salmon, three of which may be coho.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This will likely increase the harvest of salmon, other than king salmon, less than 16 inches in length by some unknown amount.

BACKGROUND: Between 2005–2006 and 2006–2007 versions of "Alaska Fish and Game Laws and Regulations Annotated," two sentences were inadvertently left out. These two sentences provided the bag and possession limits for salmon, other than king salmon (greater than 16 inch in length and less than 16 inches in length) in unstocked waters described as open to fishing for salmon, other than king salmon.

In the Anchorage Bowl Drainages Area, sections of approximately sixteen streams are currently open to salmon fishing. These streams are all accessible from the road system, but have very little pressure from guided anglers. Many of these streams are popular for local fishermen and include Ship Creek, Campbell Creek, Knik and Turnagain Arm streams. It is estimated that 73,841 angler-days (data from the SWHS) are spent fishing in Anchorage area streams. Anglers annually catch approximately 59,251 other salmon (coho, pink, sockeye, and chum) and harvest 49.5% of their catch. Majority (82%) of the catch is coho salmon. Currently, catch and harvest of other salmon (coho, chum, sockeye and pink), includes salmon less than 16 inches in length.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal. After the proposal was submitted, it was discovered that salmon, other than king salmon, greater than 16 inches in length was also inadvertently left out when the new chapter was written. Therefore the department recommends amending the proposal to include bag limits for salmon, other than king salmon greater than 16 inches in length.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

PROPOSAL 238 – 5 AAC 59.120. General provisions for seasons, bag, possession, annual, and size limits, and methods and means for the Anchorage Bowl Drainages Area.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This would align rainbow trout limits for two connected lakes by increasing the bag and possession limit from two to five fish in Lower Sixmile Lake.

WHAT ARE THE CURRENT REGULATIONS? Upper Sixmile Lake is listed in the stocked lakes list and has a bag limit and possession limit of five rainbow trout, only one may be 20 inches or longer. Lower Sixmile Lake is not listed in the stocked lakes and has a bag limit and possession limit of two rainbow trout only one rainbow trout per day and two annually may be 20 inches or longer and must be recorded immediately. The Sixmile lakes (Upper and Lower lakes) and Sixmile Creek are closed to salmon fishing.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This simplifies regulations by aligning the sport fishing regulations in Lower Sixmile Lake with Upper Sixmile Lake. This will likely increase the harvest of rainbow trout stocked in Upper Sixmile Lake that have moved into Lower Sixmile Lake.

BACKGROUND: Sixmile Lake is located on JBER. This lake was formed prior to statehood when the military built a causeway across Sixmile Creek, thus flooding the creek bed. Upper Sixmile Lake was formed at a later time (1970s) when the military built another causeway across the upper end of the newly formed Sixmile Lake. Regulations on Upper and Lower Sixmile lakes are currently confusing for anglers and difficult to enforce since anglers could be fishing in the same proximity and have different bag and possession limits. These lakes are separated by a man-made road but connected by a culvert. Their outlet stream, Sixmile Creek flows out of Lower Six Mile Lake and eventually flows into Cook Inlet. Fish can freely pass from between Lower and Upper Sixmile lakes. The department annually stocks Upper Sixmile Lake with triploid rainbow trout.

In 2010, the SWHS estimated that 1,431 angler-days were spent on Sixmile Lakes. Since 2010, the department has not received enough responses from the SWHS to get an accurate estimate of effort on Sixmile lakes. In 2015, it was estimated through the JBER recreational access system, provided by JBER staff that, approximately 1,114 anglers accessed the Sixmile Lake area.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal. This would allow managers and enforcement officers to treat these lakes as a single unit and make enforcement of regulations easier and simplify regulations for the public.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

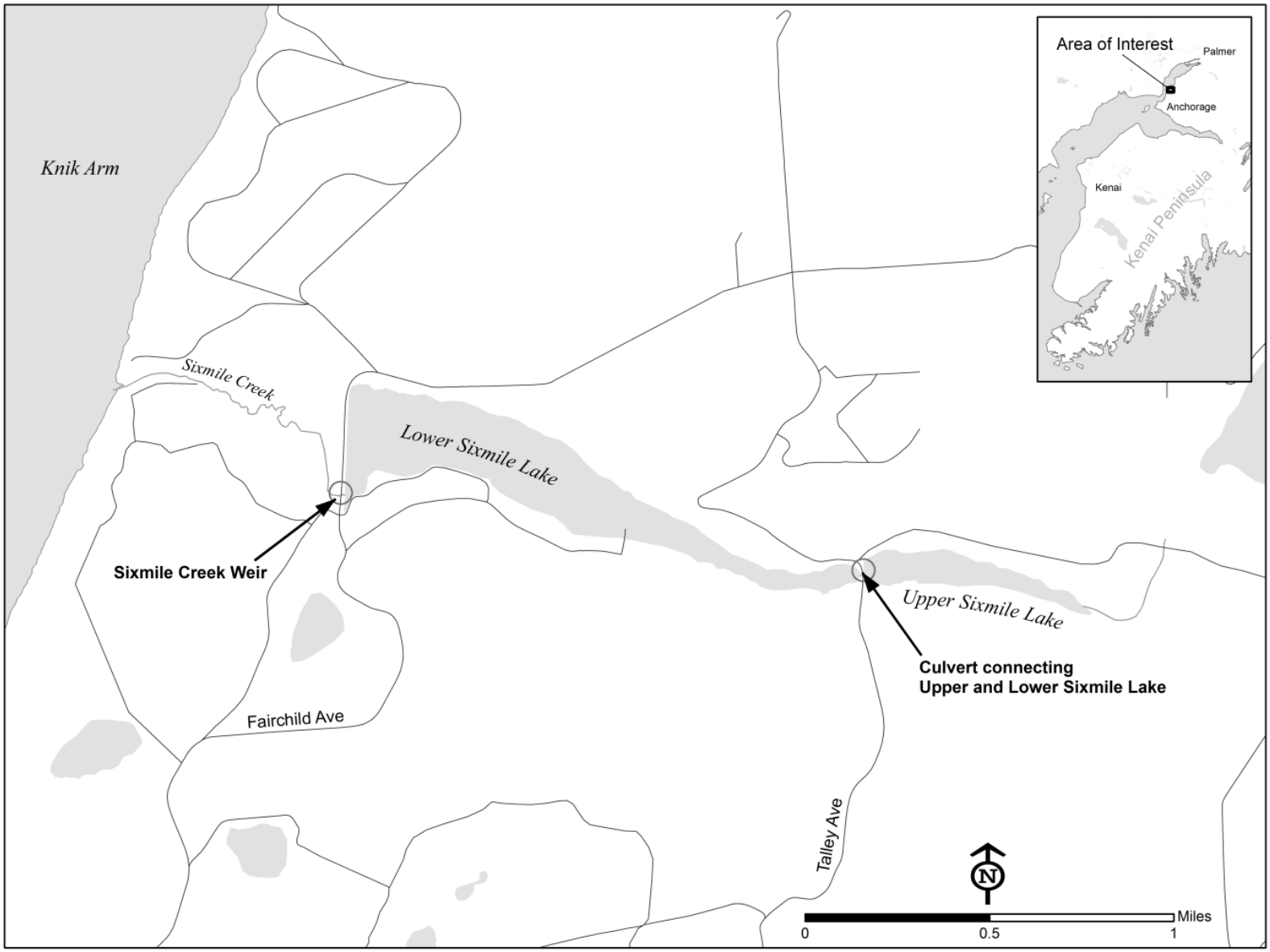

Figure 238-1.–Map of Lower and Upper Sixmile lakes.

PROPOSAL 240 – 5 AAC 59.122. Special provisions for the seasons, bag, possession, annual, and size limits, and methods and means for the Anchorage Bowl Drainages Area.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This closes a section of Campbell Creek, from Lake Otis Blvd. upstream to the forks near Piper Street to all fishing from October 2 through July 13.

WHAT ARE THE CURRENT REGULATIONS? The entire Campbell Creek drainage is closed to all fishing from April 15 through June 14 to protect spawning rainbow trout. Campbell Creek is also closed to salmon fishing, except for coho salmon fishing in certain sections of the creek during the established sport fishing season and a king salmon youth fishery. The section of Campbell Creek referenced in the proposal is open to sport fishing for coho salmon from July 14 through September 30, and rainbow trout and Dolly Varden from June 15 through April 14 (Figure 240-1).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This will reduce the incidental catch of king and sockeye salmon.

BACKGROUND: Campbell Creek runs through Anchorage and is a popular sport fishing destination for coho salmon and rainbow trout. This creek contains all five species of Pacific salmon as well as resident Dolly Varden and wild rainbow trout. Campbell Creek is closed to fishing for king salmon except during the youth fishery downstream of the forks near Piper Street.

Over 50,000 coho smolt and 2,300 rainbow trout are stocked annually into Campbell Creek. These stockings provide additional fish for the popular local coho salmon and rainbow trout fisheries. It is estimated that annually 4,167 angler-days (SWHS) are spent sport fishing on Campbell Creek. Campbell Creek from Lake Otis to Piper Street is a section of stream that salmon are often found holding prior to spawning and are highly susceptible to poaching. Alaska Wildlife Troopers frequent this area regularly and in 2016 issued approximately 18 citations and numerous warnings.

The management objectives for Campbell Creek king salmon are to manage and protect the wild king salmon run and to achieve an SEG of 380 fish. Escapement of king and sockeye salmon in Campbell Creek is assessed using a combination of foot and float surveys after the youth fishery has occurred in June. During annual escapement surveys, approximately 1,547 coho and 396 king salmon (5-year average) are counted in Campbell Creek. King salmon survey escapement estimates have ranged from 1,119 (1997) to 260 (2011). For sockeye salmon, survey estimates have ranged from 42 (2008) to 1,857 (2003). The 5-year average for sockeye salmon escapement surveys in Campbell Creek is 462 fish.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal. This section of creek runs through a city park, is relatively deep, and has good holding water for salmon preparing to spawn. This area is a favored location for poachers, so this action will make enforcement easier, and help increase king and sockeye salmon escapement in Campbell Creek.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

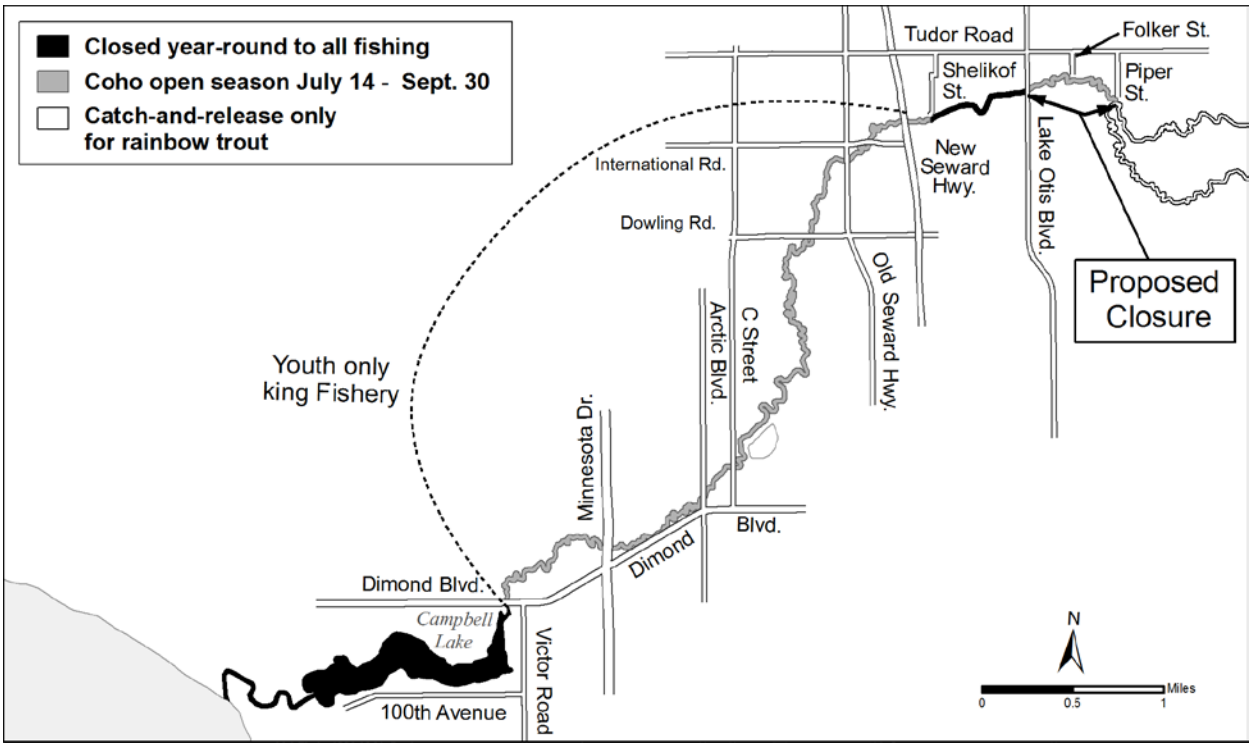

Figure 240-1.–Map of Campbell Creek with proposed closed area.

PROPOSAL 239 – 5 AAC 59.122. Special provisions for the seasons, bag, possession, annual, and size limits, and methods and means for the Anchorage Bowl Drainages Area.

PROPOSED BY: Dustin Slinker.

WHAT WOULD THE PROPOSAL DO? Establish a youth fishery on a section of Ship Creek, between the C Street Bridge and the Bridge Restaurant on the third Saturday in June for 12 hours.

WHAT ARE THE CURRENT REGULATIONS? Currently there are no youth fishery zones on Ship Creek. The fishery is open from the mouth of the creek up to 100 feet below the Chugach Power Plant dam for king salmon from January 1 – July 13. From May 15 – July 13 the fishery is closed daily between 11:00 p.m. and 6 a.m. The current bag and possession limits for king salmon 20 inches or greater is one fish; and 10 per day, 10 in possession for king salmon less than 20 inches. After taking a king salmon 20 inches or longer, a person may not fish for any species that same day in waters open to king salmon sport fishing. King salmon 20 inches or longer harvested in Ship Creek are part of the Cook Inlet annual limit of five king salmon and must be immediately recorded on the back of the angler's sport fishing license or harvest record card.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would allow a 12-hour period for youth, fifteen years of age and younger, to fish without competition from adult anglers. This may allow youth a greater chance to catch a king salmon on Ship Creek. It would also decrease the area in which adult anglers can fish for one day a year for 12 hours. The creation of a youth fishery is not anticipated to increase the harvest or impact the ability to achieve brood stock goals for the sport fish hatchery. Creating a youth fishery in Ship Creek would add complexity to the regulations.

BACKGROUND: Ship Creek is located in downtown Anchorage and is the most popular urban salmon fishery within the Anchorage Bowl Drainages Area. Ship Creek provides an estimated 22,719 angler-days annually. Ship Creek is stocked annually with approximately 315,000 king salmon smolt. The creek is surveyed weekly during the king salmon season to ensure that brood stock goals are met. From 2012–2014 the department issued emergency orders to ensure that the William Jack-Hernandez Sport Fish hatchery goals were met.

There is a youth-only fishery for king salmon in Anchorage on Campbell Creek. Prior to 2005, king salmon sport fishing was not permitted in Campbell Creek. However in 2005, board established a youth-only fishery for king salmon on Campbell Creek. This fishery provided youth access to a king salmon fishery where they would not have to compete with adult anglers. Anglers under the age of 16 may fish for king salmon on Campbell Creek between Dimond Boulevard and the Old Seward Highway between 6:00 a.m. and 10:00 p.m. on the last Saturday and Sunday of June. The bag and possession limits for king salmon during the Campbell Creek Youth Fishery are one king salmon 20 inches or longer; and 10 king salmon less than 20 inches long.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal. There are no sustainability issues with the proposed youth fishery. The department is supportive of establishing youth fisheries around the state.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

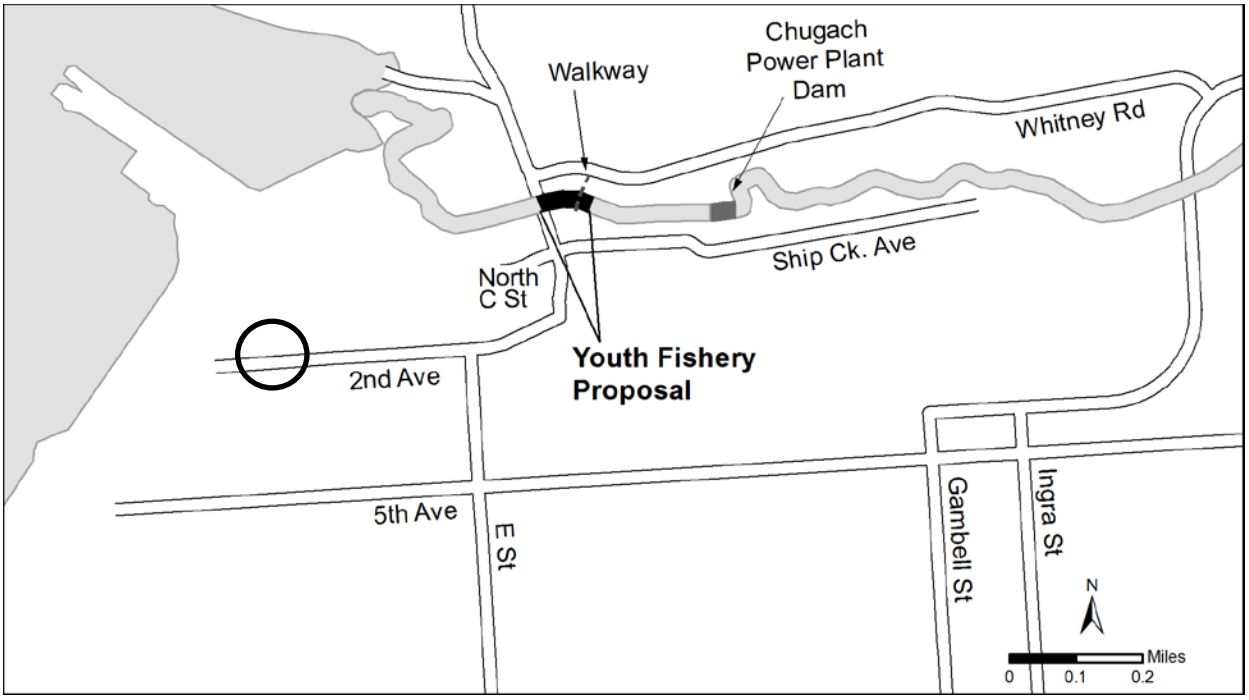

Figure 239 -1.–Map of Ship Creek with proposed Youth-only fishery zone marked.

PROPOSAL 241 – 5 AAC 59.122. Special provisions for the seasons, bag, possession, annual, and size limits, and methods and means for the Anchorage Bowl Drainages Area.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This closes Ship Creek upstream of the Chugach Power Plant Dam to 300 feet above the Elmendorf Power Plant Dam to sport fishing.

WHAT ARE THE CURRENT REGULATIONS? Currently the Ship Creek waters, 100 feet downstream of the Chugach Power Plant Dam upstream to 300 feet above the Elmendorf Power Plant Dam are closed to fishing for salmon. However, from 100 feet above the Chugach Power Plant Dam upstream to Reeves Blvd., is open to the harvest of Dolly Varden char and catch and release rainbow trout from June 15 through April 14.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This will increase the ability for enforcement to identify salmon poachers, and help ensure that the department obtains king and coho salmon broodstock goals. Fishing opportunity for rainbow trout and Dolly Varden would be eliminated in a 1.68 mile section of Ship Creek.

BACKGROUND: Ship Creek is located in downtown Anchorage and is the most popular urban salmon fishery within the Anchorage area. It is estimated that 22,719 angler-days are spent fishing in Ship Creek annually. Although almost none of the effort is spent in the section Ship Creek open to rainbow trout fishing above the Chugach Power Plant Dam. This section of Ship Creek is closed to salmon fishing, but open to rainbow trout (catch-and-release) and Arctic char/Dolly Varden (harvest) fishing.

Ship Creek is stocked with approximately 315,000 king salmon smolt and 250,000 coho salmon smolt and returns are monitored to assure that hatchery broodstock goals are achieved. In 2012–2014 the department issued emergency orders to ensure that the William Jack Hernandez Sport Fish Hatchery broodstock goals were achieved.

The section 100 feet above the Chugach Power Plant Dam upstream to Reeves Blvd has been identified by department and enforcement staff as a section that is heavily utilized by salmon poachers. Additional signs have been posted in access points so fishermen are aware the area is closed to salmon sport fishing. The salmon in this area are critical to the salmon broodstock at William Jack Hernandez Sport Fish Hatchery. This area is surveyed by department staff every 1–2 weeks to estimate escapement. These escapement surveys are used by management staff to assess the status of the fishery and ensure broodstock goals are achieved.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal. This regulation would aid law enforcement staff and likely reduce poaching of hatchery broodstock.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

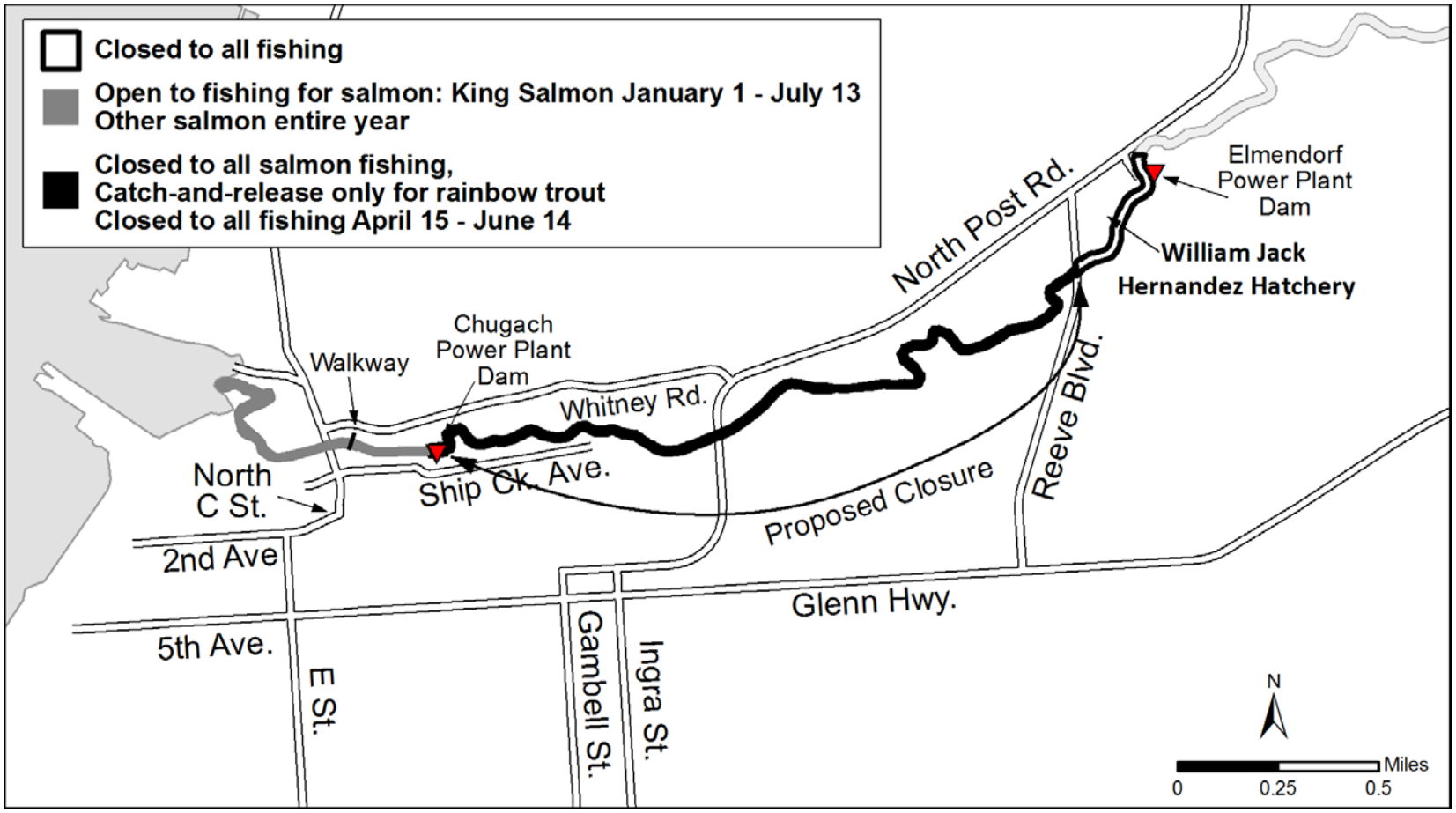

Figure 241-1.–Map of Ship Creek with a proposed closure area outlined.

COMMITTEE–GROUP B: Fishing Districts and Gillnet Specifications and Operations, Pink Salmon Management Plan, Upper Cook Inlet Management Plan, West Cook Inlet Salmon, and Cook Inlet Smelt (14 Proposals)

Fishing Districts and Gillnet Specifications and Operations (4 Proposals)

PROPOSAL 84 – 5 AAC 21.330. Gear and 5 AAC 21.350. Closed waters.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This would clarify location of water closed to commercial salmon fishing around the mouths of the Kenai and Kasilof rivers using GPS coordinates to describe closed waters rather than a combination of GPS coordinates and bearings (Figures 84-1 and 84-2).

WHAT ARE THE CURRENT REGULATIONS? Waters closed to commercial fishing around mouths of the Kenai and Kasilof rivers are described in 5 AAC 21.330(b)(3)(C). *Gear* and 5 AAC 21.350(b)(3) and (4). *Closed waters*.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It would help clarify and more accurately describe closed waters around the mouths of the Kenai and Kasilof Rivers. It would result in no change to the areas currently closed around the river mouths, but would make these closed waters more enforceable and aid fishermen in complying with regulations.

BACKGROUND: The department continues to move toward using GPS coordinates to define commercial fishing areas and closed waters instead of using geographic points and marker locations. The use of GPS coordinates is preferred to geographic points or markers because the latter may not be static over time; markers especially may be subject to manipulation. Moreover, the use of GPS coordinates to describe marker locations removes the need to maintain markers currently in place.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal. Since the proposal was submitted, the department discovered a discrepancy in the coordinates of the Coast Guard channel marker 1 KE and determined the coordinates are inaccurate for the marker. This not only affects the coordinates for the marker but two additional offshore points defining closed waters. Because of this, the department is recommending closed waters be defined with the revised GPS coordinates found in Figure 84-3. The department will submit substitute language for this proposal that reflects the recommended changes.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

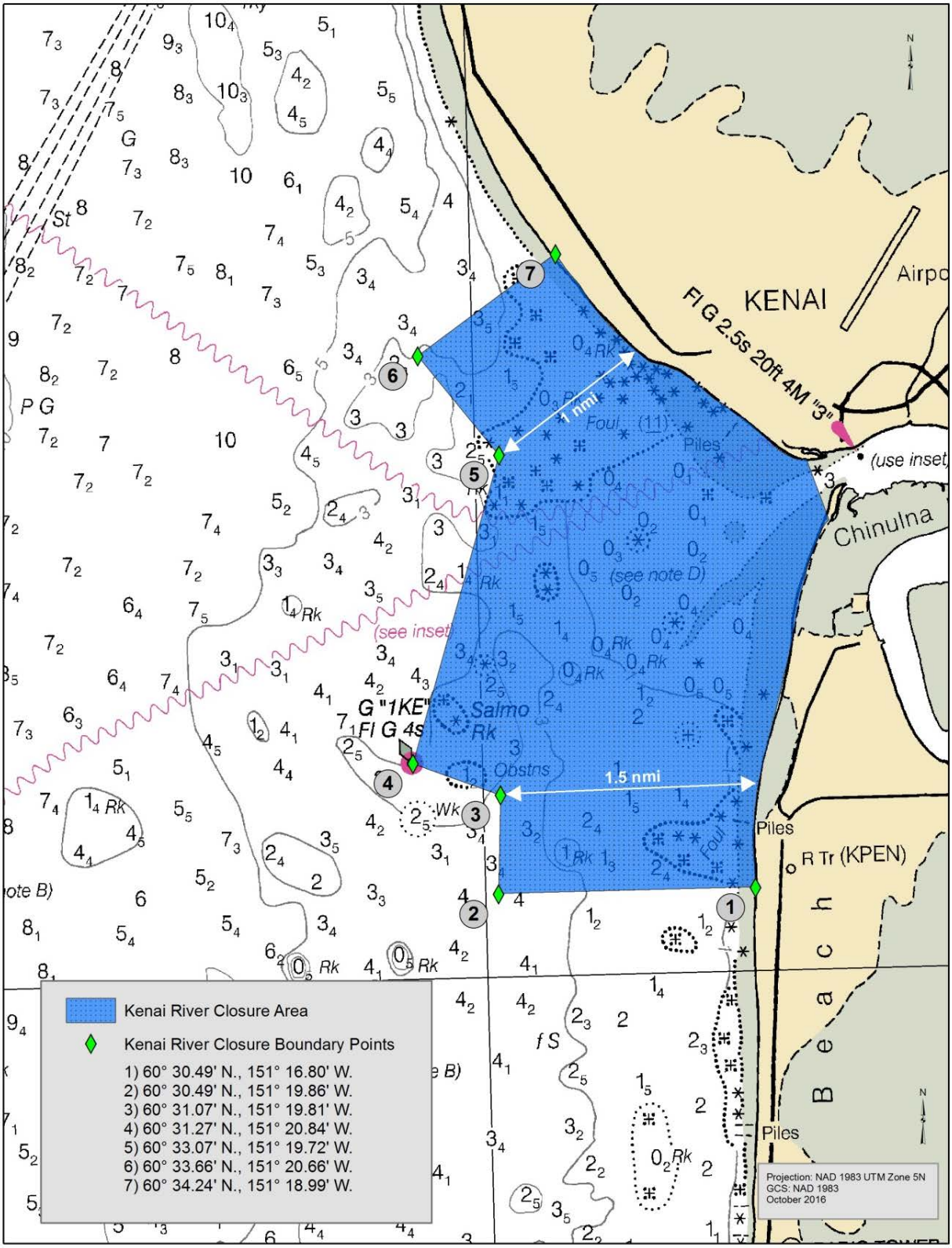

Figure 84-1.–Map of proposed changes (using GPS coordinates) to waters closed to commercial salmon fishing around the mouth of the Kenai River.

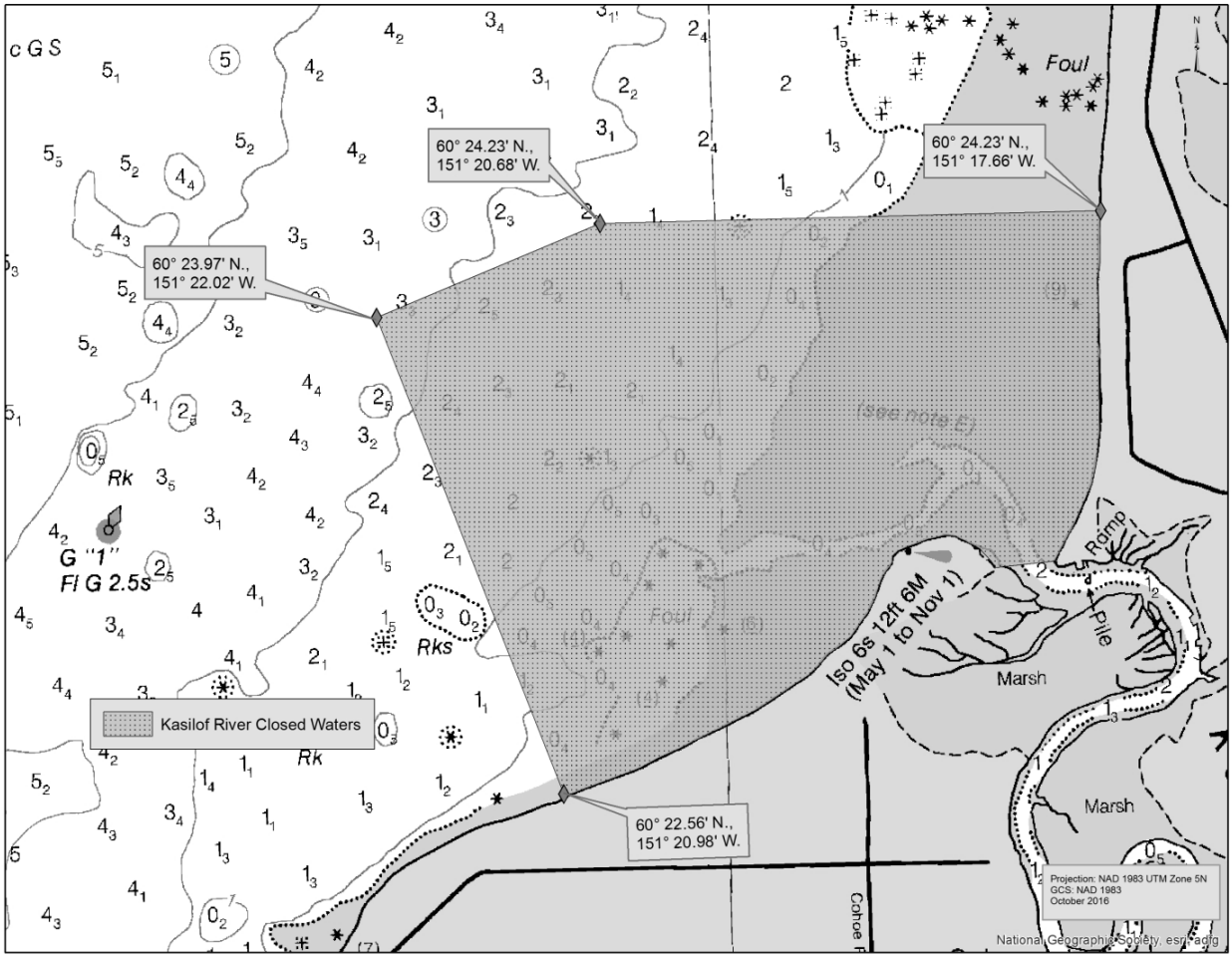

Figure 84-2.–Map of proposed changes (using GPS coordinates) to waters closed to commercial salmon fishing around the mouth of the Kasilof River.

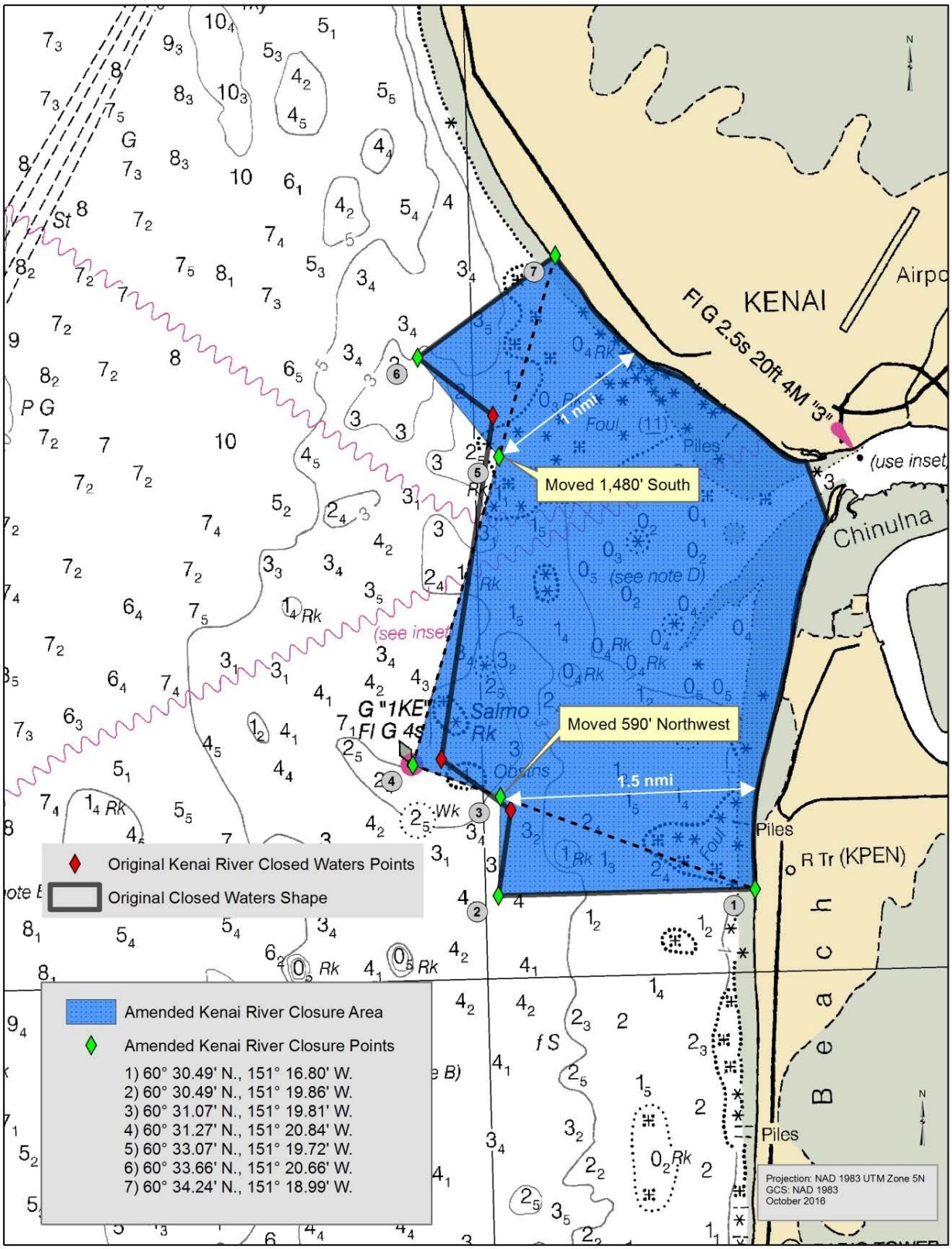

Figure 84-3.–Revised map of proposed changes (using GPS coordinates) to waters closed to commercial salmon fishing around the mouth of the Kenai River.

PROPOSAL 131 – 5 AAC 21.200. Fishing districts, subdistricts, and sections.

PROPOSED BY: Paul Shadura, SOKI.

WHAT WOULD THE PROPOSAL DO? This would define commercial fishing statistical areas in the Upper Subdistrict set gillnet fishery.

WHAT ARE THE CURRENT REGULATIONS? Commercial fishing districts and subdistricts are defined for Cook Inlet in 5 AAC 21.200 (Figure 131-1). Sections for the commercial set gillnet fishery in the Upper Subdistrict are also defined in 5 AAC 21.200(b)(2). The department identifies six statistical areas in the Upper Subdistrict that are not in regulation, but are referenced and used by the department for discrete harvest data recording on fish tickets (Figure 131-2).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It would not have any effects on salmon harvest in ESSN fishery. The department would continue to manage the commercial set gillnet fishery in the Upper Subdistrict using fishing sections currently described in regulation. The department currently has EO authority to open portions of a section, such as a statistical area.

BACKGROUND: The department primarily manages the ESSN fishery following regulations in 5 AAC 21.365. *Kasilof River Salmon Management Plan* and 5 AAC 21.360. *Kenai River Late-Run Sockeye Salmon Management Plan*. Provisions in the plans specify the sections that may be opened for commercial fishing (Figure 131-2). While the department has EO authority to modify times and areas fished within the ESSN fishery, only entire sections (Kasilof or Kenai/East Foreland sections) have been opened or closed. The department has not opened smaller areas within the sections, such as individual statistical areas, to commercial fishing.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. The department has an internal process to establish statistical areas and defining statistical areas in regulation represents redundant and unnecessarily burdensome rulemaking without providing offsetting appreciable gain.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

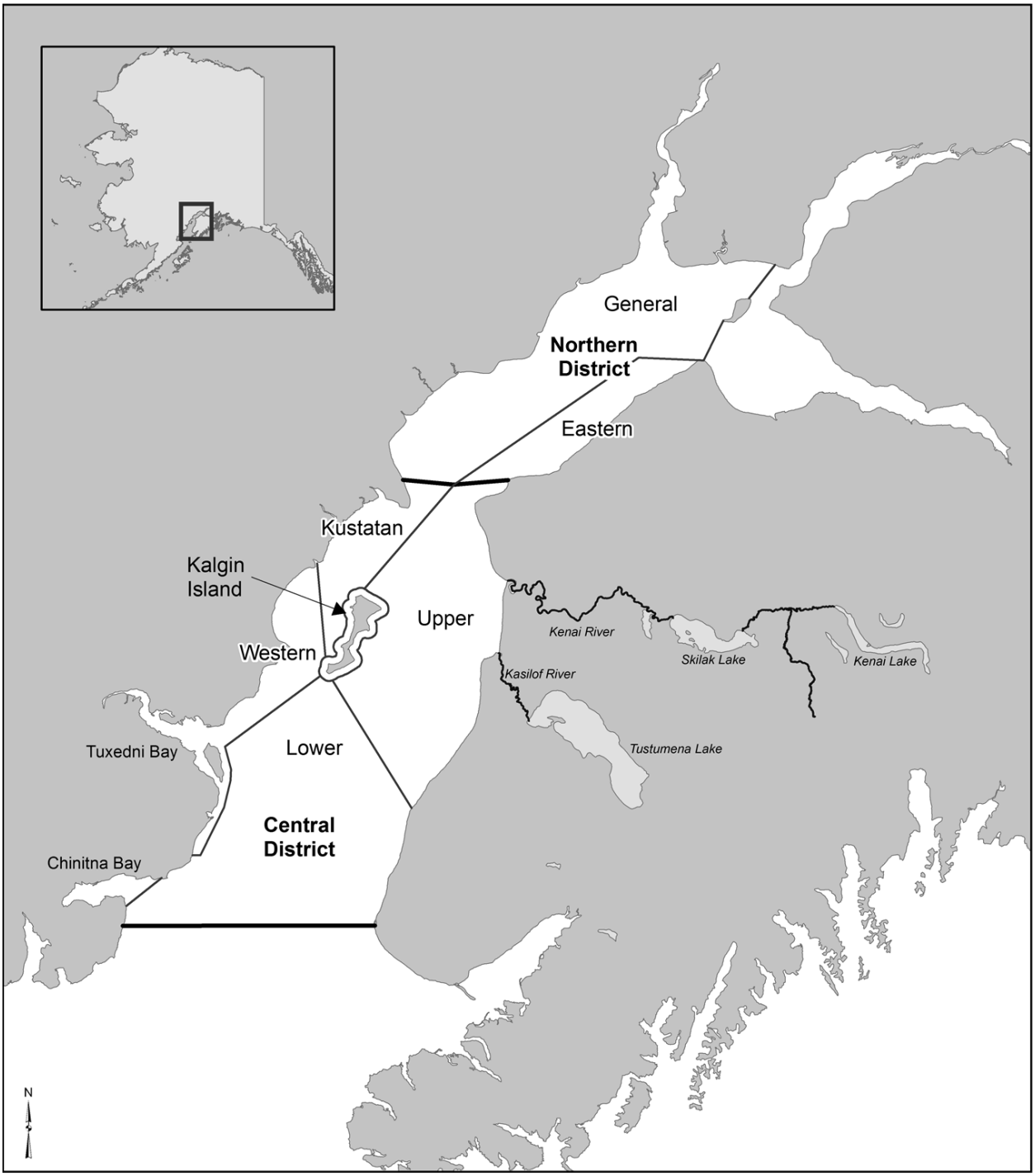

Figure 131-1.–Map of commercial fishing districts and subdistricts in Upper Cook Inlet.

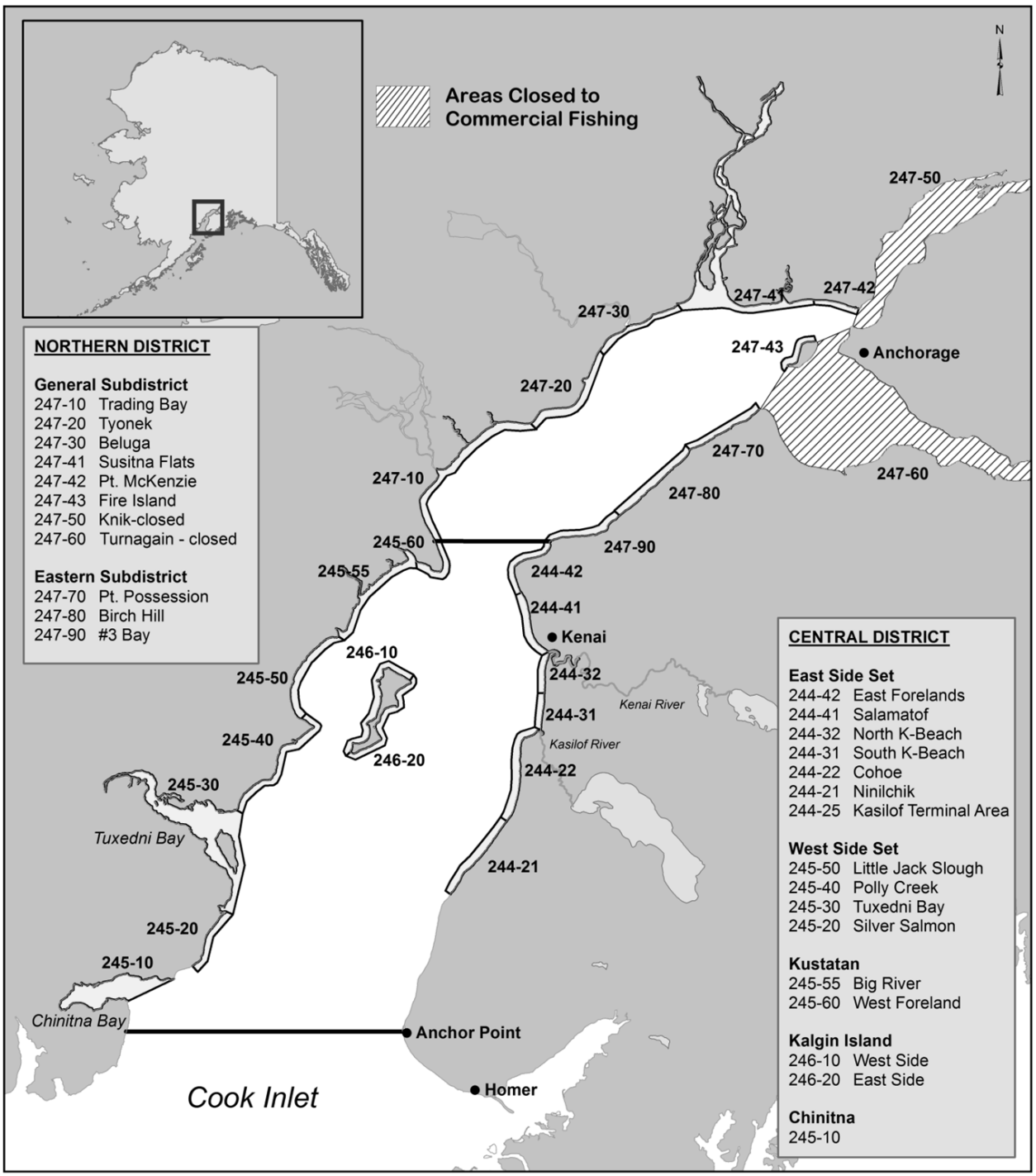

Figure 131-2.–Map of statistical areas for commercial set gillnets areas in Upper Cook Inlet. Note: East Forelands Section = East Forelands (244-42); Kenai Section = Salamatof (244-41) and North K-Beach (244-32); and Kasilof Section = South K-Beach (244-31), Cohoe (244-22, and Ninilchik (244-21).

PROPOSAL 132 – 5 AAC 21.200. Fishing districts, subdistricts, and sections.

PROPOSED BY: United Cook Inlet Drift Association.

WHAT WOULD THE PROPOSAL DO? This would move the southwestern-most point of the Expanded Kasilof Section 1.2 nm to the west, so it aligns with the northwestern-most point of the Anchor Point Section (Figure 132-1).

WHAT ARE THE CURRENT REGULATIONS? The Expanded Kenai, Expanded Kasilof, and Anchor Point sections are defined in 5 AAC 21.200(b) (Figure 132-1).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase the size the Expanded Kasilof Section by 16 sq nm (Figure 132-1). This additional area may increase commercial drift gillnet harvest of sockeye salmon by an unknown amount. Alignment of the points would make this area more enforceable and aid set gillnet fishermen in their efforts to comply with regulations. Aligning the points is not expected to change management of the Central District drift gillnet fishery or the Upper Subdistrict set gillnet fishery.

BACKGROUND: The Expanded Kenai and Expanded Kasilof sections were created in 2011. The Anchor Point Section was created in 2014. When the board voted affirmatively to create the Anchor Point Section, it was discovered afterwards that the northwest corner did not align with the southwest corner of the Kasilof Section. Although there was some discussion at the meeting about aligning the points, it was never brought to the record for a vote.

DEPARTMENT COMMENTS: The department **SUPPORTS** this proposal because it simplifies regulations and improves regulatory compliance without conferring a substantive allocative benefit to one user group or another.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

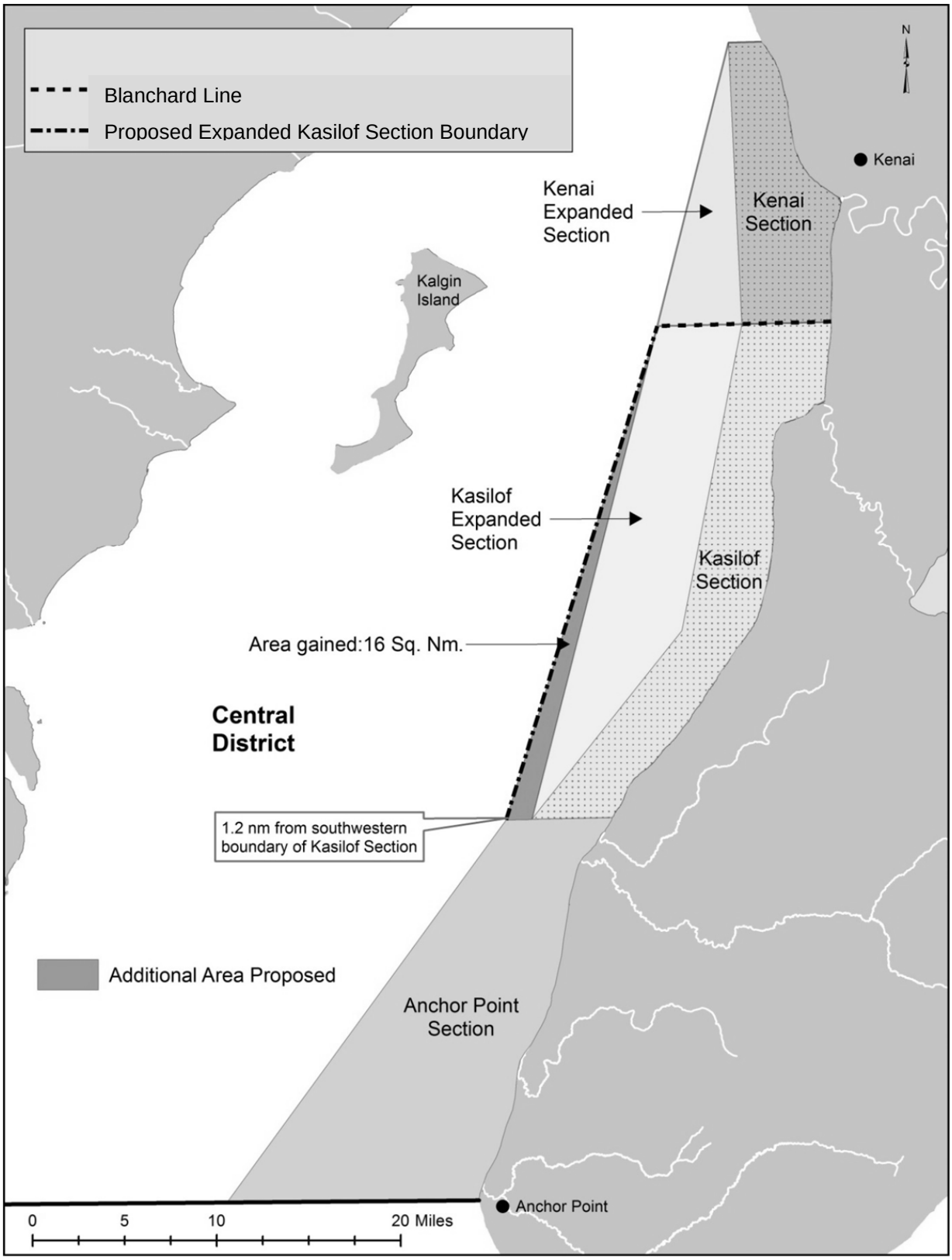

Figure 132-1.–Map of the Expanded Kasilof, Expanded Kenai and Anchor Point sections, including proposed changes to the Expanded Kasilof and Anchor Point sections.

PROPOSAL 133 – 5 AAC 21.331. Gillnet specifications and operations and 5 AAC 21.333. Requirements and specifications for use of 200 fathoms of drift gillnet gear in the Cook Inlet Area.

PROPOSED BY: Robert E. Merchant.

WHAT WOULD THE PROPOSAL DO? This would allow a single person holding two CFEC Cook Inlet drift gillnet limited entry permits to operate 200 fathoms of drift gillnet gear from the same vessel.

WHAT ARE THE CURRENT REGULATIONS? Current regulations state that when two drift permit holders are onboard a single vessel (D-boat fishing), an additional 50 fathoms of drift gillnet gear may be fished, for a total complement of gear not to exceed 200 fathoms. The length of a drift gillnet, when only one permit holder is on board, is limited to no more than 150 fathoms. When two CFEC Cook Inlet drift gillnet permit holders fish from the same vessel and jointly operate additional drift gillnet gear, the vessel must display its ADF&G permanent license plate number followed by the letter "D" to identify the vessel as a dual permit vessel. The remaining provisions for D-boat fishing may be found in 5 AAC 21.333, *Requirements and specifications for use of 200 fathoms of drift gillnet in the Cook Inlet Area*.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It is unclear if this proposal would increase or decrease the amount of gear fished or if it would have any effect on salmon harvest in the drift gillnet fishery. It is possible this could result in an increase in the amount of drift gillnet gear fished, if latent permits became active. Conversely, it could also decrease the amount of gear fished depending on whether or not dual permits remained in the fishery. Adoption of this proposal would likely result in a consolidation of drift gillnet permits in the fishery, make it more difficult for a person to acquire a permit and enter the fishery, and result in fewer individuals owning and fishing drift gillnet permits.

BACKGROUND: House Bill 286 was passed into law in 2002, allowing an individual to own two commercial salmon permits in the same fishery. In 2006, House Bill 251 was passed allowing the board to authorize additional gear with ownership of a second permit.

In 2008, the board adopted 5 AAC 21.333. *Requirements and specifications for use of 200 fathoms of drift gillnet in the Cook Inlet Area*. This provided drift gillnetters in UCI with the option of having a second permit holder on board a vessel. When this occurs, a "D-boat" vessel may fish one additional shackle (50 fathoms) of fishing gear, increasing the legal complement of gear from three shackles, or 150 fathoms, to four shackles, or 200 fathoms.

In 2011, the board allowed a single person to operate two legal complements of set gillnet fishing gear in UCI if he or she owned two S04H permits. Prior to 2011, a person could own two set gillnet fishing permits, but could only fish one of them.

In 2016, 504 drift gillnet permits and 463 vessels reported fishing in UCI (Table 133-1). Of those, there were 118 permits and 60 vessels that reported fishing in the D-boat configuration. It should be noted that many of the individuals and vessels that fished in the D-boat configuration also fished in single permit/vessel configuration as well. Preliminary permit information

indicates a 12% latency (permits renewed, but not fished) for drift gillnet permits in Cook Inlet for 2016.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects this proposal. However, the department is concerned about additional regulations that would make it more difficult for a person to acquire a permit and enter a new fishery by creating additional competition and demand for available permits.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery. However, there could be additional costs for a drift permit holder to purchase a second drift gillnet permit, and an additional shackle of gear in order to fish 200 fathoms. Costs could also increase if consolidation results in an increase in permit prices or if individuals holding the second permit on a D-boat are no long afforded that opportunity because the vessel owner acquired a second limited entry permit and no longer required the second permit holder to operate additional gear.

Table 133-1.–Total number of drift gillnet vessels and permits reported fishing in Upper Cook Inlet and the number of drift gillnet vessels and permits reported to have engaged in D-boat fishing, 2008–2016.

	Drift gillnet permits					Drift gillnet vessels				
Year	Total permits fished	Total dual permits	Exclusively single permits	Exclusively dual permits	Permits fished as dual and single	Total vessels fished	Total dual vessels	Exclusively single vessels	Exclusively dual vessels	Vessels fished as dual and single
2008	433	18	415	8	10	430	10	420	1	9
2009	417	42	375	16	26	394	21	373	0	21
2010	411	109	302	43	66	355	55	300	3	52
2011	493	130	363	51	79	431	68	363	6	62
2012	525	116	409	67	49	462	62	400	18	44
2013	538	130	408	64	66	478	68	410	16	52
2014	532	121	411	65	56	483	64	419	14	50
2015	518	117	401	55	62	466	60	406	11	49
2016	504	117	387	63	54	463	60	403	17	43

Note:

Total permits fished:	All unique permits recorded on an ADF&G fish ticket.
Total dual permits:	All unique permits recorded at least one time on an ADF&G fish ticket as fishing in a dual permit configuration.
Exclusively single permits:	All unique permits that never were recorded on an ADF&G fish ticket as fishing in a dual permit configuration.
Exclusively dual permits:	All unique permits that only fished in the dual permit configuration.
Total vessels fished:	All unique drift vessels fished.
Total dual vessels:	All unique vessels recorded at least one time on an ADF&G fish ticket as fishing in a dual permit configuration.
Exclusively single vessels:	All unique vessels that never were recorded on an ADF&G fish ticket as fishing in a dual permit configuration.
Exclusively dual vessels:	All unique vessels that only fished in the dual permit configuration.

Pink Salmon Management Plan (4 Proposals)

PROPOSAL 123 – 5 AAC 21.354. Cook Inlet Pink Salmon Management Plan.

PROPOSED BY: Central Peninsula Fish and Game Advisory Committee.

WHAT WOULD THE PROPOSAL DO? This would repeal and readopt the pink salmon management plan to allow for the commercial harvest of surplus pink salmon in the Upper Subdistrict with set and drift gillnet gear.

WHAT ARE THE CURRENT REGULATIONS? The pink salmon management plan states that from August 11–15, the commissioner may, by EO, open a commercial pink salmon fishery in an even-numbered year for up to two regular 12-hour fishing periods if it is determined that Kenai and Kasilof river sockeye salmon escapement goals are being achieved and coho salmon run strength is sufficient to withstand additional harvest. The first pink salmon commercial fishing period will occur only if, during regular fishing periods from August 6–10, daily ESSN harvest of pink salmon exceeds 50,000 fish or cumulative harvest is 100,000 or more pink salmon. The second pink salmon commercial fishing period will occur only if 50,000 or more pink salmon, and no more than 2,500 coho salmon, are harvested during the first pink salmon commercial fishing period. During fishing periods opened under this plan, a set gillnet may not have a mesh size greater than four and three-quarters inches and the set gillnet may only be operated 600 ft or greater from the shoreline, while a drift gillnet may not have a mesh size greater than four and three-quarters inches. Fishing with set gillnet gear will only be allowed in the Upper Subdistrict and fishing with drift gillnet gear will only be opened in the Kenai Section of the Upper Subdistrict. The area open to fishing during the pink salmon fishery is the Upper Subdistrict; for drift gillnets the fishery is open in the regular Kenai Section only.

The set gillnet fishery in the Upper Subdistrict currently closes no later than August 15, and only regular fishing periods are allowed between August 11 and August 15. However, the season closes any time after July 31 if less than one percent of the season's total sockeye salmon harvest has been taken per fishing period for two consecutive fishing periods. If the Upper Subdistrict set gillnet fishery is closed under the provisions of the one-percent rule, regular fishing periods in the Central District drift gillnet fishery will be restricted to Drift Gillnet Areas 3 and 4. Additionally, regular periods in the drift gillnet fishery will be restricted to Drift Gillnet Areas 3 and 4 if the fishery meets its own one-percent rule.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The proposal lacks specifics as to what would be included in the new management plan. As written, this proposal would allow for harvest of surplus pink salmon in the Upper Subdistrict for set and drift gillnet gear by allowing set and drift gillnet commercial fishermen to fish their regular weekly fishing periods in August in all years, not just even-numbered years; with extra fishing periods based on pink salmon abundance if all other salmon species are healthy and making their escapement goals. This could result in an increase in the harvest of pink salmon by an unknown amount in August; it would also increase harvest of sockeye, coho, king, and chum salmon by an unknown amount. Without an escapement goal or an escapement monitoring project, it is unclear how the department would assess abundance of pink salmon to make decisions about additional

fishing periods. It is unclear how this proposal would affect one-percent rules in place for both the ESSN fishery and the Central District drift gillnet fishery. Based on these uncertainties, it is difficult to assess effects of this proposal.

BACKGROUND: Pink salmon runs in UCI are even-year dominant and receive little commercial exploitation. A 2002 department study estimated the commercial harvest rate of UCI pink salmon at approximately two percent (Table 123-1). The primary harvesters of pink salmon in UCI are the Central District drift fishery and the ESSN fishery. The relatively small harvests are, in part, due to restrictions on fishing time and seasons in these two fisheries. Since the 1990s, the board has implemented various restrictions to the commercial fishery, primarily to conserve king, sockeye, and coho salmon stocks. These restrictions have also resulted in reduced harvests of pink salmon.

The original *Cook Inlet Pink Salmon Management Plan* was adopted in 2002. At the time, it was considered an experimental fishery by the board. Its purpose was to allow harvest of abundant pink salmon stocks by the drift gillnet fleet. The fishery was to be authorized if pink salmon stocks were sufficient to withstand harvest, if UCI coho salmon escapement goals were being met, and if sport fishermen had a reasonable opportunity to harvest coho salmon over the entire run. The fishery could be opened by EO, in 2002 and 2004, for a total of three 12-hour periods after August 9, which could only occur on Mondays, Wednesdays, or Fridays. The area open to fishing with drift gillnets included much of the eastern side of the Central District, but was prohibited in the Kenai and Kasilof sections. Closing the Kenai and Kasilof sections to fishing during these open periods effectively prohibited fishing with set gillnet gear under this plan; however, because the plan did not exclude the East Forelands Section, fishing with set gillnet gear in this area was legal. Drift gillnets in this fishery could not exceed 150 fathoms in length and 45 meshes in depth. In 2002, the maximum mesh size was five inches and in 2004, mesh size was restricted to no more than four and three-quarter inches. To participate in this fishery, permit holders were required to obtain a pink salmon permit from the department by August 9. This plan was also set to sunset after December 31, 2004.

In 2002, the fishery was open for three periods, but only four drift gillnet fishermen took part in the fishery and only on the first period. Harvest totaled 116 pink, four sockeye, 10 coho, and 18 chum salmon. The low price being paid for pink salmon was the reason given that more fishermen did not participate. In 2004, the fishery was again opened for three periods, with a total harvest of 66 pink, 247 sockeye, 183 coho, and 37 chum salmon.

In 2005, the *Cook Inlet Pink Salmon Plan* was reauthorized, but with some modifications, as follows: 1) changed the list of conditions that must be met prior to authorization of the fishery to only include that pink salmon stocks must be able to withstand harvest, 2) removed area restrictions, 3) removed mesh-size restrictions, and 4) removed any sunset provisions. Although the plan did not state an area restriction, when a pink salmon fishery was opened in 2006, the area fished was the same as that defined in the 2002 plan. Fishing periods were again on the first Monday, Wednesday, and Friday after August 9. The total harvest from these three periods, which occurred on August 11, 14, and 16, was 4 king, 10,515 sockeye, 3,294 coho, 17,148 pink, and 1,423 chum salmon.

In 2008, the *Cook Inlet Pink Salmon Management Plan* was deleted from regulation. At this meeting, the board extended the Upper Subdistrict set gillnet and Central District drift gillnet fishing seasons from a closing date of August 10 to closing on August 15, with the provision that from August 11–15, only regular periods could be fished.

In 2011, the board adopted the current *Cook Inlet Pink Salmon Management Plan*, which still applied in even years only. In this plan, drift gillnetting in the Kenai Section (narrow corridor) was added to open waters if the pink salmon fishery occurred. This version of the management plan was unclear in several key ways. First, it could be interpreted to mean that fishing for pink salmon was open in all of UCI for set gillnet gear; second, it was unclear from which fisheries the harvest criteria must be met during the August 6–10 timeframe; and finally, part of the area the management plan states is to be opened to drift gillnetting during the pink salmon fishery – East Forelands Section (5 AAC 21.200(b)(2)(A)) – was a defined set gillnet fishing area. This caused confusion when opening an area specifically designated as a set gillnet gear fishing area.

In 2014, several changes were made to this plan to ameliorate confusion on how the fishery was to be prosecuted. The pink and coho salmon harvest triggers that must be met in August were clarified to mean only harvest coming from the ESSN fishery; drift harvest from this time period does not count toward the harvest necessary to authorize the pink salmon fishery. Additionally, the area that may be open to fishing with drift gillnet gear in the plan was limited to only the Kenai Section. Since these changes were made, there have been no fishing periods authorized by this plan.

Pink salmon escapement is monitored secondarily to coho salmon on the Deshka River and is considered a minimum count. Weir counts ranged from 9,078 to 1,279,148 and averaged 348,545 pink salmon on even numbered years from 1998–2016 (Table 123-2). Weir counts have been below average since 2006.

NCI supports relatively large coho salmon sport fisheries. On the Little Susitna River, anglers fished an average of 26,364 days each season from 1996–2015; about half of which is associated with coho salmon (Table 123-3). Average sport harvest from 1996–2005 was 14,373 fish. More recently (2006–2015), sport harvest averaged 8,116 coho salmon. Sport harvest in 2011 of 2,452 fish and in 2012 of 1,681 coho salmon reflect poor run years when the sport fishery was closed midseason. The average sport harvest on Jim Creek from 1996 to 2015 was 7,620 coho salmon.

Coho salmon escapement is monitored on several NCI streams. In the Little Susitna River, it is monitored by weir and evaluated against an SEG of 10,100–17,700 fish. Average escapement from 1996–2005 was 22,377 fish (Table 123-4). More recently (2006–2016), escapement averaged 13,412 coho salmon based on complete weir count years. The SEG was achieved in five of the past 10 years. The SEG was not achieved in 2009–2012 despite inseason restrictions and closures in 2011 and 2012 to reduce sport harvest inseason. The SEG for the Jim Creek system was not achieved in five of the past 10 years (2017–2016). Coho salmon escapement is also monitored on the Deshka River of the Susitna drainage and on Fish Creek of the Knik Arm area.

Information gathered from research programs on Kenai River indicate the coho salmon runs averaged about 140,000 fish from 1999 to 2004, with harvests averaging just over 62,000 fish (Table 123-5). Overall harvest rates for Kenai River coho salmon runs prior to 2000 were high,

in some cases (84% in 1999) under the previous Kenai River coho salmon management plan, which allowed a three-fish bag limit and more liberal commercial fishing in August; under a plan that allowed a two-fish bag limit and more restrictive commercial fishing, the harvest rate ranged from 35% to 47% from 2000 to 2004. New regulations in 2005 and 2008, which liberalized sport and commercial fisheries, very likely increased harvest rates of Kenai River coho salmon relative to the rates observed from 1999–2004. Research findings from studies conducted in Southeast Alaska with transboundary coho salmon stocks have indicated that an exploitation rate of about 61% is sustainable.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. The department does not have any new data regarding coho salmon runs or exploitation rates but believes current management is sustainable. The Kenai River coho salmon stock is not monitored. Inriver harvest data indicate harvest of Kenai River coho salmon is relatively stable under existing regulations.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 123-1.–Estimates of the total population and harvest rate of coho, pink, and chum salmon entering Upper Cook Inlet in 2002 based upon a marine tagging study.

		Estimate (millions)			
Species	Tag Type	Total Population	Harvest	Escapement	Harvest Rate
Coho	Telemetry	2.52	0.25	2.27	10%
	PIT	1.61	0.25	2.27	15%
Pink	PIT	21.28	1.45	20.83	2%
Chum	PIT	3.88	0.24	3.64	6%

Table 123-2.–Pink salmon weir counts during even years on the Deshka River, 1998–2016.

Year	Pink salmon weir count
1998	541,946
2000	1,279,148
2002	946,256
2004	390,087
2006	83,454
2008	12,947
2010	9,078
2012	78,857
2014	78,111
2016	65,567
Average	348,545

Table 123-3.–Effort and harvest of coho salmon on the Little Susitna River and Jim Creek, 1996–2015.

	Little Susitna River		Jim Creek	
Year	Angler-days	Sport Harvest	Angler-days	Sport Harvest
1996	24,575	16,753	7,561	3,911
1997	27,883	7,756	5,349	1,786
1998	22,108	14,469	5,272	4,197
1999	30,437	8,864	6,860	2,612
2000	39,556	20,357	10,975	5,653
2001	33,521	17,071	13,028	8,374
2002	40,346	19,278	17,989	14,707
2003	31,993	13,672	13,474	6,415
2004	33,819	15,307	19,342	11,766
2005	27,490	10,203	19,605	10,114
2006	28,547	12,399	25,271	19,259
2007	35,636	11,089	21,342	11,848
2008	31,989	13,498	27,874	17,545
2009	28,151	8,346	16,486	11,573
2010	24,846	10,662	16,140	8,442
2011	12,779	2,452	9,810	3,132
2012	10,115	1,681	7,474	1,858
2013	12,012	5,229	8,474	3,258
2014	13,636	6,922	9,376	3,045
2015	17,845	8,880	3,425	2,910
Average				
1996–2015	26,364	11,244	13,256	7,620
1996–2005	31,173	14,373	11,946	6,954
2006–2015	21,556	8,116	14,567	8,287

Table 123-4.–Coho salmon counts on select streams within the Northern Cook Inlet, 1996–2016.

Year	Little Susitna River (weir count) [a]	Fish Creek (Weir Count)	McRoberts Creek (Jim Creek system) (Foot count)	Desha River (Weir count) [a]
1996	15,803	682	72	no count
1997	9,894 [b]	2,578	701	8,063
1998	15,159	5,463	922	6,773 [b]
1999	3,017	1,766	12	4,563 [b]
2000	15,436	5,218 [d]	657	26,387
2001	30,587	9,247 [d]	1,019	29,927
2002	47,938	14,651 [d]	2,473	24,612 [b]
2003	10,877	1,231 [d]	1,421	17,305
2004	40,199	1,415 [c d]	4,652	62,940
2005	16,839 [b]	3,011 [c d]	1,464	47,887
2006	8,786 [b]	4,967 [c d]	2,389	59,419 [b]
2007	17,573	6,868 [c d]	725	10,575
2008	18,485	4,868 [c d]	1,890	12,724
2009	9,523	8,214 [d]	1,331	27,348
2010	9,214	6,977 [d]	242	10,393
2011	4,826	1,428 [c d]	261	7,508 [b]
2012	6,779 [b]	1,237	213	6,825
2013	13,583 [b]	7,593 [b]	663	22,341
2014	24,211	10,283	122	11,578
2015	12,756 [b]	7,912	571	10,775
2016	10,049	2,484	106	6,820 [b]
Average				
1996-2016	18,193 [f]	5,932	1,043	21,791
1996-2005	22,377 [f]	5,105	1,339	32,085
2006-2016	13,412 [f]	7,036	774	14,070
SEG	10,100–17,700	1,200–4,400	450–700	No goal

[a] Weir located at river mile (rm) 34 in 1986; rm 32 in 1998–1995 and 2012-2016; rm 71 from 1996–2010.

[b] Incomplete count due to high water or pulling weir early.

[c] 1994–1996 and 2004–2008, 2011, and 2016 weir was removed on August 15 before the majority of the coho run. In 1997, the weir was out on September 1.

[d] Coho salmon counted below weir after it was pulled: 761 (2000), 800 (2001), 536 (2002), 911 (2003), 1,840 (2004), 825 (2005), 756 (2006), 2,750 (2007), 4,735 (2008), 452 (2009), 57 (2010), 872(2011).

[e] Deshka River weir locations: 1995 (rm 17) and 1997-2016 (rm 7).

[f] Complete count years only.

Table 123-5.–Estimated harvest, total run, and exploitation rate of Kenai River coho salmon from 1999–2004.

Year	Escapement[a,b]	Harvest			Research Mortality	Total Run	Total Harvest[e]	Harvest Rate[f]
		Sport[c]	Personal Use	Commercial[d]				
1999	7,889	35,361	1,009	3,894	193	48,346	40,457	0.837
2000	72,742	52,489	1,449	2,965	555	130,200	56,903	0.437
2001	75,122	55,004	1,555	1,934	540	134,155	58,493	0.436
2002	133,612	66,104	1,721	6,115	968	208,520	73,940	0.355
2003	79,915	51,944	1,332	2,578	209	135,978	55,854	0.411
2004	95,394	72,565	2,661	11,149	2,106	183,875	86,375	0.470
Average								
1999–2004	77,446	55,578	1,621	4,773	762	140,179	62,004	0.491
2000–2004	91,357	59,621	1,744	4,948	876	158,546	66,313	0.422

Note: 1991–1993 and 1998 Kenai River coho salmon creel data was used to calculate the effect of increasing the bag limit from 2 to 3 fish, only boat angler interviews/data were selected for use for 1991–1993 due to the lack of data from shore anglers.

[a] Kenai River coho salmon total runs were estimated only during 1999–2004.

[b] Sources: Carlon and Evans 2007, Massengill and Evans 2007.

[c] Source: Statewide Harvest Survey.

[d] Sources: Massengill and Carlon 2004 a,b; Massengill and Carlon 2007 a,b; Massengill 2007.

[e] Aggregate of all harvest estimates (sport, commercial, and personal use).

[f] Total Harvest divided by Total Run.

ND = No Data

PROPOSAL 124 – 5 AAC 21.354. Cook Inlet Pink Salmon Management Plan.

PROPOSED BY: Gary L. Hollier.

WHAT WOULD THE PROPOSAL DO? This would amend the *Cook Inlet Pink Salmon Management Plan* to remove or lower daily harvest triggers.

WHAT ARE THE CURRENT REGULATIONS? The pink salmon management plan states that from August 11–15, the commissioner may, by EO, open a commercial pink salmon fishery in an even-numbered year for up to two regular 12-hour fishing periods if the commissioner determines that Kenai and Kasilof river sockeye salmon escapement goals are being achieved and coho salmon run strength is sufficient to withstand additional harvest. The first pink salmon commercial fishing period will occur only if, during regular fishing periods from August 6–10, daily ESSN harvest of pink salmon exceeds 50,000 fish or cumulative harvest is 100,000 or more pink salmon. The second pink salmon commercial fishing period will occur only if 50,000 or more pink salmon, and no more than 2,500 coho salmon, are harvested during the first pink salmon commercial fishing period. During fishing periods opened under this plan, a set gillnet may not have a mesh size greater than four and three-quarters inches and the set gillnet may only be operated 600 ft or greater from the shoreline, while a drift gillnet may not have a mesh size greater than four and three-quarters inches. Fishing with set gillnet gear will only be allowed in the Upper Subdistrict and fishing with drift gillnet gear will only be opened in the Kenai Section of the Upper Subdistrict.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Removing or reducing harvest triggers would increase opportunity to harvest pink salmon in the commercial ESSN fishery in August. This would not only increase harvest of pink salmon, but also increase harvest of king, sockeye, and coho salmon by unknown amount.

BACKGROUND: Pink salmon runs in UCI are even-year dominant and receive little commercial exploitation. A 2002 department study estimated the commercial harvest rate of UCI pink salmon at approximately two percent (Table 123-1). The primary harvesters of pink salmon in UCI are the Central District drift fishery and ESSN fishery. The relatively small harvests are, in part, due to restrictions on fishing time and seasons in these two fisheries. Since the 1990s, the board has implemented various restrictions to the commercial fishery, primarily to conserve king, sockeye, and coho salmon stocks. These restrictions have also resulted in reduced harvests of pink salmon.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

PROPOSAL 125 – 5 AAC 21.354. Cook Inlet Pink Salmon Management Plan.

PROPOSED BY: Kenai Peninsula Fisherman's Association.

WHAT WOULD THE PROPOSAL DO? This would remove the four and three-quarters inch mesh size restriction on both set and drift gillnet gear in the commercial pink salmon fishery.

WHAT ARE THE CURRENT REGULATIONS? The pink salmon management plan states that from August 11–15, the commissioner may, by EO, open a commercial pink salmon fishery in an even-numbered year for up to two regular 12-hour fishing periods if the commissioner determines that Kenai and Kasilof river sockeye salmon escapement goals are being achieved and coho salmon run strength is sufficient to withstand additional harvest. The first pink salmon commercial fishing period will occur only if, during regular fishing periods from August 6–10, daily ESSN harvest of pink salmon exceeds 50,000 fish or cumulative harvest is 100,000 or more pink salmon. The second pink salmon commercial fishing period will occur only if 50,000 or more pink salmon, and no more than 2,500 coho salmon, are harvested during the first pink salmon commercial fishing period. During fishing periods opened under this plan, a set gillnet may not have a mesh size greater than four and three-quarters inches and the set gillnet may only be operated 600 ft or greater from the shoreline, while a drift gillnet may not have a mesh size greater than four and three-quarters inches. Fishing with set gillnet gear will only be allowed in the Upper Subdistrict and fishing with drift gillnet gear will only be opened in the Kenai Section of the Upper Subdistrict. In UCI, the maximum mesh size for gillnets is six inches.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would allow commercial set and drift gillnet fishermen to fish nets with a maximum mesh size of up to six inches during the pink salmon fishery in August; which is the standard mesh size for all gillnets in UCI. It is likely that participation in the pink salmon fishery would increase because fishermen could use their existing gear and would not have to purchase nets or webbing with the current four and three-quarters inch pink salmon mesh size restriction. It is uncertain how larger mesh size would affect harvest of pink salmon. A larger mesh size would likely increase harvest of sockeye, king, and coho salmon during pink salmon fishing periods. An increase in participation would also likely increase harvest of all salmon stocks.

BACKGROUND: Pink salmon runs in UCI are even-year dominant and receive little commercial exploitation. A 2002 department study estimated the commercial harvest rate of UCI pink salmon at approximately two percent (Table 123-1). The primary harvesters of pink salmon in UCI are the Central District drift fishery and the ESSN fishery. The relatively small harvests are, in part, due to restrictions on fishing time and seasons in these two fisheries. Since the 1990s, the board has implemented various restrictions to the commercial fishery, primarily to conserve king, sockeye, and coho salmon stocks. These restrictions have also resulted in reduced harvests of pink salmon.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

PROPOSAL 126 – 5 AAC 21.354. Cook Inlet Pink Salmon Management Plan.

PROPOSED BY: Jeff Beaudoin.

WHAT WOULD THE PROPOSAL DO? This would increase maximum mesh size for set gillnets to five inches and expand the fishing season to August 6–15 in the commercial pink salmon fishery.

WHAT ARE THE CURRENT REGULATIONS? The pink salmon management plan states that from August 11–15, the commissioner may, by EO, open a commercial pink salmon fishery in an even-numbered year for up to two regular 12-hour fishing periods if the commissioner determines that Kenai and Kasilof river sockeye salmon escapement goals are being achieved and coho salmon run strength is sufficient to withstand additional harvest. The first pink salmon commercial fishing period will occur only if, during regular fishing periods from August 6–10, daily ESSN harvest of pink salmon exceeds 50,000 fish or cumulative harvest is 100,000 or more pink salmon. The second pink salmon commercial fishing period will occur only if 50,000 or more pink salmon, and no more than 2,500 coho salmon, are harvested during the first pink salmon commercial fishing period. During fishing periods opened under this plan, a set gillnet may not have a mesh size greater than four and three-quarters inches and the set gillnet may only be operated 600 ft or greater from the shoreline, while a drift gillnet may not have a mesh size greater than four and three-quarters inches. Fishing with set gillnet gear will only be allowed in the Upper Subdistrict and fishing with drift gillnet gear will only be opened in the Kenai Section of the Upper Subdistrict. In UCI, the maximum mesh size for gillnets is six inches.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would also allow five fishing periods per week from August 6–15, opening the fishery five days earlier and allowing up to six additional periods above current regulations. This would increase the harvest of all species of salmon during the pink salmon fishery by an unknown amount, depending on annual abundance.

BACKGROUND: Pink salmon runs in UCI are even-year dominant and receive little commercial exploitation. A 2002 department study estimated the commercial harvest rate of UCI pink salmon at approximately two percent (Table 123-1). The primary harvesters of pink salmon in UCI are the Central District drift fishery and ESSN fishery. The relatively small harvests are, in part, due to restrictions on fishing time and seasons in these two fisheries. Since the 1990s, the board has implemented various restrictions to the commercial fishery, primarily to conserve king, sockeye, and coho salmon stocks. These restrictions have also resulted in reduced harvests of pink salmon.

DEPARTMENT COMMENTS: The department in **NEUTRAL** on this allocative proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Upper Cook Inlet Management Plan (4 Proposals)

PROPOSAL 127 – 5 AAC 21.363. Upper Cook Inlet Salmon Management Plan and 21.360. Kenai Late-Run Sockeye Salmon Management Plan.

PROPOSED BY: Kenai River Sportfishing Association.

WHAT WOULD THE PROPOSAL DO? This provides for two options that would: 1) remove inriver goals from the list of escapement goals in the *Upper Cook Inlet Salmon Management Plan* and 2) realign inriver and escapement goals in the *Kenai River Late-Run Sockeye Salmon Management Plan*. Regarding option 2, the proposal recommends standardizing the upper end of the inriver goal for each tier at 1.5 million sockeye salmon while maintaining the current lower end of inriver goal for each tier.

WHAT ARE THE CURRENT REGULATIONS? The *Upper Cook Inlet Salmon Management Plan* (5 AAC 21.363) states in provision (e) that notwithstanding any other provisions of this chapter, it is the intent of the board that, while in most circumstances the department will adhere to the management plans in this chapter, no provision within a specific management plan is intended to limit the commissioner's use of EO authority under AS 16.05.060 to achieve established escapement goals for the management as the primary management objective. For the purposes of this subsection, "escapement goals" includes inriver goal, BEG, SEG and OEG as defined in 5 AAC 39.222.

The preamble to the *Kenai River Late-Run Sockeye Salmon Management Plan* (a) currently reads, "The department shall manage the Kenai River late-run sockeye salmon stocks primarily for commercial uses based on abundance. The department shall also manage the commercial fisheries to minimize the harvest of Northern District coho, late-run Kenai River king, and Kenai River coho salmon stocks in order to provide personal use, sport, and guided sport fishermen with a reasonable opportunity to harvest salmon resources."

The department manages commercial, sport, and personal use fisheries in the Kenai River to: 1) meet an OEG range of 700,000–1,400,000 late-run sockeye salmon, 2) achieve inriver goals as established by the board and measured at the Kenai River sonar counter located at river mile 19, and 3) to distribute escapement of sockeye salmon evenly within the OEG range, in proportion to the size of the run.

Based on preseason forecasts and inseason projections of the Kenai River late-run sockeye salmon return, the fishery will be managed as follows: at run strengths of less than 2,300,000 sockeye salmon, the department shall manage for an inriver goal range of 900,000–1,100,000 sockeye salmon past the sonar counter at river mile 19; at run strengths of 2,300,000–4,600,000, the department shall manage for an inriver goal range of 1,000,000–1,200,000 sockeye salmon past the sonar counter; at run strengths greater than 4,600,000, the department shall manage for an inriver goal range of 1,100,000–1,350,000 sockeye salmon past the sonar counter.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would not allow the department to deviate from a management plan in order to achieve an inriver goal. If the upper end of all the inriver goal ranges were changed to 1.5 million fish, this may result in

a decrease in the commercial harvest of king, sockeye, and coho salmon, and may result in an increase in sockeye salmon passage and escapement in the Kenai River. Especially for Kenai River sockeye salmon runs in the bottom two tiers (run strength less than 2.3 million and 2.3 million–4.6 million). This may also decrease the chance of inriver restrictions during runs in the bottom two tiers.

BACKGROUND: The *Upper Cook Inlet Salmon Management Plan* was first passed by the board in 1978. The plan changed little between 1981 and 1998. That plan set priorities for management by time period in UCI. Prior to July 1, UCI was managed primarily for use by sport anglers, with certain exceptions; from July 1 to August 15, primarily for commercial purposes with certain exceptions; and after August 15, for a mixture of purposes depending on area.

The plan states that the department should receive long-term direction in management of UCI salmon stocks and salmon species. Divisions within the department must receive long-term direction in order to accomplish their missions, and plan management, research, administrative, and other programs. Likewise, stakeholders should be informed of long-term management objectives of the board. Thus, the board established provisions for the management and conservation of UCI salmon stocks. The *Upper Cook Inlet Salmon Management Plan* confirms that, consistent with statutory priority for subsistence, harvest of UCI salmon for customary and traditional uses will be provided. It also recognizes, in section (e), the commissioner's EO authority under AS 16.05.060 to achieve established escapement goals as the primary objective of all management plans, and therefore, no provision within a specific management plan is intended to interfere with that objective.

The escapement and inriver goals for Kenai River sockeye salmon have undergone numerous changes through time (Table 127-1). From 1978–1986, the escapement goal for Kenai River sockeye salmon was technically an inriver goal, since department escapement goal reports completed at the time referred to it as an escapement goal measured at the Kenai River sonar site. Since 1999, the inriver goal has been used to provide sockeye salmon to the inriver sport fishery and distribute escapements throughout the OEG range.

In 1999, the following management principles were also adopted: "The Kenai River late-run sockeye salmon commercial, sport, and personal use fisheries shall be managed to: meet an OEG range of 500,000–1,000,000 late-run sockeye salmon; achieve inriver goals as established by the board and measured at the Kenai River sonar counter located at river mile 19; and distribute the escapement of sockeye salmon evenly within the OEG range, in proportion to the size of the run." Finally, in 1999, the three-tiered abundance-based inriver goals for Kenai River sockeye salmon were adopted. The tiers were originally set at less than 2 million; 2 million to 4 million; and greater than 4 million fish.

The 1999 goals were based on Bendix sonar counts. The upper end of the OEG range was set at 1,000,000 sockeye salmon in response to a risk analysis that showed that spawning escapement in excess of 1,000,000 fish increased the risk, or probability, of lower returns. The upper end of the inriver goal for large runs was set at 100,000 fish above the upper OEG bound. This was done because the smallest harvest observed in the sport fishery above the sockeye salmon sonar counter was 100,000 fish. By setting the upper end of the inriver goal range at 1,100,000 fish, the

upper end of the OEG range of 1,000,000 fish would not be exceeded. In addition, the three levels or tiers of inriver goals were established to spread escapements evenly throughout the range of both the BEG/SEG and OEG over time, based upon abundance of Kenai River late-run sockeye salmon and in compliance with the *Policy for the management of sustainable salmon fisheries* (5 AAC 39.222).

Currently, the only inriver goals in UCI are the three late-run Kenai River sockeye salmon inriver goals defined in the *Kenai River Late-Run Sockeye Salmon Management Plan*.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. .

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 127-1.–History of Kenai River late-run sockeye salmon escapement goals.

Kenai River sockeye salmon goal changes			
Year	BEG/SEG	Inriver	OEG
1969		150,000	
1972		150,000–250,000	
1978	350,000–500,000	350,000–500,000	
1987	330,000–600,000	400,000–700,000	330,000–600,000
1995		450,000–700,000	
1996	330,000–600,000	550,000–800,000	330,000–600,000
1997	330,000–600,000	550,000–825,000	330,000–600,000
1998	330,000–600,000	550,000–850,000	330,000–600,000
1999	500,000–800,000	600,000–1,100,000[a]	500,000–1,000,000
2005	500,000–800,000	650,000–1,100,000[a]	500,000–1,000,000
2011	700,000–1,200,000	900,000–1,350,000[a]	700,000–1,400,000
2014	700,000–1,200,000	900,000–1,350,000[a]	700,000–1,400,000

[a] Inriver goal is set at one of three tiers depending upon total run size.

PROPOSALS 128 and 129 – 5 AAC 21.363. Upper Cook Inlet Salmon Management Plan.

PROPOSED BY: Central Peninsula Fish and Game Advisory Committee (proposal 128) and United Cook Inlet Drift Association (proposal 129).

WHAT WOULD THESE PROPOSALS DO? These proposals would amend the management plan to prioritize the need to harvest all surplus salmon stocks and to maximize economic yield and the overall benefits from salmon stocks managed under the plan.

WHAT ARE THE CURRENT REGULATIONS? The *Upper Cook Inlet Salmon Management Plan* (5 AAC 21.363) outlines guiding principles for the management of UCI salmon stocks and species for use by the board, department, and public. It states that the department should receive long-term direction in management of UCI salmon stocks and salmon species. Divisions within the department must receive long-term direction in order to accomplish their missions, and plan management, research, administrative, and other programs. Stakeholders should be informed of the long-term management objectives of the board. Under this, the board established provisions for the management, allocation, and conservation of UCI salmon stocks. The *Upper Cook Inlet Salmon Management Plan* confirms that, consistent with the statutory priority for subsistence, the harvest of UCI salmon for customary and traditional uses will be provided. It also recognizes, in section (e), the commissioner's EO authority under AS 16.05.060 to achieve established escapement goals as the primary objective of all management plans, and therefore, no provision within a specific management plan is intended to interfere with that objective.

WHAT WOULD BE THE EFFECT IF THESE PROPOSALS WERE ADOPTED? The effects of these proposals are unclear. The department would continue to follow the suite of commercial and noncommercial management plans that guide the department in managing salmon fisheries in UCI. The department would also continue to use its EO authority, in section (e) to achieve established escapement goals in UCI as the primary management objective.

BACKGROUND: The *Upper Cook Inlet Salmon Management Plan* was first passed by the board in 1978. The plan changed little between 1981 and 1998. That plan set priorities for management by time period in UCI. Prior to July 1, UCI was managed primarily for use by sport anglers, with certain exceptions; from July 1 to August 15, primarily for commercial purposes with certain exceptions; and after August 15, for a mixture of purposes depending on area.

The plan states that the department should receive long-term direction in management of UCI salmon stocks and salmon species. Divisions within the department must receive long-term direction in order to accomplish their missions, and plan management, research, administrative, and other programs. Likewise, stakeholders should be informed of the long-term management objectives of the board. Thus, the board established provisions for the management and conservation of UCI salmon stocks. The *Upper Cook Inlet Salmon Management Plan* confirms that, consistent with the statutory priority for subsistence, the harvest of UCI salmon for customary and traditional uses will be provided. It also recognizes, in section (e), the commissioner's EO authority under AS 16.05.060 to achieve established escapement goals as the primary objective of all management plans, and therefore, no provision within a specific management plan is intended to interfere with that objective.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on these allocative proposals. These proposals request changes to sections of the *Upper Cook Inlet Salmon Management Plan* relating to factors the board will or must consider and address is adopting specific management plans, and as such are unlikely to directly change the department's approach to managing UCI salmon fisheries, unless adoption of one or both of these proposals triggers subsequent board amendment of other UCI management plans. Proposal language "maximize the economic yield" and "overall benefits" is problematic for the department because it is unclear how maximum economic yield and overall benefits would be defined as reference points and estimated on an annual basis.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

PROPOSAL 130 – 5 AAC 21.363. Upper Cook Inlet Salmon Management Plan.

PROPOSED BY: David Hillstrand.

WHAT WOULD THE PROPOSAL DO? This would amend the *Upper Cook Inlet Salmon Management Plan* so that within a specific management plan, fishery restrictions on fully allocated stocks of concern are shared among all user groups in proportion to the respective user group harvest of that stock.

WHAT ARE THE CURRENT REGULATIONS? The *Upper Cook Inlet Salmon Management Plan* (5 AAC 21.363) outlines guiding principles for the management of UCI salmon stocks and species for use by the board, department, and public. It states that the department should receive long-term direction in management of UCI salmon stocks and salmon species. Divisions within the department must receive long-term direction in order to accomplish their missions, and plan management, research, administrative, and other programs. Stakeholders should be informed of the long-term management objectives of the board. Under this, the board established provisions for the management, allocation, and conservation of UCI salmon stocks. The *Upper Cook Inlet Salmon Management Plan* confirms that, consistent with the statutory priority for subsistence, the harvest of UCI salmon for customary and traditional uses will be provided. It also recognizes in section (e) the commissioner's EO authority under AS 16.05.060 to achieve established escapement goals as the primary objective of all management plans, and therefore, no provision within a specific management plan is intended to interfere with that objective. There are no harvest allocations specified in regulation for salmon fisheries in UCI.

The *Policy for the management of mixed stock salmon fisheries* (5 AAC 39.220)(b)(6) states that "it is the intent of the board that, in the absence of a specific management plan, where there are known conservation problems, the burden of conservation shall, to the extent practicable, be shared among all user groups in close proportion to their respective harvest on the stock of concern."

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It is not anticipated that there would be additional management effects if this proposal were adopted, as most of the specific provisions for management of the various fisheries are placed into individual management plans specific to each fishery. Management plans and regulations for UCI were developed through the board process with significant public input. The board also took into account allocation and shared burden of conservation among users when developing these plans and regulations. The department relies on these management plans and use of its EO authority to manage all fisheries in UCI to achieve escapement goals. When adopting or modifying specific management plans that apply in Cook Inlet, future board action would be guided by the proposed principle. In the absence of this principle, statewide guidance, such as found in the *Policy for the management of sustainable salmon fisheries* (5 AAC 39.222), would continue to apply.

BACKGROUND: The *Upper Cook Inlet Salmon Management Plan* was first passed as a policy by the board in 1978. The plan changed little between 1981 and 1998. The plan initially set priorities for management by time period in UCI. Prior to July 1, UCI salmon fisheries were managed primarily for use by sport anglers, with certain exceptions; from July 1 to August 15,

primarily for commercial purposes, with certain exceptions; and after August 15, for a mixture of purposes depending on area; however, this portion of the plan was modified in 1999 in favor of a set of criteria that the board should consider prior to adopting management plans. Section (e) of the plan was adopted in 2005, and the plan has changed little since.

It should be noted there is a suite of management plans that guide the department in managing salmon fisheries in UCI. These plans have been developed through the board process with significant public input. These plans are structured around migratory timing and abundance of various salmon stocks as they move through UCI. Opening dates of these fisheries allow harvests of salmon throughout the run, while allowing adequate fish passage to spawning grounds to provide sustained yields.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. Direction on how to manage various UCI salmon fisheries is provided in management plans and regulations.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

West Cook Inlet Salmon (1 Proposal)

PROPOSAL 142 – 5 AAC 21.350. Closed waters.

PROPOSED BY: Mark Glassmaker.

WHAT WOULD THE PROPOSAL DO? This would close waters within one statute mile of the terminus of Kustatan, Drift, and Big rivers, and Bachatna Creek; as measured from mean lower low water, to commercial fishing.

WHAT ARE THE CURRENT REGULATIONS? 5 AAC 21.350(b)(6) lists specific waters closed to commercial salmon fishing along the west side of Cook Inlet (Figure 142-1). Waters closed to commercial salmon fishing in this area generally range from 900 feet of the streambed of any stream to one mile from the stream terminus of any stream. There are also specific areas along the west side that are closed to set gillnetting that may overlap with closed waters (5 AAC 21.330(b)(3)(A); Figure 142-1). Current regulations (5 AAC 21.350(i) and 5 AAC 39.290(a)) also close waters within 500 yards of a salmon stream. In addition, commercial salmon fishing is prohibited within the fresh waters of streams and rivers of the state, and over the beds or channels of fresh waters of streams and rivers of the state during all stages of the tide.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It would reduce areas currently open to commercial fishing on the west side of Cook Inlet and reduce commercial harvest of salmon by an unknown amount. This specifies that closed waters be measured from mean lower low water, not mean high tide, as is currently done at Kustatan and Drift rivers. There are extensive tide flats in these areas, which may stretch for miles, and the proposal would potentially close a large portion of these areas if measured from mean lower low tide and not mean high tide. This also increases the closed waters area from 500 yards (1,500 feet) to one statute mile. This may also impact shore fisheries leases in this area of Cook Inlet, placing them in closed waters.

BACKGROUND: The board considered a closed waters proposal for the Kustatan and Drift rivers, and Bachatna and Packers creeks in 2005. In 2005, the proposal would have changed closed waters descriptions for the Kustatan and Drift rivers sections to be one mile from mean lower low water, but was not adopted by the board. In 2014, the board also considered a proposal to close waters to commercial fishing within one statute mile of the terminus of anadromous fish streams on the west side of the Central District including the Kustatan, Drift, and Big rivers, and Bachatna Creek. The board did not pass the proposal in 2014.

The board also considered and adopted a new definition of closed waters (5 AAC 39.290) and salmon stream (5 AAC 39.975) at the 2013 Statewide Finfish and Supplemental Issues board meeting. The board changed the definition because there was confusion on how closed waters were defined and enforced by AWT. The new definition prohibits commercial fishing in waters within 500 yards of a salmon stream. The department and board have also regularly updated 5 AAC 21.350, which lists waters closed to commercial fishing in UCI.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. This proposal would unnecessarily close waters currently open to commercial fishing. Existing regulations provide adequate protections around the terminus of salmon streams to ensure escapements are achieved. The department is **NEUTRAL** on the allocative aspects of this proposal.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

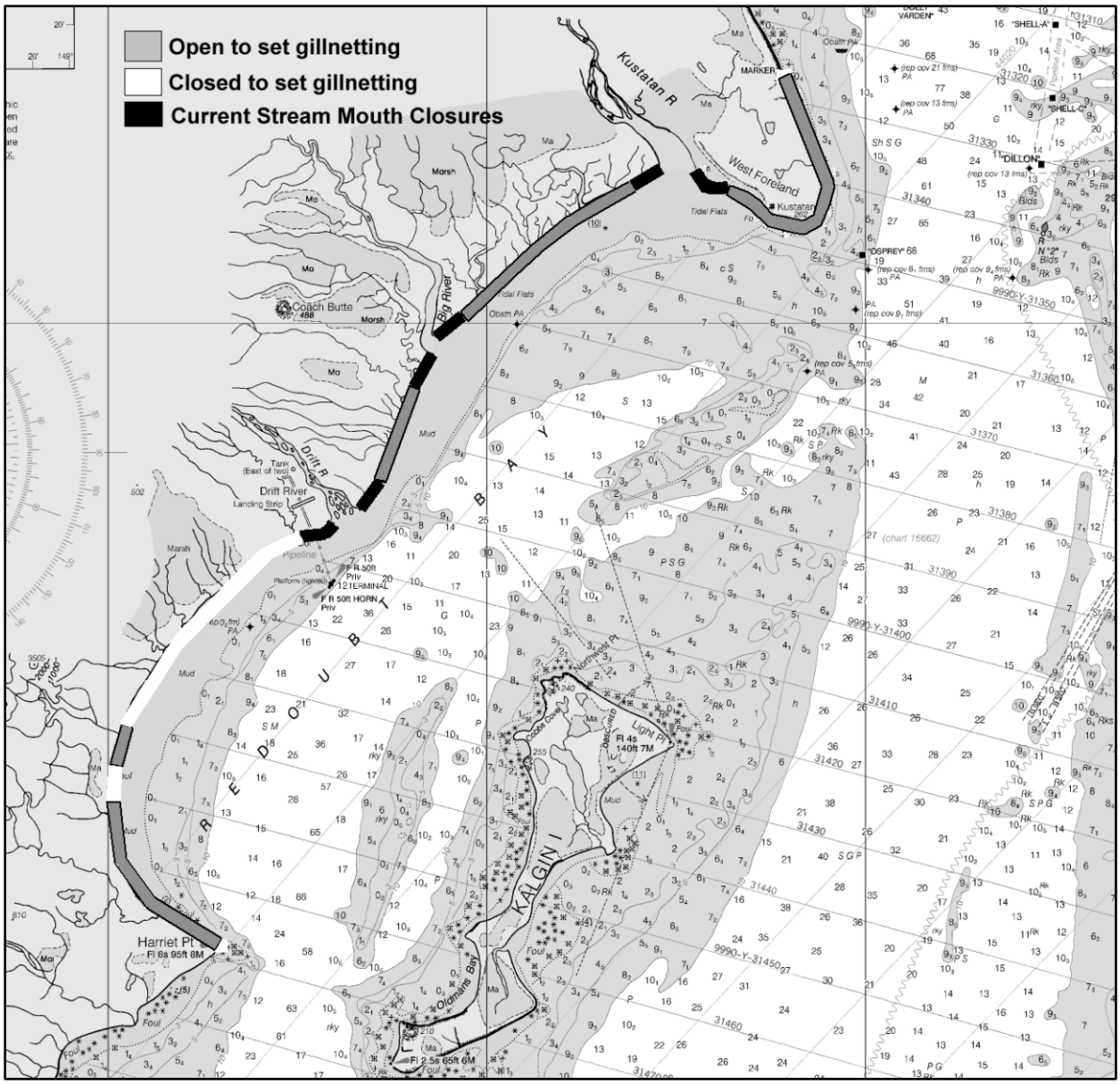

Figure 142-1.–Map of the west side of Cook Inlet showing areas of beach open and closed to set gillnetting from the northern boundary of the Central District to Harriet Point.

Cook Inlet Smelt (1 Proposal)

PROPOSAL 143 – 5 AAC 21.505. Cook Inlet Smelt Fishery Management Plan.

PROPOSED BY: Teague Vanek.

WHAT WOULD THE PROPOSAL DO? This would increase the amount of smelt that may be taken in the Cook Inlet commercial smelt fishery from 100 to 200 tons annually.

WHAT ARE THE CURRENT REGULATIONS? The commercial smelt fishery is prosecuted under 5 AAC 21.505. *Cook Inlet Smelt Fishery Management Plan* and only under the conditions of a commissioner's permit. This fishery is allowed in salt water only, from May 1 to June 30, specifically in that area of Cook Inlet from the Chuitna River to the Little Susitna River and in the Susitna River south of 61° 21.50′ N. lat. (Figure 143-1). Legal gear for the fishery is limited to a hand-operated dip net, as defined in 5 AAC 39.105, with the total harvest not to exceed 100 tons of smelt. Any salmon caught during the fishery are to be immediately returned to the water unharmed. To participate in this fishery, a miscellaneous finfish permit is required, as well as a commissioner's permit, which can be obtained from the department office in Soldotna.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It would double the harvest cap of smelt in UCI. While it is unlikely this additional harvest would affect the productivity of smelt returning to the Susitna River, the department has not quantitatively assessed smelt returning to UCI, nor does the department have information relating to how removal of an additional 100 tons of smelt annually would affect populations of smelt predators in UCI.

BACKGROUND: Smelt return to many of the larger river systems in UCI, with particularly large runs to the Susitna and Kenai rivers. Both longfin smelt and eulachon (referred to as smelt and often identified as hooligan) are documented in Cook Inlet. Smelt begin returning to spawning areas in Cook Inlet generally from mid-May to mid-June and return in quantities large enough to support a limited commercial fishery. Longfin smelt return to Cook Inlet in the fall of the year and are not targeted because of their small run size.

From 1978–2016, commercial smelt harvests in UCI ranged from 300 pounds to 100.8 tons (Table 143-1). In 2016, six people obtained commissioner's permits enabling them to participate in the fishery, with four CFEC permit holders reporting harvests on fish tickets. The total smelt harvest in UCI in 2016 was approximately 95.7 tons. The amount of smelt harvested in this fishery is limited by market demand and the logistics of transporting harvest to a location where the smelt can be processed (boxed and frozen) prior to shipment, rather than abundance of fish.

Prior to adoption of 5 AAC 39.212. *Forage Fish Management Plan*, the entire UCI area was open to smelt fishing from October 1 to June 1. The only documented commercial harvests of smelt occurred in 1978 (300 pounds), 1980 (4,000 pounds), 1998 (18,900 pounds), and 1999 (100,000 pounds). Prior to 1998, fishermen were mistakenly advised that gillnets were the only legal gear for the harvest of smelt. Because primary markets at the time required undamaged fish for bait or marine mammal food, this harvest method was unacceptable. When the interpretation

of the regulation was reviewed in 1998, and subsequently changed to allow dip nets to be used, the 1999 harvest increased to 100,000 pounds, which was the harvest cap at the time. All harvests occurred in salt water near the Susitna River.

At the 1998 board meeting, the commercial smelt fishery was closed, but the regulation did not take effect until after the 1999 season. In 2000, as part of its draft Forage Fish Management Plan, the department recommended smelt fishing be restricted to the General Subdistrict of the Northern District. Legal gear would be dip nets only, which had the benefit of eliminating the harvest of non-target species. The area opened to fishing was designed to target Susitna River smelt stocks. In this draft policy, the department recommended that active forage fish fisheries be allowed to take place in a tightly controlled and closely monitored manner through the use of a commissioner's permit, while not allowing any "new" fisheries to develop. The intent was to allow an active, low-level fishery to continue. However, when the board adopted the current Forage Fish Management Plan, they chose to close the entire commercial smelt fishery. At the 2005 board meeting, proposals were submitted to reopen the fishery, which the board accepted, reauthorizing a commercial smelt fishery beginning with the 2005 season.

The Cook Inlet Beluga Whale Recovery Plan states the need to ensure fishery management adequately accommodates Cook Inlet beluga whale prey requirements. Smelt are a known prey species of Cook Inlet beluga whales, but the amount of smelt needed by beluga whales is unknown.

In 2016, the department started the first year of a three year study to quantitatively assess smelt returning to the Susitna River. A memo will be provided the board on the preliminary adult biomass estimate of smelt that entered the Susitna River in 2016. The second and third years of the study are pending acceptance of a grant, which will not be known until March 2017. The department will have the results of that study prior to the 2019 smelt fishery.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. The department considers the current cap of 100 tons to be sustainable based on performance of the fishery and reports of large numbers of smelt migrating up the Susitna River.

COST ANALYSIS: Approval of this proposal is not expected to result in an additional direct cost for a private person to participate in this fishery.

Table 143-1.–Commercial harvest of smelt, 1978, 1980, 1998–1999, and 2006–2016.

Year	Pounds	Tons	Permits
1978	300	0.2	
1980	4,000	2	
1998	18,610	9.3	2
1999	100,000	50	
2006	90,783	45.4	8
2007	125,044	62.5	11
2008	127,365	63.7	6
2009	78,258	39.1	6
2010	126,135	63.1	3
2011	201,570	100.8	5
2012	195,910	98.0	4
2013	190,830	95.4	4
2014	198,814	99.4	4
2015	213,934	107.0	4
2016	191,396	95.7	4

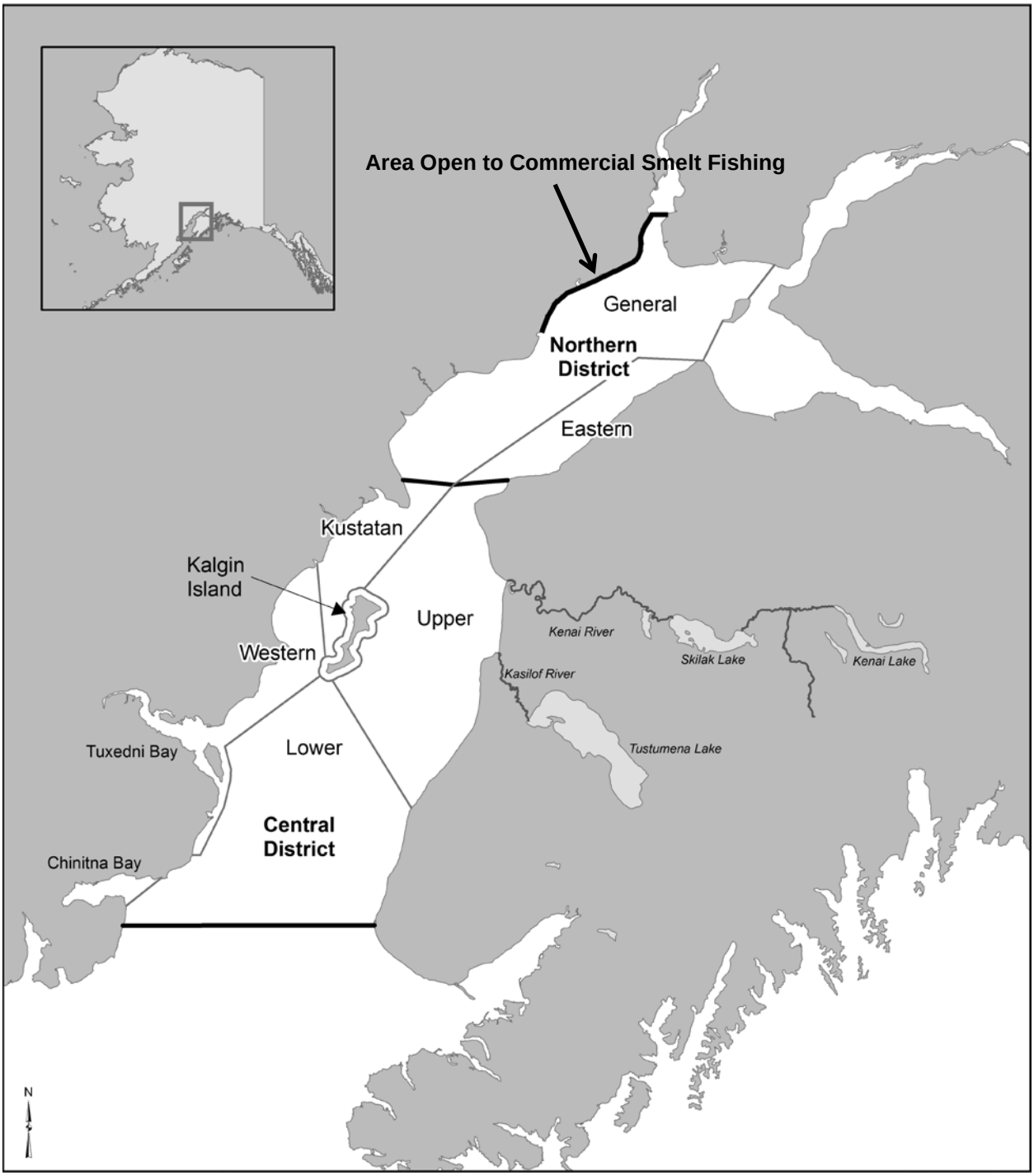

Figure 143-1.–Map of area open to commercial smelt fishing in UCI.