

ALASKA DEPARTMENT OF FISH AND GAME

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

UPPER COOK INLET FINFISH

ALASKA BOARD OF FISHERIES MEETING
ANCHORAGE, ALASKA

February 7-20, 2020



Regional Information Report No. 2A20-01

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 7-20, 2020 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

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Weights and measures (metric)		General		Acronyms	
centimeter	cm	Alaska Administrative Code		Acceptable Biological Catch	ABC
deciliter	dL		AAC	Alaska Board of Fisheries	board
gram	g	all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.	Alaska Department of Fish and Game	department /ADF&G
hectare	ha				
kilogram	kg	all commonly accepted		Amount Necessary for	
kilometer	km	professional titles	e.g., Dr., Ph.D., R.N., etc.	Subsistence	ANS
liter	L			Alaska Wildlife Troopers	AWT
meter	m	at	@	Biological Escapement Goal	BEG
milliliter	mL	compass directions:		Central Gulf of Alaska	CGOA
millimeter	mm	east	E	Coded Wire Tag	CWT
		north	N	Commercial Fisheries Entry	
		south	S	Commission	CFEC
		west	W		
		copyright	©	Cook Inlet Aquaculture	
		corporate suffixes:		Association	CIAA
		Company	Co.	Customary and Traditional	C&T
		Corporation	Corp.	Department of Natural	
		Incorporated	Inc.	Resources	DNR
		Limited	Ltd.	Demersal Shelf Rockfish	DSR
		District of Columbia	D.C.	Emergency Order	EO
		et alii (and others)	et al.	Guideline Harvest Level	GHL
		et cetera (and so forth)	etc.	Gulf of Alaska	GOA
		exempli gratia		Global Positioning System	GPS
		(for example)	e.g.	Individual Fishing Quota	IFQ
		Federal Information		Local Area Management Plan	LAMP
		Code	FIC	Lower Cook Inlet	LCI
		id est (that is)	i.e.	Mean Low Water	MLW
		latitude or longitude	lat or long	Mean Lower Low Water	MLLW
		monetary symbols		No Data	ND
		(U.S.)	\$, ¢	National Marine Fisheries	
		months (tables and figures): first three	Jan,...,Dec	Service	NMFS
		letters			
		registered trademark	®	National Oceanic and	
		trademark	™	Atmospheric Administration	NOAA
		United States		Nick Dudiak Fishing Lagoon	NDFL
		(adjective)	U.S.	North Pacific Fishery	
		United States of		Management Council	NPFMC
		America (noun)	USA	Optimum Escapement Goal	OEG
		U.S.C.	United States Code	Pelagic Shelf Rockfish	PSR
				Prince William Sound	PWS
		U.S. state	use two-letter abbreviations (e.g., AK, WA)	Prior Notice of Landing	PNOL
				Private Nonprofit Salmon	
				Hatchery	PNP
				River Mile	RM
				Special Harvest Area	SHA
				Sustainable Escapement Goal	SEG
				Trail Lakes Hatchery	TLH
				Upper Cook Inlet	UCI
				Western Gulf of Alaska	WGOA

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ANCHORAGE, ALASKA**

FEBRUARY 7–20, 2020

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

January 2020

ABSTRACT

This document contains Alaska Department of Fish and Game (department) staff comments on commercial, personal use, sport, and subsistence regulatory proposals for the Upper Cook Inlet finfish. These comments were prepared by the department for use at the Alaska Board of Fisheries meeting, February 7–20, 2020, 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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Summary of department positions on regulatory proposals for Upper Cook Inlet finfish; Anchorage, February 7–20, 2020.

Proposal number	Department position	Issue
88	N	Amend the <i>Kenai River Late-Run Sockeye Salmon Management Plan</i> to increase inriver goal ranges.
102	N	Amend the <i>Kenai River Late-Run Sockeye Salmon Management Plan</i> to manage for the lower bound of the sustainable escapement goal and replace inriver goals with allocation ranges.
90	N	Amend the <i>Kenai River Late-Run Sockeye Salmon Management Plan</i> to manage primarily for sport, personal use and guided sport anglers; increase the sustainable escapement goal; and limit commercial fishing periods.
96	N	Increase the <i>Kenai River sockeye salmon</i> sustainable escapement and inriver goals, increase sockeye salmon bag and possession limits, and pair closures.
92	N	Reduce the <i>Kenai River late-run sockeye salmon</i> sustainable escapement goal range to 450,000–750,000 salmon.
91	N	Lower the <i>Kenai River Late-Run Sockeye Salmon</i> sustainable escapement goal.
103	N	Make numerous amendments to the <i>Kenai River Late-Run Sockeye Salmon Management Plan</i> .
98	N	Establish an annual limit for the <i>Kenai River sockeye salmon</i> sport fishery.
89	N	Amend the <i>Kenai River Late-Run Sockeye Salmon Management Plan</i> to manage primarily for sport, personal use and guided sport anglers and increase the sustainable escapement goal range to 1,300,000-1,750,000 salmon.
100	N	Amend the <i>Kenai River Late-Run Sockeye Salmon Management Plan</i> to open commercial fishing periods to stay within ten percent of daily inseason run projections.
97	N	Create sport and personal use allocations of sockeye on the <i>Kenai and Kasilof Rivers</i> .
101	N	Amend the preamble to the <i>Kenai River Late-Run Sockeye Salmon Management Plan</i> by removing minimize language and adding a provision for common property fishery harvest.
95	N	Amend the <i>Kenai River Late-Run Sockeye Salmon Management Plan</i> to remove and replace the provision to manage for commercial uses with a provision to manage for commercial, sport, and personal use groups.
99	N	Establish mandatory closed inriver fishing windows for sockeye salmon.
94	N	Implement an additional 24-hour closure in the Upper Subdistrict set gillnet fishery at run strengths greater than 4,600,000 <i>Kenai River sockeye salmon</i> .
133	N	Amend the <i>Central District Drift Gillnet Fishery Management Plan</i> with additional mandatory area restrictions to regular fishing periods.
123	N	Rename Drift Gillnet Area 2 to the "Conservation and Northern District Allocation Sanctuary Area".
126	N	Close the Central District drift gillnet fishery corridor.
135	N	Allow one additional regular fishing period in the Central District drift gillnet fishery July 24–31.

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

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Summary of department positions on regulatory proposals (Page 2 of 4).

134	N	Add Drift Gillnet Area 1 to the list of sections that are allowed to be fished during additional fishing time July 16–31 in the <i>Central District Drift Gillnet Fishery Management Plan</i> .
132	N	Remove restrictions to the drift gillnet fishery so that the fishery would occur during two inlet-wide fishing periods per week.
125	N	Amend the <i>Central District Drift Gillnet Fishery Management Plan</i> and include inseason assessments.
131	N	Remove restrictions to the drift gillnet fishery so that the fishery would occur during two inlet-wide fishing periods per week.
129	N	Allow the commissioner to limit Central District drift gillnets to less than 150 and 200 fathoms in length and 29 meshes in depth.
82	N/O	Allow two regular 12-hour commercial fishing periods per week.
128	N	Amend the <i>Central District Drift Gillnet Fishery Management Plan</i> to remove the provision to minimize the harvest of Northern District and Kenai River coho salmon and add a provision for reasonable opportunity for common property fishery harvest.
124	N	Amend the purpose of the <i>Central District Drift Gillnet Fishery Management Plan</i> to include inriver users.
195	N	Amend the Upper Subdistrict set gillnet one percent rule to a two percent rule beginning July 31 instead of August 7.
194	N	Amend the one percent rule to a three percent rule for both Upper Subdistrict set and Central District drift gillnet fisheries.
193	N	Amend the one percent rule to a three percent rule beginning August 1 in Cook Inlet Area subdistricts.
192	N	Amend the one percent rule in the Upper Subdistrict set gillnet fishery to apply starting July 31 instead of August 7.
186	N	Eliminate the one percent rule in both Upper Subdistrict set and Central District drift gillnet fisheries.
190	N	Eliminate the one percent rule in the Upper Subdistrict set gillnet fishery.
191	N	Eliminate the one percent rule in the Upper Subdistrict set gillnet fishery.
188	N	Eliminate the drift gillnet one-percent rule.
189	N	Eliminate the one percent rule in the Central District drift gillnet fishery.
187	N	Eliminate the one percent rule in the Central District drift gillnet fishery and create mandatory area restrictions based on escapement goals.
178	N	Permanently close drift gillnetting in the Upper Subdistrict within one mile of mean high tide north of the Kenai River and within one and one-half miles of mean high tide south of the Kenai River.
180	N	Allow regular weekly fishing periods after August 15 in the Upper Subdistrict sockeye salmon set gillnet fishery based on abundance.
179	N	Extend the commercial salmon fishery season closing date in the Kenai and East Forelands Sections August 15 – September 15.
183	N	Extend the Upper Subdistrict commercial set gillnet season to August 20.
181	N	Delay all Upper Cook Inlet set and Central District drift gillnet commercial fishing opening dates.
154	N	Increase limits for Kenai River coho salmon from two to three fish.
153	N	Increase the bag limit for the Kenai River coho salmon sport fishery to three fish July 1 – August 31.

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

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Summary of department positions on regulatory proposals (Page 3 of 4).

142	N	Create a commercial set gillnet fishery for coho salmon in the Upper Subdistrict.
218	N	Create an optimal escapement goal for McRoberts Creek coho salmon of 450-1,400 fish.
226	O	Require retention of coho salmon caught in the Little Susitna River sport fishery.
136	N	Open two additional inlet-wide fishing periods per week between July 24 and August 15 in even-numbered years.
137	O	Repeal and readopt the <i>Cook Inlet Pink Salmon Management Plan</i> to manage for commercial priority and 40–70% exploitation rate.
242	N	Allow two additional fishing days per week in the Upper Yentna River subsistence salmon fishery.
243	N	Allow the harvest of other salmon in place of king salmon in the Tyonek Subdistrict subsistence fishery.
234	N	Create a personal use salmon dipnet fishery on the Susitna River.
238	N	Create a personal use dip net fishery in Unit 1 of the Susitna River Drainage.
235	N	Create a lower Susitna River personal use dip net fishery.
237	N	Create a Susitna River personal use dip net fishery.
236	N	Create a Susitna River personal use dip net fishery.
173	N	Reduce the annual limit for the Kenai River dip net fishery and create tiered harvest quotas.
93	N	Manage the personal use dip net fishery on the lower Kenai River subject to achieving the inriver goal.
87	N	Eliminate the personal use salmon dip net fishery and prohibit catch and release fishing for salmon in the Kenai Peninsula area.
113	N	Establish paired restrictions to close personal use fisheries when commercial fisheries are closed.
145	N	Allow sport, personal use, and subsistence fishing for sockeye salmon on the Kenai River until August 15.
172	N	Limit personal use dipnetting on the Kenai River by day of the week.
170	N	Move the ADF&G regulatory marker for personal use dipnetting on the Kasilof River north shore beach.
174	N	Prohibit set gillnets in the personal use salmon fishery if the king salmon sport fishery in the Kenai or Kasilof Rivers is restricted.
163	N	Prohibit guiding in the Kenai and Kasilof Rivers personal use dip net fishery.
240	O	Create a personal use northern pike gillnet fishery in the Susitna River drainage.
239	O	Establish a personal use northern pike gillnet fishery in the Mat-Su valley.
127	N	Amend the <i>Central District Drift Gillnet Fishery Management Plan</i> to allocate 60-80% of northern-bound sockeye and coho salmon harvests to Northern Cook Inlet fisheries.
241	S	Establish provisions for the personal use of aquatic plants in the Anchorage-Matsu-Kenai Nonsubsistence Area.
78	N	Amend the <i>Upper Cook Inlet Salmon Management Plan</i> to include weighted criteria for the allocation of fishery resources.

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

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Summary of department positions on regulatory proposals (Page 4 of 4).

79	N	Establish a personal use priority for Cook Inlet salmon fisheries.
104	N	Adopt an optimal escapement goal and amend the paired restrictions in the <i>Kenai River Late-Run King Salmon Management Plan</i> .
114	N	Modify the <i>Kenai River Late-Run King Salmon Management Plan</i> .
105	O	Increase the Kenai River late-run king salmon sustainable escapement goal range to 15,000-35,000 salmon.
106	O	Increase the Kenai River late-run king salmon sustainable escapement goal range to 15,000–35,000 salmon.
116	O	Limit sport fisheries for king salmon on the Kenai River based on inseason abundance.
108	N	Reduce the number of hours the Upper Subdistrict set gillnet commercial fishery may be fished in the <i>Kenai River Late-Run King Salmon Management Plan</i> paired restrictions.
111	N	Remove “paired” restrictions in the Upper Subdistrict set gillnet fishery.
149	O	Prohibit catch and release fishing for king salmon on the Kenai River.
171	N	Reduce the Kenai River personal use bag limit for king salmon to one salmon less than 36” in length.
196	N	Remove mandatory closed fishing periods or "windows" in the Upper Subdistrict set gillnet fisheries.
80	N/O	Prohibit retention of king salmon greater than 36” in the Upper Cook Inlet commercial gillnet fisheries.
84	N	Clarify the requirement of immediately releasing king salmon over 20 inches.
107	S	Allow the use of bait and modify maximum size above Slikok Creek when the escapement goal range is projected to be exceeded.
110	N	Modify "paired" restrictions to limit gear in the Upper Subdistrict set gillnet fishery only when retention of king salmon is prohibited in the Kenai River sport fishery.
112	N	Remove gear restrictions in the Upper Subdistrict commercial set gillnet fishery when the use of bait is prohibited in the sport fishery.
109	N	Allow set gillnet fishing periods in the Kenai and Kasilof sections to be managed independently when under “paired” restrictions.
115	O	Allow the use of bait in the Kenai River king salmon sport fishery when the fishery is restricted to catch and release.

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 (15 PROPOSALS)

Kenai River Late-Run Sockeye Salmon Management Plan (15 Proposals)

PROPOSAL 88 – Increase Kenai River sockeye salmon inriver goal ranges.

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

PROPOSED BY: Kenai River Sportfishing Association.

WHAT WOULD THE PROPOSAL DO? This would amend the *Kenai River Late-Run Sockeye Salmon Management Plan* to increase inriver goal ranges as follows:

Run strength	Old Inriver Goal	New Inriver Goal
< 2.3 mil	900,000 – 1,100,000	1,000,000 – 1,400,000
2.3-4.6 mil	1,000,000 – 1,300,000	1,200,000 – 1,600,000
> 4.6 mil	1,100,000 – 1,500,000	1,400,000 – 1,800,000
> 5.0 mil	na	1,400,000 – 2,000,000 ^a

^a*Proposed OEG for runs greater than 5 million.*

WHAT ARE THE CURRENT REGULATIONS? The *Kenai River Late-Run Sockeye Salmon Management Plan* (5 AAC 21.360 (b)) states that Kenai River late-run sockeye salmon commercial, sport, and personal use fisheries shall be managed to: 1) meet the sustainable escapement goal (SEG) range of 700,000–1,200,000 late-run sockeye salmon, 2) achieve inriver goals as established by the board and measured at the Kenai River sonar counter located at RM 19, and 3) distribute escapement of sockeye salmon evenly within the SEG 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 RM 19; at run strengths of 2,300,000–4,600,000, the department shall manage for an inriver goal range of 1,000,000–1,300,000 sockeye salmon; at run strengths greater than 4,600,000, the department shall manage for an inriver goal range of 1,100,000–1,500,000 sockeye salmon.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase the number of sockeye salmon in the Kenai River (at RM 19) from 100,000 to 300,000 fish above the lower end of current inriver goal ranges, and from 300,000 to 500,000 fish above the upper end of current inriver goal ranges, resulting in a potential reduction of the drift gillnet and Upper Subdistrict set gillnet (ESSN) commercial, and personal use and sport fishery below RM19 harvest of sockeye salmon by this amount, depending on run size. For Kenai River sockeye salmon runs less than 2.3 million fish, the proposed inriver goals could result in restrictions to the commercial fishery and to noncommercial fisheries occurring below RM 19. Because of the differences in harvest potential between user groups, it is likely the commercial fishery would be

restricted to a greater extent than noncommercial fisheries to meet the proposed inriver goal ranges. A reduction in the commercial harvest of Kenai River sockeye salmon would also result in a reduction of commercial harvest of all other salmon by an unknown amount, while increasing the number of these fish available for inriver fisheries. Based on the proposed inriver goal ranges, and the average number of sockeye salmon currently harvested above the Kenai River sonar (Table 88-1), in order to meet the Kenai River sockeye salmon SEG range, sport fishery harvest above the sonar would need to increase in runs greater than 5.0 million and inriver counts greater than 1.7 million fish. The proposed inriver goal ranges would provide for inriver harvest above the Kenai River sonar of 250,000 to 1,250,000 fish in order to achieve the SEG range.

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 to reduce 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 modified to state 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. Also 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 88-2). Since 1999, the management plan purpose statement has changed slightly as the board has deliberated 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 weekly EO hour limitations to the ESSN fishery (Table 88-2) while emergency order authority has been used to restrict inriver users in years of poor returns. Currently, the plan states the department shall also manage commercial fisheries to minimize the harvest of Northern District coho salmon, and late-run Kenai River king and coho salmon stocks, to provide personal use, sport, and guided sport fishermen with a reasonable opportunity to harvest salmon resources.

Escapement and inriver goals for Kenai River sockeye salmon have undergone numerous changes through time (Table 88-3). 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 SEG/OEG range.

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 indicating spawning escapement in excess of 1,000,000 fish increased the risk of lower returns and yields. The 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 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 88-1).

In 2011, the abundance-based tiers were adjusted as the department transitioned from Bendix sonar to new DIDSON technology (Table 88-2). 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. The escapement goal 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. In 2017, the OEG was eliminated, while the upper end of the inriver goal ranges were increased for middle and large sized runs to account for the increased ability of the sport fishery to harvest sockeye salmon when daily passage is high. The department’s 2013 and 2016 escapement goal review recommended no changes to the SEG range for Kenai River late-run sockeye salmon, but does recommend increasing the goal from 700,000–1,200,000 to 750,000–1,300,000 spawners beginning in 2020.

Since 1999, the commercial harvest has accounted for an average of 72% (1,788,736) of the total harvest of Kenai River sockeye salmon (Table 88-4). The sport harvest accounted for an average of 15% (312,683), and the personal use and educational fisheries harvests averaged 17% (285,385). In the most recent five years, however, the commercial fishery harvested 64% (1,306,797), the sport fishery took 19% (321,135) and the personal use and educational fisheries harvested 17% (301,440) of the total Kenai River sockeye salmon harvest. Since this stock was designated primarily for commercial uses (1999–2019), the ESSN and drift gillnet combined average annual sockeye salmon harvest (all stocks) has decreased by 33% (1.3 million fish) per year when compared to the 1980–1998 average annual harvest of 3.9 million fish (Table 88-5). During that time, the average total run of Kenai River sockeye salmon also has decreased by 20% from an average of 4.2 million fish (1987–1998) to 3.4 million (1999–2019). In recent years, below average king salmon runs to the Kenai River have resulted in less fishing time for the ESSN fishery, which has resulted in reduced sockeye salmon harvest.

As noted, average harvest levels of sockeye salmon in the Kenai River drainage (above and below the sonar) by sport anglers increased to 389,000 fish during 2009–2013, but then decreased more recently to 313,000 during 2014–2018 (Tables 88-1 and 88-4).

Since 1999, the sonar count (or inriver fish passage) for Kenai River late-run sockeye salmon was below the inriver goal range one year (5%), within the inriver goal range six years (29%), and above the inriver goal range 14 years (67%) (Table 88-1; Figure 88-1). During this same time period, escapements have been below the SEG range three years (15%), within the SEG range nine years (45%) and above the SEG range eight years (40%) (Table 88-1; Figure 88-2). From 1999–2016 (18 years), there also was an OEG for Kenai River sockeye salmon. During this time the OEG was not achieved three times (17%), was achieved 11 times (61%), and was exceeded four times (22%) (Table 88-1; Figure 88-2).

Since 1999, the estimated total run of Kenai River late-run sockeye salmon was in the same run size tier as the preseason forecast nine years (43%) and differed 12 years (57%) (Table 88-1). For the 12 years that differed, the actual run was in a run-size tier greater than the forecast eight times, while being in a smaller tier than the preseason forecast four times. Difficulties in accurately forecasting the run and starting in the appropriate tier can influence the department's ability to achieve inriver goals.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. The department is recommending the Kenai River sockeye salmon SEG range be increased, therefore, the board may want to consider if any changes to the inriver goals are needed. The upper end of the proposed inriver goal ranges for Kenai River sockeye salmon runs greater than 4.6 million or 5.0 million fish would require harvest upstream of the sonar of 500,000 to 700,000 fish to keep final escapements within the newly proposed SEG range.

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. Approval of this proposal is not expected to result in an additional cost for the department.

Table 88-1.—History of Kenai River sockeye salmon personal use/subsistence, educational, and sport harvest and esc goals, 1987–2019.

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 (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	500,000-800,000	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

-continued-

Table 88-1.–Page 2 of 2.

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
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	368,720	1,212,835	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	264,900	79,465	1,383,692	262,981	1,120,711	1,100,000-1,350,000	700,000-1,200,000	700,000-1,400,000	4.7	3.5
2017	304,632	67,233	1,308,498	235,208	1,073,290	1,000,000-1,300,000	700,000-1,200,000	Repealed	2.2	2.9
2018	169,553	41,122	1,035,761	147,493	888,268	900,000-1,100,000	700,000-1,200,000	Repealed	2.5	1.6
2019			1,849,054			1,000,000-1,300,000	700,000-1,200,000	Repealed	3.8	3.5

Note: ND = no data available

^a Personal use (1987-1995), 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 for 1987-2010; DIDSON counts beginning in 2011.

Table 88-2.—History of Kenai River late-run sockeye salmon tiers, windows, EO hour limitations, inriver goals, and escapement goals.

Year	Tier	Window	EO Limitation	Inriver Goal (1,000s)	BEG/SEG (1,000s)	OEG (1,000s)
1999	< 2 million	None	none	600 - 850	500 - 800	500 - 1,000
	2 to 4 million	>July 20, 24-hour window start 12 noon Fri in Kenai/E.F. Sections	none	750 - 950		
	> 4 million	None; extra time for Kenai sockeye only in Kenai/E.F. Sections	none	850 - 1,100		
2002	< 2 million	None	24 hour	600 - 850	500 - 800	500 - 1,000
	2 to 4 million	48 hours floating	36 hour	750 - 950		
	> 4 million	36 hours floating	60 hour	850 - 1,100		
2005	< 2 million	None	24 hour	650 - 850	500 - 800	500 - 1,000
	2 to 4 million	36 hour "Friday window" & 24 hour floating	51 hour	750 - 950		
	> 4 million	36 hour "Friday window"	84 hour	850 - 1,100		
2008	< 2 million	None	24 hour	650 - 850	500 - 800	500 - 1,000
	2 to 4 million	36 hour "Friday window" & 24 hour floating	51 hour	750 - 950		
	> 4 million	36 hour "Friday window"	84 hour	850 - 1,100		
2011 ^a	< 2.3 million	None	24 hour	900 - 1,100	700 - 1,200	700 - 1,400
	2.3 to 4.6 million	36 hour "Friday window & 24 hour fixed "Tuesday Window"	51 hour	1,000 - 1,200		
	> 4.6 million	36 hour "Friday window"	84 hour	1,100 - 1,350		
2014	< 2.3 million	None	24 hour	900 - 1,100	700 - 1,200	700 - 1,400
	2.3 to 4.6 million	36 hour "Friday window" & 24 hour floating "Tue or Wed Window"	51 hour	1,000 - 1,200		
	> 4.6 million	36 hour "Friday window"	84 hour	1,100 - 1,350		
2017	< 2.3 million	None	24 hour	900 - 1,100	700 - 1,200	eliminated
	2.3 to 4.6 million	36 hour "Friday window" & 24 hour floating "Tue or Wed Window"	51 hour	1,000 - 1,300		
	> 4.6 million	36 hour "Friday window"	84 hour	1,100 - 1,500		

^a Tiers and goals adjusted from Bendix sonar to DIDSON units beginning in 2011.

Table 88-3.—History of changes to 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	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
2017	700,000-1,200,000	900,000 - 1,500,000 ^a	eliminated

^a Beginning in 1999, inriver goal is based upon three run size tiers

Table 88-4.—Estimates of the harvest of Kenai River sockeye salmon in commercial, sport, and personal use fisheries, 1999–2018.

Year	Harvest				% of Total Harvest		
	Commercial	Sport	PU/Ed	Total	Commercial	Sport	PU/Ed
1999	1,551,907	233,768	150,993	1,936,668	80%	12%	8%
2000	705,699	261,779	99,571	1,067,049	66%	25%	9%
2001	1,028,205	219,478	152,580	1,400,263	73%	16%	11%
2002	1,827,466	259,759	182,229	2,269,454	81%	11%	8%
2003	2,321,047	314,456	227,207	2,862,710	81%	11%	8%
2004	3,289,237	317,233	266,937	3,873,407	85%	8%	7%
2005	3,769,950	312,835	300,105	4,382,890	86%	7%	7%
2006	617,968	203,602	130,486	952,056	65%	21%	14%
2007	2,029,792	326,325	293,941	2,650,058	77%	12%	11%
2008	931,192	254,387	236,355	1,421,934	65%	18%	17%
2009	948,335	287,806	343,302	1,579,443	60%	18%	22%
2010	1,845,399	316,233	393,317	2,554,949	72%	12%	15%
2011	4,024,606	410,709	543,043	4,978,358	81%	8%	11%
2012	2,518,331	471,096	530,128	3,519,555	72%	13%	15%
2013	1,831,601	458,522	350,302	2,640,425	69%	17%	13%
2014	1,554,902	380,055	384,018	2,318,975	67%	16%	17%
2015	1,748,900	392,116	384,095	2,525,111	69%	16%	15%
2016	1,984,197	342,446	264,900	2,591,543	77%	13%	10%
2017	924,570	302,441	304,632	1,531,643	60%	20%	20%
2018	321,415	188,615	169,553	679,583	47%	28%	25%
Averages							
1999-2003	1,486,865	257,848	162,516	1,907,229	78%	14%	9%
2004-2008	2,127,627	282,876	245,565	2,656,069	80%	11%	9%
2009-2013	2,233,655	388,873	432,018	3,054,546	73%	13%	14%
2014-2018	1,306,797	321,135	301,440	1,929,371	64%	19%	17%
All Years	1,788,736	312,683	285,385	2,386,804	72%	15%	13%

Note: 1999–2004 commercial harvest estimates generated from age-comp allocation model (Tobias and Willette, 2013)
2005–2018 commercial harvest from genetic stock composition analyses (Barclay, 2019)

Table 88-5.—Commercial salmon harvest by drift gillnet and ESSN fisheries, 1980–2019.

Year	King ^a	Sockeye	Coho	Pink	Chum
1980	10,532	1,330,059	129,791	1,263,970	342,117
1981	10,678	1,129,383	262,390	69,542	759,308
1982	14,951	3,074,852	524,667	703,095	1,353,287
1983	16,167	4,730,939	364,659	44,938	1,047,458
1984	7,542	1,725,610	250,589	494,460	571,792
1985	19,771	3,594,157	428,045	51,943	704,981
1986	21,660	4,496,528	583,313	1,146,496	1,019,699
1987	25,711	9,096,640	277,487	85,957	228,478
1988	15,096	6,567,743	333,803	403,928	594,462
1989	10,914	4,543,497	83,189	37,984	12,398
1990	4,760	3,423,363	287,804	549,384	294,132
1991	5,139	1,962,741	206,681	8,461	217,863
1992	11,333	8,907,571	324,378	667,806	235,822
1993	14,844	4,500,530	164,927	88,153	91,803
1994	16,039	3,359,637	378,563	491,075	252,675
1995	12,662	2,735,100	286,224	118,052	471,935
1996	11,953	3,688,075	212,158	218,445	142,435
1997	11,952	4,030,817	98,334	61,975	93,385
1998	5,422	1,111,702	102,015	532,866	88,768
1999	10,038	2,506,941	76,737	12,909	166,985
2000	3,954	1,186,174	142,556	114,254	118,399
2001	6,628	1,716,294	43,664	64,217	75,847
2002	9,893	2,670,409	160,984	439,000	226,377
2003	16,050	3,340,479	62,603	46,850	108,401
2004	22,788	4,765,452	229,741	343,362	139,060
2005	23,555	5,054,672	164,296	44,849	66,381
2006	12,738	2,086,046	120,640	397,798	60,312
2007	13,204	3,176,888	132,313	137,316	75,357
2008	8,226	2,286,539	111,251	163,487	46,443
2009	6,447	1,873,928	93,531	195,521	77,392
2010	7,597	2,673,446	142,958	285,822	220,012
2011	8,290	5,078,974	56,418	30,860	112,694
2012	923	3,020,819	81,215	462,219	264,562
2013	3,481	2,584,094	187,037	45,276	132,274
2014	2,683	2,226,076	82,840	630,960	108,893
2015	8,337	2,494,020	148,668	44,636	254,579
2016	7,365	2,264,599	101,848	372,411	114,461
2017	5,043	1,712,499	221,406	149,958	233,102
2018	2,815	690,126	113,611	105,357	108,294
2019	2,423	1,533,380	91,125	61,267	113,046
1980-1998 avg	13,007	3,895,208	278,896	370,449	448,568
1999-2019 avg	8,688	2,616,279	122,354	197,492	134,422
% Change	-33%	-33%	-56%	-47%	-70%

^a All sized kings, not just large

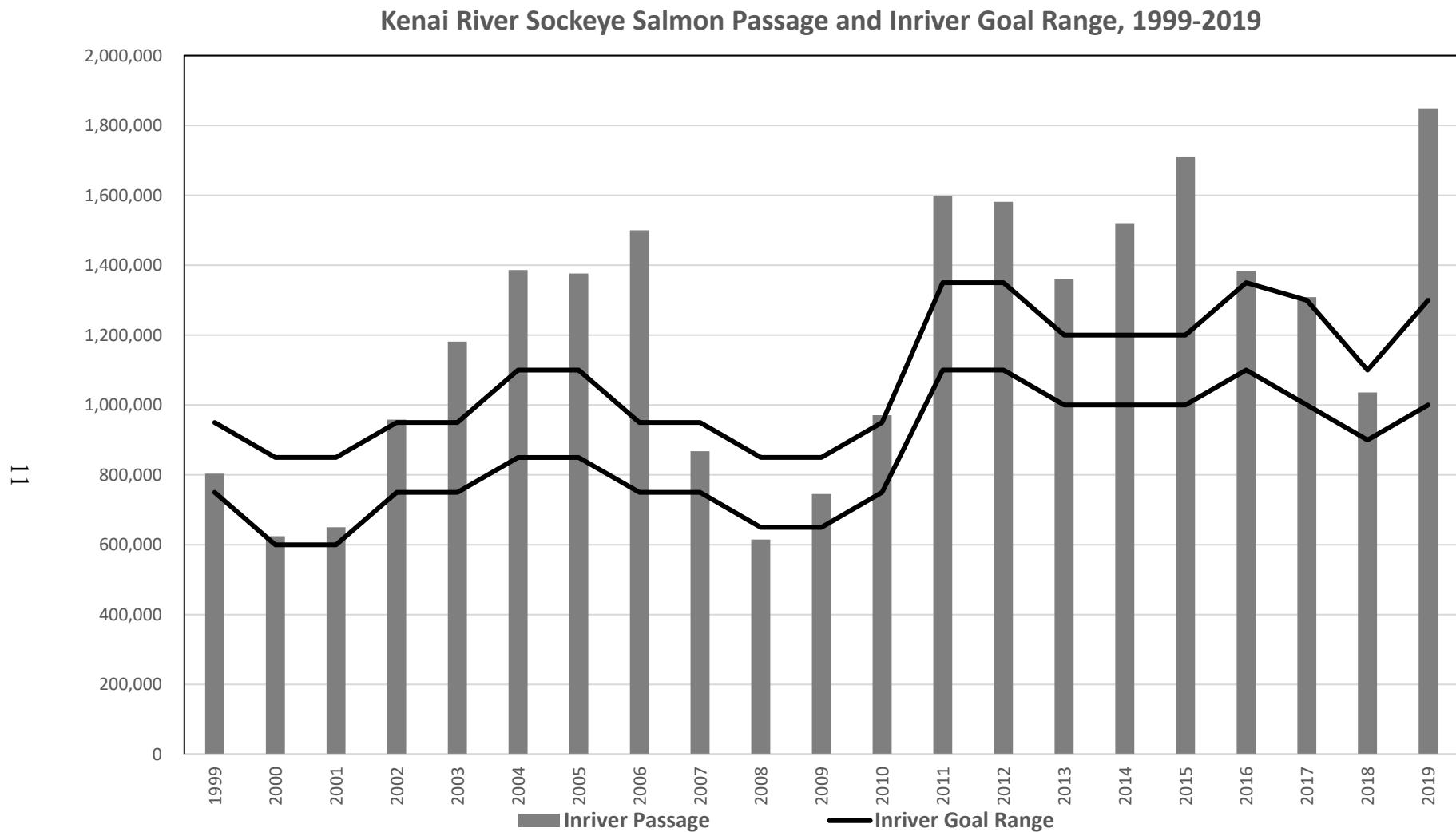


Figure 88-1.—Kenai River sockeye salmon passage estimates and inriver goal range, 1987–2019.

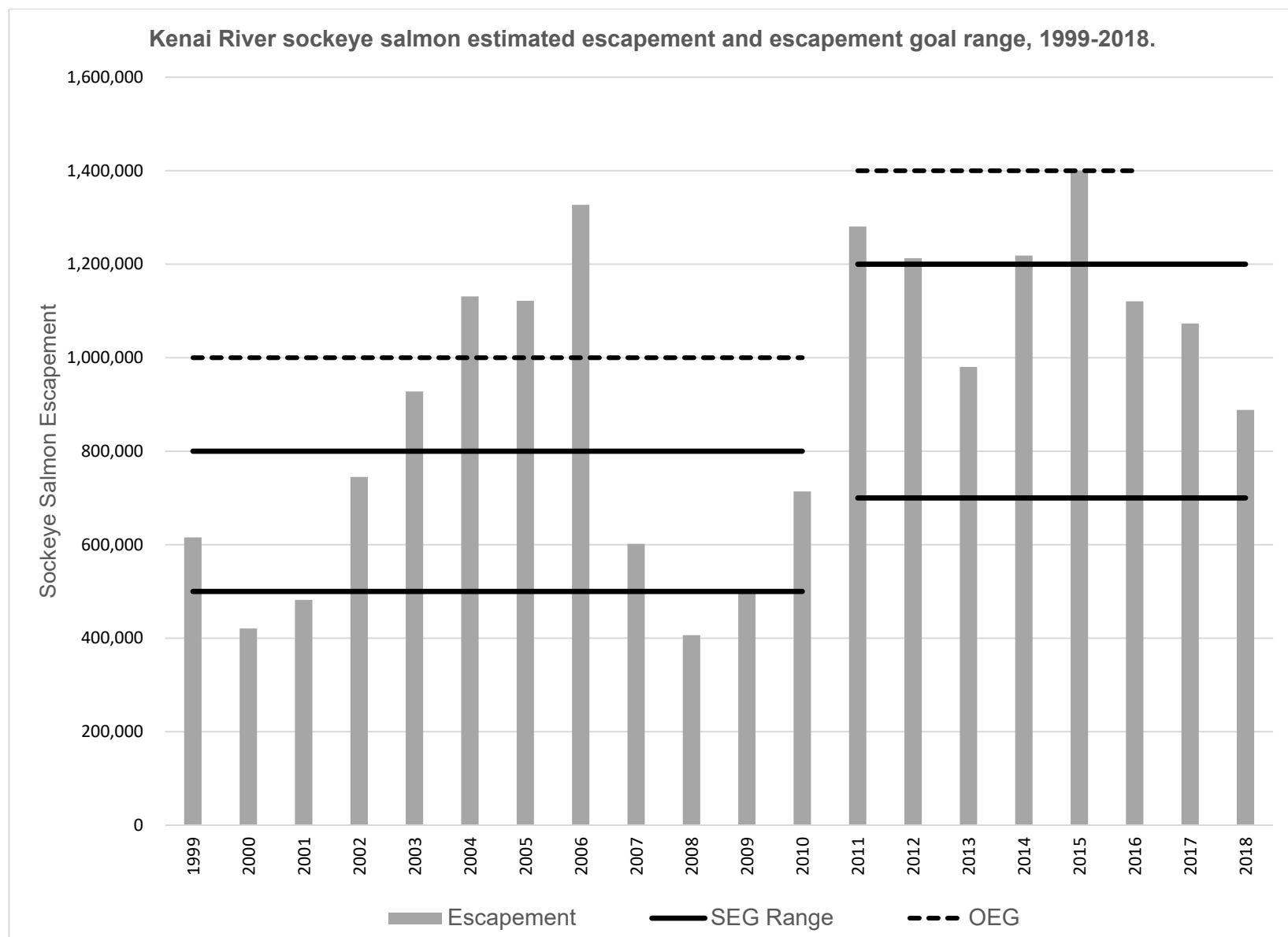


Figure 88-2.—Kenai River sockeye salmon escapement estimates and escapement goal range, 1999–2018.

PROPOSAL 102 – Create a Kenai River sustainable escapement goal based on previous year’s escapement level.

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

PROPOSED BY: United Cook Inlet Drift Association.

WHAT WOULD THE PROPOSAL DO? This would amend the *Kenai River Late-Run Sockeye Salmon Management Plan* to create a sustainable escapement goal (SEG) for Kenai River sockeye salmon that would be dependent upon the previous year’s level of escapement. It would also replace inriver goals with inriver harvest allocations based on the size of the Kenai River sockeye salmon run.

WHAT ARE THE CURRENT REGULATIONS? The department manages commercial, sport, and personal use fisheries in the Kenai River to: 1) meet the sustainable escapement goal (SEG) range of 700,000–1,200,000 late-run sockeye salmon, 2) achieve inriver goals as established by the board and measured at the Kenai River sonar counter located at RM 19, and 3) distribute escapement of sockeye salmon evenly within the SEG 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 RM 19; at run strengths of 2,300,000–4,600,000, the department shall manage for an inriver goal range of 1,000,000–1,300,000 sockeye salmon; at run strengths greater than 4,600,000, the department shall manage for an inriver goal range of 1,100,000–1,500,000 sockeye salmon (Table 102-1).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would create a Kenai River sockeye salmon SEG range that could change from one year to the next. For example, in any year in which the number of spawners exceeded 1,030,000 sockeye salmon, the department would be required would manage for an escapement the following year to the lower end of the SEG range (the department has recommended an updated SEG range of 750,000–1,300,000 beginning in 2020). Since 2011, which is when the department transitioned from BENDIX to DIDSON sonar technology and changed the SEG to 700,000–1,200,000 fish, the number of spawners has exceeded 1,030,000 in 7 of 9 years (Table 88-1). Therefore, based on these data, this proposal would have required the department to reduce escapements to the lower end of the SEG range nearly every other year since 2011.

This proposal would establish a sockeye salmon allocation to the Kenai River sport fishery based on the total run size. Currently, the allocation of 200,000 to 800,000 fish is built into the inriver goal ranges, which provides for the SEG once harvest upstream of the sonar is subtracted from the inriver passage estimate at RM 19. Because this proposal calls for a “direct” allocation of 100,000 to 300,000 fish (or numbers the board chooses), this would require the department to make an inseason estimate of how many sockeye salmon are harvested by the sport fishery. Presumably, if that harvest allocation was met, the sport fishery would close. The effects of setting a direct allocation to the sport fishery as opposed to allocation built into the inriver (sonar) goal would be dependent upon what level of harvest the board set.

BACKGROUND: See background for Proposal 88.

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. Approval of this proposal could result in additional costs for the department as estimates of sockeye salmon harvest in the Kenai River sport fishery would need to be made inseason. The department does not have funds available to initiate this effort at this time

Table 102-1.—Current Kenai River sockeye salmon inriver goals, SEG, and allocation based on run size tier.

Run strength	Inriver Goal	SEG	Inriver Allocation
< 2.3 mil	900,000 - 1,100,000	700,000 - 1,200,000	200,000 - 400,000
2.3-4.6 mil	1,000,000 - 1,300,000	700,000 - 1,200,000	300,000 - 600,000
> 4.6 mil	1,100,000 - 1,500,000	700,000 - 1,200,000	400,000 - 800,000

Note: the department is recommending an updated SEG range of 750,000–1,300,000 fish beginning in 2020. The board may choose to review inriver goal ranges and inriver allocation based on the new SEG.

PROPOSAL 90 – Make numerous amendments to Kenai River Late-Run Sockeye Salmon Management Plan.

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

PROPOSED BY: Cooper Landing Fish and Game Advisory Committee

WHAT WOULD THE PROPOSAL DO? This would make a number of changes to the *Kenai River Late-Run Sockeye Salmon Management Plan* (Table 89-1). First, it would amend the preamble to the management plan to state that Kenai River late-run sockeye salmon are to be managed primarily for sport, personal use and guided sport anglers. It would also increase the sustainable escapement goal (SEG) range to 1,300,000–1,750,000 salmon and would increase inriver goals for all three run strength tiers to 1,300,000–1,750,000 fish. This proposal would also reduce the maximum number of additional hours the Upper Subdistrict set gillnet (ESSN) fishery could be open in each run size tier; it would add an additional 24-hour no-fishing “window” to runs greater than 4.6 million fish, while deleting the 36-hour fixed window and 24-hour floating window in middle sized runs; and would decrease the number of sockeye salmon needed in the Kenai River before sport fishing bag and possession limits could be increased.

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 management plan further states that commercial, sport, and personal use fisheries in the Kenai River shall be managed to: 1) meet the sustainable escapement goal (SEG) range of 700,000–1,200,000 late-run sockeye salmon, 2) achieve inriver goals as established by the board and measured at the Kenai River sonar counter located at RM 19, and 3) distribute escapement of sockeye salmon evenly within the SEG 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 RM 19; at run strengths of 2,300,000–4,600,000, the department shall manage for an inriver goal range of 1,000,000–1,300,000 sockeye salmon; at run strengths greater than 4,600,000, the department shall manage for an inriver goal range of 1,100,000–1,500,000 sockeye salmon.

In each run size tier, the management plan also defines the maximum number of additional hours the Upper Subdistrict set gillnet fishery may be opened each week beyond the two regular 12-hour fishing periods and requires mandatory time periods where no commercial fishing may take place, often referred to as windows (Table 90-1).

Finally, the *Kenai River Late-Run Sockeye Salmon Management Plan* (h)(2) states that subject to the requirement of achieving the SEG, the bag and possession limit for sockeye salmon in the sport fishery is three per day, with six in possession, unless the department determines that the abundance of late-run sockeye salmon exceeds 2.3 million fish, at which time the commissioner

may, by emergency order, increase the bag and possession limit as the commissioner determines to be appropriate.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It would reduce the commercial harvest of all salmon by an unknown amount and increase the number of these fish available for the inriver fisheries, especially in runs of less than 2.3 million Kenai River sockeye salmon. It could also impact the Kenai River personal use and inriver sport fishery below RM 19 to an unknown extent as the department would be required to move more fish upstream of RM 19.

It is difficult to estimate what the effects would be by modifying the no-fishing windows. For example, in middle sized runs, both no-fishing windows currently in the plan would be eliminated, but the maximum number of hours the fishery could be opened would be reduced by 27 hours. The elimination of windows would increase flexibility in use of the ESSN fishery, while the reduction in the number of hours that could be fished would reduce flexibility. Eliminating no-fishing windows on Fridays could result in fewer salmon entering the Kenai River on Fridays and Saturdays. In Kenai River sockeye salmon runs greater than 4.6 million fish, these proposals would add an additional 24-hour window each week and would decrease the maximum number of hours the setnet fishery could be opened each week by 27 hours. This would result in a reduction of commercial harvest of sockeye salmon by an unknown, but potentially significant amount. Finally, decreasing the projected size of the inriver run from 2.3 million to 1.75 million fish as a criteria for increasing bag and possession limits in the sport fishery may result in liberalizing the sport fishery earlier and increasing the harvest of sockeye salmon in this fishery.

BACKGROUND: See background for Proposal 88.

In order to liberalize the sport fish bag and possession limit for Kenai River late-run sockeye salmon, the department must determine the total the abundance of Kenai River late-run sockeye salmon is greater than 2.3 million. This is accomplished inseason by estimating the current commercial harvest and inriver passage of late-run sockeye salmon and estimating how much of the run is still to arrive. In addition, the department must determine that the total harvest under the increased bag and possession limit will not reduce the escapement below the SEG. Since 1986, the sockeye salmon bag limit has been liberalized 15 out of 28 years. Harvest levels of sockeye salmon in the Kenai River drainage by sport anglers have generally increased since 1981.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. Department staff reviewed the Kenai River late-run sockeye salmon escapement goal as part of the 2019 escapement goal review and recommended a new SEG range of 750,000–1,300,000 fish. The *Policy for statewide salmon escapement goals* (policy) specifies that establishment of SEGs is a responsibility of the department, not the board. This proposal requests a change to the Kenai River late-run sockeye salmon SEG and under the policy the board could make this change by adopting an Optimal Escapement Goal.

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. Approval of this proposal is not expected to result in an additional cost for the department.

Table 90-1.—Proposed changes to the Kenai River Late-Run Sockeye Salmon Management Plan in Proposals 89 and 90.

Run strength	<u>Inriver goals</u>		<u>Maximum EO Hours</u>		<u>Windows</u>	
	Current	Proposed	Current	Proposed	Current	Proposed
< 2.3 mil	900,000 – 1,100,000	1,300,000 – 1,750,000	24	0	None	None
2.3-4.6 mil	1,000,000 – 1,300,000	1,300,000 – 1,750,000 ^a	51	24	24-hr floating; 36-hour fixed	None
> 4.6 mil	1,100,000 – 1,500,000	1,300,000 – 1,750,000	84	51	36-hour fixed	24-hr floating; 36-hour fixed

^a to occur between July 1 and August 14

PROPOSAL 96 – Increase the Kenai River sockeye salmon escapement goal; increase bag and possession limits to 6 per day, 12 in possession; and align commercial and sport fishing season closure dates.

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

PROPOSED BY: Walt Arthur.

WHAT WOULD THE PROPOSAL DO? This seeks to address three issues. The first would increase the Kenai River sockeye salmon escapement goal. The second would increase bag and possession limits to 6 per day, 12 in possession. The third would align commercial and sport fishing season closure dates.

WHAT ARE THE CURRENT REGULATIONS? The Kenai River late-run sockeye salmon commercial, sport, and personal use fisheries shall be managed to: meet the sustainable escapement goal (SEG) of 700,000 – 1,200,000 late-run sockeye salmon; achieve inriver goals as established by the board and measured at the Kenai River sonar counter located at RM 19; and distribute the escapement of sockeye salmon evenly within the SEG range, in proportion to the size of the run.

Based on preseason forecasts and inseason evaluations of the total Kenai River late-run sockeye salmon return during the fishing season, the run will be managed as follows:

- (1) 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 RM 19;
- (2) 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 - 1,300,000 sockeye salmon past the sonar counter at RM 19;
- (3) at run strengths greater than 4,600,000 sockeye salmon the department shall manage for an inriver goal range of 1,100,000 – 1,500,000 sockeye salmon past the sonar counter at RM 19.

Subject to the requirement of achieving the lower end of the sustainable escapement goal (SEG) range, the department shall provide for an inriver sockeye salmon sport fishery in the Kenai River. With few exceptions the Lower Kenai River Mainstem is open for fishing for sockeye salmon all year with a bag and possession limit of three sockeye salmon. The commissioner may increase, by EO, the sockeye salmon bag and possession limit, as the commissioner determines to be appropriate, if the department determines that the abundance of the Kenai River late-run sockeye salmon is greater than 2.3 million.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? If the board adopted an OEG range to match the proposed SEG range, they should consider if the inriver goals described in regulation still provided a desired level of inriver harvest opportunity. Raising the SEG range without adapting the allocative inriver goals would likely result in little change to management of commercial fisheries and place the burden of achieving the higher escapement goal on the inriver users. Conversely, increasing the inriver goals proportionately to the increased

SEG would likely result in more conservative management of the commercial fisheries as more fish would be needed to achieve the inriver goal, while providing more fish for anglers upriver.

Increasing the bag and possession limits for sockeye salmon would likely increase harvest and effort in the sport fishery by an unknown amount and could lead to more frequent restrictive actions to meet the late-run SEG under existing inriver goals. Additionally, this may increase the likelihood of restrictive actions in the sport fishery upstream of Skilak Lake to achieve the Russian River sockeye salmon escapement goals.

BACKGROUND: The *Kenai River Late-run Sockeye Salmon Management Plan* (5 AAC 21.360) provides direction to the department for managing the inriver sockeye salmon sport fishery based on inseason evaluation of sockeye salmon abundance and achievement of the SEG. Until 2016 the department managed the Kenai River late-run sockeye salmon run for an Optimal Escapement Goal (OEG). When the department converted to DIDSON based goals in 2011, the OEG was a range of 700,000 to 1,400,000 sockeye salmon. The OEG was repealed and since 2017 the department has managed for the SEG of 700,000 to 1,200,000 sockeye salmon. Kenai River late-run sockeye salmon escapement goals have been achieved every year but one (2015) since 2011 (Table 96-1). The inriver goal, the tiered goals based on preseason forecasts and inseason evaluations of the total Kenai River late-run sockeye salmon return, have been exceeded every year but one since 2011.

The sockeye salmon sport fishery has no closures or restrictions that are paired to commercial fishing opportunity. The sport fishery is managed based upon inseason escapement estimates at the RM19 sonar and managed by modifying time, and bag and possession limits in order to achieve the SEG.

In order to liberalize the sport fish bag and possession limit for Kenai River late-run sockeye salmon, the department must determine the total abundance of Kenai River late-run sockeye salmon is greater than 2.3 million. This is accomplished inseason by estimating the current commercial harvest and inriver passage of late-run sockeye salmon and estimating how much of the run is still to arrive. In addition, the department must determine that the total harvest under the increased bag and possession limit will not reduce the escapement below the SEG. Since 1986, the sockeye salmon bag limit has been liberalized 15 out of 28 years. Harvest levels of sockeye salmon in the Kenai River drainage by sport anglers have increased since 1981. The highest seven inriver sport harvests of sockeye salmon have occurred from 2002–present, when the bag limit of three per day was adopted.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. Department staff reviewed the Kenai River late-run sockeye salmon escapement goal as part of the 2019 escapement goal review and recommended a new goal of 750,000 – 1,300,000. Under the *Policy for Management of Sustainable Salmon Fisheries* and the *Policy for Statewide Salmon Escapement Goals* the board can establish an OEG or inriver goal.

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

Table 96-1.— History of Kenai River sockeye salmon personal use/subsistence, educational, and sport harvest and escapement goals, 1987-2019

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 (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	500,000-800,000	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	264,900	79,465	1,383,692	262,981	1,120,717	1,100,000-1,350,000	700,000-1,200,000	700,000-1,400,000	4.7	3.5
2017	304,632	67,233	1,308,498	235,208	1,056,773	1,000,000-1,300,000	700,000-1,200,000	Repealed	2.2	2.9
2018	169,553	41,122	1,035,761	147,493	831,096	900,000-1,100,000	700,000-1,200,000	Repealed	2.5	1.7
2019	ND	ND	1,849,054	ND	ND	1,000,000-1,300,000	700,000-1,200,000	Repealed	3.8	3.6

Note: ND = no data available

Bold font is years since 2011 (first year of DIDSON-based goals) the goal was achieved

^a Personal use (1987-1995), 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 for 1987-2010; DIDSON counts beginning in 2011.

PROPOSAL 92 – Lower the Kenai River sockeye salmon sustainable escapement goal.

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

PROPOSED BY: John McCombs.

WHAT WOULD THE PROPOSAL DO? This would reduce the Kenai River late-run sockeye salmon sustainable escapement goal (SEG) range from 700,000–1,200,000 to 450,000-750,000 salmon.

WHAT ARE THE CURRENT REGULATIONS? The *Kenai River Late-Run Sockeye Salmon Management Plan* instructs the department to manage commercial, sport, and personal use fisheries in the Kenai River to: 1) meet the SEG range of 700,000–1,200,000 late-run sockeye salmon, 2) achieve inriver goals as established by the board and measured at the Kenai River sonar counter located at RM 19, and 3) distribute escapement of sockeye salmon evenly within the SEG range, in proportion to the size of the run.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Lowering the Kenai River sockeye salmon SEG could result in more fish being available for sport and personal use harvest if the inriver goals remained unchanged. Sockeye salmon escapement levels less than the recommended SEG range of 750,000–1,300,000 fish could result in reduced yields in future years.

BACKGROUND: Escapement and inriver goals for Kenai River sockeye salmon have undergone numerous changes through time (Table 88-3). From 1999–2010, the SEG for Kenai River sockeye salmon was 500,000 to 800,000 fish measured in Bendix sonar units. After transitioning to DIDSON in the Kenai River in 2011, a new sockeye salmon escapement goal analysis was conducted using the converted data. The analysis based on DIDSON-measured passage recommended the SEG be set at 700,000–1,200,000 spawners, a range that approximately represented the escapement that on average would produce 90-100% of MSY. So, from 2011–2018, the SEG was 700,000–1,200,000 fish measured with DIDSON. The actual number of spawners estimated by both sonar systems was believed to be fairly similar. The department’s 2019 escapement goal review recommended increasing the Kenai River sockeye salmon SEG from 700,000–1,200,000 to 750,000–1,300,000 spawners beginning in 2020.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. Department staff reviewed the Kenai River late-run sockeye salmon escapement goal as part of the 2019 escapement goal review and recommended a new SEG range of 750,000–1,300,000 fish. The *Policy for statewide salmon escapement goals* (policy) specifies that establishment of SEGs is a responsibility of the department, not the board. This proposal requests a change to the Kenai River late-run sockeye salmon SEG and under the policy the board could make this change by adopting an Optimal Escapement Goal.

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. Approval of this proposal is not expected to result in an additional cost for the department.

PROPOSAL 91 – Lower the Kenai River sockeye salmon sustainable escapement goal.

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

PROPOSED BY: Teague Vanek.

WHAT WOULD THE PROPOSAL DO? This would lower the Kenai River late-run sockeye salmon sustainable escapement goal (SEG) to an amount not stated.

WHAT ARE THE CURRENT REGULATIONS? The *Kenai River Late-Run Sockeye Salmon Management Plan* instructs the department to manage commercial, sport, and personal use fisheries in the Kenai River to: 1) meet the SEG range of 700,000–1,200,000 late-run sockeye salmon, 2) achieve inriver goals as established by the board and measured at the Kenai River sonar counter located at RM 19, and 3) distribute escapement of sockeye salmon evenly within the SEG range, in proportion to the size of the run.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Lowering the Kenai River sockeye salmon SEG could result in more fish being available for sport and personal use harvest if the inriver goals remained unchanged. Sockeye salmon escapement levels less than the recommended SEG range of 750,000–1,300,000 fish could result in reduced yields in future years.

BACKGROUND: Escapement and inriver goals for Kenai River sockeye salmon have undergone numerous changes through time (Table 88-3). From 1999–2010, the SEG for Kenai River sockeye salmon was 500,000 to 800,000 fish measured in Bendix sonar units. After transitioning to DIDSON in the Kenai River in 2011, a new sockeye salmon escapement goal analysis was conducted using the converted data. The analysis based on DIDSON-measured passage recommended the SEG be set at 700,000–1,200,000 spawners, a range that approximately represented the escapement that on average would produce 90-100% of MSY. So, from 2011–2018, the SEG was 700,000–1,200,000 fish measured with DIDSON. The actual number of spawners estimated by both sonar systems was believed to be fairly similar. The department’s 2019 escapement goal review recommended increasing the Kenai River sockeye salmon SEG from 700,000–1,200,000 to 750,000–1,300,000 spawners beginning in 2020.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. Department staff reviewed the Kenai River late-run sockeye salmon escapement goal as part of the 2019 escapement goal review and recommended a new goal of SEG range 750,000–1,300,000 fish. The *Policy for statewide salmon escapement goals* (policy) specifies that establishment of SEGs is a responsibility of the department, not the board. This proposal requests a change to the Kenai River late-run sockeye salmon SEG and under the policy the board could make this change by adopting an Optimal Escapement Goal.

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. Approval of this proposal is not expected to result in an additional cost for the department.

PROPOSAL 103 – Make numerous amendments to the Kenai River Late-Run Sockeye Salmon Management Plan.

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

PROPOSED BY: Mark & Elbridge Walker.

WHAT WOULD THE PROPOSAL DO? This would make numerous amendments to the *Kenai River Late-Run Sockeye Salmon Management Plan* including:

- Changing the Kenai River sockeye salmon sustainable escapement goal (SEG) to 600,000–1,000,000
- Adding up to 3 additional sockeye salmon sonar projects in the Kenai River
- Change from a 3-tiered management system to a 2-tiered system
 - Runs would be classified as less than or greater than 3.5 million fish
 - For runs less than 3.5 million fish, the inriver goal would be 800,000-1,000,000
 - For runs greater than 3.5 million fish, the inriver goal would be 900,000–1,200,000
- Drift fishery would be used before the set gillnet fishery for king conservation
- Kenai River sport fishery would be open only from 7:00 a.m. until 7:00 p.m.

WHAT ARE THE CURRENT REGULATIONS? The *Kenai River Late-Run Sockeye Salmon Management Plan* instructs the department to manage commercial, sport, and personal use fisheries in the Kenai River to: 1) meet the sustainable escapement goal (SEG) range of 700,000–1,200,000 late-run sockeye salmon, 2) achieve inriver goals as established by the board and measured at the Kenai River sonar counter located at RM 19, and 3) distribute escapement of sockeye salmon evenly within the SEG 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 RM 19; at run strengths of 2,300,000–4,600,000, the department shall manage for an inriver goal range of 1,000,000–1,300,000 sockeye salmon; at run strengths greater than 4,600,000, the department shall manage for an inriver goal range of 1,100,000–1,500,000 sockeye salmon. Within each run size tier, the board has provided a maximum number of additional hours that the Upper Subdistrict set gillnet fishery may be open beyond the 2 weekly regular fishing periods and has also set mandatory times of no-fishing (windows) for the setnet fishery in the middle and largest run size tiers.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It is difficult to accurately quantify the effects of this proposal. First, it seeks to change the current 3-tier abundance-based management system on the Kenai River to a 2-tier system, with runs being either less than or greater than 3.5 million sockeye salmon. While a 2-tier system would simplify management in some ways, the proposal does not completely flesh out how fisheries would be managed in each tier, for example there is no mention of weekly EO hour limits or no-fishing windows. The proposal sets an allocation to the sport fishery of 200,000 to 400,000 fish for run

sizes less than 3.5 million fish, and 300,000 to 600,000 for runs greater than 3.5 million fish, while it limits sport fishing to only 12 hours per day. Reducing the hours the sport fishery was open would likely result in a reduction in harvest in this fishery. Moreover, for Kenai River sockeye salmon runs substantially larger than 3.5 million fish, this could result in more sockeye salmon being harvested by the commercial fishery and potentially fewer fish being available to inriver fisheries. The proposal also states that if king salmon need to be preserved, the drift fishery would be used first, if possible, to manage the run. It is unclear how this is different from the current management plan, where the drift fishery is not part of paired restrictive provisions between the Upper Subdistrict set gillnet fishery and the Kenai River sport fishery.

BACKGROUND: See background for Proposal 88.

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. Approval of this proposal is expected to result in significant additional costs for the department.

PROPOSAL 98 – Establish an individual annual limit of 21 sockeye salmon for the Kenai River drainage sport fisheries.

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

PROPOSED BY: Chris Every.

WHAT WOULD THE PROPOSAL DO? This would establish an individual annual limit of 21 sockeye salmon for the Kenai River drainage sport fisheries.

WHAT ARE THE CURRENT REGULATIONS? On the Kenai River an angler may take 3 per day, 6 in possession of sockeye salmon greater than 16 inches or longer and 10 per day, 10 in possession of sockeye salmon less than 16 inches in length, with no annual limit.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This may reduce harvest and sport fishing opportunity by an unknown amount, or it may have no effect on the sport fishery because there is no information available on the number of anglers who currently harvest more than 21 sockeye salmon from the Kenai River drainage in a given year. It may inhibit the sport fisheries' ability to harvest sockeye salmon allocated to the inriver fishery via the inriver goal, or it may have no effect. Additionally, this would require daily recording of sockeye salmon catch by individual anglers and increase regulatory complexity.

BACKGROUND: The *Kenai River Late-Run Sockeye Salmon Management Plan* (5 AAC 21.360) and the *Russian River Sockeye Salmon Management Plan* (5 AAC 57.150) direct the department to manage the sport fisheries in the Kenai River drainage based upon escapement at the RM 19 sonar and the Russian River weir, respectively. The sport fishery is liberalized and restricted via modification of bag and possession limits by emergency order authority to achieve escapement goals. Inriver goals have been established for the Kenai River late-run providing amounts of sockeye salmon for inriver use. Average sport fish harvest of sockeye salmon from 1998–2018 is 306,840 fish in the Kenai River drainage (Table 98-1).

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

Table 98-1.—Kenai River drainage sockeye salmon escapement and inriver harvest, 1981–2018.

Year	Personal use dip net and educational harvest	Sport harvest below sonar	Kenai River sonar count ^a	Total inriver run	Harvest above sonar			Total harvest above sonar	Spawning escapement
					Russian River late run	Hidden Lake— Creek personal use and sport	Inriver Federal subsistence ^b		
1998	105,497	33,980	1,084,996	1,224,472	25,110	81	ND	155,905	929,090
1999	150,993	46,043	1,137,001	1,334,037	32,335	859	ND	187,725	949,276
2000	99,571	57,978	900,700	1,058,249	30,229	190	ND	203,801	696,899
2001	152,580	51,374	906,333	1,110,287	18,550	142	ND	168,104	738,229
2002	182,229	46,693	1,339,682	1,568,604	31,999	308	ND	213,066	1,126,616
2003	227,207	60,722	1,656,026	1,943,955	28,085	302	ND	253,734	1,402,292
2004	266,937	62,397	1,945,383	2,274,717	22,417	502	ND	254,836	1,690,547
2005	300,105	58,017	1,908,821	2,266,943	18,503	0	ND	254,818	1,654,003
2006	130,486	30,964	2,064,728	2,226,178	29,694	385	ND	172,638	1,892,090
2007	293,941	60,623	1,229,945	1,584,509	16,863	240	316	265,702	964,243
2008	236,355	46,053	917,139	1,199,547	23,680	0	478	208,334	708,805
2009	343,302	45,868	1,090,055	1,479,225	33,935	1,019	431	241,938	848,117
2010	393,317	59,651	1,294,884	1,747,852	9,333	1,744	246	256,582	1,038,302
2011	543,043	92,225	1,599,217	2,234,485	14,412	97	347	318,484	1,280,733
2012	530,128	102,376	1,581,555	2,214,059	15,074	37	461	368,634	1,212,921
2013	350,302	78,837	1,359,893	1,789,032	20,146	86	567	379,685	980,208
2014	384,018	78,057	1,520,340	1,982,415	17,864	0	620	301,998	1,218,342
2015	384,095	83,112	1,709,051	2,176,258	13,744	0	779	309,004	1,400,047
2016	264,900	79,465	1,383,692	1,728,057	11,543	0	586	262,975	1,120,717
2017	304,632	67,233	1,308,498	1,680,363	10,592	79	236	235,208	1,073,290
2018	169,553	41,122	1,035,761	1,246,436	15,344	0	377	147,493	888,268
2019	NA	NA	1,849,054	NA	NA	NA	NA	NA	NA
Average									
1998–2018	276,820	61,090	1,379,700	1,717,600	20,930	290	460	245,750	1,133,950
2009–2018	366,730	72,790	1,388,290	1,827,820	16,200	310	470	282,210	1,106,090

Note: ND means no data, NA means data not available at time of publication

^a Bendix sonar counts were converted to DIDSON estimates (equivalents) for 1998–2006. Estimates after these dates are actual DIDSON generated estimates.

^b Federal subsistence started in 2007 and occurs in the Russian River, the Upper Kenai River, and the Lower Kenai River with both dip nets and rod-and-reel.

PROPOSAL 89 – Make numerous amendments to Kenai River Late-Run Sockeye Salmon Management Plan.

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

PROPOSED BY: Mike Adams.

WHAT WOULD THE PROPOSAL DO? This would make a number of changes to the *Kenai River Late-Run Sockeye Salmon Management Plan* (Table 89-1). First, it would amend the preamble to the management plan to state that Kenai River late-run sockeye salmon are to be managed primarily for sport, personal use and guided sport anglers. It would also increase the sustainable escapement goal (SEG) range to 1,300,000–1,750,000 salmon and would increase inriver goals for all three run strength tiers to 1,300,000–1,750,000 fish. This proposal would also reduce the maximum number of additional hours the Upper Subdistrict set gillnet (ESSN) fishery could be open in each run size tier; it would add an additional 24-hour no-fishing “window” to runs greater than 4.6 million fish, while deleting the 36-hour fixed window and 24-hour floating window in middle sized runs; and would decrease the number of sockeye salmon needed in the Kenai River before sport fishing bag and possession limits could be increased.

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 management plan further states that commercial, sport, and personal use fisheries in the Kenai River shall be managed to: 1) meet the sustainable escapement goal (SEG) range of 700,000–1,200,000 late-run sockeye salmon, 2) achieve inriver goals as established by the board and measured at the Kenai River sonar counter located at RM 19, and 3) distribute escapement of sockeye salmon evenly within the SEG 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 RM 19; at run strengths of 2,300,000–4,600,000, the department shall manage for an inriver goal range of 1,000,000–1,300,000 sockeye salmon; at run strengths greater than 4,600,000, the department shall manage for an inriver goal range of 1,100,000–1,500,000 sockeye salmon.

In each run size tier, the management plan also defines the maximum number of additional hours the Upper Subdistrict set gillnet fishery may be opened each week beyond the two regular 12-hour fishing periods and requires mandatory time periods where no commercial fishing may take place, often referred to as windows (Table 90-1).

Finally, the *Kenai River Late-Run Sockeye Salmon Management Plan* (h)(2) states that subject to the requirement of achieving the SEG, the bag and possession limit for sockeye salmon in the sport fishery is three per day, with six in possession, unless the department determines that the abundance of late-run sockeye salmon exceeds 2.3 million fish, at which time the commissioner

may, by emergency order, increase the bag and possession limit as the commissioner determines to be appropriate.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It would reduce the commercial harvest of all salmon by an unknown amount and increase the number of these fish available for the inriver fisheries, especially in runs of less than 2.3 million Kenai River sockeye salmon. It could also impact the Kenai River personal use and inriver sport fishery below RM 19 to an unknown extent as the department would be required to move more fish upstream of RM 19.

It is difficult to estimate what the effects would be by modifying the no-fishing windows. For example, in middle sized runs, both no-fishing windows currently in the plan would be eliminated, but the maximum number of hours the fishery could be opened would be reduced by 27 hours. The elimination of windows would increase flexibility in use of the ESSN fishery, while the reduction in the number of hours that could be fished would reduce flexibility. Eliminating no-fishing windows on Fridays could result in fewer salmon entering the Kenai River on Fridays and Saturdays. In Kenai River sockeye salmon runs greater than 4.6 million fish, these proposals would add an additional 24-hour window each week and would decrease the maximum number of hours the setnet fishery could be opened each week by 27 hours. This would result in a reduction of commercial harvest of sockeye salmon by an unknown, but potentially significant amount. Finally, decreasing the projected size of the inriver run from 2.3 million to 1.75 million fish as a criteria for increasing bag and possession limits in the sport fishery may result in liberalizing the sport fishery earlier and increasing the harvest of sockeye salmon in this fishery.

BACKGROUND: See background for Proposal 88.

In order to liberalize the sport fish bag and possession limit for Kenai River late-run sockeye salmon, the department must determine the total the abundance of Kenai River late-run sockeye salmon is greater than 2.3 million. This is accomplished inseason by estimating the current commercial harvest and inriver passage of late-run sockeye salmon and estimating how much of the run is still to arrive. In addition, the department must determine that the total harvest under the increased bag and possession limit will not reduce the escapement below the SEG. Since 1986, the sockeye salmon bag limit has been liberalized 15 out of 28 years. Harvest levels of sockeye salmon in the Kenai River drainage by sport anglers have generally increased since 1981.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. Department staff reviewed the Kenai River late-run sockeye salmon escapement goal as part of the 2019 escapement goal review and recommended a new SEG range of 750,000–1,300,000 fish. The *Policy for statewide salmon escapement goals* (policy) specifies that establishment of SEGs is a responsibility of the department, not the board. This proposal requests a change to the Kenai River late-run sockeye salmon SEG and under the policy the board could make this change by adopting an Optimal Escapement Goal.

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. Approval of this proposal is not expected to result in an additional cost for the department.

PROPOSAL 100 – Open commercial fishing periods based on staying within ten-percent of inseason run projections.

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

PROPOSED BY: Alaska Outdoor Journal/Gary Barnes.

WHAT WOULD THE PROPOSAL DO? This would amend the *Kenai River Late-Run Sockeye Salmon Management Plan* to open commercial fishing periods to stay within ten percent of daily inseason run projections.

WHAT ARE THE CURRENT REGULATIONS? The department manages commercial, sport, and personal use fisheries in the Kenai River to: 1) meet the sustainable escapement goal (SEG) range of 700,000–1,200,000 late-run sockeye salmon, 2) achieve inriver goals as established by the board and measured at the Kenai River sonar counter located at RM 19, and 3) distribute escapement of sockeye salmon evenly within the SEG 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 RM 19; at run strengths of 2,300,000–4,600,000, the department shall manage for an inriver goal range of 1,000,000–1,300,000 sockeye salmon; at run strengths greater than 4,600,000, the department shall manage for an inriver goal range of 1,100,000–1,500,000 sockeye salmon.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? There is not enough information in this proposal to determine the effects if it were adopted. The proposal seeks to add a statement to (b) of the *Kenai River Late-Run Sockeye Salmon Management Plan* that says the department will manage and initiate allowable commercial fishing times based on not exceeding a 10% margin of deviation above or below the calculated run size projection as it applies from day to day. The proposal does not identify which commercial fishing gear, districts, or subdistricts the allowable fishing time applies to. Furthermore, it is unclear as to what is meant by not exceeding a 10% margin of deviation above or below the calculated run size projection.

BACKGROUND: From June 25 through July 7, the Upper Subdistrict set gillnet (ESSN) fishery is managed primarily by provisions found in 5 AAC 21.365 *Kasilof River Salmon Management Plan*. Beginning July 8, the Kenai and East Foreland sections are open to set gillnetting and management of commercial setnet fisheries harvesting Kenai River sockeye salmon is guided primarily by the *Kenai River Late-Run Sockeye Salmon Management Plan*. In this plan it states that the ESSN fishery will fish regular weekly fishing periods up through July 20, or until the department makes a determination of run strength, whichever comes first. Historically, the department has waited until on or after July 20 to make official inseason estimates of the total Upper Cook Inlet run size, including an estimate of run timing. This inseason assessment of the sockeye salmon run includes an estimate of the Kenai River total run size. Based on these inseason assessments that occur on or after July 20, the department formalizes which of the three Kenai River run size tiers applies regarding management of sport and commercial fisheries.

Inseason estimates of the total sockeye salmon run rely on data collected from an offshore test fishery (OTF) conducted at the southern boundary of the UCI management area. After approximately July 23, run forecast errors tend to stabilize within plus or minus 20% (Figure 100-1). Mean absolute percent errors (MAPE) average 40% from July 19–23, 9% from July 24–26 and 7% from July 27–31 (1996–2014).

Prior to making an inseason estimate of what the total sockeye salmon run size will be, the department examines daily harvest and escapement data and makes adjustments to commercial fishing time to keep current passage and escapement projections within the bounds of the various goals.

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. Approval of this proposal is not expected to result in an additional cost for the department.

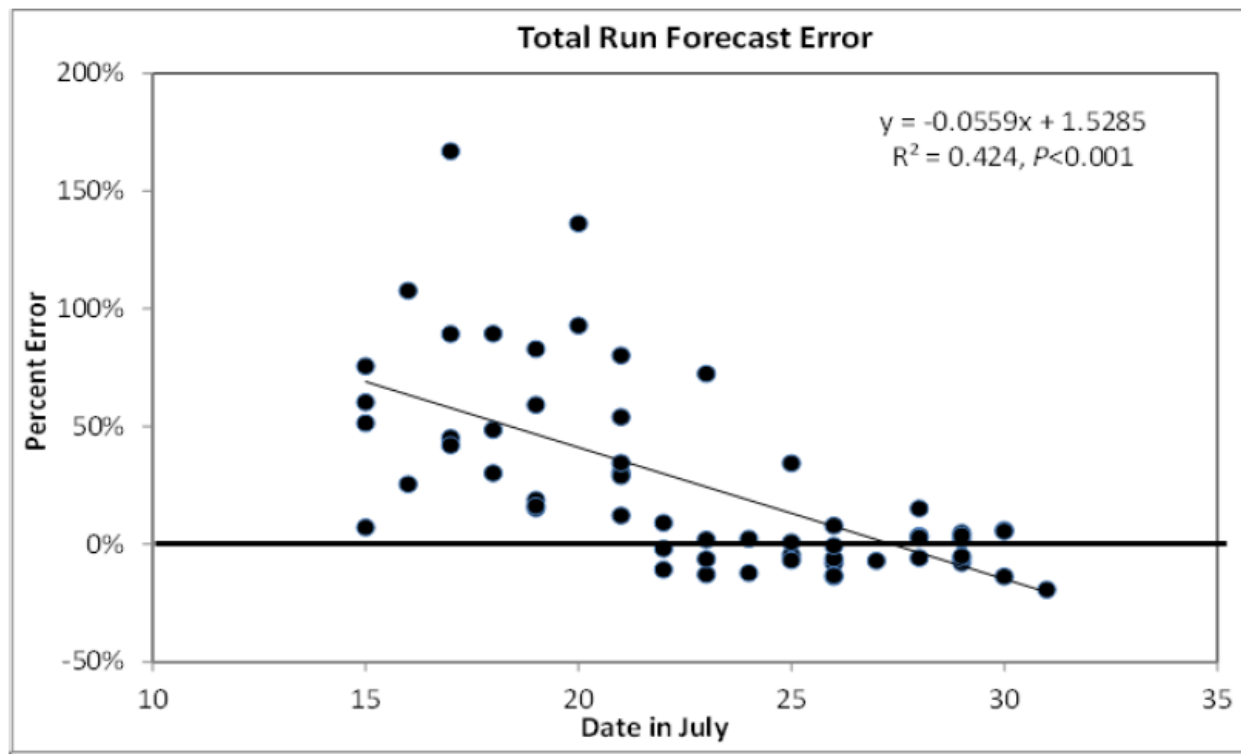


Figure 100-1.—Relationship between total run forecast and date in July when the forecasts were generated.

PROPOSAL 97 – Create sport and PU allocations of sockeye salmon.

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

PROPOSED BY: Chris Every.

WHAT WOULD THE PROPOSAL DO? This would create sport and PU allocations of sockeye salmon to be determined by the board on the Kenai and Kasilof rivers.

WHAT ARE THE CURRENT REGULATIONS? The department manages commercial, sport, and personal use fisheries in the Kenai River to: 1) meet the SEG range of 700,000–1,200,000 late-run sockeye salmon, 2) achieve inriver goals as established by the board and measured at the Kenai River sonar counter located at RM 19, and 3) distribute escapement of sockeye salmon evenly within the SEG range, in proportion to the size of the run.

Subject to achieving the lower end of the SEG, the department is instructed to provide for a personal use dip net fishery in the lower Kenai River as specified in the *Upper Cook Inlet Personal Use Salmon Fishery Management Plan* (5 AAC 77.540). This plan also provides for a personal use salmon gillnet and dip net fishery at the mouth of Kasilof River. Sport, commercial, and personal use fisheries are managed to meet a sockeye salmon biological escapement goal (BEG) in the Kasilof River.

Subject to achieving the lower end of the Kenai River late-run sockeye salmon SEG, the department manages the sport fishery on the Kenai River, except for the Russian River, with a bag and possession limit for sockeye salmon of 3 per day, with 6 in possession. The commissioner may increase, by EO, the sockeye salmon bag and possession limit if the department determines that the abundance of the Kenai River late-run sockeye salmon is greater than 2.3 million.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The effects would depend on the allocation limits adopted. A harvest limit less than the historic high for these two fisheries would result in reduced opportunity for participants, cap any future growth, and would result in an increase in the harvest of sockeye salmon in other fisheries, primarily the commercial fishery, depending on abundance. It is assumed from the proposal that the fisheries would be closed if their annual allocation was met (Table 97-1). This type of management may increase crowding and shift harvest earlier in the season if participants anticipate a closure to occur.

If total harvest was reduced to the Kenai River sport fishery by a large amount it may result in the fishery being unable to harvest the allocation provided to the fishery via the inriver goal.

Setting an annual or seasonal limit on these fisheries would require the department to have inseason estimates of daily harvest. It is unclear how the inseason harvest information would be gathered in a timely manner to be used to assess the allocation. An inseason reporting system would need to be developed and funded.

BACKGROUND: The *Upper Cook Inlet Personal Use Salmon Fishery Management Plan* (5 AAC 77.540) provides for a PU salmon gillnet fishery at the mouth of the Kasilof River, and

salmon dip net fisheries in the Kenai and Kasilof rivers, and Fish Creek in Northern Cook Inlet. This plan was in effect for the 1981 season and later adopted into regulation by the board in 1982. The plan has undergone several amendments since that time.

Neither Kenai nor Kasilof river PU fisheries are managed to meet harvest goals. Management of these fisheries is abundance based to achieve established escapement goals. The board has limited the PU fisheries through short season dates, hours of operation, and only allowing them to occur in very limited areas.

Beginning with the 1996 season, the board established a season of July 10 to August 5 (later amended to July 31) for the dip net fishery in the Kenai River. In 2002, the management plan was modified to manage the fishery more conservatively until inseason abundance information became available. The season dates remained unchanged, but the daily hours were reduced from 24 hr per day to 17 hr per day (6:00 a.m. to 11:00 p.m.), until the department could project that the total Kenai River sockeye salmon late run would exceed two million fish (modified to 2.3 million fish in 2011 when sonar operations transitioned to DIDSON). If the department determined that the late run exceeded two million fish, they could liberalize the fishery to 24 hr per day by EO, until the season closure on July 31.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. Successfully managing for a quota or guideline harvest level in the PU and sport fisheries would be difficult to accomplish without a 24-hr reporting requirement or inseason harvest monitoring project. A new reporting program of this magnitude would create a substantial budgetary impact to the department, and would, in some cases, duplicate current data collection programs. The department would need to restructure existing budgets to implement such programs. However, the board has no "administrative, budgeting, or fiscal powers" that would authorize the board to require the department to administer this program (AS 16.05.241).

COST ANALYSIS: Approval of this proposal could result in an additional direct cost for a private person to participate in this fishery in the form of an additional reporting program initiated by the department. Approval of this proposal would result in an additional substantial direct cost for the department to collect harvest data to manage to specific allocations inseason.

Table 97-1.—Total sockeye salmon harvest from all sources in Upper Cook Inlet, 1996–2018

Year	Commercial				Sport ^{a,b}			Personal Use				Subsistence/Educational			Total
	Drift	Set	Test fishery	All	Kenai River	All other UCI	All	Kasilof Gillnet	Kasilof Dipnet	Kenai Dipnet	Other ^c	All	Subsis. ^c	Educ. ^c	
1996	2,205,067	1,683,855	2,424	3,891,346	205,959	16,863	222,822	9,506	11,197	102,821	22,021	145,545	259	2,405	4,262,377
1997	2,197,961	1,979,034	2,301	4,179,296	190,629	23,591	214,220	17,997	9,737	114,619	6,587	148,940	593	3,076	4,546,125
1998	599,396	620,121	5,456	1,224,973	189,885	23,477	213,362	15,975	45,161	103,847	11,598	176,581	636	3,567	1,619,119
1999	1,413,995	1,266,523	11,766	2,692,284	233,768	26,078	259,846	12,832	37,176	149,504	9,077	208,589	599	3,037	3,164,355
2000	656,427	666,055	9,450	1,331,932	261,779	32,194	293,973	14,774	23,877	98,262	12,354	149,267	442	2,933	1,778,547
2001	846,275	980,576	3,381	1,830,232	219,478	30,953	250,431	17,201	37,612	150,766	13,109	218,688	686	4,633	2,304,670
2002	1,367,251	1,405,867	37,983	2,811,101	259,733	21,770	281,503	17,980	46,769	180,028	14,846	259,623	623	3,722	3,356,572
2003	1,593,638	1,882,523	13,968	3,490,129	314,408	36,076	350,484	15,706	43,870	223,580	15,675	298,831	544	5,993	4,145,981
2004	2,529,642	2,397,442	10,677	4,937,761	317,233	28,823	346,056	25,417	48,315	262,831	13,527	350,090	484	5,237	5,639,628
2005	2,520,327	2,718,372	12,064	5,250,763	312,835	21,826	334,661	26,609	43,151	295,496	4,520	369,776	238	7,134	5,962,572
2006	784,771	1,407,959	10,698	2,203,428	203,602	24,517	228,119	28,867	56,144	127,630	3,406	216,047	408	5,444	2,653,446
2007	1,823,481	1,493,298	10,649	3,327,428	326,325	28,504	354,829	14,943	43,293	291,270	6,729	356,235	567	5,773	4,044,832
2008	983,303	1,396,832	16,957	2,397,092	254,359	30,155	284,514	23,432	54,051	234,109	6,890	318,482	450	4,761	3,005,299
2009	968,075	1,077,719	13,948	2,059,742	287,806	28,753	316,559	26,646	73,035	339,993	18,006	457,680	253	7,190	2,842,461
2010	1,587,657	1,240,685	6,670	2,835,012	316,213	21,804	338,017	21,924	70,774	389,552	32,052	514,302	865	5,652	3,695,633
2011	3,201,035	2,076,960	5,660	5,283,655	410,709	22,852	433,561	26,780	49,766	537,765	16,068	630,379	700	8,048	6,355,998
2012	2,924,144	209,695	11,839	3,145,678	471,008	20,184	491,192	15,638	73,419	526,992	13,304	629,353	441	4,418	4,271,066
2013	1,662,561	1,020,663	5,283	2,688,507	458,522	29,809	488,331	14,439	85,528	347,222	7,126	454,315	333	6,185	3,638,035
2014	1,501,678	842,356	5,648	2,349,682	380,055	35,575	415,630	22,567	88,513	379,823	15,144	506,047	587	7,724	3,268,846
2015	1,012,684	1,636,983	2,378	2,652,045	476,791	30,041	506,832	27,567	89,000	377,532	27,951	522,050	800	9,170	3,685,094
2016	1,266,696	1,130,112	2,096	2,398,904	342,440	28,251	370,691	26,539	58,723	259,057	4,837	349,156	659	7,449	3,119,690
2017	880,279	968,571	2,701	1,851,551	291,405	21,157	312,562	21,927	78,260	297,049	9,654	406,890	911	10,968	2,608,784
2018	400,285	417,610	1,546	819,441	172,672	32,518	205,190	14,390	92,034	165,028	2,085	292,233	622	8,581	1,390,877

^a Sport harvest in the Kenai River includes late-run stock only; early-run Russian River sockeye salmon harvest is excluded.

^b Sport harvest is estimated from the annual state-wide sportfish harvest survey.

^c Area of harvest not identified on returned permits, other than Fish Creek dip net, which was open from 1996–2001, 2009–2010, & 2014–2015, 2017 and Beluga dip net (2008–2017).

PROPOSAL 101 – Amend minimization language in the Kenai River Late-Run Sockeye Salmon Management Plan.

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

PROPOSED BY: Central Peninsula Fish and Game Advisory Committee.

WHAT WOULD THE PROPOSAL DO? This would amend the preamble to the *Kenai River Late-Run Sockeye Salmon Management Plan* by removing language that says to manage commercial fisheries to minimize the harvest of Northern District coho, late-run Kenai River king, and Kenai River coho salmon stocks and replace it with language that states that the department shall also manage the common property fisheries with a reasonable opportunity to harvest salmon resources.

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.”

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It is not anticipated that there would be any effects on management if this proposal were adopted. It is unlikely this proposal would provide additional tools to assist the department in managing for escapement objectives, as specific provisions for management of the various fisheries are already within the management plans and existing regulations (seasons, periods, and duration). The department relies on these management plans and use of its emergency order authority to manage all fisheries in Upper Cook Inlet to achieve escapement goals regardless of management plan preamble language.

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 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 modified 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 was to manage commercial fisheries to minimize the 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 to balance the allocation

needs and desires of the various user groups. In addition, there have been numerous allocative provisions added in the plan including no-fishing windows and EO hour limitations (Table 88-2). Estimates of sport harvest of coho salmon in Northern Cook Inlet drainages are reported in Tables 101-1 and 101-2. Commercial harvest of sockeye and coho salmon by the drift fleet and Upper Subdistrict set gillnet (ESSN) fisheries can be found in Table 101-3. Sport fish harvest of Kenai River coho salmon are reported in Table 101-4. Harvest data of Kenai River late-run large king salmon can be found in Tables 101-5.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. The allocation guidelines within the umbrella plan (5 AAC 31.363) are used by the board in developing specific UCI fishery management plans and helps shape preamble language. In practice, the umbrella and preamble language does not impact inseason management as the department follows provisions within specific plans to manage fisheries. When adopting or modifying specific management plans that apply in Cook Inlet, future board action could be guided by the proposed principle stated in the preamble. Preamble language in management plans provides direction to future boards, stake holders, and the department on the long-term management objectives of the board at the time the language was adopted, but does not override the priority of management for established escapement objectives. Specific provisions describing how to meet preamble directives and escapement objectives are often codified in the body of the management plan.

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. Approval of this proposal is not expected to result in an additional cost for the department.

Table 101-1.—Estimated sport harvest and passage/escapement of coho salmon in the Little Susitna River, Fish Creek, Jim Creek, and Deshka River, 1990-2018.

Year	Little Susitna			Fish Creek			Jim Creek			Deshka River	
	Harvest	Passage	SEG	Harvest	Passage	SEG	Harvest ^a	Escapement ^b	SEG	Harvest	Passage
1990	7,497	15,511	7,500								
1991	16,450	39,241	7,500								
1992	20,033	21,182	7,500								
1993	27,610	34,822	7,500								
1994	17,665	28,948	7,500								
1995	14,451	12,266	7,500								
1996	16,753	15,803	7,500								
1997	7,756	9,894 ^c	7,500								
1998	14,469	15,159	7,500								
1999	8,864	3,017	9,600-19,200								
2000	20,357	15,436	9,600-19,200								
2001	17,071	30,587	9,600-19,200								
2002	19,278	47,938	10,100-17,700	1,233	14,651	1,200-4,400	14,707	2,473	400-700	3,616	24,612
2003	13,672	10,877	10,100-17,700	112	1,231	1,200-4,400	6,415	1,421	400-700	4,946	17,305
2004	15,307	40,199	10,100-17,700	774	1,415	1,200-4,400	11,766	4,652	400-700	4,440	62,940
2005	10,203	16,839 ^c	10,100-17,700	535	3,011	1,200-4,400	10,114	1,464	400-700	3,616	47,887
2006	12,399	8,786 ^{c,d}	10,100-17,700	281	4,967	1,200-4,400	19,259	2,389	400-700	6,042	59,419
2007	11,089	17,573	10,100-17,700	120	6,868	1,200-4,400	11,848	725	400-700	2,550	10,575
2008	13,498	18,485	10,100-17,700	993	4,868	1,200-4,400	17,545	1,890	400-700	3,426	12,724
2009	8,346	9,523	10,100-17,700	1,178	8,214	1,200-4,400	11,573	1,331	400-700	4,060	27,348
2010	10,662	9,214	10,100-17,700	805	6,977	1,200-4,400	8,442	242	400-700	5,690	10,393

-continued-

Table 101-1.–Page 2 of 2.

Year	Little Susitna			Fish Creek			Jim Creek			Deshka River		
	Harvest	Passage	SEG	Harvest	Passage	SEG	Harvest ^a	Escapement ^b	SEG	Harvest	Passage	SEG
2011	2,452	4,826	10,100-17,700	414	1,428	1,200-4,400	3,132	261	400-700	2,282	7,326	
2012	1,681	6,779 ^c	10,100-17,700	274	1,237	1,200-4,400	1,858	213	400-700	1,358	6,825	
2013	5,229	13,583 ^c	10,100-17,700	356	7,593	1,200-4,400	3,258	663	400-700	2,658	22,141	
2014	6,922	24,211	10,100-17,700	622	10,283	1,200-4,400	3,045	122	400-700	2,598	11,578	
2015	8,880	12,756	10,100-17,700	2,041	7,912	1,200-4,400	2,910	571	450-1400	745	10,775	
2016	4,361	10,049	10,100-17,700	496	2,484	1,200-4,400	1,343	106	450-1400	1,528	6,820	
2017	3,068	17,781	10,100-17,700	358	8,966	1,200-4,400	750	607	450-1400	2,825	36,869	10,200-24,100
2018	6,663	7,583 ^c	10,100-17,700	1,915	5,022	1,200-4,400	2,924	758	450-1400	3,169	12,962	10,200-24,100
2019	NA	4,229	10,100-17,700	NA	3,025	1,200-4,400	NA	162	450-1400	NA	10,445	10,200-24,100

^a Includes other Knik River tributaries^b Escapement is a foot index survey of a section of McRoberts Creek, a tributary of the Jim Creek drainage.^c Weir washed out, incomplete count^d Escapement goal undoubtedly achieved, perhaps exceeded

Table 101-2.—Estimated sport harvest of coho salmon in the Northern Cook Inlet Management Area, 1990–2018.

Northern Cook Inlet Management Area					
Year	Knik Arm	Eastside Susitna	Westside Susitna	West Cook Inlet	Total harvest
1990	18,762	11,743	13,883	6,016	50,404
1991	22,186	19,479	20,507	8,253	70,425
1992	25,814	33,790	16,218	7,037	82,859
1993	35,763	26,063	15,454	10,326	87,606
1994	28,539	20,870	15,361	8,247	73,017
1995	20,650	19,165	17,148	8,182	65,145
1996	24,874	24,174	17,375	11,430	77,853
1997	11,773	10,297	7,123	6,492	35,685
1998	23,750	23,086	13,235	8,160	68,231
1999	14,429	23,292	17,995	9,339	65,055
2000	32,530	37,748	23,262	11,712	105,252
2001	30,106	26,617	19,221	13,949	89,893
2002	44,448	27,183	14,144	13,380	99,155
2003	24,583	18,585	16,072	14,239	73,479
2004	34,298	20,484	17,785	16,179	88,746
2005	27,000	17,471	18,266	12,572	75,309
2006	39,953	22,719	20,474	11,940	95,086
2007	27,733	13,464	14,065	12,580	67,842
2008	35,996	24,211	15,126	14,673	90,006
2009	37,271	15,335	14,464	9,801	76,871
2010	26,369	14,291	16,245	9,030	65,935
2011	8,484	9,040	12,483	6,292	36,299
2012	5,014	7,629	9,434	7,813	29,890
2013	12,335	12,989	13,042	7,698	46,064
2014	16,180	12,462	12,972	7,320	48,934
2015	17,800	15,043	14,191	12,849	59,883
2016	7,989	5,939	4,022	6,029	23,979
2017	6,232	12,838	10,759	4,828	34,657
2018	14,429	9,728	15,093	8,554	47,804
<u>Averages</u>					
All Years	23,286	18,474	15,014	9,825	66,599
2009-2018	15,210	11,529	12,271	8,021	47,032
2014-2018	12,526	11,202	11,407	7,916	43,051

Table 101-3.—Commercial harvest of sockeye and coho salmon in the drift and ESSN fisheries, 1990–2019.

Year	Chinook		Sockeye		Coho	
	Drift	Set	Drift	Set	Drift	Set
1990	621	4,139	2,305,742	1,117,621	247,453	40,351
1991	246	4,893	1,118,138	844,603	176,245	30,436
1992	615	10,718	6,069,495	2,838,076	267,300	57,078
1993	765	14,079	2,558,732	1,941,798	121,829	43,098
1994	464	15,575	1,901,475	1,458,162	310,114	68,449
1995	594	12,068	1,773,873	961,227	241,473	44,751
1996	389	11,564	2,205,067	1,483,008	171,434	40,724
1997	627	11,325	2,197,961	1,832,856	78,666	19,668
1998	335	5,087	599,396	512,306	83,338	18,677
1999	575	9,463	1,413,995	1,092,946	64,814	11,923
2000	270	3,684	656,427	529,747	131,478	11,078
2001	619	6,009	846,275	870,019	39,418	4,246
2002	415	9,478	1,367,251	1,303,158	125,831	35,153
2003	1,240	14,810	1,593,638	1,746,841	52,432	10,171
2004	1,104	21,684	2,529,642	2,235,810	199,587	30,154
2005	1,958	21,597	2,520,327	2,534,345	144,753	19,543
2006	2,782	9,956	784,771	1,301,275	98,473	22,167
2007	912	12,292	1,823,481	1,353,407	108,703	23,610
2008	653	7,573	983,303	1,303,236	89,428	21,823
2009	859	5,588	968,075	905,853	82,096	11,435
2010	538	7,059	1,587,657	1,085,789	110,275	32,683
2011	593	7,697	3,201,035	1,877,939	40,858	15,560
2012	218	705	2,924,144	96,675	74,678	6,537
2013	493	2,988	1,662,561	921,533	184,771	2,266
2014	382	2,301	1,501,678	724,398	76,932	5,908
2015	556	7,781	1,012,684	1,481,336	130,720	17,948
2016	606	6,759	1,266,696	997,768	90,242	11,606
2017	264	4,779	880,279	832,220	191,490	29,916
2018	503	2,312	400,285	289,841	108,906	4,705
2019 ^a	178	2,245	749,101	784,279	88,618	6,507
<u>Averages</u>						
All years	679	8,540	1,713,439	1,241,936	131,079	23,272
2010-2019	433	4,463	1,518,612	909,178	109,749	13,364
2015-2019	415	4,363	968,454	851,640	114,485	12,765

^a Preliminary data.

Table 101-4.—Estimated sport harvest of Kenai River coho salmon by river section, 1990—2018.

Year	Cook Inlet to Soldotna Bridge	Soldotna Bridge to Moose River	Moose River to Skilak Lake	Skilak Lake to Kenai Lake	Kenai River reach not specified ^a	All sections
1990	40,567	8,446	7,281	4,031	ND	60,325
1991	49,499	13,438	9,520	3,699	7	76,163
1992	33,175	7,579	7,547	4,009	ND	52,310
1993	29,135	9,677	6,771	4,955	ND	50,538
1994	46,345	15,249	12,286	12,831	ND	86,711
1995	31,839	5,973	5,579	2,792	ND	46,183
1996	22,561	10,423	6,053	3,256	ND	42,293
1997	6,863	4,177	3,082	2,042	ND	16,164
1998	15,461	5,097	4,206	2,203	ND	26,967
1999	20,442	5,386	3,080	2,729	ND	31,637
2000	30,836	10,065	5,053	2,565	ND	48,519
2001	32,478	9,328	5,551	2,425	ND	49,782
2002	36,703	10,850	5,069	4,851	2177	59,650
2003	26,056	10,990	4,677	3,180	1754	46,657
2004	41,616	13,200	5,726	3,601	1809	65,952
2005	25,141	14,356	4,436	4,413	2065	50,411
2006	20,949	7,131	4,829	3,528	1202	37,639
2007	20,334	7,455	5,591	3,790	847	38,017
2008	31,164	9,283	5,274	4,536	1367	51,624
2009	28,066	8,416	7,895	4,357	1226	49,960
2010	28,135	11,029	8,884	2,733	2131	52,912
2011	27,346	8,939	5,531	2,213	103	44,132
2012	22,965	7,487	4,064	1,262	629	36,407
2013	23,831	14,950	6,901	2,978	294	48,954
2014	30,759	12,878	9,584	7,216	129	60,566
2015	34,002	12,140	8,091	2,760	74	57,067
2016	24,778	9,460	3,872	1,613	208	39,931
2017	29,625	10,521	6,151	1,985	145	48,427
2018	29,699	11,032	7,125	2,607	112	50,575
<u>Averages</u>						
All years	28,978	9,826	6,197	3,626	904	49,189
2009-2018	27,921	10,685	6,810	2,972	505	48,893
2014-2018	29,773	11,206	6,965	3,236	134	51,313

Table 101-5.—Kenai River late-run large > 75 cm king salmon population data, 1998–2019.

Year	Deep 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	Sport harvest above sonar ^g	Release mortality above sonar	Spawning escapement	Total run	Harvest rate
1998	917	2,165	123	1	ND	156					33,385	43,130	0.23
1999	502	4,402	231	3	ND	327					29,100	45,657	0.36
2000	568	1,795	114	4	ND	288					25,502	41,719	0.39
2001	465	1,905	170	4	ND	291					29,531	45,754	0.35
2002	226	3,483	132	3	ND	321					40,514	55,910	0.28
2003	95	4,375	317	5	ND	432					48,461	67,984	0.29
2004	832	9,990	439	7	ND	525					65,112	91,312	0.29
2005	583	9,501 ⁱ	744	7	ND	632					55,688	84,189	0.34
2006	477	3,074 ⁱ	742	5	ND	460					39,305	57,122	0.31
2007	387	4,055 ⁱ	260	3	ND	717					29,664	44,421	0.33
2008	287	3,425 ⁱ	255	10	ND	887					28,094	42,680	0.34
2009	128	1,410	187	1	ND	432					18,251	28,044	0.35
2010	262	2,384	170	11	ND	456					13,037	22,180	0.41
2011	425	2,499	208	3	ND	726					15,731	26,381	0.4
2012	211	333	89	0	ND	27					22,453	23,206	0.03
2013	229	679	89	2	ND	3					12,305	14,382	0.14
2014	322	706	93	0	ND	0					11,980	13,403	0.11
2015	354	2,808	143	4	ND	28					16,825	22,796	0.26
2016 ^j	16	2,906	215	4	1	376	3,374	20,821	2,522	170	14,754	24,338	0.39
2017 ^j	119	2,998	100	6	0	752	3,806	25,939	2,016	159	19,948	29,914	0.33
2018 ⁱ	30	555	169	1	0	0	64	17,021	101	108	16,813	17,571	0.04
2019 ^j	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11,671	14,020	0.17
Average													
1998–2013	412	3,467	267	4	ND	418					31,633	45,879	0.30
2014–2018	168	1,995	144	3	0	231	2,415	21,260	1,546	146	16,064	21,604	0.23

Source: Alaska Sport Fishing Survey database [Internet]. 1998-. Anchorage, AK: Alaska Department of Fish and Game, Division of Sport Fish (cited October 2019). Available from: <http://www.adfg.alaska.gov/sf/sportfishingsurvey/>; other data from Hammarstrom and Timmons (2001b), Reimer and Sigurdsson (2004), Dunker and Lafferty (2007), Dunker (2010, 2013, 2018), Shields and Frothingham (2018), Fleischman and McKinley (2013), A. St. Saviour, Sport Fish Biologist, ADF&G, Palmer, personal communication, 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.

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

^b Estimates for 1986–2009 are from Fleischman and McKinley (2013). Estimates for 2010–2015 from Eskelin et al. (2013), Eskelin and Barclay (2015, 2016).

^c Estimates for 1986–2009 are from Fleischman and McKinley (2013). Estimates for 2010–2015 are from ESSN GSI allocation.

^d Estimates for 1986–1994 from SWHS, estimates for 1995 are from Ruesch and Fox (1996), estimates for 1996–2018 are from returned permits.

^e Creel survey estimates are from below RM 8.6 prior to 2013 and below RM 13.7 since 2013.

^f Estimates for 1998–2009 inriver run are model derived RM 8.6 estimates from Fleischman and McKinley (2013). Estimates for 2010–2012 inriver run are RM 8.6 sonar estimates published in Miller et al. (2013–2015) and expanded by inverse of proportion midriver. Estimates for 2013–2015 inriver run are preliminary Adaptive Resolution Imaging Sonar (ARIS) estimates at RM 13.7 plus spawning downstream of RM 13.7 based on radio telemetry. Values for 2013–2015 are subject to change prior to publishing.

^g Creel survey and SWHS estimates are from 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 95 – Amend the preamble to the Kenai River Late-Run Sockeye Salmon Management Plan.

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

PROPOSED BY: Alaska Outdoor Journal/Gary Barnes.

WHAT WOULD THE PROPOSAL DO? This would amend the preamble to the *Kenai River Late-Run Sockeye Salmon Management Plan* to remove and replace the provision to manage primarily for commercial uses based on abundance with a statement to manage for commercial, sport, and personal use groups as a viable management method utilized to achieve a healthy and sustainable fishery. The proposal seeks to increase the harvest of Kenai River sockeye salmon by sport and personal use groups, but no specifics on how the management plan would change are provided.

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.*”

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The effects of this proposal are difficult to determine. The proposal seeks to remove language that directs the department to manage Kenai River sockeye salmon stocks by abundance and primarily for commercial uses to managing this stock for commercial, sport, and personal use groups.

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 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 biological escapement goal (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 as the board has deliberated to balance the allocation needs and desires of the various user groups.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. The allocation guidelines within the umbrella plan (5 AAC 31.363) are used by the board in developing specific UCI fishery management plans and helps shape preamble language. In practice, the umbrella and preamble language does not impact inseason management as the department follows provisions within specific plans to manage fisheries. When adopting or modifying specific management plans that apply in Cook Inlet, future board action could be guided by the proposed principle stated in the preamble. Preamble language in management plans provides direction to future boards, stake holders, and the department on the long-term management objectives of the board at the time the language was adopted, but does not override the priority of management for established escapement objectives. Specific provisions describing how to meet preamble directives and escapement objectives are often codified in the body of the management plan.

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. Approval of this proposal is not expected to result in an additional cost for the department.

PROPOSAL 99 – Establish mandatory closed inriver fishing windows for sockeye salmon.

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

PROPOSED BY: John McCombs.

WHAT WOULD THE PROPOSAL DO? This would establish mandatory closed inriver fishing windows for sockeye salmon.

WHAT ARE THE CURRENT REGULATIONS? The department manages commercial, sport, and personal use fisheries in the Kenai River to: 1) meet the SEG range of 700,000–1,200,000 late-run sockeye salmon, 2) achieve inriver goals as established by the board and measured at the Kenai River sonar counter located at RM 19, and 3) distribute escapement of sockeye salmon evenly within the SEG range, in proportion to the size of the run.

Subject to achieving the lower end of the SEG, the department is instructed to provide for a personal use dip net fishery in the lower Kenai River as specified in the *Upper Cook Inlet Personal Use Salmon Fishery Management Plan* (5 AAC 77.540). This plan also provides for a personal use salmon gillnet and dip net fishery at the mouth of Kasilof River. Sport, commercial, and personal use fisheries are managed to meet a sockeye salmon biological escapement goal (BEG) in the Kasilof River.

Subject to achieving the lower end of the Kenai River late-run sockeye salmon SEG, the department manages the sport fishery on the Kenai River, except for the Russian River, with a bag and possession limit for sockeye salmon of 3 per day, with 6 in possession. The commissioner may increase, by EO, the sockeye salmon bag and possession limit, as the commissioner determines to be appropriate, if the department determines that the abundance of the Kenai River late-run sockeye salmon is greater than 2.3 million.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would reduce inriver fishing opportunity, catch, and harvest of sockeye salmon by an unknown amount depending on frequency and length of fishing closures. It would likely increase crowding on the river during periods the river is open. This proposal may increase participation and harvest in other Kenai Peninsula freshwater fisheries during the hours or days the Kenai River inriver fisheries are closed.

BACKGROUND: The first restrictions on additional time in the Upper Subdistrict set gillnet fishery were put in place in 1999. At that time there was a mandatory 24-hour closed period on Fridays, often called a “window” which was intended to increase stability and dependability of inriver fisheries during the weekend by putting sockeye salmon into the river. At every UCI board meeting since 2002, window closures in the Upper Subdistrict set gillnet fishery have been modified.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on allocative aspects of this proposal. If the board acts on this proposal it should consider the impact that opening and closing a sport fishery as proposed would have on the orderly conduct of the inriver fishery. A Kenai River late-run sockeye salmon inriver goal provides for an allocation to the inriver sport fishery

above the RM 19 sockeye salmon sonar. The department has emergency order authority to modify seasons, areas, and bag and possession limits in order provide opportunity to harvest this allocation and to achieve the SEG. The PU fishery season is 22 days long (July 10–31) and the department has emergency order authority to limit the fishery in order to achieve the OEG.

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

PROPOSAL 94 – Add an additional weekly closure in the Upper Subdistrict set gillnet fishery.

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

PROPOSED BY: Alaska Outdoor Journal/Gary Barnes.

WHAT WOULD THE PROPOSAL DO? This would implement an additional 24-hour closure in the Upper Subdistrict set gillnet (ESSN) fishery at run strengths greater than 4,600,000 Kenai River sockeye salmon.

WHAT ARE THE CURRENT REGULATIONS? When Kenai River sockeye salmon total runs are greater than 4.6 million fish, the ESSN fishery must be closed for one continuous 36-hour period per week from July 1 through August 15, with the closure starting sometime between 7:00 p.m. Thursday and 7:00 a.m. Friday.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would reduce the ESSN fishery sockeye salmon harvest during years of runs greater than 4.6 million and may increase the number of sockeye salmon entering the Kenai River. Adding a 24-hour mandatory closed fishing period (“window”) per week to the current 36-hour window for Kenai River sockeye salmon runs greater than 4.6 million fish would reduce tools available to the department to manage for escapement objectives and may increase the likelihood that the inriver goal for this run size would be exceeded, requiring, in some years, the department to deviate from management plans to constrain sockeye salmon passage within the inriver goal. This may increase the harvest of sockeye salmon in the sport and personal use fishery.

BACKGROUND: 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 88-2). In 2011, the department transitioned from Bendix sonar to DIDSON, and the Kenai abundance tiers changed to runs less than 2.3 million; 2.3 to 4.6 million, and greater than 4.6 million. In each tier, the board set a maximum number of hours that could be fished each week in the ESSN fishery beyond the 12-hour regular periods on Monday and Thursday. In addition, beginning in 1999, the board also established weekly closed-fishing windows in the set gillnet fishery (Table 88-2). Since 1999, when windows were first adopted, there have been four Kenai River sockeye salmon runs (2004, 2005, 2011, and 2012) in the upper abundance tier (Table 88-1). In all four cases, the inriver goal and the SEG was exceeded. (please see background for Proposal 88 for more detail).

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. Approval of this proposal is not expected to result in an additional cost for the department.

COMMITTEE OF THE WHOLE—GROUP 2: SUSITNA SOCKEYE STOCK OF CONCERN, CENTRAL DISTRICT DRIFT FISHERY MANAGEMENT PLAN, SET GILLNET AND DRIFT GILLNET TIME AND AREA, UPPER COOK INLET COHO SALMON, AND UPPER COOK INLET PINK SALMON (34 PROPOSALS)

Susitna Sockeye Stock of Concern

Susitna Sockeye Stock of Concern discussion and potential board action.

Central District Drift Gillnet Fishery Management Plan (12 proposals)

PROPOSAL 133 – Amend the Central District Drift Gillnet Fishery Management Plan.

5 AAC 21.353. Central District Drift Gillnet Fishery Management Plan.

PROPOSED BY: Mat-Su Borough Fish and Wildlife Commission/Mike Wood.

WHAT WOULD THE PROPOSAL DO? This would amend the *Central District Drift Gillnet Fishery Management Plan* by removing the option to expand one drift gillnet fishing period from Drift Gillnet Area 1 to a districtwide period from July 16–31 in Kenai River sockeye salmon runs of 2.3–4.6 million fish. It also would amend language that states there are no mandatory restrictions to drift gillnetting from August 1–15 to stating that drift gillnetting on regular Monday and Thursday fishing periods from August 1–15 will be restricted to one or more of the following: Expanded Kenai Section, Expanded Kasilof Section, Anchor Point Section, and Drift Gillnet Area 1. Finally, all additional fishing time from August 1–15 on days other than regular fishing periods would be limited to one or more of the following: Expanded Kenai Section, Expanded Kasilof Section, and Anchor Point Section.

WHAT ARE THE CURRENT REGULATIONS? 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 123-1 and 123-2). 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. Restrictions to the drift fleet from July 9–15 are to reduce the harvest of Susitna River sockeye salmon.

From July 16–31, 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 is 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. One regular 12-hour fishing period from July 16 through

July 31 may occur in the Central District instead of in Drift Gillnet Area 1. 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. Restrictions to the drift fleet from July 16–31 are to reduce the harvest of Susitna River sockeye and Northern Cook Inlet coho salmon.

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 126-1). 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 THE PROPOSAL WERE ADOPTED? Limiting drift gillnet fishing to no more than Drift Gillnet Area 1 and the Expanded Corridors from August 1–15 would reduce the drift gillnet harvest of all salmon, including Kenai and Kasilof river sockeye salmon, by an unknown amount and would increase the abundance of all salmon stocks available to Northern District and Upper Subdistrict commercial setnetters and inriver users in NCI streams and the Kenai and Kasilof rivers.

BACKGROUND: 5 AAC 21.360. *Kenai River Late-Run Sockeye Salmon Management Plan*, states, “The department shall manage the Kenai River late-run sockeye salmon stocks primarily for commercial uses based on abundance. Because Kenai River sockeye salmon are the most abundant sockeye salmon stock in UCI, many management decisions, and even management plan provisions, are driven by the abundance of Kenai River sockeye salmon. However, this plan also states, “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.” These management plan objectives are primarily accomplished with specific provisions that restrict commercial fishing during two time periods, July 9–15 and July 16–31, where the drift fleet is restricted to specific areas of the Central District in order to reduce the drift gillnet harvest of NCI sockeye and coho salmon.

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 (Table 125-1).

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 125-1). 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 125-1). 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 (Figures 123-1 and 123-2); 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 125-1). 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 125-1).

In 2014, modifications to the drift gillnet plan included: 1) Both regular fishing periods from July 9–15 were restricted to the Expanded Kenai and Expanded Kasilof sections and Drift Gillnet Area 1; 2) At Kenai River run strengths greater than 2.3 million fish, a third 12 hour fishing period during this time may be allowed in the Expanded Kenai and Expanded Kasilof sections and Drift Gillnet Area 1; 3) from July 16 to 31, at run strengths less than 2.3 million Kenai River sockeye salmon, fishing during all regular 12 hour fishing periods were to be restricted to the Expanded Kenai and Expanded Kasilof sections; 4) at run strengths of 2.3 million to 4.6 million Kenai River sockeye salmon, fishing during one 12 hour regular fishing period per week will be restricted to any or all of the following areas: Expanded Kenai Section, Expanded Kasilof Section, Anchor Point Section (Figure 4), and Drift Area 1. The remaining weekly 12 hour regular fishing period will be restricted to 1 or more of the following: Expanded Kenai, Expanded Kasilof, or Anchor Point sections; 5) at run strengths greater than 4.6 million Kenai River sockeye salmon, fishing during one 12 hour fishing period per week will be restricted to the Expanded Kenai, Expanded Kasilof, and Anchor Point sections. There are no mandatory restrictions on the remaining 12-hour regular fishing period; 6) all additional fishing time, other than regular fishing periods, is allowed in any or all of the following: Expanded Kenai, Expanded Kasilof and Anchor Point sections; 7) added the "Anchor Point Section" to the list of corridors. Finally, in 2014, a new one-percent rule for drift gillnetting was passed. The drift rule states that after August 1 drift gillnet regular periods will be restricted to Drift Gillnet Areas 3 and 4, if the drift fleet harvests less than one-percent of their total sockeye salmon harvest for two consecutive fishing periods.

In 2017, one of the drift gillnet Area 1 openings from July 16–31 in Kenai River sockeye salmon runs of 2.3–4.6 million fish could be expanded to districtwide instead of just in Drift Area 1. The drift gillnet average annual harvest of both sockeye and coho salmon has declined through time (Table 133-1). The average annual sockeye salmon harvest of 1.52 million fish from the most recent 10 years (2000–2019) is approximately one million fish less than the 1980–1989 average annual harvest of 2.51 million fish. Similarly, for coho salmon, the most recent 10-year average annual harvest of 110,000 fish is 175,000 fish less than the average annual harvest of 285,000 fish from 1980–1989.

Based on sport and commercial harvest estimates of sockeye salmon from NCI drainages (Table 133-2), in order to meet a 60%-80% harvest allocation to NCI sport and ND set gillnet commercial fisheries, the drift gillnet commercial harvest of NCI stocks would need to be significantly reduced. As noted earlier, the West Cook Inlet reporting group (Figure 133-1) contains sockeye salmon stocks outside of NCI drainages.

From 2013–2016, genetic mixed stock analyses were conducted on coho salmon harvested in UCI commercial fisheries (Tables 133-3 through 133-8). The drift gillnet average annual harvest of NCI coho salmon during these four years averaged 24,000 fish from the Northwest CI; 23,000

from Susitna; 5,400 from Deshka River; 28,000 from Yentna River; 21,000 from Knik Arm; 1,700 from Jim Creek; and 7,800 originating from Turnagain/Northeast CI streams (Figure 133-1; Table 133-8). Coho salmon abundance estimates were completed for the entire Susitna River drainage in 2014 and 2015; in 2014 the estimate was 159,000 fish, in 2015 the coho salmon abundance estimate was 263,000 fish.

From 1977–2018, the average annual total coho salmon harvest in the NCI management area sport fisheries was approximately 58,000 fish per year (Table 133-9). In the most recent five years (2013–2018), the average annual harvest has been 43,000 fish. The average annual sport fishery harvest in the Little Susitna River from 1988–2018 was approximately 12,000 fish (Table 133-10). The average annual coho salmon sport fishery harvest from 2002–2018 at Fish Creek was approximately 5,600 fish; with 1,100 fish at Jim Creek, and 3,300 coho salmon at Jim Creek.

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

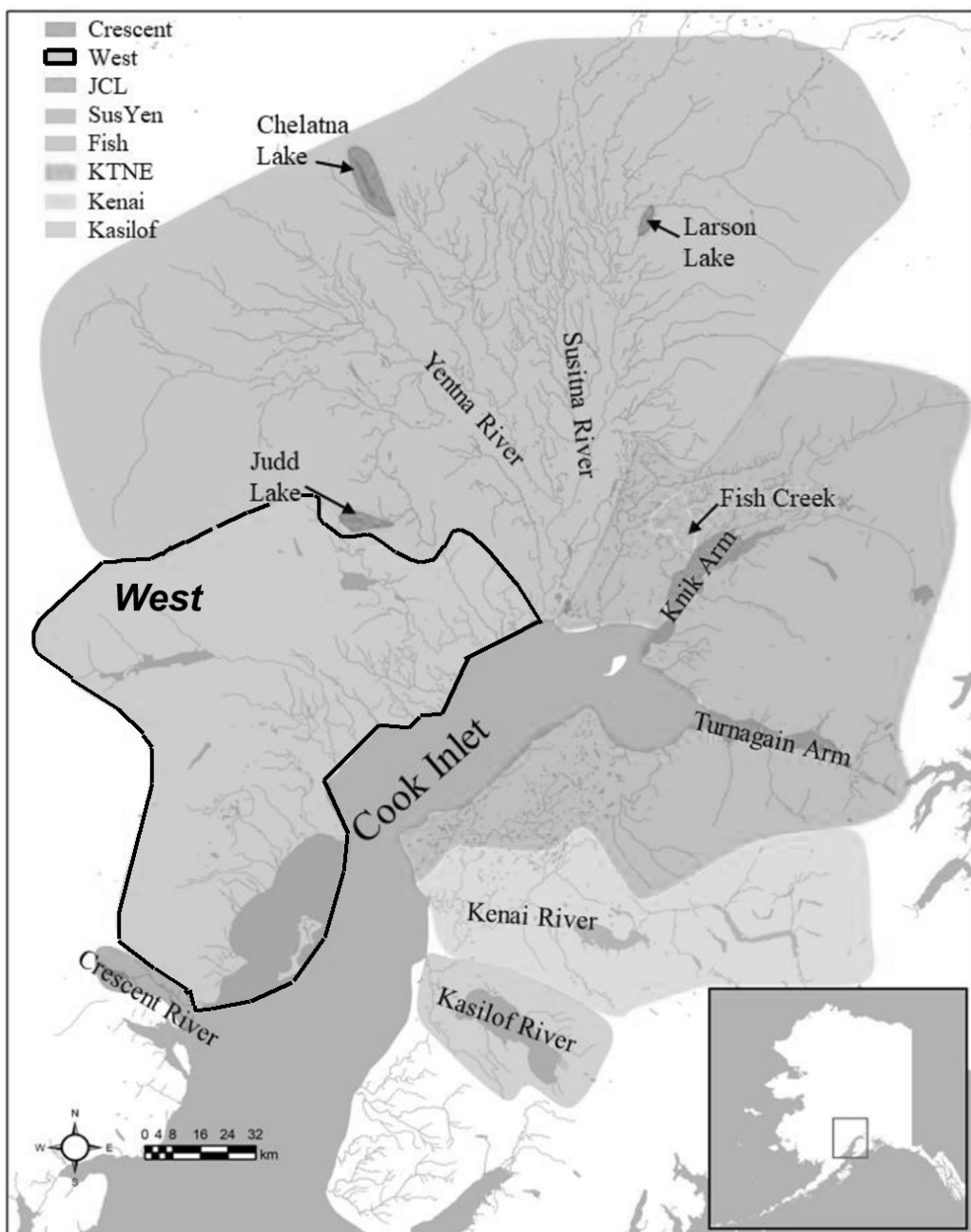


Figure 133-1.—Map of Cook Inlet showing reporting group areas for genetic mixed stock analysis of sockeye salmon harvest samples.

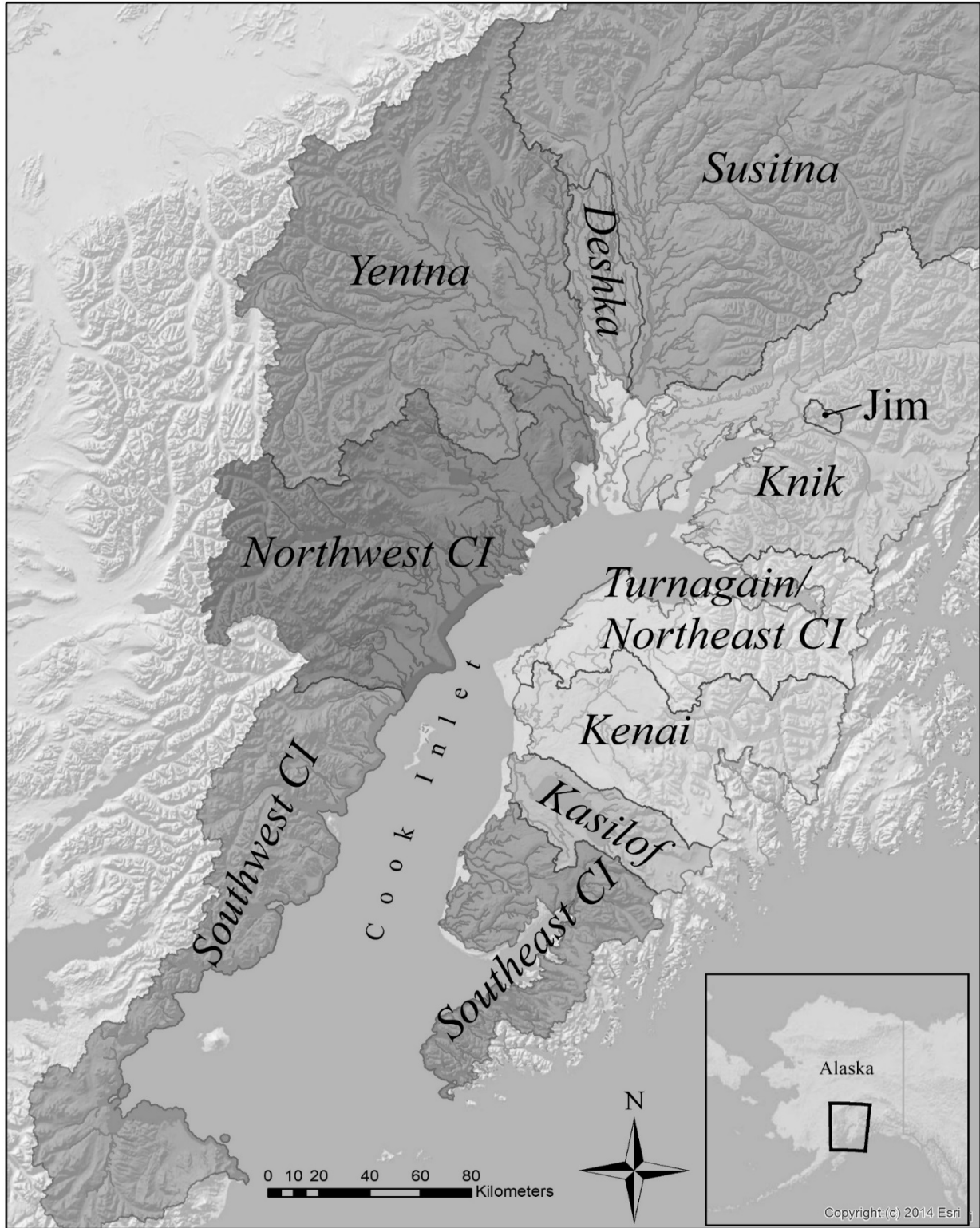


Figure 133-2.—Map of Cook Inlet showing reporting group areas for genetic mixed stock analysis of coho salmon harvest samples.

Table 133-1.—Drift gillnet commercial harvest of sockeye and coho salmon, 1980–2019.

Year	Sockeye	Coho
1980	769,078	88,792
1981	632,991	221,969
1982	2,102,307	398,958
1983	3,222,204	318,211
1984	1,234,388	196,614
1985	2,032,957	357,388
1986	2,837,857	506,818
1987	5,638,916	202,506
1988	4,139,358	278,828
1989		
1990	2,305,742	247,453
1991	1,118,138	176,245
1992	6,069,495	267,300
1993	2,558,732	121,829
1994	1,901,475	310,114
1995	1,773,873	241,473
1996	2,205,067	171,434
1997	2,197,961	78,666
1998	599,396	83,338
1999	1,413,995	64,814
2000	656,427	131,478
2001	846,275	39,418
2002	1,367,251	125,831
2003	1,593,638	52,432
2004	2,529,642	199,587
2005	2,520,327	144,753
2006	784,771	98,473
2007	1,823,481	108,703
2008	983,303	89,428
2009	968,075	82,096
2010	1,587,657	110,275
2011	3,201,035	40,858
2012	2,924,144	74,678
2013	1,662,561	184,771
2014	1,501,678	76,932
2015	1,012,684	130,720
2016	1,266,746	90,242
2017	880,279	191,490
2018	400,269	108,906
2019	749,101	88,618
<u>Averages</u>		
1980-1989	2,512,228	285,565
1990-1999	2,214,387	176,267
2000-2009	1,407,319	107,220
2010-2019	1,518,615	109,749

Table 133-2.—Estimates of Northern Cook Inlet (NCI) sockeye salmon harvest in sport fisheries, Northern District (ND) commercial set gillnet and Central District drift gillnet fisheries, 2006–2019.

Year	Sport harvest				ND Set ^a	Sport/ND Set	Drift ^a	Total	60-80% Allocation	
	Susitna	Knik Arm	W. NCI	Anchorage					60%	80%
2006	2,038	6,668	11	80	7,226	16,023	86,375	102,398	61,439	81,918
2007	4,647	8,918	104	172	11,385	25,226	335,160	360,386	216,232	288,309
2008	4,403	8,705	0	223	21,064	34,395	172,814	207,209	124,325	165,767
2009	9,682	5,997	0	192	31,167	47,038	234,743	281,781	169,069	225,425
2010	5,449	5,630	0	193	36,327	47,599	330,612	378,211	226,927	302,569
2011	5,872	3,719	17	244	32,072	41,924	390,372	432,296	259,378	345,837
2012	5,395	2,685	0	64	18,046	26,190	285,408	311,598	186,959	249,278
2013	9,360	2,749	19	28	21,806	33,962	206,633	240,595	144,357	192,476
2014	6,084	2,252	69	288	32,841	41,534	116,584	158,118	94,871	126,494
2015	5,411	2,183	0	266	46,722	54,582	209,135	263,717	158,230	210,974
2016	10,451	3,418	0	16	34,802	48,687	136,393	185,080	111,048	148,064
2017	5,092	1,263	0	145	42,524	49,024	279,804	328,828	197,297	263,062
2018	6,790			193	45,629	52,612	151,021	203,633	122,180	162,906
Averages	6,206	4,516	18	162	29,355	39,907	225,773	265,681	159,408	212,545

^a Estimates of Northern Cook Inlet sockeye salmon harvested in set and drift gillnet commercial fisheries include harvest from the West Cook Inlet, JCL, Sus/Yen, Fish, and KTNE reporting groups. An unknown proportion of the harvest in the West Cook Inlet reporting group contains sockeye salmon originating from non-NCI drainages.

Table 133-3.—Stock-specific harvest, standard deviation (SD), and 90% credibility intervals calculated using a stratified estimator (see text) for combined strata in the Central District drift gillnet (5 temporal strata) and Northern District set gillnet (3 spatial strata) fisheries and based on genetic analysis of mixtures of coho salmon harvested in the Upper Cook Inlet in 2013.combined temporal strata in the Central (1 area stratum) and Northern (1 area stratum) districts and based on genetic analysis of mixtures of coho salmon harvested in the Upper Cook Inlet in 2013 (A. W. Barclay, Commercial Fisheries Biologist, ADF&G, Anchorage, personal communication).

Area strata	Reporting group	Harvest	90% CI		SD
			5%	95%	
Central District drift gillnet					
	<i>Southwest</i>	1,621	1,066	2,295	389
	<i>Northwest</i>	35,981	29,874	42,448	3,731
	<i>Susitna</i>	37,207	30,437	44,197	4,108
	<i>Deshka</i>	10,094	6,640	14,125	2,267
	<i>Yentna</i>	53,940	46,388	61,868	4,745
	<i>Knik</i>	31,681	26,175	37,435	3,380
	<i>Jim</i>	2,444	1,142	3,985	876
	<i>Turnagain/Northeast</i>	6,240	2,045	10,771	2,619
	<i>Kenai</i>	1,590	823	2,472	513
	<i>Kasilof</i>	237	0	723	255
	<i>Southeast</i>	782	144	1,607	453
	Harvest represented	181,818			
	Harvest unanalyzed	2,953			
	Total Harvest	184,771			
Northern District, Eastern and General subdistricts set gillnet					
	<i>Southwest</i>	30	0	152	59
	<i>Northwest</i>	6,783	5,042	8,694	1,100
	<i>Susitna</i>	5,712	3,875	7,634	1,141
	<i>Deshka</i>	1,449	471	2,539	626
	<i>Yentna</i>	11,667	9,791	13,658	1,149
	<i>Knik</i>	7,685	6,527	8,934	726
	<i>Jim</i>	475	175	855	207
	<i>Turnagain/Northeast</i>	7,932	6,670	9,225	777
	<i>Kenai</i>	513	224	829	187
	<i>Kasilof</i>	0	0	64	34
	<i>Southeast</i>	0	0	77	39
	Harvest represented	42,246			
	Harvest unanalyzed	147			
	Total harvest	42,393			

Note: Stock-specific harvest numbers may not sum to the total harvest due to rounding error.

Table 133-4.—Stock-specific harvest, standard deviation (SD), and 90% credibility intervals calculated using a stratified estimator (see text) for combined strata in the Central District drift gillnet (5 temporal strata) and Northern District set gillnet (3 spatial strata) fisheries and based on genetic analysis of mixtures of coho salmon harvested in the Upper Cook Inlet in 2013.combined temporal strata in the Central (1 area stratum) and Northern (1 area stratum) districts and based on genetic analysis of mixtures of coho salmon harvested in the Upper Cook Inlet in 2014 (A. W. Barclay, Commercial Fisheries Biologist, ADF&G, Anchorage, personal communication).

Area strata	Reporting group	Harvest	90% CI		SD
			5%	95%	
Central District drift gillnet					
	<i>Southwest</i>	334	144	601	141
	<i>Northwest</i>	11,717	9,742	14,022	1,316
	<i>Susitna</i>	16,593	13,201	20,262	2,168
	<i>Deshka</i>	3,163	1,467	4,920	1,053
	<i>Yentna</i>	14,752	11,651	17,781	1,884
	<i>Knik</i>	14,654	12,425	17,061	1,397
	<i>Jim</i>	696	54	1,387	400
	<i>Turnagain/Northeast</i>	7,937	5,544	10,596	1,541
	<i>Kenai</i>	1,589	1,078	2,178	335
	<i>Kasilof</i>	3	0	118	63
	<i>Southeast</i>	3	0	141	67
	Harvest represented	71,441			
	Harvest unanalyzed	5,491			
	Total Harvest	76,932			
Northern District, Eastern and General subdistricts set gillnet					
	<i>Southwest</i>	0	0	60	28
	<i>Northwest</i>	6,095	4,799	7,456	820
	<i>Susitna</i>	4,847	3,462	6,290	863
	<i>Deshka</i>	0	0	807	386
	<i>Yentna</i>	4,877	3,687	6,085	747
	<i>Knik</i>	9,000	7,980	10,041	629
	<i>Jim</i>	523	262	827	175
	<i>Turnagain/Northeast</i>	8,169	7,135	9,380	704
	<i>Kenai</i>	189	36	393	115
	<i>Kasilof</i>	3	0	78	36
	<i>Southeast</i>	46	1	191	66
	Harvest represented	33,750			
	Harvest unanalyzed	1,375			
	Total harvest	35,125			

Note: Stock-specific harvest numbers may not sum to the total harvest due to rounding error.

Table 133-5.—Stock-specific harvest, standard deviation (SD), and 90% credibility intervals calculated using a stratified estimator (see text) for combined strata in the Central District drift gillnet excluding corridor-only periods (5 temporal strata), drift gillnet corridor-only periods (1 temporal stratum) and Upper Subdistrict set gillnet (1 temporal stratum) and Northern District set gillnet (3 spatial strata) fisheries and based on genetic analysis of mixtures of coho salmon harvested in the Upper Cook Inlet in 2015 (A. W. Barclay, Commercial Fisheries Biologist, ADF&G, Anchorage, personal communication).

Area strata	Reporting group	Harvest	90% CI		SD
			0	1	
Central District drift gillnet (excluding corridor-only periods)					
	<i>Southwest</i>	649	151	1,414	386
	<i>Northwest</i>	26,843	23,316	30,473	2,210
	<i>Susitna</i>	16,044	11,650	20,426	2,676
	<i>Deshka</i>	2,448	886	4,153	1,005
	<i>Yentna</i>	20,478	16,481	24,625	2,498
	<i>Knik</i>	18,522	15,768	21,311	1,701
	<i>Jim</i>	1,844	1,110	2,709	485
	<i>Turnagain/Northeast</i>	6,675	4,217	9,231	1,531
	<i>Kenai</i>	2,590	1,760	3,496	525
	<i>Kasilof</i>	28	0	345	147
	<i>Southeast</i>	572	52	1,188	366
	Harvest represented	96,694			
	Harvest unanalyzed	6,007			
	Total Harvest	102,701			
Central District drift gillnet (corridor-only periods)					
	<i>Southwest</i>	0	0	74	50
	<i>Northwest</i>	4,498	2,864	6,338	1,062
	<i>Susitna</i>	3,972	2,013	6,154	1,255
	<i>Deshka</i>	507	0	1,660	696
	<i>Yentna</i>	7,545	5,279	9,808	1,365
	<i>Knik</i>	7,334	5,762	9,106	1,022
	<i>Jim</i>	706	303	1,235	284
	<i>Turnagain/Northeast</i>	2,531	1,358	3,967	797
	<i>Kenai</i>	313	0	754	245
	<i>Kasilof</i>	0	0	69	45
	<i>Southeast</i>	0	0	58	35
	Harvest represented	27,405			
	Harvest unanalyzed	614			
	Total harvest	28,019			

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Table 133-5.–Page 2 of 2.

Area strata	Reporting group	Harvest	90% CI		SD
			0	1	
Central District, Upper Subdistrict set gillnet					
	<i>Southwest</i>	29	0	201	76
	<i>Northwest</i>	2,233	1,167	3,337	649
	<i>Susitna</i>	1,923	576	3,267	808
	<i>Deshka</i>	20	0	495	206
	<i>Yentna</i>	1,659	577	2,859	690
	<i>Knik</i>	3,998	2,879	5,246	728
	<i>Jim</i>	395	167	671	156
	<i>Turnagain/Northeast</i>	2,205	1,449	3,007	480
	<i>Kenai</i>	4,576	3,833	5,331	450
	<i>Kasilof</i>	467	161	843	209
	<i>Southeast</i>	12	0	212	91
	Harvest represented	17,517			
	Harvest unanalyzed	431			
	Total Harvest	17,948			
Area strata	Reporting group	Harvest	90% CI		SD
			0	1	
Northern District, Eastern and General subdistricts set gillnet					
	<i>Southwest</i>	6	0	74	40
	<i>Northwest</i>	7,390	5,434	9,456	1,201
	<i>Susitna</i>	4,271	2,492	6,163	1,123
	<i>Deshka</i>	1,074	0	2,230	687
	<i>Yentna</i>	8,542	6,875	10,234	1,021
	<i>Knik</i>	12,438	10,712	14,215	1,081
	<i>Jim</i>	372	117	705	182
	<i>Turnagain/Northeast</i>	8,519	7,371	9,873	768
	<i>Kenai</i>	303	120	550	132
	<i>Kasilof</i>	100	0	288	99
	<i>Southeast</i>	0	0	131	68
	Harvest represented	43,015			
	Harvest unanalyzed	3,488			
	Total harvest	46,503			

Note: Stock-specific harvest numbers may not sum to the total harvest due to rounding error.

Table 133-6.—Stock-specific harvest, standard deviation (SD), and 90% credibility intervals calculated using a stratified estimator (see text) for combined strata in the Central District drift gillnet excluding corridor-only periods (5 temporal strata), drift gillnet corridor-only periods (1 temporal stratum) and Upper Subdistrict set gillnet (1 temporal stratum) and Northern District set gillnet (3 spatial strata) fisheries and based on genetic analysis of mixtures of coho salmon harvested in the Upper Cook Inlet in 2016 (A. W. Barclay, Commercial Fisheries Biologist, ADF&G, Anchorage, personal communication).

Area strata	Reporting group	Harvest	90% CI		SD
			5%	95%	
Central District drift gillnet (excluding corridor-only periods)					
	<i>Southwest</i>	667	194	1,346	367
	<i>Northwest</i>	17,072	12,729	21,569	2,701
	<i>Susitna</i>	14,762	10,739	19,072	2,545
	<i>Deshka</i>	4,291	2,385	6,294	1,191
	<i>Yentna</i>	11,136	7,803	14,669	2,081
	<i>Knik</i>	8,101	4,888	11,883	2,185
	<i>Jim</i>	1,230	531	2,050	471
	<i>Turnagain/Northeast</i>	6,053	2,742	9,471	2,036
	<i>Kenai</i>	1,721	1,016	2,578	466
	<i>Kasilof</i>	549	82	1,470	473
	<i>Southeast</i>	501	52	1,508	480
	Harvest represented	66,083			
	Harvest unanalyzed	5,984			
	Total harvest	72,067			
Central District drift gillnet (corridor-only periods)					
	<i>Southwest</i>	696	393	1,041	199
	<i>Northwest</i>	0	0	337	159
	<i>Susitna</i>	2,503	1,408	3,601	670
	<i>Deshka</i>	1,196	567	1,864	387
	<i>Yentna</i>	5,101	4,051	6,185	637
	<i>Knik</i>	4,918	3,903	5,991	634
	<i>Jim</i>	28	0	285	117
	<i>Turnagain/Northeast</i>	1,757	852	2,747	578
	<i>Kenai</i>	533	299	837	166
	<i>Kasilof</i>	0	0	80	42
	<i>Southeast</i>	418	95	824	223
	Harvest represented	17,151			
	Harvest unanalyzed	1,024			
	Total harvest	18,175			

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Table 133-6.–Page 2 of 2.

Area strata	Reporting group	Harvest	90% CI		SD
			5%	95%	
Central District, Upper Subdistrict set gillnet					
	<i>Southwest</i>	120	29	314	101
	<i>Northwest</i>	0	0	350	157
	<i>Susitna</i>	553	0	1,230	413
	<i>Deshka</i>	140	0	602	230
	<i>Yentna</i>	771	100	1,444	395
	<i>Knik</i>	417	0	942	308
	<i>Jim</i>	0	0	34	22
	<i>Turnagain/Northeast</i>	3,469	2,542	4,467	583
	<i>Kenai</i>	5,395	4,746	6,039	393
	<i>Kasilof</i>	21	0	143	57
	<i>Southeast</i>	343	74	654	174
	Harvest represented	11,228			
	Harvest unanalyzed	378			
	Total Harvest	11,606			
Area strata	Reporting group	Harvest	90% CI		SD
			5%	95%	
Northern District, Eastern and General subdistricts set gillnet					
	<i>Southwest</i>	4	0	82	39
	<i>Northwest</i>	4,175	2,985	5,622	784
	<i>Susitna</i>	4,338	2,755	5,801	932
	<i>Deshka</i>	1,578	859	2,361	452
	<i>Yentna</i>	5,014	3,701	6,281	785
	<i>Knik</i>	5,587	4,816	6,405	497
	<i>Jim</i>	188	58	367	100
	<i>Turnagain/Northeast</i>	8,448	7,619	9,280	511
	<i>Kenai</i>	298	140	507	112
	<i>Kasilof</i>	22	0	111	41
	<i>Southeast</i>	17	0	159	71
	Harvest represented	29,669			
	Harvest unanalyzed	780			
	Total Harvest	30,449			

Note: Stock-specific harvest numbers may not sum to the total harvest due to rounding error.

Table 133-7.—Stock-specific harvest, standard deviation (SD), coefficient of variation (CV), and 90% credibility intervals calculated using a stratified estimator (see text) for combined temporal strata in all fishing area strata and based on genetic analysis of mixtures of coho salmon harvested in the Upper Cook Inlet, 2013–2016 (A. W. Barclay, Commercial Fisheries Biologist, ADF&G, Anchorage, personal communication).

Year	Reporting Group	Harvest	90% CI		SD	CV
			5%	95%		
2013	<i>Southwest</i>	1,651	1,089	2,349	393	24%
	<i>Northwest</i>	42,764	36,614	49,336	3,879	9%
	<i>Susitna</i>	42,919	35,940	49,962	4,237	10%
	<i>Deshka</i>	11,543	8,001	15,632	2,352	20%
	<i>Yentna</i>	65,607	57,889	73,603	4,842	7%
	<i>Knik</i>	39,366	33,776	45,264	3,456	9%
	<i>Jim</i>	2,919	1,555	4,475	902	31%
	<i>Turnagain/Northeast</i>	14,172	9,808	18,917	2,725	19%
	<i>Kenai</i>	2,103	1,275	3,068	551	26%
	<i>Kasilof</i>	237	0	725	257	108%
	<i>Southeast</i>	782	134	1,612	453	58%
	Harvest represented	224,064				
	Harvest unanalyzed	36,879				
	Total harvest	260,943				
2014	<i>Southwest</i>	334	136	600	144	43%
	<i>Northwest</i>	17,812	15,452	20,400	1,525	9%
	<i>Susitna</i>	21,440	17,784	25,283	2,299	11%
	<i>Deshka</i>	3,163	1,373	4,947	1,108	35%
	<i>Yentna</i>	19,629	16,240	22,897	2,025	10%
	<i>Knik</i>	23,654	21,224	26,184	1,500	6%
	<i>Jim</i>	1,219	523	1,999	437	36%
	<i>Turnagain/Northeast</i>	16,106	13,508	18,863	1,681	10%
	<i>Kenai</i>	1,778	1,228	2,410	359	20%
	<i>Kasilof</i>	6	0	142	73	1259%
	<i>Southeast</i>	49	0	241	94	191%
	Harvest represented	105,191				
	Harvest unanalyzed	32,153				
	Total harvest	137,344				

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Table 133-7.–Page 2 of 2.

Year	Reporting Group	Harvest	90% CI		SD	CV
			5%	95%		
2015	<i>Southwest</i>	683	163	1,445	396	58%
	<i>Northwest</i>	40,964	36,526	45,622	2,792	7%
	<i>Susitna</i>	26,210	20,644	31,649	3,332	13%
	<i>Deshka</i>	4,049	1,742	6,490	1,435	35%
	<i>Yentna</i>	38,224	33,074	43,544	3,167	8%
	<i>Knik</i>	42,292	38,458	46,109	2,328	6%
	<i>Jim</i>	3,318	2,379	4,369	605	18%
	<i>Turnagain/Northeast</i>	19,929	16,818	23,118	1,908	10%
	<i>Kenai</i>	7,782	6,611	9,004	725	9%
	<i>Kasilof</i>	595	204	1,124	281	47%
	<i>Southeast</i>	584	24	1,272	383	66%
	Harvest represented	184,631				
	Harvest unanalyzed	31,288				
	Total harvest	215,919				
2016	<i>Southwest</i>	1,488	875	2,261	432	29%
	<i>Northwest</i>	21,246	16,632	26,134	2,951	14%
	<i>Susitna</i>	22,156	17,353	27,070	2,959	13%
	<i>Deshka</i>	7,205	5,004	9,559	1,364	19%
	<i>Yentna</i>	22,022	18,151	26,024	2,420	11%
	<i>Knik</i>	19,023	15,571	22,990	2,317	12%
	<i>Jim</i>	1,446	709	2,348	502	35%
	<i>Turnagain/Northeast</i>	19,727	16,175	23,507	2,255	11%
	<i>Kenai</i>	7,947	6,934	9,059	640	8%
	<i>Kasilof</i>	592	69	1,519	478	81%
	<i>Southeast</i>	1,278	541	2,362	565	44%
	Harvest represented	124,131				
	Harvest unanalyzed	23,337				
	Total harvest	147,468				

Note: Stock-specific harvest numbers may not sum to the total harvest represented due to rounding error.

Table 133-8.—Commercial drift gillnet harvest of coho salmon by major stock reporting group based on genetic analysis of mixtures of fish harvested in Upper Cook Inlet, 2013-2016 (A. W. Barclay, Commercial Fisheries Biologist, ADF&G, Anchorage, personal communication).

Reporting group	Harvest				Average
	2013	2014	2015	2016	
<i>Southwest CI</i>	1,621	334	649	1,364	992
<i>Northwest CI</i>	35,981	11,717	31,341	17,072	24,027
<i>Susitna</i>	37,207	16,593	20,016	17,265	22,770
<i>Deshka</i>	10,094	3,163	2,955	5,487	5,425
<i>Yentna</i>	53,940	14,752	28,023	16,237	28,238
<i>Knik</i>	31,681	14,654	25,856	13,019	21,302
<i>Jim</i>	2,444	696	2,551	1,258	1,737
<i>Turnagain/Northeast CI</i>	6,240	7,937	9,205	7,809	7,798
<i>Kenai</i>	1,590	1,589	2,903	2,255	2,084
<i>Kasilof</i>	237	3	28	549	204
<i>Southeast CI</i>	782	3	572	919	569
Harvest represented	181,818	71,441	124,099	83,234	115,148
Harvest unanalyzed	2,953	5,491	6,621	7,008	5,518
Total harvest	184,771	76,932	130,720	90,242	120,666

(From Table 199-4)

Coho salmon abundance	2013	2014	2015
Mainstem Susitna River	130,026	84,879	152,500
Yentna River	nd	73,819	110,321
Total Susitna Drainage Abundance	nd	158,698	262,821

Note: Mainstem Susitna River includes Susitna River and Deshka River.

Table 133-9.—Estimates of coho salmon harvest in sport fisheries in the Northern Cook Inlet management area, 1980-2018.

Year	Northern Cook Inlet Management Area				Total harvest
	Knik Arm	Eastside Susitna	Westside Susitna	West Cook Inlet	
1980	16,030	10,368	12,141	628	39,167
1981	10,484	6,593	5,940	604	23,621
1982	13,676	10,167	10,658	745	35,246
1983	6,139	5,176	3,610	2,552	17,477
1984	23,429	13,916	9,511	2,681	49,537
1985	14,339	7,042	11,270	6,320	38,971
1986	12,361	16,190	13,117	4,222	45,890
1987	25,787	11,028	8,746	8,548	54,109
1988	40,037	19,518	16,283	7,403	83,241
1989	23,846	17,078	18,226	7,683	66,833
1990	18,762	11,743	13,883	6,016	50,404
1991	22,186	19,479	20,507	8,253	70,425
1992	25,814	33,790	16,218	7,037	82,859
1993	35,763	26,063	15,454	10,326	87,606
1994	28,539	20,870	15,361	8,247	73,017
1995	20,650	19,165	17,148	8,182	65,145
1996	24,874	24,174	17,375	11,430	77,853
1997	11,773	10,297	7,123	6,492	35,685
1998	23,750	23,086	13,235	8,160	68,231
1999	14,429	23,292	17,995	9,339	65,055
2000	32,530	37,748	23,262	11,712	105,252
2001	30,106	26,617	19,221	13,949	89,893
2002	44,448	27,183	14,144	13,380	99,155
2003	24,583	18,585	16,072	14,239	73,479
2004	34,298	20,484	17,785	16,179	88,746
2005	27,000	17,471	18,266	12,572	75,309
2006	39,953	22,719	20,474	11,940	95,086
2007	27,733	13,464	14,065	12,580	67,842
2008	35,996	24,211	15,126	14,673	90,006
2009	37,271	15,335	14,464	9,801	76,871
2010	26,369	14,291	16,245	9,030	65,935
2011	8,484	9,040	12,483	6,292	36,299
2012	5,014	7,629	9,434	7,813	29,890
2013	12,335	12,989	13,042	7,698	46,064
2014	16,180	12,462	12,972	7,320	48,934
2015	17,800	15,043	14,191	12,849	59,883
2016	7,989	5,939	4,022	6,029	23,979
2017	6,232	12,838	10,759	4,828	34,657
2018	14,429	9,728	15,093	8,554	47,804
1980-1989 Mean	18,613	11,708	10,950	4,139	45,409
1990-1999 Mean	22,654	21,196	15,430	8,348	67,628
2000-2009 Mean	33,392	22,382	17,288	13,103	86,164
2010-2018 Mean	12,759	11,107	12,027	7,824	43,716

Table 133-10.—Estimates of coho salmon passage and sport fishery harvest in the Little Susitna River, Fish Creek, Jim Creek, and Deshka River.

Year	Little Susitna			Fish Creek			Jim Creek			Deshka River		
	Harvest	Passage	SEG	Harvest	Passage	SEG	Harvest ^a	Escapement ^b	SEG	Harvest	Passage	SEG
1988	19,009	21,437	7,500									
1989	14,129	15,855	7,500									
1990	7,497	15,511	7,500									
1991	16,450	39,241	7,500									
1992	20,033	21,182	7,500									
1993	27,610	34,822	7,500									
1994	17,665	28,948	7,500									
1995	14,451	12,266	7,500									
1996	16,753	15,803	7,500									
1997	7,756	9,894 ^c	7,500									
1998	14,469	15,159	7,500									
1999	8,864	3,017	9,600-19,200									
2000	20,357	15,436	9,600-19,200									
2001	17,071	30,587	9,600-19,200									
2002	19,278	47,938	10,100-17,700	1,233	14,651	1,200-4,400	14,707	2,473	400-700	3,616	24,612	
2003	13,672	10,877	10,100-17,700	112	1,231	1,200-4,400	6,415	1,421	400-700	4,946	17,305	
2004	15,307	40,199	10,100-17,700	774	1,415	1,200-4,400	11,766	4,652	400-700	4,440	62,940	
2005	10,203	16,839 ^c	10,100-17,700	535	3,011	1,200-4,400	10,114	1,464	400-700	3,616	47,887	
2006	12,399	8,786 ^{c,d}	10,100-17,700	281	4,967	1,200-4,400	19,259	2,389	400-700	6,042	59,419	
2007	11,089	17,573	10,100-17,700	120	6,868	1,200-4,400	11,848	725	400-700	2,550	10,575	
2008	13,498	18,485	10,100-17,700	993	4,868	1,200-4,400	17,545	1,890	400-700	3,426	12,724	
2009	8,346	9,523	10,100-17,700	1,178	8,214	1,200-4,400	11,573	1,331	400-700	4,060	27,348	
2010	10,662	9,214	10,100-17,700	805	6,977	1,200-4,400	8,442	242	400-700	5,690	10,393	
2011	2,452	4,826	10,100-17,700	414	1,428	1,200-4,400	3,132	261	400-700	2,282	7,326	
2012	1,681	6,779 ^c	10,100-17,700	274	1,237	1,200-4,400	1,858	213	400-700	1,358	6,825	
2013	5,229	13,583 ^c	10,100-17,700	356	7,593	1,200-4,400	3,258	663	400-700	2,658	22,141	
2014	6,922	24,211	10,100-17,700	622	10,283	1,200-4,400	3,045	122	400-700	2,598	11,578	
2015	8,880	12,756	10,100-17,700	2,041	7,912	1,200-4,400	2,910	571	450-1400	745	10,775	
2016	4,361	10,049	10,100-17,700	496	2,484	1,200-4,400	1,343	106	450-1400	1,528	6,820	
2017	3,068	17,781	10,100-17,700	358	8,966	1,200-4,400	750	607	450-1400	2,825	36,869	10,200-24,100
2018	6,663	7,583 ^c	10,100-17,700	1,915	5,022	1,200-4,400	2,924	758	450-1400	3,169	12,962	10,200-24,100
2019	NA	4,229	10,100-17,700	NA	3,025	1,200-4,400	NA	162	450-1400	NA	10,445	10,200-24,100

^a Includes other Knik River tributaries^b Escapement is a foot index survey of a section of McRoberts Creek, a tributary of the Jim Creek drainage.^c Weir washed out, incomplete count^d Esc goal undoubtedly achieved, perhaps exceeded

PROPOSAL 123 – Rename Drift Gillnet Area 2 as the "Conservation and Northern District Allocation Sanctuary Area."

5 AAC 21.353. Central District Drift Gillnet Fishery Management Plan.

PROPOSED BY: Ben Allen.

WHAT WOULD THE PROPOSAL DO? This would rename Drift Gillnet Area 2 as the "Conservation and Northern District Allocation Sanctuary Area."

WHAT ARE THE CURRENT REGULATIONS? Drift Gillnet Area 2 is defined in 5 AAC 21.353(g)(2) as waters enclosed by a series of 5 waypoints (Figure 123-1). While the area is defined in the drift gillnet management plan, it currently is not part of any optional or mandatory area restrictions found within the plan.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Renaming Drift Gillnet Area 2 as the Conservation and Northern District Allocation Sanctuary Area would have no effect on commercial fisheries management or harvest.

BACKGROUND: The *Central District Drift Gillnet Fishery Management Plan* was first adopted in 2005. Prior to 2005, most provisions for how the drift fishery was to be managed were found in 5 AAC 21.358. *Northern District Salmon Management Plan*. Drift Gillnet Area 2 was first identified in regulation in 2002 and could be open for 2 consecutive fishing periods on or after July 25 as an expansion of Drift Gillnet Area 1, but only if Kenai River sockeye salmon runs were greater than 3 million fish. From 2005–2010, in Kenai River sockeye salmon runs of 2 to 4 million fish, the drift gillnet management plan required the department to restrict drift gillnetting from July 16–31 to the Kenai and Kasilof sections and Drift Gillnet Areas 1 and 2 during any two regular 12-hour fishing periods. The purpose of these restrictions was to allow harvest of Kenai and Kasilof river sockeye salmon while reducing the harvest of Northern Cook Inlet (NCI) sockeye and coho salmon. At the 2011 board meeting, the drift gillnet management plan was amended, in part, to state that in Kenai River sockeye salmon runs of 2.3 to 4.6 million fish, drift fishing from July 16–31 was to be restricted during one regular 12-hour fishing period per week to one or more of four areas that included the Expanded Kenai, Expanded Kasilof, and Anchor Point sections (Figure 123-2) and Drift Gillnet Area 1. The remaining 12-hour regular fishing period and all additional fishing time was to be restricted to any or all the Expanded Kenai, Expanded Kasilof, and Anchor Point sections, but not Drift Gillnet Area 1. While the description of Drift Gillnet Area 2 was left in the management plan, it was removed from the suite of restrictive options to which the drift fleet could be restricted. Since 2011, Drift Gillnet Area 2 has been opened three times, for two days in 2012 and for one day in 2019. On all of these dates, full districtwide fishing periods were restricted to Drift Gillnet Areas 1 and 2 for the purpose of targeting Kenai River sockeye salmon, while reducing harvest of NCI sockeye and coho salmon.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on 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. Approval of this proposal is not expected to result in an additional cost for the department.

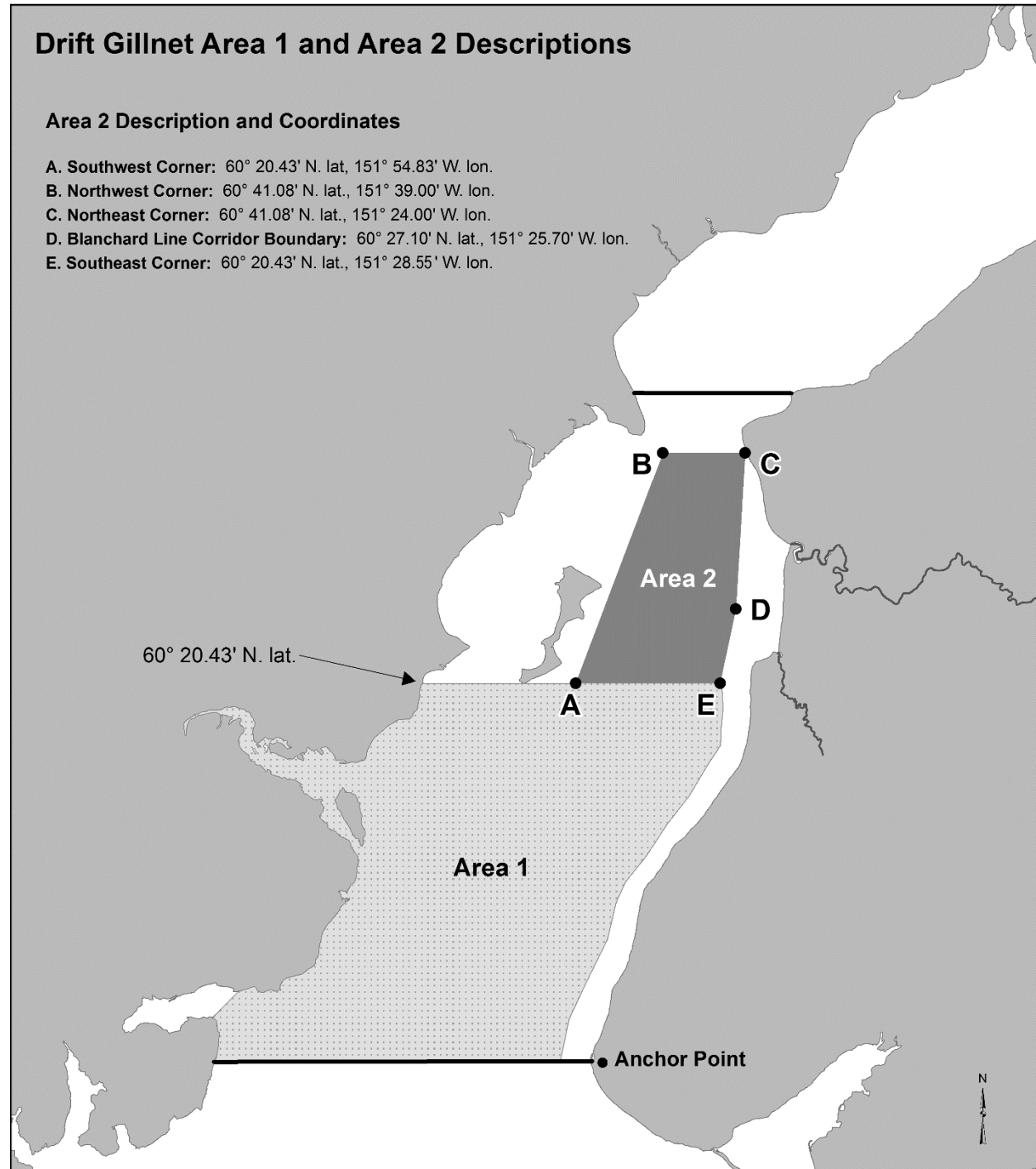


Figure 123-1.—Map of Drift Gillnet Areas 1 & 2.

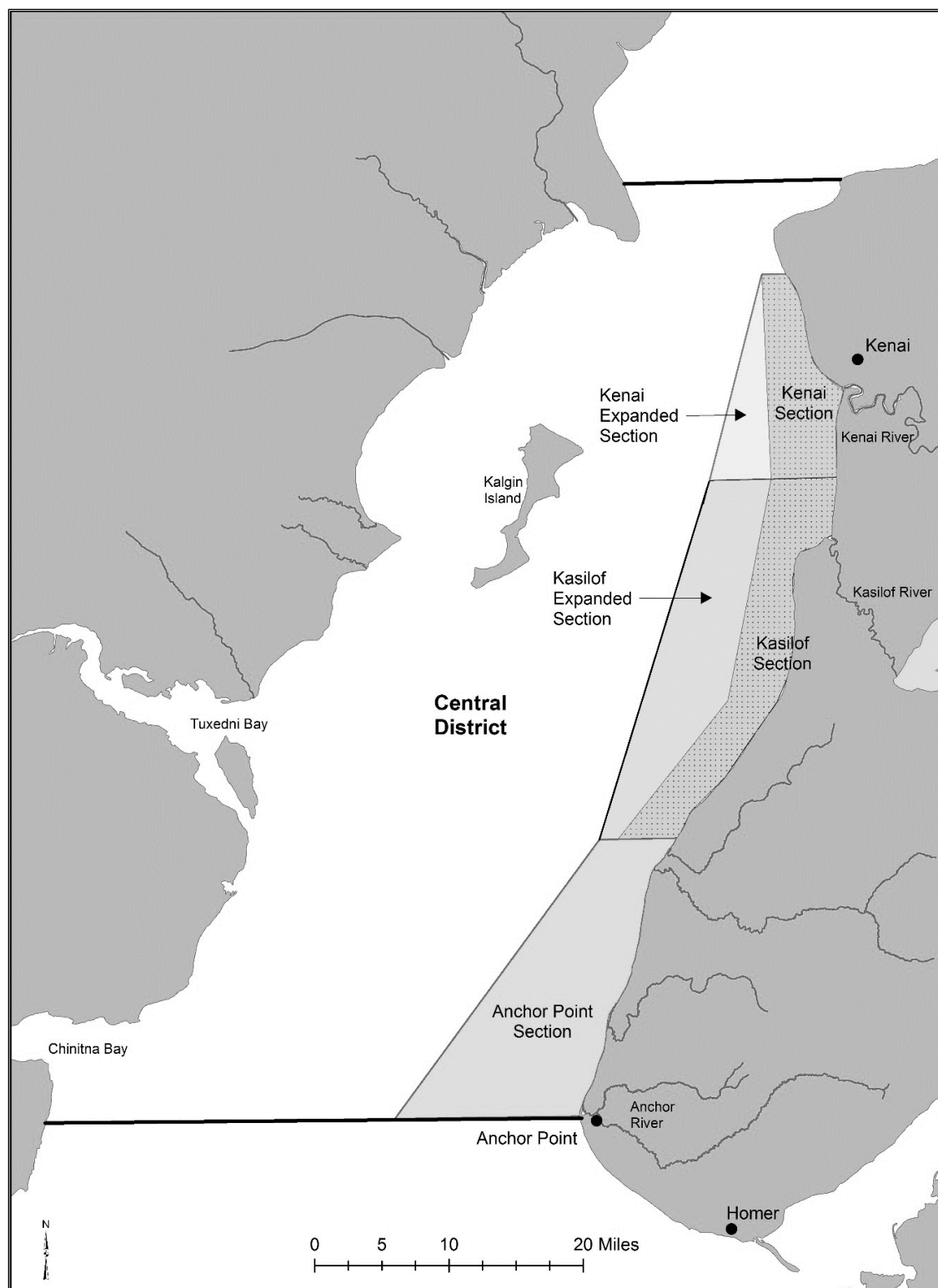


Figure 123-2.—Map of the Expanded Kenai, Expanded Kasilof, and Anchor Point sections.

PROPOSAL 126 – Close the Central District drift gillnet fishery corridor.

5 AAC 21.353. Central District Drift Gillnet Fishery Management Plan.

PROPOSED BY: Neil DeWitt.

WHAT WOULD THE PROPOSAL DO? This would close the Central District drift gillnet fishery corridor.

WHAT ARE THE CURRENT REGULATIONS? The purpose of the *Central District Drift Gillnet Fishery Management Plan (CDDGFMP)* is to ensure adequate escapement of salmon into Northern District (ND) and Central 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 ND 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 123-1 and 123-2). 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 from July 9–15 is allowed only in the Expanded Kenai and Expanded Kasilof sections of the Upper Subdistrict. Restrictions from July 9–15 are intended to reduce the harvest of Susitna River sockeye salmon.

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. Restrictions from July 16–31 are intended to reduce the harvest of Susitna River sockeye and Northern Cook Inlet coho salmon.

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 126-1). 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 THE PROPOSAL WERE ADOPTED? It is not clear what the proposal means when it says to close the “drift gillnet fishery corridor.” In the Central District, there are four different drift gillnet areas described in regulation that are often referred to as “corridors.” They are the regular and expanded Kasilof Sections and the regular and expanded Kenai Sections (Figure 123-2). It is possible that this proposal is referring to waters other than these “corridors” that are defined in regulation. However, because it is not clear as to what waters are being referenced in the proposal, it is not possible to determine what the effects would be. Generally, reducing the area open to drift gillnet fishing will result in reduced harvest of primarily sockeye and coho salmon, which may result in increased inriver abundance of UCI pink, chum, king, sockeye, and coho salmon.

BACKGROUND: The Central District drift gillnet fishery has undergone numerous changes through time (Table 125-1). In 1996, the ND 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 management plan, and in 2005, the board eliminated all specific references to the drift gillnet fishery in the management plan and established a drift-specific plan, codified as 5 AAC 21.353. *CDDGFMP*. In 2008, there were no significant changes to the *CDDGFMP*. In 2011, a number of changes were made to the plan regarding areas open to drift fishing in July, which resulted in difficulty implementing the changes during the 2011 season. The 2012 and 2013 seasons were managed using regulations in effect in 2011. In 2014, additional restrictive 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. In 2017, one of the drift gillnet Area 1 openings from July 16–31 in Kenai River sockeye salmon runs of 2.3–4.6 million fish could be expanded to districtwide instead of just in Drift Area 1.

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

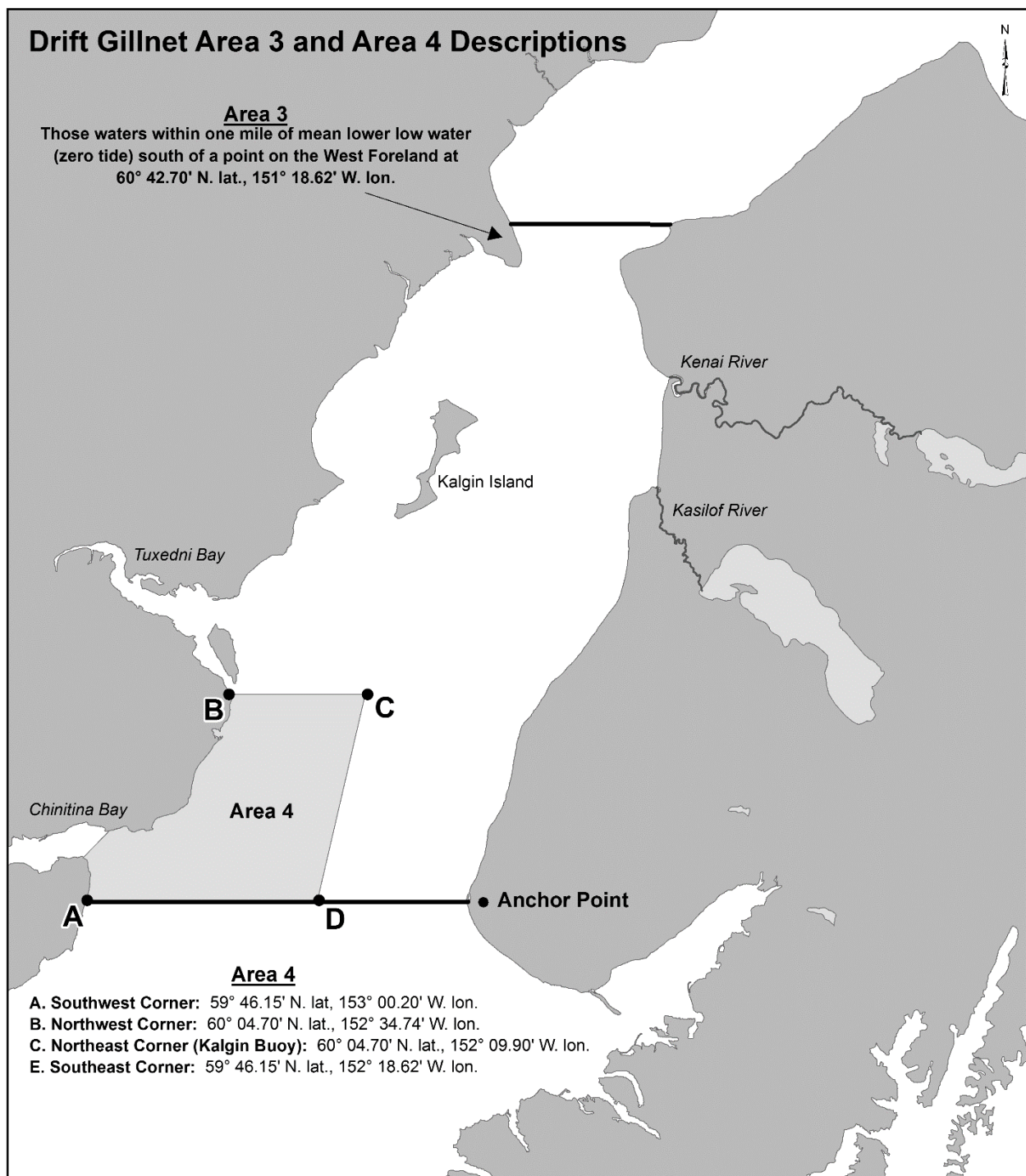


Figure 126-1.—Map of drift gillnet Areas 3 & 4.

PROPOSAL 135 – Allow for districtwide drift gillnet fishing periods from July 24–31.

5 AAC 21.353. Central District Drift Gillnet Fishery Management Plan.

PROPOSED BY: United Cook Inlet Drift Association.

WHAT WOULD THE PROPOSAL DO? This would modify the *Central District Drift Gillnet Fishery Management Plan (CDDGFMP)* to provide the department with the option to open drift fishing for two regular 12-hour fishing periods from July 24–31 (in Kenai River sockeye salmon runs of 2.3–4.6 million fish) in all waters of the Central District instead of just in Drift Gillnet Area 1.

WHAT ARE THE CURRENT REGULATIONS? From July 16–31, 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 is 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. One regular 12-hour fishing period from July 16 through July 31 may occur in the Central District instead of in Drift Gillnet Area 1. Restrictions to the drift fleet from July 16–31 are intended to reduce the harvest of Susitna River sockeye and Northern Cook Inlet coho salmon.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would provide the department with an option to expand one Expanded Corridor fishing period and one Drift Area 1 fishing period to district wide fishing periods from July 24–31 during Kenai River sockeye salmon runs of 2.3–4.6 million fish. Based on the most recent 10 years of harvest data, this could increase the harvest of sockeye salmon by about 39,000 fish, while increasing coho salmon harvest by about 11,000 fish when fishing district wide versus in the Expanded Corridors (Table 135-2). The increase in harvest for an expansion of an Area 1 fishing period to district wide could result in an increased harvest of nearly 18,000 sockeye salmon while decreasing coho salmon harvest by around 1,600 fish. This could increase the harvest of Susitna River sockeye salmon.

BACKGROUND: Kenai River sockeye salmon passage is measured at the RM 19 sonar site. Since 1980, the number of sockeye salmon enumerated in the Kenai River in August has steadily increased (Table 135-1; Figure 135-1). For example, the average sockeye salmon passage estimate in August was 114,000 fish per year in the 1980s, but has increased to nearly 472,000 fish per year for each of the past 10 years. The average percentage of each year's total passage estimate that occurs in August has risen from 8% in the 1980s to 33% during the past 10 years. The average day that sonar operations ceased each year has also increased from August 12 in the 1980s to August 19 during the past 10 years. Sonar operations typically cease when less than 1% of the season's total sockeye salmon passage has occurred for three consecutive days. The number of sockeye salmon enumerated in the Kenai River in August is affected not only by run-timing of this stock, but it can also be impacted by restrictions to commercial fisheries in late July and August, thereby increasing passage of sockeye salmon in August.

UCI sockeye salmon run size and run timing are estimated inseason via an Offshore Test Fishery that is conducted at the southern boundary of the UCI management area. Sockeye salmon run timing averaged 1.9 days early during the 1980s; then 1.7 days late in the 1990s; on time from 2000–2009, and from 2010–2019, runs were 2.4 days late (Figure 186-1).

In the past 10 years (2010-2019), the average drift gillnet harvest from July 16–23 was 357,000 sockeye and 9,600 coho salmon during district wide fishing periods (Table 135-2). The average harvest in Drift Area 1 during this time was 202,000 sockeye and 13,400 coho salmon per fishing period. From July 24-31, the average harvest was 67,000 sockeye and 12,700 coho salmon during districtwide fishing periods and 49,000 sockeye and 14,300 coho salmon during Area 1 periods. However, the weighted averages for drift gillnet harvest of sockeye and coho salmon during this time show that the average catch per fishing period in Drift Area 1 versus district wide periods are fairly similar (Tables 134-1 & 135-2).

From 2013–2016, genetic mixed stock analyses were conducted on coho salmon harvested in UCI commercial fisheries (Tables 133-3 through 133-7). The drift gillnet average annual harvest of NCI coho salmon during these four years averaged 24,000 fish from the Northwest CI; 23,000 from Susitna; 5,400 from Deshka River; 28,000 from Yentna River; 21,000 from Knik Arm; 1,700 from Jim Creek; and 7,800 originating from Turnagain/Northeast CI streams (Figure 133-1; Table 133-8). Coho salmon abundance estimates were completed for the entire Susitna River drainage in 2014 and 2015; in 2014 the estimate was 159,000 fish, in 2015 the coho salmon abundance estimate was 263,000 fish. Harvest of Kenai River coho salmon averaged about 2,100 fish per year (2% of drift harvest), while the harvest of Kasilof River coho salmon averaged 200 fish per year, or 0.2% of the average annual drift harvest.

In 2017, the board modified the *CDDGFMP* in Kenai River sockeye salmon runs of 2.3–4.6 million fish to provide the department with the option of fishing one regular 12-hour fishing period from July 16 through July 31 districtwide instead of in Drift Gillnet Area 1 (Table 125-1).

For more background on the history of the drift gillnet management plan, please see BACKGROUND on Proposal 133.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on these allocative proposals. The department has concerns with the level of potential increased harvest of Susitna River sockeye salmon that could occur under these proposals. Susitna River sockeye salmon were designated a Stock of Yield Concern in 2008. Current management plan restrictions to the Central District drift gillnet fleet and Northern District set gillnet fishery have contributed to escapement goals being consistently achieved at Judd, Chelatna, and Larson lakes during the past five years. In addition, while reduced yields in this watershed can in part be attributed to invasive northern pike, average harvest for Susitna River sockeye salmon has increased or remained stable since being designated a Stock of Yield Concern, which led the department to recommend discontinuing the Stock of Yield Concern designation.

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

Table 135-1.—Kenai River sockeye salmon sonar passage, 1980-2019.

Year	All	August	August %	Last Day
1980	667,470	24,327	4%	4-Sep
1981	575,847	8,645	2%	2-Aug
1982	809,174	19,572	2%	4-Aug
1983	866,453	92,614	11%	12-Aug
1984	481,470	18,600	4%	8-Aug
1985	680,897	33,626	5%	11-Aug
1986 ^a	645,906	0	0%	31-Jul
1987	2,245,610	369,780	16%	15-Aug
1988	1,356,958	138,245	10%	9-Aug
1989	2,295,575	317,624	14%	15-Aug
1990	950,357	125,523	13%	7-Aug
1991	954,841	146,377	15%	12-Aug
1992	1,429,867	217,960	15%	13-Aug
1993	1,134,923	205,617	18%	13-Aug
1994	1,412,050	662,379	47%	23-Aug
1995	884,922	167,066	19%	14-Aug
1996	1,129,274	212,699	19%	12-Aug
1997	1,512,731	462,151	31%	25-Aug
1998	1,084,993	328,190	30%	13-Aug
1999	1,137,003	300,574	26%	18-Aug
2000	900,695	92,997	10%	10-Aug
2001	906,333	150,082	17%	13-Aug
2002	1,339,681	264,779	20%	14-Aug
2003	1,656,026	203,300	12%	10-Aug
2004	1,945,383	638,089	33%	18-Aug
2005	1,908,823	735,097	39%	21-Aug
2006	2,064,726	1,166,748	57%	31-Aug
2007	1,229,944	437,981	36%	23-Aug
2008	917,138	242,358	26%	17-Aug
2009	1,090,057	184,799	17%	13-Aug
2010	1,294,884	308,010	24%	19-Aug
2011	1,599,217	181,908	11%	13-Aug
2012	1,581,555	229,388	15%	16-Aug
2013	1,359,893	84,031	6%	7-Aug
2014	1,524,706	628,716	41%	14-Aug
2015	1,709,051	818,423	48%	26-Aug
2016	1,383,692	596,624	43%	26-Aug
2017	1,308,498	561,149	43%	24-Aug
2018	1,024,974	583,014	57%	28-Aug
2019	1,849,054	724,287	39%	19-Aug
<u>Averages</u>				
1980-85; 87-89	1,108,828	113,670	8%	12-Aug
1990-1999	1,163,096	282,854	23%	15-Aug
2000-2009	1,395,881	411,623	27%	17-Aug
2010-2019	1,463,463	471,534	33%	19-Aug

^a Sonar operations terminated early due to state budget cuts; 1986 data not used in calculating averages

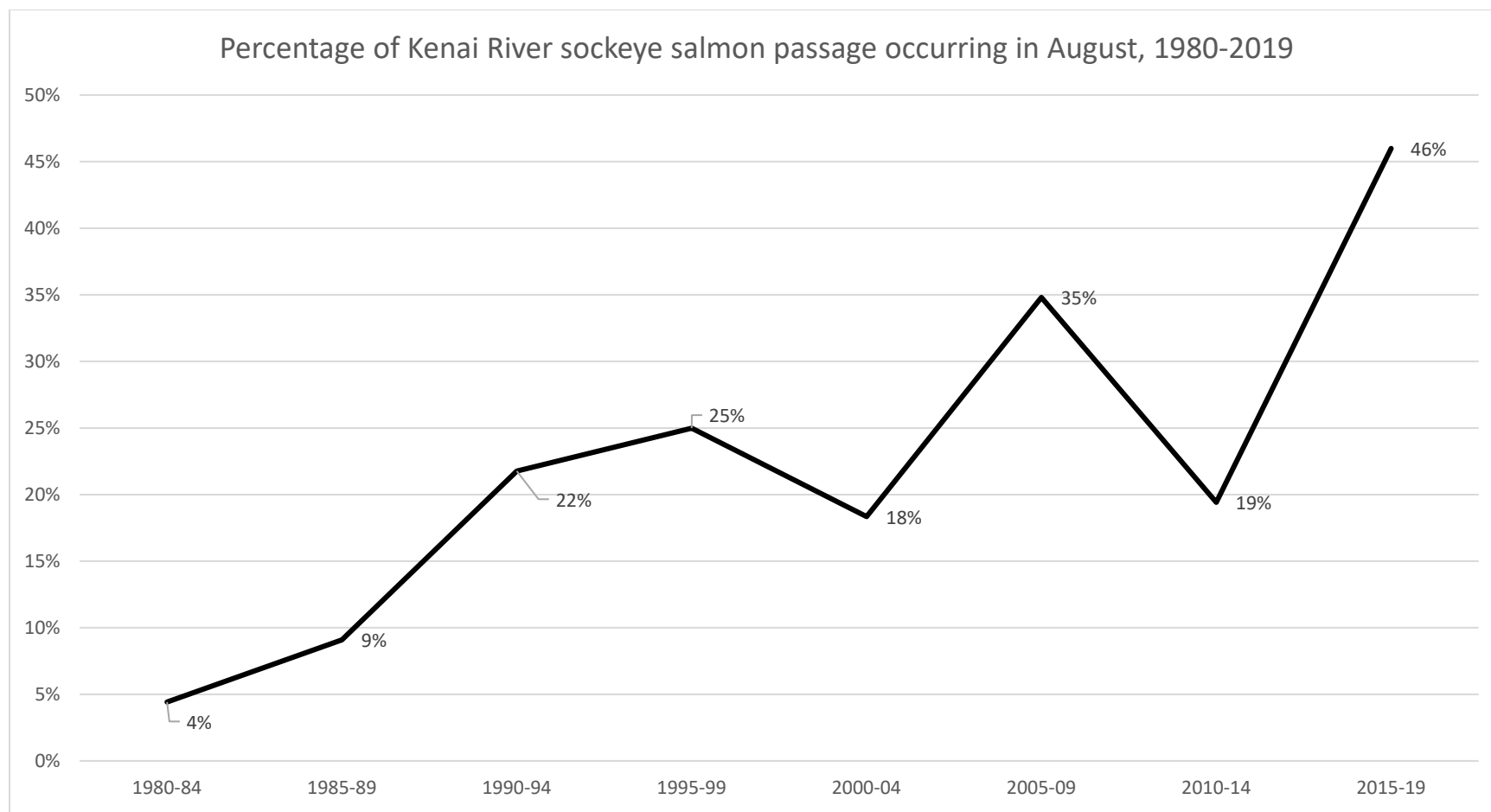


Figure 135-1.—Average percentage of sockeye salmon passage (in 5-year increments) occurring in August in the Kenai River, 1980–2019.

Table 135-2.—Drift gillnet sockeye, coho, pink, and chum salmon harvest during district wide and Area 1 fishing periods from July 16–23 and July 24–31, 2010–2019.

July 16-23									
	No. Fishing	Sockeye		Coho		Pink		Chum	
	Periods	Total	Avg	Total	Avg	Total	Avg	Total	Avg
Area 1	13	2,625,227	201,941	173,677	13,360	213,781	16,445	266,540	20,503
DW	5	1,786,508	357,302	48,119	9,624	162,598	32,520	146,386	29,277

July 24-31									
	No. Fishing	Sockeye		Coho		Pink		Chum	
	Periods	Total	Avg	Total	Avg	Total	Avg	Total	Avg
Area 1	4	197,034	49,259	57,284	14,321	8,068	2,017	12,955	3,239
DW	9	601,838	66,871	114,614	12,735	160,019	17,780	19,857	2,206
Ex Cor	33	932,475	28,257	50,898	1,542	185,094	5,609	106,914	3,240

July 16-31									
	No. Fishing	Sockeye		Coho		Pink		Chum	
	Periods	Total	Avg	Total	Avg	Total	Avg	Total	Avg
Area 1	17	2,822,261	166,015	230,961	13,586	221,849	13,050	279,495	16,441
DW	14	2,388,346	170,596	162,733	11,624	322,617	23,044	166,243	11,875

PROPOSAL 134 – Add Drift Gillnet Area 1 to the list of area options from July 16–31.

5 AAC 21.353. Central District Drift Gillnet Fishery Management Plan.

PROPOSED BY: United Cook Inlet Drift Association.

WHAT WOULD THE PROPOSAL DO? This would add Drift Gillnet Area 1 to the list of area options that can be fished for all additional fishing time from July 16–31 in the *Central District Drift Gillnet Fishery Management Plan*.

WHAT ARE THE CURRENT REGULATIONS? 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 123-1 and 123-2). 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. Restrictions to the drift fleet from July 9–15 are to reduce the harvest of Susitna River sockeye salmon.

From July 16–31, 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 is 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. One regular 12-hour fishing period from July 16 through July 31 may occur in the Central District instead of in Drift Gillnet Area 1. 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. Restrictions to the drift fleet from July 16–31 are to reduce the harvest of Susitna River sockeye and Northern Cook Inlet coho salmon.

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 126-1). 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 THE PROPOSAL WERE ADOPTED? From July 16-31, this would increase the drift gillnet harvest, on average, by about 115,000 sockeye salmon per fishing period when comparing harvest in Drift Area 1 to harvest in the Expanded Corridors (Table 134-1). Coho salmon harvests would increase by about 12,000 fish per fishing period. This

would decrease the abundance of all salmon stocks available to Northern District and Upper Subdistrict commercial setnetters and inriver users in NCI streams and the Kenai and Kasilof rivers. It could result in sockeye salmon escapement falling within established ranges more often in the Kenai and Kasilof rivers and less often in Judd, Chelatna, and Larson lakes. It could also result in NCI coho salmon escapement objectives being achieved less often.

BACKGROUND: Restricting the area open to commercial drift gillnet fishing from July 16–31 from districtwide periods to fishing only in Drift Area 1 has proven to have little effect on sockeye or coho salmon harvest (Table 134-1). For example, the average drift gillnet harvest in districtwide periods was 171,000 sockeye and 11,600 coho salmon per fishing period, while the average catch in Drift Area 1 was similar, at 166,000 sockeye and 13,600 coho salmon per period. Thus, sockeye salmon harvest in districtwide periods increased by about 6,000 fish per period when compared to Drift Area 1, while coho salmon harvest declined by about 2,000 in districtwide periods when compared to Drift Area 1 catches. There are no districtwide fishing periods per regulation from July 9–15.

Coho salmon harvested in the Central District drift gillnet fishery (excluding corridor only periods) were genetically sampled to determine the stock of origin during the last week of July in 2013–2015 (Table 134-2). Harvest estimates were assigned to 11 different reporting groups, with the Susitna, Yentna, and Knik groups each comprising approximately 25% of the total harvest during this time. Harvest of Kenai and Kasilof river coho salmon averaged 386 fish per year, or approximately 1.2% of the total harvest from the last week of July. In 2015, coho salmon harvested during expanded corridor-only fishing periods from July 11 to August 5 were genetically assigned to the same 11 reporting groups (Table 134-3). The results were somewhat similar to harvest from excluding corridor-only fishing periods in that the majority of coho salmon harvested were from NCI watersheds, with Kenai and Kasilof coho salmon making up a very small percentage of the total harvest.

For more background on the history of the drift gillnet management plan, please see BACKGROUND on Proposal 133.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on these allocative proposals. The department has concerns with the level of potential increased harvest of Susitna River sockeye salmon that could occur under these proposals. Susitna River sockeye salmon were designated a Stock of Yield Concern in 2008. Current management plan restrictions to the Central District drift gillnet fleet and Northern District set gillnet fishery have contributed to escapement goals being consistently achieved at Judd, Chelatna, and Larson lakes during the past five years. In addition, while reduced yields in this watershed can in part be attributed to invasive northern pike, average harvest for Susitna River sockeye salmon has increased or remained stable since being designated a Stock of Yield Concern, which led the department to recommend discontinuing the Stock of Yield Concern designation.

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

Table 134-1.—Number of fishing periods and total commercial drift gillnet harvest of sockeye and coho salmon in District wide, Area 1, and Expanded Corridor (Expanded Kenai, Expanded Kasilof, and Anchor Point sections) areas from July 9–15, July 16–31, and July 1–31, 2010–2019.

July 9-15									
District Wide				Area 1 Openings			Expanded Corridors ^a		
Year	Fishing Periods	Sockeye	Coho	Fishing Periods	Sockeye	Coho	Fishing Periods	Sockeye	Coho
2010				2	580,276	23,544			
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
2017				2	319,510	3,562	2	110,105	689
2018				2	168,282	42,567	0		
2019				2	109,094	11,236	0		
Total				20	3,499,372	137,812	14	625,145	5,473
Avg/period					174,969	6,891		44,653	391

July 16-31									
District Wide				Area 1 Openings			Expanded Corridors		
Year	Fishing Periods	Sockeye	Coho	Fishing Periods	Sockeye	Coho	Fishing Periods	Sockeye	Coho
2010	3	290,509	39,020	1	181,110	13,827			
2011	3	696,366	8,045	3	662,908	9,717	9	822,916	6,894
2012	4	1,114,903	45,370	2	757,158	13,936	9	583,219	7,002
2013	0	0	0	4	447,528	92,724	10	249,434	10,513
2014	0	0	0	2	356,535	25,481	11	283,768	12,887
2015	0	0	0	2	170,423	19,415	8	373,322	22,856
2016	2	180,570	21,961	0	0	0	8	371,996	12,620
2017	1	32,969	39,621	0	0	0	3	176,705	10,712
2018	0	0	0	1	33,959	33,140	1	81,812	7,537
2019	1	73,029	8,716	2	212,640	22,721	3	166,327	7,861
Total	14	2,388,346	162,733	17	2,822,261	230,961	62	3,109,499	98,882
Avg/period		170,596	11,624		166,015	13,586		50,153	1,595

July 9-31									
District Wide				Area 1 Openings			Expanded Corridors		
Year	Fishing Periods	Sockeye	Coho	Fishing Periods	Sockeye	Coho	Fishing Periods	Sockeye	Coho
2010	3	290,509	39,020	3	761,386	37,371	0	0	0
2011	3	696,366	8,045	4	1,354,530	12,699	10	928,782	6,997
2012	4	1,114,903	45,370	4	1,104,823	15,322	10	586,803	7,002
2013	0	0	0	5	880,190	106,758	12	333,012	11,320
2014	0	0	0	5	771,264	30,965	15	440,161	13,695
2015	0	0	0	4	262,984	36,858	10	403,351	23,975
2016	2	180,570	21,961	3	342,971	15,574	10	507,586	14,567
2017	1	32,969	39,621	2	319,510	3,562	5	286,810	11,401
2018	0	0	0	3	202,241	75,707	1	81,812	7,537
2019	1	73,029	8,716	4	321,734	33,957	3	166,327	7,861
Total	14	2,388,346	162,733	37	6,321,633	368,773	76	3,734,644	104,355
Avg/period		170,596	11,624		170,855	9,967		49,140	1,373

^a Expanded corridors began in regulation in 2011

Table 134-2.—Central District drift gillnet fishery (excluding corridor-only periods), temporal strata stock composition (%) and stock-specific harvest estimates of coho salmon, including mean, 90% credibility interval (CI), sample size (n), and standard deviation (SD). (A. W. Barclay, Commercial Fisheries Biologist, ADF&G, Anchorage, personal communication).

Dates: 7/24-7/30, 2013		Stock Composition (n = 392)				Harvest = 51,183			
Reporting Group	Mean	90% CI		SD		90% CI		SD	
		5%	95%			5%	95%		
<i>Southwest CI</i>	0.3	0.0	1.2	0.0		170	15	612	218
<i>Northwest CI</i>	13.1	6.4	21.5	0.0		6,704	3,299	11,022	2,300
<i>Susitna</i>	29.2	20.1	38.2	0.1		14,956	10,274	19,569	2,841
<i>Deshka</i>	1.7	0.0	6.7	0.0		884	0	3,447	1,361
<i>Yentna</i>	25.8	15.6	35.3	0.1		13,222	7,963	18,078	3,109
<i>Knik</i>	20.7	14.2	27.4	0.0		10,577	7,263	14,018	2,035
<i>Jim</i>	1.8	0.0	3.8	0.0		907	3	1,964	595
<i>Turnagain/Northeast CI</i>	4.3	0.0	9.6	0.0		2,211	0	4,895	1,461
<i>Kenai</i>	2.2	1.0	3.6	0.0		1,119	519	1,831	410
<i>Kasilof</i>	0.0	0.0	0.3	0.0		0	0	153	90
<i>Southeast CI</i>	0.8	0.1	2.1	0.0		433	30	1,062	331

Dates: 7/24-7/28, 2014		Stock Composition (n = 392)				Harvest = 5,412			
Reporting Group	Mean	90% CI		SD		90% CI		SD	
		5%	95%			5%	95%		
<i>Southwest CI</i>	0.0	0.0	0.2	0.0		0	0	13	11
<i>Northwest CI</i>	11.9	3.5	18.9	0.0		642	189	1,020	232
<i>Susitna</i>	13.4	6.6	20.3	0.0		724	357	1,096	227
<i>Deshka</i>	2.9	0.0	7.2	0.0		157	0	387	130
<i>Yentna</i>	26.3	19.7	32.9	0.0		1,421	1,065	1,781	219
<i>Knik</i>	26.3	20.1	32.9	0.0		1,425	1,086	1,779	211
<i>Jim</i>	0.0	0.0	1.8	0.0		0	0	96	43
<i>Turnagain/Northeast CI</i>	19.1	12.3	26.8	0.0		1,036	667	1,450	238
<i>Kenai</i>	0.1	0.0	0.9	0.0		4	0	49	22
<i>Kasilof</i>	0.0	0.0	0.3	0.0		0	0	18	10
<i>Southeast CI</i>	0.1	0.0	0.6	0.0		3	0	31	14

Dates: 7/20-8/01, 2015		Stock Composition (n = 488)				Harvest = 36,993			
Reporting Group	Mean	90% CI		SD		90% CI		SD	
		5%	95%			5%	95%		
<i>Southwest CI</i>	0.8	0.2	1.7	0.0		284	58	621	181
<i>Northwest CI</i>	15.8	9.4	22.2	0.0		5,856	3,477	8,216	1,459
<i>Susitna</i>	18.2	10.4	25.8	0.0		6,723	3,860	9,534	1,741
<i>Deshka</i>	3.1	0.2	6.8	0.0		1,149	90	2,509	775
<i>Yentna</i>	29.0	22.0	36.4	0.0		10,714	8,140	13,448	1,643
<i>Knik</i>	29.7	23.6	35.7	0.0		10,992	8,728	13,189	1,344
<i>Jim</i>	1.4	0.2	2.9	0.0		523	68	1,068	295
<i>Turnagain/Northeast CI</i>	1.9	0.0	5.3	0.0		716	0	1,969	737
<i>Kenai</i>	0.0	0.0	0.4	0.0		9	0	145	90
<i>Kasilof</i>	0.1	0.0	0.9	0.0		28	0	331	135
<i>Southeast CI</i>	0.0	0.0	0.4	0.0		0	0	145	88

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Reporting group	Average harvest (2013-2015)	Percent of Total
Southwest CI	151	0.5%
Northwest CI	4,401	14.1%
Susitna	7,468	23.9%
Deshka	730	2.3%
Yentna	8,452	27.1%
Knik	7,665	24.6%
Jim	477	1.5%
Turnagain/Northeast CI	1,321	4.2%
Kenai	377	1.2%
Kasilof	9	0.0%
Southeast CI	145	0.5%
Totals	31,196	100.0%

Table 134-3.–Central District drift gillnet fishery (corridor-only periods), 2015: Stock composition (%) of coho salmon and stock-specific harvest estimates, including mean, 90% credibility interval (CI), sample size (n), and standard deviation (SD).

Dates: 7/11-8/5	Stock composition (n = 646)				Harvest = 27,405			
Reporting Group	90% CI				90% CI			
	Mean	5%	95%	SD	Mean	5%	95%	SD
<i>Southwest CI</i>	0.0	0.0	0.3	0.0	0	0	74	50
<i>Northwest CI</i>	16.4	10.5	23.1	0.0	4,498	2,864	6,338	1,062
<i>Susitna</i>	14.5	7.3	22.5	0.0	3,972	2,013	6,154	1,255
<i>Deshka</i>	1.8	0.0	6.1	0.0	507	0	1,660	696
<i>Yentna</i>	27.5	19.3	35.8	0.0	7,545	5,279	9,808	1,365
<i>Knik</i>	26.8	21.0	33.2	0.0	7,334	5,762	9,106	1,022
<i>Jim</i>	2.6	1.1	4.5	0.0	706	303	1,235	284
<i>Turnagain/Northeast CI</i>	9.2	5.0	14.5	0.0	2,531	1,358	3,967	797
<i>Kenai</i>	1.1	0.0	2.8	0.0	313	0	754	245
<i>Kasilof</i>	0.0	0.0	0.3	0.0	0	0	69	45
<i>Southeast CI</i>	0.0	0.0	0.2	0.0	0	0	58	35

PROPOSAL 132 – Allow the drift gillnet fishery to be open districtwide for all Monday and Thursday regular 12-hour fishing periods.

5 AAC 21.353. Central District Drift Gillnet Fishery Management Plan.

PROPOSED BY: John McCombs.

WHAT WOULD THIS PROPOSAL DO? This would allow the drift gillnet fishery to be open districtwide for all Monday and Thursday regular 12-hour fishing periods throughout the season. It would expand the waters that are currently open to drift gillnet fishing from July 9–31 (Table 132-1). From July 9 to July 15 there are two regular fishing periods each year that are restricted to Drift Gillnet Area 1 and the Expanded Corridors. This would allow both of these fishing periods to be open district wide. From July 16 to July 31, area restrictions are dependent upon the size of the Kenai River sockeye salmon run. There are four or five regular fishing periods in this time span, depending upon the calendar. This would expand waters open to drift gillnetting from expanded corridors to district wide in small runs; from either expanded corridors or Drift Area 1 to district wide in middle sized runs, and from expanded corridors or Drift Area 1 to district wide periods in large runs (in large runs, one period per week may already be fished district wide).

WHAT ARE THE CURRENT REGULATIONS? 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 123-1 and 123-2). 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. Restrictions to the drift fleet from July 9–15 are to reduce the harvest of Susitna River sockeye salmon.

From July 16–31, 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 is 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. One regular 12-hour fishing period from July 16 through July 31 may occur in the Central District instead of in Drift Gillnet Area 1. 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. Restrictions to the drift fleet from July 16–31 are to reduce the harvest of Susitna River sockeye and Northern Cook Inlet coho salmon.

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 126-1). 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 THIS PROPOSAL WAS ADOPTED? This would increase the commercial drift gillnet harvest of all salmon from both Northern and Central District stocks. In turn, this would decrease the number of salmon available to other commercial fishermen and inriver users throughout UCI. It could result in sockeye salmon escapement objectives falling within established ranges more often in the Kenai and Kasilof rivers and less often in Judd, Chelatna, and Larson lakes. It could also result in NCI coho salmon escapement objectives being achieved less often. The actual effects of this proposal would be dependent upon how much less the drift gillnet fleet was fished in the Expanded Corridors on days other than Monday and Thursday regular periods.

BACKGROUND: See background on Proposal 133.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on these allocative proposals. The department has concerns with the level of potential increased harvest of Susitna River sockeye salmon that could occur under these proposals. Susitna River sockeye salmon were designated a Stock of Yield Concern in 2008. Current management plan restrictions to the Central District drift gillnet fleet and Northern District set gillnet fishery have contributed to escapement goals being consistently achieved at Judd, Chelatna, and Larson lakes during the past five years. In addition, while reduced yields in this watershed can in part be attributed to invasive northern pike, average harvest for Susitna River sockeye salmon has increased or remained stable since being designated a Stock of Yield Concern, which led the department to recommend discontinuing the Stock of Yield Concern designation.

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

Table 132-1.—Proposed changes to the Central District Drift Gillnet Fishery Management Plan in Proposals 131 & 132.

Run Size	CURRENT PLAN			
	June 19 - July 8	July 9-15	July 16-31	Aug 1-15
<2.3 million	Mon/Thu District Wide	Drift Area 1 (x2)	4 or 5 Exp Corridor	Mon/Thu District Wide
2.3-4.6 million	Mon/Thu District Wide	Drift Area 1 (x2)	2-3 Area 1; 2-3 EC	Mon/Thu District Wide
>4.6 million	Mon/Thu District Wide	Drift Area 1 (x2)	Up to 3 Dist. Wide	Mon/Thu District Wide

Run Size	PROPOSED PLAN			
	June 19 - July 8	July 9-15	July 16-31	Aug 1-15
<2.3 million	Mon/Thu District Wide	District Wide (x2)	4 or 5 District Wide	Mon/Thu District Wide
2.3-4.6 million	Mon/Thu District Wide	District Wide (x2)	4 or 5 District Wide	Mon/Thu District Wide
>4.6 million	Mon/Thu District Wide	District Wide (x2)	4 or 5 District Wide	Mon/Thu District Wide

Run Size	CHANGE			
<2.3 million	none	2 Area 1 to DW	4 or 5 Ex Cor to DW	none
2.3-4.6 million	none	2 Area 1 to DW	2 or 3 Area 1 to DW 2 or 3 Ex Cor to DW	none
>4.6 million	none	2 Area 1 to DW	2 or 3 Ex Cor to DW	none

PROPOSAL 125 – Modify the Central District Drift Gillnet Fishery Management Plan.

5 AAC 21.353. Central District Drift Gillnet Fishery Management Plan.

PROPOSED BY: Mark & Elbridge Walker.

WHAT WOULD THE PROPOSAL DO? This would make numerous changes to the *Central District Drift Gillnet Fishery Management Plan (CDDGFMP)*, creating a significantly different plan than what is currently in place. The plan would include the following:

- June 19 to July 19: two regular Monday and Thursday fishing periods per week (it is assumed these would be districtwide periods). No additional fishing would be allowed during this time frame, unless the department projected the Kenai River escapement goal will be exceeded; discretionary extra fishing would be restricted to the Expanded Kenai and Expanded Kasilof sections.
- July 6–15: two fishing periods during this time will be restricted to Drift Gillnet Area 1, with the caveat that the objective during this time period is to pass sockeye salmon to the Northern District
- After July 15, the drift fishery may be closed by emergency order (EO) to meet Kenai River sockeye salmon escapement objectives
- July 20–Aug 3: drift fishing would be restricted to one 12-hour fishing period per week to Drift Gillnet Area 1 and one period per week in the expanded corridors. There is confusion about this provision in the proposal, however, as it says this restriction is in place through August 3 and until the season closes by EO. The current drift plan limits drift fishing to Drift Areas 3 & 4 after August 15.
- By July 22, if the Kenai River escapement is not within 200,000 fish of the minimum sustainable escapement goal (SEG), the drift fleet, other commercial fisheries, and the Kenai River sockeye salmon sport fishery, would close until the minimum escapement goal was met. It is assumed, but not completely clear, that the other commercial fishery being referenced here would be the Upper Subdistrict set gillnet fishery.
- Prior to August 1, if the Kenai River sockeye salmon escapement goal is exceeded, Drift Gillnet Area 1 will be open for 1 period per week, with at least 3 expanded corridor (including the Anchor Point Section) openings per week. The fishery may be closed or liberalized by EO to meet escapement objectives, but Drift Gillnet Area 1 may never be fished more than two times in any management week
- From August 3 until closed by EO, the fishery will be open every Monday in Areas 3 and 4 only; every Thursday, the fishery will be open in Areas 1, 3, or 4

WHAT ARE THE CURRENT REGULATIONS? The purpose statement of 5 AAC 21.353 reads, “The purpose of this management plan is to ensure adequate escapement of salmon into the 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 identifies two time periods in July, July 9–15 and July 16–31, where area restrictions are in place to pass sockeye and coho salmon through the Central District to Northern Cook Inlet (NCI) streams.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The effects of this proposal are difficult to determine because of the number of significant management plan modifications being suggested. Moreover, there are some contradictory provisions in the proposal which complicate any assessments of what the effects of the proposal would be. The measures would likely result in increased inriver abundance of all UCI salmon stocks.

BACKGROUND: The *CDDGFMP* was first adopted in 2005 and has undergone numerous changes through time (Table 125-1). Prior to 2005, most provisions for how the drift fishery was to be managed were found in 5 AAC 21.358. *Northern District Salmon Management Plan*. At every UCI board meeting since 2005, the *CDDGFMP* has been amended modifying time and area restrictions to the Central District drift gillnet fishery in order to meet various management plan objectives, while also following the mandate of 5 AAC 21.363(e). *Upper Cook Inlet Salmon Management Plan*, which states that managing fisheries to achieve established escapement goals for the management plans is the department's primary objective. In this plan, it states that for the purpose of this subsection, "escapement goals" includes inriver goal, biological escapement goal (BEG), sustainable escapement goal (SEG), and optimal escapement goal (OEG) as defined in 5 AAC 39.22. In UCI, there is only one system, Kenai River sockeye salmon, that are managed, in part, to meet an inriver goal. Kasilof River sockeye salmon are managed to meet an BEG or an OEG.

5 AAC 21.360. *Kenai River Late-Run Sockeye Salmon Management Plan* instructs the department to manage the Kenai River late-run sockeye salmon commercial, sport, and personal use fisheries to (1) meet an sustainable escapement goal (SEG) range of 700,000–1,200,000 late-run sockeye salmon; (2) achieve inriver goals as established by the board and measured at the Kenai River sonar counter located at RM 19; and (3) distribute the escapement of sockeye salmon evenly within the OEG range, in proportion to the size of the run. The primary inseason management target for Kenai River sockeye salmon is the inriver goal. The inriver goal ranges from a low of 900,000 fish up to 1,500,000 fish and is dependent upon the size of the Kenai River sockeye salmon run. This provides 200,000–800,000 fish to be harvested above the sonar in order to achieve the SEG. During the past 10 years (2009–2018), the inriver sport harvest upstream of the Kenai River sonar has averaged 282,000 sockeye salmon per year, ranging from a low of 147,000 fish to a high of 380,000 fish (Table 88-1).

If sport and commercial fisheries were managed based on the estimated sockeye salmon sonar passage in the Kenai River being within 200,000 of the inriver goal on July 22, these fisheries would have closed in nine of the past 20 years, including the past six consecutive years (Table 125-2). For all 20 years, the fisheries would have reopened because the inriver goal was achieved or exceeded all 20 years.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. There are allocative effects of this proposal due to the number of suggested changes to the drift gillnet management plan, but it is difficult to identify or quantify them.

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

Table 125-1.—History of season dates, weekly fishing periods, and restrictions in the Central District drift gillnet fishery.

Year	Description
<u>Season Opening/Closing Dates</u>	
1970	June 17 until closed by Emergency Order (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	3 rd Monday in June or June 19 (whichever is later). From August 11 until closed by EO, fishery is open in Drift Areas 3 & 4 only.
2008	3 rd Monday in June or June 19 (whichever is later). From August 15 until closed by EO, fishery is open in Drift Areas 3 & 4 only.
<u>Weekly Fishing Periods</u>	
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.
<u>July Restrictions/Tier Restrictions</u>	
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 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 sockeye salmon run strength is greater than 4 million fish, the first regular period after July 25 may be fished district wide.

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Year	Description
<u>July Restrictions/Tier Restrictions</u>	
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	<p>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).</p> <p>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).</p>
2014	<p>From July 9–15: 1st and 2nd regular fishing periods restricted to the expanded corridor and Drift Area 1.</p> <p>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.</p>
2017	From July 16–31: same as 2014, except that for Kenai River sockeye salmon runs of 2.3 to 4.6 million fish, during this time period one Drift Area 1 fishing period may be fished districtwide instead of in Drift Area 1.

Table 125-2.–Kenai River sockeye salmon estimated passage through July 22, 2000–2019.

Year	July 22 Passage	Kenai Sockeye Forecast	Inriver Goal	Proposal Effects	Final Passage
2000	585,509	2.5	600,000	none	900,695
2001	393,532	2.4	600,000	close	906,333
2002	836,968	1.7	750,000	none	1,339,681
2003	1,016,381	2.0	750,000	none	1,656,026
2004	891,191	3.2	850,000	none	1,945,383
2005	814,469	3.3	850,000	none	1,908,823
2006	192,979	1.8	750,000	close	2,064,726
2007	323,122	2.4	750,000	close	1,229,944
2008	459,508	3.1	650,000	none	917,138
2009	601,654	2.4	650,000	none	1,090,057
2010	737,472	1.7	750,000	none	1,294,884
2011	828,998	3.9	1,100,000	none	1,599,217
2012	806,486	4.0	1,100,000	none	1,581,555
2013	1,063,512	4.4	1,000,000	none	1,359,893
2014	537,579	3.8	1,000,000	close	1,520,340
2015	412,946	3.6	1,000,000	close	1,709,051
2016	676,875	4.7	1,100,000	close	1,383,692
2017	306,260	4.0	1,000,000	close	1,308,498
2018	294,324	2.5	900,000	close	1,024,974
2019	526,565	3.8	1,000,000	close	1,849,054

PROPOSAL 131 – Allow the drift gillnet fishery to be open districtwide for all Monday and Thursday regular 12-hour fishing periods.

5 AAC 21.353. Central District Drift Gillnet Fishery Management Plan.

PROPOSED BY: Teague Vanek.

WHAT WOULD THESE PROPOSALS DO? This would allow the drift gillnet fishery to be open districtwide for all Monday and Thursday regular 12-hour fishing periods throughout the season. It would expand the waters that are currently open to drift gillnet fishing from July 9–31 (Table 132-1). From July 9 to July 15 there are two regular fishing periods each year that are restricted to Drift Gillnet Area 1 and the Expanded Corridors. This would allow both of these fishing periods to be open district wide. From July 16 to July 31, area restrictions are dependent upon the size of the Kenai River sockeye salmon run. There are four or five regular fishing periods in this time span, depending upon the calendar. This would expand waters open to drift gillnetting from expanded corridors to district wide in small runs; from either expanded corridors or Drift Area 1 to district wide in middle sized runs, and from expanded corridors or Drift Area 1 to district wide periods in large runs (in large runs, one period per week may already be fished district wide).

WHAT ARE THE CURRENT REGULATIONS? 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 123-1 and 123-2). 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. Restrictions to the drift fleet from July 9–15 are to reduce the harvest of Susitna River sockeye salmon.

From July 16–31, 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 is 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. One regular 12-hour fishing period from July 16 through July 31 may occur in the Central District instead of in Drift Gillnet Area 1. 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. Restrictions to the drift fleet from July 16–31 are to reduce the harvest of Susitna River sockeye and Northern Cook Inlet coho salmon.

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 126-1). 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 THIS PROPOSAL WAS ADOPTED? This would increase the commercial drift gillnet harvest of all salmon from both Northern and Central District stocks. In turn, this would decrease the number of salmon available to other commercial fishermen and inriver users throughout UCI. It could result in sockeye salmon escapement objectives falling within established ranges more often in the Kenai and Kasilof rivers and less often in Judd, Chelatna, and Larson lakes. It could also result in NCI coho salmon escapement objectives being achieved less often. The actual effects of this proposal would be dependent upon how much less the drift gillnet fleet was fished in the Expanded Corridors on days other than Monday and Thursday regular periods.

BACKGROUND: See background on Proposal 133.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. The department has concerns with the level of potential increased harvest of Susitna River sockeye salmon that could occur under these proposals. Susitna River sockeye salmon were designated a Stock of Yield Concern in 2008. Current management plan restrictions to the Central District drift gillnet fleet and Northern District set gillnet fishery have contributed to escapement goals being consistently achieved at Judd, Chelatna, and Larson lakes during the past five years. In addition, while reduced yields in this watershed can in part be attributed to invasive northern pike, average harvest for Susitna River sockeye salmon has increased or remained stable since being designated a Stock of Yield Concern, which led the department to recommend discontinuing the Stock of Yield Concern designation.

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

PROPOSAL 129 – Allow for gear restrictions in the Central District drift gillnet fishery.

5 AAC 21.353. Central District Drift Gillnet Fishery Management Plan.

PROPOSED BY: Kenai River Sportfishing Association.

WHAT WOULD THE PROPOSAL DO? This would allow the commissioner to restrict Central District drift gillnets to less than 150 or 200 fathoms in length and reduce net depth to no more than 29 meshes.

WHAT ARE THE CURRENT REGULATIONS? Legal gear for drift gillnets in Upper Cook Inlet is a net not longer than 150 fathoms, with a maximum depth not more than 45 meshes where the maximum stretched mesh size is six inches. A dual drift gillnet permit operation, either one person owning two permits, or two drift gillnet permit holders aboard the same vessel, may operate up to 200 fathoms total of drift gillnet gear not more than 45 meshes deep and mesh size no larger than six inches.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This may allow the drift fishery to be opened at times when salmon abundance is not adequate to allow for use of a full complement of gear. This may reduce the harvest of all species of salmon in the drift fishery by an unknown amount relative to the use of current gear. This may increase the abundance of all salmon stocks available to Northern District commercial fishermen and inriver users and could also increase the number of all salmon entering the Kenai and Kasilof rivers. It may make it more difficult to meet established escapement objectives in a given year for species of high abundance but make restrictions to inriver users less likely in years of low abundance.

BACKGROUND: The regulation for the length and depth of a drift gillnet has been the same since statehood. The department does not have authority to modify commercial fishing gear unless provided in specific situations by the board. Currently, in UCI, the board has authorized the department to limit gear (number of nets, not net depth or mesh size) in the Northern District set gillnet fishery from July 20–August 6 to conserve Susitna River sockeye salmon. In the Upper Subdistrict set gillnet fishery, the board has provided the department with the authority to restrict gear (depth and/or number of nets at the choice of fishermen), but only when the Kenai River king salmon sport fishery is restricted to meet the sustainable escapement goal (SEG).

Since 1999, the sonar count (or inriver fish passage) for Kenai River late-run sockeye salmon was above the inriver goal range 14 years (67%), within the inriver goal range six years (29%), and below the inriver goal range one year (5%). During this same time period, escapements have been below the OEG (1999–2016) or SEG (2017–2019) three years, within the escapement goal 13 years and above the escapement goal four years (Table 88-2; Figure 88-1).

Since 1990, the Kasilof River sockeye salmon escapement has been above the BEG range 20 years (67%), within the BEG range 8 years (27%), and below the BEG 2 years (7%) (Table 117-5). More recently in the last decade (2010–2019), the Kasilof River sockeye salmon escapement has been within or above the BEG range in every year, and escapement has exceeded the upper bound of the BEG in 8 of those 10 years.

Beginning in 2009, the department began assessing sockeye salmon escapement via weirs in the Susitna River drainage at three individual lakes, Judd and Chelatna lakes in the Yentna River drainage, and Larson Lake in the mainstem Susitna River drainage. Since 2009, the escapement goal was achieved or exceeded 24 times (75%) and not achieved eight times (25%) at these lake weirs (Table 129-1).

At Fish Creek, in the last 20 years (2000–2019), sockeye salmon escapement has been below the goal five times (25%), within the goal range seven times (35%), and above the goal eight times (40%) (Table 129-2).

Coho salmon goals in UCI have generally been met over the last 20 years. From 1988–1998 (11 years), the Little Susitna River coho salmon escapement goal was a point-goal of 7,500 fish (Table 101-1). It was achieved or exceeded all 11 years. Since 1999, the goal has been a sustainable escapement goal (SEG) range, with 16 years where there was a total count of the escapement at the weir. During that time, the goal was not achieved five times (31%), was achieved five times (31%), and was exceeded six times (38%). For the five years where the weir was flooded and produced incomplete counts, in two of those years the goal was achieved prior to the flood, and in one year (2006), while the pre-flood count was under the goal, it is believed the goal was very likely achieved, or perhaps exceeded.

Since 2002 (18 years), there has been a coho salmon SEG of 1,200–4,400 fish at Fish Creek. The goal has been met or exceeded in all 18 years.

A new coho salmon escapement goal was established at the Deshka River in 2017. Since then, the SEG of 10,200–24,100 was met or exceeded in all three years.

Coho salmon escapement is monitored in Jim Creek via a foot index survey of a section of McRoberts Creek, a tributary of the Jim Creek drainage. Since 2002 (18 years) the foot survey escapement goal has been met or exceeded 12 times (67%) and not achieved six times (33%).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal. Because very little is known about the depth at which salmon migrate through the offshore waters in the Central District, it is not known what effect altering drift gillnet depth would have on the harvest of salmon. In considering changes to the depth of drift gillnets, the board should evaluate what is known about the depth of salmon migration in Cook Inlet and whether current net depth is adequate in a changing climate.

COST ANALYSIS: Approval of this proposal would result in an additional direct cost for a private person to participate in this fishery. Drift gillnet fishermen would have to either re-hang existing gear or purchase new nets in order to meet new lawful gear specifications.

Table 129-1.—Sockeye salmon escapement at Judd, Chelatna, and Larson lakes, 1999–2019.

JUDD LAKE				
Year	ESC	Goal Range		Below, Within, Above Esc Goal
2009	44,602	25,000	55,000	Within
2010	18,466	25,000	55,000	Below
2011	39,909	25,000	55,000	Within
2012	18,715	25,000	55,000	Below
2013	14,088	25,000	55,000	Below
2014	22,229	25,000	55,000	Within
2015	47,934	25,000	55,000	Within
2016	no count	25,000	55,000	-
2017	35,731	15,000	40,000	Within
2018	30,844	15,000	40,000	Within
2019	44,145	15,000	40,000	Above

CHELATNA LAKE				
Year	ESC	Goal Range		Below, Within, Above Esc Goal
2009	17,721	20,000	65,000	Below
2010	37,734	20,000	65,000	Within
2011	70,353	20,000	65,000	Above
2012	36,736	20,000	65,000	Within
2013	70,555	20,000	65,000	Above
2014	26,374	20,000	65,000	Within
2015	69,897	20,000	65,000	Above
2016	60,792	20,000	65,000	Within
2017	26,986	20,000	45,000	Within
2018	20,434	20,000	45,000	Within
2019	26,303	20,000	45,000	Within

LARSON LAKE				
Year	ESC	Goal Range		Below, Within, Above Esc Goal
2009	40,930	15,000	50,000	Within
2010	20,324	15,000	50,000	Within
2011	12,225	15,000	50,000	Below
2012	16,557	15,000	50,000	Within
2013	21,821	15,000	50,000	Within
2014	12,430	15,000	50,000	Below
2015	23,185	15,000	50,000	Within
2016	14,333	15,000	50,000	Below
2017	31,866	15,000	35,000	Within
2018	23,632	15,000	35,000	Within
2019	9,699 ^a	15,000	35,000	Below

^a 3,104 pre-spawn mortality found below weir at confluence with Talkeetna River; likely a result of warm water temps.

Table 129-2.—Sockeye salmon escapement at Fish Creek, 2000–2019.

Year	Esc	Goal Range		Below, Within, or Above Goal
2000	19,533		50,000	Below
2001	43,486		50,000	Within
2002	90,483	20,000	70,000	Above
2003	91,743	20,000	70,000	Above
2004	22,157	20,000	70,000	Within
2005	14,215	20,000	70,000	Below
2006	32,562	20,000	70,000	Within
2007	27,948	20,000	70,000	Within
2008	19,339	20,000	70,000	Below
2009	83,480	20,000	70,000	Above
2010	126,836	20,000	70,000	Above
2011	66,678	20,000	70,000	Within
2012	18,813	20,000	70,000	Below
2013	18,893	20,000	70,000	Below
2014	43,960	20,000	70,000	Within
2015	101,305	20,000	70,000	Above
2016	46,202	20,000	70,000	Within
2017	61,469	15,000	45,000	Above
2018	71,382	15,000	45,000	Above
2019	76,042	15,000	45,000	Above
Last 20 Years	Below		5	25%
	Within		7	35%
	Above		8	40%

PROPOSAL 82 – Allow two regular 12-hour commercial fishing periods per week for all commercial fisheries in UCI.

5 AAC 21.320. Weekly fishing periods; 5 AAC 21.353. Central District Drift Gillnet Fishery Management Plan; 5 AAC 21.359. Kenai River Late-Run King Salmon Management Plan; 5 AAC 21.360. Kenai River Late-Run Sockeye Salmon Management Plan; 5 AAC 21.365. Kasilof River Salmon Management Plan; and 5 AAC 21.366. Northern District King Salmon Management Plan.

PROPOSED BY: Central Peninsula Fish and Game Advisory Committee.

WHAT WOULD THE PROPOSAL DO? This would allow two regular 12-hour commercial fishing periods per week for all commercial fisheries in Upper Cook Inlet (UCI).

WHAT ARE THE CURRENT REGULATIONS? Unless defined differently in a management plan, or modified by emergency order (EO), salmon may be taken in all UCI commercial fisheries during two regular 12-hour fishing periods per week from 7:00 a.m. until 7:00 p.m. on Mondays and Thursdays.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It is unclear what the effects of this proposal would be. 5 AAC 21.320 already provides for regular Monday and Thursday 12-hour fishing periods throughout UCI. These periods can be restricted or closed by EO in order to achieve escapement objectives as defined in 5 AAC 21.363. *Upper Cook Inlet Salmon Management Plan*. The proposal does not identify under what circumstances a regular fishing period could be restricted, so if regular periods were not subject to EO modification, this could result in an increase in the harvest of all salmon in UCI commercial fisheries. In years when Kenai, Kasilof, or Susitna river king, sockeye or coho salmon runs are poor, this could limit the department's ability to manage for established escapement objectives. It is also unclear if this provision would supersede paired restrictions contained in the *Kenai River Late-run King Salmon Management Plan*.

BACKGROUND: Regular fishing periods in Upper Cook Inlet (UCI) have been two days per week and 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.

All of the above regular fishing periods, and areas opened, can be, and have been adjusted by EO throughout the history of UCI commercial fisheries to meet harvest, allocation and escapement objectives.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal and is **OPPOSED** to provisions that restrict the department's ability to manage for established escapement objectives.

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. Approval of this proposal is not expected to result in an additional cost to the department.

PROPOSAL 128 – Amend the Central District Drift Gillnet Fishery Management Plan.

5 AAC 21.353. Central District Drift Gillnet Fishery Management Plan.

PROPOSED BY: Central Peninsula Fish and Game Advisory Committee.

WHAT WOULD THE PROPOSAL DO? This would amend the *Central District Drift Gillnet Fishery Management Plan* to remove the provision to minimize the commercial harvest of Northern District and Kenai River coho salmon and add a provision for reasonable opportunity for common property fishery harvest.

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. To meet the minimization criteria, the board has established specific time and area restrictions in the drift gillnet management plan to reduce (minimize) the harvest of these stocks.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It is unlikely there would be any significant effects on management if this proposal were adopted. It is unlikely this proposal would provide additional management flexibility to the department, as specific provisions for management of the various fisheries are already contained within the management plans and existing regulations (seasons, periods, and duration). The department relies on these management plans and use of its emergency order authority to manage all fisheries in Upper Cook Inlet to achieve escapement objectives and board specified allocation guidelines. Modifying the purpose statement would require the board to consider how the proposed new regulations uphold or support the new guiding principle of the plan.

BACKGROUND: See background on Proposal 133.

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

PROPOSAL 124 – Amend the purpose statement of the Central District Drift Gillnet Fishery Management Plan.

5 AAC 21.353. Central District Drift Gillnet Fishery Management Plan.

PROPOSED BY: Alaska Outdoor Council.

WHAT WOULD THE PROPOSAL DO? This would amend the purpose statement of the *Central District Drift Gillnet Fishery Management Plan (CDDGFMP)* to say that the drift fishery is to be managed not only to ensure adequate escapement, but also a harvestable surplus of salmon into Northern District (ND) drainages. The proposal also seeks to implement optimal escapement goals (OEGs) for ND drainages, but does not specify what these would be.

WHAT ARE THE CURRENT REGULATIONS? The purpose statement of 5 AAC 21.353 currently reads, “The purpose of this management plan is to ensure adequate escapement of salmon into the ND 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.”

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It is unclear how this proposal would modify management of the drift fishery from what is currently in regulation. Ostensibly, the proposal seeks to implement optimal escapement goals (OEGs) for ND drainages, but does not specify what these would be. Amending the preamble to the drift gillnet management plan to include instructions that the fishery should be managed to ensure a harvestable surplus of salmon into ND drainages is duplicative given the current wording that calls for “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.” It is also ambiguous in that individual drainages are not identified, nor are there any provisions outlined for how the drift fishery would be managed in order to provide for a harvestable surplus. This could reduce the drift gillnet fishery salmon harvest and increase salmon escapement to all UCI drainages by an unknown amount.

BACKGROUND: The *CDDGFMP* was first adopted in 2005. Prior to 2005, most provisions for how the drift fishery was to be managed were found in 5 AAC 21.358. *Northern District Salmon Management Plan*. At every UCI board meeting since 2005, the *CDDGFMP* has been amended modifying time and area restrictions to the Central District drift gillnet fishery in order to meet various management plan objectives, while also following stipulations within 5 AAC 21.363(e), which states that managing fisheries to achieve established escapement goals for the management plans is the department’s primary objective. (See additional background in Proposal 123)

There are numerous stocks of salmon originating from hundreds of drainages throughout NCI. The current purpose statement in the management plan prioritizes management of the drift fishery to ensure adequate escapement and further directs the department to minimize the harvest of NCI 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 provisions for how to do this have been placed into the drift gillnet management plan in the form of time and area restrictions.

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

Set Gillnet and Drift Gillnet – Time and Area (15 proposals)

PROPOSAL 195 – Amend Upper Subdistrict set gillnet one-percent rule to start July 31.

5 AAC 21.310. Fishing seasons.

PROPOSED BY: Kenai River Sportfishing Association.

WHAT WOULD THE PROPOSAL DO? This would amend the Upper Subdistrict set gillnet (ESSN) one-percent rule to a two percent rule beginning July 31 instead of August 7

WHAT ARE THE CURRENT REGULATIONS? In the combined Kenai and East Forelands sections, and separately in the Kasilof Section, the set gillnet fishing season closes no later than August 15. However, the season may close earlier, by emergency order (EO), after August 7, 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.

The purpose statement of 5 AAC 21.353 currently reads, “The purpose of this management plan is to ensure adequate escapement of salmon into the ND 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 *Kenai River Late-Run Sockeye Salmon Management Plan* states, in part, that the department is to 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.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase the likelihood that ESSN would close prior to August 15 each year. This would decrease commercial harvest of all salmon in this fishery and result in more fish entering primarily the Kenai and Kasilof rivers and would reduce the department’s ability to manage for sockeye salmon goals especially given the recent trend in increased August run entry of Kenai River late-run sockeye salmon.

BACKGROUND: From 2000–2019 (20 years), if there had been a two-percent rule that started after July 31, the Kasilof Section would have been closed in 10 of 14 years where there was a fishery for more than two days in August (Table 195-1). In years where the fishery would have closed early based on a two-percent rule, the average lost harvest would have been approximately 25,000 sockeye salmon. In the Kenai and East Foreland sections, a two-percent rule would have

closed this fishery in August in two years out of 15 years where the fishery was open for two or more days in August, resulting in an average lost sockeye salmon harvest of more than 14,000 fish. Please see Background sections on Proposal 133.

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. Approval of this proposal is not expected to result in an additional cost to the department.

Table 195-1.—Date in August where a two-percent rule would have closed set gillnetting in the Kasilof and Kenai/East Foreland sections.

Kasilof Section		Year	Kenai/E.Foreland	
2% Date	Lost Harvest		2% Date	Lost Harvest
only fished one day in Aug		2000	no fishing in Aug	
no fishing in August		2001	no fishing in Aug	
5-Aug	4,037	2002	No closure	
7-Aug	3,185	2003	No closure	
4-Aug	36,652	2004	No closure	
7-Aug	35,329	2005	No closure	
3-Aug	46,465	2006	No closure	
5-Aug	46,128	2007	No closure	
no fishing in August		2008	no fishing in Aug	
6-Aug	3,646	2009	No closure	
5-Aug	11,128	2010	5-Aug	21,612
4-Aug	11,022	2011	No closure	
No closure		2012	No closure	
no fishing in August		2013	no fishing in Aug	
only 2 days fishing in Aug		2014	No closure	
5-Aug	55,562	2015	No closure	
No closure		2016	9-Aug	7,212
No closure		2017	No closure	
no fishing in August		2018	no fishing in Aug	
No closure		2019	No closure	
5-Aug	25,315		7-Aug	14,412

PROPOSAL 194 – Change one-percent rule to a three-percent rule for drift gillnet and Upper Subdistrict set gillnet fisheries.

5 AAC 21.310. Fishing seasons; and 5 AAC 21.353. Central District Drift Gillnet Fishery Management Plan.

PROPOSED BY: Cooper Landing Fish and Game Advisory Committee.

WHAT WOULD THE PROPOSAL DO? This would amend the one-percent rule to a three percent rule beginning August 1 for both the Upper Subdistrict set gillnet (ESSN) and Central District drift gillnet fisheries. The new three-percent rule would be calculated on sockeye salmon harvest by subdistrict.

WHAT ARE THE CURRENT REGULATIONS? In the combined Kenai and East Forelands sections, and separately in the Kasilof Section, the set gillnet fishing season closes no later than August 15. However, the season may close earlier, by emergency order (EO), after August 7, 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.

In the drift gillnet fishery, from August 1 through August 15, there are no mandatory area restrictions to regular fishing periods, except that if the entire Upper Subdistrict set gillnet fishery is closed under its own one-percent rule, 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 Gillnet Areas 3 and 4.

In both fisheries 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.

The purpose statement of 5 AAC 21.353 currently reads, "The purpose of this management plan is to ensure adequate escapement of salmon into the ND 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 *Kenai River Late-Run Sockeye Salmon Management Plan* states, in part, that the department is to 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.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? By creating a three-percent rule that applied to the entire ESSN fishery as a whole (Upper Subdistrict), this would increase the likelihood that this fishery would close prior to August 15 each year. This

would decrease the harvest of all salmon in this fishery and result in more fish entering primarily the Kenai and Kasilof rivers and would reduce the department's ability to manage for sockeye salmon escapement goals especially given the recent trend in increased August run entry of Kenai River late-run sockeye salmon. It is a little more difficult to estimate the effects of this proposed three-percent rule for the drift fishery. The proposal states that if the drift gillnet harvest is less than three-percent of their total sockeye salmon harvest for two consecutive fishing periods in any subdistrict, drift gillnet fishing will be closed for that subdistrict. Assessment of the effect is difficult because drift gillnet fishing is often open in more than one subdistrict during a single fishing period; therefore, calculation of a three-percent rule by subdistrict may not be possible in the drift gillnet fishery on some days.

BACKGROUND: Please see Background sections on proposals 133 and 186.

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. Approval of this proposal is not expected to result in an additional cost to the department.

PROPOSAL 193 – Make a three-percent rule for setnetting in all of UCI.

5 AAC 21.310. Fishing seasons.

PROPOSED BY: Mike Adams.

WHAT WOULD THE PROPOSAL DO? This would amend the one percent rule to a three percent rule beginning August 1 for all Cook Inlet Area set gillnetting Subdistricts.

WHAT ARE THE CURRENT REGULATIONS? Currently there are two one-percent rules for commercial fishing in all of Upper Cook Inlet (UCI).

In the combined Kenai and East Forelands sections, and separately in the Kasilof Section, the set gillnet fishing season closes no later than August 15. However, the season may close earlier, by emergency order (EO), after August 7, 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.

In the drift gillnet fishery, from August 1 through August 15, there are no mandatory area restrictions to regular fishing periods, except that if the entire Upper Subdistrict set gillnet fishery is closed under its own one-percent rule, 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 Gillnet Areas 3 and 4.

The set gillnetting fishing season in the Northern District and Chinitna Bay, Western, Kustatan, and Kalgin Island Subdistricts all close by emergency order (EO).

The purpose statement of 5 AAC 21.353 currently reads, "The purpose of this management plan is to ensure adequate escapement of salmon into the ND 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 *Kenai River Late-Run Sockeye Salmon Management Plan* states, in part, that the department is to 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.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would create a new three-percent rule to be applied to all setnet fisheries by Subdistrict in UCI (Figure 136-1), reducing the harvest of all salmon in these areas. This would result in set gillnet closures in August nearly every year in some Subdistricts, including all of the Northern District and the Western Subdistrict (Table 193-1). In other areas, such as the Kustatan Subdistrict, where participation declines in August, this would have less impact. By creating a three-percent rule in

the ESSN fishery that started on August 1 instead of after August 7, that is applied to the entire Subdistrict, not the Kasilof and Kenai/East Foreland sections separately, this would increase the likelihood that this fishery would close prior to August 15 each year. This would decrease the harvest of all salmon in this fishery, resulting in more fish entering primarily the Kenai and Kasilof rivers, and reduce the department's ability to manage for sockeye salmon escapement goals. This would likely increase the department's ability to manage for the Kenai River king salmon escapement goal, primarily in years of low abundance.

BACKGROUND: A set gillnetting three-percent rule beginning August 1 by Subdistrict in UCI over the past 10 years would have impacted fisheries as follows (Table 193-1). In the Northern District, the General Subdistrict would have been closed in nine of the past 10 years, with an average annual harvest reduction of 494 sockeye and 4,036 coho salmon. In the Eastern Subdistrict, the fishery would have closed in all 10 years, resulting in a lost average annual harvest of 700 sockeye and 5,334 coho salmon. In the Central District, the three-percent rule would have closed the setnet fishery in the Kalgin Island Subdistrict in eight of the previous 10 years, resulting in an average annual harvest reduction of 1,372 sockeye and 1,637 coho salmon. In the Western Subdistrict, the fishery would have been closed in nine of the previous 10 years, with an average annual harvest reduction of 636 sockeye and 979 coho salmon. In the Kustatan Subdistrict, the fishery would have closed in two of the previous 10 years, with an average harvest reduction of 27 sockeye and 55 coho salmon. Finally, in the Upper Subdistrict (ESSN) fishery, the three-percent rule would have closed the fishery in four of the previous 10 years, with an average annual harvest reduction of at least 50,376 sockeye, 369 king salmon (all sizes), and 6,905 coho salmon. However, the one-percent rule had closed the entire ESSN fishery early in 2011 and closed the Kasilof Section early in 2015 (Table 186-2), so harvest reduction by a three-percent rule in those years would have been in addition to lost harvest that had already occurred.

For more information, please see the Background section on Proposal 186.

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. Approval of this proposal is not expected to result in an additional cost to the department.

Table 193-1.—Date at which a 3% rule would have affected set gillnet fisheries in various subdistricts of Upper Cook Inlet, including the number of sockeye and coho salmon that would not have been harvested, 2010–2019.

Year	District	Subdistrict	3% Date	Sockeye	Coho
2011	Northern	General	16-Aug	188	1,342
2012			11-Aug	342	3,213
2013			na	-	-
2014			8-Aug	156	6,812
2015			18-Aug	171	3,209
2016			17-Aug	978	4,288
2017			11-Aug	1,090	8,461
2018			17-Aug	884	6,307
2018			27-Aug	20	72
2019			19-Aug	618	2,621
Average ^a =			16-Aug	494	4,036

^aAverage calculated only on years affected by 3% rule.

Year	District	Subdistrict	3% Date	Sockeye	Coho
2011	Northern	Eastern	12-Aug	527	8,470
2012			18-Aug	419	3,354
2013			13-Aug	963	3,188
2014			12-Aug	342	7,460
2015			18-Aug	693	5,448
2016			3-Sep	783	2,678
2017			15-Aug	1,746	11,089
2018			28-Aug	669	6,426
2018			27-Aug	700	1,942
2019			26-Aug	162	3,289
Average =			20-Aug	700	5,334

Year	District	Subdistrict	3% Date	Sockeye	Coho
2010	Central	Kalgin Is.	23-Aug	0	65
2011			8-Aug	3,718	2,862
2012			9-Aug	961	808
2013			8-Aug	1,747	6,082
2014			14-Aug	629	355
2015			na	0	0
2016			11-Aug	3,545	1,855
2017			na	0	0
2018			27-Aug	372	1,345
2019			5-Sep	2	10
Average ^a =			17-Aug	1,372	1,673

^aAverage calculated only on years affected by 3% rule.

-continued-

Table 193-1.–Page 2 of 2.

Year	District	Subdistrict	3% Date	Sockeye	Coho
2010	Central	Western	9-Aug	499	1,669
2011			8-Aug	374	744
2012			9-Aug	272	1,216
2013			8-Aug	133	476
2014			7-Aug	241	613
2015			13-Aug	452	365
2016			4-Aug	3,086	2,864
2017			na	0	0
2018			16-Aug	196	265
2019			15-Aug	474	597
Average ^b =			9-Aug	636	979

^a Average calculated only on years affected by 3% rule.

Year	District	Subdistrict	3% Date	Sockeye	Coho
2010 ^a	Central	Kustatan	na	0	0
2011 ^a			na	0	0
2012 ^a			na	0	0
2013 ^a			na	0	0
2014 ^a			na	0	0
2015 ^a			na	0	0
2016 ^a			na	0	0
2017			na	0	0
2018			27-Aug	54	43
2019			26-Aug	0	66
Average ^b =			26-Aug	27	55

^a no fishing in August

^a Average calculated only on years affected by 3% rule.

Year	District	Subdistrict	3% Date	King ^a	Sockeye	Coho
2010	Central	Upper	5-Aug	485	32,740	10,243
2011			4-Aug	492	54,865	4,317
2012			na		0	0
2013 ^a			na		0	0
2014			na		0	0
2015			10-Aug	93	46,179	2,570
2016			4-Aug	405	67,721	10,489
2017			na		0	0
2018 ^a			na		0	0
2019			na		0	0
Average ^b =			5-Aug	369	50,376	6,905

^a no fishing in August

^b Average calculated only on years affected by 3% rule.

^c All sized king salmon

PROPOSAL 192 – Amend the one-percent rule in the Upper Subdistrict set gillnet fishery.

5 AAC 21.310. Fishing seasons.

PROPOSED BY: Kenai River Professional Guide Association.

WHAT WOULD THE PROPOSAL DO? This would amend the one-percent rule in the Upper Subdistrict set gillnet (ESSN) fishery to apply starting after July 31 instead of after August 7.

WHAT ARE THE CURRENT REGULATIONS? In the combined Kenai and East Forelands sections, and separately in the Kasilof Section, the set gillnet fishing season closes no later than August 15. However, the season may close earlier, by emergency order (EO), after August 7, 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.

The purpose statement of 5 AAC 21.353 currently reads, “The purpose of this management plan is to ensure adequate escapement of salmon into the ND 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 *Kenai River Late-Run Sockeye Salmon Management Plan* states, in part, that the department is to 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.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This could reduce the set gillnet harvest of all salmon by an unknown amount and result in increased salmon passage to rivers, primarily to the Kenai and Kasilof rivers. This would increase the frequency that either the Kasilof Section or Kenai and East Foreland sections set gillnet fishing season closed prior to the current closing date of on or before August 15 and would reduce the department's ability to manage for sockeye salmon escapement goals, especially given the recent trend in increased August run-entry of Kenai River late-run sockeye salmon. This could increase the likelihood of achieving the Kenai River king salmon escapement goal, primarily in years of low abundance. It could also increase the return of coho salmon to the Kenai River and Northern Cook Inlet drainages.

BACKGROUND: Please see the Background section on Proposal 186.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. The department has concerns, however, with restrictions that might impair our ability to meet sockeye salmon escapement objectives in the Kenai and Kasilof rivers.

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. Approval of this proposal is not expected to result in an additional cost to the department.

PROPOSAL 186 – Rescind the one-percent rule in both the Upper Subdistrict set and Central District drift gillnet fisheries.

5 AAC 21.310. Fishing seasons; and 5 AAC 21.353. Central District Drift Gillnet Fishery Management Plan.

PROPOSED BY: Central Peninsula Fish and Game Advisory Committee.

WHAT WOULD THE PROPOSAL DO? This would rescind the one-percent rule in both the Upper Subdistrict set gillnet (ESSN) and Central District drift gillnet fisheries.

WHAT ARE THE CURRENT REGULATIONS? In the combined Kenai and East Forelands sections, and separately in the Kasilof Section, the set gillnet fishing season closes no later than August 15. However, the season may close earlier, by emergency order (EO), after August 7, 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.

In the drift gillnet fishery, from August 1 through August 15, there are no mandatory area restrictions to regular fishing periods, except that if the entire Upper Subdistrict set gillnet fishery is closed under its own one-percent rule, 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 Gillnet Areas 3 and 4.

In both fisheries 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.

The *Kenai River Late-Run Sockeye Salmon Management Plan* states, in part, that the department is to 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 purpose statement of 5 AAC 21.353 currently reads, "The purpose of this management plan is to ensure adequate escapement of salmon into the ND 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."

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would allow the ESSN and drift gillnet fisheries to remain open until August 15, unless the department closed either fishery to achieve the lower end of escapement goals. This could increase commercial harvest in August of all salmon by an unknown amount and reduce passage of salmon into the Kenai and Susitna drainage rivers. The amount of additional harvest would be dependent upon run timing and run size of the respective salmon stocks, especially in the Kenai and Kasilof rivers in early to mid-August. Elimination of the one-percent rule would provide the department additional

tools in managing the commercial set gillnet fishery in the Upper Subdistrict and the Central District drift gillnet fishery to achieve sockeye salmon inriver goals in the Kenai River and escapement goals in the Kasilof River. This proposal would increase the harvest of coho salmon by an unknown amount depending on effort and abundance. It could increase exploitation rates to unsustainable levels during years of below or average returns. Finally, it could impact the reasonable opportunity of sport and guided sport fishermen to harvest coho salmon in the Kenai River and northern Cook Inlet drainages.

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 stated 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 modified the drift gillnet plan to state that if the ESSN fishery was closed based on the one-percent rule, drift gillnet regular fishing periods from August 11–15 would be restricted to Drift Gillnet Areas 3 and 4. In 2014, the setnet one-percent rule was modified so it would apply to the combined Kenai and East Forelands sections and the Kasilof Section separately. Also in 2014, the board adopted a new drift gillnet one-percent rule (5 AAC 21.353 (e)). The drift rule states that after August 1 drift gillnet regular periods will be restricted to Drift Gillnet Areas 3 and 4, if the drift fleet harvests less than one-percent of their total sockeye salmon harvest for two consecutive fishing periods or if the entire ESSN fishery was closed based on their one-percent rule. In 2017, the one-percent rule for the ESSN fishery was modified to begin after August 7.

Since the one-percent rule was adopted (15 years), part or all of the ESSN fishery has been closed based on the one-percent rule three times (Tables 179-2 & 186-1). In two of those years, 2009 and 2011, the drift gillnet fishery was also restricted to Drift Gillnet Areas 3 and 4 based on the ESSN closure. This affected one fishing period in 2009 and two fishing periods in 2011. Since the drift gillnet specific one-percent rule was implemented in 2014, the drift fishery has been impacted in three of six years (Table 186-2), affecting a total of five fishing periods over these three years.

Based on recent genetic mixed stock analysis of coho salmon harvested in the ESSN fishery, approximately 4,600 coho salmon of the 17,500 fish harvested in 2015 (26%) were Kenai River stock, while 5,400 of the 11,230 fish taken in 2016 (48%) were Kenai River coho salmon (Tables 133-5 and 133-6). Based on these two years of data, 37% of the coho salmon harvested in the ESSN fishery were Kenai River stock.

Since 2005 (15 years), when the one-percent rules were first adopted, the sonar count (or fish passage) for Kenai River late-run sockeye salmon was below the inriver goal range one year (7%), within the inriver goal range three years (20%), and above the inriver goal range 11 years (73%%) (Table 186-3). During this same time period, escapements were below the SEG range one year (7%), within the SEG seven years (50%), and above the SEG six year (43%). The OEG (2005–2016) was not achieved one year (8%); achieved eight years (67%), and exceeded three years (25%). Since 2005, Kasilof River sockeye salmon were managed to achieve the BEG 10 years and the OEG five years. The combination of these goals were achieved four years (27%) and exceeded 11 years (73%).

Since 1980, the number of sockeye salmon enumerated in the Kenai River in August has steadily increased (Table 135-1). For example, the average sockeye salmon passage estimate in August

was 114,000 fish per year in the 1980s, but has increased to nearly 472,000 fish per year for each of the past 10 years. The average percentage of each year's total passage estimate that occurs in August has risen from 8% in the 1980s to 33% during the past 10 years. The average day that sonar operations ceased each year has also increased from August 12 in the 1980s to August 19 during the past 10 years. Sonar operations typically cease when less than 1% of the season's total sockeye salmon passage has occurred for three consecutive days. The number of sockeye salmon enumerated in the Kenai River in August is affected not only by run-timing of this stock, but it can also be impacted by restrictions to commercial fisheries in late July and August, thereby increasing passage of sockeye salmon in August.

UCI sockeye salmon run size and run timing are estimated inseason via an Offshore Test Fishery that is conducted at the southern boundary of the UCI management area. Sockeye salmon run timing averaged 1.9 days early during the 1980s; then 1.7 days late in the 1990s; late 0.9 days from 2000–2009, and from 2010–2019, runs were 2.9 days late (Figure 186-1).

The board adopted one-percent rules that can close or restrict commercial fisheries in August if sockeye salmon catches are declining. These rules were adopted to reduce the commercial harvest of UCI coho salmon in those years where harvest of sockeye salmon late in the season has diminished to less than 1% of the total season harvest for two consecutive fishing periods.

Information gathered from research programs on the Kenai River indicate that coho salmon runs averaged about 140,000 fish from 1999 to 2004, with harvests averaging just over 62,000 fish (Table 145-2). 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 3-fish bag limit and more liberal commercial fishing in August; under a plan that allowed a 2-fish bag limit and more restrictive commercial fishing, the harvest rate ranged from 35% to 47% from 2000 to 2004. Regulations created since 2004 to coho salmon bag limit and the 1% rule 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 a harvest rate of about 61% is sustainable. Based on the relatively low coho salmon harvest rate by the commercial fishery, the season ending date for the ESSN and drift gillnet fisheries was extended by the board from August 10 to August 15 in 2008, but only regular Monday/Thursday fishing periods were open during this time period. The drift fishery is restricted to Drift Gillnet Areas 3 and 4 after August 15 to reduce harvest of northern bound coho salmon.

The department does not manage the Kenai River coho salmon sport fishery inseason based upon abundance because coho salmon escapement is not monitored and no escapement goal has been established for the Kenai River.

Since 1999, the average annual ESSN and drift gillnet coho salmon harvest has decreased by more than 150,000 fish per year (-56%) when compared to pre-1999 averages (Table 142-1). The Kenai River coho salmon sport fish harvest during that time increased moderately from 46,000 fish per year (1980–1998) to more than 48,000 fish per year (1999–2018) (Table 142-2).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. The department does not have any new data regarding coho salmon runs or harvest rates but believes current management is sustainable. The Kenai River coho salmon stock is not monitored for escapement and with the discontinuation of the guide logbook program in the spring of 2019, the

department no longer has one of the few metrics by which to gauge relative coho salmon run strength inseason. Inriver harvest data indicate harvest of Kenai River coho salmon is relatively stable under existing regulations and the department does not recommend any increase in exploitation. In the absence of inseason run strength information, conservative regulation is recommended.

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. Approval of this proposal is not expected to result in an additional cost to the department.

Table 186-1.—Years where the one-percent closed the Upper Subdistrict set gillnet (ESSN) fishery prior to the regulatory season ending date.

ESSN Fishery					
2009	SOCKEYE SALMON			COHO SALMON	
Date	Daily	Cum	Sockeye %	Daily	Cum
1-Aug	11,913	882,702	1.3%	1,299	2,712
3-Aug	9,906	892,608	1.1%	1,375	4,087
6-Aug	8,363	900,971	0.9%	3,181	7,268
10-Aug	4,882	905,853	0.5%	4,167	11,435

ESSN Fishery					
2011	SOCKEYE			COHO	
Date	Daily	Cum	Sockeye %	Daily	Cum
1-Aug	28,385	1,811,664	1.6%	974	10,715
2-Aug	11,410	1,823,074	0.6%	528	11,243
4-Aug	29,461	1,852,535	1.6%	948	12,191
6-Aug	13,567	1,866,102	0.7%	1,426	13,617
7-Aug	11,837	1,877,939	0.6%	1,943	15,560

KASILOF SECTION					
2015	SOCKEYE			COHO	
Date	Daily	Cum	Sockeye %	Daily	Cum
1-Aug	13,973	728,085	1.9%	189	2,830
3-Aug	11,304	739,389	1.5%	478	3,308
5-Aug	14,752	754,141	2.0%	643	3,951
6-Aug	16,890	771,031	2.2%	539	4,490
8-Aug	10,743	781,774	1.4%	673	5,163
9-Aug	7,086	788,860	0.9%	683	5,846
10-Aug	6,091	794,951	0.8%	615	6,461

Table 186-2.—Drift gillnet fishing periods affected by the drift gillnet one-percent rule, 2014–2019.

Year	Restricted by 1%		EO #	Dates Affected
	Yes	No		
2014	X		51	8/11; 8/14
2015		X		
2016	X		33	8/11; 8/15
2017		X		
2018		X		
2019	X		32	8/15

Table 186-3.—Kenai and Kasilof river sockeye salmon passage, escapement, and escapement goals, 2005–2019.

Kenai River

Year	Sonar passage	Spawning escapement	Inriver goal	SEG	OEG
2005	1,376,452	1,121,634	850,000-1,100,000	500,000-800,000	500,000-1,000,000
2006	1,499,692	1,327,054	750,000-950,000	500,000-800,000	500,000-1,000,000
2007	867,572	601,870	750,000-950,000	500,000-800,000	500,000-1,000,000
2008	614,946	406,612	650,000-850,000	500,000-800,000	500,000-1,000,000
2009	745,170	503,232	650,000-850,000	500,000-800,000	500,000-1,000,000
2010	970,662	714,080	750,000-950,000	500,000-800,000	500,000-1,000,000
2011	1,599,217	1,280,733	1,100,000-1,350,000	700,000-1,200,000	700,000-1,400,000
2012	1,581,555	1,212,835	1,100,000-1,350,000	700,000-1,200,000	700,000-1,400,000
2013	1,359,893	980,208	1,000,000-1,200,000	700,000-1,200,000	700,000-1,400,000
2014	1,520,340	1,218,341	1,000,000-1,200,000	700,000-1,200,000	700,000-1,400,000
2015	1,709,051	1,400,047	1,000,000-1,200,000	700,000-1,200,000	700,000-1,400,000
2016	1,383,692	1,120,711	1,100,000-1,350,000	700,000-1,200,000	700,000-1,400,000
2017	1,308,498	1,073,290	1,000,000-1,300,000	700,000-1,200,000	Repealed
2018	1,035,761	888,268	900,000-1,100,000	700,000-1,200,000	Repealed
2019	1,849,054		1,000,000-1,300,000	700,000-1,200,000	Repealed

Comparison of Escapement to Escapement Goals

%				
	Below Goal	1 year (7%)	1 year (7%)	1 year (8%)
	Within Goal	3 years (20%)	7 years (50%)	8 years (67%)
	Above Goal	11 years (73%)	6 years (43%)	3 years (25%)

-continued-

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Kasilof River				
Year	Escapement	BEG/OEG	Goal range	Result
2005	348,012	BEG	150,000–250,000	Above
2006	368,092	OEG	150,000–300,000	Above
2007	336,866	BEG	150,000–250,000	Above
2008	301,469	OEG	150,000–300,000	Above
2009	297,125	OEG	150,000–300,000	Within
2010	267,013	BEG	150,000–250,000	Above
2011 ^a	245,721	BEG	160,000–340,000	Within
2012	374,523	BEG	160,000–340,000	Above
2013	489,654	BEG	160,000–340,000	Above
2014	440,192	BEG	160,000–340,000	Above
2015	470,677	BEG	160,000–340,000	Above
2016	239,981	BEG	160,000–340,000	Within
2017	358,724	OEG	160,000–390,000	Within
2018	394,309	OEG	160,000–390,000	Above
2019	378,416	BEG	160,000–340,000	Above
Results				
	Years	%		
Below Goal	0	0%		
Within Goal	4	27%		
Below Goal	11	73%		
Totals	15			

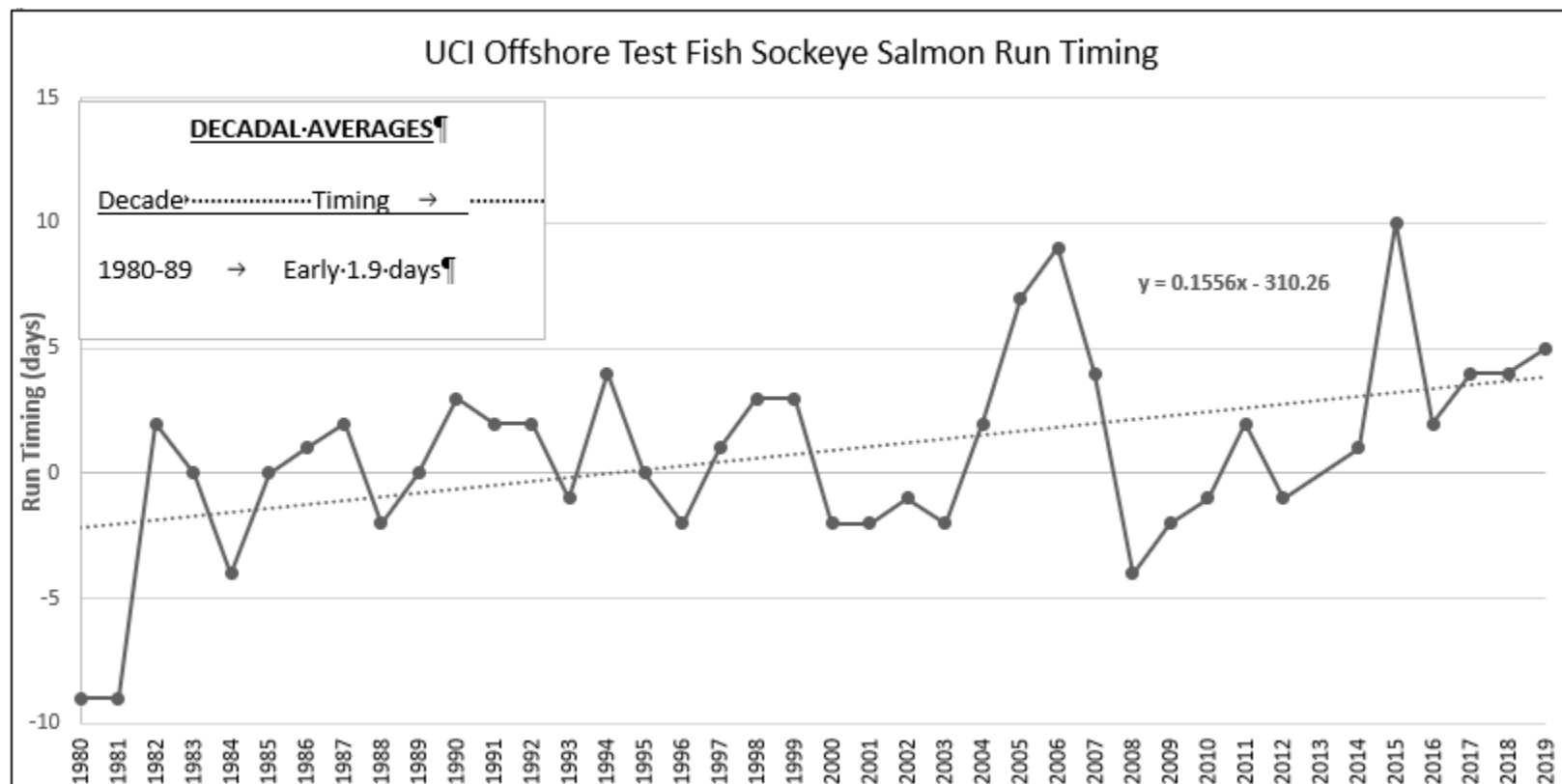


Figure 186-1.—UCI Offshore Test Fish sockeye salmon run timing, 1980–2019 (negative values are early runs; positive values are late runs).

PROPOSALS 190 & 191 – Eliminate the one-percent rule in the Upper Subdistrict set gillnet fishery

5 AAC 21.310. Fishing seasons.

PROPOSED BY: Karen McGahan & Chris Every.

WHAT WOULD THESE PROPOSALS DO? These would eliminate the one-percent rule in the Upper Subdistrict set gillnet (ESSN) fishery.

WHAT ARE THE CURRENT REGULATIONS? In the combined Kenai and East Forelands sections, and separately in the Kasilof Section, the set gillnet fishing season closes no later than August 15. However, the season may close earlier, by emergency order (EO), after August 7, 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. The *Kenai River Late-Run Sockeye Salmon Management Plan* states, in part, that the department is to 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.

WHAT WOULD BE THE EFFECT IF THESE PROPOSALS WERE ADOPTED? These could increase the harvest of all salmon in the ESSN fishery after August 7 and reduce salmon passage into the Kenai and Kasilof rivers. Based on previous year's data, this would more often affect the Kasilof Section than it would the Kenai and East Foreland sections. It could impact the reasonable opportunity of sport and guided sport fishermen to harvest coho salmon in the Kenai River and northern Cook Inlet drainages.

BACKGROUND: Please see Background section of Proposal 186.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on these allocative proposals. The department does not have any new data regarding coho salmon runs or harvest rates but believes current management is sustainable. The Kenai River coho salmon stock is not monitored for escapement and with the discontinuation of the guide logbook program in the spring of 2019, the department no longer has one of the few metrics by which to gauge relative coho salmon run strength inseason. Inriver harvest data indicate harvest of Kenai River coho salmon is relatively stable under existing regulations and the department does not recommend any increase in exploitation. In the absence of inseason run strength information, conservative regulation is recommended.

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. Approval of these proposals is not expected to result in an additional cost to the department.

PROPOSALS 188 & 189 – Eliminate the drift gillnet one-percent rule.

5 AAC 21.353. Central District Drift Gillnet Fishery Management Plan.

PROPOSED BY: Teague Vanek & John McCombs.

WHAT WOULD THESE PROPOSALS DO? These would eliminate the drift gillnet one-percent rule. It could increase the harvest of Kenai River and Northern Cook Inlet (NCI) coho salmon.

WHAT ARE THE CURRENT REGULATIONS? In the drift gillnet fishery, from August 1 through August 15, there are no mandatory area restrictions to regular fishing periods, except that if the entire Upper Subdistrict set gillnet (ESSN) fishery is closed under its own one-percent rule, 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 Gillnet Areas 3 and 4. One-percent rules were adopted to reduce coho salmon harvest during years when sockeye salmon harvests have declined to less than one-percent of yearly totals. From August 16 until closed by emergency order (EO) drift fishing is open for regular fishing periods in Drift Gillnet Areas 3 & 4 only (Figure 126-1).

The purpose statement of 5 AAC 21.353 currently reads, "The purpose of this management plan is to ensure adequate escapement of salmon into the ND 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 *Kenai River Late-Run Sockeye Salmon Management Plan* states, in part, that the department is to 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.

WHAT WOULD BE THE EFFECT IF THE PROPOSALS WERE ADOPTED? These proposals could increase commercial drift 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, while reducing salmon passage into rivers. While not entirely clear from these proposals, it is assumed that the ESSN one-percent rule provision found in 5 AAC 21.353(e) would be eliminated also if this proposal were adopted. This could impact the reasonable opportunity of sport and guided sport fishermen to harvest coho salmon in the Kenai River and northern Cook Inlet drainages.

BACKGROUND: Please see Background sections on proposals 133 and 186.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on these allocative proposals. The department does not have any new data regarding coho salmon runs or harvest rates but believes current management is sustainable. The Kenai River coho salmon stock is not monitored for escapement and with the discontinuation of the guide logbook program in the spring of 2019, the department no longer has one of the few metrics by which to gauge relative coho salmon run strength inseason. Inriver harvest data indicate harvest of Kenai River coho salmon is relatively stable under existing regulations and the department does not recommend any increase in exploitation. In the absence of inseason run strength information, conservative regulation is recommended.

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. Approval of these proposals is not expected to result in an additional cost to the department.

PROPOSAL 187 – Eliminate both one-percent rules in the Central District drift gillnet fishery and create mandatory area restrictions.

5 AAC 21.353. Central District Drift Gillnet Fishery Management Plan.

PROPOSED BY: United Cook Inlet Drift Association.

WHAT WOULD THE PROPOSAL DO? This would eliminate both one-percent rules in the Central District drift gillnet fishery and create mandatory area restrictions to Drift Gillnet Areas 1 and 3 from July 24 through August 31 if inseason projections estimate sockeye salmon minimum escapement goals will not be achieved in either the Kenai or Kasilof rivers. This would allow drift gillnet fishing in all of the Central district or in Areas 1 and 3 during regular fishing periods from August 16 through August 31. It would increase the harvest of Kenai River and northern District coho salmon.

WHAT ARE THE CURRENT REGULATIONS? In the drift gillnet fishery, from August 1 through August 15, there are no mandatory area restrictions to regular fishing periods, except that if the entire Upper Subdistrict set gillnet (ESSN) fishery is closed under its own one-percent rule, 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 Gillnet Areas 3 and 4. This was done to reduce harvest of Kenai River and Northern District bound coho salmon. From August 16 until closed by emergency order (EO) drift fishing is open for regular fishing periods in Drift Gillnet Areas 3 & 4 only (Figure 126-1).

The purpose statement of 5 AAC 21.353 currently reads, "The purpose of this management plan is to ensure adequate escapement of salmon into the ND 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 *Kenai River Late-Run Sockeye Salmon Management Plan* states, in part, that the department is to 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.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would eliminate both one-percent rules that apply to the drift fishery, one based on ESSN sockeye salmon catches and one based on drift gillnet sockeye salmon harvest. This would increase the harvest of all salmon in the drift fishery by an unknown amount, while reducing salmon passage into the Kenai, Kasilof, and Susitna rivers. From August 16 through August 31, this would expand the area that drift fishing was open for regular fishing periods from Drift Gillnet Areas 3 & 4 to either districtwide periods or to Drift Areas 1 & 3, resulting in increased harvest of Kenai River sockeye and coho salmon. It could impact the reasonable opportunity of sport and guided sport fishermen

to harvest coho salmon in the Kenai River and northern Cook Inlet drainages. From July 24–31, this would supersede restrictive provisions found in the *Central District Drift Gillnet Fishery Management Plan* that are related to Kenai River sockeye salmon abundance and designed to move fish north into northern Cook Inlet.

BACKGROUND: For a historical review of the drift gillnet fishery management plan, please see Background section on Proposals 133 and 186.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. The department does not have any new data regarding coho salmon runs or harvest rates, but believes current management is sustainable. The Kenai River coho salmon stock is not monitored for escapement and with the discontinuation of the guide logbook program in the spring of 2019, the department no longer has one of the few metrics by which to gauge relative coho salmon run strength inseason. Inriver harvest data indicate harvest of Kenai River coho salmon is relatively stable under existing regulations and the department does not recommend any increase in exploitation. In the absence of inseason run strength information, conservative regulation is recommended.

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. Approval of this proposal is not expected to result in an additional cost to the department.

PROPOSAL 178 – Permanently close drift gillnetting within one mile or one and one-half miles of mean high tide.

5 AAC 21.310. Fishing Seasons.

PROPOSED BY: Ken Coleman.

WHAT WOULD THE PROPOSAL DO? This would close drift gillnetting in the Upper Subdistrict within one mile of mean high tide north of the Kenai River and within one and one-half miles of mean high tide south of the Kenai River.

WHAT ARE THE CURRENT REGULATIONS? Fishing with drift gillnets in the Central District is open from the third Monday in June or June 19, whichever is later, until closed by emergency order. Until set gillnetting opens in the Upper Subdistrict (ESSN fishery), drift gillnetting may not occur within two miles of the mean high tide mark on the eastern side of the Upper Subdistrict. Additionally, no part of a commercial drift gillnet or set gillnet may be set or operated within 600 feet of any part of another commercial set gillnet. When set gillnetting is not open in the Upper Subdistrict, drift gillnetting is closed by regulation within 1.5 miles from the mean high tide mark south of the Kenai River and within one mile from the mean high tide mark north of the Kenai River, which is equivalent to the area where set gillnets may operate. When set gillnetting is open in the Upper Subdistrict, drift gillnets may be operated in the nearshore area (all the way to shore), but a drift gillnet must be stay at least 600 feet away from an actively fishing set gillnet.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would have very little effect on the harvest of salmon by drift gillnetters because the only time the nearshore area is open to drift gillnetting is when this area is open to setnets. Because the Upper Subdistrict is fished extensively with set gillnets, there is very little open water nearshore in which drift gillnets can operate. Adoption of this proposal could reduce potential conflict between the gear groups as it would close the nearshore waters to drift gillnetting.

BACKGROUND: At the 2008 UCI board meeting, 5 AAC 21.310. *Fishing Seasons* was modified to close the nearshore waters of the Upper Subdistrict to drift gillnetting when set gillnetting was not open in this area. Prior to this date, the department would close the nearshore waters by emergency order.

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. Approval of this proposal is not expected to result in an additional cost to the department.

PROPOSAL 180 – Allow regular weekly fishing periods in the Upper Subdistrict set gillnet fishery after August 15.

5 AAC 21.310. Fishing seasons.

PROPOSED BY: Chris Every.

WHAT WOULD THE PROPOSAL DO? This would allow regular weekly fishing periods in the Upper Subdistrict set gillnet (ESSN) fishery after August 15 in the Kasilof Section and the Kenai/East Foreland sections if the sockeye salmon biological escapement goal (BEG) in the Kasilof River has been exceeded or the sockeye salmon inriver goal in the Kenai River has been exceeded. Each section would be managed independently of the other based on exceeding these escapement objectives. The season would end when sockeye salmon sonar operations ceased; i.e., the Kasilof Section would cease fishing when the Kasilof River sockeye salmon sonar ceased operation and the Kenai/East Foreland sections would end fishing when the Kenai River sockeye salmon sonar ceased operations.

WHAT ARE THE CURRENT REGULATIONS? The ESSN fishery closes on or before August 15; from August 11–15, the fishery is open for regular Monday/Thursday fishing periods only. However, based on the “one-percent” rule, the season may close any time after August 7 if less than one-percent of the season total sockeye salmon harvest is taken during two consecutive fishing periods. The one-percent rule applies independently to the Kasilof Section and the Kenai/East Foreland sections.

The *Kenai River Late-Run Sockeye Salmon Management Plan* directs the department to minimize the harvest of Kenai River coho salmon to provide sport and guided sport fishermen with a reasonable opportunity to harvest these salmon resources.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This could increase the harvest of all salmon in the ESSN fishery, especially Kenai and Kasilof River sockeye and coho salmon, and reduce the number of these salmon available to the sport fisheries. During years of high sockeye salmon abundance, this could reduce the number of sockeye salmon in excess of the BEG in the Kasilof River and above the inriver goal in the Kenai River. This proposal could increase the harvest of coho salmon to unsustainable levels during years of below or average returns.

BACKGROUND: See the Background section on Proposal 179.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. The department does not have any new data regarding coho salmon runs or harvest rates but believes current management is sustainable. The Kenai River coho salmon stock is not monitored for

escapement and with the discontinuation of the guide logbook program in the spring of 2019, the department no longer has one of the few metrics by which to gauge relative coho salmon run strength inseason. Inriver harvest data indicate harvest of Kenai River coho salmon is relatively stable under existing regulations and the department does not recommend any increase in exploitation. In the absence of inseason run strength information, conservative regulation is recommended.

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. Approval of this proposal may result in an additional cost to the department if fishing seasons are extended and catch sampling monitoring projects continue longer than currently budgeted.

PROPOSAL 179 – Extend set gillnet season in Kenai/E. Foreland sections until Sep 15.

5 AAC 21.310. Fishing seasons.

PROPOSED BY: Karen McGahan.

WHAT WOULD THE PROPOSAL DO? This would extend the commercial fishing season closing date in the Kenai and East Forelands sections set gillnet fishery from August 15 to September 15.

WHAT ARE THE CURRENT REGULATIONS? The Kenai, Kasilof, and East Foreland sections set gillnet fisheries (Figures 175-1 and 177-1) currently close on or before August 15. Fishing from August 11–15 is allowed only from 7:00 a.m. until 7:00 p.m. on Monday or Thursday (only one or two possible fishing periods during this time). Any time after August 7, however, the Kasilof Section and the Kenai/East Foreland section may be closed independent of each other if less than 1% of the season total sockeye salmon harvest is taken during two consecutive fishing periods in either area.

The *Kenai River Late-Run Sockeye Salmon Management Plan* directs the department to minimize the harvest of Kenai River coho salmon to provide sport and guided sport fishermen with a reasonable opportunity to harvest these salmon resources.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase the Kenai and East Foreland set gillnet commercial harvest of all salmon, especially Kenai River sockeye and coho salmon, by an unknown amount based upon the run timing and abundance of these stocks. It could increase the likelihood of achieving Kenai River sockeye salmon escapement goals, especially in years when runs return later than average, but it could also increase coho salmon exploitation rates to unsustainable levels during years of below or average returns.

BACKGROUND: From 1979 until 1999 the commercial fishery in the Kasilof Section was managed from June 25 until August 15 to achieve sockeye salmon escapement goals in the Kasilof River and secondarily to achieve Kenai and Kasilof River king salmon escapements as well as Kenai River sockeye salmon escapements. From July 1 through August 15, the Kenai and East Forelands Sections were managed to achieve Kenai River sockeye and king salmon escapement goals. As a result of a petition filed prior to the 2000 field season over poor coho salmon runs, management was altered. Changes included a shortened commercial season, reallocation of fish to inriver users, restricted additional commercial fishing time and areas, and instituted mandatory closed windows. In 2008, based on study results that showed low commercial exploitation of Kenai and Kasilof river coho salmon (Table 88-4), the board extended the Upper Subdistrict set gillnet (ESSN) and drift gillnet fishing season from August 11 to August 15, but only for regularly scheduled periods. A one-percent rule was also established for the ESSN fishery that would close the fishery after July 31 based on two consecutive fishing period harvest at less than one-percent of the season total sockeye salmon harvest. At the 2017 UCI board meeting, the one-percent rule was modified to begin after August 7.

Since 1979, the ESSN fishery has not been open after August 15. From 1966–1978, the average annual ESSN commercial harvest after August 15 was 163 sockeye and 10,861 coho salmon (Table 179-1).

From 2005–2013 the one-percent rule was applied to harvest data from the entire ESSN fishery as one unit; beginning in 2014, the rule was now applied separately to the Kasilof Section and the Kenai/East Foreland sections. Since the one-percent rule was adopted (15 years), part or all the ESSN fishery has been closed due to rule four times (Table 179-2).

Kenai River sockeye salmon passage is measured at the RM 19 sonar site. Since 1980, the number of sockeye salmon enumerated in the Kenai River in August has steadily increased (Table 135-1). For example, the average sockeye salmon passage estimate in August was 114,000 fish per year in the 1980s, but has increased to nearly 472,000 fish per year for each of the past 10 years. The average percentage of each year's total passage estimate that occurs in August has risen from 8% in the 1980s to 33% during the past 10 years. The average day that sonar operations ceased each year has also increased from August 12 in the 1980s to August 19 during the past 10 years. Sonar operations typically cease when less than 1% of the season's total sockeye salmon passage has occurred for three consecutive days.

Since 1999, the average annual ESSN and drift gillnet coho salmon harvest has decreased by more than 150,000 fish per year (-56%) when compared to pre-1999 averages (Table 88-5).

The *Kenai River Coho Salmon Management Plan* (5 AAC 57.170) was first adopted in 1996 in response to a decline in coho salmon smolt abundance and increased harvest of returning adults in the Kenai River. A special board meeting was convened in 1997 and restrictions affecting all users were put into regulation to conserve Kenai River coho salmon. Additional restrictive regulations were added to the plan from 1997–1999.

In 2000, a special board meeting was convened, through a petition submitted by the governor, based on low abundance of coho salmon throughout Cook Inlet. As an outcome of this meeting, the bag and possession limit was reduced from three to two fish Cook Inlet-wide (excepting West Cook Inlet and terminal fisheries targeting hatchery fish). Coho salmon fishing regulations for the Kenai River were considered by the board in 2005 and 2008. Changes resulted in a net gain in fishing time and area, a seasonal increase in the bag limit, and liberalized fishing methods.

Information gathered from research programs on Kenai River indicate the coho salmon runs averaged about 140,000 fish from 1999–2004, with harvests averaging over 62,000 fish (Table 153-1). 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%–47% from 2000–2004. Regulations in 2005 and 2008, which liberalized sport and commercial fisheries, increased harvest rates of Kenai River coho salmon to a range from 36%–47%. Research findings from studies conducted in Southeast Alaska with transboundary coho salmon stocks have indicated that a harvest rate of about 61% is sustainable.

Total Kenai River drainage coho salmon sport harvests prior to 2000 (three coho per day) averaged 53,228 fish annually. Since 2000 (two coho per day), harvests have averaged of 53,778 fish. The recent five-year average (2014–2018) harvest is 54,885 (Table 153-2). Freshwater guide logbooks

2013–2016 indicate an average 229 guides were still operating in August reporting a harvest of 7,423 coho salmon (Tables 153-3 and 153-4).

The department does not manage the Kenai River coho salmon sport fishery inseason based upon abundance because coho salmon escapement is not monitored and no escapement goal has been established for the Kenai River. When management actions were required, they were based upon angler reports and guide logbook information that signified a conservation concern relative to angler success in prior years.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. The department does not have any new data regarding coho salmon runs or harvest rates but believes current management is sustainable. The Kenai River coho salmon stock is not monitored for escapement and with the discontinuation of the guide logbook program in the spring of 2019, the department no longer has one of the few metrics by which to gauge relative coho salmon run strength inseason. Inriver harvest data indicate harvest of Kenai River coho salmon is relatively stable under existing regulations and the department does not recommend any increase in exploitation. In the absence of inseason run strength information, conservative regulation is recommended.

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. Approval of this proposal may result in an additional cost to the department if fishing seasons are extended and monitoring projects continue longer than currently budgeted.

Table 179-1.—Commercial salmon harvest in the ESSN fishery, 1966–1978.

ALL YEAR							
Year	King	Sockeye	Coho	Even year Pink	Odd year Pink	Chum	Total
1966	7,329	485,330	68,877	969,624		7,461	1,538,621
1967	6,646	303,858	40,738		12,900	399	364,541
1968	3,304	317,535	80,828	785,887		1,563	1,189,117
1969	5,834	210,834	18,988		10,968	399	247,023
1970	5,368	142,701	30,114	281,067		1,228	460,478
1971	7,055	111,505	16,589		18,097	128	153,374
1972	8,599	204,599	24,673	403,706		1,727	643,304
1973	4,411	188,816	23,901		80,596	1,965	299,689
1974	5,571	136,889	36,837	291,408		506	471,211
1975	3,675	177,336	46,209		112,423	980	340,623
1976	8,249	476,376	47,873	479,024		1,484	1,013,006
1977	9,730	751,178	23,693		125,817	1,413	911,831
1978	12,468	660,797	34,134	372,601		4,563	1,084,563
Avg	6,788	320,596	37,958	511,902	60,134	1,832	670,568

> AUG 15							
Year	King	Sockeye	Coho	Even year Pink	Odd year Pink	Chum	Total
1966	79	105	13,477	3,378		5	17,044
1967	44	63	14,082		48	8	14,245
1968	39	120	15,200	25,752		432	41,543
1969	59	118	6,546		41	17	6,781
1970	80	239	6,226	8,601		23	15,169
1971	124	125	7,583		3	81	7,916
1972	51	106	7,320	3,557		338	11,372
1973	64	100	6,860		8	53	7,085
1974	73	187	15,419	3,731		179	19,589
1975	108	195	23,130		24	101	23,558
1976	44	313	12,452	23,783		49	36,641
1977	42	129	6,238		22	211	6,642
1978	79	314	6,659	31,583		100	38,735
Avg	68	163	10,861	14,341	24	123	18,948

Note: there has been no commercial harvest in the ESSN fishery after August 15 since 1979

Table 179-2.—Season closing date and reason for closure by year in the Upper Subdistrict set gillnet fishery, 2005–2019.

Year	Last Day of Fishing		Closing date in regulation	Reason for closing
	Kasilof	Kenai/EF		
2005	10-Aug		10-Aug	End of season
2006	9-Aug		10-Aug	End of season
2007	9-Aug		10-Aug	End of season
2008	7-Aug		15-Aug	Poor sockeye salmon run to Kenai River
2009	10-Aug		15-Aug	1% Rule
2010	12-Aug		15-Aug	End of season
2011	7-Aug		15-Aug	1% Rule
2012	13-Aug		15-Aug	End of season
2013	23-Jul		15-Aug	Poor late-run king salmon run to Kenai River
2014	4-Aug	6-Aug	15-Aug	Poor late-run king salmon run to Kenai River
2015	10-Aug	12-Aug	15-Aug	1% Rule in Kasilof Section; End of Season in Kenai/EF
2016	9-Aug	9-Aug	15-Aug	Poor late-run king salmon run to Kenai River
2017	15-Aug	14-Aug	15-Aug	End of season
2018	28-Jul	23-Jul	15-Aug	Late sockeye salmon run to Kenai River
2019	3-Aug	3-Aug	15-Aug	Poor late-run king salmon run to Kenai River

PROPOSAL 183 – Extend the Upper Subdistrict set gillnet commercial fishing season to August 20.

5 AAC 21.310. Fishing seasons.

PROPOSED BY: Joseph Person.

WHAT WOULD THE PROPOSAL DO? This would extend the Upper Subdistrict set gillnet commercial fishing season to August 20.

WHAT ARE THE CURRENT REGULATIONS? The Upper Subdistrict set gillnet (ESSN) is comprised of the Kasilof, Kenai, and East Foreland sections (Figure 183-1). The Kasilof Section is open from June 25 through August 15, unless closed earlier by emergency order (EO). The Kenai and East Foreland sections are open from July 8 through August 15, unless closed earlier by EO. From August 11 through August 15, the entire ESSN fishery is open for regular periods only. The Kasilof Section and the Kenai/East Foreland sections will be closed independent of each other by EO after August 7, if the department determines that less than 1% of the season's total sockeye harvest has been taken per fishing period for two consecutive fishing periods.

The *Kenai River Late-Run Sockeye Salmon Management Plan* directs the department to minimize the harvest of Kenai River coho salmon to provide sport and guided sport fishermen with a reasonable opportunity to harvest these salmon resources.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This could increase the ESSN harvest of all salmon by an unknown amount, especially Kenai and Kasilof river sockeye and coho salmon, and reduce the harvest of salmon in the sport fishery. As noted, the ESSN may fish only regular Mon/Thu 12-hour fishing periods from August 11–15. This proposal did not identify how much fishing time would be allowed from August 16–20. During years of high sockeye salmon abundance, this could reduce the number of sockeye salmon in excess of the BEG/OEG in the Kasilof River and above the inriver goal/SEG in the Kenai River. This proposal would increase the harvest of coho salmon by an unknown amount depending on effort and abundance. It could increase exploitation rates to unsustainable levels during years of below or average returns.

BACKGROUND: Please see Background section for Proposals 175 and 179.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. The department does not have any new data regarding coho salmon runs or harvest rates but believes current management is sustainable. The Kenai River coho salmon stock is not monitored for escapement and with the discontinuation of the guide logbook program in the spring of 2019, the department no longer has one of the few metrics by which to gauge relative coho salmon run strength inseason. Inriver harvest data indicate harvest of Kenai River coho salmon is relatively stable under

existing regulations and the department does not recommend any increase in exploitation. In the absence of inseason run strength information, conservative regulation is recommended.

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. Approval of this proposal may result in an additional cost to the department if fishing seasons are extended and monitoring projects continue longer than currently budgeted.

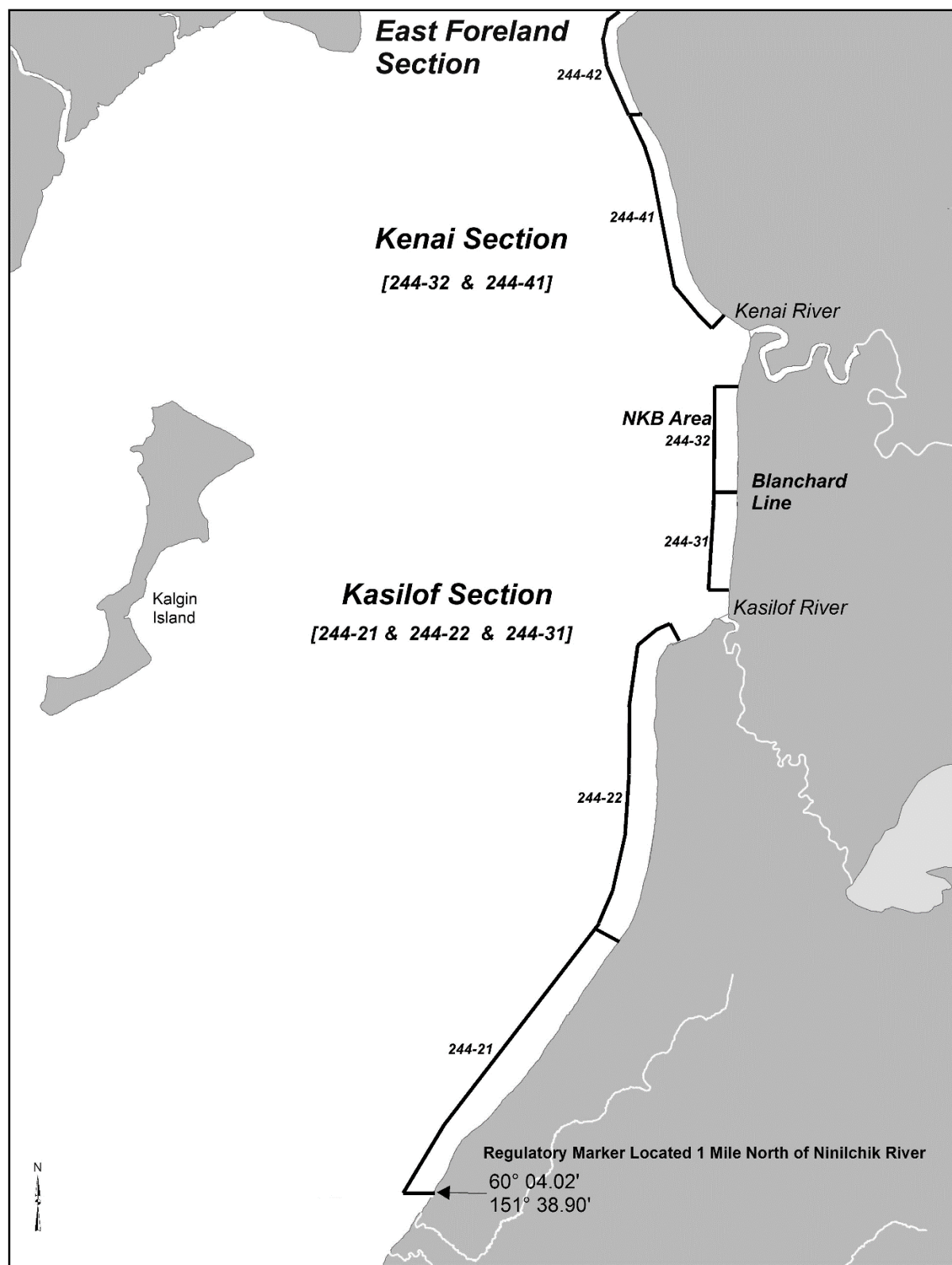


Figure 183-1.—Map of the Upper Subdistrict set gillnet fishery, which includes the Kasilof, Kenai, and East Foreland sections.

PROPOSAL 181 – Delay the season opening date for UCI commercial fisheries.

5 AAC 21.310. Fishing seasons.

PROPOSED BY: Mike Adams.

WHAT WOULD THE PROPOSAL DO? This would delay the season opening date for the Central District drift gillnet fishery until June 27. It would also delay the season opening date for set gillnets in the Kasilof Section until July 1 and in the Kenai and East Foreland sections until July 15. All other set gillnet fisheries in UCI would not open until July 1. Finally, this would modify the option of opening the Kasilof Section set gillnet fishery early based on a 50,000 sockeye salmon trigger from on or after June 20 to on or after June 25.

WHAT ARE THE CURRENT REGULATIONS? The Central District drift gillnet season runs from the third Monday in June or June 19, whichever is later, until closed by emergency order (EO), except that after August 15 regular fishing periods are restricted to Drift Gillnet Areas 3 and 4 on the west side of Cook Inlet. In the ESSN fishery, salmon may be taken in the Kasilof Section from June 25 through August 15, unless closed earlier by EO; however, the season may open on or after June 20 if the department estimates that 50,000 sockeye salmon are in the Kasilof River before June 25. In the Kenai and East Foreland sections, salmon may be taken from July 8 through August 15, unless closed earlier by EO.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would reduce the harvest of king and sockeye salmon in the drift and ESSN fisheries by various amounts (Table 181-1), resulting in an increase of these two stocks entering the Kenai and Kasilof rivers, which could increase the harvest of these stocks in the personal use and sport fisheries. This could result in higher sockeye salmon escapement in both rivers, where escapement objectives are currently regularly exceeded.

BACKGROUND: Since 2002, the Kasilof River sockeye salmon escapement has been above the BEG/OEG range 13 years (72%), and within the escapement goal five years (28%) (Table 117-4). In the last decade (2010–2019), the Kasilof River sockeye salmon escapement has been within the BEG/OEG range three years (30%) and above the escapement goal range seven years (70%).

Since 1999, the sonar count (or inriver fish passage) for Kenai River late-run sockeye salmon was above the inriver goal range 14 years (67%), within the inriver goal range six years (29%), and below the inriver goal range one year (5%). During this same time period, escapements have been above the SEG range nine years (43%), within the goal range nine years (43%), and below the goal range three years (14%) (Table 88-1; Figure 88-1). From 1999–2016 (18 years), there also was an OEG for Kenai River sockeye salmon. During this time, the OEG was not achieved three times (17%), was achieved 11 times (61%), and was exceeded four times (22%).

Since 1999, the drift gillnet average annual harvest of salmon prior to June 27 was 46 king and 10,827 sockeye salmon (Table 181-1). In the Kasilof Section set gillnet fishery, the average annual

harvest of salmon prior to July 1 was 539 king and 112,373 sockeye salmon. In the Kenai/East Foreland sections, the average annual harvest prior to July 15 was 699 king and 68,355 sockeye 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. Approval of this proposal is not expected to result in an additional cost to the department.

Table 181-1.—Early season commercial harvest of king and sockeye salmon in the drift gillnet fishery and the Kasilof and Kenai/East Foreland sections set gillnet fisheries, 1999-2019.

Year	Drift Gillnet (prior to June 27)		Kasilof Section (prior to July 1)		Kenai/E. Foreland Sections (prior to July 15)	
	King ^a	Sockeye	King ^a	Sockeye	King ^a	Sockeye
1999					357	12,217
2000	22	11,859			291	183,732
2001	43	9,326	588	118,149	410	7,264
2002	46	6,275	672	74,087	842	86,082
2003	7	1,940	1,580	109,613	1,336	132,119
2004	37	14,155	902	267,834	1,474	67,021
2005	153	19,774	1,452	302,292	1,075	182,331
2006	105	9,560	709	89,773	905	16,826
2007	62	12,221	777	63,053	525	10,625
2008	40	16,781	358	197,963	369	144,851
2009	23	8,562	310	165,495	705	99,532
2010	80	7,448	243	68,349	474	74,644
2011	4	5,258	505	72,621	661	9,816
2013	24	9,418	131	75,077	579	13,042
2014	47	38,580	199	112,083	91	21,775
2015	35	5,580	329	132,851	1,412	46,110
2016	36	5,792	325	62,758	1,125	156,392
2017	33	12,825	196	51,023	631	26,214
2018	31	6,216	323	35,539	450	35,433
2019	45	4,143	96	24,158	269	41,067
Avg	46	10,827	539	112,373	699	68,355
Minimum	4	1,940	96	24,158	91	7,264
Maximum	153	38,580	1,580	302,292	1,474	183,732

Note: cells with no data indicate the fishery was not open for those dates in that year.

^a All-sized king salmon.

Upper Cook Inlet Coho Salmon (5 proposals)

PROPOSALS 154 – Increase limits for coho salmon after the closure of the set net fishery.

5 AAC 57.170. Kenai River Coho Management Plan.

PROPOSED BY: Kenai River Sportfishing Association.

WHAT WOULD THE PROPOSAL DO? This would increase the bag and possession limits for the Kenai River coho salmon sport fishery from 2 to 3 fish beginning the day after the closure of the Upper Subdistrict set net fishery.

WHAT ARE THE CURRENT REGULATIONS? In the Kenai River Drainage Area, except in the Russian River, the bag and possession limit for coho salmon 16 inches or greater is 2 fish from July 1 through August 31. The limit for coho salmon 16 inches or greater is 3 fish per day, 6 fish in possession in the Kenai River from Skilak Lake downstream to the mouth from September 1 through November 30, and in the Kenai River between Kenai and Skilak lakes from September 1 through October 31. In the Russian River, the bag and possession limit for coho salmon 16 inches or greater is 1 fish; the Russian River is open to fishing for coho salmon from July 1 through September 30.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would result in at least 15 additional days for an increased coho salmon bag limit (Table 154-1) and increase the harvest of coho salmon by an unknown amount depending on abundance and effort. This would also increase regulatory complexity by not having a fixed date in regulation for changing a bag limit. It is unclear if the bag limit change would have to be established by EO every year.

BACKGROUND: The *Kenai River Coho Salmon Management Plan* (5 AAC 57.170) was first adopted in 1996 in response to a decline in coho salmon smolt abundance and increased harvest of returning adults in the Kenai River. A special board meeting was convened in 1997 and restrictions affecting all users were put into regulation to conserve Kenai River coho salmon. Additional restrictive regulations were added to the plan from 1997–1999.

In 2000, a special board meeting was convened, through a petition submitted by the governor, based on low abundance of coho salmon throughout Cook Inlet. As an outcome of this meeting the bag and possession limit was reduced from three to two fish Cook Inlet-wide (excepting West Cook Inlet and terminal fisheries targeting hatchery fish). Coho salmon fishing regulations for the Kenai River were considered by the board in 2005 and 2008. Changes resulted in a net gain in commercial fishing time and area, a seasonal increase in the bag limit, and liberalized fishing methods.

Information gathered from research programs on Kenai River indicate the coho salmon runs averaged about 140,000 fish from 1999–2004, with harvests averaging over 62,000 fish (Table

154-2). 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%–47% from 2000–2004. Regulations in 2005 and 2008, which liberalized sport and commercial fisheries, increased harvest rates of Kenai River coho salmon to a range from 36%–47%. Research findings from studies conducted in Southeast Alaska with transboundary coho salmon stocks have indicated that a harvest rate of about 61% is sustainable.

Total Kenai River drainage coho salmon sport harvests prior to 2000 (3 coho salmon per day) averaged 53,228 fish annually. Since 2000 (two coho salmon per day), harvests have averaged of 53,778 fish. The recent five-year average (2014–2018) harvest is 54,885 (Table 154-3). Freshwater guide logbooks 2013–2016 indicate an average 229 guides are still operating in August reporting a harvest of 7,423 coho salmon (Table 154-4 and 154-5).

The department does not manage the Kenai River coho salmon sport fishery inseason based upon abundance because coho salmon escapement is not monitored and no escapement goal has been established for the Kenai River. There are no coho salmon escapement goals for the other streams in the Northern Kenai Peninsula Management Area where the bag and possession limit for coho salmon was reduced from three to two fish.

DEPARTMENT COMMENTS: The department is NEUTRAL on the allocative aspects of this proposal. The department does not have any new data regarding coho salmon runs or harvest 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. Additionally, this proposal would add to regulatory complexity.

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

Table 154-1.—Season closing date and reason for closure by year in the Upper Subdistrict set gillnet fishery, 2005–2019.

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
2017	15-Aug	15-Aug	No	End of season
2018	28-Jul	15-Aug	No	Poor sockeye salmon run to Kenai River
2019	3-Aug	15-Aug	No	Poor late-run king salmon run to Kenai River

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
2017	14-Aug	15-Aug	No	End of season
2018	23-Jul	15-Aug	No	Poor sockeye salmon run to Kenai River
2019	3-Aug	15-Aug	No	Poor late-run king salmon run to Kenai River

Table 154-2.—Estimated harvest, total run, and harvest 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

Table 154-3.—Guided and unguided sport harvest of Kenai River coho salmon, 1984–2018.

Year	Bag Limit	Season Start	Season End	Guided Harvest	%	Unguided Harvest	%	Kenai River Harvest ^a	Total Drainage Harvest ^b
1984	3	entire year		5,490	9.2	54,154	90.8	59,644	62,076
1985	3	entire year		4,006	9.0	40,529	90.8	44,635	46,090
1986	3	entire year		13,883	23.1	46,227	76.9	60,110	62,938
1987	3	entire year		4,976	15.0	28,234	85.0	33,210	37,484
1988	3	entire year		4,456	9.1	44,238	90.7	48,785	51,950
1989	3	entire year		15,835	28.6	39,424	71.3	55,275	59,575
1990	3	entire year		15,274	25.3	45,051	74.7	60,325	63,497
1991	3	entire year		30,789	40.4	45,367	59.6	76,163	80,674
1992 ^c	3	entire year		20,794	39.8	31,516	60.2	52,310	56,877
1993	3	entire year		23,743	47.0	26,795	53.0	50,538	52,855
1994	3	entire year		41,170	47.5	45,541	52.5	86,711	91,490
1995	3	entire year		23,587	51.1	22,596	48.9	46,183	50,346
1996 ^d	3	entire year		13,728	32.5	28,565	67.5	42,293	47,860
1997 ^e	3/1 ^f	7/1	9/30	3,101	19.2	13,063	80.8	16,164	20,770
1998	3	7/1	9/30	5,217	19.3	21,750	80.7	26,967	31,579
1999 ^g	3	7/1	9/30	8,087	25.6	23,550	74.4	31,637	35,591
2000 ^h	2	7/1	9/30	9,349	19.3	39,170	80.7	48,519	52,489
2001	2	7/1	9/30	13,518	27.2	36,264	72.8	49,782	55,027
2002	2	7/1	9/30	14,444	24.2	45,206	75.8	59,650	66,160
2003	2	7/1	9/30	11,964	25.6	34,658	74.3	46,657	52,370
2004 ⁱ	2	7/1	10/31	14,845	22.5	51,070	77.4	65,952	72,658
2005 ^j	2	7/1	10/31	12,285	24.4	38,071	75.5	50,411	54,297
2006	2	7/1	10/31	9,233	24.5	28,281	75.1	37,639	43,118
2007	2	7/1	10/31	10,312	27.1	27,705	72.9	38,017	41,263
2008 ^k	2/3	7/1	11/30	13,618	26.4	38,006	73.6	51,624	55,520
2009	2/3	7/1	11/30	11,759	23.5	38,201	76.5	49,960	55,495
2010	2/3	7/1	11/30	15,424	29.2	37,488	70.8	52,912	55,555
2011	2/3	7/1	11/30	11,277	25.6	32,855	74.4	44,132	48,642
2012	2/3	7/1	11/30	12,277	33.7	24,130	66.3	36,407	41,237
2013	2/3	7/1	11/30	14,994	30.6	33,960	69.4	48,954	53,526
2014	2/3	7/1	11/30	14,896	24.6	45,670	75.4	60,566	63,465
2015	2	7/1	11/30	16,808	29.5	40,259	70.5	57,067	60,845
2016	2	7/1	11/30	10,650	26.7	29,281	73.3	39,931	43,213
2017	2	7/1	11/30	14,503	29.9	33,924	70.1	48,427	52,061
2018	2	7/1	11/30	16,570	32.8	33,939	67.1	50,575	54,839
Average (1984–2003)				14,171	26.9	35,595	73.1	49,778	53,885
Average (2004–2018)				13,297	27.4	35,523	72.6	48,838	53,049

Source: Statewide Harvest Surveys from Mills (1984–1994), Howe et al. (1995, 1996), and Alaska Sport Fishing Survey database [Internet]. 1996–. Anchorage, AK: Alaska Department of Fish and Game, Division of Sport Fish (cited October 2019). Available from:

^a Includes Kenai R guided/non-guided not specified, reach not specified.

^b Includes entire Kenai R drainage (Russian R, Beaver Cr, Funny R, Grant Cr, Hidden Cr/Lk, Jean Lk, Kenai Lk, Moose R, Quartz Cr, Sevena Lk, Skilak Lk, Soldotna Cr, Swan Lake System, and Trail Lk).

^c No fishing after 3 coho harvested, to prevent "boat limits."

^d Closed sections of 5 mi below lakes to all fishing to protect spawning cohos, from Jan 1 to June 14

^e Guides restricted on Mondays

^f Emergency order reduced bag limit to 1 per day on 8/11/98

^g Repealed d

^h Coho salmon sport fishing closed from 8/1–8/3

ⁱ Extended season to Oct. 31

^j Repealed h, allowed to fish after limit of coho upstream of Soldotna Bridge, guides allowed to fish upstream of Moose for other species

^k 2 per day in August/3 per day in Sept. thru Nov.

Table 154-4.—Guided sport fishing catch and harvest of Kenai River coho salmon in August by river section, 2013–2016.

Year	River Section	Number of Guides	Number of Trips	Coho Salmon	
				Catch	Harvest
2013					
	Mouth to Bridge	138	1,254	5,552	5,464
	Bridge to Moose R.	54	274	985	924
	Moose R. to Skilak Lk.	107	873	3,559	3,231
	Skilak Lk. To Kenai Lk.	65	813	148	137
	Unknown Reach	7	29	33	29
	Total	224	3,243	10,277	9,785
2014					
	Mouth to Bridge	146	1,614	5,618	5,474
	Bridge to Moose R.	35	227	370	316
	Moose R. to Skilak Lk.	97	666	1,178	1,076
	Skilak Lk. To Kenai Lk.	65	797	67	62
	Unknown Reach	8	15	13	11
	Total	227	3,319	7,246	6,939
2015					
	Mouth to Bridge	152	1,535	6,554	6,426
	Bridge to Moose R.	40	304	651	627
	Moose R. to Skilak Lk.	108	846	814	784
	Skilak Lk. To Kenai Lk.	61	705	60	49
	Unknown Reach	10	10	23	23
	Total	230	3,400	8,102	7,909
2016					
	Mouth to Bridge	161	1,568	3,855	3,813
	Bridge to Moose R.	46	307	379	376
	Moose R. to Skilak Lk.	101	706	857	845
	Skilak Lk. To Kenai Lk.	71	812	28	25
	Unknown Reach	0	0	0	0
	Total	236	3,393	5,119	5,059
Average 2013-2016					
		229	3,339	7,686	7,423

Source: ADF&G Freshwater Sport Fish Guide Logbook.

Table 154-5.—Coho salmon guided fishing catch and harvest in August for Kasilof River, Kenai River and Russian River, 2013–2016.

Year	Kasilof River				Kenai River				Russian River			
	Guides	Trips	C	H	Guides	Trips	C	H	Guides	Trips	C	H
2013	45	251	860	844	224	3,243	10,277	9,785	9	40	54	8
2014	43	203	574	573	227	3,319	7,246	6,939	10	34	15	4
2015	45	190	781	763	230	3,400	8,102	7,909	9	27	7	0
2016	34	162	360	354	236	3,393	5,119	5,059	8	22	3	3
Mean	42	202	644	634	229	3,339	7,686	7,423	9	31	20	4

Source: ADF&G Freshwater Sport Fish Guide Logbook.

Note* C= catch, H= harvest

PROPOSALS 153 – Increase the bag limit for coho salmon to 3 fish July 1 to August 31.

5 AAC 57.170. Kenai River Coho Management Plan.

PROPOSED BY: Kenai River Professional Guide Association.

WHAT WOULD THE PROPOSAL DO? This would increase the bag limit for the Kenai River coho salmon sport fishery to 3 fish from July 1 to August 31.

WHAT ARE THE CURRENT REGULATIONS? In the Kenai River Drainage Area, except in the Russian River, the bag and possession limit for coho salmon 16 inches or greater is 2 fish from July 1 through August 31. The limit for coho salmon 16 inches or greater is 3 fish per a day, 6 fish in possession in the Kenai River from Skilak Lake downstream to the mouth from September 1 through November 30, and in the Kenai River between Kenai and Skilak lakes from September 1 through October 31. In the Russian River, the bag and possession limit for coho salmon 16 inches or greater is 1 fish; the Russian River is open to fishing for coho salmon from July 1 through September 30.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase the harvest of coho salmon by an unknown amount depending on effort and abundance. It could increase exploitation rates to unsustainable levels during years of below average returns.

BACKGROUND: The *Kenai River Coho Salmon Management Plan* (5 AAC 57.170) was first adopted in 1996 in response to a decline in coho salmon smolt abundance and increased harvest of returning adults in the Kenai River. A special board meeting was convened in 1997 and restrictions affecting all users were put into regulation to conserve Kenai River coho salmon. Additional restrictive regulations were added to the plan from 1997–1999.

In 2000, a special board meeting was convened, through a petition submitted by the governor, based on low abundance of coho salmon throughout Cook Inlet. As an outcome of this meeting the bag and possession limit was reduced from 3 to 2 fish Cook Inlet-wide (excepting West Cook Inlet and terminal fisheries targeting hatchery fish). Since then, changes to coho salmon fishing regulations resulted in a net gain in commercial fishing time and area, a seasonal increase in the bag limit, and liberalized fishing methods.

Information gathered from research programs on Kenai River indicate the coho salmon runs averaged about 140,000 fish from 1999–2004, with harvests averaging over 62,000 fish (Table 153-1). The previous Kenai River coho salmon management plan allowed a 3-fish bag limit and more liberal commercial fishing in August. With a 2-fish bag limit and more restrictive commercial fishing, the harvest rate ranged from 35%–47% from 2000–2004. Regulations created since 2004 to coho salmon bag limit and the 1% rule 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 a harvest rate of about 61% is sustainable.

Total Kenai River drainage coho salmon sport harvests prior to 2000 (3 coho salmon per day) averaged 53,228 fish annually. Since 2000 (2 coho salmon per day), harvests have averaged 53,778 fish. The recent 5-year average (2014–2018) harvest is 54,885 (Table 153-2). Freshwater guide logbooks 2013–2016 indicate an average 229 guides were still operating in August reporting a harvest of 7,423 coho salmon (Table 153-3 and 153-4).

The department does not manage the Kenai River coho salmon sport fishery inseason based upon abundance because coho salmon escapement is not monitored and no escapement goal has been established for the Kenai River. When management actions were required, they were based upon fishing reports and guide logbook information that signified a conservation concern relative to angler success in prior years. There are no coho salmon escapement goals for the other streams in the Northern Kenai Peninsula Management Area where the bag and possession limit for coho salmon was reduced from 3 to 2 fish.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal. The department does not have any new data regarding coho salmon runs or harvest 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. Approval of this proposal is not expected to result in an additional direct cost for the department.

Table 153-1.—Estimated harvest, total run, and harvest 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

Table 153-2.—Guided and unguided sport harvest of Kenai River coho salmon, 1984–2018.

Year	Bag Limit	Season Start	Season End	Guided Harvest	%	Nonguided Harvest	%	Kenai River Harvest ^a	Total Drainage Harvest ^b
1984	3	entire year		5,490	9.2	54,154	90.8	59,644	62,076
1985	3	entire year		4,006	9.0	40,529	90.8	44,635	46,090
1986	3	entire year		13,883	23.1	46,227	76.9	60,110	62,938
1987	3	entire year		4,976	15.0	28,234	85.0	33,210	37,484
1988	3	entire year		4,456	9.1	44,238	90.7	48,785	51,950
1989	3	entire year		15,835	28.6	39,424	71.3	55,275	59,575
1990	3	entire year		15,274	25.3	45,051	74.7	60,325	63,497
1991	3	entire year		30,789	40.4	45,367	59.6	76,163	80,674
1992 ^c	3	entire year		20,794	39.8	31,516	60.2	52,310	56,877
1993	3	entire year		23,743	47.0	26,795	53.0	50,538	52,855
1994	3	entire year		41,170	47.5	45,541	52.5	86,711	91,490
1995 ^d	3	entire year		23,587	51.1	22,596	48.9	46,183	50,346
1996 ^e	3	entire year		13,728	32.5	28,565	67.5	42,293	47,860
1997 ^f	3/1	7/1	9/30	3,101	19.2	13,063	80.8	16,164	20,770
1998	3	7/1	9/30	5,217	19.3	21,750	80.7	26,967	31,579
1999 ^g	3	7/1	9/30	8,087	25.6	23,550	74.4	31,637	35,591
2000 ^h	2	7/1	9/30	9,349	19.3	39,170	80.7	48,519	52,489
2001	2	7/1	9/30	13,518	27.2	36,264	72.8	49,782	55,027
2002	2	7/1	9/30	14,444	24.2	45,206	75.8	59,650	66,160
2003	2	7/1	9/30	11,964	25.6	34,658	74.3	46,657	52,370
2004 ⁱ	2	7/1	10/31	14,845	22.5	51,070	77.4	65,952	72,658
2005 ^j	2	7/1	10/31	12,285	24.4	38,071	75.5	50,411	54,297
2006	2	7/1	10/31	9,233	24.5	28,281	75.1	37,639	43,118
2007	2	7/1	10/31	10,312	27.1	27,705	72.9	38,017	41,263
2008 ^k	2/3	7/1	11/30	13,618	26.4	38,006	73.6	51,624	55,520
2009	2/3	7/1	11/30	11,759	23.5	38,201	76.5	49,960	55,495
2010	2/3	7/1	11/30	15,424	29.2	37,488	70.8	52,912	55,555
2011	2/3	7/1	11/30	11,277	25.6	32,855	74.4	44,132	48,642
2012	2/3	7/1	11/30	12,277	33.7	24,130	66.3	36,407	41,237
2013	2/3	7/1	11/30	14,994	30.6	33,960	69.4	48,954	53,526
2014	2/3	7/1	11/30	14,896	24.6	45,670	75.4	60,566	63,465
2015	2	7/1	11/30	16,808	29.5	40,259	70.5	57,067	60,845
2016	2	7/1	11/30	10,650	26.7	29,281	73.3	39,931	43,213
2017	2	7/1	11/30	14,503	29.9	33,924	70.1	48,427	52,061
2018	2	7/1	11/30	16,570	32.8	33,939	67.1	50,575	54,839
Average (1984–2003)				14,171	26.9	35,595	73.1	49,778	53,885
Average (2004–2018)				13,297	27.4	35,523	72.6	48,838	53,049

Source: Statewide Harvest Surveys from Mills (1984–1994), Howe et al. (1995, 1996), and Alaska Sport Fishing Survey database [Internet]. 1996–

. Anchorage, AK: Alaska Department of Fish and Game, Division of Sport Fish (cited October 2019). Available from:

^a Includes Kenai R guided/non-guided not specified, reach not specified.^b Includes entire Kenai R drainage (Russian R, Beaver Cr, Funny R, Grant Cr, Hidden Cr/Lk, Jean Lk, Kenai Lk, Moose R, Quartz Cr, Sevena Lk, Skilak Lk, Soldotna Cr, Swan Lake System, and Trail Lk).^c No fishing after 3 coho harvested, to prevent "boat limits."^d Closed sections of 5 rm below lakes to all fishing to protect spawning cohos, from Jan 1 to June 14^e Guides restricted on Mondays^f Emergency order reduced bag limit to 1 per day on 8/11/98^g Repealed^h Coho salmon sport fishing closed from 8/1-8/3ⁱ Extended season to Oct. 31^j Repealed h, allowed to fish after limit of coho upstream of Soldotna Bridge, guides allowed to fish upstream of Moose for other species^k 2 per day in August/3 per day in Sept. thru Nov.

Table 153-3.—Guided sport fishing catch and harvest of Kenai River coho salmon in August by river section, 2013–2016.

Year	River Section	Number of Guides	Number of Trips	Coho Salmon	
				Catch	Harvest
2013					
	Mouth to Bridge	138	1,254	5,552	5,464
	Bridge to Moose R.	54	274	985	924
	Moose R. to Skilak Lk.	107	873	3,559	3,231
	Skilak Lk. To Kenai Lk.	65	813	148	137
	Unknown Reach	7	29	33	29
	Total	224	3,243	10,277	9,785
2014					
	Mouth to Bridge	146	1,614	5,618	5,474
	Bridge to Moose R.	35	227	370	316
	Moose R. to Skilak Lk.	97	666	1,178	1,076
	Skilak Lk. To Kenai Lk.	65	797	67	62
	Unknown Reach	8	15	13	11
	Total	227	3,319	7,246	6,939
2015					
	Mouth to Bridge	152	1,535	6,554	6,426
	Bridge to Moose R.	40	304	651	627
	Moose R. to Skilak Lk.	108	846	814	784
	Skilak Lk. To Kenai Lk.	61	705	60	49
	Unknown Reach	10	10	23	23
	Total	230	3,400	8,102	7,909
2016					
	Mouth to Bridge	161	1,568	3,855	3,813
	Bridge to Moose R.	46	307	379	376
	Moose R. to Skilak Lk.	101	706	857	845
	Skilak Lk. To Kenai Lk.	71	812	28	25
	Unknown Reach	0	0	0	0
	Total	236	3,393	5,119	5,059
Average 2013-2016					
		229	3,339	7,686	7,423

Source: ADF&G Freshwater Sport Fish Guide Logbook.

Table 153-4.–Guided sport fishing catch and harvest of coho salmon in August by river, 2013–2016.

Year	Kasilof River				Kenai River				Russian River			
	Guides	Trips	C	H	Guides	Trips	C	H	Guides	Trips	C	H
2013	45	251	860	844	224	3,243	10,277	9,785	9	40	54	8
2014	43	203	574	573	227	3,319	7,246	6,939	10	34	15	4
2015	45	190	781	763	230	3,400	8,102	7,909	9	27	7	0
2016	34	162	360	354	236	3,393	5,119	5,059	8	22	3	3
Mean	42	202	644	634	229	3,339	7,686	7,423	9	31	20	4

Source: ADF&G Freshwater Sport Fish Guide Logbook.

Note* C= catch, H = harvest

PROPOSAL 142 – Implement a new coho salmon management plan for the Upper Subdistrict set gillnet fishery.

5 AAC 21.XXX. New section.

PROPOSED BY: Chris Every.

WHAT WOULD THE PROPOSAL DO? This would implement a new management plan for the Upper Subdistrict set gillnet (ESSN) fishery from August 16 through September 30 to target coho salmon.

WHAT ARE THE CURRENT REGULATIONS? The ESSN fishery (Figure 177-1) currently closes on or before August 15. From August 11–15, the ESSN fishery is open for regular Monday/Thursday 12-hour fishing periods only.

The purpose statement of 5 AAC 21.353 currently reads, “The purpose of this management plan is to ensure adequate escapement of salmon into the ND 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 *Kenai River Late-Run Sockeye Salmon Management Plan* states, in part, that the department is to 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.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase the ESSN commercial harvest of all salmon, especially Kenai and Kasilof river sockeye and coho salmon, by an unknown amount based upon the run timing and abundance of these stocks. It could increase the likelihood of achieving Kenai and Kasilof river sockeye salmon escapement goals, especially in years when runs return later than average, but it could also increase coho salmon exploitation rates to unsustainable levels during years of below or average returns.

BACKGROUND: The *Kenai River Coho Salmon Conservation Management Plan* was originally adopted in 1997 and was further amended in 1999 and 2000. The purposes of this management plan were to ensure an adequate escapement of coho salmon into the Kenai River drainage and to provide management guidelines to the department. The plan limited fishing periods in the ESSN fishery specifically when commercial sockeye salmon harvest were declining and coho salmon catches were increasing. Additional fishing periods, other than the weekly fishing periods would not be provided in the ESSN fishery when coho salmon were expected to be the most abundant species harvested during that period. In 2005, the *Kenai River Coho Salmon Conservation Management Plan* was repealed.

The ESSN fishery has not been open after August 15 since 1979. From 1966–1978, the average annual ESSN commercial harvest after August 15 was 163 sockeye and 10,861 coho salmon (Table 179-1).

In 2005, a one-percent rule was established that would close the ESSN fishery after July 31 based on two consecutive fishing period harvests that were less than one-percent of the season total sockeye salmon harvest. At the 2014 UCI board meeting, the one-percent rule was modified to

apply separately in the Kasilof Section and the Kenai/East Foreland sections. At the 2017 board meeting, the one-percent rule was again modified to begin after August 7. Since the one-percent rule was adopted (15 years), part or all of the ESSN fishery has been closed based on the rule four times (Table 179-2).

Kenai River sockeye salmon passage is measured at the RM 19 sonar site. Since 1980, the number of sockeye salmon enumerated in the Kenai River in August has steadily increased (Table 135-1). For example, the average sockeye salmon passage estimate in August was 114,000 fish per year in the 1980s, but has increased to nearly 472,000 fish per year for each of the past 10 years. The average percentage of each year's total passage estimate that occurs in August has risen from 8% in the 1980s to 33% during the past 10 years. The average day that sonar operations ceased each year has also increased from August 12 in the 1980s to August 19 during the past 10 years. Sonar operations typically cease when less than 1% of the season's total sockeye salmon passage has occurred for three consecutive days. The number of sockeye salmon enumerated in the Kenai River in August is affected not only by run-timing of this stock, but it can also be impacted by restrictions to commercial fisheries in late July and August, thereby increasing passage of sockeye salmon in August.

UCI sockeye salmon run size and run timing are estimated inseason via an Offshore Test Fishery that is conducted at the southern boundary of the UCI management area. Sockeye salmon run timing averaged 1.9 days early during the 1980s; then 1.7 days late in the 1990s; late 0.9 days from 2000–2009, and from 2010–2019, runs were 2.9 days late (Figure 186-1).

In 1999, in response to low coho salmon runs throughout Cook Inlet, the board took restrictive actions to all user groups, including reducing coho salmon bag limits in the Kenai River and Susitna River drainage from 3 to 2. Since 1999, the average annual ESSN and drift gillnet coho salmon harvest has decreased by more than 150,000 fish per year (-56%) when compared to pre-1999 averages (Table 142-1). The average annual harvest of coho salmon in the Kenai River sport fishery has remained fairly constant, with an average annual harvest of approximately 54,000 fish from 1984–1998 versus an average annual harvest of approximately 53,000 fish from 1999–2018 (Table 142-2).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. The department does not have any new data regarding coho salmon runs or harvest rates but believes current management is sustainable. The Kenai River coho salmon stock is not monitored for escapement and with the discontinuation of the guide logbook program in the spring of 2019, the department no longer has one of the few metrics by which to gauge relative coho salmon run strength inseason. Inriver harvest data indicate harvest of Kenai River coho salmon is relatively stable under existing regulations and the department does not recommend any increase in exploitation. In the absence of inseason run strength information, conservative regulation is recommended.

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. Approval of this proposal could result in an additional cost to the department if catch sampling of the ESSN fishery continued past the current August 15 closing date.

Table 142-1.—Drift and ESSN commercial salmon harvest, 1980–2019.

Year	King	Sockeye	Coho	Pink	Chum
1980	10,532	1,330,059	129,791	1,263,970	342,117
1981	10,678	1,129,383	262,390	69,542	759,308
1982	14,951	3,074,852	524,667	703,095	1,353,287
1983	16,167	4,730,939	364,659	44,938	1,047,458
1984	7,542	1,725,610	250,589	494,460	571,792
1985	19,771	3,594,157	428,045	51,943	704,981
1986	21,660	4,496,528	583,313	1,146,496	1,019,699
1987	25,711	9,096,640	277,487	85,957	228,478
1988	15,096	6,567,743	333,803	403,928	594,462
1989	10,914	4,543,497	83,189	37,984	12,398
1990	4,760	3,423,363	287,804	549,384	294,132
1991	5,139	1,962,741	206,681	8,461	217,863
1992	11,333	8,907,571	324,378	667,806	235,822
1993	14,844	4,500,530	164,927	88,153	91,803
1994	16,039	3,359,637	378,563	491,075	252,675
1995	12,662	2,735,100	286,224	118,052	471,935
1996	11,953	3,688,075	212,158	218,445	142,435
1997	11,952	4,030,817	98,334	61,975	93,385
1998	5,422	1,111,702	102,015	532,866	88,768
1999	10,038	2,506,941	76,737	12,909	166,985
2000	3,954	1,186,174	142,556	114,254	118,399
2001	6,628	1,716,294	43,664	64,217	75,847
2002	9,893	2,670,409	160,984	439,000	226,377
2003	16,050	3,340,479	62,603	46,850	108,401
2004	22,788	4,765,452	229,741	343,362	139,060
2005	23,555	5,054,672	164,296	44,849	66,381
2006	12,738	2,086,046	120,640	397,798	60,312
2007	13,204	3,176,888	132,313	137,316	75,357
2008	8,226	2,286,539	111,251	163,487	46,443
2009	6,447	1,873,928	93,531	195,521	77,392
2010	7,597	2,673,446	142,958	285,822	220,012
2011	8,290	5,078,974	56,418	30,860	112,694
2012	923	3,020,819	81,215	462,219	264,562
2013	3,481	2,584,094	187,037	45,276	132,274
2014	2,683	2,226,076	82,840	630,960	108,893
2015	8,337	2,494,020	148,668	44,636	254,579
2016	7,365	2,264,599	101,848	372,411	114,461
2017	5,043	1,712,499	221,406	149,958	233,102
2018	2,815	690,126	113,611	105,357	108,294
2019	2,423	1,533,380	95,125	60,267	113,046
<u>Averages</u>					
1980-1998	13,007	3,895,208	278,896	370,449	448,568
1999-2019	4,896	2,427,803	123,113	218,777	166,192
Change	-62%	-38%	-56%	-41%	-63%

Table 142-2.—Estimated sport harvest of Kenai River coho salmon by river section, 1984–2018^a.

Year	Cook Inlet to Soldotna Bridge	Soldotna Bridge to Moose River	Moose River to Skilak Lake	Skilak Lake to Kenai Lake	Other parts of drainage	All sections
1984	40,173	7,596	8,065	3,810	2,432	62,076
1985	22,579	6,781	12,774	2,401	1,555	46,090
1986	38,338	10,336	8,348	3,088	2,828	62,938
1987	19,612	6,222	4,077	3,299	4,274	37,484
1988	34,690	4,863	5,714	3,427	3,256	51,950
1989	36,668	7,921	8,236	2,434	4,316	59,575
1990	40,567	8,446	7,281	4,031	3,172	63,497
1991	49,499	13,438	9,520	3,699	4,518	80,674
1992	33,175	7,579	7,547	4,009	4,567	56,877
1993	29,135	9,677	6,771	4,955	2,317	52,855
1994	46,345	15,249	12,286	12,831	4,779	91,490
1995	31,839	5,973	5,579	2,792	4,163	50,346
1996	22,561	10,423	6,053	3,256	5,567	47,860
1997	6,863	4,177	3,082	2,042	4,606	20,770
1998	15,461	5,097	4,206	2,203	4,612	31,579
1999	20,442	5,386	3,080	2,729	3,954	35,591
2000	30,836	10,065	5,053	2,565	3,970	52,489
2001	32,478	9,328	5,551	2,425	5,245	55,027
2002	36,703	10,850	5,069	4,851	8,687	66,160
2003	26,056	10,990	4,677	3,180	7,467	52,370
2004	41,616	13,200	5,726	3,601	8,515	72,658
2005	25,141	14,356	4,436	4,413	5,951	54,297
2006	20,949	7,131	4,829	3,528	6,681	43,118
2007	20,334	7,455	5,591	3,790	4,093	41,263
2008	31,164	9,283	5,274	4,536	5,263	55,520
2009	28,066	8,416	7,895	4,357	6,761	55,495
2010	28,135	11,029	8,884	2,733	4,774	55,555
2011	27,346	8,939	5,531	2,213	4,613	48,642
2012	22,965	7,487	4,064	1,262	5,459	41,237
2013	23,831	14,950	6,901	2,978	4,866	53,526
2014	30,759	12,878	9,584	7,216	3,028	63,465
2015	34,002	12,140	8,091	2,760	3,852	60,845
2016	24,778	9,460	3,872	1,613	3,490	43,213
2017	29,625	10,521	6,151	1,985	3,779	52,061
2018	29,699	11,032	7,125	2,607	4,376	54,839
<u>Avg</u>						
1984-1998	31,167	8,252	7,303	3,885	3,797	54,404
1999-2018	28,246	10,245	5,869	3,267	5,241	52,869

Source: Statewide Harvest Surveys (SWHS) from Mills (1979–1994), Howe et al. (1995, 1996), and Alaska Sport Fishing Survey database [Internet]. 1996–. Anchorage, AK: Alaska Department of Fish and Game, Division of Sport Fish (cited October 2018). Available from: <http://www.adfg.alaska.gov/sf/sportfishingsurvey/>

Note: ND means no data available

^a SWHS began reporting consistently in 2002.

PROPOSAL 218 – Create an OEG for McRoberts Creek coho salmon.

5 AAC 60.XXX. New Title.

PROPOSED BY: Andy Couch.

WHAT WOULD THE PROPOSAL DO? This would create an optimal escapement goal (OEG) for McRoberts Creek coho salmon of 450–1,400 fish.

WHAT ARE THE CURRENT REGULATIONS? 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 also defines escapement goal terms as follows:

Sustainable escapement goal (SEG): “means a level of escapement, indicated by an index or an escapement estimate, that is known to provide for sustained yield over a 5 to 10 year period...; the SEG will be developed from the best available biological information; and should be scientifically defensible on the basis of that information; the SEG will be determined by the department and will take into account data uncertainty and be stated as either a “SEG range” or “lower bound SEG:...”

Optimal escapement goal (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 *Policy for statewide salmon escapement goals* (5 AAC 39.223) recognizes the establishment of salmon escapement goals as a joint responsibility of the Alaska Department of Fish and Game (department) and the Alaska Board of Fisheries (board) and describes the 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 biological escapement goals (BEG), sustainable escapement goals (SEG), and sustained escapement thresholds (SET).

The policy also states that the board will: “...in recognition of its joint responsibilities, and in consultation with the department, during the regulatory process, review a biological escapement goal (BEG), sustainable escapement goal (SEG), or sustainable escapement threshold (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.”

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The department would use its EO authority to manage the Jim Creek coho salmon fishery in order to stay within the OEG (the current SEG). The recommended SEG for McRoberts Creek is 250–700 coho salmon.

BACKGROUND: McRoberts Creek is one of two main tributaries to Jim Creek where coho salmon spawn. Coho salmon escapement has been indexed in McRoberts Creek since 1985 by postseason foot survey. An SEG range of 450–700 was established in 2002 and later modified in 2014 to 450–1,400 using the old percentile approach. In 2014, following a period of relatively high sport harvests and low coho salmon index counts that occurred 2010–2012, the board closed specific drainage lakes to fishing, limited sport fishing to Wednesdays–Sundays during the coho salmon season, and defined the area open to fishing as an aid to enforcement. In 2017, the board restricted sport fishing hours to 5 a.m. – 10 p.m. to align with regulations governing other small Knik Arm streams. The department implemented a weir program beginning in 2015 to better assess this stock and as a tool for inseason management of the sport fishery. In total, a weir has been operated on Jim Creek 1993–1994 and 2015–2019. Too few years of weir count data exist to set a weir-based escapement goal at this time. Inseason management is accomplished by tracking daily weir counts against past years a weir was operated and in which the foot survey-based goal was either later achieved or missed postseason. In the past 10 years, the escapement goal was missed 2010–2012, 2014, and 2016 despite the sport fishery being restricted or closed and attained in 2013, 2015, and 2017–2018 (Table 218-1). The goal was missed in 2019, however, prespawning mortalities due to *Vibrio* bacterium under an extended period of high-water temperature likely contributed to the low survey count conducted postseason.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. The department however has concerns establishing escapement goals that increase the probability of reduced yields on average in the future.

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

Table 218-1.—Coho salmon harvest and escapement on Jim Creek drainage, 1993–2019.

Escapement							
Foot index count							
	Effort	Harvest	McRoberts ^a	Upper Jim	Total Index	Weir Count	Exploit
			Creek	Creek			
1993	6,824	2,878	503	535	1,038	5,532	0.34
1994	9,658	3,946	506	2,119	2,625	6,451	0.38
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	5,746	2,910	^b 571	374	945	3,572	0.45
2016	5,406	1,343	^b 106	307	413	1,764	0.43
2017	3,299	750	607	874	1,481	5,646	0.12
2018	6,038	2,922	758	1,215	1,973	5,590	0.34
2019			162	632	794	3,736	
1993-2002							
mean	9,441	5,161	757	1,059	1,816		
2003-2012							
mean	17,682	10,195	1,459	959	2,418		
2013-2019							
mean	6,390	2,371	427	721	1,148	4,062	0.34

^a SEG 450-1,400

^b fishery restricted or closed early.

^c foot survey conducted late.

PROPOSAL 226 – Require retention of all coho salmon in the Little Susitna River.

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: Central Peninsula Fish and Game Advisory Committee.

WHAT WOULD THE PROPOSAL DO? This would require all coho salmon caught in the Little Susitna River sport fishery be retained and become part of a bag limit, no matter where hooked. However, snagging is not allowed.

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 the Little Susitna River from its mouth upstream to the Parks Highway; bag and possession limit is 3 fish, of which no more than 2 per day and 2 in possession may be coho salmon; a coho salmon 16 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 coho salmon from the water before releasing the fish; a person, after taking a bag limit of salmon, other than king salmon, 16 inches or greater in length from the Little Susitna River, may not sport fish that same day for any species of fish in waters open to sport fishing for salmon on the Little Susitna River. Only unbaited artificial lures are allowed October 1–August 5.

“Snag” means to hook a fish elsewhere than in its mouth. A fish hooked elsewhere than its mouth must be released immediately.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Harvest would increase by an unknown amount because every fish caught would have to be retained. Anglers would be required to harvest salmon of lower quality as retention would be required regardless of size, condition of flesh and quality of meat due to net marks or naturally inflicted wounds. This would create a conflict in regulations by requiring fish hooked elsewhere than its mouth to be retained, yet still prohibit snagging.

BACKGROUND: In 1993 the department conducted a coho salmon catch-and-release mortality study in the lower reaches of the Little Susitna River using multiple hooks baited with salmon roe to mimic how anglers fished 30 years ago. Results from this study showed a much higher mortality rate (69%) than initially thought for coho salmon released by anglers in the lower river. Early in the season, coho salmon entering the estuary are susceptible to higher mortality rates for several days until becoming fresh water hardened. As a result of the 1993 study the board has addressed catch-and-release mortality by requiring an angler to stop fishing after catching a limit of coho salmon in waters open to salmon fishing; prohibiting the release of a coho salmon if removed from the water; and prohibiting the use of bait until about the quarter point of the historical run timing.

Over the past 10 years, an average of about 14,500 coho salmon have been caught on the Little Susitna River, of which 28% were released. The inriver harvest rate for coho salmon on the Little Susitna River has ranged from 15% in 2017 to 75% in 1999 and averages 39% (Table 226-1). Harvest rates can vary widely due to large variations in run size, while fishing power is more constant. A weir has been used to assess escapement since 1986. The weir was operated at approximately rm 32 from 1986–1995 and rm 71 from 1996–2011. At the upper location, timely inseason management of the fishery was difficult due to the 40-mile difference between the weir and the fishery. The weir was moved downstream to rm 32.5 in 2012 where run timing better aligns with timing of the fishery, allowing more timely assessment of run size during the season. Poor runs were experienced in 2012 and 2016 and emergency orders were issued to restrict or close the sport fishery, resulting in relatively low harvest rates for those years. Average harvest for the past 10 years sharing both harvest and escapement data (2009–2018), omitting incomplete count years, was about 5,400 fish. Average weir count during these years was 11,800 fish.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. Release mortality of coho salmon on the Little Susitna River has been addressed by actions taken by the board. The department can and has used weir counts and emergency order authority to reduce harvest and conserve coho salmon on years of low abundance. There are many reasons anglers choose or are required to release fish and can successfully do so with best practices.

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

Table 226-1.—Effort, harvest, catch, and escapement of coho salmon on the Little Susitna River, 1999–2019.

	Angler- days	Weir count ^a	Catch	Harvest	Released	% Released	Inriver harvest rate
1999	30,437	3,017	11,990	8,864	3,126	26%	75%
2000	39,556	15,436	31,517	20,357	11,160	35%	57%
2001	33,521	30,587	24,636	17,071	7,565	31%	36%
2002	40,346	47,938	30,582	19,278	11,304	37%	29%
2003	31,993	10,877	21,649	13,672	7,977	37%	56%
2004	33,819	40,199	24,981	15,307	9,674	39%	28%
2005	27,490	16,839 ^b	13,447	10,203	3,244	24%	
2006	28,547	8,786 ^b	20,558	12,399	8,159	40%	
2007	35,636	17,573	14,895	11,089	3,806	26%	39%
2008	31,989	18,485	18,618	13,498	5,120	28%	42%
2009	28,151	9,523	11,283	8,346	2,937	26%	47%
2010	24,846	9,214	12,811	10,662	2,149	17%	54%
2011	12,779	4,826	3,835	2,452	1,383	36%	34%
2012	10,115	6,779	2,114	1,681	433	20%	20%
2013	12,012	13,583 ^b	6,670	5,229	1,441	22%	
2014	13,636	24,211	8,663	6,922	1,741	20%	22%
2015	17,845	12,756 ^b	10,306	8,880	1,426	14%	
2016	16,168	10,049	6,575	4,361	2,214	34%	30%
2017	11,376	17,781	3,885	3,068	817	21%	15%
2018	10,937	7,583 ^b	10,851	6,663	4,188	39%	
2019	ND	4,229 ^c		ND			
mean	24,560	17,973	14,493	10,000	4,493	28%	39%

^a BEG 9,600-19,200 from 1999 to 2001; SEG 10,100-17,700 from 2002 to 2019.

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

^c count likely incomplete due to stalled fish movement under conditions of extreme low water prior to removal of the weir.

Upper Cook Inlet Pink Salmon (2 proposals)

PROPOSAL 136 – Open two additional districtwide fishing periods per week between July 24 and August 15.

5 AAC 21.354. Cook Inlet Pink Salmon Management Plan.

PROPOSED BY: United Cook Inlet Drift Association.

WHAT WOULD THE PROPOSAL DO? This would open two additional districtwide fishing periods per week for pink salmon between July 24 and August 15 in even-numbered years.

WHAT ARE THE CURRENT REGULATIONS? The purpose of the *Cook Inlet Pink Salmon Management Plan* is to allow for harvest of surplus pink salmon in the Upper Subdistrict for set gillnet and drift gillnet gear. The plan allows for up to two 12-hour fishing periods in the Upper Subdistrict for drift and set gillnetting in even-numbered years between August 11 and August 15. The area open to drift gillnetting is the regular Kenai Section only (Figure 123-2). The pink salmon fishery is first dependent upon the determination that the sockeye salmon escapement goals in the Kenai and Kasilof Rivers are being achieved and that coho salmon run strength is sufficient to allow additional harvest.

The first pink salmon commercial fishing period may occur only if the harvest of pink salmon in the Upper Subdistrict set gillnet (ESSN) fishery during the first regular fishing period from August 6 through August 10 exceeds 25,000 fish, or the cumulative harvest from both regular fishing periods is 50,000 or more pink salmon. The second pink salmon commercial fishing period will occur only if 25,000 or more pink salmon and no more than 2,500 coho salmon were harvested in ESSN fishery during the first pink salmon commercial fishing period.

Legal gear during the pink salmon fishing periods are gillnets (drift and set) with a mesh size not greater than 4 $\frac{3}{4}$ inches.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase the harvest of all salmon, including pink salmon, by adding up to six or seven inlet-wide drift gillnet fishing periods between July 24 and August 15 during even numbered years. The proposal speaks only to adding inlet-wide fishing periods during this time, so it is not completely clear if the additional time sought by this proposal would apply to set gillnetting. Furthermore, the purpose statement of the pink salmon management plan says it is to provide for a pink salmon fishery in the Upper Subdistrict. Inlet-wide fishing periods would encompass all of the Central District, not just the Upper Subdistrict (Figure 136-1). Finally, implementation of this proposal from July 24 to 31 would conflict with the restrictive time and area provisions found in 5 AAC 21.353 *Central District Drift Gillnet Fishery Management Plan*.

BACKGROUND: Pink salmon runs in UCI are even-year dominant and receive little commercial exploitation. A 2002 department marine tagging study estimated the commercial harvest rate of UCI pink salmon to be very low, but aside from this nearly 20-year old study, the department does not assess pink salmon run strength in UCI. The primary harvesters of pink salmon in UCI are the Central District drift fishery and ESSN fishery. The relatively small pink salmon harvests in UCI are in part, due to restrictions on fishing time and seasons of these two fisheries to conserve or allocate other salmon species and accommodate other management plans. For example, the average even-year pink salmon harvest from 1980–1998 in the drift and ESSN fisheries was 647,153 fish. Even-year harvests since 2000 have averaged 331,467 fish, nearly a 50% reduction (Table 88-1). Even-year harvests from 1966 through 1978 were more than a million fish in these two fisheries.

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 plan has been modified at each board meeting since.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. Because the annual pink salmon run size to UCI is unknown, it is unclear if UCI pink salmon stocks, or other salmon stocks, including Susitna River sockeye salmon, could sustain the level of additional harvest envisioned in this proposal. The department has concerns with increased harvest of Susitna River sockeye salmon under this proposal. Susitna River sockeye salmon were designated a stock of yield concern in 2008. Current management plan restrictions to the Central District drift gillnet fleet and Northern District set gillnet fishery have contributed to escapement goals being consistently achieved at Judd, Chelatna, and Larson lakes during the past five years.

The department does not have any new data regarding coho salmon runs or harvest rates but believes current management is sustainable. The Kenai River coho salmon stock is not monitored for escapement and with the discontinuation of the guide logbook program in the spring of 2019, the department no longer has one of the few metrics by which to gauge relative coho salmon run strength inseason. Inriver harvest data indicate harvest of Kenai River coho salmon is relatively stable under existing regulations and the department does not recommend any increase in exploitation. In the absence of inseason run strength information, conservative regulation is recommended.

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. Approval of this proposal is not expected to result in an additional cost to the department.



Figure 136-1.—Upper Cook Inlet commercial fisheries Subdistrict fishing boundaries.

PROPOSAL 137 – Repeal and readopt the Cook Inlet Pink Salmon Management Plan.

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 *Cook Inlet Pink Salmon Management Plan* with requirements to manage the harvest of pink salmon stocks primarily for commercial uses to achieve a 40% to 70% exploitation rate in order to provide an economic yield from the harvest.

WHAT ARE THE CURRENT REGULATIONS? The purpose of the *Cook Inlet Pink Salmon Management Plan* is to allow for harvest of surplus pink salmon in the Upper Subdistrict for set gillnet and drift gillnet gear. The plan allows for up to two 12-hour fishing periods in the Upper Subdistrict for drift and set gillnetting in even-numbered years between August 11 and August 15. The area open to drift gillnetting is the regular Kenai Section only (Figure 123-2). The pink salmon fishery is first dependent upon the commissioner determining that the sockeye salmon escapement goals in the Kenai and Kasilof Rivers are being achieved and that coho salmon run strength is sufficient to withstand additional harvest.

The first pink salmon commercial fishing period may occur only if the harvest of pink salmon in the Upper Subdistrict set gillnet (ESSN) fishery during the first regular fishing period from August 6 through August 10 exceeds 25,000 fish, or the cumulative harvest from both regular fishing periods is 50,000 or more pink salmon. The second pink salmon commercial fishing period will occur only if 25,000 or more pink salmon and no more than 2,500 coho salmon were harvested in ESSN fishery during the first pink salmon commercial fishing period.

Legal gear during the pink salmon fishing periods are gillnets (drift and set) with a mesh size not greater than four and three-quarters inches.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It is difficult to determine the effect of this proposal as it does not specify how a fishery would be implemented to achieve the new management plan goals. Pink salmon runs in Upper Cook Inlet (UCI) are not assessed for abundance, so in order to meet an exploitation rate directive, pink salmon run abundance to UCI would have to be estimated, requiring new assessment projects in a restrictive budgetary environment. Furthermore, while pink salmon exploitation rates are currently unknown, it is unclear how to increase the commercial harvest of pink salmon without also increasing the harvest of other salmon, especially sockeye and coho salmon. This would create conflict with other management plan directives that inform managers to minimize the harvest of specific salmon stocks for inriver users.

BACKGROUND: See Background for Proposal 136.

DEPARTMENT COMMENTS: The department is OPPOSED to this proposal because the department does not currently estimate pink salmon abundance or harvest rates in UCI and does not intend to implement a UCI pink salmon stock assessment program. Without this sort of assessment, it would not be possible to determine whether the proposed increase in pink salmon harvest rates was being achieved. In addition, the increased fishing time required to achieve the proposed pink salmon harvest rates would likely result in unsustainable harvests of Susitna River sockeye, coho, and chum salmon.

The department has concerns with increased harvest of Susitna River sockeye salmon under this proposal. Susitna River sockeye salmon were designated a stock of yield concern in 2008. Current management plan restrictions to the Central District drift gillnet fleet and Northern District set gillnet fishery have contributed to escapement goals being consistently achieved at Judd, Chelatna, and Larson lakes during the past five years.

The department does not have any new data regarding coho salmon runs or harvest rates, but believes current management is sustainable. The Kenai River coho salmon stock is not monitored for escapement and with the discontinuation of the guide logbook program in the spring of 2019, the department no longer has one of the few metrics by which to gauge relative coho salmon run strength inseason. Inriver harvest data indicate harvest of Kenai River coho salmon is relatively stable under existing regulations and the department does not recommend any increase in exploitation. In the absence of inseason run strength information, conservative regulation is recommended.

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. This proposal would result in additional costs to the department if the department attempted to assess the annual abundance of pink salmon to determine commercial fishery harvest rates.

COMMITTEE OF THE WHOLE—GROUP 3: UPPER COOK INLET PERSONAL USE, SUBSISTENCE, AND ALLOCATION CRITERIA (22 PROPOSALS)

Upper Cook Inlet Subsistence (2 proposals)

PROPOSAL 242 – Add two additional fishing days (Tuesdays and Thursdays) per week

5 AAC 01.593. Upper Yentna River subsistence salmon fishery.

PROPOSED BY: Mt. Yenlo Fish and Game Advisory Committee.

WHAT WOULD THE PROPOSAL DO? This would add two additional fishing days (Tuesdays and Thursdays) per week to the Upper Yentna River subsistence salmon fishery, allowing the fishery to be open 16 hours per day Mondays through Fridays.

WHAT ARE THE CURRENT REGULATIONS? The Alaska Board of Fisheries (board) has found that all species of salmon are customarily and traditionally taken or used for subsistence in the Yentna River drainage outside the Anchorage-Matsu-Kenai nonsubsistence area, and that 400–700 salmon, other than king salmon, is the amount reasonably necessary for subsistence (ANS). For king salmon, a positive C&T finding was established by the BOF in 2018; an ANS determination for king salmon was postponed at the time of the C&T finding due to the lack of subsistence harvest records for this salmon species.

Salmon may be harvested in the mainstem of the Yentna River from its confluence with Martin Creek upstream to its confluence with the Skwentna Rive (Figure 242-1) from June 1 through June 30 and July 15 through August 7 from 4:00 a.m. to 8:00 p.m. Monday, 4:00 a.m. to 8:00 p.m. Wednesday, and 4:00 a.m. to 8:00 p.m. Friday¹. A permit is required; legal gear is a fish wheel, which must be equipped with a live box, be marked with the permittee's name and address, and be attended at all times while the wheel is in operation. Rainbow trout must be returned alive to the water. Fish must be marked by clipping the tail fins. Seasonal limits for households are 25 salmon, other than king salmon, for the head of a household, and 10 salmon, other than king salmon, for each additional member of the household. Five king salmon may be retained for the head of household, and two king salmon for each additional member of the household.

¹. Due to a low preseason king salmon forecast for the 2019 season, the Yentna River subsistence fisheries were restricted by Emergency Order from three days per week to two days per week.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would provide additional opportunity for subsistence fishing and likely increase the harvest of salmon by an unknown amount.

BACKGROUND: The board first considered proposals to provide subsistence salmon fishing opportunities in a portion of the Yentna or Skwentna rivers in 1988, and made a negative customary and traditional (C&T) use finding², which focused on the lack of transmission of traditions about the fishery within multigenerational families and the relative short length of residency in the area by potential participants in the fishery, who were expected to be mostly residents of the Skwentna area. The board affirmed this negative finding in 1992 following passage of the present state subsistence statute (AS 16.05.258). In response to another proposal in 1996, the board again affirmed its negative C&T finding, but adopted regulations establishing a personal use fish wheel fishery in a portion of the Yentna River. In 1997, in *Payton et al. v. State*, the Alaska Supreme Court ruled that the board had erred in requiring transmission of fishing traditions through family lines, in focusing on the short length of time that current local residents had lived in the area, and in requiring that salmon be preserved by methods similar to those used in Alaska Native communities in the Cook Inlet area. The court remanded the issue to the board with additional instruction to review information about transmission of knowledge about the fishery across generations (but not necessarily within families who still resided in the area) that had been included in interviews and archival data collected and organized by the department. During its meeting in February 1998, the board reviewed this and other information and made a positive C&T finding for Yentna River salmon stocks (other than king salmon). The personal use fish wheel fishery established in 1996 became a subsistence fishery as a result of these board actions. In 2011, a harvest cap of 2,500 salmon, other than king salmon, was removed and an ANS of 400-700 salmon, other than king salmon, was set. A bag and possession limit of 25 salmon for the head of a household and 10 salmon for each dependent of the permit holder was retained.

In 2014, three additional fishing periods were added, extending the fishery through the first week of August (the first Monday, Wednesday, and Friday in August). In 2018, the Mt. Yenlo Advisory Committee submitted an emergency petition to allow harvest of king salmon. After reviewing the customary and traditional criteria the board found that the Upper Yentna River king salmon stock is customarily and traditionally taken for subsistence uses. The emergency amendment for king salmon was made permanent in 2018 to read: 5 king salmon for the head of household and 2 king salmon for each additional member of the household in addition to the other salmon bag limits.

Sockeye salmon of the Yentna River drainage are produced in a number of small- to moderate-sized lakes and within the mainstem Yentna and Skwentna rivers. Drainage-wide abundance in the Yentna River ranged from approximately 110,000–311,000 from 2006–2013 (Table 242-1). Over 40% of fish utilize mainstem areas within the upper Yentna and Skwentna rivers and smaller tributaries for spawning. Other spawning takes place in lake systems, with Judd and Chelatna lakes (>40%) supporting the largest escapements (Table 242-1). The Yentna subsistence fishery occurs downstream of Judd Lake and major mainstem spawning areas, particularly those within the Skwentna River. On average (2006–2013), 25% to 75% of the run passes through Judd Lake weir between July 31 and August 10 (Figure 242-2). The earliest run timing when 25% of escapement

² FB-124-88; see the Alaska Board of Fisheries website.

has passed through the weir is July 29 (in 2009 and 2011), and the latest date that escapement reached 25% is August 3 (2007). Escapement has reached 75% at the earliest on August 8 (2011) and the latest on August 15 (2007; Figure 242-2).

An average of 716 salmon have been harvested since the addition of three periods in 2014 (2015-2019); the previous five-year average harvest (2010-2014) was 602 salmon; the all years' average harvest was 580 salmon (1996–2019; Table 242-2). There are two fish wheels that are shared by participants in this fishery. The most recent harvest information in the Alaska Subsistence Fisheries Database is for the 2019 season. However, it should be noted, due to a low preseason king salmon forecast for the 2019 season, the Yentna River subsistence fishery was restricted by emergency order to Wednesdays and Fridays from June 1 to June 30 for the 2019 season. In 2019 there were 27 permits issued and returned for the Yentna River subsistence fish wheel fishery (Table 242-2). The harvest in 2019 was 641 salmon. The highest reported annual recorded harvest of 1,046 salmon occurred in 2011. Participants in the subsistence fish wheel fishery note that harvest can be affected by high water and flooding conditions.

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

SUBSISTENCE REGULATION REVIEW:

1. Is this stock in a nonsubsistence area? No.
2. Is this stock customarily and traditionally taken or used for subsistence? Yes; the board has found that salmon in the Yentna River drainage outside the Anchorage-Matsu-Kenai Nonsubsistence Area described in 5 AAC 99.015(a)(3) are customary and traditionally taken or used for subsistence (5 AAC 01.566).
3. Can a portion of the stock be harvested consistent with sustained yield? Yes.
4. What amount is reasonably necessary for subsistence uses? The board has established that a range of 400–700 salmon, other than king salmon, are reasonably necessary for subsistence uses in the Yentna River drainage described in 5 AAC 01.593(2) (5 AAC 01.566(b)). To date no ANS determination has been made for king salmon due to a lack of recent harvest data.
5. Do the regulations provide a reasonable opportunity for subsistence uses? This is a board determination.
6. Is it necessary to reduce or eliminate other uses to provide a reasonable opportunity for subsistence uses? This is a board determination.

Table 242-1.—Summary of Yentna River sockeye salmon abundance estimate and escapement estimates at Chelatna, Judd, and Larson lakes, 2006–2019.

Year	Yentna River inriver abundance estimate	Weir counts		
		Chelatna	Judd	Larson
2006	311,197 ^a	18,433 ^d	40,633	57,411
2007	239,849 ^a	41,290 ^d	57,392	47,924
2008	233,677 ^b	74,469	53,681	34,595
2009	139,168 ^b	17,721	44,602	40,930
2010	151,744 ^b	37,734	18,466	20,324
2011	290,801 ^b	70,353	39,909	12,225
2012	109,981 ^b	36,736	18,715	16,557
2013	191,934 ^c	70,555	14,088	21,821
2014	110,211 ^c	26,374	22,229	12,430
2015	267,190 ^c	69,897	47,934	23,185
2016	238,400 ^c	60,792	NC	14,333
2017	142,215 ^c	26,986	35,731	31,866
2018	116,277 ^c	20,434	30,844	23,632
2019	159,746 ^c	26,303	44,145	9,699 ^e

^a Radio tag mark-recapture abundance estimate.

^b Bayesian genetic mark-recapture abundance estimates.

^c Expanded Chelatna & Judd weir counts assuming these weirs are 0.441 of total Yentna escapement (Mean 2007-2012 MR).

^d Escapements were interpolated weir counts based upon the number of radio tags that passed the weir when it was flooded.

^e 3,104 pre-spawn mortality found below weir at confluence with Talkeetna River; likely a result of warm water temperature.

Table 242-2.—Upper Yentna River personal use and subsistence fish wheel salmon harvest, 1996-2019.

		Number of permits		Estimated salmon harvests					
Fishery	Year	Issued	Returned	Chinook	Sockeye	Coho	Chum	Pink	Total
Personal use									
	1996	17	17		242	46	51	115	454
	1997	24	21		549	83	10	30	672
Subsistence									
	1998	21	18		495	113	15	30	653
	1999	18	16		516	48	13	18	595
	2000	19	19		379	92	7	4	482
	2001	16	15		545	50	4	10	608
	2002	25	22		454	133	31	14	632
	2003	19	15		553	67	8	2	630
	2004	21	19		441	146	3	36	625
	2005	18	17		177	42	25	24	268
	2006	22	22		368	175	26	14	583
	2007	22	22		367	66	18	17	468
	2008	16	16		310	57	7	23	397
	2009	17	17		253	14	6	0	273
	2010	32	32		642	50	18	38	748
	2011	25	25		598	90	21	337	1,046
	2012	21	21		279	24	19	21	343
	2013	22	19		160	92	32	128	412
	2014	20	18		328	84	32	17	460
	2015	29	27		578	151	69	47	845
	2016	26	25		514	204	37	36	790
	2017	26	26		454	185	10	47	696
	2018	29	29	16	405	167	8	10	606
	2019	24	22	0	476	107	40	18	641
	1996-2019 Mean	22	21	8	420	95	21	43	580
	2010-2019 Mean	25	24	8	443	115	29	70	659
	2015-2019 Mean	27	26	8	486	163	33	31	716

PROPOSAL 243 - Modify the total allowable harvest of a Tyonek Subdistrict subsistence salmon fishing permit.

5 AAC 01.595. Subsistence bag, possession, and size limits. Allow the harvest of other salmon in place of king salmon in the Tyonek Subdistrict subsistence fishery.

PROPOSED BY: Tyonek Fish and Game Advisory Committee.

WHAT WOULD THE PROPOSAL DO? This would modify the total allowable harvest of a Tyonek Subdistrict subsistence salmon fishing permit to 95 salmon and 10 salmon for each dependent of the permit holder, with no more than 70 of the total allowable salmon harvest being king salmon.

WHAT ARE THE CURRENT REGULATIONS? In the Tyonek Subdistrict, the total annual possession limit for each Tyonek Subdistrict subsistence salmon fishing permit includes 25 salmon for the head of a household and 10 salmon for each dependent of the permit holder. In addition to those limits, the holder of a Tyonek Subdistrict subsistence salmon permit may harvest up to 70 king salmon. The board established that 700–2,700 king salmon and 150–500 salmon, other than king salmon, are reasonably necessary (ANS) for subsistence uses in the Tyonek Subdistrict (5 AAC 01.566(f)).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would allow for substitution of king salmon for sockeye, coho, chum, and pink salmon harvested by each permit holder. The limit of 70 king salmon per household would count toward the current permit limit of 95 salmon (25 salmon plus 70 king salmon = 95 salmon, plus 10 for each additional household member). The substitution of sockeye, coho, chum, and pink salmon would provide participants with salmon if king salmon availability continues to decrease in the Tyonek Subdistrict.

BACKGROUND: The Tyonek Subdistrict fishery is in the Northern District of Upper Cook Inlet and includes those marine waters of the Northern District within mean low tide from a point one mile south of the southern edge of the Chuitna River south to the easternmost tip of Granite Point. Subsistence salmon fishing regulations for the Tyonek Subdistrict were established by court order in 1980 and subsequently permanently established by the board in March 1981. Between 1980 and 1989, excluding 1985 and 1986, only rural residents were eligible to obtain a permit and participate in the Tyonek subsistence fishery. In 1989, the Alaska Supreme Court ruled that all Alaska residents were considered eligible to participate in authorized subsistence fisheries and hunts, subsequently opening the Tyonek subsistence fishery to all Alaskans. A subsistence fishing permit is required for this fishery and one permit is issued per household.

In 1992, the board established multiple ANSs based on the pattern in reported harvests from 1980 through 1992: 750–2,750 king salmon, 100–275 sockeye salmon, 50–100 chum salmon, 50–100 pink salmon, and 100–375 coho salmon. In 2011, the board updated the ANS in regulation specific to the Tyonek Subdistrict to 700–2,700 king salmon and 150–500 other salmon.

In 2019, in response to a recent pattern of extremely poor returns for all king salmon stocks in the Northern Cook Inlet (NCI) area, including the Susitna River, all sport and commercial king salmon fishing in NCI was closed for the season. Additionally, Upper Cook Inlet emergency order No. 2, issued on May 1, 2019, reduced subsistence salmon fishing in the early part of the season in the Tyonek Subdistrict from three days per week to two days per week from May 15 through June 15, 2019, to reduce the harvest of king salmon destined to streams throughout the NCI area.

From 1980–2018, an average of 78 subsistence permits were issued per year (Table 243-1), increasing to an average of 87 per year during the most recent 10 years. King salmon consistently comprise the majority of the harvest, with the recent 10-year average annual average of approximately 1,058 fish. During the past five years, however, sockeye and coho salmon harvests have increased.

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. Approval of this proposal is not expected to result in an additional cost to the department.

SUBSISTENCE REGULATION REVIEW:

1. Is this stock in a nonsubsistence area? No.
2. Is this stock customarily and traditionally taken or used for subsistence? Yes. The board has found that king salmon and salmon, other than king salmon, in the Tyonek Subdistrict are customarily and traditionally taken or used for subsistence (5 AAC 01.566 (a)(1)(D)).
3. Can a portion of the stock be harvested consistent with sustained yield? Yes.
4. What amount is reasonably necessary for subsistence uses? The board has established that 700–2,700 king salmon and 150–500 salmon, other than king salmon, are reasonably necessary for subsistence uses in the Tyonek Subdistrict (5 AAC 01.566 (f)).
5. Do the regulations provide a reasonable opportunity for subsistence uses? This is a board determination.
6. Is it necessary to reduce or eliminate other uses to provide a reasonable opportunity for subsistence uses? This is a board determination.

Table 243-1.—Historical subsistence salmon harvests, Tyonek Subdistrict, 1980-2018.

Year	Permits		Estimated salmon harvests					
	Issued	Returned	King	Sockeye	Coho	Chum	Pink	Total
1980	67	67	1,936	262	0	0	0	2,198
1981	70	70	2,002	269	64	32	15	2,382
1982	69	69	1,590	310	113	4	14	2,031
1983	73	73	2,755	251	78	6	0	3,090
1984	70	70	2,364	310	66	23	3	2,766
1985 ^a	176	ND	1,967	163	91	10	0	2,231
1986 ^a	101	ND	1,674	198	210	44	45	2,171
1987	64	61	1,689	174	156	25	10	2,055
1988	47	42	1,776	102	283	13	9	2,183
1989	49	47	1,303	89	120	1	0	1,513
1990	42	37	886	75	400	14	23	1,397
1991	57	54	925	20	69	0	0	1,014
1992	57	44	1,170	96	294	24	9	1,594
1993	62	54	1,566	68	88	25	23	1,769
1994	58	49	905	101	122	27	0	1,154
1995	70	55	1,632	54	186	18	0	1,891
1996	73	49	1,615	88	177	9	27	1,917
1997	70	42	1,051	200	241	13	0	1,505
1998	74	49	1,430	251	97	3	2	1,783
1999	77	54	1,620	247	175	20	66	2,127
2000	60	47	1,461	78	103	0	8	1,649
2001	84	58	1,450	254	72	9	6	1,790
2002	101	71	1,609	314	162	6	14	2,106
2003	87	74	1,384	136	54	12	9	1,595
2004	97	75	1,751	121	168	0	0	2,040
2005	78	67	1,183	65	159	2	0	1,409
2006	82	55	1,366	32	23	1	0	1,422
2007	84	67	1,526	249	164	3	4	1,946
2008	94	77	1,492	146	227	11	16	1,892
2009	89	69	817	229	320	2	1	1,369
2010	105	77	1,116	281	223	3	3	1,626
2011	114	63	851	202	34	10	10	1,107
2012	89	69	1,102	223	174	3	5	1,507
2013	82	48	1,352	278	311	0	32	1,973
2014	92	73	896	487	575	15	5	1,978
2015	83	72	1,070	505	568	16	6	2,165
2016	74	64	1,030	188	225	8	12	1,462
2017	74	49	1,304	442	306	31	6	2,089
2018	65	42	1,042	146	155	6	13	1,362
5-year avg (2014-2018)	78	60	1,068	354	366	15	8	1,811
10-year avg (2009-2018)	87	63	1,058	298	289	9	9	1,664
Historical avg (1980-2018)	78	60	1,427	198	181	11	10	1,827

Source: ADF&G Division of Subsistence, ASFDB 2018 (ADF&G 2019).

^a Harvests were not expanded due to unknown permit returns.

Upper Cook Inlet Personal Use (18 proposals)

PROPOSAL 234 – Create a personal use salmon fishery on the Susitna River.

5 AAC 77.540. Upper Cook Inlet Personal Use Salmon Fishery Management Plan.

PROPOSED BY: Matanuska Valley Fish and Game Advisory Committee.

WHAT WOULD THE PROPOSAL DO? This would create a personal use salmon dip net fishery on the Susitna River from July 10 through August 15 on Wednesdays, Saturdays, and Sundays from 6:00 a.m. to 11:00 p.m. from department markers located one mile downstream from Susitna Station to Bell Island/Alexander Creek cut-off. Retention of king salmon would be prohibited.

WHAT ARE THE CURRENT REGULATIONS? There is no personal use salmon fishery on the Susitna River drainage.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Creating a new fishery would increase harvest of sockeye, coho, chum, and pink salmon destined for sport fisheries and spawning locations further upstream on the Yentna and Susitna rivers by an unknown amount. In years of low runs, it may increase restrictions to commercial and other inriver fisheries.

BACKGROUND: The Susitna River drainage originates in glaciers of the Alaska and Talkeetna mountain ranges and flows south about 200 miles to Cook Inlet near Anchorage. The drainage has three major glacial branches, including Susitna River mainstem, which headwaters in the Talkeetna Mts., the Chulitna River from the north, and Yentna River, which headwaters in the Alaska Range from the west (Figure 234-1 map drainage). The location of the proposed personal use fishery varies among proposals 234 – 238 (Figure 234-2 general location aerial view), but in general would be downstream from the vicinity of the Yentna River confluence with Susitna mainstem, along mainstem Susitna. Pacific salmon targeted in the proposed fishery are also targeted in commercial fisheries of Cook Inlet and sport fisheries that occur mostly upstream on the Yentna and mainstem Susitna River branches. Numerous clearwater streams support sport fishing opportunities for salmon. The amount of angling effort within each depends on the species and level produced by each and accessibility. The Susitna River drainage supported approximately 174,000 angler-days of sport fishing effort from 1999–2008 (Figure 234-3). A more recent 10-year average indicates a downward trend to 92,000 angler-days. Although effort has declined since 2000, much of the recent year decline is likely attributed to widespread poor king salmon production and restrictions and closures of area king salmon fisheries since about 2007. Coho, sockeye, chum, and pink salmon are harvested from about mid-July through about mid-September (Table 234-1).

King and coho salmon, and to a lesser extent sockeye salmon, are the predominant species targeted by sport anglers. Major sport fisheries for coho salmon (Table 234-2) occur along Eastside Susitna streams (Parks Hwy streams) from Willow Creek north to the Talkeetna area (e.g. Willow, Little Willow, Kashwitna, Caswell, Sheep, Goose, Montana, Sunshine creeks; 9,300 average 10-yr harvest), Talkeetna River (e.g. Clear Creek; 2,400 average 10-yr harvest), Deshka River (2,800 average 10-yr harvest), and Yentna River tributaries and sloughs (e.g. Lake Creek, Talachulitna River and Moose, Indian, Fish Lakes, Donkey, Eightmile creeks; 9,400 average 10-yr harvest). Coho salmon escapement is not monitored on the Talkeetna River or Yentna River tributaries. Postseason foot surveys are conducted on several small streams among the Eastside Susitna streams (Rabideux, Question, Answer, Birch creeks); however, no escapement goals are associated with these streams and the utility of these counts, considered an index of spawning escapement, is low due to morphologic changes and poor sightability of fish from year to year. For management, the department relies on the Statewide Harvest Survey estimates to monitor changes in sport fishery effort and harvest over time. These sport fisheries are managed under conservative regulations to ensure long-term sustainable harvest. The department has operated a weir on the Deshka River since 1995 and a Sustainable Escapement Goal (SEG) of 10,200–24,100 was initiated in 2017 to direct the management of coho salmon. Deshka River coho salmon run timing is high variable, presenting challenges to inseason management of the sport fishery. The historical quarter point occurs August 4, but often a reliable assessment of run strength isn't possible until after the quarter point, and more often mid-August. (Table 234-3). Even still, Deshka weir counts can indicate very poor or very large runs to the Susitna River drainage and used as a tool to manage the greater drainage on those years. Abundance of coho salmon, as well as sockeye and chum salmon, has been estimated using mark-recapture methodology and a combination of fish wheels and weirs on mainstem Susitna and Yentna River since 2006 (Table 234-4). Salmon are marked at fish wheels located on mainstem Susitna River a short distance upstream of the confluence of the Yentna River in the vicinity of the proposed personal use fishery. Coho salmon abundance ranged from 158,700–262,800 fish during 2010–2015. Coho salmon run timing at the capture wheels is offset from the Deshka weir by about 10 days, based upon the historical mid-point of the run (Figure 234-4). Improvements in genetic identification of Susitna River coho salmon stocks has allowed estimates of marine and sport harvest rates during 2013–2015 (Table 234-5). Harvest rates are also available for the Deshka River coho salmon stock for these years (Table 234-6). Total harvest rate averaged 35% from 2013–2015. Sport harvest rate in 2013, an average run year, was 7% and commercial harvest rate, 32%. On below average run years 2014–2015, sport harvest rate rose to about 35% while commercial harvest rate was about 21%.

Approximately 7,000 sockeye salmon are harvested on the Susitna River drainage annually (Table 234-1). On Eastside Susitna River, the major sport fishery occurs on the Talkeetna River, about two thirds of the harvest attributed to the fishery at the mouth of Larson Creek (3,000 average 10-yr harvest), which drains Larson Lake. Major sport fisheries also occur at Lake Creek (1,700 average 10-yr harvest), which drains Chelatna Lake, and the Talachulitna River (450 average 10-yr harvest), which drains Judd Lake (Table 234-7). Weirs have been used to monitor sockeye salmon escapements on select sockeye salmon producing lakes, most notably Larson, Chelatna, and Judd lakes (Figure 234-5). Weirs at Chelatna and Judd lakes are too far removed from commercial and sport fisheries in lower Lake Creek and Talachulitna River for timely inseason management. In the past 10 years, the SEG for Chelatna Lake sockeye salmon has been met or exceeded all 10 years, and the SEG for Judd Lake sockeye salmon was met or exceeded 6 years, below 3 years and not counted 1 year. The weir at the outlet of Larson Creek is a short distance

upstream of the sport fishery, allowing for the daily assessment of run size for management of the sport fishery. In the past 10 years, the SEG for Larson Lake sockeye salmon has been achieved six times and missed four times. The sport fishery was closed midseason 2014–2016 and in 2019. The sport fishery was liberalized by increasing the daily bag limit midseason in 2018. The weir at Larson Creek is typically installed between the first and second week in July with sockeye salmon beginning to show around mid-July. About 10% of the historical run passes the weir by July 23 compared to July 10 at the mainstem capture wheels, indicating a travel time of about two weeks from the wheels to the weir. Assessment of run strength at the weir becomes increasingly accurate nearing the end of July, the historical mid-point of the run. Drainagewide abundance estimates are also available for sockeye salmon 2006–2008 (Table 234-4).

The department does not have the ability to manage a Susitna River personal use fishery inseason salmon assessment projects are too far removed to provide timely information. Quarter points for sockeye salmon at Larson and Chelatna weirs is about July 26 and the midpoint is around July 30. Typically, we have not made a decision on restricting the Larson Creek sport fishery until the first week in August. Deshka River coho average run timing is August 4 for the 25th percentile and August 12 for the 50th percentile but these dates are highly variable, presenting difficulty managing even the sport fishery. By the time sockeye and coho run strength could be assessed, the dipnet fishery would be over.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. Susitna River drainage sockeye stocks were identified as a stock of yield concern in 2008, however the department is recommending that this designation be rescinded. While yields have improved to the point where the department is recommending delisting them as a stock of yield concern, production remains lower than historical levels. Personal use dip net fisheries have potential high harvest rates. The high harvest potential combined with reduced stock productivity and lack of inseason assessment increase the likelihood of overharvest. Existing regulations provide for sustainable fisheries and the department recommends existing regulations that are designed to move Susitna River sockeye salmon through the central and northern districts remain in place. In addition, weirs operated within the drainage for coho and sockeye salmon are too far upstream for timely inseason management of the proposed 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. Approval of this proposal is not expected to result in an additional direct cost for the department.

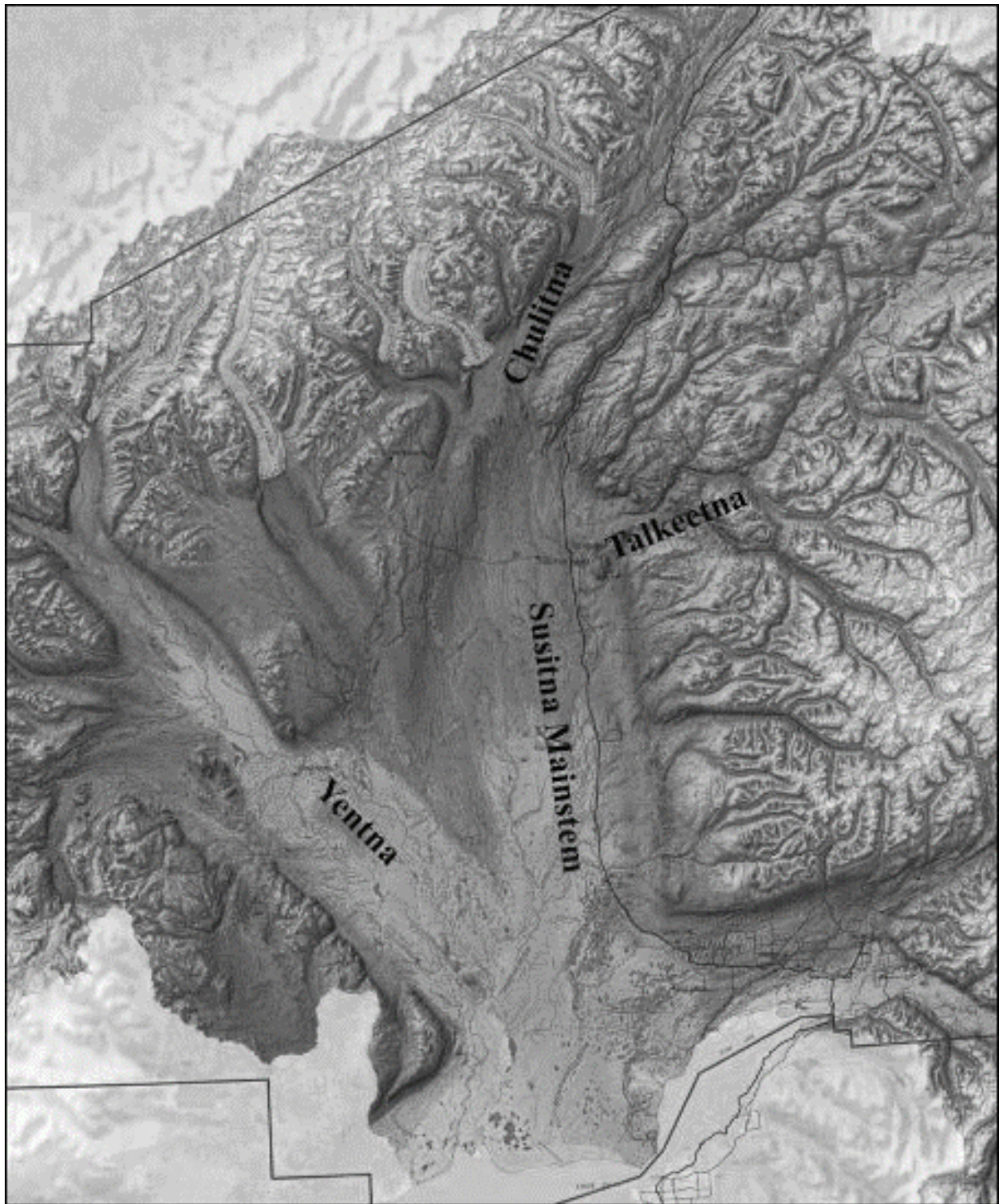


Figure 234-1.—Map of the Susitna River drainage and major glacial tributaries.



Figure 234-2.—Map of general area for proposed personal use salmon fishery

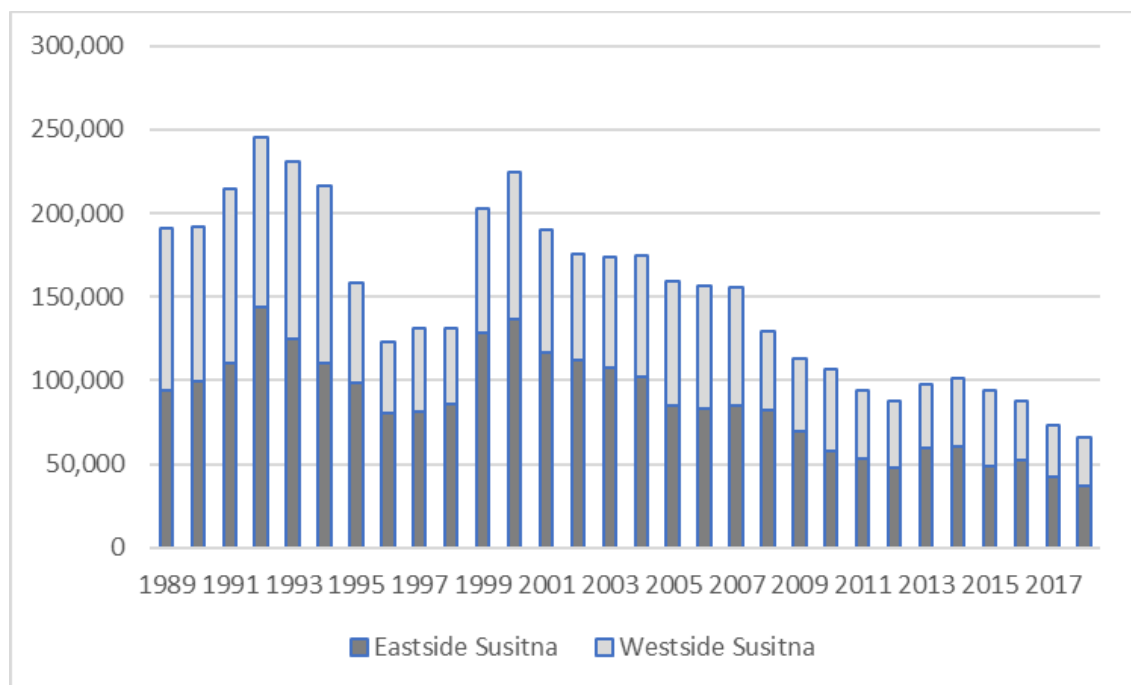


Figure 234-3.—Number of angler-days of sport fishing effort expended by sport fish anglers fishing the Susitna River drainage, 1989–2018.

Table 234-1.—Pacific salmon by species harvested in sport fisheries of the Susitna River drainage

Year	Eastside Susitna				Westside Susitna ^a				Total Susitna drainage			
	Coho Salmon	Sockeye Salmon	Pink Salmon	Chum Salmon	Coho Salmon	Sockeye Salmon	Pink Salmon	Chum Salmon	Coho Salmon	Sockeye Salmon	Pink Salmon	Chum Salmon
1999	23,292	4,608	2,887	2,941	17,995	5,279	577	421	41,287	9,887	3,464	3,362
2000	37,748	6,509	11,483	3,279	23,262	4,946	2,159	594	61,010	11,455	13,642	3,873
2001	26,617	6,776	3,650	3,180	19,221	6,311	1,074	439	45,838	13,087	4,724	3,619
2002	27,183	3,427	3,760	3,389	14,144	1,881	700	377	41,327	5,308	4,460	3,766
2003	18,585	2,734	1,775	2,725	16,072	8,660	449	476	34,657	11,394	2,224	3,201
2004	20,484	3,107	3,321	2,547	17,785	3,358	2,292	520	38,269	6,465	5,613	3,067
2005	17,471	1,677	2,625	2,506	18,266	2,219	519	111	35,737	3,896	3,144	2,617
2006	22,719	1,412	3,918	1,321	20,474	626	338	113	43,193	2,038	4,256	1,434
2007	13,464	1,470	2,165	1,204	14,065	3,177	451	136	27,529	4,647	2,616	1,340
2008	24,211	2,975	1,985	1,229	15,126	1,428	201	231	39,337	4,403	2,186	1,460
2009	15,335	7,130	4,657	1,531	14,464	2,358	734	193	29,799	9,488	5,391	1,724
2010	14,291	3,914	1,455	1,399	16,245	1,505	585	223	30,536	5,419	2,040	1,622
2011	9,040	2,459	1,572	2,167	12,483	3,413	124	54	21,523	5,872	1,696	2,221
2012	7,629	4,277	1,367	2,214	9,434	1,118	314	156	17,063	5,395	1,681	2,370
2013	12,989	4,170	2,986	1,519	13,042	5,190	225	158	26,031	9,360	3,211	1,677
2014	12,462	3,325	1,188	1,590	12,972	2,759	650	1,017	25,434	6,084	1,838	2,607
2015	15,043	1,984	2,533	1,821	14,191	3,427	252	378	29,234	5,411	2,785	2,199
2016	5,939	6,042	2,132	552	4,022	4,409	222	116	9,961	10,451	2,354	668
2017	12,838	2,297	2,144	1,730	10,759	2,795	548	280	23,597	5,092	2,692	2,010
2018	9,728	3,307	2,253	847	15,093	3,483	339	428	24,821	6,790	2,592	1,275
1999-2008 mean	23,177	3,470	3,757	2,432	17,641	3,789	876	342	40,818	7,258	4,633	2,774
2009-2018 mean	11,529	3,891	2,229	1,537	12,271	3,046	399	300	23,800	6,936	2,628	1,837

^a Yentna drainage, including Deshka River

Table 234-2.—Sport harvest of coho salmon in major fisheries of the Susitna River drainage, 1999–2019.

Year	Unit 2 Susitna River (Parks Highway streams)										Talkeetna River ^a	Deshka River	Yentna River					Total Susitna
	Willow Creek	Lt. Willow Creek	Kashwitna River	Caswell Creek	Sheep Creek	Goose Creek	Montana Creek	Sunshine Creek	Other	Total			Lake Creek	Fish Lakes Creek	Talachulitna River	Other ^b	Total	
1999	5,019	871	260	1,198	3,045	440	3,382	1,709	1,554	17,478	5,814	4,034	6,931	2,261	1,453	3,316	13,961	41,287
2000	8,679	2,885	994	1,702	3,348	1,181	5,454	3,274	2,528	30,045	7,703	8,687	6,297	1,320	1,347	5,611	14,575	61,010
2001	6,835	1,936	728	1,408	2,588	683	5,023	1,072	1,149	21,422	5,195	6,556	5,610	1,958	1,142	3,955	12,665	45,838
2002	6,040	1,513	494	797	2,995	204	4,644	3,238	1,618	21,543	5,640	3,616	4,613	1,034	1,447	3,434	10,528	41,327
2003	2,918	635	1,090	938	1,908	220	3,361	2,508	1,023	14,601	3,984	4,946	5,263	959	1,543	3,361	11,126	34,657
2004	2,981	1,290	251	189	2,636	248	4,866	2,070	1,499	16,030	4,454	4,440	6,106	1,880	959	4,400	13,345	38,269
2005	4,255	1,103	369	340	2,337	267	2,592	2,493	356	14,112	3,359	3,616	8,684	2,292	583	3,091	14,650	35,737
2006	5,031	1,511	1,202	780	3,602	906	2,622	3,460	381	19,495	3,224	6,042	6,330	1,433	1,127	5,542	14,432	43,193
2007	3,625	853	253	185	2,707	75	2,017	1,318	265	11,298	2,166	2,550	3,685	842	1,804	5,184	11,515	27,529
2008	3,760	1,340	2,880	649	2,125	594	5,628	2,928	179	20,083	4,128	3,426	4,147	567	1,511	5,475	11,700	39,337
2009	3,232	1,027	525	607	1,594	635	3,087	816	2,033	13,556	3,114	4,060	4,417	417	675	4,895	10,404	31,134
2010	1,986	1,506	660	670	1,641	132	2,498	1,123	1,346	11,562	2,729	5,690	4,572	322	681	4,771	10,346	30,327
2011	2,055	189	755	129	762	64	780	1,046	1,365	7,145	1,895	2,282	3,340	139	533	6,189	10,201	21,523
2012	918	295	285	160	395	608	1,085	957	644	5,347	2,282	1,358	2,775	696	444	4,161	8,076	17,063
2013	1,760	210	541	284	1,699	52	2,428	685	2,390	10,049	2,940	2,658	4,961	81	1,040	4,302	10,384	26,031
2014	1,408	807	564	99	995	1,593	1,602	1,775	1,591	10,434	2,028	2,598	4,659	322	621	4,772	10,374	25,434
2015	3,127	437	376	203	2,215	519	1,530	873	2,386	11,666	3,377	2,221	4,390	473	1,859	5,248	11,970	29,234
2016	660	398	217	329	1,037	164	328	532	1,385	5,050	889	1,528	1,126	0	217	1,151	2,494	9,961
2017	2,787	582	99	241	1,217	23	1,767	1,585	1,239	9,540	3,298	2,825	3,277	174	1,005	3,478	7,934	23,597
2018	1,375	1,201	554	102	552	12	991	1,821	1,755	8,363	1,365	3,169	5,922	0	1,330	4,672	11,924	24,821
1999-2008 mean	4,914	1,394	852	819	2,729	482	3,959	2,407	1,055	18,611	4,567	4,791	5,767	1,455	1,292	4,337	12,850	40,818
2009-2018 mean	1,931	665	458	282	1,211	380	1,610	1,121	1,613	9,271	2,392	2,839	3,944	262	841	4,364	9,411	23,913

^a including Clear Creek and Talkeetna mainstem^b including Peters Creek and Yentna sloughs, such as Indian, Moose, Donkey, Eightmile)

Table 234-3.—Deshka River coho salmon harvest, escapement, inriver exploitation, and run timing during years a weir has been operated at RM 7, 1997–2019.

Year	Harvest	Escapement	Sport harvest	
			rate	Run timing
1997	1,169	8,063	13%	7 days late
1998	3,630	6,773 ^a		
1999	4,034	4,563 ^a		
2000	8,687	26,387	25%	5 days early
2001	6,556	29,927	18%	5 days early
2002	3,616	24,612 ^a		
2003	4,946	17,305	22%	7 days early
2004	4,440	62,940	7%	14 days late
2005	3,616	47,887	7%	10 days late
2006	6,042	59,419 ^a		
2007	2,550	10,575	19%	4 days early
2008	3,426	12,724	21%	12 days early
2009	4,060	27,348	13%	4 days late
2010	5,690	10,393	35%	11 days early
2011	2,282	7,508 ^a		
2012	1,358	6,825	17%	7 days early
2013	2,658	22,341	11%	1 day late
2014	2,598	11,578	18%	4 days late
2015	2,221	10,775	17%	1 day early
2016	1,528	6,820 ^a		
2017	2,825	36,869	7%	6 days late
2018	3,169	12,962	20%	3 days early
2019		10,445		17 days late
Average	4,131	21,491 ^b	17%	

^a Incomplete count due to weir submersion during high water events.

^b Includes complete count years only.

SEG= 10,200-24,100

Table 234-4.—Salmon abundance in the Mainstem Susitna and Yentna rivers by return year.

Species	Return		Abundance Estimate					Source
	Year	Mainstem Susitna R.	95% CI	Yentna River	95% CI	Total	95% CI	
Sockeye Salmon	2006	107,000	(49,180 - 164,820)	311,197	(252,000 - 391,000)	418,197	(335,448 - 500,946)	FDS 07-83
	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 Salmon	2010	73,640	(42,590 - 139,753)	122,777	(89,067 - 178,817)	196,417	(153,498 - 281,020)	FDS 13-05
	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
Chum Salmon	2010	151,127	(103,911 - 251,314)	205,869	(150,499 - 268,455)	356,996	(284,573 - 476,270)	FDS 13-05
	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

Cleary, P.M., R. A. Merizon, R. J. Yanusz, and D. J. Reed. 2013. Abundance and Spawning Distribution of Susitna River chum *Oncorhynchus keta* and coho *O. kisutch* salmon, 2010. Alaska Department of Fish and Game, Fishery Data Series No. 13-05, Anchorage.

Cleary, P. M., R. J. Yanusz, J. W. Erickson, D. J. Reed R. A. Neustel, and N. J. Szarzi. 2016. Abundance and spawning distribution of Susitna River chum *Oncorhynchus keta* and coho *O. kisutch* salmon, 2011. Alaska Department of Fish and Game, Fishery Data Series No. 16-35, Anchorage.

Cleary, P. M., R. J. Yanusz, J. W. Erickson, D. J. Reed R. A. Neustel, J. P. Bullock and N. J. Szarzi. 2016. Abundance and spawning distribution of Susitna River chum *Oncorhynchus keta* and coho *O. kisutch* salmon, 2012. Alaska Department of Fish and Game, Fishery Data Series No. 16-52, Anchorage.

Cleary, P. M., R. J. Yanusz, J. W. Erickson, D. J. Reed R. A. Neustel, J. P. Bullock and N. J. Szarzi. 2016. Distribution of Spawning Susitna River Chinook *Oncorhynchus tshawytschyha* and Pink Salmon *O. gorbuscha*, 2012. Alaska Energy Authority. Susitna-Watana Hydroelectric Project. Anchorage.

AEA 2014- LGL Research Associates, Inc., and Alaska Department of Fish and Game, Division of Sport Fish. 2014. Initial Study Report Part A: Sections 1-6, 8-10. Susitna-Watana Hydroelectric Project, Anchorage.

AEA 2015- LGL Research Associates, Inc., and Alaska Department of Fish and Game, Division of Sport Fish. 2015. Salmon Escapement Study, Study Plan Section 9.7. Study Completion Report. Susitna-Watana Hydroelectric Project, Anchorage.

Table 234-5.—Abundance and harvest rates of Susitna River drainage coho salmon, 2013–2015.

	Marine harvest ^a	Mainstem abundance	Mainstem inriver	Sport harvest ^b	Marine harvest rate	Sport harvest rate	Total harvest rate
Mainstem Susitna							
2013	54,462	130,026	184,488	15,647	30%	8%	38%
2014	24,604	84,879	109,483	15,120	22%	14%	36%
2015	30,259	152,500	182,759	17,900	17%	10%	26%
Yentna River							
2013			NA				
2014	19,629	73,819	93,448	9,899	21%	11%	32%
2015	38,224	110,321	148,545	10,928	26%	7%	33%

Table 234-6.—Marine and sport harvest and rates of harvest of Deshka River coho salmon, 2013–2015.

	Escapement	Marine harvest ^a	Sport harvest ^b	Total run	Marine harvest rate	Sport harvest rate	Total harvest rate
2013	22,341	11,543	2,658	36,542	32%	7%	39%
2014	11,578	3,163	2,598	17,339	18%	15%	33%
2015	10,775	4,049	2,221	17,045	24%	13%	37%

Source: Barclay, A. W. and C. Habicht. 2018. Barclay, A. W., and C. Habicht. 2019. Genetic baseline for Cook Inlet coho salmon and evaluations for mixed stock analysis. Alaska Department of Fish and Game, Fishery Manuscript Series No. 19-19, Anchorage.

^a Marine harvest estimated by updated mixed stock analysis using current genetic baseline. Harvest numbers for the Mainstem Susitna River differ from those presented at the 2017 Upper Cook Inlet BOF meeting (Barclay, A. W., C. Habicht, W. Gist, and T. M. Willette. 2017. Genetic stock identification of Upper Cook Inlet coho salmon harvest, 2013-2015. Alaska Department of Fish and Game, Regional Information Report 5J17-03, Anchorage.) Updated estimates are from the tab "Upper CI commercial" in this workbook and are in the publication process.

^b From statewide harvest survey

Table 234-7.—Sport harvest of sockeye salmon in major fisheries of the Susitna River drainage, 1999–2019.

Year	Eastside Susitna			Westside Susitna				Total Susitna
	Talkeetna		Total	Lake Creek	Talachulitna		Total	
	River ^a	Other ^b		River	Other ^c			
1999	3,197	1,411	4,608	2,604	337	2,338	5,279	9,887
2000	4,683	1,826	6,509	1,767	162	3,017	4,946	11,455
2001	4,797	1,979	6,776	3,149	159	3,003	6,311	13,087
2002	2,615	812	3,427	526	278	1,077	1,881	5,308
2003	1,574	1,160	2,734	6,900	233	1,527	8,660	11,394
2004	2,399	708	3,107	1,977	339	1,042	3,358	6,465
2005	1,280	397	1,677	1,622	34	563	2,219	3,896
2006	110	1,302	1,412	214	195	217	626	2,038
2007	952	518	1,470	1,341	816	1,020	3,177	4,647
2008	1,517	1,458	2,975	737	246	445	1,428	4,403
2009	6,137	1,187	7,324	1,256	11	1,091	2,358	9,682
2010	3,382	562	3,944	407	424	674	1,505	5,449
2011	1,458	1,001	2,459	1,351	737	1,325	3,413	5,872
2012	3,817	460	4,277	669	111	338	1,118	5,395
2013	3,527	643	4,170	3,739	994	457	5,190	9,360
2014	2,504	821	3,325	1,378	349	1,032	2,759	6,084
2015	1,730	254	1,984	2,461	665	301	3,427	5,411
2016	2,817	3,225	6,042	3,220	86	1,103	4,409	10,451
2017	1,683	614	2,297	944	1157	694	2,795	5,092
2018	2,372	935	3,307	1,433	0	2,050	3,483	6,790
1999-2008 mean	2,312	1,157	3,470	2,084	280	1,425	3,789	7,258
2009-2018 mean	2,943	970	3,913	1,686	453	907	3,046	6,959

^a major harvest at the mouth of Larson Creek; minor harvest in lower Fish and Clear creeks.

^b minor harvest in Willow, Little Willow, Kashwitna, Caswell, Sheep Goose Montana, Birch, and Sunshine creeks.

^c minor harvest Fish Lakes Creek and small tributaries of Yentna River.

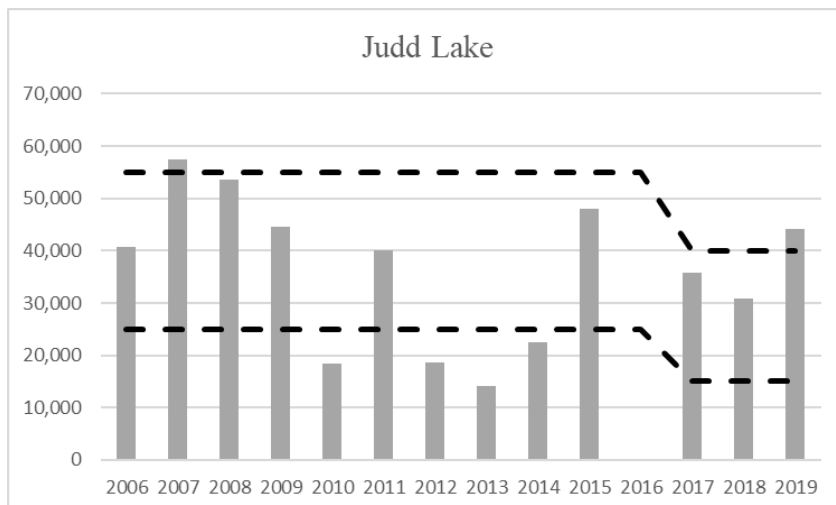
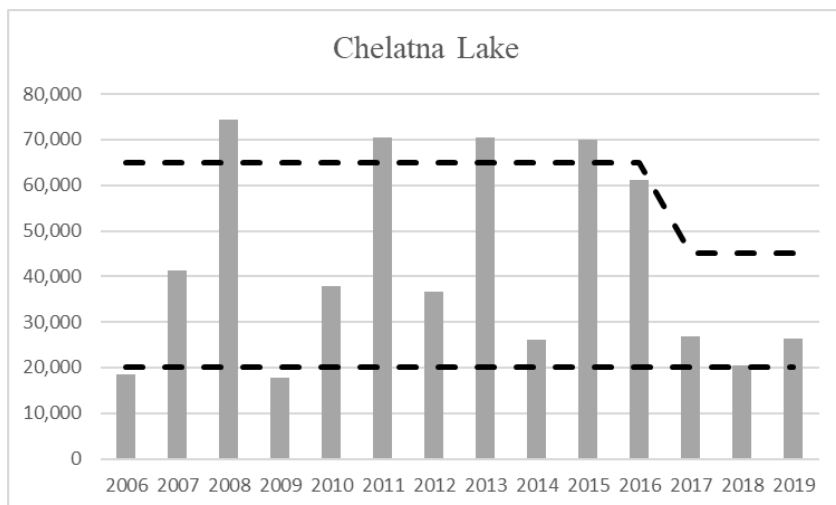
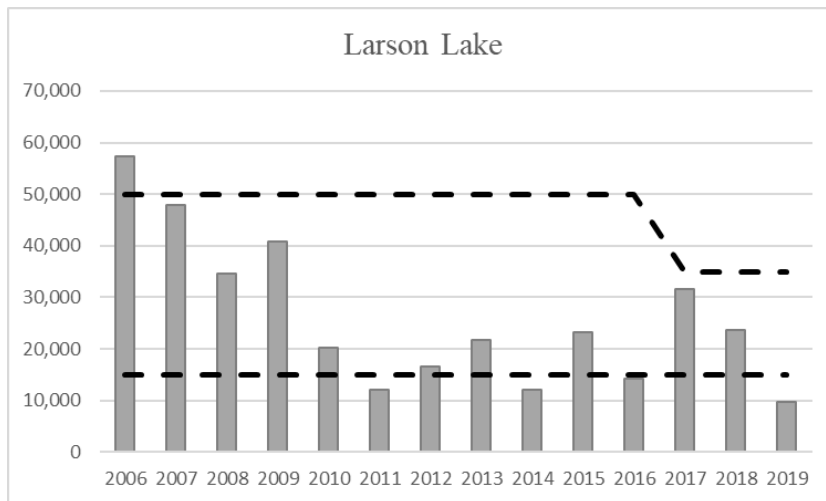


Figure 234-5.—Sockeye salmon escapement weir counts on Larson Lake (Larson Creek), Chelatna Lake (Lake Creek), and Judd Lake (Talachulitna River) 2009–2019.

PROPOSAL 238 – Create a personal use salmon fishery on the Susitna River.

5 AAC 77.540. Upper Cook Inlet Personal Use Salmon Fishery Management Plan.

PROPOSED BY: South Central Alaska Dipnetters Association.

WHAT WOULD THE PROPOSAL DO? This would create a personal use salmon dip net fishery on the Susitna River on four consecutive three-day weekends beginning the second weekend of July from 6:00 a.m. to 11:00 p.m. from department markers located ½ mile upstream of the confluence of Yentna and Susitna rivers downstream to markers located at the northern most portion of Bell Island. Retention of king salmon would be prohibited. Northern pike may be retained and may not be returned to the water alive.

WHAT ARE THE CURRENT REGULATIONS? There is no personal use salmon fishery on the Susitna River drainage.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase in sockeye, coho, chum, and pink salmon destined for sport fisheries and spawning locations further upstream on the Yentna and Susitna rivers. In years of low runs it may increase restrictions to inriver sport fisheries and increase the likelihood of not achieving sockeye salmon escapement goals to Chelatna, Judd, and Larson lakes, and coho salmon escapement goal on Deshka River.

BACKGROUND: See background on proposal 234.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal. Susitna River drainage sockeye stocks were identified as a stock of yield concern in 2008. While yields have improved to the point where the department is recommending delisting them as a stock of yield concern, production remains lower than historical levels. Personal use dip net fisheries have potential high harvest rates. The high harvest potential combined with reduced stock productivity and lack of inseason assessment increase the likely hood of overharvest. Existing regulations provide for sustainable fisheries and the department recommends existing regulations that are designed to move Susitna River sockeye salmon through the central and northern districts remain in place. In addition, weirs operated within the drainage for coho and sockeye salmon are too far upstream for timely inseason management of the proposed 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. Approval of this proposal is not expected to result in an additional direct cost for the department.

PROPOSAL 235 – Create a personal use salmon fishery on the Susitna River.

5 AAC 77.540. Upper Cook Inlet Personal Use Salmon Fishery Management Plan.

PROPOSED BY: Kristine Ogonowski.

WHAT WOULD THE PROPOSAL DO? This would create a personal use salmon dip net fishery on the Susitna River from July 10 through August 31 seven days per week from 6:00 a.m. to 11:00 p.m. from department markers located at the confluence of Yentna and Susitna rivers downstream to powerline crossing the Susitna River. Retention of king salmon greater than 28 inches in length would be prohibited.

WHAT ARE THE CURRENT REGULATIONS? There is no personal use salmon fishery on the Susitna drainage.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase harvest of sockeye, coho, chum, pink, and small king salmon destined for sport fisheries and spawning locations further upstream on the Yentna and Susitna rivers by an unknown amount. In years of low runs it may increase restrictions to inriver sport fisheries and increase the likelihood of not achieving sockeye salmon escapement goals to Chelatna, Judd, and Larson lakes, and coho salmon escapement goal on Deshka River.

BACKGROUND: See background on proposal 234.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal. Susitna River drainage sockeye stocks were identified as a stock of yield concern in 2008. While yields have improved to the point where the department is recommending delisting them as a stock of yield concern, production remains lower than historical levels. Personal use dip net fisheries have potential high harvest rates. The high harvest potential combined with reduced stock productivity and lack of inseason assessment increase the likely hood of overharvest. Existing regulations provide for sustainable fisheries and the department recommends existing regulations that are designed to move Susitna River sockeye salmon through the central and northern districts remain in place. In addition, weirs operated within the drainage for coho and sockeye salmon are too far upstream for timely inseason management of the proposed 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. Approval of this proposal is not expected to result in an additional direct cost for the department.

PROPOSAL 237 – Create a personal use salmon fishery on the Susitna River.

5 AAC 77.540. Upper Cook Inlet Personal Use Salmon Fishery Management Plan.

PROPOSED BY: Richard Sanderlin.

WHAT WOULD THE PROPOSAL DO? This would create a personal use salmon dip net fishery on the Susitna River from July 14 until the emergency order closure date of the Northern District set net fishery, seven days per week, 10:00 a.m. to 5:00 p.m. from department markers located on the northwest bank of the confluence of Yentna and Susitna rivers downstream to the Susitna River terminus at Cook Inlet.

WHAT ARE THE CURRENT REGULATIONS? There is no personal use salmon fishery on the Susitna River drainage.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED This would increase harvest of king, sockeye, coho, chum, and pink salmon destined for sport fisheries and spawning locations further upstream on the Yentna and Susitna rivers by an unknown amount. In years of low runs it may increase restrictions to inriver sport fisheries and increase the likelihood of not achieving sockeye salmon escapement goals to Chelatna, Judd, and Larson lakes, and coho salmon escapement goal on Deshka River.

BACKGROUND: See background on proposal 234.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal. Susitna River drainage sockeye stocks were identified as a stock of yield concern in 2008. While yields have improved to the point where the department is recommending delisting them as a stock of yield concern, production remains lower than historical levels. Personal use dip net fisheries have potential high harvest rates. The high harvest potential combined with reduced stock productivity and lack of inseason assessment increase the likely hood of overharvest. Existing regulations provide for sustainable fisheries and the department recommends existing regulations that are designed to move Susitna River sockeye salmon through the central and northern districts remain in place. In addition, weirs operated within the drainage for coho and sockeye salmon are too far upstream for timely inseason management of the proposed 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. Approval of this proposal is not expected to result in an additional direct cost for the department.

PROPOSAL 236 – Create a personal use salmon fishery on the Susitna River.

5 AAC 77.540. Upper Cook Inlet Personal Use Salmon Fishery Management Plan.

PROPOSED BY: Frede Stier.

WHAT WOULD THE PROPOSAL DO? This would create a personal use salmon dip net fishery on the Susitna River from July 10 through August 10 on Tuesdays, Thursdays, Saturdays, and Sundays from 8:00 a.m. to 8:00 p.m. from department markers located on the northwest bank of the confluence of Yentna and Susitna rivers downstream to markers located upstream of Alexander Creek Cut Off Channels/Bell Island on the West Bank and an ADF&G regulatory marker located downstream of the Susitna Station side-channel on the East Bank. Retention of king salmon greater than 28 inches in length would be prohibited. Northern pike may be retained but may not be returned to the water alive.

WHAT ARE THE CURRENT REGULATIONS? There is no personal use salmon fishery on the Susitna River drainage.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase harvest of northern pike, sockeye, coho, chum, pink, and small king salmon destined for sport fisheries and spawning locations further upstream on the Yentna and Susitna rivers by an unknown amount. In years of low runs, it may increase restrictions to inriver sport fisheries and increase the likelihood of not achieving sockeye salmon escapement goals to Chelatna, Judd, and Larson lakes, and coho salmon escapement goal on Deshka River.

BACKGROUND: See background on proposal 234.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal. Susitna River drainage sockeye stocks were identified as a stock of yield concern in 2008. While yields have improved to the point where the department is recommending delisting them as a stock of yield concern, production remains lower than historical levels. Personal use dip net fisheries have potential high harvest rates. The high harvest potential combined with reduced stock productivity and lack of inseason assessment increase the likely hood of overharvest. Existing regulations provide for sustainable fisheries and the department recommends existing regulations that are designed to move Susitna River sockeye salmon through the central and northern districts remain in place. In addition, weirs operated within the drainage for coho and sockeye salmon are too far upstream for timely inseason management of the proposed 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. Approval of this proposal is not expected to result in an additional direct cost for the department.

PROPOSALS 173 –Establish an annual harvest quota of 150,000 sockeye salmon.

5 AAC 77.540. Upper Cook Inlet Personal Use Salmon Fishery Management Plan. 5 AAC 21.360. Kenai River Late-Run Sockeye Salmon Management Plan.

PROPOSED BY: Chris Every.

WHAT WOULD THE PROPOSAL DO? This would establish an annual harvest quota of 150,000 sockeye salmon and reduce the annual household limit for the Kenai River PU dip net fishery until the sockeye salmon run is projected to exceed 4.6 million fish.

WHAT ARE THE CURRENT REGULATIONS? The Upper Cook Inlet (UCI) personal use salmon permit covers four fisheries: gillnetting on the Kasilof River, and dipnetting on the Kenai River, Kasilof River, and Fish Creek. In the personal use taking of salmon the total annual limit for each personal use salmon fishing permit is 25 salmon for the head of a household and 10 salmon for each dependent of the permit holder. Subject to the requirement of achieving the lower end of the sustainable escapement goal (SEG) of 700,000 to 1,200,000 late-run sockeye salmon, the department shall provide for a personal use dip net fishery in the lower Kenai River. In the Kenai River, salmon may be taken by dip net from July 10 through July 31, seven days per week, from 6:00 a.m. to 11:00 p.m. The commissioner may extend, by EO, the personal use fishery to 24 hours per day if the department determines that the abundance of the Kenai River late-run sockeye salmon is greater than 2.3 million.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would reduce the total salmon harvest allowed for each permit holder participating in the Kenai River PU fishery based on Kenai River run strength. If total harvest was reduced by a large amount it may result in an increase in the harvest of sockeye salmon in other fisheries, primarily the commercial fishery, depending on abundance and run-timing. It may increase crowding and shift harvest earlier in the season if participants anticipate a closure to occur.

A household bag limit of 15 salmon per head of household and five salmon for each dependent of the permit holder in Kenai River PU fishery could result in an approximate 20% reduction in the harvest of sockeye salmon dependent upon run size and timing (tables 173-3, 173-4, and 173-5). A harvest cap of 150,000 would reduce harvest by approximately 45%, based upon the 20-year average harvest of 273,206 sockeye salmon (Table 173-1).

It would increase regulatory complexity by having a household limit differing from the other UCI PU fisheries. It would also increase regulatory complexity by introducing changing harvest limits based upon assessment of the run. It is unclear if these household limits would be instituted based on the preseason forecast of late-run Kenai River sockeye salmon or based on the inseason run assessment of sockeye salmon run strength, which is typically announced around July 20 or later. It would also require a new harvest monitoring system to be developed and funded.

BACKGROUND: Since 1998, the estimated number of sockeye salmon passing the Kenai River sonar annually has ranged from 900,700 to nearly 2.1 million fish, while the estimated harvest of sockeye salmon in the PU dip net fishery has ranged from 98,262 to 537,765 fish (Table 173-1). Factors effecting harvest include effort, abundance, tides, weather, and management restrictions for king and sockeye salmon.

During 1998–2018, the average harvest per UCI personal use permit has ranged from about 13 to 21 salmon (Table 173-2). Most households do not reach the allowable limit; about 40% of permit holders, on average, attain the allowable bag limit.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. Successfully managing for a quota or guideline harvest level in the PU and sport fisheries would be difficult to accomplish without a 24-hour reporting requirement or inseason harvest monitoring project. A new reporting program of this magnitude would create a widespread burden on the public, a substantial budgetary impact to the department, and would, in some cases, duplicate current data collection programs. The department would need to restructure existing budgets to implement such programs.

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. Approval of this proposal would result in an additional substantial direct cost for the department to assess and manage harvest inseason.

Table 173-1.—Kenai River drainage sockeye salmon escapement and personal use harvest, 1998–2018.

Year	Kenai River sonar count ^a	Personal use dip net fishery	Spawning escapement
1998	1,084,996	103,847	929,090
1999	1,137,001	149,504	949,276
2000	900,700	98,262	696,899
2001	906,333	150,766	738,229
2002	1,339,682	180,028	1,126,616
2003	1,656,026	223,580	1,402,292
2004	1,945,383	262,831	1,690,547
2005	1,908,821	295,496	1,654,003
2006	2,064,728	127,630	1,892,090
2007	1,229,945	291,270	964,243
2008	917,139	234,109	708,805
2009	1,090,055	339,993	848,117
2010	1,294,884	389,552	1,038,302
2011	1,599,217	537,765	1,280,733
2012	1,581,555	526,992	1,212,835
2013	1,359,893	347,222	980,208
2014	1,520,340	379,823	1,218,342
2015	1,709,051	377,532	1,400,047
2016	1,383,692	259,057	1,120,711
2017	1,308,498	297,049	1,073,290
2018	1,035,761	165,028	888,268
2019	1,848,157	NA	NA
Average			
1998-2018	1,379,700	273,206	1,133,950
2009–2018	1,388,295	362,001	1,106,085

Note: ND means no data, NA means data not available at time of publication

^a Bendix sonar counts were converted to DIDSON estimates (equivalents) for 1998–2006. Estimates after these dates are actual DIDSON generated estimates.

Table 173-2.—UCI Personal Use Permit harvest of sockeye salmon per permit, 1998–2018.

Year	Total UCI sockeye harvest	UCI permits that fished	Fish per permit
1998	164,983	9,996	17
1999	199,512	11,554	17
2000	136,913	10,362	13
2001	205,579	13,395	15
2002	244,777	12,710	19
2003	283,156	13,755	21
2004	336,563	17,909	19
2005	365,256	18,065	20
2006	212,641	13,868	15
2007	349,506	18,856	19
2008	311,592	19,161	16
2009	439,674	24,752	18
2010	482,250	27,521	18
2011	614,311	30,075	20
2012	616,049	29,913	21
2013	447,189	27,306	16
2014	490,903	28,595	17
2015	494,099	27,049	18
2016	343,869	23,660	15
2017	397,236	22,852	17
2018	271,452	18,802	14
Average	352,739	20,007	18

Table 173-3.—Estimated effort and harvest for bag limit reduction scenarios in the Kenai and Kasilof rivers personal use fisheries, 2011.

		Kenai River Dipnet		Kasilof River Dipnet		Kasilof River Gillnet	
		Days Fished	Sockeye	Days Fished	Sockeye	Days Fished	Sockeye
Actual Estimates		32,818	537,765	6,571	49,766	1,846	26,780
Estimated harvest under reduced household limit	10 salmon (all fisheries)	26,808	191,963	5,040	22,738	1,252	8,918
	Harvest Reduction	6,010	345,802	1,531	27,028	595	17,862
	Percent Harvest Reduction	18.3%	64.3%	23.3%	54.3%	32.2%	66.7%
	15 salmon (all fisheries)	28,472	271,373	5,517	30,219	1,430	12,893
	Harvest Reduction	4,346	266,392	1,054	19,546	416	13,887
	Percent Harvest Reduction	13.2%	49.5%	16.0%	39.3%	22.5%	51.9%
	20 salmon (all fisheries)	29,809	339,880	5,829	35,874	1,576	16,449
	Harvest Reduction	3,008	197,885	742	13,892	270	10,331
	Percent Harvest Reduction	9.2%	36.8%	11.3%	27.9%	14.6%	38.6%
	10 salmon + 5 (all fisheries)	29,792	343,637	5,804	36,163	1,507	15,619
	Harvest Reduction	3,025	194,129	767	13,603	340	11,161
	Percent Harvest Reduction	9.2%	36.1%	11.7%	27.3%	18.4%	41.7%
	15 salmon + 5 (all fisheries)	30,929	402,336	6,057	40,687	1,634	18,921
	Harvest Reduction	1,889	135,429	514	9,079	213	7,859
	Percent Harvest Reduction	5.8%	25.2%	7.8%	18.2%	11.5%	29.3%
	20 salmon + 5 (all fisheries)	31,689	449,549	6,264	44,066	1,730	21,776
	Harvest Reduction	1,129	88,216	307	5,699	117	5,004
	Percent Harvest Reduction	3.4%	16.4%	4.7%	11.5%	6.3%	18.7%

Table 173-4.—Estimated effort and harvest for bag limit reduction scenarios in the Kenai and Kasilof rivers personal use fisheries, 2012.

		Kenai River Dipnet		Kasilof River Dipnet		Kasilof River Gillnet	
		Days Fished	Sockeye	Days Fished	Sockeye	Days Fished	Sockeye
Actual Estimates		34,374	526,992	6,536	73,419	1,696	15,638
Estimated harvest under reduced household limit	10 salmon (all fisheries)	27,715	194,571	4,854	28,245	1,200	6,619
	Harvest Reduction	6,658	332,421	1,682	45,174	496	9,019
	Percent Harvest Reduction	19.4%	63.1%	25.7%	61.5%	29.2%	57.7%
	15 salmon (all fisheries)	29,590	272,664	5,306	39,181	1,355	9,188
	Harvest Reduction	4,784	254,328	1,231	34,239	341	6,450
	Percent Harvest Reduction	13.9%	48.3%	18.8%	46.6%	20.1%	41.2%
	20 salmon (all fisheries)	31,135	338,847	5,703	48,178	1,489	11,261
	Harvest Reduction	3,239	188,145	833	25,241	207	4,377
	Percent Harvest Reduction	9.4%	35.7%	12.8%	34.4%	12.2%	28.0%
	10 salmon + 5 (all fisheries)	31,150	346,135	5,654	49,351	1,435	10,681
	Harvest Reduction	3,224	180,857	882	24,069	261	4,957
	Percent Harvest Reduction	9.4%	34.3%	13.5%	32.8%	15.4%	31.7%
	15 salmon + 5 (all fisheries)	32,381	402,244	5,962	56,723	1,548	12,391
	Harvest Reduction	1,993	124,748	574	16,696	148	3,247
	Percent Harvest Reduction	5.8%	23.7%	8.8%	22.7%	8.7%	20.8%
	20 salmon + 5 (all fisheries)	33,297	446,872	6,209	62,650	1,625	13,788
	Harvest Reduction	1,077	80,120	327	10,769	70	1,850
	Percent Harvest Reduction	3.1%	15.2%	5.0%	14.7%	4.2%	11.8%

Table 173-5.—Estimated effort and harvest for bag limit reduction scenarios in the Kenai and Kasilof rivers personal use fisheries, 2013.

		Kenai River Dipnet		Kasilof River Dipnet		Kasilof River Gillnet	
		Days Fished	Sockeye	Days Fished	Sockeye	Days Fished	Sockeye
Actual Estimates		33,193	347,222	8,556	85,528	1,082	14,439
Estimated harvest under reduced household limit	10 salmon (all fisheries)	28,329	155,563	6,905	35,395	796	5,209
	Harvest Reduction	4,864	191,659	1,651	50,133	286	9,229
	Percent Harvest Reduction	14.7%	55.2%	19.3%	58.6%	26.5%	63.9%
	15 salmon (all fisheries)	29,991	208,085	7,413	47,940	870	7,347
	Harvest Reduction	3,202	139,137	1,144	37,588	212	7,091
	Percent Harvest Reduction	9.6%	40.1%	13.4%	43.9%	19.6%	49.1%
	20 salmon (all fisheries)	31,115	249,010	7,842	57,971	946	9,224
	Harvest Reduction	2,078	98,212	714	27,557	136	5,214
	Percent Harvest Reduction	6.3%	28.3%	8.3%	32.2%	12.5%	36.1%
	10 salmon + 5 (all fisheries)	31,067	250,605	7,790	60,616	922	8,645
	Harvest Reduction	2,126	96,617	767	24,912	160	5,793
	Percent Harvest Reduction	6.4%	27.8%	9.0%	29.1%	14.7%	40.1%
	15 salmon + 5 (all fisheries)	31,909	283,031	8,124	68,678	986	10,327
	Harvest Reduction	1,284	64,191	432	16,850	96	4,112
	Percent Harvest Reduction	3.9%	18.5%	5.1%	19.7%	8.9%	28.5%
	20 salmon + 5 (all fisheries)	32,489	307,208	8,303	74,668	1,025	11,775
	Harvest Reduction	704	40,014	254	10,860	57	2,663
	Percent Harvest Reduction	2.1%	11.5%	3.0%	12.7%	5.3%	18.4%

PROPOSAL 93 – Manage the Kenai River PU dip net fishery subject to achieving the inriver goal, and establish paired restrictions

5 AAC 21.360. Kenai River Late-Run Sockeye Salmon Management Plan. and 5 AAC 77.540. Upper Cook Inlet Personal Use Salmon Fishery Management Plan.

PROPOSED BY: Nathan Holf.

WHAT WOULD THE PROPOSAL DO? This seeks two address two issues. The first would manage the personal use (PU) dip net fishery on the lower Kenai River subject to achieving the inriver goal. The second would establish paired restrictions between commercial fisheries and PU fisheries by closing the personal use fishery at 7:00 a.m. Friday, if the commercial fishery has been restricted that week.

WHAT ARE THE CURRENT REGULATIONS? Subject to the requirement of achieving the lower end of the sustainable escapement goal (SEG) of 700,000 to 1,200,000 late-run sockeye salmon, the department shall provide for a PU dip net fishery in the lower Kenai River. In the Kenai River, salmon may be taken by dip net from July 10 through July 31, seven days per week, from 6:00 a.m. to 11:00 p.m., the commissioner may extend, by emergency order (EO), the PU fishery to 24 hr per day if the department determines that the abundance of the Kenai River late-run sockeye salmon is greater than 2.3 million fish.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Management would become complex since paired restrictions with commercial fisheries would result in closures and re-openings of the PU dip net fishery throughout the dipnet season. Since the PU fishery is normally open from 6:00 a.m. to 11:00 p.m. and only from July 10–31, it would open for one hour on a Friday beginning at 6:00 a.m. Fishing time would decrease, and in some years, the PU participants may have limited opportunity as this proposal requests that PU closures be implemented on weekends. This proposal could reduce the number of sockeye salmon harvested in the PU fisheries by 20,000 – 73,000 per each 3-day Friday – Sunday closure (Table 93-1). This harvest reduction may be offset somewhat if weekend effort shifted to open periods during the week, which would increase crowding in the days the fishery would be open. This may result in an increase in the harvest of sockeye salmon in other fisheries, primarily the commercial fishery, depending on abundance and run-timing.

The City of Kenai would experience decreased revenue obtained from user fees collected from the PU fishery.

BACKGROUND: The *Upper Cook Inlet Personal Use Salmon Fishery Management Plan* (5 AAC 77.540) provides for a PU salmon gillnet fishery at the mouth of the Kasilof River, and salmon dip net fisheries in the Kenai and Kasilof rivers and Fish Creek in Northern Cook Inlet.

The *Kenai River Late-Run Sockeye Salmon Management Plan* (5 AAC 21.360) provides direction to liberalize and restrict the PU salmon fishery, based upon meeting the SEG, when circumstances

require. The Kenai River PU dip net fishery was closed inseason by EO in 1998 and 2018 due to low abundance of Kenai River late-run sockeye salmon, and in 2006 due to late run timing. The escapements of Kenai River late-run sockeye salmon can be found in Table 93-2.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. It is unclear from the proposal what paired restrictions would look like if there was only a partial closure to the commercial fishery. For example, would the PU fishery be closed if only the Kenai Section were closed to commercial fishing, but the Kasilof Section remained open for regular periods? What if the Eastside Setnet fishery was restricted to ½ mile or 600 ft.? Would the paired restrictions also be implemented if the drift fishery was closed during a regular period?

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

Table 93-1.—Sockeye salmon harvest by date during the Kenai River dipnet fishery, 2013–2018.

Date	2013		2014		2015		2016		2017		2018	
		Total		Total		Total		Total		Total		Total
10-Jul	Wed	2,887	Thu	1,846	Fri	2,543	Sun	5,191	Mon	1,813	Tue	627
11-Jul	Thu	1,120	Fri	7,745	Sat	2,504	Mon	4,397	Tue	2,577	Wed	1,429
12-Jul	Fri	1,966	Sat	11,659	Sun	3,536	Tue	3,274	Wed	1,696	Thu	2,390
13-Jul	Sat	5,831	Sun	9,519	Mon	6,903	Wed	3,264	Thu	1,478	Fri	1,592
14-Jul	Sun	8,704	Mon	10,525	Tue	7,529	Thu	6,879	Fri	3,730	Sat	2,149
15-Jul	Mon	29,204	Tue	19,312	Wed	14,556	Fri	9,426	Sat	7,060	Sun	2,341
16-Jul	Tue	39,682	Wed	18,548	Thu	9,445	Sat	13,420	Sun	8,011	Mon	2,468
17-Jul	Wed	31,107	Thu	31,467	Fri	14,411	Sun	14,594	Mon	12,972	Tue	5,072
18-Jul	Thu	24,071	Fri	22,089	Sat	37,133	Mon	8,778	Tue	11,104	Wed	10,790
19-Jul	Fri	33,354	Sat	25,838	Sun	21,504	Tue	9,263	Wed	16,363	Thu	12,431
20-Jul	Sat	24,201	Sun	23,339	Mon	17,502	Wed	14,193	Thu	19,489	Fri	20,536
21-Jul	Sun	8,787	Mon	21,065	Tue	17,927	Thu	16,924	Fri	13,533	Sat	11,482
22-Jul	Mon	7,343	Tue	15,528	Wed	21,593	Fri	23,056	Sat	21,930	Sun	11,296
23-Jul	Tue	5,267	Wed	12,135	Thu	14,083	Sat	13,243	Sun	14,318	Mon	5,977
24-Jul	Wed	3,896	Thu	12,003	Fri	33,503	Sun	11,093	Mon	16,311	Tue	5,864
25-Jul	Thu	5,436	Fri	12,294	Sat	17,405	Mon	5,119	Tue	16,916	Wed	8,746
26-Jul	Fri	11,864	Sat	9,961	Sun	8,892	Tue	6,253	Wed	14,829	Thu	7,687
27-Jul	Sat	11,750	Sun	9,945	Mon	12,936	Wed	8,039	Thu	15,970	Fri	7,313
28-Jul	Sun	7,338	Mon	8,334	Tue	10,817	Thu	4,810	Fri	17,976	Sat	7,013
29-Jul	Mon	4,895	Tue	10,906	Wed	11,345	Fri	6,681	Sat	8,553	Sun	5,826
30-Jul	Tue	4,881	Wed	9,871	Thu	8,708	Sat	7,528	Sun	4,117	Mon	0
31-Jul	Wed	3,547	Thu	6,650	Fri	15,016	Sun	10,118	Mon	3,456	Tue	0

Note: Data presented are for returned permits during legal harvest dates.

Table 93-2.—Kenai River drainage sockeye salmon escapement and inriver harvest, 1981–2018.

Year	Personal use dip net and educational harvest	Sport harvest below sonar	Kenai River sonar count ^a	Total inriver run	Harvest above sonar			Total harvest above sonar	Spawning escapement
					Russian River late run	Hidden Lake–Creek personal use and sport	Inriver Federal subsistence ^b		
1998	105,497	33,980	1,084,996	1,224,472	25,110	81	ND	155,905	929,090
1999	150,993	46,043	1,137,001	1,334,037	32,335	859	ND	187,725	949,276
2000	99,571	57,978	900,700	1,058,249	30,229	190	ND	203,801	696,899
2001	152,580	51,374	906,333	1,110,287	18,550	142	ND	168,104	738,229
2002	182,229	46,693	1,339,682	1,568,604	31,999	308	ND	213,066	1,126,616
2003	227,207	60,722	1,656,026	1,943,955	28,085	302	ND	253,734	1,402,292
2004	266,937	62,397	1,945,383	2,274,717	22,417	502	ND	254,836	1,690,547
2005	300,105	58,017	1,908,821	2,266,943	18,503	0	ND	254,818	1,654,003
2006	130,486	30,964	2,064,728	2,226,178	29,694	385	ND	172,638	1,892,090
2007	293,941	60,623	1,229,945	1,584,509	16,863	240	316	265,702	964,243
2008	236,355	46,053	917,139	1,199,547	23,680	0	478	208,334	708,805
2009	343,302	45,868	1,090,055	1,479,225	33,935	1,019	431	241,938	848,117
2010	393,317	59,651	1,294,884	1,747,852	9,333	1,744	246	256,582	1,038,302
2011	543,043	92,225	1,599,217	2,234,485	14,412	97	347	318,484	1,280,733
2012	530,128	102,376	1,581,555	2,214,059	15,074	37	461	368,634	1,212,921
2013	350,302	78,837	1,359,893	1,789,032	20,146	86	567	379,685	980,208
2014	384,018	78,057	1,520,340	1,982,415	17,864	0	620	301,998	1,218,342
2015	384,095	83,112	1,709,051	2,176,258	13,744	0	779	309,004	1,400,047
2016	264,900	79,465	1,383,692	1,728,057	11,543	0	586	262,975	1,120,717
2017	304,632	67,233	1,308,498	1,680,363	10,592	79	236	235,208	1,073,290
2018	169,553	41,122	1,035,761	1,246,436	15,344	0	377	147,493	888,268
2019	NA	NA	1,849,054	NA	NA	NA	NA	NA	NA
Average									
1998–2018	276,820	61,090	1,379,700	1,717,600	20,930	290	460	245,750	1,133,950
2009–2018	366,730	72,790	1,388,290	1,827,820	16,200	310	470	282,210	1,106,090

Note: ND means no data, NA means data not available at time of publication

^a Bendix sonar counts were converted to DIDSON estimates (equivalents) for 1998–2006. Estimates after these dates are actual DIDSON generated estimates.

^b Federal subsistence started in 2007 and occurs in the Russian River, the Upper Kenai River, and the Lower Kenai River with both dip nets and rod-and-reel.

PROPOSALS 87 – Eliminate the dip net fishery and prohibit catch-and-release fishing

5 AAC 77.540. Upper Cook Inlet Personal Use Salmon Fishery Management Plan; and 5 AAC 77.545. Kachemak Bay Personal Use Dip Net Fishery Management Plan; 5 AAC 57.120. General provisions for seasons, bag, possession, annual, and size limits, and methods and means for the Kenai River Drainage Area; and 5 AAC 56.120. General provisions for seasons, bag, possession, annual, and size limits, and methods and means for the Kenai Peninsula Area.

PROPOSED BY: Ron Carmon.

WHAT WOULD THE PROPOSAL DO? This seeks to address two separate issues. The first would eliminate the personal use salmon dip net fishery and the second seeks to prohibit catch-and-release fishing for salmon in the Kenai Peninsula.

WHAT ARE THE CURRENT REGULATIONS? Subject to the requirement of achieving the lower end of the sustainable escapement goal, the department shall provide for a personal use dip net fishery in the lower Kenai River as specified in 5 AAC 77.540 *Upper Cook Inlet Personal Use Fishery Management Plan*.

The limit for king salmon 20 inches or greater in length is one per day, one in possession, with an annual limit of five from Cook Inlet waters. A king salmon 20 inches or greater intended for release may not be removed from the water. The limit of king salmon less than 20 inches is 10 per day. A coho salmon may not be removed from the water before release. Catch-and-release is a management tool used to reduce mortality of returning salmon while providing angler opportunity and economic benefit to the community. It is step-down measure prescribed in 5 AAC 57.160 *Kenai River and Kasilof River Early-run King Salmon Management Plan* and 5 AAC 21.359 *Kenai River Late-Run King Salmon Management Plan*.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED This would likely increase commercial and sport salmon harvest. It is unclear if the intent is to prohibit catch-and-release as a management tool, or to prohibit the release of salmon in the Kenai Peninsula. Removing catch-and-release as a management tool would decrease fishing opportunity across the Kenai Peninsula in some years. Elimination of Cook Inlet personal use fisheries would require the board to address paired restrictions between the commercial and sport fisheries in 5 AAC 21.359 *Kenai River Late-Run King Salmon Management Plan*. Prohibiting the release of any salmon caught would reduce fishing opportunity because it would prohibit anglers who would otherwise intend to release salmon alive from doing so. Anglers fishing for resident species like rainbow trout, Dolly Varden, and Arctic grayling would be required to keep all the salmon they caught up to their limit. Anglers with a limit of salmon would be unable to fish for other species without the risk of committing a violation if they caught another salmon. They would be prohibited from releasing the salmon and retaining it would exceed their bag limit. Prohibiting anglers from releasing any salmon, and only in Cook Inlet fresh waters, would add regulatory complexity.

It is unlikely that this proposal would have any effect on pH levels in the marine environment.

BACKGROUND: The *Upper Cook Inlet Personal Use Salmon Fishery Management Plan* (5 AAC 77.540) provides for a personal use salmon gillnet fishery at the mouth of Kasilof River, and salmon dip net fisheries in the Kenai and Kasilof rivers, and Fish Creek in Northern Cook Inlet. This plan was in effect for the 1981 season and later adopted into regulation by the board in 1982. The plan has undergone several amendments since that time.

Information from Kenai River catch-and-release mortality studies indicate that the overall delayed hooking mortality for king salmon is approximately 8% using all gear types. Since the mid-1980's, when management plans were first adopted for the Kenai River king salmon stocks, thru the 2013 season, inseason stock assessment data has warranted the total closure of the early-run king salmon sport fishery on seven occasions (2002, 2010, 2012, 2013, 2014, 2015, and 2018) and the total closure of late-run king salmon sport fishery on three occasions (2012, 2013, and 2014). During king salmon sport fishing closures, anglers fishing the Kenai River may fish for other species such as sockeye salmon, rainbow trout and Dolly Varden. During the early-run king salmon fishery anglers may not harvest king salmon 36 inches in length and larger which requires the release of these larger fish.

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 promotes best practices for releasing fish through education and outreach. The department uses emergency order authority to reduce mortality when necessary to achieve escapement goals or provide sustainability. It does so primarily through harvest limit reductions, but also by prohibiting use of bait and multiple hooks.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on allocative aspects of this proposal. If the board were to act on this proposal the department is opposed to prohibiting catch-and-release fishing which is an effective management tool that allows opportunity with low mortality. The department is also opposed to mandatory retention of all salmon because regulations sometimes require anglers to release salmon.

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. Approval of this proposal is not expected to result in additional cost to the department.

PROPOSAL 113 – Close the personal use fishery when commercial fisheries are closed.

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

PROPOSED BY: John McCombs.

WHAT WOULD THE PROPOSAL DO? This would amend the paired restrictions in the *Kenai River Late-Run King Salmon Management Plan* to close the PU fisheries when the commercial fisheries are closed.

WHAT ARE THE CURRENT REGULATIONS? The department manages the late-run Kenai River king salmon stocks to achieve a SEG range of 13,500 – 27,000 king salmon 75 cm mid eye to tail fork and longer. If the use of bait is prohibited in the sport fishery then retention of king salmon is prohibited in the PU dip net fishery. In the Kasilof River PU dip net fishery the retention of king salmon is prohibited under general regulation.

The department manages commercial, sport, and PU fisheries in the Kenai River to: 1) meet the SEG range of 700,000 – 1,200,000 late-run sockeye salmon, 2) achieve inriver goals as established by the board and measured at the Kenai River sonar counter located at RM 19, and 3) distribute escapement of sockeye salmon evenly within the SEG range, in proportion to the size of the run.

Subject to achieving the lower end of the sockeye salmon SEG, the department is instructed to provide for a PU dip net fishery in the lower Kenai River as specified in the *Upper Cook Inlet Personal Use Salmon Fishery Management Plan* (5 AAC 77.540). This plan also provides for a PU salmon gillnet and dip net fishery at the mouth of Kasilof River. Sport, commercial, and PU fisheries are managed to meet a sockeye salmon biological escapement goal (BEG) in the Kasilof River. Salmon may be taken by dip net in the Kenai River from July 10 through July 31, seven days per week, from 6:00 a.m. to 11:00 p.m.; the commissioner may extend, by emergency order, the PU fishery to 24 hours per day if the department determines that the abundance of the Kenai River late-run sockeye salmon is greater than 2,300,000 fish. The Kasilof River PU dip net fishery is open June 25 through August 7, seven days per a week, and twenty-four hours per a day.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would reduce PU harvest of sockeye salmon by an unknown amount depending on frequency and length of fishing closures. When this proposed regulation would be implemented, retention of king salmon is already prohibited in the dip net fishery. This proposal may result in an increase in catch and harvest and escapement of sockeye and king salmon in the inriver sport fisheries depending on run strength.

BACKGROUND: The *Upper Cook Inlet Personal Use Salmon Fishery Management Plan* (5 AAC 77.540) provides for a personal use salmon gillnet fishery at the mouth of the Kasilof River, and salmon dip net fisheries in the Kenai and Kasilof rivers and Fish Creek in Northern Cook Inlet.

The *Kenai River Late-Run Sockeye Salmon Management Plan* (5 AAC 21.360) provides direction to liberalize and restrict the PU salmon fishery based upon meeting the SEG, when circumstances require. The Kenai River PU dip net fishery was closed inseason by EO in 1998 and 2018 due to low abundance of Kenai River late-run sockeye salmon, and in 2006 due to late run timing. The escapements of Kenai River late-run sockeye salmon can be found in Table 113-1.

The *Kenai River Late-Run King Salmon Management Plan* (5 AAC 21.359) provides direction for the department to restrict the PU dip net fishery based upon restrictions taken in the king salmon sport fishery to achieve the SEG. Retention of king salmon has been prohibited in the PU fishery seven times from 1998 – 2018. In years where the restriction is implemented for any amount of time (7 of 21 years) the average harvest declined by 60% to 343 fish. In years where the restriction is implemented for at least 16 days (5 of 21 years) the average harvest declined 97% to 25 fish when compared to unrestricted years (14 of 21 years) with an average harvest of 854 fish (Table 113-2). The fishery was restricted to non-retention for the duration of the open season in 2019.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. It is unclear from the proposal what paired restrictions would look like if there was only a partial closure to the commercial fishery. For example, would the personal use fishery be closed if only the Kenai Section were closed to commercial fishing, but the Kasilof Section remained open for regular periods? What if the Eastside Setnet fishery was restricted to ½ mile or 600'? Would the paired restrictions also be implemented if the drift fishery was closed during a regular period?

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

Table 113-1.—Kenai River drainage sockeye salmon escapement and inriver harvest, 1998–2018.

Year	Personal use dip net and educational harvest	Sport harvest below sonar	Kenai River sonar count ^a	Total inriver run	Harvest above sonar				
					Russian River late run	Hidden Lake– Creek personal use and sport	Inriver Federal subsistence ^b	Total harvest above sonar	Spawning escapement
1998	105,497	33,980	1,084,996	1,224,472	25,110	81	ND	155,905	929,090
1999	150,993	46,043	1,137,001	1,334,037	32,335	859	ND	187,725	949,276
2000	99,571	57,978	900,700	1,058,249	30,229	190	ND	203,801	696,899
2001	152,580	51,374	906,333	1,110,287	18,550	142	ND	168,104	738,229
2002	182,229	46,693	1,339,682	1,568,604	31,999	308	ND	213,066	1,126,616
2003	227,207	60,722	1,656,026	1,943,955	28,085	302	ND	253,734	1,402,292
2004	266,937	62,397	1,945,383	2,274,717	22,417	502	ND	254,836	1,690,547
2005	300,105	58,017	1,908,821	2,266,943	18,503	0	ND	254,818	1,654,003
2006	130,486	30,964	2,064,728	2,226,178	29,694	385	ND	172,638	1,892,090
2007	293,941	60,623	1,229,945	1,584,509	16,863	240	316	265,702	964,243
2008	236,355	46,053	917,139	1,199,547	23,680	0	478	208,334	708,805
2009	343,302	45,868	1,090,055	1,479,225	33,935	1,019	431	241,938	848,117
2010	393,317	59,651	1,294,884	1,747,852	9,333	1,744	246	256,582	1,038,302
2011	543,043	92,225	1,599,217	2,234,485	14,412	97	347	318,484	1,280,733
2012	530,128	102,376	1,581,555	2,214,059	15,074	37	461	368,634	1,212,921
2013	350,302	78,837	1,359,893	1,789,032	20,146	86	567	379,685	980,208
2014	384,018	78,057	1,520,340	1,982,415	17,864	0	620	301,998	1,218,342
2015	384,095	83,112	1,709,051	2,176,258	13,744	0	779	309,004	1,400,047
2016	264,900	79,465	1,383,692	1,728,057	11,543	0	586	262,975	1,120,717
2017	304,632	67,233	1,308,498	1,680,363	10,592	79	236	235,208	1,073,290
2018	169,553	41,122	1,035,761	1,246,436	15,344	0	377	147,493	888,268
2019	NA	NA	1,849,054	NA	NA	NA	NA	NA	NA
Average									
1998–2018	276,820	61,090	1,379,700	1,717,600	20,930	290	460	245,750	1,133,950
2009–2018	366,730	72,790	1,388,290	1,827,820	16,200	310	470	282,210	1,106,090

Note: ND means no data, NA means data not available at time of publication

^a Bendix sonar counts were converted to DIDSON estimates (equivalents) for 1998–2006. Estimates after these dates are actual DIDSON generated estimates.

^b Federal subsistence started in 2007 and occurs in the Russian River, the Upper Kenai River, and the Lower Kenai River with both dip nets and rod-and-reel.

Table 113-2.—Kenai River personal use dip net fishery effort and harvest, 1998–2018.

Year	Days open	Days Restricted ^a	Days fished	Sockeye salmon	Chinook salmon	Coho salmon	Pink salmon	Chum salmon	Total
1998	18	0	10,802	103,847	254	1,011	1,032	85	106,229
1999	22	0	13,738	149,504	488	1,009	1,666	102	152,769
2000	22	0	12,354	98,262	410	1,449	1,457	193	101,771
2001	22	0	14,772	150,766	638	1,555	1,326	155	154,440
2002	22	0	14,840	180,028	606	1,721	5,662	551	188,568
2003	22	0	15,263	223,580	1,016	1,332	1,647	249	227,824
2004	22	0	18,513	262,831	792	2,661	2,103	387	268,774
2005	22	0	20,977	295,496	997	2,512	1,806	321	301,132
2006	20	8	12,685	127,630	1,034	2,235	11,127	551	142,577
2007	22	0	21,908	291,270	1,509	2,111	1,939	472	297,301
2008	22	0	20,772	234,109	1,362	2,609	10,631	504	249,215
2009	22	0	26,171	339,993	1,189	2,401	5,482	285	349,350
2010	22	0	28,342	389,552	865	2,870	3,655	508	397,450
2011	22	8	32,818	537,765	1,243	4,745	3,914	915	548,583
2012	22	22	34,374	526,992	40	4,008	3,770	425	535,236
2013	22	22	33,193	347,222	11	3,169	3,625	701	354,727
2014	22	22	36,380	379,823	0	4,710	19,140	1,194	404,866
2015	22	16	31,487	377,532	66	4,150	4,147	957	386,853
2016	22	0	30,745	259,057	638	3,277	7,834	717	271,524
2017	22	0	27,775	297,049	1,194	732	7,962	886	307,824
2018	20	20	20,170	165,028	7	529	10,435	441	176,439
Mean	22		22,766	273,206	684	2,419	5,255	505	282,069

^a Retention of king salmon was prohibited, or personal use fishery closed

PROPOSAL 145 – Allow fishing for sockeye salmon on the Kenai River until August 15.

5 AAC 57.120. General provisions for seasons, bag, possession, annual, and size limits, and methods and means for the Kenai River Drainage Area; and 5 AAC 77.540. Upper Cook Inlet Personal Use Salmon Fishery Management Plan.

PROPOSED BY: Neil DeWitt.

WHAT WOULD THE PROPOSAL DO? This would allow sport, personal use, and subsistence fishing for sockeye salmon on the Kenai River until August 15.

WHAT ARE THE CURRENT REGULATIONS? The late-run sockeye salmon sport and personal use fisheries on the Kenai River are managed to achieve the sustainable escapement goal (700,000–1,200,000 sockeye salmon). The sport fishery is open year-round, 24 hours per day 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 which is open to fishing for sockeye from June 11–August 20. Salmon may be taken in the personal use dip net fishery from July 10–31, 7 days per week, from 6:00 a.m. to 11:00 p.m. The fishery may be extended to 24 hours per day if the department determines that the abundance of the Kenai River late-run sockeye salmon is greater than 2.3 million. The Kenai River is located inside the state’s Anchorage-Matsu-Kenai Peninsula Nonsubsistence Area, therefore there are no subsistence sockeye salmon fishing regulations for the Kenai River.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would likely increase the number of king, sockeye, and coho salmon harvested in the PU fishery by an undetermined amount dependent upon abundance, run-timing, and what species were allowed to be retained. Depending on abundance and run timing, increased PU harvest may result in restrictions to the commercial and inriver sport fisheries that harvest sockeye salmon downriver of the sonar. There may be additional costs to the City of Kenai to provided contractual services for an additional 15 days.

BACKGROUND: The *Kenai River Late-Run Sockeye Salmon Management Plan* (5 AAC 21.360) provides direction to liberalize and restrict the PU salmon fishery, based upon meeting the sustainable escapement goal, when circumstances require. The Kenai River PU dip net fishery was closed inseason by EO in 1998 due to low abundance of Kenai River late-run sockeye salmon, and in 2006 and 2018 due to late run timing. The 2006 fishery was reopened August 3 and extended through August 10. The reported harvest (not expanded for nonrespondents) during that timeframe was 1,017 coho salmon (Table 145-1). During 1999–2001, 2008, 2009, 2014 and 2017 the Kenai River personal use dip net fishery was not liberalized or restricted. The Kenai River personal use dip net fishery was liberalized (extended fishing hours – 24 hours per day for the remainder of the season) during the 2002–2005, 2007, and 2010–2013, 2015, 2016 and 2019 seasons. Minimum daily coho salmon harvests in the Kenai River PU dip net fishery from 2007–2018 are reported in Table 145-3.

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 145-2). 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 3-fish bag limit and more liberal commercial fishing in August; under a plan that allowed a 2-fish bag limit and more restrictive commercial fishing, the harvest rate ranged from 35% to 47% from 2000 to 2004. Regulations created since 2004 to coho salmon bag limit and the 1% rule 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 a harvest rate of about 61% is sustainable.

The department does not manage the Kenai River coho salmon sport fishery inseason based upon abundance because coho salmon escapement is not monitored and no escapement goal has been established for the Kenai River.

There are no state subsistence fisheries in the Kenai River Drainage.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal. The department does not have any new data regarding coho salmon runs or harvest 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 but is expected to result in direct costs to the City of Kenai to provide contractual services for the extended season. Approval of this proposal is not expected to result in an additional direct cost for the department.

Table 145-1.—Minimum daily harvests of coho salmon (not expanded for nonrespondents) in the Kenai River personal use dipnet fishery, from 2006–2018.

Date	2006 ^a	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Average
10-Jul	17	5	1	42	86	10	35	49	40	80	57	1	0	33
11-Jul	9	12	14	37	22	87	26	14	35	39	85	0	3	29
12-Jul	2	9	12	92	60	13	28	22	185	124	97	2	0	50
13-Jul	61	23	0	13	59	23	123	27	62	79	39	5	1	40
14-Jul	61	67	13	49	40	37	85	81	108	38	54	11	3	50
15-Jul	133	25	70	107	76	86	59	160	53	140	146	9	11	83
16-Jul	37	5	18	73	111	593	140	228	71	75	173	19	5	119
17-Jul	17	12	60	63	188	176	116	160	73	150	120	23	0	89
18-Jul	24	84	62	174	90	245	144	113	117	325	70	26	13	114
19-Jul	27	46	98	200	83	99	86	173	208	170	33	22	14	97
20-Jul	134	97	117	79	108	47	177	208	164	140	75	28	34	108
21-Jul	236	199	196	63	120	76	375	70	119	105	79	22	25	130
22-Jul	^b	89	35	51	69	252	163	97	99	103	185	33	24	100
23-Jul	^b	41	93	31	99	570	195	41	141	87	157	19	6	123
24-Jul	^b	77	68	58	219	131	119	51	167	302	108	10	19	111
25-Jul	^b	102	82	165	75	167	195	51	197	193	22	40	34	110
26-Jul	^b	163	235	76	59	156	57	60	259	80	33	47	45	106
27-Jul	^b	117	99	57	40	141	112	95	262	89	99	44	43	100
28-Jul	^b	151	125	182	74	119	182	115	128	62	99	54	83	115
29-Jul	^b	69	88	95	72	206	133	89	242	140	113	27	56	111
30-Jul	^b	74	226	135	133	153	161	166	201	95	107	45	6	125
31-Jul	80	28	292	49	76	130	96	53	176	278	201	17	0	114
Total	838 ^a	1,495	2,004	1,891	1,959	3,517	2,807	2,123	3,107	2,894	2,152	504	425	2,055

Source: K. Dunker, Sport Fish Biologist, ADF&G Anchorage, personal communication; A. St. Saviour, Sport Fish Biologist, ADF&G, Anchorage, personal communication.

^a In 2006, the personal use fishery was reopened from August 3-10, resulting in an additional harvest of 1,017 coho salmon.

^b Fishery closed

Table 145-2.—Estimated harvest, total run, and harvest 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

Table 345-3.—Kenai River personal use salmon harvest, 1996–2018.

Kenai River dip net															
Year	Days open	Days fished		Sockeye		King		Coho		Pink		Chum		Total	
		Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE	Est.	SE
1996	27	10,503	60	102,821	367	295	5	1,932	29	2,404	33	175	10	107,627	375
1997	22	11,023	87	114,619	439	364	13	559	21	619	14	58	5	116,219	448
1998	18	10,802	59	103,847	716	254	10	1,011	62	1,032	62	85	3	106,229	724
1999	22	13,738	79	149,504	1,084	488	13	1,009	108	1,666	64	102	13	152,769	1,094
2000	22	12,354	69	98,262	752	410	18	1,449	62	1,457	75	193	31	101,771	762
2001	22	14,772	66	150,766	909	638	15	1,555	105	1,326	37	155	19	154,440	926
2002	22	14,840	56	180,028	844	606	11	1,721	64	5,662	102	551	36	188,568	874
2003	22	15,263	50	223,580	891	1,016	18	1,332	68	1,647	98	249	22	227,824	905
2004	22	18,513	35	262,831	583	792	7	2,661	66	2,103	27	387	12	268,774	905
2005	22	20,977	18	295,496	273	997	3	2,512	24	1,806	12	321	2	301,132	275
2006	20	12,685	16	127,630	183	1,034	3	2,235	15	11,127	37	551	9	142,577	203
2007	22	21,908	23	291,270	335	1,509	4	2,111	24	1,939	23	472	17	297,301	337
2008	22	20,772	27	234,109	338	1,362	10	2,609	21	10,631	49	504	8	249,215	343
2009	22	26,171	35	339,993	524	1,189	7	2,401	29	5,482	27	285	7	349,350	525
2010	22	28,342	44	389,552	702	865	7	2,870	56	3,655	28	508	15	397,451	705
2011	22	32,818	60	537,765	1,105	1,243	10	4,745	107	3,914	86	915	47	548,583	1,115
2012	22	34,374	61	526,992	1,109	40	3	4,008	117	3,770	102	424.8	15.	535,236	1,120
2013	22	33,193	63	347,222	822	11	1	3,169	74	3,625	49	701	29	354,727	827
2014	22	36,380	81	379,823	1,023	0	0	4,710	157	19,140	184	1,194	51	404,866	1,053
2015	22	31,487	75	377,532	1,088	66	2	4,150	130	4,147	99	957	45	386,853	1,101
2016	22	30,745	75	259,057	817	638	8	3,277	106	7,834	90	717	34	271,524	830
2017	22	27,775	87	297,049	1,103	1,194	14	732	41	7,962	117	886	75	307,824	1,112
2018	20	20,170	164	165,028	1,567	7	4	529	35	10,435	351	441	52	176,439	1,607
Mean	22	21,722		258,903		653		2,317		4,930		471		267,274	
Max.	27	36,380		537,765		1,509		4,745		19,140		1,194		548,583	

PROPOSALS 172 – Limit dip netting on the Kenai River by last name of head of household and day of the week

5 AAC 77.540. Upper Cook Inlet Personal Use Salmon Fishery Management Plan.

PROPOSED BY: Karen McGrahan.

WHAT WOULD THE PROPOSAL DO? This would limit PU dip netting on the Kenai River by last name of head of household and day of the week.

WHAT ARE THE CURRENT REGULATIONS? Salmon may be taken by dip net in the Kenai River from July 10 through July 31, seven days per week, from 6:00 a.m. to 11:00 p.m.; the commissioner may extend, by EO, the personal use fishery to 24 hours per day if the department determines that the abundance of the Kenai River late-run sockeye salmon is greater than 2,300,000 fish; the annual limit is 25 salmon for the head of a household and 10 salmon for each dependent of the permit holder, except that only one king salmon 20 inches or greater in length, and no more than 10 king salmon less than 20 inches in length, may be retained per household; king salmon less than 20 inches in length may be retained.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would decrease the harvest of sockeye salmon and overall opportunity in the PU fishery. Implementation would introduce significant regulatory complexity to PU fishery participants. Assigning days allowed to participate by last name would disproportionality allow harvest and is likely to produce significant contention between users. The fishery typically has its greatest effort on weekends when the average participant can travel to the Kenai River from other communities across the state. The group of users assigned to these days would gain what is seen as an advantage over other participants. This would negatively affect the traveling PU participants most directly and likely result in a significant reduction in participation..

BACKGROUND: The Kenai River PU dip net fishery has never had restricted access to users by a categorial system since its creation. The fishery is managed by the *Upper Cook Inlet Management Plan* (5 AAC 77.540), the *Kenai River Late-Run Sockeye Salmon Management Plan* (5 AAC 21.360), and EO authority that adjusts time and area to achieve the SEG of 700,000–1,200,000 sockeye salmon. The board has limited the PU fisheries through short season dates, hours of operation, and only allowing them to occur in very limited areas.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on allocative aspects of this proposal. The department however has concerns that the proposed management strategy would introduce significant regulatory complexity.

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

PROPOSALS 170 – Increase the area open to PU fishing on the Kasilof River north beach.

5 AAC 77.540. Upper Cook Inlet Personal Use Salmon Fishery Management Plan.

PROPOSED BY: Brent Ramsay.

WHAT WOULD THE PROPOSAL DO? This increases the area open to PU fishing on the Kasilof River north beach.

WHAT ARE THE CURRENT REGULATIONS? Salmon may be taken by dip net in the Kasilof River from a line between ADF&G regulatory markers outside the terminus of the river on the north shore beach at 60° 23.25' N. lat., 151 ° 17.98' W. long., and on the south shore beach at 60 ° 23.27' N. lat., 151 ° 18.64' W. long., upstream for a distance of one mile (Figure 170-1).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This may increase the effort and harvest of the Kasilof River PU fishery by an unknown amount (Table 170-2) and could reduce crowding in the dip net area. However, moving the regulatory marker 650 ft north on the beach would overlap the PU dipnet fishery area and the Kasilof River Special Harvest Area (KRSHA) for commercial fisheries, which may lead to direct user conflict.

BACKGROUND: At the 2017 board meeting the current GPS coordinates for ADF&G markers were put into regulation through a department submitted proposal to clarify the seaward boundary of the Kasilof River PU dipnet fishery and ease enforcement concerns. This boundary also marks a shoreline boundary of the KRSHA for commercial fisheries. Set and drift gillnet gear types may be utilized in this area when opened by emergency order. The KRSHA was developed by the board in 1986 to be used for the purpose of concentrating commercial harvest on Kasilof River sockeye salmon run, while significantly decreasing the harvest of Kenai River sockeye salmon (table 170-1). The board has expressed their intent that the KRSHA should rarely, if ever, be opened, and before doing so, the department should add additional fishing time in the remainder of the Kasilof Section and then reduce the mandatory closures specified in regulation.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal but opposes creating an overlap between the PU and commercial fisheries during times the KRSHA is open to commercial fishing.

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

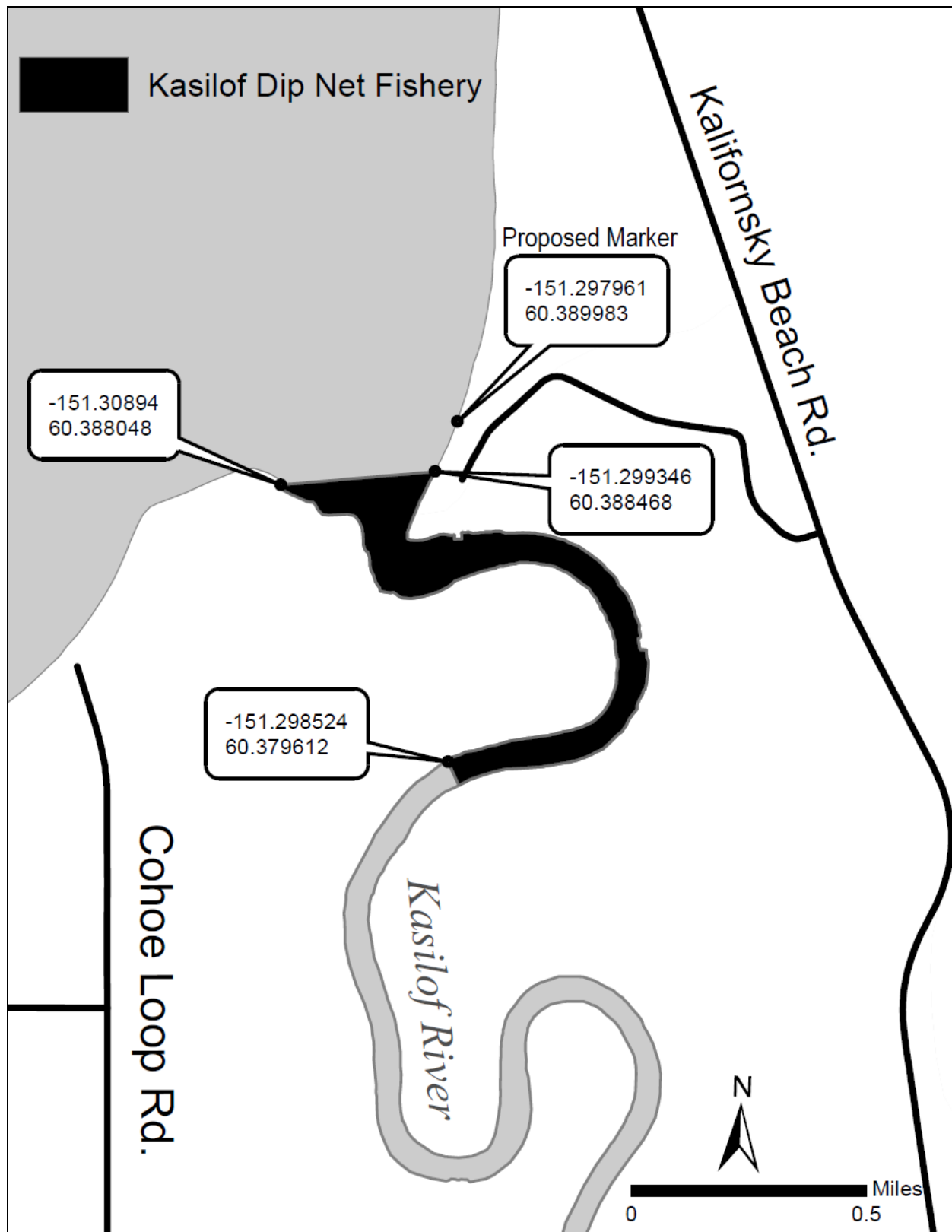


Figure 170-1.—Map of Kasilof River personal use dipnet area.



Figure 170-2.—Map of Kasilof River Special Harvest Area for commercial fisheries.

Table 170-1.—Commercial salmon harvest in the Kasilof River Special Harvest Area, 2004–2018.

Year	King salmon		Sockeye salmon		Days open
	Drift	Set	Drift	Set	
2004	9	68	572	4,904	8
2005	119	629	19,292	77,907	11
2006	1,731	1,265	349,417	338,155	21
2007	16	164	4,659	15,631	8
2008	358	1,164	17,370	60,499	12
2013	11	358	2,701	64,150	14
2014	36	625	11,676	198,131	17
2015	89	426	28,387	101,660	20
2018	4	28	743	11,410	5
Total	2,373	4,727	434,817	872,447	116

Table 170-2.—Kasilof River personal use dip net fishery effort and harvest, 1998–2018.

Year	Days open	Days fished	Sockeye salmon	King salmon	Coho salmon	Pink salmon	Chum salmon	Total
1998	27	3,421	45,161	134	731	610	74	46,710
1999	27	3,611	37,176	127	286	264	52	37,905
2000	27	2,622	23,877	134	1,004	841	34	25,890
2001	27	3,382	37,612	138	766	307	23	38,846
2002	44	4,020	46,769	106	1,197	1862	139	50,073
2003	44	3,874	43,870	57	592	286	30	44,835
2004	44	4,432	48,315	44	668	396	90	49,513
2005	44	4,500	43,151	16	538	658	102	44,465
2006	44	5,763	56,144	55	1,057	992	105	58,353
2007	44	4,627	43,293	35	487	383	136	44,334
2008	44	5,552	54,051	46	509	787	143	55,536
2009	44	7,650	73,035	34	1,441	1,274	173	75,957
2010	44	7,588	70,774	31	1,768	974	279	73,826
2011	44	6,571	49,766	24	977	652	144	51,562
2012	44	6,536	73,419	16	1,170	896	147	75,649
2013	44	8,556	85,528	18	1,666	683	339	88,233
2014	44	10,236	88,513	0	2,606	2,769	342	94,230
2015	44	10,346	89,000	0	2,723	1,607	597	93,927
2016	44	9,334	58,273	26	1,255	1,733	329	61,616
2017	44	9,458	78,260	14	605	2,850	969	82,698
2018	44	9,377	92,034	6	326	3,272	326	96,311
Average	41	6,260	58,953	51	1,065	1,147	218	61,451

PROPOSAL 174 – Prohibit set gillnets in the personal use salmon fishery if the king salmon sport fishery in the Kenai or Kasilof Rivers is restricted.

5 AAC 77.540. Upper Cook Inlet Personal Use Salmon Fishery Management Plan.

PROPOSED BY: Joe Hanes.

WHAT WOULD THE PROPOSAL DO? This would close the Kasilof River personal use (PU) set gillnet fishery and re-open it as a dip net fishery any time the Kenai or Kasilof early-run king salmon sport fisheries were restricted to no bait or no retention. If the sport fish restrictions were rescinded, it is assumed that the PU set gillnet fishery would then re-open.

WHAT ARE THE CURRENT REGULATIONS? The Kasilof River PU set gillnet fishery is open from Jun 15–24 from 6:00 a.m. until 11:00 p.m. daily. The area open to fishing is approximately one mile south and north of the mouth of the Kasilof River and up to one mile offshore from mean high tide. Salmon may be taken only with set gillnets that may not exceed 10 fathoms in length, six inches in mesh size, and 45 meshes in depth. No part of a set gillnet may be operated within 100 feet of another set gillnet. The annual household limit for UCI PU fisheries is 25 salmon per head of household and 10 salmon for each dependent of the permit holder. All king salmon caught may be retained in the Kasilof River PU gillnet fishery.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Unless the board provided the department with authority to modify personal use fishing gear, this would result in a closure of the Kasilof River PU gillnet fishery any time the Kenai or Kasilof river early-run king salmon sport fisheries were restricted to no bait or no retention. This would result in an entire closure or midseason closures of the PU gillnet fishery in most years, reducing the harvest of king salmon by an unknown amount. Since the Kenai River early-run king salmon sport fishery is limited to unbaited, single-hook lures, it is assumed that the proposal would only apply when the sport fishery is further restricted by emergency order.

BACKGROUND: The Kasilof River PU set gillnet fishery primarily targets sockeye salmon, with a recent 10-year average annual harvest of 21,842 fish (Table 174-1). A relatively small number of king salmon are incidentally harvested. From 1996–2018, the average harvest of all-sizes of king salmon in the Kasilof River set gillnet PU fishery was 176 fish. In the last 10 years (2009–2018), the average harvest was 107 king salmon, while in the past five years, the average annual harvest was 98 king salmon. The stock composition of king salmon harvested in the Kasilof River gillnet PU fishery is unknown.

The Kasilof River PU gillnet fishery has been restricted in five of the past seven years (Table 174-2) to conserve Kenai and Kasilof river king salmon. These restrictions have included closing five of the 10 days the fishery was open (2013) to reducing the hours open to fishing from 17 hours to 12 hours daily (2015, 2018, and 2019).

The Kenai and Kasilof river early-run sport fisheries have both been prosecuted with numerous restrictions in recent years for king salmon conservation (Tables 174-3 and 174-4). Since 2010, these restrictions would have resulted in a closure to the Kasilof River PU gillnet fishery in 8 of 10 years.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. The department does not have authority to change gear in the PU fisheries, so the actions sought in this proposal are not possible unless the board provided that authority to the department. In addition, if this proposal were adopted, the department would need clarification as to where the dip net fishery would be open during the June 15–24 time-frame, i.e., in the same waters as the gillnet fishery or in the same waters as the standard dip net 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. Approval of this proposal is not expected to result in an additional direct cost for the department.

Table 174-1.—Harvest of salmon in the Kasilof River personal use set gillnet fishery, 1996–2018.

Year	Days open	King	Sockeye	Coho	Pink	Chum	Total
1996	5	46	9,506	0	8	1	9,561
1997	5	65	17,997	1	102	3	18,168
1998	5	126	15,975	0	15	12	16,128
1999	10	442	12,832	25	10	10	13,319
2000	13	514	14,774	9	17	10	15,324
2001	8	174	17,201	6	11	7	17,399
2002	10	192	17,980	12	30	13	18,227
2003	10	400	15,706	107	9	4	16,226
2004	10	163	25,417	58	6	0	25,644
2005	11	87	26,609	326	16	1	27,039
2006	10	287	28,867	420	11	6	29,591
2007	10	343	14,943	68	2	0	15,356
2008	10	151	23,432	65	35	23	23,706
2009	10	127	26,646	165	14	11	26,963
2010	10	136	21,924	23	23	1	22,106
2011	10	167	26,780	47	23	3	27,020
2012	10	103	15,638	161	53	15	15,969
2013	5	46	14,439	129	3	5	14,621
2014	10	50	22,567	30	105	18	22,770
2015	10	61	27,567	191	20	2	27,841
2016	10	141	26,539	23	5	23	26,731
2017	10	118	21,927	5	48	43	22,141
2018	10	120	14,390	2	22	5	14,539
<u>Averages</u>							
2014-2018	10	98	22,598	50	40	18	22,804
2009-2018	10	107	21,842	78	32	13	22,070
All Years	9	176	19,985	81	26	9	20,278

Table 174-2.—Restrictive actions taken in the Kasilof River personal use gillnet fishery for king salmon conservation, 2010-2019.

Year	EO No.	Action
2010	None	
2011	None	
2012	None	
2013	2	Closed fishery beginning June 20
2014	2	Reduced fishing time by 8 hours
2015	3	Reduced fishing time by 5 hours
2016	None	
2017	None	
2018	2	Reduced fishing time by 5 hours
2019	3	Reduced fishing time by 5 hours

Table 474-3.—Management actions taken in the Kasilof River early-run king salmon sport fishery, 1999–2019.

Year	Crooked Creek escapement	Management
1999	1,206	
2000	940	
2001	1,897	
2002	1,933	June 14- restricted
2003	2,500	No action
2004	2,196	No action
2005	1,909	No action
2006	1,516	May 18- additional day for retention of natural produced fish
2007	965	May 17- additional day for retention of natural produced fish
2008	879	No action
2009	617	No action
2010	1,088	June 5 - Bait and retention of natural king salmon prohibited, June 17- open
2011	654	No action
2012	631	June 15 - Bait and retention of natural king salmon prohibited
2013	1,102	May 1 - Bait and retention of natural king salmon prohibited
2014	1,411	May 1 - Bait and retention of natural king salmon prohibited
2015	1,456	May 1 - Bait and retention of natural king salmon prohibited,
2016	1,747	May 1 - Bait and retention of natural king salmon prohibited, June 18 opened
2017	911	No action
2018	714	June 13- Bait and retention of natural king salmon prohibited
2019	1,444	May 1 - Bait and retention of natural king salmon prohibited,

Table 174-4.—Management actions taken in the Kenai River early-run king salmon sport fishery, 1998–2019.

Year	Escapement	Total run	Kenai River
1998	5,918	7,719	
1999	2,808	10,471	
2000	6,580	8,812	
2001	6,455	8,937	
2002	8,489	9,442	June 11- Closed
2003	11,735	14,481	no action
2004	15,319	18,335	no action
2005	11,529	15,414	June 18- bait allowed
2006	6,072	10,605	June 10- bait allowed
2007	5,151	8,485	June 12- bait allowed
2008	4,138	7,604	June 1- bait allowed
2009	4,034	5,435	no action
2010	3,012	4,255	June 5 - closed, June 12- C&R slot limit, June 19- open
2011	5,196	6,543	June 29 - C&R slot limit
2012	2,977	3,376	June 15 - C&R slot limit, June 22- Closed
2013	1,601	1,688	May 1 - C&R, June 20- Closed
2014	2,621	2,690	May 1 -closed
2015	4,198	4,303	May 1 -closed
2016	6,478	6,567	May 1- closed, June 4 - C&R, June 18- open,
2017	6,725	7,402	June 13- liberalized size limit June 21- use of bait
2018	2,909	3,061	June 13- C&R, June 20- Closed
2019	4,128	4,216	May 1- C&R

PROPOSAL 163 – Prohibit guiding in the Kenai and Kasilof rivers dip net fishery.

5 AAC 77.540. Upper Cook Inlet Personal Use Salmon Fishery Management Plan.

PROPOSED BY: Catherine Felt.

WHAT WOULD THE PROPOSAL DO? This would prohibit guiding in the Kenai and Kasilof rivers personal use dip net fishery. Additionally, this proposal would establish definitions of a “personal use fishing guide” and “personal use fishing guide services.”

WHAT ARE THE CURRENT REGULATIONS? Current regulations do not restrict guides from providing commercial services to residents who desire to employ guides while participating in either the set gillnet or dip net personal use fisheries. In Upper Cook Inlet, the board has established personal use dip net fisheries at the Kasilof River, Kenai River, and Fish Creek, and a personal use set gillnet fishery at the Kasilof River.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Registered guides would no longer be able to provide commercial fishing guide services to personal use fishers on the Kenai or Kasilof Rivers. This may shift some personal use effort from vessels to the shore-based fisheries.

BACKGROUND: The *Upper Cook Inlet Personal Use Salmon Fishery Management Plan* (5 AAC 77.540) provides for a personal use salmon gillnet fishery at the mouth of the Kasilof River, and salmon dip net fisheries in the Kenai and Kasilof rivers, and Fish Creek in Northern Cook Inlet. This plan was in effect for the 1981 season and later adopted into regulation by the board in 1982. The plan has undergone several amendments since that time.

Beginning with the 1996 season, the board established a season of July 10 to August 5 (later amended to July 31) for the dip net fishery in the Kenai River. In 2002, the management plan was modified to manage the fishery more conservatively until inseason abundance information became available. The season dates remained unchanged, but the daily hours were reduced from 24 hours per day to 17 hours per day (6:00 a.m. to 11:00 p.m.), until the department could project that the total Kenai River sockeye salmon late run would exceed two million fish (modified to 2.3 million fish in 2011 when sonar operations transitioned to DIDSON). If the department determined that the late run exceeded two million fish, the fishery could be liberalized to 24 hours per day by EO, until the season closure on July 31.

The department estimates the total harvest and effort for the individual personal use fisheries from completed personal use permits which participants are required to fill out and return after the season has ended. However, the department does not currently estimate harvest or effort by guides or guided fishermen in Cook Inlet personal use fisheries. Harvest and effort in the Kenai and Kasilof personal use dip net fisheries is shown in tables 163-1 and 163-2.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. Adoption would result in decreased effort and harvest in the personal use 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. Approval of this proposal is not expected to result in an additional cost for the department.

Table 163-1.–Effort and harvest for the Kenai River personal use dip net fishery, 1998–2018.

Year	Days open	Days fished	Sockeye salmon	King salmon	Coho salmon	Pink salmon	Chum salmon	Total
1998	18	10,802	103,847	254	1,011	1,032	85	106,229
1999	22	13,738	149,504	488	1,009	1,666	102	152,769
2000	22	12,354	98,262	410	1,449	1,457	193	101,771
2001	22	14,772	150,766	638	1,555	1,326	155	154,440
2002	22	14,840	180,028	606	1,721	5,662	551	188,568
2003	22	15,263	223,580	1,016	1,332	1,647	249	227,824
2004	22	18,513	262,831	792	2,661	2,103	387	268,774
2005	22	20,977	295,496	997	2,512	1,806	321	301,132
2006	20	12,685	127,630	1,034	2,235	11,127	551	142,577
2007	22	21,908	291,270	1,509	2,111	1,939	472	297,301
2008	22	20,772	234,109	1,362	2,609	10,631	504	249,215
2009	22	26,171	339,993	1,189	2,401	5,482	285	349,350
2010	22	28,342	389,552	865	2,870	3,655	508	397,450
2011	22	32,818	537,765	1,243	4,745	3,914	915	548,583
2012	22	34,374	526,992	40	4,008	3,770	425	535,236
2013	22	33,193	347,222	11	3,169	3,625	701	354,727
2014	22	36,380	379,823	0	4,710	19,140	1,194	404,866
2015	22	31,487	377,532	66	4,150	4,147	957	386,853
2016	22	30,745	259,057	638	3,277	7,834	717	271,524
2017	22	27,775	297,049	1,194	732	7,962	886	307,824
2018	20	20,170	165,028	7	529	10,435	441	176,439
Average	22	22,766	273,206	684	2,419	5,255	505	282,069

Table 163-2.—Effort and harvest for the Kasilof River personal use dip net fishery, 1998–2018.

Year	Days open	Days fished	Sockeye salmon	Chinook salmon	Coho salmon	Pink salmon	Chum salmon	Total
1998	27	3,421	45,161	134	731	610	74	46,710
1999	27	3,611	37,176	127	286	264	52	37,905
2000	27	2,622	23,877	134	1,004	841	34	25,890
2001	27	3,382	37,612	138	766	307	23	38,846
2002	44	4,020	46,769	106	1,197	1862	139	50,073
2003	44	3,874	43,870	57	592	286	30	44,835
2004	44	4,432	48,315	44	668	396	90	49,513
2005	44	4,500	43,151	16	538	658	102	44,465
2006	44	5,763	56,144	55	1,057	992	105	58,353
2007	44	4,627	43,293	35	487	383	136	44,334
2008	44	5,552	54,051	46	509	787	143	55,536
2009	44	7,650	73,035	34	1,441	1,274	173	75,957
2010	44	7,588	70,774	31	1,768	974	279	73,826
2011	44	6,571	49,766	24	977	652	144	51,562
2012	44	6,536	73,419	16	1,170	896	147	75,649
2013	44	8,556	85,528	18	1,666	683	339	88,233
2014	44	10,236	88,513	0	2,606	2,769	342	94,230
2015	44	10,346	89,000	0	2,723	1,607	597	93,927
2016	44	9,334	58,273	26	1,255	1,733	329	61,616
2017	44	9,458	78,260	14	605	2,850	969	82,698
2018	44	9,377	92,034	6	326	3,272	326	96,311
Average	41	6,260	58,953	51	1,065	1,147	218	61,451

PROPOSAL 240 – Establish a personal use gillnet pike fishery.

5 AAC 77.540. Upper Cook Inlet Personal Use Salmon Fishery Management Plan.

PROPOSED BY: Matanuska Valley Fish and Game Advisory Committee.

WHAT WOULD THE PROPOSAL DO? This would establish a personal use gillnet pike fishery in the Matanuska-Susitna Valley to occur in all pike lakes or suspected lakes. No limits, all fish must be kept.

WHAT ARE THE CURRENT REGULATIONS? There is no personal use gillnet fishery for northern pike on the Susitna River drainage.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase harvest of northern pike by an unknown amount. This may result in an unknown, but likely small, increase in salmonid production, depending on the area and intensity with which netting occurs. An unknown increase in mortality of nontarget finfish species, waterfowl and small mammals would likely occur.

BACKGROUND: Northern pike were illegally introduced to the Susitna River drainage of Southcentral Alaska sometime in the early 1950's. This system encompasses tens of thousands of square miles and in terms of political boundaries, is roughly the size of the state of West Virginia. The Susitna River drainage is comprised of glacial rivers, numerous fast and slow clearwater tributaries and side channel sloughs, along with numerous interconnecting shallow lakes and ponds, large deep-water lakes and thousands of acres of adjacent wetland areas. The spread of northern pike in this system was fairly slow through the mid 1980's. However, since then, northern pike have rapidly expanded throughout most of their non-native range and can now be found throughout much of the Susitna Drainage, Knik Arm and Anchorage bowl lakes, and some waters of West Cook Inlet. The bulk of salmonid productivity in Northern Cook Inlet (NCI) takes place in the numerous fast, clearwater streams and large deep clearwater lakes that support little or no northern pike habitat. In these areas, predation impacts by invasive northern pike are fairly negligible. However, there are tributaries and lake systems that support vast expanses of northern pike habitat where overlap between salmonid and invasive northern pike habitat is moderate to severe, and northern pike predation on juvenile salmonids has had catastrophic impacts on salmonid communities. Most of the habitat suitable to northern pike is found within the lower-lying Westside Susitna area. The area from the headwaters of the Deshka River (Petersville Road) across the Kahiltna River to Hewitt Lake, then down to the mouth of the Susitna River, encompasses areas where most of the northern pike populations and habitat exist (Figure 240-1). The amount of available northern pike habitat in the Eastside Susitna area is sparse when compared to that of the Westside.

In 1977, the first-year sport harvest estimates were available, harvest of northern pike in the NCIMA was only 132 fish (Figure 240-2). Northern pike harvests slowly increased through 1983

when the harvest totaled 944 fish. Since 1984, harvest of northern pike has greatly increased, likely due to continued range expansion and increased angler interest. Interest in northern pike as a sport fish grew through the 1990s as concerns about their spread increased and regulations were subsequently liberalized. In 1996, the board liberalized northern pike regulations throughout NCI by increasing the bag and possession limit from 10 fish to no bag limit. Additional action taken provided for the use of five lines through the ice in select NCI lakes where northern pike were prolific. In 1998, action resulted in allowing the use of bow and arrow and spear for taking northern pike. During the 2002, 2008, and 2011 board meetings, additional lakes were added to the list of lakes where 5 lines were allowed through the ice to take pike. Currently, all lakes and streams designated for use of five lines contain nearly only northern pike. Harvest stabilized 1999-2010 at about 10,200 fish. Harvest has increased since, with peaks of 18,800 fish in 2013 and 17,500 fish in 2015.

During the 2011 board cycle, a proposal was passed prohibiting the live release of northern pike in the West Cook Inlet and all units of the Susitna River Drainage, areas where stocks of concern on king salmon had been identified. Over the past decade, the department and Cook Inlet Aquaculture Association have undertaken efforts to suppress northern pike in waters where pike habitat overlaps with productive sockeye and king salmon habitat, such as areas of Chelatna Lake, Hewitt and Whiskey lakes, Shell Lake, Alexander drainage, and lower Deshka River.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. The potential for killing nontarget fish and wildlife is high. Even when departmental staff closely monitor gillnets, migratory waterfowl can be netted and it can be difficult to release some of these birds, such as loons. A net that is lost could continue to take nontarget species for years. Current methods and means allowed for northern pike fishing in UCI are already very liberal, allow for the release of nontarget fish, and are not a risk to migratory waterfowl.

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. Approval of this proposal may result in an additional direct cost for the department if reporting requirements and permits were required.

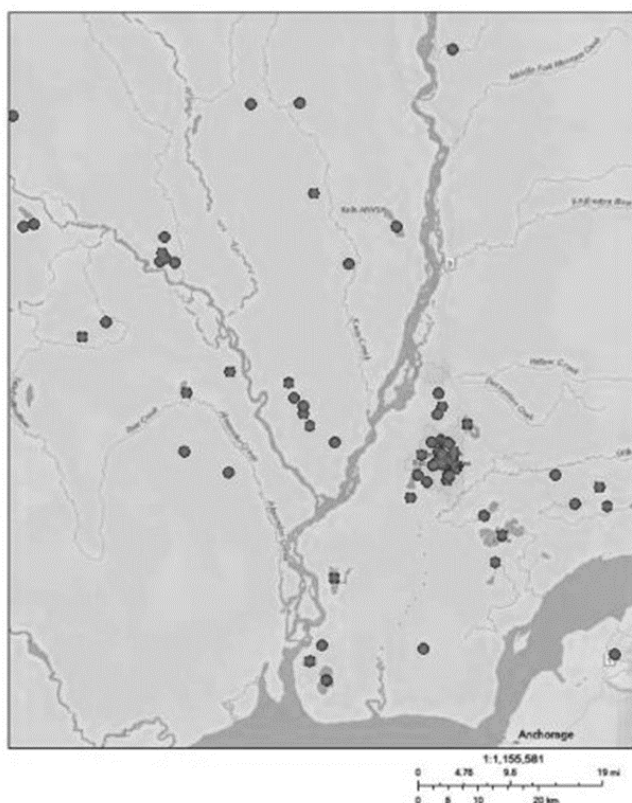


Figure 240-1.—Map of confirmed northern pike waters in the Susitna and Knik areas of Northern Cook Inlet.

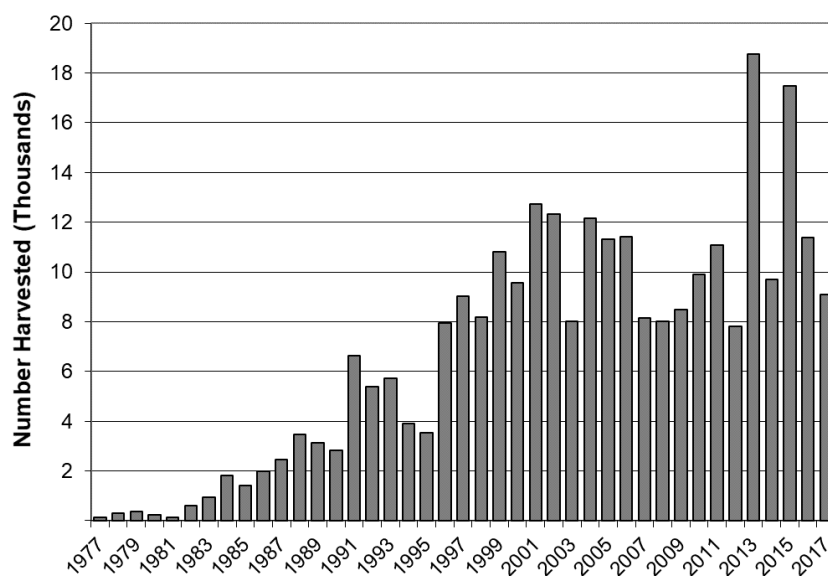


Figure 240-2.—Northern Cook Inlet sport harvest of northern pike.

PROPOSAL 239 – Establish a personal use gillnet pike fishery.

5 AAC 77.540. Upper Cook Inlet Personal Use Salmon Fishery Management Plan.

PROPOSED BY: Brent Lannen.

WHAT WOULD THE PROPOSAL DO? This would establish a personal use gillnet northern pike fishery in the Matanuska-Susitna Valley to occur in all northern pike lakes or suspected lakes. No limits, all fish must be kept.

WHAT ARE THE CURRENT REGULATIONS? There is no personal use gillnet fishery for northern pike on the Susitna River drainage.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase harvest of northern pike by an unknown amount. This may result in an unknown, but likely small, increase in salmonid production, depending on the area and intensity with which netting occurs. An unknown increase in mortality of nontarget finfish species, waterfowl and small mammals would likely occur.

BACKGROUND: Northern pike were illegally introduced to the Susitna River drainage of Southcentral Alaska sometime in the early 1950's. This system encompasses tens of thousands of square miles and in terms of political boundaries, is roughly the size of the state of West Virginia. The Susitna River drainage is comprised of glacial rivers, numerous fast and slow clearwater tributaries and side channel sloughs, along with numerous interconnecting shallow lakes and ponds, large deep-water lakes and thousands of acres of adjacent wetland areas. The spread of northern pike in this system was fairly slow through the mid 1980's. However, since then, northern pike have rapidly expanded throughout most of their non-native range and can now be found throughout much of the Susitna Drainage, Knik Arm and Anchorage bowl lakes, and some waters of West Cook Inlet. The bulk of salmonid productivity in Northern Cook Inlet (NCI) takes place in the numerous fast, clearwater streams and large deep clearwater lakes that support little or no northern pike habitat. In these areas, predation impacts by invasive northern pike are fairly negligible. However, there are tributaries and lake systems that support vast expanses of northern pike habitat where overlap between salmonid and invasive northern pike habitat is moderate to severe, and northern pike predation on juvenile salmonids has had catastrophic impacts on salmonid communities. Most of the habitat suitable to northern pike is found within the lower-lying Westside Susitna area. The area from the headwaters of the Deshka River (Petersville Road) across the Kahiltna River to Hewitt Lake, then down to the mouth of the Susitna River, encompasses areas where most of the northern pike populations and habitat exist (Figure 239-1). The amount of available northern pike habitat in the Eastside Susitna area is sparse when compared to that of the Westside.

In 1977, the first-year sport harvest estimates were available, harvest of northern pike in the NCIMA was only 132 fish (Figure 239-2). Northern pike harvests slowly increased through 1983

when the harvest totaled 944 fish. Since 1984, harvest of northern pike has greatly increased, likely due to continued range expansion and increased angler interest. Interest in northern pike as a sport fish grew through the 1990s as concerns about their spread increased and regulations were subsequently liberalized. In 1996, the board liberalized northern pike regulations throughout NCI by increasing the bag and possession limit from 10 fish to no bag limit. Additional action taken provided for the use of five lines through the ice in select NCI lakes where northern pike were prolific. In 1998, action resulted in allowing the use of bow and arrow and spear for taking northern pike. During the 2002, 2008, and 2011 board meetings, additional lakes were added to the list of lakes where 5 lines were allowed through the ice to take pike. Currently, all lakes and streams designated for use of five lines contain nearly only northern pike. Harvest stabilized 1999-2010 at about 10,200 fish (Figure 214-2). Harvest has increased since, with peaks of 18,800 fish in 2013 and 17,500 fish in 2015.

During the 2011 UCI board meeting, a proposal was passed prohibiting the live release of northern pike in the West Cook Inlet and all units of the Susitna River Drainage, areas where stocks of concern on king salmon had been identified. Over the past decade, the department and Cook Inlet Aquaculture Association have undertaken efforts to suppress northern pike in waters where pike habitat overlaps with productive sockeye and king salmon habitat, such as areas of Chelatna Lake, Hewitt and Whiskey lakes, Shell Lake, Alexander drainage, and lower Deshka River.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. The potential for killing nontarget fish and wildlife is high. Even when departmental staff closely monitor gillnets, migratory waterfowl can be netted and it can be difficult to release some of these birds, such as loons. A net that is lost could continue to take nontarget species for years. Current methods and means allowed for northern pike fishing in UCI are already very liberal, allow for the release of nontarget fish, and are not a risk to migratory waterfowl.

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. Approval of this proposal may result in an additional direct cost for the department if reporting requirements and permits were required.

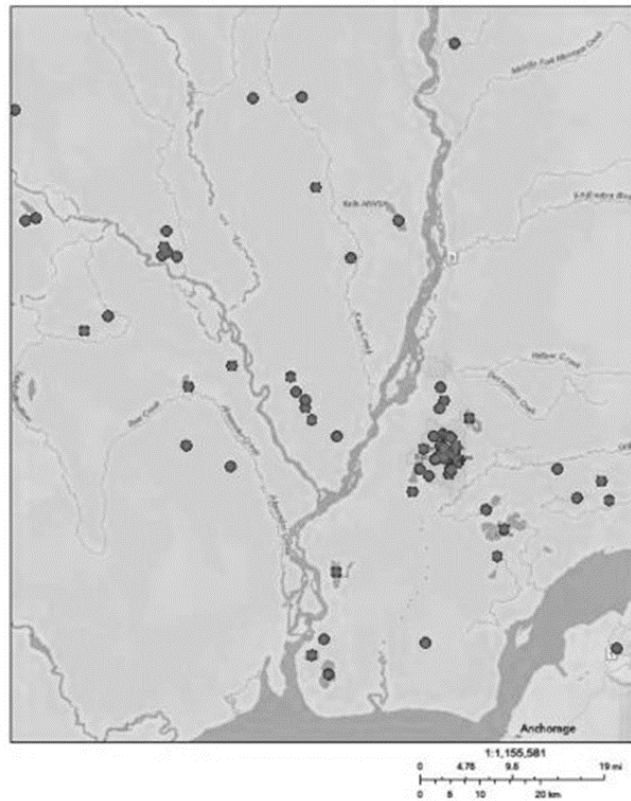


Figure 239-1.—Map of confirmed northern pike waters in the Susitna and Knik areas of Northern Cook Inlet.

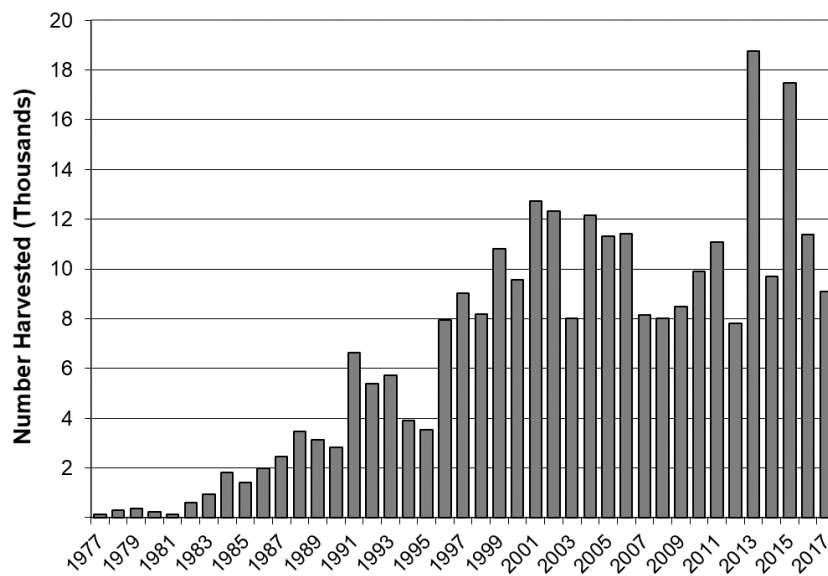


Figure 239-2.—Northern Cook Inlet sport harvest of northern pike.

PROPOSAL 127 – Amend the Central District Drift Gillnet Fishery Management Plan.

5 AAC 21.353. Central District Drift Gillnet Fishery Management Plan.

PROPOSED BY: Matanuska Valley Fish and Game Advisory Committee.

WHAT WOULD THE PROPOSAL DO? This would amend the *Central District Drift Gillnet Fishery Management Plan (CDDGFMP)* to allocate 60%–80% of northern-bound sockeye and coho salmon harvests to Northern Cook Inlet (NCI) user groups.

WHAT ARE THE CURRENT REGULATIONS? The preamble to the *CDDGFMP* reads, “The purpose of this management plan is to ensure adequate escapement of salmon into the 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.”

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? There are important details lacking in this proposal that make it difficult to determine its effects. In order to allocate a specific percentage of sockeye and coho salmon harvest to NCI fisheries, the department would have to make inseason estimates of the total harvest from all users of both sockeye and coho salmon. Currently, sport fishery harvest estimates of these stocks are made through data collected in an annual statewide survey of sport anglers, data which are not available until the following year. Allocating 60-80% of the sockeye and coho salmon harvest to NCI sport and commercial fishermen would result in a significant reduction in the drift gillnet harvest of sockeye salmon, including the harvest of Kenai and Kasilof river sockeye salmon. Again, the proposal does not provide details as to how the department would manage the drift gillnet fleet in order to meet the specified allocative provisions.

In addition, current genetic stock composition estimates of the commercial harvest of sockeye salmon do not allow for an accurate estimate of NCI sockeye salmon stocks. The West Cook Inlet reporting group has sockeye salmon originating from systems within NCI and outside this area (Figure 127-1). Therefore, it is not possible to accurately estimate the commercial harvest of NCI sockeye salmon. But, based on the drift gillnet harvest from other reporting groups in the NCI area, in order to meet a 60%–80% allocation to NCI set gillnet and sport fisheries, this would require a significant decrease in the drift gillnet harvest of NCI sockeye salmon, which would also significantly reduce the drift gillnet harvest of Kenai and Kasilof river sockeye salmon.

BACKGROUND: 5 AAC 21.360. *Kenai River Late-Run Sockeye Salmon Management Plan*, states, “The department shall manage the Kenai River late-run sockeye salmon stocks primarily for commercial uses based on abundance. Because Kenai River sockeye salmon are the most abundant sockeye salmon stock in UCI, many management decisions, and even management plan

provisions, are driven by the abundance of Kenai River sockeye salmon. However, this plan also states, “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.” These management plan objectives are primarily accomplished with specific provisions that restrict commercial fishing during two time periods, July 9–15 and July 16–31, where the drift fleet is restricted to specific areas of the Central District in order to reduce the drift gillnet harvest of NCI sockeye and coho salmon.

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 (Table 125-1).

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 125-1). 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 125-1). 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 (Figures 123-1 and 123-2); 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 125-1). 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 125-1).

In 2014, modifications to the drift gillnet plan included: 1) Both regular fishing periods from July 9–15 were restricted to the Expanded Kenai and Expanded Kasilof sections and Drift Gillnet Area 1; 2) At Kenai River run strengths greater than 2.3 million fish, a third 12 hour fishing period during this time may be allowed in the Expanded Kenai and Expanded Kasilof sections and Drift Gillnet Area 1; 3) from July 16 to 31, at run strengths less than 2.3 million Kenai River sockeye salmon, fishing during all regular 12 hour fishing periods were to be restricted to the Expanded Kenai and Expanded Kasilof sections; 4) at run strengths of 2.3 million to 4.6 million Kenai River sockeye salmon, fishing during one 12 hour regular fishing period per week will be restricted to any or all of the following areas: Expanded Kenai Section, Expanded Kasilof Section, Anchor Point Section (Figure 4), and Drift Area 1. The remaining weekly 12 hour regular fishing period will be restricted to 1 or more of the following: Expanded Kenai, Expanded Kasilof, or Anchor Point sections; 5) at run strengths greater than 4.6 million Kenai River sockeye salmon, fishing during one 12 hour fishing period per week will be restricted to the Expanded Kenai, Expanded Kasilof, and Anchor Point sections. There are no mandatory restrictions on the remaining 12-hour

regular fishing period; 6) all additional fishing time, other than regular fishing periods, is allowed in any or all of the following: Expanded Kenai, Expanded Kasilof and Anchor Point sections; 7) added the "Anchor Point Section" to the list of corridors. Finally, in 2014, a new one-percent rule for drift gillnetting was passed. The drift rule states that after August 1 drift gillnet regular periods will be restricted to Drift Gillnet Areas 3 and 4, if the drift fleet harvests less than one-percent of their total sockeye salmon harvest for two consecutive fishing periods.

In 2017, one of the drift gillnet Area 1 openings from July 16–31 in Kenai River sockeye salmon runs of 2.3–4.6 million fish could be expanded to districtwide instead of just in Drift Area 1. The drift gillnet average annual harvest of both sockeye and coho salmon has declined through time (Table 127-1). The average annual sockeye salmon harvest of 1.52 million fish from the most recent 10 years (2000–2019) is approximately one million fish less than the 1980–1989 average annual harvest of 2.51 million fish. Similarly, for coho salmon, the most recent 10-year average annual harvest of 110,000 fish is 175,000 fish less than the average annual harvest of 285,000 fish from 1980–1989.

Based on sport and commercial harvest estimates of sockeye salmon from NCI drainages (Table 127-2), in order to meet a 60%-80% harvest allocation to NCI sport and ND set gillnet commercial fisheries, the drift gillnet commercial harvest of NCI stocks would need to be significantly reduced. As noted earlier, the West Cook Inlet reporting group (Figure 127-1) contains sockeye salmon stocks outside of NCI drainages.

From 2013–2016, genetic mixed stock analyses were conducted on coho salmon harvested in UCI commercial fisheries (Tables 127-3 through 127-8). The drift gillnet average annual harvest of NCI coho salmon during these four years averaged 24,000 fish from the Northwest CI; 23,000 from Susitna; 5,400 from Deshka River; 28,000 from Yentna River; 21,000 from Knik Arm; 1,700 from Jim Creek; and 7,800 originating from Turnagain/Northeast CI streams (Figure 127-1; Table 127-8). Coho salmon abundance estimates were completed for the entire Susitna River drainage in 2014 and 2015; in 2014 the estimate was 159,000 fish, in 2015 the coho salmon abundance estimate was 263,000 fish.

From 1977–2018, the average annual total coho salmon harvest in the NCI management area sport fisheries was approximately 58,000 fish per year (Table 127-9). In the most recent five years (2013–2018), the average annual harvest has been 43,000 fish. The average annual sport fishery harvest in the Little Susitna River from 1988–2018 was approximately 12,000 fish (Table 127-10). The average annual coho salmon sport fishery harvest from 2002–2018 at Fish Creek was approximately 5,600 fish; with 1,100 fish at Jim Creek, and 3,300 coho salmon at Jim Creek.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal; however, the department currently does not analyze harvest data inseason (sport or commercial) that would be needed to manage fisheries to successfully meet inseason harvest allocation criteria.

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. Adoption of this proposal would result in significant new costs for the department to implement if the intent was to manage to the allocations inseason. In order to manage to the harvest allocations sought by this proposal inseason, genetic

stock composition estimates of the drift and set gillnet fishery harvest of sockeye and coho salmon would need to be made inseason. The Department does not have sufficient funding to implement new inseason GSI work in Cook Inlet at this time. In addition, sport fishery harvest of sockeye and coho salmon throughout NCI drainages would also need to be determined inseason.

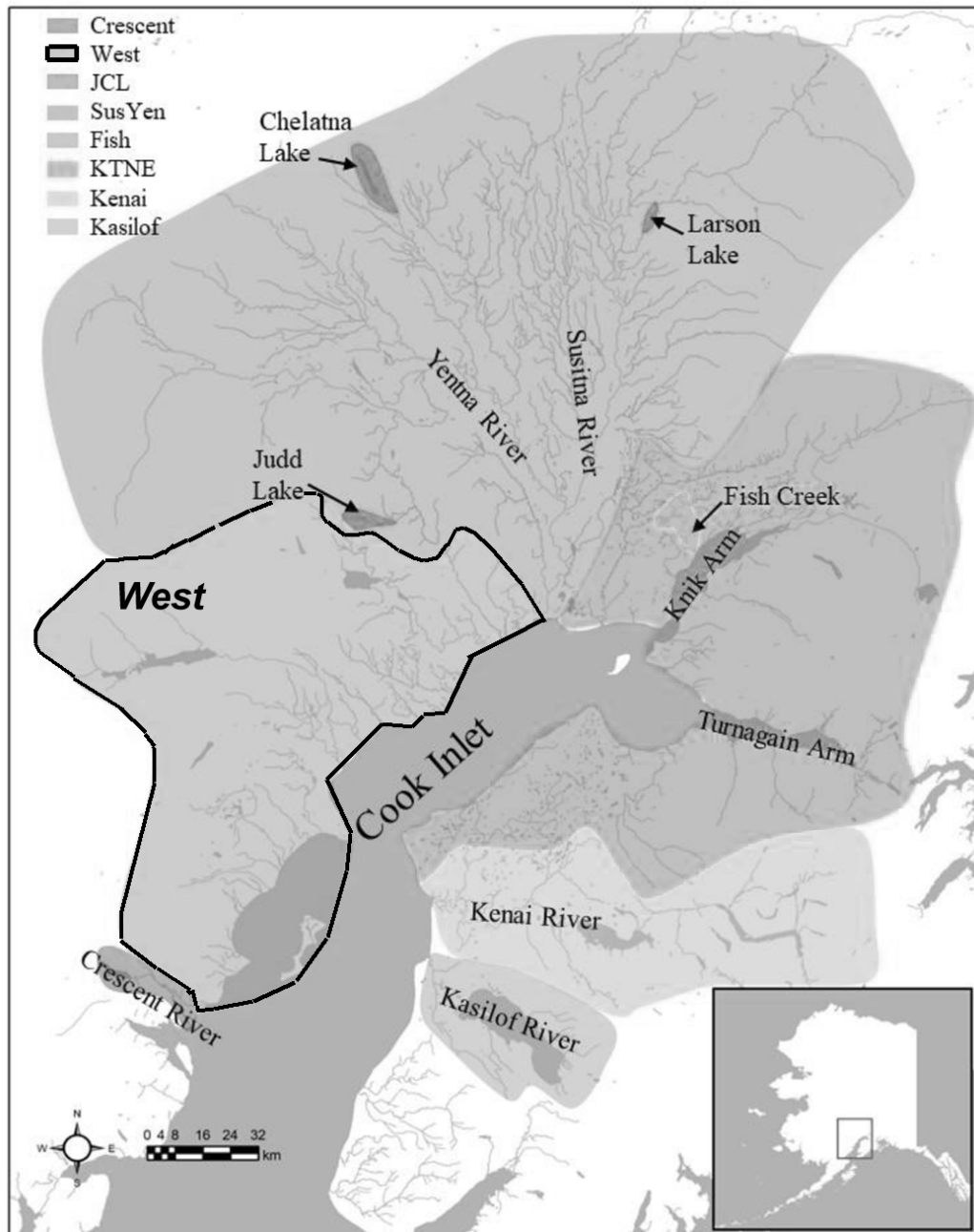


Figure 127-1.—Map of Cook Inlet showing reporting group areas for genetic mixed stock analysis of sockeye salmon harvest samples.

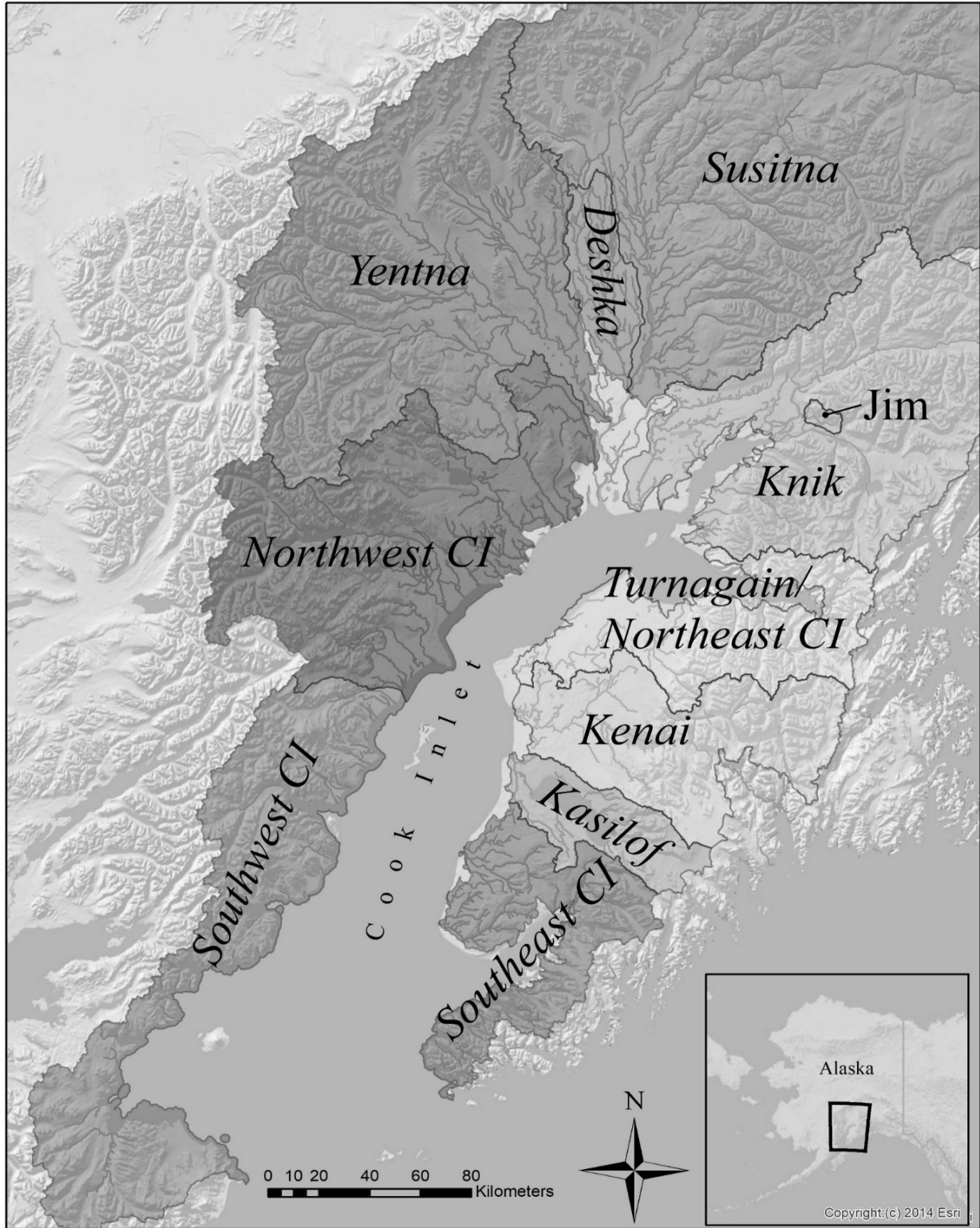


Figure 127-2.—Map of Cook Inlet showing reporting group areas for genetic mixed stock analysis of coho salmon harvest samples.

Table 127-1.—Drift gillnet commercial harvest of sockeye and coho salmon, 1980–2019.

Year	Sockeye	Coho
1980	769,078	88,792
1981	632,991	221,969
1982	2,102,307	398,958
1983	3,222,204	318,211
1984	1,234,388	196,614
1985	2,032,957	357,388
1986	2,837,857	506,818
1987	5,638,916	202,506
1988	4,139,358	278,828
1989		
1990	2,305,742	247,453
1991	1,118,138	176,245
1992	6,069,495	267,300
1993	2,558,732	121,829
1994	1,901,475	310,114
1995	1,773,873	241,473
1996	2,205,067	171,434
1997	2,197,961	78,666
1998	599,396	83,338
1999	1,413,995	64,814
2000	656,427	131,478
2001	846,275	39,418
2002	1,367,251	125,831
2003	1,593,638	52,432
2004	2,529,642	199,587
2005	2,520,327	144,753
2006	784,771	98,473
2007	1,823,481	108,703
2008	983,303	89,428
2009	968,075	82,096
2010	1,587,657	110,275
2011	3,201,035	40,858
2012	2,924,144	74,678
2013	1,662,561	184,771
2014	1,501,678	76,932
2015	1,012,684	130,720
2016	1,266,746	90,242
2017	880,279	191,490
2018	400,269	108,906
2019	749,101	88,618
<u>Averages</u>		
1980-1989	2,512,228	285,565
1990-1999	2,214,387	176,267
2000-2009	1,407,319	107,220
2010-2019	1,518,615	109,749

Table 127-2.—Estimates of Northern Cook Inlet (NCI) sockeye salmon harvest in sport fisheries, Northern District (ND) commercial set gillnet and Central District drift gillnet fisheries, 2006–2019.

Year	Sport harvest				ND Set ^a	Sport/ND Set	Drift ^a	Total	60-80% Allocation	
	Susitna	Knik Arm	W. NCI	Anchorage					60%	80%
2006	2,038	6,668	11	80	7,226	16,023	86,375	102,398	61,439	81,918
2007	4,647	8,918	104	172	11,385	25,226	335,160	360,386	216,232	288,309
2008	4,403	8,705	0	223	21,064	34,395	172,814	207,209	124,325	165,767
2009	9,682	5,997	0	192	31,167	47,038	234,743	281,781	169,069	225,425
2010	5,449	5,630	0	193	36,327	47,599	330,612	378,211	226,927	302,569
2011	5,872	3,719	17	244	32,072	41,924	390,372	432,296	259,378	345,837
2012	5,395	2,685	0	64	18,046	26,190	285,408	311,598	186,959	249,278
2013	9,360	2,749	19	28	21,806	33,962	206,633	240,595	144,357	192,476
2014	6,084	2,252	69	288	32,841	41,534	116,584	158,118	94,871	126,494
2015	5,411	2,183	0	266	46,722	54,582	209,135	263,717	158,230	210,974
2016	10,451	3,418	0	16	34,802	48,687	136,393	185,080	111,048	148,064
2017	5,092	1,263	0	145	42,524	49,024	279,804	328,828	197,297	263,062
2018	6,790			193	45,629	52,612	151,021	203,633	122,180	162,906
Averages	6,206	4,516	18	162	29,355	39,907	225,773	265,681	159,408	212,545

^a Estimates of Northern Cook Inlet sockeye salmon harvested in set and drift gillnet commercial fisheries include harvest from the West Cook Inlet, JCL, Sus/Yen, Fish, and KTNE reporting groups. An unknown proportion of the harvest in the West Cook Inlet reporting group contains sockeye salmon originating from non-NCI drainages.

Table 127-3.—Stock-specific harvest, standard deviation (SD), and 90% credibility intervals calculated using a stratified estimator (see text) for combined strata in the Central District drift gillnet (5 temporal strata) and Northern District set gillnet (3 spatial strata) fisheries and based on genetic analysis of mixtures of coho salmon harvested in the Upper Cook Inlet in 2013.combined temporal strata in the Central (1 area stratum) and Northern (1 area stratum) districts and based on genetic analysis of mixtures of coho salmon harvested in the Upper Cook Inlet in 2013 (A. W. Barclay, Commercial Fisheries Biologist, ADF&G, Anchorage, personal communication).

Area strata	Reporting group	Harvest	90% CI		SD
			5%	95%	
Central District drift gillnet					
	<i>Southwest</i>	1,621	1,066	2,295	389
	<i>Northwest</i>	35,981	29,874	42,448	3,731
	<i>Susitna</i>	37,207	30,437	44,197	4,108
	<i>Deshka</i>	10,094	6,640	14,125	2,267
	<i>Yentna</i>	53,940	46,388	61,868	4,745
	<i>Knik</i>	31,681	26,175	37,435	3,380
	<i>Jim</i>	2,444	1,142	3,985	876
	<i>Turnagain/Northeast</i>	6,240	2,045	10,771	2,619
	<i>Kenai</i>	1,590	823	2,472	513
	<i>Kasilof</i>	237	0	723	255
	<i>Southeast</i>	782	144	1,607	453
	Harvest represented	181,818			
	Harvest unanalyzed	2,953			
	Total Harvest	184,771			
Northern District, Eastern and General subdistricts set gillnet					
	<i>Southwest</i>	30	0	152	59
	<i>Northwest</i>	6,783	5,042	8,694	1,100
	<i>Susitna</i>	5,712	3,875	7,634	1,141
	<i>Deshka</i>	1,449	471	2,539	626
	<i>Yentna</i>	11,667	9,791	13,658	1,149
	<i>Knik</i>	7,685	6,527	8,934	726
	<i>Jim</i>	475	175	855	207
	<i>Turnagain/Northeast</i>	7,932	6,670	9,225	777
	<i>Kenai</i>	513	224	829	187
	<i>Kasilof</i>	0	0	64	34
	<i>Southeast</i>	0	0	77	39
	Harvest represented	42,246			
	Harvest unanalyzed	147			
	Total harvest	42,393			

Note: Stock-specific harvest numbers may not sum to the total harvest due to rounding error.

Table 127-4.—Stock-specific harvest, standard deviation (SD), and 90% credibility intervals calculated using a stratified estimator (see text) for combined strata in the Central District drift gillnet (5 temporal strata) and Northern District set gillnet (3 spatial strata) fisheries and based on genetic analysis of mixtures of coho salmon harvested in the Upper Cook Inlet in 2013.combined temporal strata in the Central (1 area stratum) and Northern (1 area stratum) districts and based on genetic analysis of mixtures of coho salmon harvested in the Upper Cook Inlet in 2014 (A. W. Barclay, Commercial Fisheries Biologist, ADF&G, Anchorage, personal communication).

Area strata	Reporting group	Harvest	90% CI		SD
			5%	95%	
Central District drift gillnet					
	<i>Southwest</i>	334	144	601	141
	<i>Northwest</i>	11,717	9,742	14,022	1,316
	<i>Susitna</i>	16,593	13,201	20,262	2,168
	<i>Deshka</i>	3,163	1,467	4,920	1,053
	<i>Yentna</i>	14,752	11,651	17,781	1,884
	<i>Knik</i>	14,654	12,425	17,061	1,397
	<i>Jim</i>	696	54	1,387	400
	<i>Turnagain/Northeast</i>	7,937	5,544	10,596	1,541
	<i>Kenai</i>	1,589	1,078	2,178	335
	<i>Kasilof</i>	3	0	118	63
	<i>Southeast</i>	3	0	141	67
	Harvest represented	71,441			
	Harvest unanalyzed	5,491			
	Total Harvest	76,932			
Northern District, Eastern and General subdistricts set gillnet					
	<i>Southwest</i>	0	0	60	28
	<i>Northwest</i>	6,095	4,799	7,456	820
	<i>Susitna</i>	4,847	3,462	6,290	863
	<i>Deshka</i>	0	0	807	386
	<i>Yentna</i>	4,877	3,687	6,085	747
	<i>Knik</i>	9,000	7,980	10,041	629
	<i>Jim</i>	523	262	827	175
	<i>Turnagain/Northeast</i>	8,169	7,135	9,380	704
	<i>Kenai</i>	189	36	393	115
	<i>Kasilof</i>	3	0	78	36
	<i>Southeast</i>	46	1	191	66
	Harvest represented	33,750			
	Harvest unanalyzed	1,375			
	Total harvest	35,125			

Note: Stock-specific harvest numbers may not sum to the total harvest due to rounding error.

Table 127-5.—Stock-specific harvest, standard deviation (SD), and 90% credibility intervals calculated using a stratified estimator (see text) for combined strata in the Central District drift gillnet excluding corridor-only periods (5 temporal strata), drift gillnet corridor-only periods (1 temporal stratum) and Upper Subdistrict set gillnet (1 temporal stratum) and Northern District set gillnet (3 spatial strata) fisheries and based on genetic analysis of mixtures of coho salmon harvested in the Upper Cook Inlet in 2015 (A. W. Barclay, Commercial Fisheries Biologist, ADF&G, Anchorage, personal communication).

Area strata	Reporting group	Harvest	90% CI		SD
			0	1	
Central District drift gillnet (excluding corridor-only periods)					
	<i>Southwest</i>	649	151	1,414	386
	<i>Northwest</i>	26,843	23,316	30,473	2,210
	<i>Susitna</i>	16,044	11,650	20,426	2,676
	<i>Deshka</i>	2,448	886	4,153	1,005
	<i>Yentna</i>	20,478	16,481	24,625	2,498
	<i>Knik</i>	18,522	15,768	21,311	1,701
	<i>Jim</i>	1,844	1,110	2,709	485
	<i>Turnagain/Northeast</i>	6,675	4,217	9,231	1,531
	<i>Kenai</i>	2,590	1,760	3,496	525
	<i>Kasilof</i>	28	0	345	147
	<i>Southeast</i>	572	52	1,188	366
	Harvest represented	96,694			
	Harvest unanalyzed	6,007			
	Total Harvest	102,701			
Central District drift gillnet (corridor-only periods)					
	<i>Southwest</i>	0	0	74	50
	<i>Northwest</i>	4,498	2,864	6,338	1,062
	<i>Susitna</i>	3,972	2,013	6,154	1,255
	<i>Deshka</i>	507	0	1,660	696
	<i>Yentna</i>	7,545	5,279	9,808	1,365
	<i>Knik</i>	7,334	5,762	9,106	1,022
	<i>Jim</i>	706	303	1,235	284
	<i>Turnagain/Northeast</i>	2,531	1,358	3,967	797
	<i>Kenai</i>	313	0	754	245
	<i>Kasilof</i>	0	0	69	45
	<i>Southeast</i>	0	0	58	35
	Harvest represented	27,405			
	Harvest unanalyzed	614			
	Total harvest	28,019			

-continued-

Table 127-5.–Page 2 of 2.

Area strata	Reporting group	Harvest	90% CI		SD
			0	1	
Central District, Upper Subdistrict set gillnet					
	<i>Southwest</i>	29	0	201	76
	<i>Northwest</i>	2,233	1,167	3,337	649
	<i>Susitna</i>	1,923	576	3,267	808
	<i>Deshka</i>	20	0	495	206
	<i>Yentna</i>	1,659	577	2,859	690
	<i>Knik</i>	3,998	2,879	5,246	728
	<i>Jim</i>	395	167	671	156
	<i>Turnagain/Northeast</i>	2,205	1,449	3,007	480
	<i>Kenai</i>	4,576	3,833	5,331	450
	<i>Kasilof</i>	467	161	843	209
	<i>Southeast</i>	12	0	212	91
	Harvest represented	17,517			
	Harvest unanalyzed	431			
	Total Harvest	17,948			
Area strata	Reporting group	Harvest	90% CI		SD
			0	1	
Northern District, Eastern and General subdistricts set gillnet					
	<i>Southwest</i>	6	0	74	40
	<i>Northwest</i>	7,390	5,434	9,456	1,201
	<i>Susitna</i>	4,271	2,492	6,163	1,123
	<i>Deshka</i>	1,074	0	2,230	687
	<i>Yentna</i>	8,542	6,875	10,234	1,021
	<i>Knik</i>	12,438	10,712	14,215	1,081
	<i>Jim</i>	372	117	705	182
	<i>Turnagain/Northeast</i>	8,519	7,371	9,873	768
	<i>Kenai</i>	303	120	550	132
	<i>Kasilof</i>	100	0	288	99
	<i>Southeast</i>	0	0	131	68
	Harvest represented	43,015			
	Harvest unanalyzed	3,488			
	Total harvest	46,503			

Note: Stock-specific harvest numbers may not sum to the total harvest due to rounding error.

Table 127-6.—Stock-specific harvest, standard deviation (SD), and 90% credibility intervals calculated using a stratified estimator (see text) for combined strata in the Central District drift gillnet excluding corridor-only periods (5 temporal strata), drift gillnet corridor-only periods (1 temporal stratum) and Upper Subdistrict set gillnet (1 temporal stratum) and Northern District set gillnet (3 spatial strata) fisheries and based on genetic analysis of mixtures of coho salmon harvested in the Upper Cook Inlet in 2016 (A. W. Barclay, Commercial Fisheries Biologist, ADF&G, Anchorage, personal communication).

Area strata	Reporting group	Harvest	90% CI		SD
			5%	95%	
Central District drift gillnet (excluding corridor-only periods)					
	<i>Southwest</i>	667	194	1,346	367
	<i>Northwest</i>	17,072	12,729	21,569	2,701
	<i>Susitna</i>	14,762	10,739	19,072	2,545
	<i>Deshka</i>	4,291	2,385	6,294	1,191
	<i>Yentna</i>	11,136	7,803	14,669	2,081
	<i>Knik</i>	8,101	4,888	11,883	2,185
	<i>Jim</i>	1,230	531	2,050	471
	<i>Turnagain/Northeast</i>	6,053	2,742	9,471	2,036
	<i>Kenai</i>	1,721	1,016	2,578	466
	<i>Kasilof</i>	549	82	1,470	473
	<i>Southeast</i>	501	52	1,508	480
	Harvest represented	66,083			
	Harvest unanalyzed	5,984			
	Total harvest	72,067			
Central District drift gillnet (corridor-only periods)					
	<i>Southwest</i>	696	393	1,041	199
	<i>Northwest</i>	0	0	337	159
	<i>Susitna</i>	2,503	1,408	3,601	670
	<i>Deshka</i>	1,196	567	1,864	387
	<i>Yentna</i>	5,101	4,051	6,185	637
	<i>Knik</i>	4,918	3,903	5,991	634
	<i>Jim</i>	28	0	285	117
	<i>Turnagain/Northeast</i>	1,757	852	2,747	578
	<i>Kenai</i>	533	299	837	166
	<i>Kasilof</i>	0	0	80	42
	<i>Southeast</i>	418	95	824	223
	Harvest represented	17,151			
	Harvest unanalyzed	1,024			
	Total harvest	18,175			

-continued-

Table 127-6.–Page 2 of 2.

Area strata	Reporting group	Harvest	90% CI		SD
			5%	95%	
Central District, Upper Subdistrict set gillnet					
	<i>Southwest</i>	120	29	314	101
	<i>Northwest</i>	0	0	350	157
	<i>Susitna</i>	553	0	1,230	413
	<i>Deshka</i>	140	0	602	230
	<i>Yentna</i>	771	100	1,444	395
	<i>Knik</i>	417	0	942	308
	<i>Jim</i>	0	0	34	22
	<i>Turnagain/Northeast</i>	3,469	2,542	4,467	583
	<i>Kenai</i>	5,395	4,746	6,039	393
	<i>Kasilof</i>	21	0	143	57
	<i>Southeast</i>	343	74	654	174
	Harvest represented	11,228			
	Harvest unanalyzed	378			
	Total Harvest	11,606			
Area strata	Reporting group	Harvest	90% CI		SD
			5%	95%	
Northern District, Eastern and General subdistricts set gillnet					
	<i>Southwest</i>	4	0	82	39
	<i>Northwest</i>	4,175	2,985	5,622	784
	<i>Susitna</i>	4,338	2,755	5,801	932
	<i>Deshka</i>	1,578	859	2,361	452
	<i>Yentna</i>	5,014	3,701	6,281	785
	<i>Knik</i>	5,587	4,816	6,405	497
	<i>Jim</i>	188	58	367	100
	<i>Turnagain/Northeast</i>	8,448	7,619	9,280	511
	<i>Kenai</i>	298	140	507	112
	<i>Kasilof</i>	22	0	111	41
	<i>Southeast</i>	17	0	159	71
	Harvest represented	29,669			
	Harvest unanalyzed	780			
	Total Harvest	30,449			

Note: Stock-specific harvest numbers may not sum to the total harvest due to rounding error.

Table 127-7.—Stock-specific harvest, standard deviation (SD), coefficient of variation (CV), and 90% credibility intervals calculated using a stratified estimator (see text) for combined temporal strata in all fishing area strata and based on genetic analysis of mixtures of coho salmon harvested in the Upper Cook Inlet, 2013–2016 (A. W. Barclay, Commercial Fisheries Biologist, ADF&G, Anchorage, personal communication).

Year	Reporting Group	Harvest	90% CI		SD	CV
			5%	95%		
2013	<i>Southwest</i>	1,651	1,089	2,349	393	24%
	<i>Northwest</i>	42,764	36,614	49,336	3,879	9%
	<i>Susitna</i>	42,919	35,940	49,962	4,237	10%
	<i>Deshka</i>	11,543	8,001	15,632	2,352	20%
	<i>Yentna</i>	65,607	57,889	73,603	4,842	7%
	<i>Knik</i>	39,366	33,776	45,264	3,456	9%
	<i>Jim</i>	2,919	1,555	4,475	902	31%
	<i>Turnagain/Northeast</i>	14,172	9,808	18,917	2,725	19%
	<i>Kenai</i>	2,103	1,275	3,068	551	26%
	<i>Kasilof</i>	237	0	725	257	108%
	<i>Southeast</i>	782	134	1,612	453	58%
	Harvest represented	224,064				
	Harvest unanalyzed	36,879				
	Total harvest	260,943				
2014	<i>Southwest</i>	334	136	600	144	43%
	<i>Northwest</i>	17,812	15,452	20,400	1,525	9%
	<i>Susitna</i>	21,440	17,784	25,283	2,299	11%
	<i>Deshka</i>	3,163	1,373	4,947	1,108	35%
	<i>Yentna</i>	19,629	16,240	22,897	2,025	10%
	<i>Knik</i>	23,654	21,224	26,184	1,500	6%
	<i>Jim</i>	1,219	523	1,999	437	36%
	<i>Turnagain/Northeast</i>	16,106	13,508	18,863	1,681	10%
	<i>Kenai</i>	1,778	1,228	2,410	359	20%
	<i>Kasilof</i>	6	0	142	73	1259%
	<i>Southeast</i>	49	0	241	94	191%
	Harvest represented	105,191				
	Harvest unanalyzed	32,153				
	Total harvest	137,344				

-continued-

Table 127-7.–Page 2 of 2.

Year	Reporting Group	Harvest	90% CI		SD	CV
			5%	95%		
2015	<i>Southwest</i>	683	163	1,445	396	58%
	<i>Northwest</i>	40,964	36,526	45,622	2,792	7%
	<i>Susitna</i>	26,210	20,644	31,649	3,332	13%
	<i>Deshka</i>	4,049	1,742	6,490	1,435	35%
	<i>Yentna</i>	38,224	33,074	43,544	3,167	8%
	<i>Knik</i>	42,292	38,458	46,109	2,328	6%
	<i>Jim</i>	3,318	2,379	4,369	605	18%
	<i>Turnagain/Northeast</i>	19,929	16,818	23,118	1,908	10%
	<i>Kenai</i>	7,782	6,611	9,004	725	9%
	<i>Kasilof</i>	595	204	1,124	281	47%
	<i>Southeast</i>	584	24	1,272	383	66%
	Harvest represented	184,631				
	Harvest unanalyzed	31,288				
	Total harvest	215,919				
2016	<i>Southwest</i>	1,488	875	2,261	432	29%
	<i>Northwest</i>	21,246	16,632	26,134	2,951	14%
	<i>Susitna</i>	22,156	17,353	27,070	2,959	13%
	<i>Deshka</i>	7,205	5,004	9,559	1,364	19%
	<i>Yentna</i>	22,022	18,151	26,024	2,420	11%
	<i>Knik</i>	19,023	15,571	22,990	2,317	12%
	<i>Jim</i>	1,446	709	2,348	502	35%
	<i>Turnagain/Northeast</i>	19,727	16,175	23,507	2,255	11%
	<i>Kenai</i>	7,947	6,934	9,059	640	8%
	<i>Kasilof</i>	592	69	1,519	478	81%
	<i>Southeast</i>	1,278	541	2,362	565	44%
	Harvest represented	124,131				
	Harvest unanalyzed	23,337				
	Total harvest	147,468				

Note: Stock-specific harvest numbers may not sum to the total harvest represented due to rounding error.

Table 127-8.—Commercial drift gillnet harvest of coho salmon by major stock reporting group based on genetic analysis of mixtures of fish harvested in Upper Cook Inlet, 2013-2016 (A. W. Barclay, Commercial Fisheries Biologist, ADF&G, Anchorage, personal communication).

Reporting group	Harvest				Average
	2013	2014	2015	2016	
<i>Southwest CI</i>	1,621	334	649	1,364	992
<i>Northwest CI</i>	35,981	11,717	31,341	17,072	24,027
<i>Susitna</i>	37,207	16,593	20,016	17,265	22,770
<i>Deshka</i>	10,094	3,163	2,955	5,487	5,425
<i>Yentna</i>	53,940	14,752	28,023	16,237	28,238
<i>Knik</i>	31,681	14,654	25,856	13,019	21,302
<i>Jim</i>	2,444	696	2,551	1,258	1,737
<i>Turnagain/Northeast CI</i>	6,240	7,937	9,205	7,809	7,798
<i>Kenai</i>	1,590	1,589	2,903	2,255	2,084
<i>Kasilof</i>	237	3	28	549	204
<i>Southeast CI</i>	782	3	572	919	569
Harvest represented	181,818	71,441	124,099	83,234	115,148
Harvest unanalyzed	2,953	5,491	6,621	7,008	5,518
Total harvest	184,771	76,932	130,720	90,242	120,666

(From Table 199-4)

Coho salmon abundance	2013	2014	2015
Mainstem Susitna River	130,026	84,879	152,500
Yentna River	nd	73,819	110,321
Total Susitna Drainage Abundance	nd	158,698	262,821

Note: Mainstem Susitna River includes Susitna River and Deshka River.

Table 127-9.—Estimates of coho salmon harvest in sport fisheries in the Northern Cook Inlet management area, 1980-2018.

Year	Northern Cook Inlet Management Area				Total harvest
	Knik Arm	Eastside Susitna	Westside Susitna	West Cook Inlet	
1980	16,030	10,368	12,141	628	39,167
1981	10,484	6,593	5,940	604	23,621
1982	13,676	10,167	10,658	745	35,246
1983	6,139	5,176	3,610	2,552	17,477
1984	23,429	13,916	9,511	2,681	49,537
1985	14,339	7,042	11,270	6,320	38,971
1986	12,361	16,190	13,117	4,222	45,890
1987	25,787	11,028	8,746	8,548	54,109
1988	40,037	19,518	16,283	7,403	83,241
1989	23,846	17,078	18,226	7,683	66,833
1990	18,762	11,743	13,883	6,016	50,404
1991	22,186	19,479	20,507	8,253	70,425
1992	25,814	33,790	16,218	7,037	82,859
1993	35,763	26,063	15,454	10,326	87,606
1994	28,539	20,870	15,361	8,247	73,017
1995	20,650	19,165	17,148	8,182	65,145
1996	24,874	24,174	17,375	11,430	77,853
1997	11,773	10,297	7,123	6,492	35,685
1998	23,750	23,086	13,235	8,160	68,231
1999	14,429	23,292	17,995	9,339	65,055
2000	32,530	37,748	23,262	11,712	105,252
2001	30,106	26,617	19,221	13,949	89,893
2002	44,448	27,183	14,144	13,380	99,155
2003	24,583	18,585	16,072	14,239	73,479
2004	34,298	20,484	17,785	16,179	88,746
2005	27,000	17,471	18,266	12,572	75,309
2006	39,953	22,719	20,474	11,940	95,086
2007	27,733	13,464	14,065	12,580	67,842
2008	35,996	24,211	15,126	14,673	90,006
2009	37,271	15,335	14,464	9,801	76,871
2010	26,369	14,291	16,245	9,030	65,935
2011	8,484	9,040	12,483	6,292	36,299
2012	5,014	7,629	9,434	7,813	29,890
2013	12,335	12,989	13,042	7,698	46,064
2014	16,180	12,462	12,972	7,320	48,934
2015	17,800	15,043	14,191	12,849	59,883
2016	7,989	5,939	4,022	6,029	23,979
2017	6,232	12,838	10,759	4,828	34,657
2018	14,429	9,728	15,093	8,554	47,804
1980-1989 Mean	18,613	11,708	10,950	4,139	45,409
1990-1999 Mean	22,654	21,196	15,430	8,348	67,628
2000-2009 Mean	33,392	22,382	17,288	13,103	86,164
2010-2018 Mean	12,759	11,107	12,027	7,824	43,716

Table 127-10.—Estimates of coho salmon passage and sport fishery harvest in the Little Susitna River, Fish Creek, Jim Creek, and Deshka River.

Year	Little Susitna			Fish Creek			Jim Creek			Deshka River		
	Harvest	Passage	SEG	Harvest	Passage	SEG	Harvest ^a	Escapement ^b	SEG	Harvest	Passage	SEG
1988	19,009	21,437	7,500									
1989	14,129	15,855	7,500									
1990	7,497	15,511	7,500									
1991	16,450	39,241	7,500									
1992	20,033	21,182	7,500									
1993	27,610	34,822	7,500									
1994	17,665	28,948	7,500									
1995	14,451	12,266	7,500									
1996	16,753	15,803	7,500									
1997	7,756	9,894 ^c	7,500									
1998	14,469	15,159	7,500									
1999	8,864	3,017	9,600-19,200									
2000	20,357	15,436	9,600-19,200									
2001	17,071	30,587	9,600-19,200									
2002	19,278	47,938	10,100-17,700	1,233	14,651	1,200-4,400	14,707	2,473	400-700	3,616	24,612	
2003	13,672	10,877	10,100-17,700	112	1,231	1,200-4,400	6,415	1,421	400-700	4,946	17,305	
2004	15,307	40,199	10,100-17,700	774	1,415	1,200-4,400	11,766	4,652	400-700	4,440	62,940	
2005	10,203	16,839 ^c	10,100-17,700	535	3,011	1,200-4,400	10,114	1,464	400-700	3,616	47,887	
2006	12,399	8,786 ^{c,d}	10,100-17,700	281	4,967	1,200-4,400	19,259	2,389	400-700	6,042	59,419	
2007	11,089	17,573	10,100-17,700	120	6,868	1,200-4,400	11,848	725	400-700	2,550	10,575	
2008	13,498	18,485	10,100-17,700	993	4,868	1,200-4,400	17,545	1,890	400-700	3,426	12,724	
2009	8,346	9,523	10,100-17,700	1,178	8,214	1,200-4,400	11,573	1,331	400-700	4,060	27,348	
2010	10,662	9,214	10,100-17,700	805	6,977	1,200-4,400	8,442	242	400-700	5,690	10,393	
2011	2,452	4,826	10,100-17,700	414	1,428	1,200-4,400	3,132	261	400-700	2,282	7,326	
2012	1,681	6,779 ^c	10,100-17,700	274	1,237	1,200-4,400	1,858	213	400-700	1,358	6,825	
2013	5,229	13,583 ^c	10,100-17,700	356	7,593	1,200-4,400	3,258	663	400-700	2,658	22,141	
2014	6,922	24,211	10,100-17,700	622	10,283	1,200-4,400	3,045	122	400-700	2,598	11,578	
2015	8,880	12,756	10,100-17,700	2,041	7,912	1,200-4,400	2,910	571	450-1400	745	10,775	
2016	4,361	10,049	10,100-17,700	496	2,484	1,200-4,400	1,343	106	450-1400	1,528	6,820	
2017	3,068	17,781	10,100-17,700	358	8,966	1,200-4,400	750	607	450-1400	2,825	36,869	10,200-24,100
2018	6,663	7,583 ^c	10,100-17,700	1,915	5,022	1,200-4,400	2,924	758	450-1400	3,169	12,962	10,200-24,100
2019	NA	4,229	10,100-17,700	NA	3,025	1,200-4,400	NA	162	450-1400	NA	10,445	10,200-24,100

^a Includes other Knik River tributaries^b Escapement is a foot index survey of a section of McRoberts Creek, a tributary of the Jim Creek drainage.^c Weir washed out, incomplete count^d Esc goal undoubtedly achieved, perhaps exceeded

PROPOSAL 241 – Establish provisions for the personal use of aquatic plants in the Anchorage-Matsu-Kenai Nonsubsistence Area.

5 AAC 77.XXX. New Section.

PROPOSED BY: Eliza Eller.

WHAT WOULD THE PROPOSAL DO? This would establish provisions for the personal use harvest of aquatic plants in the Anchorage-Matsu-Kenai Nonsubsistence Area.

WHAT ARE THE CURRENT REGULATIONS? Noncommercial harvest of aquatic plants in the Anchorage-Matsu-Kenai Nonsubsistence Area is closed (Figure 241-1). In the Cook Inlet Area outside of the Anchorage-Matsu-Kenai Nonsubsistence Area, there is a bag and possession limit for aquatic plants of 10 pounds wet weight (regardless if they are attached or dislodged), there is no closed season, and no permit is required.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would create an opportunity to harvest aquatic plants under personal use or sport regulations in nonsubsistence areas within the Cook Inlet Management Area. It would create a bag and possession limit within the road-accessible portions of the Anchorage-Matsu-Kenai Nonsubsistence Area of up to 10 pounds wet weight of aquatic plants, with no limits to the collection of aquatic plants that have been naturally dislodged from the substrate. It would allow for the lawful continuation of harvest activity that is believed to commonly occur. It would add regulation complexity for harvesting aquatic plants in Cook Inlet and North Gulf Coast waters by having differing limits within and outside of the Anchorage-Matsu-Kenai Nonsubsistence Area. Harvest of aquatic plants will likely increase by an unknown amount in locations such as the Homer Spit, Anchor Point, and Seward. This may have adverse effects on fish habitat in nearshore waters. Unlimited harvest of dislodged aquatic plants may reduce habitat or food sources for wildlife, such as migratory shorebirds.

BACKGROUND: Noncommercial harvesting of aquatic plants, primarily seaweeds and kelp, is common and widespread in coastal communities of Alaska. Aquatic plants are most commonly used for fertilizer in home gardens or directly as food. In Cook Inlet and North Gulf Coast waters, the personal use harvest of aquatic plants is limited to outside of the Anchorage-Matsu-Kenai Nonsubsistence Area, this includes the areas around the communities of Tyonek, Seldovia, Port Graham, and Nanwalek. In 2007, the board opened these locations to bag and possession limits of 10 pounds wet weight, with no closed season, and no permit required. This limited opportunity was established from a department-submitted proposal following a well-publicized incident that occurred in Seward in April 2006 where citations were issued to individuals excessively harvesting aquatic plants and damaging kelp beds. At the January 2018 board meeting in Sitka, the board approved a department proposal that addressed personal use harvests of aquatic plants within the Juneau and Ketchikan nonsubsistence areas. Action taken at the meeting established bag and possession limits for both attached and detached aquatic plants in those areas.

Currently, there is an ongoing University of Alaska research project to examine seaweed reproduction and rate of regrowth after harvest in Southcentral Alaska. Some results from this work suggest that both when and how the plants are harvested influences how aquatic plants recover from harvest. When aquatic plants are harvested may limit recovery due to reproductive timing, which differs by aquatic plant taxa. If aquatic plants are harvested by cutting only a portion of the plant, recovery will also differ by taxa.

DEPARTMENT COMMENTS: The department **SUPPORTS** this proposal with modifications to provide opportunity for Alaskans to harvest kelp. The department is opposed to the harvest of attached aquatic plants due to concerns of potential overharvest and adverse effects to nearshore fish habitat. The department will present and be prepared to discuss options with the board to create a personal use harvest opportunity for dislodged aquatic plants in the Anchorage-Matsu-Kenai Nonsubsistence Area.

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. Approval of this proposal may result in an additional cost to the department if a permit is required to participate in the personal use harvest of aquatic plants.

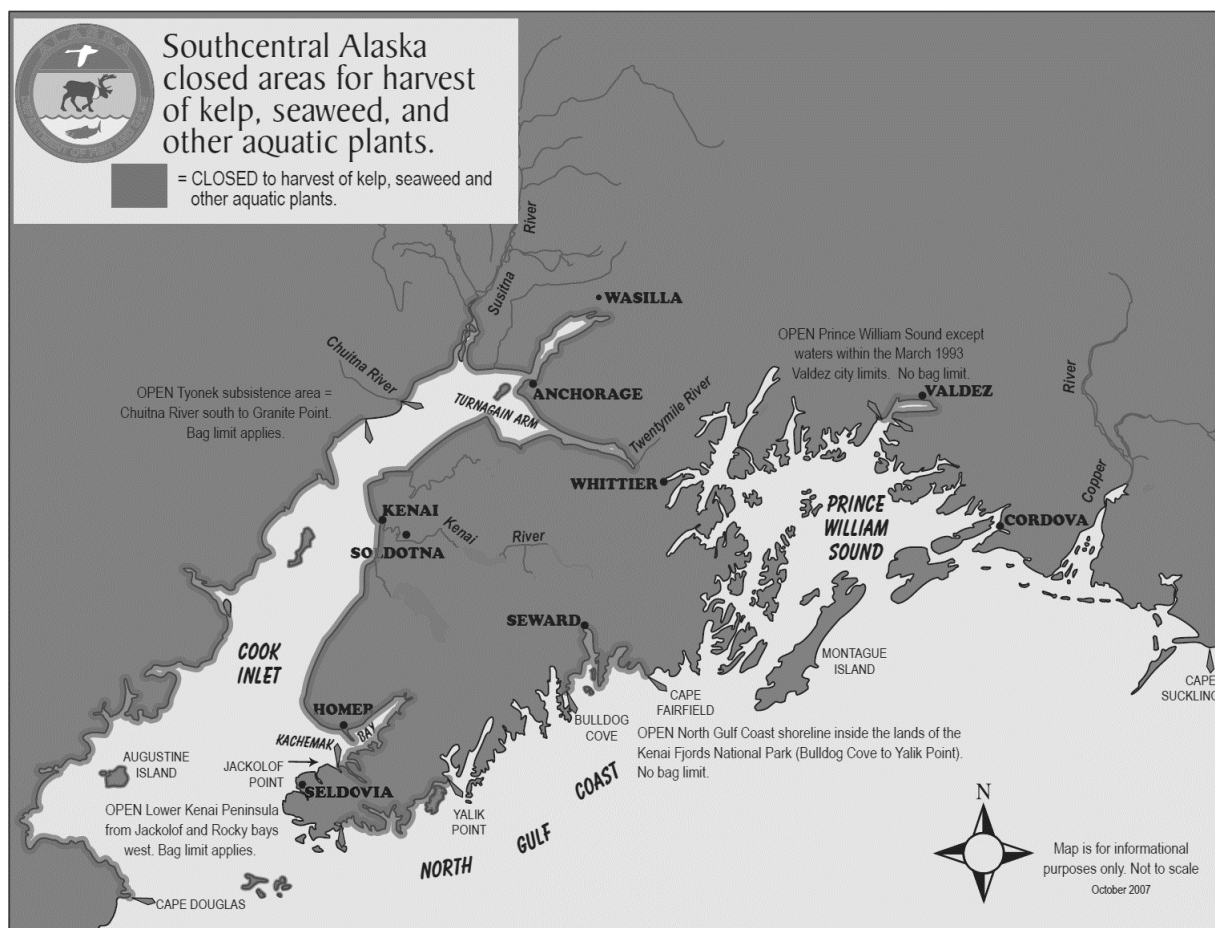


Figure 241-1.—Closed areas for the harvest of kelp, seaweed, and other aquatic plants in Southcentral Alaska.

Allocation Criteria (2 proposals)

PROPOSAL 78 – Modify the criteria the board uses for allocating Upper Cook Inlet fishery resources.

5 AAC 21.363. Upper Cook Inlet Salmon Management Plan.

PROPOSED BY: Kenai River Sportfishing Association.

WHAT WOULD THE PROPOSAL DO? This would modify the process and criteria the board uses for allocating Upper Cook Inlet (UCI) fishery resources among personal use, sport, and commercial fisheries. It provides specific criteria in priority order when the board addresses allocation of fish resources within nonsubsistence areas.

WHAT ARE THE CURRENT REGULATIONS? The criteria for allocation of fishery resources among personal use, commercial, and sport fisheries is found in AS 16.05.251(e). When adopting regulations, the board will consider the factors listed in this statute. The Joint Boards of Fisheries and Game have identified five nonsubsistence areas in Alaska: the Ketchikan Nonsubsistence Area, the Juneau Nonsubsistence Area, the Anchorage-Matsu-Kenai Peninsula Nonsubsistence Area, the Fairbanks Nonsubsistence Area, and the Valdez Nonsubsistence Area.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The effect of this proposal is indeterminate because it describes guidance and direction to the board when allocating fishery resources in Upper Cook Inlet, not specific fishery management actions.

BACKGROUND: Regulations in 5 AAC 39.205, 5 AAC 75.017, and 5 AAC 77.007 were adopted in 1987 to reference factors found in statute (AS 16.05.251(e)) for the board to consider when making allocative decisions.

The Joint Boards last addressed nonsubsistence areas in 2013. The department prepared an extensive report that can be found at <http://www.adfg.alaska.gov/techpap/TP386.pdf>

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 these fisheries. Approval of this proposal is not expected to result in an additional cost to the department.

PROPOSAL 79 – Prioritize personal use fisheries within the five non-subsistence urban areas.

5 AAC 77.007. Criteria for the allocation of fishery resources among personal use, sport, and commercial fisheries.

PROPOSED BY: Walt Arthur.

WHAT WOULD THE PROPOSAL DO? This would give personal use fisheries the priority within the five non-subsistence urban areas.

WHAT ARE THE CURRENT REGULATIONS? The statewide criteria for allocation of fishery resources among personal use, commercial, and sport fisheries is found in AS 16.05.251(e). When adopting regulations, the board will consider the factors listed in this statute. The Joint Boards of Fisheries and Game have identified five nonsubsistence areas in Alaska: the Ketchikan Nonsubsistence Area, the Juneau Nonsubsistence Area, the Anchorage-Matsu-Kenai Peninsula Nonsubsistence Area, the Fairbanks Nonsubsistence Area, and the Valdez Nonsubsistence Area. In the absence of a specific management plan *The Upper Cook Inlet Salmon Management Plan* [5 AAC 21.363(5)] states the board intent for fisheries to be harvested in the fisheries that historically harvested them according to the methods, means, times, and locations of those fisheries.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Creating a priority for personal use fisheries in non-subsistence urban areas that is similar to that of subsistence fisheries outside nonsubsistence areas would create a preference the board would need to consider when deliberating regulations for personal use fisheries within the Anchorage-Matsu-Kenai Peninsula Nonsubsistence Area. This would require the board to address allocative management plans throughout Cook Inlet in fully allocated fisheries. It is unclear if this proposal is directed at Cook Inlet fisheries only or if the intent is for it to apply to all fisheries within nonsubsistence areas across the state. The latter would need to be addressed at a statewide meeting.

BACKGROUND: Alaska statute 16.05.258 *Subsistence use and allocation of fish and game* describes how the Board of Fisheries and the Board of Game will prioritize subsistence uses except in nonsubsistence areas of the state. In these areas, guidance on how to allocate fishery resources among personal use, commercial, and sport fisheries is found in AS 16.05.251(e). Regulations in 5 AAC 39.205, 5 AAC 75.017, and 5 AAC 77.007 were adopted in 1987 to reference factors found in statute (AS 16.05.251(e)) for the board to consider when making allocative decisions. The Joint Boards last addressed nonsubsistence areas in 2013.

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. Approval of this proposal is not expected to result in additional cost to the department.

COMMITTEE OF THE WHOLE—GROUP 4: KENAI RIVER LATE-RUN KING SALMON MANAGEMENT PLAN (17 PROPOSALS)

Kenai River Late-Run King Salmon Management Plan (17 proposals)

PROPOSAL 104 – Revise the Kenai River Late-Run King Salmon Management Plan.

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 revise the *Kenai River Late-Run King Salmon Management Plan* as follows:

1. Adopt an optimal escapement goal (OEG) of 16,500 – 30,000 large king salmon and use as the management objective for inseason actions.
2. Establish June 20 as the date by which preseason determination of late-run management actions will be made by the department.
3. Modify step-down restrictions to include an additional step of prohibiting retention of king salmon over 36 inches in length.
4. Modify corresponding commercial fishery paired restrictions.
5. Pair restrictions taken on the Kenai River late-run king salmon fishery to the Kasilof late-run king salmon fishery.
6. Continue paired restrictions to commercial fisheries in August.

WHAT ARE THE CURRENT REGULATIONS? The *Kenai River Late-Run King Salmon Management Plan* (5 AAC 21.359) states the purposes of the management plan are to ensure an adequate escapement of late-run king salmon into the Kenai River system and provide management guidelines to the department. Under this plan, 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 sustainable escapement goal (SEG) of 13,500 – 27,000 king salmon 75 cm mid eye to tail fork and longer as described in this section.

In the sport fishery, if the SEG is projected to be exceeded,

- the commissioner may, by emergency order, extend the sport fishing season up to seven days during the first week of August.

From July 1 through July 31, a person may not use more than one single hook in the Kenai River downstream from an ADF&G regulatory marker located at the outlet of Skilak Lake. In that portion

of the Kenai River downstream from an ADF&G regulatory marker located at the outlet of Skilak Lake is open to unguided sport fishing from a nonmotorized vessel on Mondays in July; for purposes of this paragraph, a nonmotorized vessel is one that does not have a motor on board.

If the projected late-run king salmon escapement is less than 13,500 king salmon 75 cm mid eye to tail fork and longer, the department shall

- close the sport fisheries in the Kenai River and in the salt waters of Cook Inlet north of the latitude of Bluff Point to the taking of king salmon;
- close the commercial drift gillnet fishery in the Central District within one mile of the Kenai Peninsula shoreline north of the Kenai River and within one and one-half miles of the Kenai Peninsula shoreline south of the Kenai River;
- close the commercial set gillnet fishery in the Upper Subdistrict of the Central District.

In order to achieve the sustainable escapement goal and provide reasonable harvest opportunity, the commissioner may, by emergency order, establish fishing seasons as follows:

- in the Kenai River sport fishery;
 - the use of bait is prohibited or
 - the use of bait and retention of king salmon are prohibited
- in the Kenai River personal use fishery, if the use of bait is prohibited in the Kenai River sport fishery then the retention of king salmon is prohibited in the personal use fishery.
- in the Upper Subdistrict set gillnet commercial fishery, excluding the East Foreland Section, notwithstanding the provisions of 5 AAC 21.360(c)(1)(B), (2)(B), and (3)(B), based on the abundance of sockeye salmon returning to the Kenai and Kasilof Rivers,
 - if the use of bait is prohibited in the Kenai River sport fishery commercial fishing periods are open for no more than 48 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 to either
 - four set gillnets that are each not more than 35 fathoms in length, 105 fathoms in aggregate 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; set gillnets used that are not more than 29 meshes in depth must be identified at the end of the gillnet with an attached blue buoy that is not less than nine and one-half inches in diameter; or 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; set gillnets used that are not more than 29 meshes in depth must be identified at the end of the gillnet with an attached blue buoy that is not less than nine and one-half inches in diameter; or
 - 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 24 hours per week, with a 36-hour continuous closure per week beginning between 7:00 p.m. Thursday and 7:00 a.m. Friday.

The provisions of this section do not apply to provisions of the Kasilof River Salmon Management Plan contained in 5 AAC 21.365 that pertain to the Kasilof Special Harvest Area.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Run reconstruction data suggests establishing a goal with an upper bound greater than the current SEG upper bound increases the probability of reducing yield. The specific effects of a large fish goal that exceeds the upper bound of the SEG for Kenai River late-run king salmon cannot be determined because progeny from parent year runs that were assessed and managed using the large fish metric beginning in 2017 have not returned. Optimal yield profiles (OYP) plots for Kenai River late-run king salmon 75 cm METF and longer (Table 104-3) show the probability that a specified spawning abundance will result in specified fractions (70%, 80%, and 90% line) of maximum sustained yield. Managing for a lower bound of a goal that is greater than the lower bound of the SEG would increase the likelihood of restrictions in sport, personal use, and commercial fisheries and reduced harvest of late-run king salmon.

Requiring the department to make management decisions by June 20 regarding the late-run king salmon fishery would likely result in more conservative action by the department. This is due to having less information available on current year effort, environmental conditions, and correlating data from the early-run king salmon fishery. This would also likely increase the frequency of subsequent management actions that would be issued in early July to address changes in the fishery that may occur between June 20 and July 1.

Prohibiting retention of king salmon greater than 36 inches in length when the run is expected to be within the proposed OEG range would reduce the harvest of older-larger king salmon in the sport fishery (age 5, 6, and 7 fish). Since the SEG is based on large fish enumerated past the ADF&G sonar at RM 14 (king salmon 75 cm mid eye to tail fork and longer, or about 34 inches), the proposal would allow harvest of fish that are greater than 34 inches in length that would otherwise be counted towards achievement of the SEG. Creating an inconsistency between prohibiting harvest of king salmon over 36 inches in length and the 34 inch king salmon that count towards achieving the SEG adds complexity to the plan and may require staff to produce an inseason estimate of harvest for king salmon greater than 34 inches in length but less than 36 inches in length. The addition of this step-down management option will increase complexity of the management plan and inseason management decisions in the fully allocated, mixed stock, fast paced, and controversial July, king and sockeye salmon fisheries. For example, on average, the 2013–2019 mid-point (50%) of the large king salmon run at the RM 14 sonar is July 27. Both the sport and personal use fisheries close by regulation on July 31. Given the short duration in the number of days (5-days) from the mid-point to the season closure on July 31, it is unlikely that an additional stepdown can be enacted to affect the escapement before the fisheries close for the season by regulation.

Adding an additional sport fishery stepdown management action and a corresponding paired restriction that reduces fishing time and gear available commercial setnet fishery within existing paired restriction tiers would likely reduce commercial harvest of all salmon by an unknown amount. This would concurrently result in increased escapement and harvest of sockeye salmon in sport and personal use fisheries by an unknown amount.

If the Kasilof River king salmon fishery was paired in regulation with the Kenai River king salmon fishery, this would remove the department's ability to manage Kasilof River and Crooked Creek enhanced runs with their specific run timing and river conditions. Additionally, this may impair the department's ability to achieve the Crooked Creek naturally produced king salmon SEG of 650 to 1,700 fish. This could lead to overly restrictive or liberal management of the Kasilof River

fisheries, which may result in forgone harvest on Kasilof River wild stocks and the Crooked Creek enhanced stock of king salmon.

Extending commercial fishery restrictions into August could reduce the hours the fishery is open, which would decrease commercial harvest of all salmon in years when the sport fishing king salmon season closes on July 31 with the use of bait prohibited. This would likely increase escapement and catch and harvest of sockeye and coho salmon in the August sport fishery during years when paired restrictions continued past July 31. The proposal is unclear if the sport fishery bait restriction would continue or if bait would be allowed August 1 under general regulation.

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. In 2013, the department transitioned fully 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 Adaptive Resolution Imaging Sonar (ARIS) 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.

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 following years (2014–2016), the king salmon SEG of 15,000–30,000 fish was achieved (Table 104-1). 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, were managed to meet an OEG of 700,000 – 1,400,000 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 years and exceeded one year, while the inriver goal was exceeded all three years (Table 104-2).

In 2017, the board adopted the Kenai River late-run king salmon SEG of 13,500–27,000 large fish (≥ 75 cm mid eye-tail fork length) (figures 104-1 and 2). Using ARIS sonar, the department is able to measure fish and count fish which are 75 cm or longer which represents age-5, 6, and 7 fish. This allows the department to produce an inseason estimate representing the majority of the run and encompasses nearly all female king salmon. The department closely monitors biological and management performance of the large fish escapement goal since establishment in 2017. Understanding the effectiveness of management changes typically requires several years of data to assess the success or short comings of a plan as different scenarios covered by the plan are tested. It can be difficult to evaluate the effect of recently enacted management changes and isolate them from effects of natural variations and elements outside of the plan such as run strength, run

timing and passage, water temperature, fishing effort, etc. Since establishment, the large fish SEG has been achieved twice (2017 and 2018) and not achieved once in 2019 (Table 104-1, 104-3).

There are several ways to evaluate the effective of paired restrictions on the commercial and sport fisheries. Since paired restrictive provisions were adopted in 2014, the average annual harvest of large Kenai River king salmon in the ESSN fishery has been 1,764 fish and the percent of harvest between commercial and sport fisheries averaged 46% in the ESSN and 54% in the sport fishery (Table 104-4). The proportion of all king salmon harvested in the ESSN fishery that are large Kenai River king salmon from 2014–2018 is 39%. Removing bait from the inriver king salmon sport fishery reduces catch by approximately 50%.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. Recognizing the board, with the assistance of the department, can set OEGs if they so choose, the department encourages discussion before establishing OEGs that increase the probability of reduced yields, on average, in the future. The department transitioned to a new SEG based on escapement of king salmon 75 cm (mid-eye to fork) and greater in length at the 2017 UCI board meeting. The implications and biological effects of the large fish goal have yet to be observed, as cohorts from brood years under this new abundance estimation strategy have yet to return. Additionally, the department opposes regulation pairing management in the Kenai River king salmon fishery to the Kasilof River king salmon fishery. The Kasilof River is enhanced by the division of sport fish with hatchery king salmon and is currently managed using escapement at the Crooked Creek weir. Inseason action to the Kasilof River fishery consider parity to the Kenai River fishery to account for increased effort in times of restrictions on the Kenai River. The Kasilof River late-run large king salmon sonar enumeration project enters its third season in 2020 and progresses the departments understanding of the Kasilof River late-run of large king salmon. Inseason adjustments to minimum size limits and triennial changes to escapement goal management objectives along with methods will lead to increased regulatory complexity for anglers. Although achievement of the Kenai River king salmon SEG is based on passage of large king salmon (75 cm mid-eye to fork) or about 34 inches, that does not diminish the contribution of king salmon less than 34 inches to the inriver fisheries and the spawning population.

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

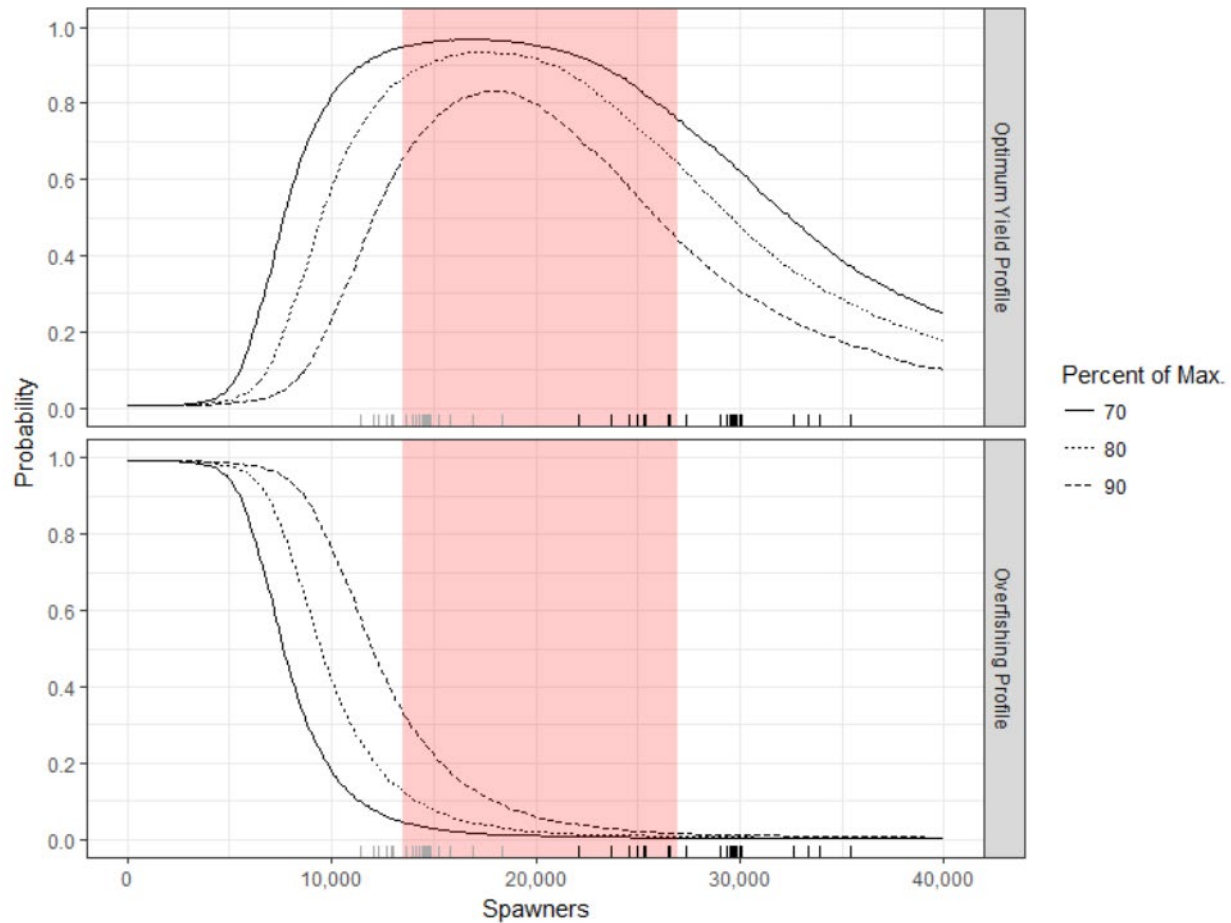


Figure 104-1. Optimal yield profiles (OYP) plots for Kenai River **late-run** king salmon 75 cm METF and longer. OYPs show probability that a specified spawning abundance will result in specified fractions (70%, 80%, and 90% line) of maximum sustained yield.

Note: Shaded areas bracket the current goal ranges; grey and black marks along the x -axis show comparable lower and upper bounds for other Alaskan king salmon stocks scaled by $SMSY$ ratios . (Fleischman and Reimer, 2017)

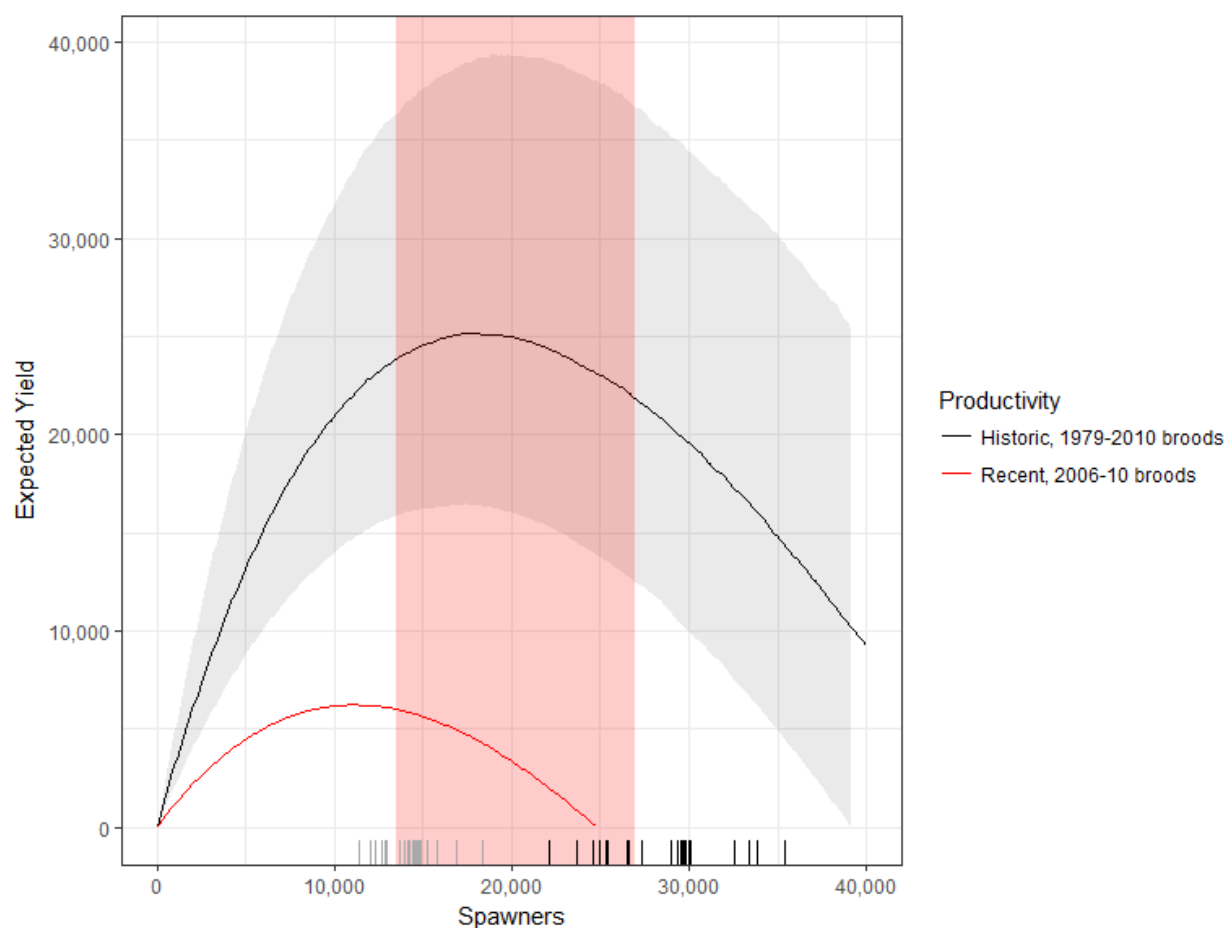


Figure 104-2.—Expected sustained yield (ESY) plots for Kenai River **late-run** king salmon 75 cm METF and longer.

Note: ESY median (solid black line) and 50% credibility interval (shaded area around the line) assume average productivity for brood years 1979–2010. Median ESY under recent, reduced productivity (brood years 2006–2010) is also shown (solid red line). The vertical shaded area brackets the recommended goal range; grey and black marks along the *x*-axis show comparable lower and upper bounds for other Alaskan king salmon stocks scaled by SMSV ratios.

Table 104-1.—Kenai River late-run king salmon escapement goal history, 1998–2019.

Year		Escapement	SEG/BEG	Inriver Goal
1998	All Sizes of Fish	39,000	15,500–22,300	-
1999		30,563	17,800–35,700	-
2000		32,550	17,800–35,700	-
2001		37,641	17,800–35,700	-
2002		45,457	17,800–35,700	-
2003		67,187	17,800–35,700	-
2004		63,683	17,800–35,700	-
2005		60,246	17,800–35,700	-
2006		48,950	17,800–35,700	-
2007		37,010	17,800–35,700	-
2008		32,342	17,800–35,700	-
2009		21,410	17,800–35,700	-
2010		11,375	17,800–35,700	-
2011		16,340	17,800–35,700	-
2012		21,417	17,800–35,700	-
2013		19,342	15,000–30,000	-
2014		17,451	15,000–30,000	-
2015	Large Fish	22,642	15,000–30,000	≥ 22,500
2016		22,535	15,000–30,000	≥ 22,500
2017 ^a		20,634	13,500–27,000	-
2018 ^a	Large Fish	17,285	13,500–27,000	-
2019 ^a		11,555	13,500–27,000	-
Average				
1998–2016		22,535		
2017–2019		16,491		

Note: Large fish are king salmon that are 75 cm from mideye to tail fork in length or longer. Shaded areas indicate that the goal was achieved for that year

^a These estimates are preliminary until biometrically reviewed and published.

Table 104-2.—Kenai River late-run sockeye salmon inriver-harvest and spawning escapement, 1987–2019.

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 (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	500,000-800,000	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	264,900	79,465	1,383,692	262,981	1,120,717	1,100,000-1,350,000	700,000-1,200,000	700,000-1,400,000	4.7	3.5
2017	304,632	67,233	1,308,498	235,208	1,056,773	1,000,000-1,300,000	700,000-1,200,000	Repealed	2.2	2.9
2018	169,553	41,122	1,035,761	147,493	831,096	900,000-1,100,000	700,000-1,200,000	Repealed	2.5	1.7
2019	ND	ND	1,849,054	ND	ND	1,000,000-1,300,000	700,000-1,200,000	Repealed	3.8	3.6

Note: ND = no data available

Bold font is years since 2011 (first year of DIDSON-based goals) the goal was achieved

^a Personal use (1987-1995), 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 for 1987-2010; DIDSON counts beginning in 2011.

Table 104-3.—Kenai River late-run large > 75 cm king salmon population data, 1998–2019.

Year	Cook Inlet marine harvest ^a	Eastside setnet harvest ^b	Drift gillnet harvest ^c	Kenaitze educational	Subsistence	Personal use dipnet ^d	Sport harvest below sonar ^e	release mortality below sonar	Inriver Run ^f	Sport harvest above sonar ^g	Catch-and- release mortality above sonar	Spawning escapement	Total run	Harvest rate
1998	917	2,165	123	1	ND	156						33,385	43,130	0.23
1999	502	4,402	231	3	ND	327						29,100	45,657	0.36
2000	568	1,795	114	4	ND	288						25,502	41,719	0.39
2001	465	1,905	170	4	ND	291						29,531	45,754	0.35
2002	226	3,483	132	3	ND	321						40,514	55,910	0.28
2003	95	4,375	317	5	ND	432						48,461	67,984	0.29
2004	832	9,990	439	7	ND	525						65,112	91,312	0.29
2005	583	9,501 ⁱ	744	7	ND	632						55,688	84,189	0.34
2006	477	3,074 ⁱ	742	5	ND	460						39,305	57,122	0.31
2007	387	4,055 ⁱ	260	3	ND	717						29,664	44,421	0.33
2008	287	3,425 ⁱ	255	10	ND	887						28,094	42,680	0.34
2009	128	1,410	187	1	ND	432						18,251	28,044	0.35
2010	262	2,384	170	11	ND	456						13,037	22,180	0.41
2011	425	2,499	208	3	ND	726						15,731	26,381	0.40
2012	211	333	89	0	ND	27						22,453	23,206	0.03
2013	229	679	89	2	ND	3						12,305	14,382	0.14
2014	322	706	93	0	ND	0						11,980	13,403	0.11
2015	354	2,808	143	4	ND	28						16,825	22,796	0.26
2016 ^j	16	2,906	268	4	0	470	3,352	79	21,348	3,210	148	14,676	25,629	0.43
2017 ^j	102	2,998	145	8	0	1,096	3,903	22	27,154	2,171	151	20,634	30,408	0.32
2018 ^j	19	555	199	1	0	5	0	63	17,024	105	259	17,285	17,798	0.03
2019 ^j	24	613	64	1	0	NA	382	3	12,142	573	202	11,555	12,780	0.10
Average														
1986–2013	412	3,467	267	4		418						31,633	45,879	0.30
2014–2019	140	1,764	152	3	0	320	1,909	42	19,417	1,515	190	15,493	20,469	0.21

Source: Alaska Sport Fishing Survey database [Internet]. 1998–. Anchorage, AK: Alaska Department of Fish and Game, Division of Sport Fish (cited October 2019). Available from:

Note: ND means no data collected. NA means data not available.

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

^b Estimates for 1986–2009 are from Fleischman and McKinley (2013). Estimates for 2010–2015 from Eskelin et al. (2013), Eskelin and Barclay (2015, 2016).

^c Estimates for 1986–2009 are from Fleischman and McKinley (2013). Estimates for 2010–2015 are from ESSN GSI allocation.

^d Estimates for 1986–1994 from SWHS, estimates for 1995 are from Ruesch and Fox (1996), estimates for 1996–2018 are from returned permits.

^e Creel survey estimates are from below RM 8.6 prior to 2013 and below RM 13.7 since 2013.

^f Estimates for 1998–2009 inriver run are model derived RM 8.6 estimates from Fleischman and McKinley (2013). Estimates for 2010–2012 inriver run are RM 8.6

^g Creel survey and SWHS estimates are from above RM 8.6 sonar prior to 2013 and above RM 13.7 sonar

^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 Kaslof River terminal fishery which occurred 2005–2008.

^j These estimates are preliminary until biometrically reviewed and published.

Table 104-4.-Kenai River late-run large > 75 cm king salmon ESSN and sport harvest data, 1998–2019.

Year	Total Run	ESSN harvest	Total Inriver sport harvest	% of harvest by ESSN	% of harvest by inriver sport	Spawning Escapement
1998	43,130	2,165	6,435	25%	75%	33,385
1999	45,657	4,402	11,336	28%	72%	29,100
2000	41,719	1,795	13,709	12%	88%	25,502
2001	45,754	1,905	13,873	12%	88%	29,531
2002	55,910	3,483	11,122	24%	76%	40,514
2003	67,984	4,375	13,353	25%	75%	48,461
2004	91,312	9,990	14,507	41%	59%	65,112
2005	84,189	9,501	17,011	36%	64%	55,688
2006	57,122	3,074	13,407	19%	81%	39,305
2007	44,421	4,055	9,262	30%	70%	29,664
2008	42,680	3,425	10,303	25%	75%	28,094
2009	28,044	1,410	7,503	16%	84%	18,251
2010	22,180	2,384	5,633	30%	70%	13,037
2011	26,381	2,499	5,921	30%	70%	15,731
2012 ^a	23,206					22,453
2013	14,382	679	978	41%	59%	12,305
2014	13,403	706	293	71%	29%	11,980
2015	22,796	2,808	2,755	50%	50%	16,825
2016	25,629	2,906	6,710	30%	70%	14,676
2017	30,408	2,998	6,225	33%	67%	20,634
2018	17,798	555	427	57%	43%	17,285
2019	12,780	613	1,160	35%	65%	11,548
Average 1998-2013	45,879	3,676	10,290	26%	74%	31,633
Average 2014-2019	20,469	1,764	2,928	46%	54%	15,491

Note: 2019 data is preliminary

^a 2012 not included in averages due to significant restrictions in the fishery

PROPOSAL 114 – Amend the Kenai River Late-Run King Salmon Management Plan.

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

PROPOSED BY: Dwight Kramer.

WHAT WOULD THE PROPOSAL DO? This would amend the *Kenai River Late-Run King Salmon Management Plan* (5 AAC 21.359) by establishing an optimal escapement goal (OEG) of 15,500–27,000 large king salmon, adding a 36-inch minimum size of retention step down management action, and pairing any size restrictions taken in the sport fishery to the personal use fishery.

WHAT ARE THE CURRENT REGULATIONS? The *Kenai River Late-Run King Salmon Management Plan* (5 AAC 21.359) states 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 sustainable escapement goal (SEG) of 13,500 – 27,000 king salmon 75 cm mid eye to tail fork and longer as described in this section.

In the sport fishery, if the SEG is projected to be exceeded, the commissioner may, by emergency order, extend the sport fishing season up to seven days during the first week of August.

From July 1 through July 31, a person may not use more than one single hook in the Kenai River downstream from an ADF&G regulatory marker located at the outlet of Skilak Lake. In that portion of the Kenai River downstream from an ADF&G regulatory marker located at the outlet of Skilak Lake is open to unguided sport fishing from a nonmotorized vessel on Mondays in July; for purposes of this paragraph, a nonmotorized vessel is one that does not have a motor on board.

If the projected late-run king salmon escapement is less than 13,500 king salmon 75 cm mid eye to tail fork and longer, the department shall

- close the sport fisheries in the Kenai River and in the salt waters of Cook Inlet north of the latitude of Bluff Point to the taking of king salmon;
- close the commercial drift gillnet fishery in the Central District within one mile of the Kenai Peninsula shoreline north of the Kenai River and within one and one-half miles of the Kenai Peninsula shoreline south of the Kenai River;
- close the commercial set gillnet fishery in the Upper Subdistrict of the Central District.

In order to achieve the sustainable escapement goal and provide reasonable harvest opportunity, the commissioner may, by emergency order, establish fishing seasons as follows:

- in the Kenai River sport fishery;
 - the use of bait is prohibited or
 - the use of bait and retention of king salmon are prohibited
- in the Kenai River personal use fishery, if the use of bait is prohibited in the Kenai River sport fishery then the retention of king salmon is prohibited in the personal use fishery.

- in the Upper Subdistrict set gillnet commercial fishery, excluding the East Foreland Section, notwithstanding the provisions of 5 AAC 21.360(c)(1)(B), (2)(B), and (3)(B), based on the abundance of sockeye salmon returning to the Kenai and Kasilof Rivers,
 - if the use of bait is prohibited in the Kenai River sport fishery commercial fishing periods are open for no more than 48 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 to either
 - four set gillnets that are each not more than 35 fathoms in length, 105 fathoms in aggregate 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; set gillnets used that are not more than 29 meshes in depth must be identified at the end of the gillnet with an attached blue buoy that is not less than nine and one-half inches in diameter; or 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; set gillnets used that are not more than 29 meshes in depth must be identified at the end of the gillnet with an attached blue buoy that is not less than nine and one-half inches in diameter; or
- 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 24 hours per week, with a 36-hour continuous closure per week beginning between 7:00 p.m. Thursday and 7:00 a.m. Friday.

The commissioner may depart from the provisions of the management plan under this section as provided in 5 AAC 21.363(e).

Salmon may be taken by dip net in the Kenai River from July 10 through July 31, seven days per week, from 6:00 a.m. to 11:00 p.m.; the annual limit is 25 salmon for the head of a household and 10 salmon for each dependent of the permit holder, except that only one king salmon 20 inches or greater in length, and no more than 10 king salmon less than 20 inches in length, may be retained per household. When the Kenai River late-run king salmon sport fishery is restricted, king salmon of any size may not be retained in the personal use fishery.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Managing for a lower bound of a goal range that is greater than the lower bound of the SEG would increase the likelihood of restrictions on the sport, commercial, and PU fisheries and reduce opportunity and harvest by an unknown amount on below average returns.

Prohibiting retention of king salmon greater than 36 inches in length when the run is expected to be within the proposed OEG range would reduce the harvest of older-larger king salmon in the sport fishery (age 5, 6, and 7 fish). The addition of this step-down management option will increase complexity of the management plan and inseason management decisions in the fully allocated, mixed stock, fast paced, and controversial July, king and sockeye salmon fisheries. For example, on average the 2013–2019 mid-point (50%) of the large king salmon run has reached the RM 14 sonar by July 27. Both the sport and personal use fisheries close by regulation on July 31. Given the short duration in the number of days (5-days) from the mid-point to the season close on July 31 it is unlikely that an additional stepdown can be enacted to affect the escapement before the fisheries close for the season by regulation. Conversely, if the run is larger than the preseason

forecast, liberalizations to the fishery may occur too late in the run to effectively increase harvest and avoid exceeding the escapement goal and forgoing opportunity.

If size restrictions between the sport and personal use fishery were paired this would likely decrease the harvest of king salmon greater than 36 inches in length in the personal use fishery. A decrease in personal use harvest of king salmon would result in an increase of inriver abundance upstream of the personal use fishery and may result in an increase in spawning escapement. Establishing a limit of only one king salmon under 36 inches would simplify regulations instead of different limits for king salmon under and over 20 inches but would reduce the harvest of small fish under 20 inches. Liberal limits have been established for jack king salmon as an incentive to harvest that size class in proportion to 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. 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. 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 – 1,400,000 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 104-1).

In 2017, the board adopted the Kenai River late-run king salmon SEG of 13,500- 27,000 large fish (≥ 75 cm mid eye-tail fork length). Using Adaptive Resolution Imaging Sonar (ARIS), the department is able to measure fish observed in the sonar beams and enumerate only those which are 75 cm or longer which represents age-5, 6, and 7 fish. This allows the department to produce an estimate in a timely and accurate manner representing the majority of the run and encompasses

nearly all female king salmon, accounting for a higher percentage of potential egg deposition in escapement. The department is closely monitoring biological and management performance of the large fish escapement goals since their establishment in 2017. Specifically, monitoring the performance of changes to the management scheme will require several more years of data to assess to success or short comings of the plan. Since establishment, the large fish SEG has been achieved twice (2017 and 2018) and not achieved once in 2019 (table 114-2).

The Kenai River personal use (PU) dip net fishery average king salmon harvest of all sizes was 684 fish from 1998–2018. The king salmon harvest accounts for less than 1% of the salmon harvest in the Kenai River dip net fishery (Table 114-1). In recent years of low abundance, (2012–2018), the average harvest was 279 fish. This decrease is due to inseason restrictions implemented as directed by *Kenai River Late-Run King Salmon Management Plan* (5 AAC 21.359) when the sport fishery is restricted for low abundance of late-run king salmon. In the previous 10 years the PU fishery has been restricted six times (2012–2016 and 2018– 2019). During that same time frame the late-run king salmon SEG for all sized fish (15,000–30,000) from 2009–2016 was achieved each year and from 2017–2019 the large-fish SEG (13,500–27,000) was achieved each year except 2019 (Table 114-2). The Kenai River PU dip net fishery and the Kasilof River PU gillnet fishery are the only two PU fisheries in Cook Inlet that allow the harvest of king salmon.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. Under the *Policy for Management of Sustainable Salmon Fisheries* and the *Policy for Statewide Salmon Escapement Goals* the board can establish an OEG or inriver goal with the assistance of the department. The department transitioned to a new SEG based on escapement of king salmon 75 cm (mid-eye to fork) and greater in length at the 2017 UCI board meeting.

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

Table 114-1. Kenai River personal use dip net fishery effort and harvest, 1998–2018.

Year	Days open	Days fished	Sockeye salmon	King salmon	Coho salmon	Pink salmon	Chum salmon	Total
1998	18	10,802	103,847	254	1,011	1,032	85	106,229
1999	22	13,738	149,504	488	1,009	1,666	102	152,769
2000	22	12,354	98,262	410	1,449	1,457	193	101,771
2001	22	14,772	150,766	638	1,555	1,326	155	154,440
2002	22	14,840	180,028	606	1,721	5,662	551	188,568
2003	22	15,263	223,580	1,016	1,332	1,647	249	227,824
2004	22	18,513	262,831	792	2,661	2,103	387	268,774
2005	22	20,977	295,496	997	2,512	1,806	321	301,132
2006	20	12,685	127,630	1,034	2,235	11,127	551	142,577
2007	22	21,908	291,270	1,509	2,111	1,939	472	297,301
2008	22	20,772	234,109	1,362	2,609	10,631	504	249,215
2009	22	26,171	339,993	1,189	2,401	5,482	285	349,350
2010	22	28,342	389,552	865	2,870	3,655	508	397,450
2011	22	32,818	537,765	1,243	4,745	3,914	915	548,583
2012	22	34,374	526,992	40	4,008	3,770	425	535,236
2013	22	33,193	347,222	11	3,169	3,625	701	354,727
2014	22	36,380	379,823	0	4,710	19,140	1,194	404,866
2015	22	31,487	377,532	66	4,150	4,147	957	386,853
2016	22	30,745	259,057	638	3,277	7,834	717	271,524
2017	22	27,775	297,049	1,194	732	7,962	886	307,824
2018	20	20,170	165,028	7	529	10,435	441	176,439
Mean	22	22,766	273,206	684	2,419	5,255	505	282,069

Table 114-2.—Kenai River late-run king salmon escapement goal history, 1998–2019.

Year		Escapement	SEG/BEG	IRG
1998	All Sizes of Fish	39,000	15,500–22,300	-
1999		30,563	17,800–35,700	-
2000		32,550	17,800–35,700	-
2001		37,641	17,800–35,700	-
2002		45,457	17,800–35,700	-
2003		67,187	17,800–35,700	-
2004		63,683	17,800–35,700	-
2005		60,246	17,800–35,700	-
2006		48,950	17,800–35,700	-
2007		37,010	17,800–35,700	-
2008		32,342	17,800–35,700	-
2009		21,410	17,800–35,700	-
2010		11,375	17,800–35,700	-
2011		16,340	17,800–35,700	-
2012		21,417	17,800–35,700	-
2013		19,342	15,000–30,000	-
2014		17,451	15,000–30,000	-
2015		22,642	15,000–30,000	≥ 22,500
2016		22,535	15,000–30,000	≥ 22,500
2017 ^a	Large Fish	20,634	13,500–27,000	-
2018 ^a		17,285	13,500–27,000	-
2019 ^a		11,555	13,500–27,000	-
Average				
1998–2016		22,535		
2017–2019		16,491		

Note: Large fish are king salmon that are 75 cm from mideye to tail fork in length or longer. Shaded areas indicate that the goal was achieved for that year

^a These estimates are preliminary until biometrically reviewed and published.

PROPOSALS 105 and 106 – Increase the late-run king salmon SEG.

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

PROPOSED BY: Mike Adams and Cooper Landing Fish and Game Advisory Committee.

WHAT WOULD THE PROPOSAL DO? These would increase the Kenai River late-run king salmon sustainable escapement goal (SEG) range to 15,000–35,000 king salmon.

WHAT ARE THE CURRENT REGULATIONS? See regulations in Proposal 114.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This could decrease the harvest of all salmon in sport, commercial and PU fisheries. This proposal would result in a higher likelihood of restrictions to the king salmon sport fishery and decreased sport fishing opportunity by an unknown amount. In addition, the likelihood of PU and commercial fishery restrictions would also increase. Managing to a range of 15,000–35,000 large king salmon may increase the probability of reduced yields in the future.

BACKGROUND: See background Proposal 114.

DEPARTMENT COMMENTS: The department OPPOSES the establishment of escapement goals that would likely increase the probability of reduced yields on average in the future. Department staff reviewed the Kenai River late-run king salmon escapement goal as part of the 2019 escapement goal review and recommended no change to the current goal of 13,500 – 27,000 large fish. Under the *Policy for Management of Sustainable Salmon Fisheries* and the *Policy for Statewide Salmon Escapement Goals*, the board can establish an OEG or inriver goal with the assistance of the department.

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

PROPOSAL 116 – Close the early- and late-run king salmon fisheries by specific dates if minimum escapements have not been achieved.

5 AAC 57.160. Kenai River and Kasilof River Early-run King Salmon Management Plan. and 5 AAC 21.359. Kenai River Late-Run King Salmon Management Plan.

PROPOSED BY: Mark Walker.

WHAT WOULD THE PROPOSAL DO? This would amend the *Kasilof River Early-Run King Salmon Management Plan* to close the sport fishery if the sustainable escapement goal (SEG) has not been achieved by June 10 or is not projected to be achieved by June 15. Additionally, this would amend the *Kenai River Late-Run King Salmon Management Plan* to close the sport fishery if the SEG has not been achieved by July 19 or is not projected to be achieved by July 23.

WHAT ARE THE CURRENT REGULATIONS? The *Kenai River and Kasilof River Early-run King Salmon Management Plan* (5 AAC 57.160) direct the department to manage so that if the inseason inriver run projection is below the optimal escapement goal (OEG), then the sport fishery will close. If the inriver projection is within the OEG, the department will prohibit the retention of king salmon or open the sport fishery under general regulation.

The *Kenai River Late-Run King Salmon Management Plan* (5 AAC 21.359) directs the department to manage as follows:

If the projected late-run king salmon escapement is less than 13,500 king salmon 75 cm mid eye to tail fork and longer, the department shall

- close the sport fisheries in the Kenai River and in the salt waters of Cook Inlet north of the latitude of Bluff Point to the taking of king salmon;
- close the commercial drift gillnet fishery in the Central District within one mile of the Kenai Peninsula shoreline north of the Kenai River and within one and one-half miles of the Kenai Peninsula shoreline south of the Kenai River;
- close the commercial set gillnet fishery in the Upper Subdistrict of the Central District.

In order to achieve the sustainable escapement goal and provide reasonable harvest opportunity, the commissioner may, by emergency order, establish fishing seasons as follows: in the Kenai River sport fishery;

- the use of bait is prohibited, or the use of bait and retention of king salmon are prohibited
 - in the Kenai River personal use fishery, if the use of bait is prohibited in the Kenai River sport fishery then the retention of king salmon is prohibited in the personal use fishery.
 - in the Upper Subdistrict set gillnet commercial fishery, excluding the East Foreland Section, notwithstanding the provisions of 5 AAC 21.360(c)(1)(B), (2)(B), and (3)(B), based on the abundance of sockeye salmon returning to the Kenai and Kasilof Rivers, if the use of bait is prohibited in the Kenai River sport fishery commercial fishing periods are open for no more than 48 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 to either four set gillnets that are each not more than 35 fathoms in length, 105 fathoms in aggregate 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; set gillnets used that are not more than 29 meshes in depth must be identified at the end of the gillnet with an attached blue buoy that is not less than nine and one-half inches in diameter; or 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; set gillnets used that are not more than 29 meshes in depth must be identified at the end of the gillnet with an attached blue buoy that is not less than nine and one-half inches in diameter; or 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 24 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? This would likely result in reduced sport fishing opportunity for king salmon and increase the frequency of closures and restrictions to sport and commercial fisheries for both runs during average and below average returns. Additionally, this would likely increase the frequency of closures to the commercial fisheries that are paired to the late-run king salmon sport fishery, which would decrease harvest of king and sockeye salmon in the Central District drift gillnet fishery and the set gillnet fishery in the Upper Subdistrict of the Central District.

BACKGROUND: The current early- and late-run king salmon management plans and their respective escapement goals were modified at the 2017 board meeting to provide sustainable fisheries, conserve genetically unique stocks, and when needed to equitably distribute the burden of conservation. Within each plan, inseason management actions are implemented as prescribed when inseason information becomes less variable and provides confidence that the observations are representative of the run. The date by which this variability is reduced fluctuates between years.

The Kenai River early-run king salmon stock is managed inseason to achieve the OEG of 3,900 to 6,600 large king salmon. Historic run timing of observed large fish returns show the mean quarter point occurs on June 4, the mean midpoint is on June 11, and the mean three-quarter point is on June 19 (Table 116-1). The run is evaluated around these dates to gauge run timing relative to abundance, which informs the implementation of management actions prescribed by the management plan. Inseason information has the highest variability early in the season and progressively gains confidence as variability is reduced as information is added to inform the projection model.

The Kenai River late-run king salmon fishery is managed inseason to achieve the SEG of 13,500 to 27,000 large king salmon. Historic run timing of observed large fish returns show the mean quarter point is on July 17, the mean midpoint is on July 26, and the mean three quarters point on August 5 (Table 116-2). The run is evaluated around these dates to gauge run timing relative to abundance which informs the implementation of management actions prescribed by the management plan. Inseason information has the highest variability early in the season and

progressively gains confidence as variability is reduced as information is added to inform the projection model.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal because it would require the department to take action that would affect all user groups before the inseason projection estimates have stabilized. This proposal inhibits the department's ability to adjust management actions by establishing static dates that do not account for natural variations in run timing, environmental conditions, and fishery participation. Managing to these dates may result in loss of opportunity without biological justification during average and below average returns.

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

Table 116-1.–Kenai River early-run large (> 75 cm) king salmon run timing percentage by date, 2013–2019.

Date	2013	2014	2015	2016	2017	2018	2019	Mean
16-May	0%	0%	0%	0%	0%	0%	0%	0%
17-May	0%	0%	0%	0%	0%	0%	0%	0%
18-May	0%	0%	0%	1%	1%	1%	0%	1%
19-May	1%	1%	1%	1%	1%	1%	0%	1%
20-May	1%	1%	2%	1%	2%	2%	0%	1%
21-May	1%	1%	2%	2%	2%	2%	0%	2%
22-May	1%	1%	2%	2%	2%	3%	1%	2%
23-May	1%	2%	3%	3%	4%	5%	1%	3%
24-May	2%	2%	4%	4%	4%	6%	2%	4%
25-May	5%	2%	5%	4%	6%	6%	3%	5%
26-May	6%	2%	6%	6%	8%	6%	4%	5%
27-May	6%	2%	7%	7%	9%	8%	5%	6%
28-May	6%	3%	8%	11%	10%	10%	7%	8%
29-May	8%	3%	11%	13%	12%	11%	8%	10%
30-May	9%	4%	13%	16%	15%	14%	10%	12%
31-May	10%	5%	14%	19%	17%	16%	11%	14%
1-Jun	14%	6%	17%	22%	21%	20%	14%	17%
2-Jun	15%	7%	22%	24%	24%	23%	17%	19%
3-Jun	18%	11%	25%	26%	30%	27%	21%	23%
4-Jun	18%	16%	29%	30%	32%	31%	26%	26%
5-Jun	20%	21%	32%	32%	36%	35%	31%	29%
6-Jun	22%	29%	37%	35%	39%	39%	36%	33%
7-Jun	27%	34%	43%	40%	42%	43%	40%	38%
8-Jun	30%	38%	46%	44%	46%	46%	43%	42%
9-Jun	36%	43%	51%	47%	48%	50%	47%	46%
10-Jun	40%	46%	54%	49%	51%	54%	51%	49%
11-Jun	42%	51%	58%	53%	55%	58%	56%	53%
12-Jun	44%	54%	64%	57%	59%	61%	59%	57%
13-Jun	47%	57%	67%	62%	63%	63%	64%	60%
14-Jun	54%	62%	70%	66%	69%	67%	66%	65%
15-Jun	57%	65%	72%	69%	73%	70%	69%	68%
16-Jun	58%	68%	73%	72%	76%	71%	70%	69%
17-Jun	59%	71%	75%	74%	78%	73%	72%	72%

-continued-

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18-Jun	61%	74%	78%	76%	82%	75%	74%	74%
19-Jun	63%	78%	80%	77%	84%	76%	76%	76%
20-Jun	66%	81%	82%	79%	84%	78%	79%	78%
21-Jun	68%	83%	84%	81%	86%	80%	81%	80%
22-Jun	71%	87%	86%	82%	87%	82%	83%	83%
23-Jun	74%	89%	87%	84%	89%	83%	85%	84%
24-Jun	75%	90%	89%	87%	90%	85%	87%	86%
25-Jun	78%	91%	91%	88%	91%	87%	90%	88%
26-Jun	81%	93%	94%	90%	94%	89%	93%	90%
27-Jun	85%	96%	96%	92%	96%	91%	95%	93%
28-Jun	89%	97%	97%	94%	97%	95%	96%	95%
29-Jun	95%	98%	99%	98%	98%	97%	98%	98%
30-Jun	100%	100%	100%	100%	100%	100%	100%	100%

Table 116-2.–Kenai River late-run large > 75 cm king salmon run timing percentage by date, 2013–2019.

Date	2013	2014	2015	2016	2017	2018	2019	Mean
1-Jul	1%	0%	0%	2%	1%	1%	1%	1%
2-Jul	1%	1%	1%	4%	2%	2%	2%	2%
3-Jul	2%	1%	2%	5%	3%	2%	3%	2%
4-Jul	3%	1%	3%	6%	4%	4%	4%	3%
5-Jul	3%	2%	4%	8%	5%	5%	5%	5%
6-Jul	4%	4%	4%	9%	5%	6%	7%	6%
7-Jul	5%	5%	5%	10%	7%	8%	9%	7%
8-Jul	5%	6%	7%	12%	8%	10%	11%	8%
9-Jul	7%	7%	9%	13%	10%	11%	12%	10%
10-Jul	8%	7%	11%	16%	12%	12%	15%	12%
11-Jul	10%	8%	12%	19%	14%	12%	17%	13%
12-Jul	11%	9%	14%	24%	16%	14%	20%	15%
13-Jul	12%	11%	15%	27%	18%	15%	22%	17%
14-Jul	15%	12%	17%	31%	20%	16%	25%	19%
15-Jul	17%	14%	19%	33%	22%	17%	28%	21%
16-Jul	21%	15%	21%	34%	24%	19%	31%	24%
17-Jul	24%	17%	23%	36%	27%	20%	35%	26%
18-Jul	27%	20%	26%	39%	30%	22%	38%	29%
19-Jul	29%	22%	28%	41%	33%	25%	41%	31%
20-Jul	32%	25%	30%	43%	34%	29%	46%	34%
21-Jul	33%	28%	33%	45%	36%	31%	50%	37%
22-Jul	34%	29%	37%	48%	38%	33%	55%	39%
23-Jul	36%	32%	41%	50%	40%	36%	58%	42%
24-Jul	37%	33%	47%	53%	44%	39%	61%	45%
25-Jul	39%	36%	51%	55%	47%	43%	64%	48%
26-Jul	42%	39%	54%	57%	50%	45%	66%	50%
27-Jul	44%	41%	56%	61%	52%	48%	68%	53%
28-Jul	46%	44%	58%	64%	55%	50%	71%	55%
29-Jul	49%	47%	60%	67%	57%	53%	73%	58%
30-Jul	53%	51%	62%	69%	59%	55%	75%	61%
31-Jul	57%	56%	63%	70%	63%	58%	77%	63%
1-Aug	60%	59%	64%	72%	65%	62%	78%	66%
2-Aug	64%	62%	66%	73%	68%	64%	79%	68%
3-Aug	68%	66%	68%	75%	70%	67%	81%	71%
4-Aug	71%	70%	71%	77%	73%	70%	83%	74%
5-Aug	75%	75%	74%	79%	76%	73%	85%	77%
6-Aug	77%	80%	78%	81%	79%	76%	86%	80%
7-Aug	79%	82%	80%	83%	82%	80%	88%	82%
8-Aug	83%	84%	83%	85%	85%	82%	89%	84%
9-Aug	85%	89%	85%	86%	86%	83%	90%	86%
10-Aug	88%	92%	88%	88%	87%	85%	91%	88%
11-Aug	90%	94%	89%	89%	89%	87%	92%	90%
12-Aug	91%	95%	90%	91%	90%	89%	93%	91%
13-Aug	93%	96%	92%	93%	92%	90%	93%	93%
14-Aug	95%	99%	94%	95%	92%	92%	95%	94%
15-Aug	97%	100%	95%	96%	93%	93%	96%	96%
16-Aug	98%		96%	98%	95%	95%	97%	96%
17-Aug	100%		97%	98%	95%	96%	98%	97%
18-Aug			98%	99%	97%	97%	99%	98%
19-Aug			99%	100%	99%	98%	99%	99%
20-Aug			100%		100%	100%	100%	100%

PROPOSAL 108 – Modify paired restrictive provisions in the Kenai River Late-Run King Salmon Management Plan

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

PROPOSED BY: Kenai River Professional Guide Association.

WHAT WOULD THE PROPOSAL DO? This would modify the paired restrictive provisions of 5 AAC 21.359(e)(3)(A) and (B) *Kenai River Late-Run King Salmon Management Plan (KRLRKSMF)* by reducing the number of hours the Upper Subdistrict set gillnet (ESSN) commercial fishery may be opened when the use of bait is prohibited in the Kenai River sport fishery from a maximum of 48 hours per week to a maximum of 24 hours per week. The 24-hour weekly time restriction would be restricted to two 12-hour contiguous fishing periods. If the use of bait and the retention of king salmon are prohibited in the Kenai River sport fishery, the ESSN fishery would be restricted to fishing no more than 12 hours per week, instead of a maximum of 24 hours, and the 12 hours would be limited to no more than one 12-hour contiguous fishing period.

WHAT ARE THE CURRENT REGULATIONS? The ESSN fishery is managed primarily under provisions found in 5 AAC 21.360. *Kenai River Late Run Sockeye Salmon Management Plan* and 5 AAC 21.365. *Kasilof River Salmon Management Plan*. However, if the Kenai River late-run king salmon sport fishery is restricted in order to achieve the sustainable escapement goal (SEG), the ESSN fishery, excluding the East Foreland Section, is then managed per provisions found in the *KRLRKSMF*.

Commonly referred to as “paired restrictions,” the *KRLRKSMF* outlines paired restrictive actions for the department to implement in the Kenai River sport fishery and ESSN fishery during times of low king salmon abundance, as follows:

If the use of bait is prohibited in the Kenai River sport fishery, commercial fishing periods are open for no more than 48 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 and depth 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 24 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? When operating under paired restrictive provisions, this would reduce the maximum number of hours the ESSN fishery, except for the East Foreland Section, could be open by 50% when compared to current regulations. A 50% reduction in ESSN fishing hours could reduce the commercial harvest of all salmon, including sockeye salmon, by a significant amount. This would also limit fishing to 12-hour contiguous time blocks, which could result in increased king and sockeye salmon passage in the Kenai and Kasilof rivers. This would increase the availability of salmon for personal use and sport fisheries.

BACKGROUND: Originally developed in 1988, the *Upper Subdistrict King Salmon Management Plan* provided the department with direction on how to manage the Upper Subdistrict fishery by identifying a limit on the number of king salmon that could be harvested before closing the fishery. In 1989, the plan was renamed the *KRLRKSMF* and various modifications have been proposed at every board cycle since that time.

In 2014, the board modified the *KRLRKSMF* to include paired restrictive actions between the Kenai River king salmon sport fishery and the ESSN commercial fishery. The intent of the paired provisions was to provide step-down measures in both fisheries in order to reduce the harvest of late-run king salmon during times of low abundance and share the conservation burden between the harvesters of Kenai River late-run king salmon. The *KRLRKSMF* also included restrictive actions to be taken in the personal use dip net fishery at the mouth of the river. The paired restrictions approved by the board in 2014 limited the ESSN to 36 hours a week with a 36-hour continuous window when bait was prohibited in the sport fishery. If bait was prohibited and king salmon were not allowed to be retained, commercial fishing periods were restricted to no more than 12 hours per week. When the board modified the plan in 2017, they allowed more hours for the commercial fishery and removed mandatory king salmon restrictions on the commercial fishery in August. When the Kenai River king salmon late-run SEG was modified in 2017 to a large-fish (≥ 75 cm) goal, the board added hours to the paired restrictive provisions for the ESSN fishery to reflect the fact that this fishery harvested fewer large fish than all sized king salmon

Since 2014, when “paired restrictions” were adopted, low king salmon abundance in the Kenai River has occurred every year except 2017, and some or all the restrictive provisions of the management plan have been implemented each year (Table 108-1). In 2017, the board exempted the East Foreland Section from the paired restrictive provisions in the management plan due to the low harvest of Kenai River king salmon in this statistical area, 244-42 (Figure 108-1).

From 2010–2019, the ESSN commercial harvest averaged 2,508 king (all sizes) and 520,671 sockeye salmon in the Kasilof section, 2,149 king and 374,658 sockeye salmon in the Kenai Section, and 66 king and 63,683 sockeye salmon in the East Foreland Section (Table 108-2). The average sockeye to king salmon ratio (or the number of sockeye salmon harvested for every king salmon harvested) was 236 in the Kasilof Section, 192 in the Kenai Section, and 956 in the East Foreland Section.

Department staff have been able to use recent year’s genetic stock composition estimates of large (>75 cm) Kenai River late-run king salmon in the ESSN fishery to estimate historical large king salmon harvest in this fishery (Table 108-3). From 1998-2013 the inriver sport fishery averaged about 74% of the harvest while the ESSN fishery averaged 26% of the combined large Kenai River king salmon harvest of both fisheries. For example, the average annual harvest of large king salmon in the ESSN fishery from 1998–2013 was 3,676 fish, while the inriver sport fishery harvest average was 10,290 (Table 108-3 and Table 108-4). Since paired restrictive provisions were adopted in 2014, the average annual harvest of large Kenai River king salmon in the fisheries has been 1,764 in the ESSN and 2,928 in the sport fishery, and the percent of harvest between commercial and sport fisheries averaged 46% in the ESSN fishery and 54% in the sport fishery (Table 108-4). In years when paired restrictions were utilized to conserve king salmon, the ESSN average harvest was reduced by 43% (2,109 fish) when the first tier was implemented and 83% (631 fish) when the second tier was implemented. The sport fish harvest was reduced by 66% (3,542 fish) when the first tier was implemented and 97% (360 fish) when the second tier was implemented.

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. Approval of this proposal is not expected to result in an additional cost to the department.

Table 108-1.—Paired restrictive actions implemented in the Kenai River late-run king salmon sport fishery and the ESSN commercial fishery from 2014–2019.

Year	Restriction to sport fishery	Restriction to commercial fishery
2014	No Bait and No Retention	Limited hours to 36 per week; Gear reduction for one fishing period
2015	No Bait	Limited hours to 36 per week
2016	No Bait	Limited hours to 36 per week
2017	NO restrictions	NO restrictions
2018	No Bait and No Retention	Limited hours to 48 per week and then 24 hours per week
2019	No Bait	Limited to 48 hours per week; Gear reduction for numerous fishing periods

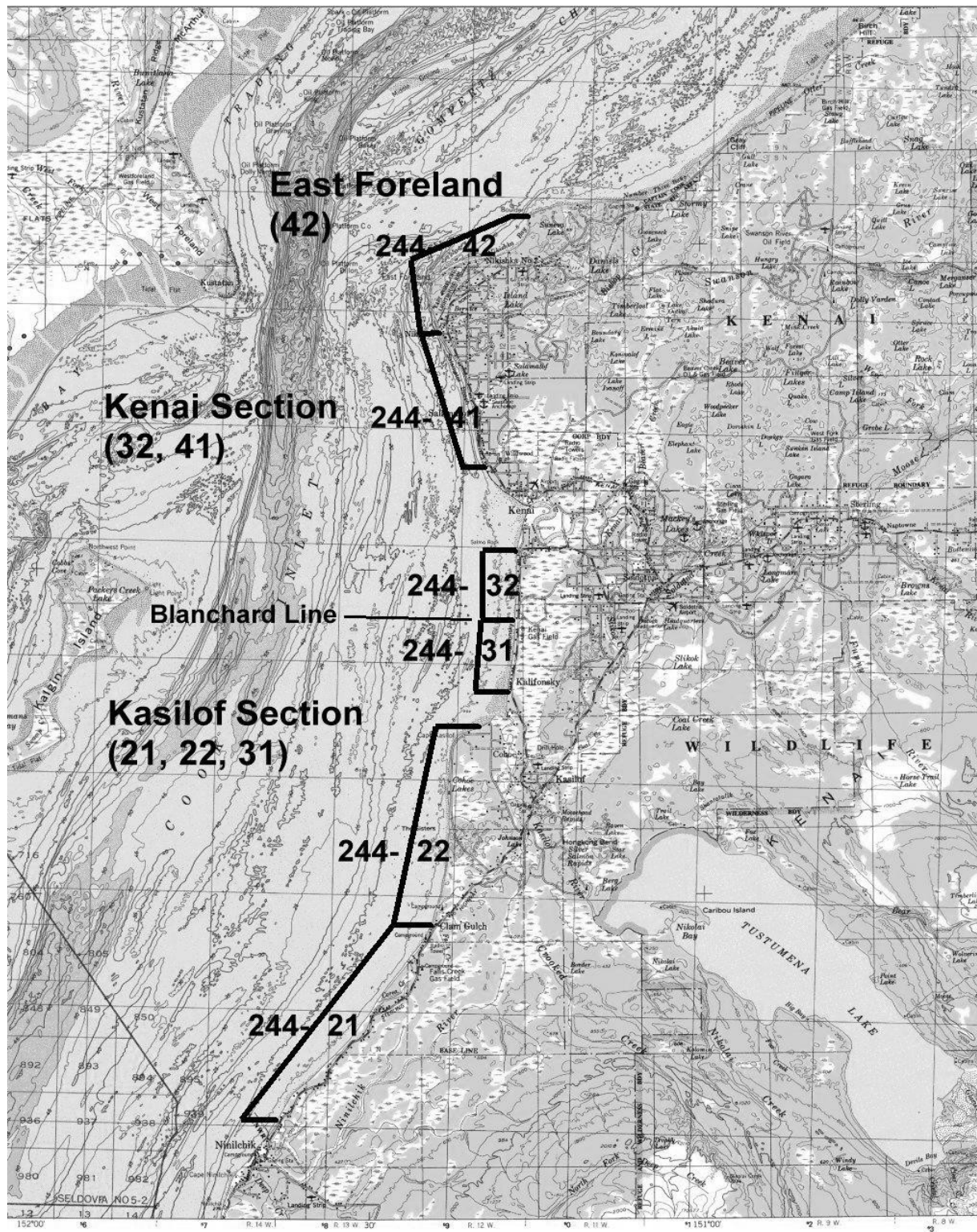


Figure 108-1.—Map of the Kasilof, Kenai, and East Foreland sections, with statistical areas.

Table 108-2.–Commercial harvest of king and sockeye salmon in the ESSN commercial fishery, 2010–2019.

King salmon ^a							
Year	Kasilof Section	Percent	Kenai Section	Percent	E. Foreland Section	Percent	Total
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
2017	2,314	48%	2,414	51%	51	1%	4,779
2018	1,574	68%	706	31%	32	1%	2,312
2019	1,172	52%	1,018	45%	55	2%	2,245
Average ^b	2,508	54%	2,149	44%	66	1%	4,724

Sockeye salmon							
Year	Kasilof Section	Percent	Kenai Section	Percent	E. Foreland Section	Percent	Total
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
2017	560,102	67%	235,319	28%	36,799	4%	832,220
2018	222,086	77%	56,089	19%	11,666	4%	289,841
2019	335,400	43%	341,243	44%	107,636	14%	784,222
Average ^b	520,671	57%	374,658	37%	63,683	6%	959,012

Sockeye to king ratio				
Year	Kasilof Section	Kenai Section	East Foreland	Combined
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
2017	242	97	722	168
2018	141	79	365	122
2019	286	335	1,957	309
Average ^b	236	192	956	219

^a Harvest represents all king salmon stocks of all sizes.

^b 2012 not included in average

Table 508-3.—Estimate of large (>75cm) Kenai River late-run king salmon harvested in the ESSN fishery, 1998-2018.

Year	All sizes	Large (≥ 75 cm)	% Large	Total run	ESSN
					Harvest rate
1998	5,087	2,165	43%	43,130	5%
1999	9,463	4,402	47%	45,657	10%
2000	3,684	1,795	49%	41,719	4%
2001	6,009	1,905	32%	45,754	4%
2002	9,478	3,483	37%	55,910	6%
2003	14,810	4,375	30%	67,984	6%
2004	21,684	9,990	46%	91,312	11%
2005	21,597	9,501	44%	84,189	11%
2006	9,956	3,074	31%	57,122	5%
2007	12,292	4,055	33%	44,421	9%
2008	7,573	3,425	45%	42,680	8%
2009	5,588	1,410	25%	28,044	5%
2010	7,059	2,384	34%	22,180	11%
2011	7,697	2,499	32%	26,381	9%
2012 ^a	705				
2013	2,988	679	23%	14,382	5%
2014	2,301	706	31%	13,403	5%
2015	7,781	2,808	36%	22,796	12%
2016	6,759	2,906	43%	25,629	11%
2017	4,779	2,998	63%	30,408	10%
2018	2,312	555	24%	17,798	3%
2019 ^b	2,245	613	27%	12,780	5%
<u>Averages</u>					
1998-2013	9,664	3,676	37%	47,391	7%
2014-2019	4,363	1,764	37%	20,469	8%
All Years	8,150	3,130	37%	39,699	7%

^a 2012 Not included in averages due to significant restrictions in the fishery.

^b 2019 Data are preliminary

Table 108-4.—Estimated harvest of Kenai River late-run large (> 75 cm) king salmon in the ESSN and Kenai River sport fisheries, 1998–2019.

Year	Total Run	Total Inriver sport harvest	ESSN	% of harvest by inriver sport	% of harvest by ESSN	Escapement
1998	43,130	6,435	2,165	75%	25%	33,385
1999	45,657	11,336	4,402	72%	28%	29,100
2000	41,719	13,709	1,795	88%	12%	25,502
2001	45,754	13,873	1,905	88%	12%	29,531
2002	55,910	11,122	3,483	76%	24%	40,514
2003	67,984	13,353	4,375	75%	25%	48,461
2004	91,312	14,507	9,990	59%	41%	65,112
2005	84,189	17,011	9,501	64%	36%	55,688
2006	57,122	13,407	3,074	81%	19%	39,305
2007	44,421	9,262	4,055	70%	30%	29,664
2008	42,680	10,303	3,425	75%	25%	28,094
2009	28,044	7,503	1,410	84%	16%	18,251
2010	22,180	5,633	2,384	70%	30%	13,037
2011	26,381	5,921	2,499	70%	30%	15,731
2012 ^a	23,206					22,453
2013	14,382	978	679	59%	41%	12,305
2014	13,403	293	706	29%	71%	11,980
2015	22,796	2,755	2,808	50%	50%	16,825
2016	25,629	6,710	2,906	70%	30%	14,676
2017	30,408	6,225	2,998	67%	33%	20,634
2018	17,798	427	555	43%	57%	17,285
2019 ^b	12,780	1,160	613	65%	35%	11,548
Average 1998-2013	47,391	10,290	3,676	74%	26%	32,245
Average 2014-2019	20,469	2,928	1,764	54%	46%	15,491

^a 2012 Not included in averages due to significant restrictions in the fishery.

^b 2019 Data are preliminary

PROPOSAL 111 – Remove all “paired” restrictive provisions in the Kenai River Late-Run King Salmon Management Plan.

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

PROPOSED BY: Karen McGahan.

WHAT WOULD THE PROPOSAL DO? This would remove all “paired” restrictive provisions in the *Kenai River Late-Run King Salmon Management Plan (KRLRKSMF)* as they pertain to the Upper Subdistrict set gillnet (ESSN) and drift gillnet commercial salmon fisheries of Upper Cook Inlet (UCI).

WHAT ARE THE CURRENT REGULATIONS? The Upper Subdistrict set gillnet (ESSN) fishery is managed primarily under provisions found in 5 AAC 21.360. *Kenai River Late Run Sockeye Salmon Management Plan* and 5 AAC 21.365. *Kasilof River Salmon Management Plan*. However, if the Kenai River late-run king salmon sport fishery is restricted in order to achieve the sustainable escapement goal (SEG), the ESSN fishery, excluding the East Foreland Section, is then managed per paired restriction provisions found in the *KRLRKSMF*. Specifically, the management plan states that if the use of bait is prohibited in the sport fishery, commercial fishing periods are open for no more than 48 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 and depth of set gillnets operated may also be restricted. If the use of bait and the retention of king salmon are prohibited in the sport fishery, the option to restrict depth and number of set gillnets is removed but the ESSN fishery is open for no more than 24 hours per week, with a 36-hour continuous closure per week beginning between 7:00 p.m. Thursday and 7:00 a.m. Friday. The *KRLRKSMF* also states that if the Kenai River late-run king salmon SEG is projected to be less than 13,500 fish, the department is to close the sport fishery in the Kenai River and in the salt waters of Cook Inlet north of the latitude of Bluff Point to the taking of king salmon, close the entire ESSN fishery, and close the drift gillnet fishery in the Central District within one mile of the shoreline on the Kenai Peninsula north of the Kenai River and within one and one-half miles south of the Kenai River.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This could increase the commercial harvest of all salmon in this fishery, excluding the East Forelands section, by an unknown amount. The effects on harvest would be dependent upon sockeye salmon abundance. Removing the drift gillnet fishery from provisions of the *KRSRKSMF* would have no effect because 5 AAC 21.310 closes the drift fishery nearshore anytime the set gillnets are not open in this area. This could result in the burden of conservation for king salmon in years of weak runs resting unequally on inriver users.

BACKGROUND: Please see background on Proposals 108 and 110.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. The department would continue to manage all fisheries to meet established escapement objectives and this would result in restrictions to commercial fisheries in years of reduced king salmon abundance.

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. Approval of this proposal is not expected to result in an additional cost to the department.

PROPOSAL 149 – Prohibit catch-and-release fishing for king salmon on the Kenai River.

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: John McCombs.

WHAT WOULD THE PROPOSAL DO? This would prohibit catch-and-release fishing for king salmon on the Kenai River.

WHAT ARE THE CURRENT REGULATIONS? Under statewide regulations, the commissioner may, by emergency order (EO), modify bag and possession limits and annual limits and alter methods and means in sport fisheries. These changes may not reduce the allocation of harvest among other user groups. An EO may not supersede provisions for increasing or decreasing bag and possession limits or changing methods and means established in regulatory management plans established by the board. If the recreational harvest must be curtailed in any fishery for conservation reasons; the department may issue a "catch-and-release only" EO when the estimated hooking mortality is not projected to reduce the population of fish below the number required for spawning escapement.

Under the *Kenai River and Kasilof River Early-run King Salmon Management Plan* (5 AAC 57.160), the department shall manage the Kenai River early-run king salmon sport and guided sport fisheries to achieve the optimal escapement goal (OEG) of 3,900–6,600 king salmon 75 cm mid eye to tail fork length and longer. In order to achieve the OEG the department may restrict the fishery to nonretention of king salmon or close the sport fishery.

Under the *Kenai River Late-run King Salmon Management Plan* (5 AAC 21.359), the department manages the late run of Kenai River king salmon to achieve a sustainable escapement goal (SEG) of 13,500–27,000 king salmon 75 cm mid eye to tail fork length and longer. In order to achieve the SEG the department may restrict the sport fishery by prohibiting the use of bait or prohibiting retention and the use of bait. If the use of bait is prohibited, then retention of king salmon in the PU fishery is prohibited. If the use of bait is prohibited in the sport fishery then commercial fishing periods in the Upper Subdistrict set gillnet fishery are limited to be open no more than 48 hours per a week. If the use of bait and retention of king salmon is prohibited in the sport fishery then commercial fishing periods in the Upper Subdistrict set gillnet fishery are limited to be open no more than 24 hours per a week. If the sport fishery is closed, then the Central District drift gillnet fishery within one mile of the Kenai Peninsula shoreline and the Upper Subdistrict set gillnet fishery will close.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This could reduce fishing opportunity because it would require anglers who would otherwise intend to release king salmon alive to harvest the fish, or not fish at all. It would eliminate release mortality, estimated to be around 8% of released king salmon. It would conflict with existing size limit regulations during the early run that require the release of fish greater than 36 inches in length. Removing catch-and-release as a step-down management option would increase the frequency of

closures to the inriver sport fishery and could reduce fishing opportunity for sport, PU, and commercial fisheries.

BACKGROUND: The 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 as 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.

Information from Kenai River catch-and-release mortality studies indicate that the overall delayed hooking mortality for king salmon is approximately 8% using all gear types. Since the mid-1980's when management plans were first adopted for the Kenai River king salmon stocks through the 2013 season, inseason stock assessment data has warranted the total closure of the early-run king salmon sport fishery on seven occasions (2002, 2010, 2012, 2013, 2014, 2015, and 2018) and the total closure of late-run king salmon sport fishery on three occasions (2012, 2013, and 2014). During king salmon sport fishing closures, anglers fishing the Kenai River may fish for other species such as sockeye salmon, rainbow trout and Dolly Varden. During the early-run king salmon fishery anglers may not harvest king salmon 36 inches in length and larger which requires the release of these larger fish.

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 promotes best practices for releasing fish through education and outreach. The department uses emergency order authority to reduce mortality when necessary to achieve escapement goals or provide sustainability. It does so primarily through harvest limit reductions, but also by prohibiting use of bait and multiple hooks.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. Anglers release fish for a number of reasons. Catch-and-release fishing also allows fishing opportunity for all users and provides managers with the ability to allow fisheries to continue through the season to achieve escapement goals. The department encourages anglers to use best practices through outreach efforts.

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

PROPOSAL 171 – Amend the Kenai River PU bag limit for king salmon

5 AAC 77.540. Upper Cook Inlet Personal Use Salmon Fishery Management Plan.

PROPOSED BY: Alaska Sport Fishing Association and Martin Meigs.

WHAT WOULD THE PROPOSAL DO? This would amend the Kenai River PU bag limit for king salmon to one king salmon less than 36 inches in length.

WHAT ARE THE CURRENT REGULATIONS? Salmon may be taken by dip net in the Kenai River from July 10 through July 31, seven days per week, from 6:00 a.m. to 11:00 p.m.; the annual limit is 25 salmon for the head of a household and 10 salmon for each dependent of the permit holder, except that only one king salmon 20 inches or greater in length, and no more than 10 king salmon less than 20 inches in length, may be retained per household. When the Kenai River late-run king salmon sport fishery is restricted, king salmon of any size may not be retained in the personal use fishery.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would likely decrease the harvest of king salmon greater than 36 inches in length in the PU fishery. A decrease in PU harvest of king salmon would result in an increase of inriver abundance upstream of the PU fishery and may result in an increase in sport harvest and spawning escapement. Establishing a limit of only one king salmon under 36 inches would simplify regulations instead of different limits for king salmon under and over 20 inches but would reduce the harvest of small fish under 20 inches. Liberal limits have been established for jack king salmon as an incentive to harvest that size class in proportion to the run.

BACKGROUND: From 1998–2018 the average harvest of king salmon of all sizes from the Kenai River PU dip net fishery was 684 fish. From 1998–2018 king salmon harvest accounts for less than 1% of the salmon harvest in the Kenai River dip net fishery (Table 171-1). In recent years of low abundance from 2012–2018 the average harvest was 279 fish. This variation is due to inseason restrictions implemented as directed by *Kenai River Late-Run Salmon Management Plan* (5 AAC 21.359) when the sport fishery is restricted and low abundance of late-run king salmon. In the previous 10 years this restriction was implemented six times in 2012–2016, 2018, and 2019. During that same time frame the late-run king salmon SEG for all fish (15,000–30,000) from 2009–2015 was achieved each year and from 2016–2019 the large-fish SEG (13,500–27,000) was achieved each year except 2019. The Kenai River PU dip net fishery and the Kasilof River PU gillnet fishery are the only two PU fisheries that allow the harvest of king 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. Approval of this proposal is not expected to result in an additional direct cost for the department.

Table 171-1.–Kenai River personal use dip net fishery effort and harvest, 1998–2018.

Year	Days open	Days fished	Sockeye salmon	King salmon	Coho salmon	Pink salmon	Chum salmon	Total
1998	18	10,802	103,847	254	1,011	1,032	85	106,229
1999	22	13,738	149,504	488	1,009	1,666	102	152,769
2000	22	12,354	98,262	410	1,449	1,457	193	101,771
2001	22	14,772	150,766	638	1,555	1,326	155	154,440
2002	22	14,840	180,028	606	1,721	5,662	551	188,568
2003	22	15,263	223,580	1,016	1,332	1,647	249	227,824
2004	22	18,513	262,831	792	2,661	2,103	387	268,774
2005	22	20,977	295,496	997	2,512	1,806	321	301,132
2006	20	12,685	127,630	1,034	2,235	11,127	551	142,577
2007	22	21,908	291,270	1,509	2,111	1,939	472	297,301
2008	22	20,772	234,109	1,362	2,609	10,631	504	249,215
2009	22	26,171	339,993	1,189	2,401	5,482	285	349,350
2010	22	28,342	389,552	865	2,870	3,655	508	397,450
2011	22	32,818	537,765	1,243	4,745	3,914	915	548,583
2012	22	34,374	526,992	40	4,008	3,770	425	535,236
2013	22	33,193	347,222	11	3,169	3,625	701	354,727
2014	22	36,380	379,823	0	4,710	19,140	1,194	404,866
2015	22	31,487	377,532	66	4,150	4,147	957	386,853
2016	22	30,745	259,057	638	3,277	7,834	717	271,524
2017	22	27,775	297,049	1,194	732	7,962	886	307,824
2018	20	20,170	165,028	7	529	10,435	441	176,439
Mean	22	22,766	273,206	684	2,419	5,255	505	282,069

PROPOSAL 196 – Remove mandatory closed fishing periods in the Upper Subdistrict set gillnet fisheries.

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 would remove mandatory closed fishing periods or "windows" in the Upper Subdistrict set gillnet (ESSN) fisheries.

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 RM 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 RM 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 1,000,000–1,300,000 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 1,100,000–1,500,000 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.

The purpose statement of 5 AAC 21.353 currently reads, “The purpose of this management plan is to ensure adequate escapement of salmon into the ND 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.”

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 Kenai and Kasilof river sockeye salmon escapement objectives 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. It is not possible to project whether or not additional fishing time would occur if this proposal were adopted because the department would continue to manage all fisheries to achieve established escapement goals, but adoption of this proposal would provide greater latitude in determining when commercial fishing time is allowed.

BACKGROUND: Mandatory no-fishing periods (“windows”) were first adopted in the *Kenai River Late-Run Sockeye Salmon Management Plan* in 1999 (Table 88-2). 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.

Mandatory no-fishing windows were adopted into the *Kasilof River Salmon Management Plan* in 2002 (Table 196-1). 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.

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 196-1.—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 sections	None		
2002	June 25–July 7	48-hour floating	48 hours	150,000–250,000	150,000- 300,000
	July 8–August 15 after July 15	per the Kenai plan, based on tiers per the Kenai plan, based on tiers	per Kenai plan 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 after July 15	per the Kenai plan, based on tiers per the Kenai plan, based on tiers	per Kenai plan 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 after July 15	per the Kenai plan, based on tiers per the Kenai plan, based on tiers	per Kenai plan 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.

PROPOSAL 80 – Prohibit retention of king salmon greater than 36 inches in UCI commercial gillnet fisheries.

5 AAC 21.310. Fishing seasons.

PROPOSED BY: Alaska Sportfishing Association/Martin Meigs.

WHAT WOULD THE PROPOSAL DO? This would prohibit retention of king salmon greater than 36 inches in the Upper Cook Inlet (UCI) commercial gillnet fisheries

WHAT ARE THE CURRENT REGULATIONS? Legal gear for the commercial harvest of salmon in UCI are set and drift gillnets; purse seines are allowed in the Chinitna Bay Subdistrict, but only by emergency order (EO). While there are some management plan provisions for restricting net depth, mesh size, and number of nets, there are no current regulations that restrict the size of salmon harvested in UCI commercial fisheries.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would reduce the king salmon commercial harvest in UCI. While the proposal speaks to a desire to reduce the harvest of large Kenai River king salmon, the restrictions on commercial king salmon harvest would apply to all commercial fishermen in UCI, so this would reduce the harvest of all large king salmon in UCI by an unknown amount. A 36-inch size limit for king salmon in the commercial fisheries of UCI could allow some king salmon to escape the commercial fishery, but the mortality of king salmon caught in gillnets that are subsequently released is not known. The proposal also does not identify how length measurements are to be determined, i.e., is it total length, or mid-eye to tail fork length, or some other measurement.

BACKGROUND: SE Alaska troll fisheries, as well as purse seine fisheries, and Kodiak Management Area purse seine fisheries, have size restrictions for king salmon commercial fisheries. As per 5 AAC 29.140, a size limit of a minimum of 28 inches for retention of king salmon is applied to all SE Alaska troll harvests, and seine harvests under 5 AAC 33.392. As per 5 AAC 18.395, Kodiak Management Area commercial salmon fisheries may be closed to retention of king salmon by emergency order (EO) based on king salmon abundance estimates in area streams. Both purse seines and set gillnets are legal gear in Kodiak, while purse seines and drift gillnets are legal gear for SE Alaska area commercial salmon fisheries.

In the Yakutat Management Area, 5 AAC 30.365. *Situk-Ahrnklin Inlet and Lost River King Salmon Fisheries Management Plan*, states that nonretention king salmon season may be implemented by EO in the set gillnet commercial fishery of the Situk River if the escapement goal of king salmon is in jeopardy. Similar restrictions are also put in place in the set gillnet subsistence fishery as a permit stipulation.

Department staff have been able to use recent year's genetic stock composition estimates of large (>75 cm) Kenai River late-run king salmon in the ESSN fishery to estimate historical large king salmon harvest in this fishery (Table 108-3). The average annual harvest of large king salmon in the ESSN fishery from 1998–2013 was 3,476 fish (Table 108-3). Since paired restrictive provisions were adopted in 2014, the average annual harvest of large Kenai River king salmon in the ESSN fishery has been 1,995 fish. The proportion of all king salmon harvested in the ESSN fishery that are large Kenai River king salmon from 1998–2018 is 37%.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal but **OPPOSES** aspects of this proposal that may result in increased mortality that is unaccounted for. Mortality of king salmon released from gillnets is unknown and king salmon conservation is likely better achieved through restrictions to commercial gear or time and area of openings and restrictions to sport and personal use fisheries. The department uses its EO authority to restrict harvest by all user groups, when necessary, to meet escapement objectives.

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. Approval of this proposal could result in an additional cost to the department if the board required reporting of released king salmon.

PROPOSAL 84 – Require king salmon over 20” netted from a vessel be released immediately.

5 AAC 56.120. General provisions for seasons, bag, possession, annual, and size limits, and methods and means for the Kenai Peninsula Area.

PROPOSED BY: Joe Hanes.

WHAT WOULD THE PROPOSAL DO? This would require a king salmon over 20” that is netted from a vessel in fresh waters of the Kenai Peninsula be released immediately without returning to shore.

WHAT ARE THE CURRENT REGULATIONS? Under general regulation, king salmon 36 inches or greater in length may not be retained from January 1– June 30, which requires the release of a significant portion of fish caught. Additionally, when retention is prohibited by emergency order (EO) in the Kenai Peninsula sport fisheries, the language “immediately released and may not be removed from the water” is used in regulation to minimize mortality associated with catch-and-release fishing while utilizing best practices. Anglers are encouraged to use best practices and land fish quickly, use the aid of a landing net, and ensure the fish has regained strength to swim away under its own power.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase regulatory complexity without providing a measurable effect on catch-and-release mortality.

BACKGROUND: The 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 as 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.

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 promotes best practices for releasing fish through education and outreach. The department uses EO authority to reduce mortality when necessary to achieve escapement goals or provide sustainability. It does so primarily through harvest limit reductions, but also by prohibiting use of bait and multiple hooks.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal. This proposal would increase regulatory complexity without measurable benefit. The department currently encourages best practices while releasing salmon through public outreach.

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. Approval of this proposal is not expected to result in additional cost to the department.

PROPOSAL 107 – Allow liberalization of late-run king salmon fishery if goal is exceeded.

5 AAC 21.359. Kenai River Late-Run King Salmon Management Plan. 5 AAC 57.160. Kenai River and Kasilof River Early-run King Salmon Management Plan. 5 AAC 57.120. General provisions for season, bag, possession, annual, and size limits, and methods, and means for the Kenai River Drainage Area. 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: Ted Wellman and Bill Tappen.

WHAT WOULD THE PROPOSAL DO? This would allow the use of bait and retention of king salmon greater than 36 inches as management option to the *Kenai River Late-run King Salmon Management Plan* (5 AAC 21.359) from Slikok Creek upstream to Skilak Lake, after July 15, when the escapement goal range is projected to be exceeded.

WHAT ARE THE CURRENT REGULATIONS? The *Kenai River and Kasilof River Early-run King Salmon Management Plan* directs the department to manage the sport fishery to achieve the optimal escapement goal range (OEG) of 3,900 – 6,600 king salmon greater the 75 cm mid eye to tail fork length and longer. If the inriver run projection exceeds the OEG range, the fishery may proceed under general provisions which do not allow bait or retention of king salmon 36 inches or greater from an ADF&G marker located 300 yards downstream of Slikok Creek upstream to ADF&G markers at the outlet of Skilak Lake.

The *Kenai River Late-Run King Salmon Management Plan* (5 AAC 21.359) directs the department to manage the sport fishery to achieve the sustainable escapement goal range (SEG) of 13,500 – 27,000 king salmon greater the 75 cm mid eye to tail fork length and longer. If the SEG is projected to be exceeded the sport fishery may be extended up to seven days in August.

Under *General provisions for season, bag, possession, annual, and size limits, and methods, and means for the Kenai River Drainage Area*. (5 AAC 57.120(A)(i)) from July 1 - July 31, from an ADF&G regulatory marker located approximately 300 yards downstream from the mouth of the Slikok Creek upstream to an ADF&G regulatory marker located at the outlet of Skilak Lake, only king salmon that are less than 36 inches in length as measured from tip of snout to tip of tail may be retained. There is an annual limit of two king salmon. Additionally, under. *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 57.121(A)) From July 1 - July 31, in the Kenai River from an ADF&G regulatory marker located approximately 300 yards downstream from the mouth of Slikok Creek upstream to an ADF&G regulatory marker located at the outlet of Skilak Lake, only one unbaited, single-hook, artificial lure may be used.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase harvest of Kenai River late-run king salmon upstream of Slikok Creek after July 15 when the SEG is projected to be exceeded and a harvestable surplus is available. This may increase the department's ability to keep the escapement of late-run king salmon from exceeding the SEG in years of high abundance.

BACKGROUND: There are two Kenai River king salmon stocks which are managed based upon established escapement goals and management plans. These stocks are tributary spawning stocks and mainstem spawning stocks. The early-run is comprised of mainly tributary stocks of king salmon spawning that originate in the Killey River, Funny River, Slikok Creek, Benjamin Creek, Russian River, Juneau Creek, Quartz Creek, Crescent Creek, Dave Creek, Grant Creek and Trail River. The early-run king plan is designed to manage for these tributary stocks while the late-run is designed to manage for mainstem spawning fish. There is some overlap between the time tributary spawning fish are completing their entry into the river and mainstem spawning fish are beginning their entry into the Kenai River.

Radio telemetry data collected from 2010 through 2015 evaluated the efficacy of spawning king salmon sanctuary areas and fishing closure regulations, in place as standard regulations prior to 2017, upstream of Slikok Creek. Based on radio-telemetry data inriver migration through the mainstem is protracted and many fish have not migrated upstream to their eventual spawning area by the end of July. Hence, findings from telemetry projects show that inriver spatial distribution of mainstem-spawning king salmon during the sport fishery is skewed towards more downstream areas than the spatial distribution of king salmon spawning locations, and that spawning location at the time of spawning in August appears to be mostly unrelated to time of entry during June through August.

The distribution of king salmon tagged in June indicates 83% of those fish that have migrated upstream of Slikok Creek were in areas that were restricted to fishing for king salmon, while those fish that did not migrate upstream of Slikok Creek remain in an area open to king salmon fishing through July 31. For example, by July 15 the proportional distribution of late-run king salmon tagged from July 1 to July 14 was 68% downstream of Slikok Creek, 25% in unrestricted waters upstream of Slikok Creek, and 10% in closed or restricted waters upstream of Slikok Creek. Based on radio telemetry results, closures to king salmon fishing upstream of the Slikok Creek have been an effective conservation measure because nearly all (>90%) radio tagged early-run tributary spawning fish were in protected waters when the late-run fishery began on 1 July (Table 107-1, Figure 107-1, 2, and 3). It was concluded that regulations that existed prior to 2017 to prohibit sport fishing in closed or restricted areas upstream of Slikok Creek provided the primary protection for early-run tributary spawners and that inseason closures or bait restrictions upstream of Slikok Creek provided only modest additional protection because fish were largely already in closed or restricted areas by regulation.

For mainstem spawning fish results indicated that conservation measures that targeted specific river sections where king salmon spawn will not benefit by completely restricting harvest in the same river section because many of those fish are downstream of the restricted area during the fishery. The effectiveness of this type of conservation measure also decreases the farther the targeted river section is located upstream. In addition, targeting upstream areas for conservation during the late run will essentially have no conservation value for fish that spawn in areas downstream of the river section of interest. Thus, additional conservation measures for upstream river sections will affect smaller portions of the fish spawning in the proposed area and offer little benefit to fish spawning in downstream areas. Conversely, protective measures proposed for downstream river sections will not only protect more fish that spawn in the proposed conservation area but will also protect mainstem spawning fish that spawn upstream of the targeted area because most fish do not migrate quickly to the mainstem river sections where they spawn in August (after the fishery closes).

Study results also indicate that on average, approximately 92% and 96% of radio-tagged early-run tributary spawning fish (Funny and Killey rivers, respectively) were within their respective tributary that are closed to salmon fishing or sanctuary above the Soldotna Bridge where king salmon fishing is prohibited by July 10 (Figures 107-2 and 107-3)

During the 2017 Upper Cook Inlet board meeting, modifications were made to the early- and late-run king salmon plans along with general provisions of the king fisheries including; gear, methods, maximum size of retention, and king sanctuary areas. The river section from ADF&G markers 300 yards downstream of Slikok Creek upstream to Slikok Creek was modified so that early-run fishery regulation extended to July 31 where previously that section had been managed as a late-run directed fishery after July 15 when the majority of early-run tributary spawning king salmon have moved out of the fishery. Currently, this section may not be liberalized past the general provisions which allow only one unbaited, single hook, artificial lure to be used and king salmon 36 inches in length or longer may not be retained.

DEPARTMENT COMMENTS: The department **SUPPORTS** this proposal. If adopted, it would enable the department to provide additional fishing opportunity and increase harvest on Kenai River late-run king salmon to achieve the SEG. Inriver harvest of king salmon in proportion to run timing and abundance is a management issue for mainstem spawning in the lower river downstream of Slikok Creek. Telemetry results suggest that the assertion that earlier returning mainstem-spawning fish are not available to the sport fishery longer than later returning mainstem spawners is not true, as they utilize areas that are closed to angling. mitigating concern that they may be overexploited.

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. Approval of this proposal is not expected to result in an additional direct cost for the department.

Table 107-1.—Distribution of mainstem spawning king salmon tagged prior to July 1 by date and area, Kenai River 2010–2014.

Year	Date	Downstream of Slikok Creek ^a	Upstream of Slikok Creek ^a	
			Unrestricted	Closed or restricted
		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.

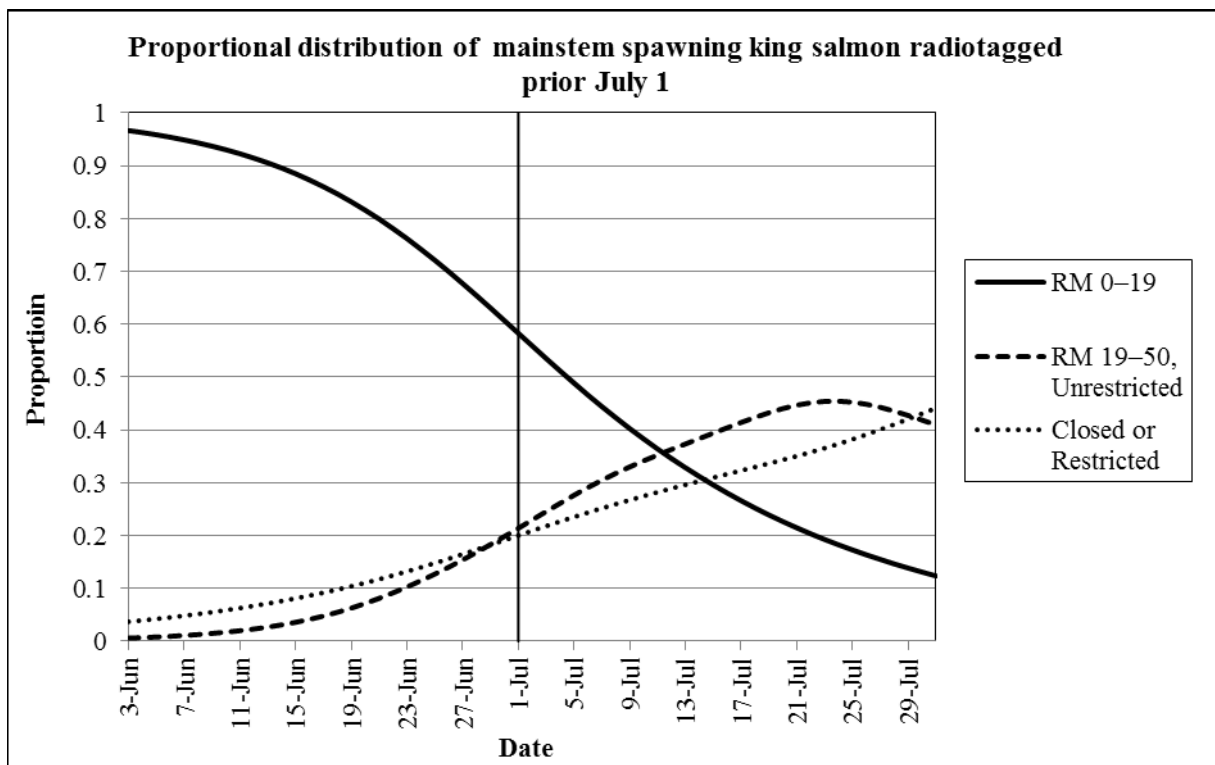


Figure 107-1.—Proportional distribution of radio tagged mainstem spawning Kenai River king salmon tagged prior to July 1 by date and area, 2010–2014. RM 0-19 is the area from the mouth of Kenai River at Cook Inlet upstream to approximately 200 yards above Slikok Creek. RM 19-50 is the area from approximately 200 yards above Slikok Creek to the department markers at the outlet of Skilak Lake.

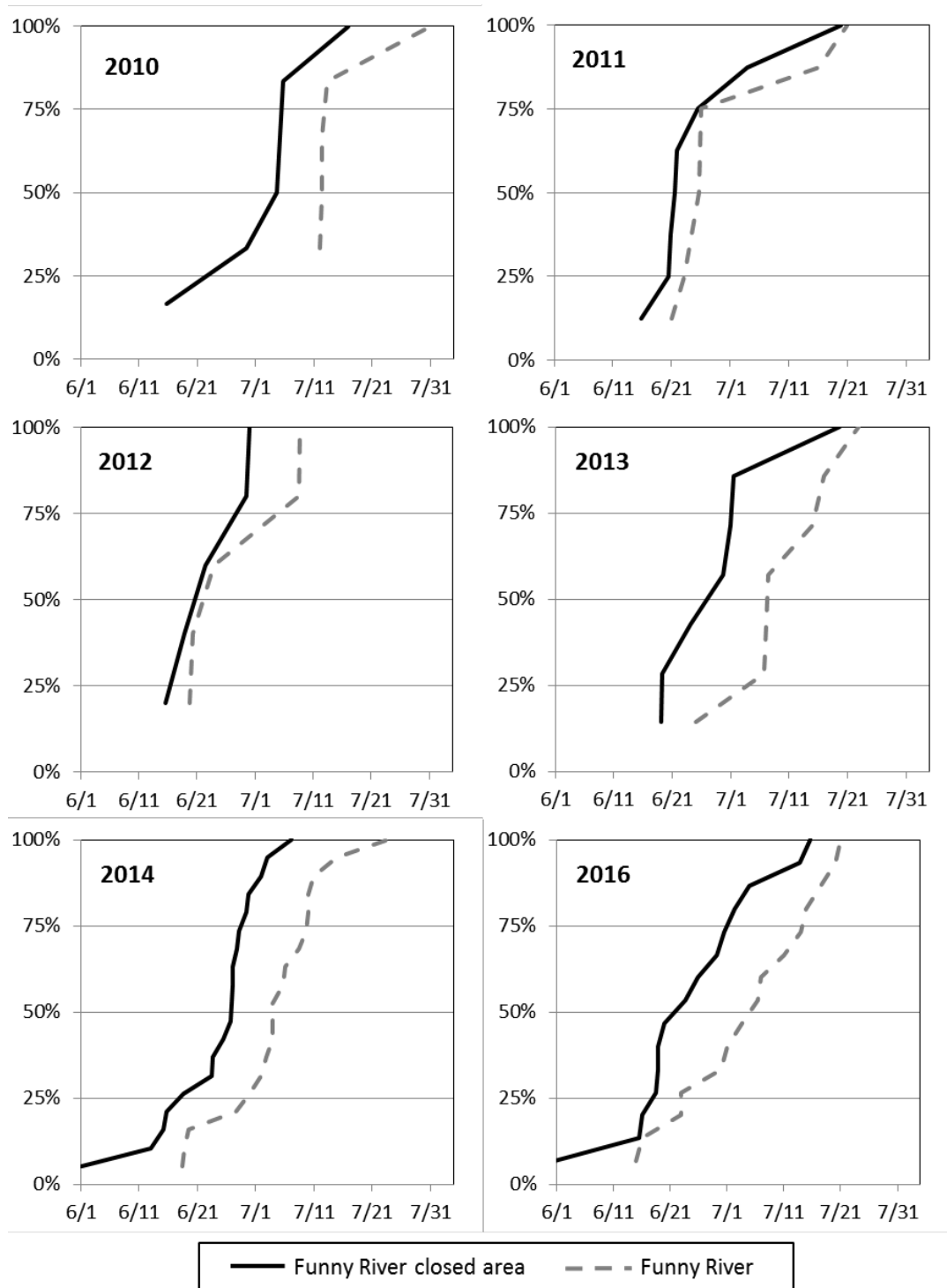


Figure 107-2.—Cumulative entry timing of Funny River bound king salmon into the Funny River closed area and into the Funny River drainage, 2010–2014 and 2016.

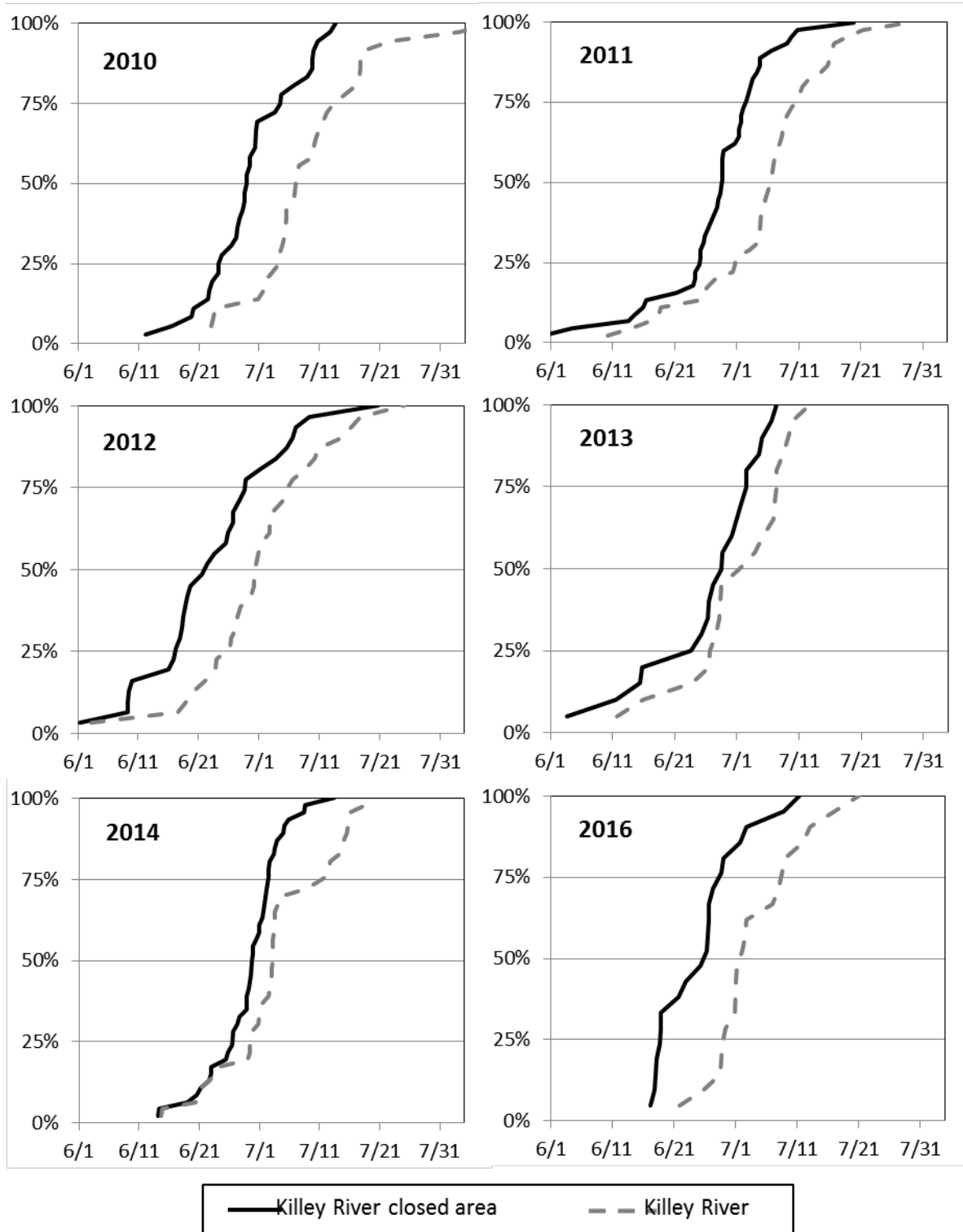


Figure 107-3.—Cumulative entry timing of Killey River/Benjamin Creek-bound king salmon into the Killey River closed area and into the Killey River drainage, 2010–2014 and 2016.

PROPOSAL 110 – Modify paired restrictive provisions in the Kenai River Late-Run King Salmon Management Plan.

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

PROPOSED BY: Amber and Travis Every.

WHAT WOULD THE PROPOSAL DO? This would modify the "paired" restrictive provisions in the *Kenai River Late Run King Salmon Management Plan (KRLRKSMF)* so that the Upper Subdistrict set gillnet (ESSN) fishery would be limited to no more than 48 hours of fishing time per week (with gear restriction options) only if the use of bait and the retention of king salmon are prohibited in the Kenai River king salmon sport fishery. This would remove the pairing of restrictions between the two fisheries if the sport fishery was restricted only to fishing with no bait. This would result in an increase in the number of hours the ESSN fishery could be open from 24 to 48 when the sport fishery is restricted to no bait and no retention. It also adds a gear reduction option in the ESSN fishery when the sport fishery is restricted to no bait and no retention.

WHAT ARE THE CURRENT REGULATIONS? The Upper Subdistrict set gillnet (ESSN) fishery is managed primarily under provisions found in 5 AAC 21.360. *Kenai River Late Run Sockeye Salmon Management Plan* and 5 AAC 21.365. *Kasilof River Salmon Management Plan*. However, if the Kenai River late-run king salmon sport fishery is restricted in order to achieve the sustainable escapement goal (SEG), the ESSN fishery, excluding the East Foreland Section, is then managed per paired restriction provisions found in the *KRLRKSMF*. Specifically, the management plan states that if the use of bait is prohibited in the sport fishery, commercial fishing periods are open for no more than 48 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 and depth of set gillnets operated may also be restricted. If the use of bait and the retention of king salmon are prohibited in the sport fishery, the option to restrict depth and number of set gillnets is removed but the ESSN fishery is open for no more than 24 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? If the Kenai River king salmon sport fishery was restricted to fishing with no bait, the removal of paired restrictive provisions in the ESSN fishery could result in increased commercial harvest of all salmon by an unknown amount. This increase in harvest potential would only occur if the ESSN fishery was open for more than 48 total hours of fishing in a week, as this is the current "pairing" in the fisheries under a no-bait sport fish restriction. If the sport fishery was restricted to no bait and no retention of king salmon, this proposal would add up to 24 additional hours that the ESSN fishery could be open each week when compared to the current management plan provisions. This could result in an increased commercial harvest of all salmon in the ESSN fishery, a decrease in sport and personal use king salmon harvest, and increased frequency and duration of sport and personal use fishing restrictions.

BACKGROUND: In 2014, the board modified the *KRLRKSM*P 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. These “paired restrictions” were deliberated by the board and determined to be equal sharing of the conservation burden among the user groups in times of low king salmon abundance.

Since 2014, when “paired restrictions” were adopted, low king salmon abundance in the Kenai River has occurred every year except 2017, and some or all the paired restrictive provisions of the management plan have been implemented each year (Table 108-1). Additionally, the gear restriction provision was applied one day in 2014 and extensively in 2019.

Department staff have been able to use recent year’s genetic stock composition estimates of large (>75 cm) Kenai River late-run king salmon in the ESSN fishery to estimate historical large king salmon harvest in this fishery (Table 108-3). From 1998-2013 the inriver sport fishery averaged about 74% of the harvest while the ESSN fishery averaged 26% of the combined large Kenai River king salmon harvest of both fisheries. For example, the average annual harvest of large king salmon in the ESSN fishery from 1998–2013 was 3,676 fish, while the inriver sport fishery harvest average was 10,290 (Table 108-3 and Table 108-4). Since paired restrictive provisions were adopted in 2014, the average annual harvest of large Kenai River king salmon in the fisheries has been 1,764 in the ESSN and 2,928 in the sport fishery, and the percent of harvest between commercial and sport fisheries averaged 46% in the ESSN fishery and 54% in the sport fishery (Table 108-4). In years when paired restrictions were utilized to conserve king salmon, the ESSN average harvest was reduced by 43% (2,109 fish) when the first tier was implemented and 83% (631 fish) when the second tier was implemented. The sport fish harvest was reduced by 66% (3,542 fish) when the first tier was implemented and 97% (360 fish) when the second tier was implemented.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. Removing bait from the inriver king salmon sport fishery reduces catch by approximately 50%. It is the board’s purview to decide what level of parity is appropriate in the commercial 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. Approval of this proposal is not expected to result in an additional cost to the department.

PROPOSAL 112 – Remove set gillnet gear restriction options in the Kenai River Late-Run King Salmon Management Plan.

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

PROPOSED BY: South K-Beach Independent Fishermen’s Association/Paul A. Shadura II.

WHAT WOULD THE PROPOSAL DO? This would remove the option to restrict gear (provisions (e)(3)(A)(i) and (ii)) in the Upper Subdistrict set gillnet (ESSN) fishery, excluding the East Foreland section, that may be implemented when the use of bait is prohibited in the Kenai River king salmon sport fishery.

WHAT ARE THE CURRENT REGULATIONS? The ESSN fishery is managed primarily under provisions found in 5 AAC 21.360. *Kenai River Late Run Sockeye Salmon Management Plan* and 5 AAC 21.365. *Kasilof River Salmon Management Plan*. However, if the Kenai River late-run king salmon sport fishery is restricted in order to achieve the sustainable escapement goal (SEG), the ESSN fishery, excluding the East Foreland Section, is then managed per paired restriction provisions found in the *KRLRKSMF*.

If the use of bait is prohibited in the Kenai River sport fishery under (1)(A) of this subsection, commercial fishing periods are open for no more than 48 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 to either:

- four set gillnets that are each not more than 35 fathoms in length, 105 fathoms in aggregate 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; set gillnets used that are not more than 29 meshes in depth must be identified at the end of the gillnet with an attached blue buoy that is not less than nine and one-half inches in diameter; or
- 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; set gillnets used that are not more than 29 meshes in depth must be identified at the end of the gillnet with an attached blue buoy that is not less than nine and one-half inches in diameter;

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It is uncertain what the effects of this proposal would be on the harvest of salmon, especially king and sockeye salmon, in the ESSN fishery, but elimination of the provision to reduce gear in the ESSN fishery would eliminate a tool the department can employ in managing for salmon escapement goals at reduced levels of king salmon abundance. Use of the restrictive gear provision may reduce harvest of king salmon in the ESSN fishery, but the effect of shallower depth nets on the harvest of king and sockeye salmon in the ESSN fishery is not well understood. Because gear restrictions have not always been employed when the use of bait is restricted in the Kenai River king salmon sport fishery, it is difficult to interpret how ESSN gear restrictions impact catch rates annually or within a given season.

BACKGROUND: At the 2014 UCI board meeting, a regulation was adopted that restricted set gillnet gear in the Upper Subdistrict for individuals who own and operate two Cook Inlet CFEC permits; the restriction limited 105 fathoms of the 210 fathoms of gear for dual permit operators to nets no deeper than 29 meshes. In 2014, the board also modified the *KRLRKSMF* to include

provisions where the Kenai River king salmon sport fishery, personal use fishery, and ESSN commercial fishery could be restricted in tandem in order to share the burden of conservation when king salmon abundance was low. The paired restrictions included an option for the department to restrict the number of nets in the ESSN fishery or the depth of the nets to no more than 29-meshes deep. The option to reduce gear in the ESSN fishery when the sport fishery is restricted to no bait was first provided to the department in 2014. The gear restriction is an option the fishermen choose from, either less gear per permit (35 fathoms or 70 fathoms) at standard depth (up to 45 meshes deep) or more gear (either up to 70 fathoms or 105 fathoms in length per permit) that may be no deeper than 29 meshes.

The department used this option once in 2014 and for most of the 2019 season. Under current fish ticket reporting requirements, there is no way to track harvest from 29 mesh nets versus nets deeper than 29 meshes.

In their paper, 'Migration behavior of maturing sockeye (*Oncorhynchus nerka*) and Chinook salmon (*O. tshawytscha*) in Cook Inlet, Alaska, and implications for management,' Welch et al., (Anim. Biotelem. 2:18, 2014) provided data 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. Using this information, they provided a model to estimate changes in king and sockeye salmon harvests associated with potential regulatory changes affecting surface gillnet depths in this fishery. In a rebuttal to this study, the department identified flaws in the model which painted 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 the catch of king salmon (Willette et al., Anim. Biotelem. 3:4, 2015). The department believes that the assumptions that gillnets in this dynamic environment were hanging vertically and that gillnets did not reach the bottom were not valid. Gillnets in this fishery billow or flag 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. Much of the ESSN fishery occurs in very shallow water, and Cook Inlet tides range about 10 m with tidal current speeds reaching 9 km/hr. The department rebuttal concluded that further information and a more sophisticated analysis was needed to realistically model changes in king and sockeye salmon harvests in relation to gillnet depths.

DEPARTMENT COMMENTS: The department is NEUTRAL on this allocative proposal, but the department is concerned that the elimination of the provision to reduce gear in ESSN would eliminate a tool the department can employ in managing for salmon escapement goals at reduced levels of king salmon abundance.

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. Approval of this proposal is not expected to result in an additional cost to the department.

PROPOSAL 109 – Modify set gillnet fishing hours when Kenai River sport fishery is restricted to no-bait.

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

PROPOSED BY: South K-Beach Independent Fishermen’s Association/Paul A. Shadura II.

WHAT WOULD THE PROPOSAL DO? This would allow the department to independently set fishing hours in the Kenai and Kasilof sections set gillnet fishery when the Kenai River king salmon sport fishery is restricted to fishing with no bait, as defined in the *Kenai River Late-Run King Salmon Management Plan (KRLRKSMF)*.

WHAT ARE THE CURRENT REGULATIONS? The Upper Subdistrict set gillnet (ESSN) fishery is managed primarily under provisions found in 5 AAC 21.360. *Kenai River Late Run Sockeye Salmon Management Plan* and 5 AAC 21.365. *Kasilof River Salmon Management Plan*. However, if the Kenai River late-run king salmon sport fishery is restricted in order to achieve the sustainable escapement goal (SEG), the ESSN fishery, excluding the East Foreland Section, is then managed per the paired restrictions provisions found in the *KRLRKSMF*. Specifically, the management plan states that if the use of bait is prohibited in the sport fishery, commercial fishing periods are open for no more than 48 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 and depth of set gillnets operated may also be restricted. Currently, time used in any part of the gillnet fishery counts toward the weekly limit for the entire fishery.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Fishing the Kenai and Kasilof sections independent of each other may allow the department to more efficiently target harvest effort on Kenai or Kasilof River sockeye salmon, likely resulting in increased sockeye and king salmon harvest. 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. It would also mean that if the sections were fished on separate days the ESSN fishery would double the current fishing time by having nets fishing 96 hours a week.

BACKGROUND: The ESSN fishery occurs along approximately 60 miles of beach and targets sockeye salmon returning to both the Kenai and Kasilof rivers (Figure 108-1). 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. Independently fishing each section could occur, 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. The department has management options to focus harvest on Kenai and Kasilof sockeye salmon through restrictions to fishing area within one-half mile of the beach or within 600 feet of the beach in the Kasilof Section or the North K-Beach area. However, when fishing in the Kasilof Section within one-half mile of shore, the hours used count toward the maximum number of hours the

entire ESSN may be open. Fishing hours used within 600 feet of shore are exempt from weekly hourly limitations in the ESSN fishery.

Please see BACKGROUND section on Proposal 108.

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. Approval of this proposal is not expected to result in an additional cost to the department.

PROPOSAL 115 – Allow bait when the king salmon sport fishery is catch and release.

5 AAC 21.359. Kenai River Late-Run King Salmon Management Plan. 5 AAC 57.160. Kenai River and Kasilof River Early-run King Salmon Management Plan. 5 AAC 57.120. 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: Mel Erickson.

WHAT WOULD THE PROPOSAL DO? This would allow the use of bait in the Kenai River king salmon sport fishery when the fishery is restricted to catch-and-release.

WHAT ARE THE CURRENT REGULATIONS? The *Kenai River Late-Run King Salmon Management Plan* (5 AAC 21.359) directs the department to restrict the Kenai River sport fishery by prohibiting the use of bait or by prohibiting the use of bait and retention of king salmon to achieve the sustainable escapement goal (SEG). Additionally as directed by the *Kenai River and Kasilof River Early-run King Salmon Management Plan* if the preseason forecast projects the inriver run to be above the lower end of the sustainable escapement goal, but below the lower end of the optimal escapement goal, the department will close the sport fishery to the taking of king salmon or prohibit the retention of king salmon. If the inseason inriver run projection is within the optimal escapement goal range, the department will prohibit the retention of king salmon or open the sport fishery under general regulation.

Under *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 57.121(A)) From January 1 – June 30 in the Kenai River, and from July 1 – July 31, in the Kenai River from an ADF&G regulatory marker located approximately 300 yards downstream from the mouth of Slikok Creek upstream to an ADF&G regulatory marker located at the outlet of Skilak Lake, only one unbaited, single-hook, artificial lure may be used.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would increase the catch and associated mortality rates of released Kenai River king salmon when retention of king salmon is prohibited.

BACKGROUND: The 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. Fish caught by using bait have a higher likelihood to be hooked in vital areas.

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 promotes best

practices for releasing fish through education and outreach. The department uses EO authority to reduce mortality when necessary to achieve escapement goals or provide sustainability. It does so primarily through harvest limit reductions, but also by prohibiting use of bait and multiple hooks.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. The use of bait would increase the catch and associated mortality rates of released fish when retention of king salmon is prohibited. Additionally, adoption of this proposal will require the board to examine the paired restriction between commercial and sport fisheries as described in the *Kenai River Late-Run King Salmon Management Plan* (5 AAC 21.359) and general regulation describing methods and means over specific sections of the Kenai River by date ranges.

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. Approval of this proposal is not expected to result in an additional direct cost for the department.