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ALASKA DEPARTMENT OF FISH AND GAME

STAFF COMMENTS ON
COMMERCIAL, PERSONAL USE, SPORT, GUIDED SPORT, AND SUBSISTENCE
REGULATORY PROPOSALS
COMMITTEE OF THE WHOLE–GROUPS 5–8
FOR

UPPER COOK INLET FINFISH

ALASKA BOARD OF FISHERIES MEETING
ANCHORAGE, ALASKA

February 23–March 8, 2017

Regional Information Report No. 2A17-02

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

Acronyms and Abbreviations

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

Weights and measures (metric)

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

Weights and measures (English)

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

Time and temperature

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

Physics and chemistry

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

General

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

Acronyms

Alaska Board of Fisheries	board
Alaska Department of Fish and Game	department
Amount Necessary for Subsistence	ANS
Biological Escapement Goal	BEG
Commercial Fisheries Entry Commission	CFEC
Cook Inlet Aquaculture Association	CIAA
Customary and Traditional	C&T
Emergency Order	EO
Upper Subdistrict Set Gillnet Fishery/Eastside Set Gillnet Fishery	ESSN
Fishery Management Plan	FMP
Kasilof River Special Harvest Area	KRSHA
Maximum Sustained Yield	MSY
Northern Cook Inlet	NCI
Northern District	ND
Optimal Escapement Goal	OEG
Optimum Yield	OY
Private Nonprofit Salmon Hatchery	PNP
Sustainable Escapement Goal	SEG
Special Harvest Area	SHA
Statewide Harvest Survey	SWHS
Upper Cook Inlet	UCI

REGIONAL INFORMATION REPORT 2A17-02

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February 23–March 8, 2017

by
Alaska Department of Fish and Game

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

February 2017

ABSTRACT

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

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

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Proposal No.	Department Position	Issue
149	O	Revise Kenai River and Kasilof River Early-run King Salmon Management Plan
148	O	Rewrite the *Kenai River and Kasilof River Early-run King Salmon Management Plan* to redefine early-run stocks and establish age- and sex-based escapement goals.
147	O	Start the Kenai River early-run king salmon fishery as an unbaited, single-hook, artificial lure, no retention fishery.
150	O	Start the Kenai River king salmon sport fisheries as single-hook, no bait, non-retention.
153	O	Prohibit fishing for king salmon from markers 300 yards below Slikok Creek upstream to Skilak Lake.
154	O	Expand the waters of the Kenai River closed to fishing for king salmon.
155	O	Expand the waters of the Kenai River closed to fishing for king salmon.
156	O	Replace slot limit for Kenai River king salmon with maximum size limit to prohibit retention of king salmon greater than 42 inches in length.
159	O	Extend the time that the slot limit for Kenai River king salmon is in effect.
157	O	Modify the annual limit of king salmon from the Kenai River to two fish, only one taken prior to July 1.
158	N	Modify the annual limit of two king salmon for the Kenai River to include only one large fish.
151	S	Repeal barbless hook provisions in Lower Kenai River.
152	N	Expand the dates to prohibit back trolling and tie to prohibition of bait.
178	N	Increase the number of days only non-motorized vessels may fish on the lower Kenai River.
179	N	Add Thursdays as a day only non-motorized vessels may fish on the Kenai River downstream of Cunningham Park.
180	S	Establish two Kenai River riparian habitat areas equal to approximately nine-tenths of a mile that will be closed to fishing from shore within 10 feet of the waterline from July 1 – August 15.
181	O/N	Only non-motorized vessels may be used when fishing on the Kenai River.
182	N	Prohibit all guiding from 6 p.m. to 6 a.m.
183	N	Allow guided anglers to fish on Mondays in August.
185	N	Modify language referencing fishing from guide boats on the Kenai River to include all guided fishing.
184	N	Relax guiding restrictions when king salmon fishing is closed by emergency order.
186	O	Only barbless hooks allowed in Kenai River upstream of the Lower Killey River.
187	O	Allow only barbless, unbaited, single-hook gear on the Kenai River from January 1 – August 1.
188	O	Allow only one single-hook or one single-hook lure.
189	N	Allow fishing from shore after harvesting a bag limit of coho salmon.
190	N	Expand the waters open to fishing after harvesting a bag limit of coho salmon in the lower Kenai River
191	N	Increase Kenai River coho salmon bag limit from two fish to three.
192	N	Shorten the Kenai River coho season by closing October 31.
193	O	Create an archery fishery for sockeye salmon in a section of the Russian River.

Summary of department positions on regulatory proposals (Page 2 of 3)

194	O	Create a size limit for lake trout on Hidden Lake.
195	N	Remove the commissioner's emergency order authority to extend the Kenai River personal use fishery hours.
196	O/N	Prohibit dip nets from being attached to a vessel.
197	O/N	Prohibit dipnetting from a vessel that is not anchored in the Kenai and Kasilof river personal use fisheries.
198	O/N	Prohibit webbing in personal use dip nets that exceeds 2.5 inch stretched measure.
199	O/N	Prohibit dipnetting on the Kasilof River from a vessel with a motor on board greater than 10 horsepower.
200	N	Amend the number of king salmon that may be retained in the Upper Cook Inlet personal use fishery to 10 king salmon under 20 inches.
201	S	Amend the area open to dipnetting from shore in the Kenai River personal use dip net fishery.
202	N	Extend the Cook Inlet personal use dip net fisheries to the 2nd Sunday of August.
203	O/N	Extend the season and liberalize the bag limit in the Kenai River personal use fishery when the sonar estimate is projected to exceed 1.2 million sockeye salmon.
204	N	Extend the boundary of the Kenai River personal use dip net boat fishery upstream to Cunningham Park.
205	N	Allow shore based personal use dipnetting in the Kenai River upstream to Skilak Lake.
206	N	Create an area upstream of the Kenai River personal use fishery where recording and fin clip requirements are waived for fish that have not been off loaded.
207	S	Amend the boundary description language for the area open to dipnetting in the Kasilof River personal use salmon fishery.
208	O	Allow 10 Dolly Varden/Arctic char per household in Cook Inlet Personal Use Fisheries.
209	N	Repeal the *Northern District King Salmon Management Plan*.
211	N	Close the Northern District commercial set gillnet fishery until the first regular period after June 24, if the Susitna River sport fishery is restricted by emergency order.
210	N	Repeal and readopt management plan to fully utilize surplus salmon stocks based on the abundance of salmon returning to the Northern District.
212	N	Close the commercial set gillnet fishery in the Northern District on August 15.
213	N/O	Close commercial fishing within one mile of Little Susitna River when the Little Susitna River sport fishery is restricted to no bait.
214	N/O	Close commercial fishing within one mile of the Little Susitna River when more than half of Northern District streams with king salmon escapement goals are closed to sport harvest of king salmon or when the Little Susitna River sport fishery is restricted by emergency order.
215	N/O	Close commercial fishing within one mile of the Little Susitna River, if the Little Susitna River king salmon sport fishery is restricted to harvest less than 7 days per week and artificial lures by emergency order.
216	N/O	Close waters within one-statute mile of the Little Susitna River to commercial fishing.
217	N	Remove the Eastern Subdistrict of the Northern District from commercial set gillnet restrictions that apply July 20–August 6.
218	N	Allow a holder of more than one Commercial Fisheries Entry Commission set gillnet limited entry permit to fish with one set gillnet per permit held in the Northern District.
230	O	Create a Deshka River King Salmon Management Plan.

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

231	O/N	Create a Susitna River King Salmon Management Plan.
219	O	Allow an unbaited, single-hook, artificial lure, no retention fishery on resident species when waters of Montana Creek are closed to fishing for king salmon.
221	O/N	Prohibit harvest of king salmon in units 2, 3, 5 and 6, except Willow Creek
223	O/N	Prohibit king salmon fishing in Unit 2 if no retention is allowed.
220	N	Establish sport fishery closure times in the Larsen Creek drainage
222	O/N	Prohibit fishing for king, sockeye, and coho salmon in the Larson Creek drainage.
226	O	Create a bag limit of one hatchery king salmon in the Susitna River drainage.
227	O	Allow harvest of hatchery king salmon when emergency orders restrict the sport fishery.
229	O	Reduce the maximum legal size for rainbow trout in Byers Creek from 20 to 16 inches.
71	S	Align size restrictions for Dolly Varden and rainbow trout bag limit in the flowing waters of the Kenai River Drainage Area.
72	S	Amend general provisions for lakes and ponds of the Kenai River drainage to restore winter ice fisheries for landlocked coho salmon less than 16 inches in length.
73	S	Align the Swanson River rainbow trout spawning closure with the proposed Kenai River drainage rainbow trout spawning closure start date.
74	S	Align the Kenai River king salmon sanctuaries start date, and boat closures with the proposed rainbow trout spawning closure start date.
75	S	Align dates anglers are prohibited from fishing from boats with rainbow trout closure.
76	S	Align the Kenai River tributary fishing closure start dates with the proposed king salmon sanctuaries and rainbow trout spawning closure start dates, and align all Kenai River tributary closures so they have similar closure periods.
77	S	Align the Kenai River tributary fishing closure start dates with the proposed king salmon sanctuaries and rainbow trout spawning closure start dates, and align all Kenai River tributary closures so they have similar fishing seasons, such that anglers are prohibited from fishing for salmon.
78	S	Align the closure start date for all the tributaries of the Upper Section of the Kenai River Drainage Area with the start dates proposed for the king salmon sanctuaries and the start dates proposed for the rainbow trout spawning closure. In addition, create the same fishing season in all the tributaries of the Upper Section of the Kenai River Drainage area.
79	S	Change the Kenai River king salmon sanctuaries and the Moose-Kenai rivers confluence area fly-fishing-only waters to artificial fly waters, and align dates for these special provisions with other provisions.
80	S	Align gear restrictions for Kenai River tributaries.
81	S	Create consistent rainbow/steelhead trout regulations in the Kasilof River above and below the Sterling Highway Bridge and amend the open season date for Tustumena Lake tributaries to protect spawning rainbow/steelhead trout.
82	S	Amend Kasilof River early-run king salmon possession requirements.
83	S	Repeal gear regulations for northern pike.
279	N	Clarify when 4-inch mesh set gillnets may be used during the Kuskokwim early season king salmon subsistence fishery closure

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

COMMITTEE OF THE WHOLE–GROUP 5: Kenai and Kasilof River King Salmon Sport Fisheries, Vessel and Habitat Restrictions, and Guides (21 Proposals)

Kenai River King Salmon (13 Proposals)

PROPOSAL 149 – 5 AAC 57.160. Kenai River and Kasilof River Early-run King Salmon 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. 5 AAC 57.123. Special provisions for the seasons, bag, possession, and size limits, and methods and means for the Upper Section of the Kenai River Drainage Area

PROPOSED BY: Kenai River Sportfishing Association.

WHAT WOULD THE PROPOSAL DO? This would revise the *Kenai River and Kasilof River Early-run King Salmon Management Plan* to limit the sport harvest to king salmon under 30 inches at run sizes falling within the OEG range; liberalize sport fishing harvest opportunity using one or more of the following; allow the use of bait, allow harvest of all sizes of king salmon by repealing the 42 inch to 55 inch slot limit, and increase the bag limit from one to two per day of which only one could be greater than 30 inches at run strengths exceeding the OEG; and repeal the "over 55 inches" provision and sealing requirement. In addition, king salmon, less than 30 inches in length, would not count towards the annual limit and anglers would be allowed to continue fishing after retaining a bag limit of king salmon, less than 30 inches in length.

WHAT ARE THE CURRENT REGULATIONS? The purpose of the management plan is to ensure an adequate escapement of early-run king salmon into the Kenai and Kasilof rivers, to conserve the unique large size early-run king salmon in the Kenai River, and to provide the department with management guidelines. The department shall manage the Kenai River early-run king salmon sport and guided sport fisheries to achieve the OEG of 5,300 to 9,000 fish, to provide reasonable harvest opportunities over the entire run, and to ensure the age and size composition of the harvest closely approximates the age and size composition of the run.

In waters of the Kenai River open to king salmon sport fishing, early-run regulations allow for a bag and possession limit of 10 king salmon, less than 20 inches, and one king salmon, 20 inches or greater in length and less than 42 inches or 55 inches or greater in length. Any king salmon caught that is 42 inches or longer, but less than 55 inches, must be released unharmed. The nonretention slot limit is in effect from January 1–June 30 in the Kenai River from the mouth upstream to the Soldotna Bridge and from January 1–July 14 for those waters of the Kenai River from the Soldotna Bridge upstream to the outlet of Skilak Lake.

If the spawning escapement is projected to be less than the lower the end of the OEG, the commissioner shall, by EO, restrict as necessary the taking of king salmon in the sport and guided sport fisheries in the Kenai River to achieve the OEG using one of the following methods:

(A) prohibit the retention of king salmon less than 55 inches in length, except king salmon less than 20 inches in length, downstream from an ADF&G regulatory marker located at the outlet of

Skilak Lake through June 30, and require that upstream from an ADF&G regulatory marker located approximately 300 yards downstream from the mouth of Slikok Creek to an ADF&G regulatory marker located at the outlet of Skilak Lake, from July 1–14, only one unbaited, barbless, single-hook, artificial lure, may be used when sport fishing for king salmon and only king salmon less than 20 inches in length and 55 inches or greater in length may be retained; or

(B) close the sport and guided sport fisheries to the taking of king salmon in the Kenai River

(i) downstream from an ADF&G regulatory marker located at the outlet of Skilak Lake through June 30; and

(ii) from July 1–14, upstream from an ADF&G regulatory marker located approximately 300 yards downstream from the mouth of Slikok Creek to an ADF&G regulatory marker located at the outlet of Skilak Lake;

If the spawning escapement is projected to fall within the OEG, the commissioner may, by emergency order, liberalize the sport fishery downstream from an ADF&G regulatory marker located at the outlet of Skilak Lake, by allowing the use of bait if the department projects that the total harvest under a liberalized sport fishery will not reduce the spawning escapement below the optimal escapement goal; only king salmon less than 42 inches in length or 55 inches or greater in length may be retained.

A king salmon 55 inches or greater in length taken from the Kenai River from January 1—July 31 must be sealed as specified in 5 AAC 57.160.

From January 1–June 30, a king salmon less than 28 inches in length taken from the Kenai River does not count towards the annual limit. A person, after taking and retaining a king salmon 20 inches or greater in length from the Kenai River, may not sport fish from a boat in the Kenai River downstream from the outlet of Skilak Lake for any species of fish on that same day.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? For run sizes falling within the OEG range, this would increase harvest opportunity on king salmon less than 30 inches by removing the annual limit, but reduce angler success by prohibiting bait. Harvest of king salmon over 30 inches would be prohibited allowing some larger king salmon for escapement. Harvest opportunity would be foregone in years when run size falls within the OEG range and could sustain harvest.

Allowing anglers who harvest a king salmon less than 30 inches in length to continue fishing for king salmon would increase the number of rods fishing during the early-run.

When run size exceeds the OEG range, liberalizing the sport fishery by allowing retention of king salmon of all sizes, and increasing the bag limit would increase harvest and likely provide additional opportunity on strong runs.

Repealing the “over 55 inches” provision when the spawning escapement is projected to exceed the OEG would allow harvest of the larger ocean-age-5 king salmon the slot limit was designed to protect. Even if years of large runs, ocean-age-5 tribuatray spawning king salmon are under-

represented in the escapement. Department records indicate two king salmon over 55 inches have been sealed since the regulation was adopted in 2002. No fish have been sealed since 2009.

BACKGROUND: Prior to 2002, there was no slot limit in the Kenai River king salmon sport fishery; anglers were permitted to harvest king salmon regardless of the total length of the fish. However, the department, along with the public, recognized a decline in larger, older-aged king salmon returning to the Kenai River during the early run. Although the exact cause for the decline in older king salmon during the early run is not understood, the selective harvest or exploitation of larger, ocean-age-5 fish was the only practical factor that could be directly influenced by fishery managers. Therefore, at the department's request, the board adopted a slot limit harvest restriction in 2002 of 40–55 inches. This restriction almost completely eliminated the harvest potential of ocean-age-5 fish, allowed the retention of rare record-sized fish, and allowed harvest of younger, smaller fish.

In 2003, the board adjusted the slot limit to 44–55 inches based on a department-recommended slot limit of 45–55 inches to protect the larger, older, ocean-age-5 king salmon returning to the Kenai River during the early run. This slot limit allowed approximately 73% of the returning early-run stocks to be available for harvest. Within this slot limit, most (87%) of the ocean-age-5 fish were protected, as were about 40% of the ocean-age-4 fish in the run.

In 2008, the board relaxed the slot limit again to 46–55 inches to allow for more harvest during years of higher abundance, yet still protect ocean-age-5 king salmon. This slot limit made approximately 83% of the returning early-run stocks available for harvest. Within this slot limit, 69% of the ocean-age-5 fish are protected, as are about 26% of the ocean-age-4 fish in the run (Figure 149-1). Also within this slot limit, 42% of ocean-age-5 females are protected and 86% of ocean-age-5 males are protected, while 8% of ocean-age-4 females are protected and 51% of ocean-age-4 males are protected (Figure 149-2).

From 1986–1995, the early run included an average 1,076 ocean-age-5 king salmon, which comprised about 7.2% of the run (tables 149-1 and 149-2; Figure 149-3). During 1996–2002, the average decreased to 330 ocean-age-5 king salmon, which comprised 2.8% of the run. From 2003–2009, the average increased to an estimated 564 ocean-age-5 king salmon, which comprised about 3.4% of the run. From 2010–2013, however, an average of only 121 ocean-age-5 king salmon were estimated in the run, comprising about 1.8%. The last three years (2014–2016) were the lowest estimates of ocean-age-5 early-run king salmon the department has on record with an average of 70 king salmon comprising about 1% of the run.

Harvest selectivity prior to the slot limit being enacted favored harvesting older larger king salmon. From 2003–2007, harvest selectivity shifted to favor ocean-age-3 (5-year olds) king salmon and very few ocean-age-5 (7-year olds) king salmon were harvested (Figure 149-4). Since 2008, when the slot limit was adjusted to 46–55 inches, selectivity for ocean-age-3 king salmon decreased, while selectivity for the other age classes remained stable compared to the previous slot limit of 44–55 inches. From 2002–2013, a creel survey of the inriver sport fishery downstream of the Soldotna Bridge did not detect any harvest of ocean-age-5 king salmon, except for in 2007 and 2008 when 33 fish (0.9%) and 11 fish (0.3%), respectively, were estimated to have been harvested (tables 149-3 and 149-4).

In 2014, the board adjusted the slot limit to 42–55 inches again increasing the selectivity for ocean-age-3 (5-year olds) king salmon. In 2016, based on a combination of sonar, weir, and telemetry data, the estimated escapement was 6,190 king salmon (Table 149-5).

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. Ocean-age-5 king salmon are still underrepresented in the run based on historical averages and the department recommends maintaining regulations that protect that age class in the early run regardless of run strength. The department supports replacing the existing slot limit of 42–55 inches with a maximum size to simplify regulations and maintain the objective of preventing the harvest of ocean-age-5 tributary spawning king salmon. The department recognizes a slot limit does not allow for harvest in proportion to size composition of a given run, a desirable management objective, but without the slot limit past harvest practices have resulted in selective harvest of larger, older fish. If this proposal is adopted the department would request board direction on implementing liberalizations when escapement is projected to exceed the OEG 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.

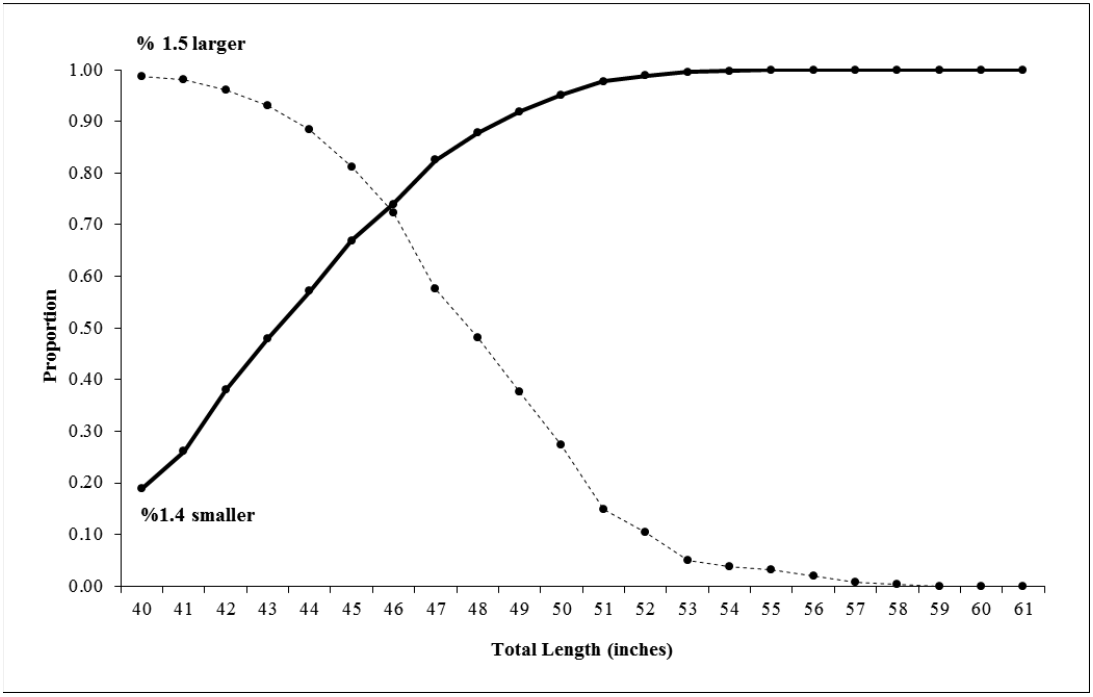

Figure 149-1.–Cumulative proportion of Kenai River early-run king salmon that aged 1.4 that are smaller (solid line), and those aged 1.5 that are larger (dotted line), than each 1 inch increment between 40 and 60 inches in total length.

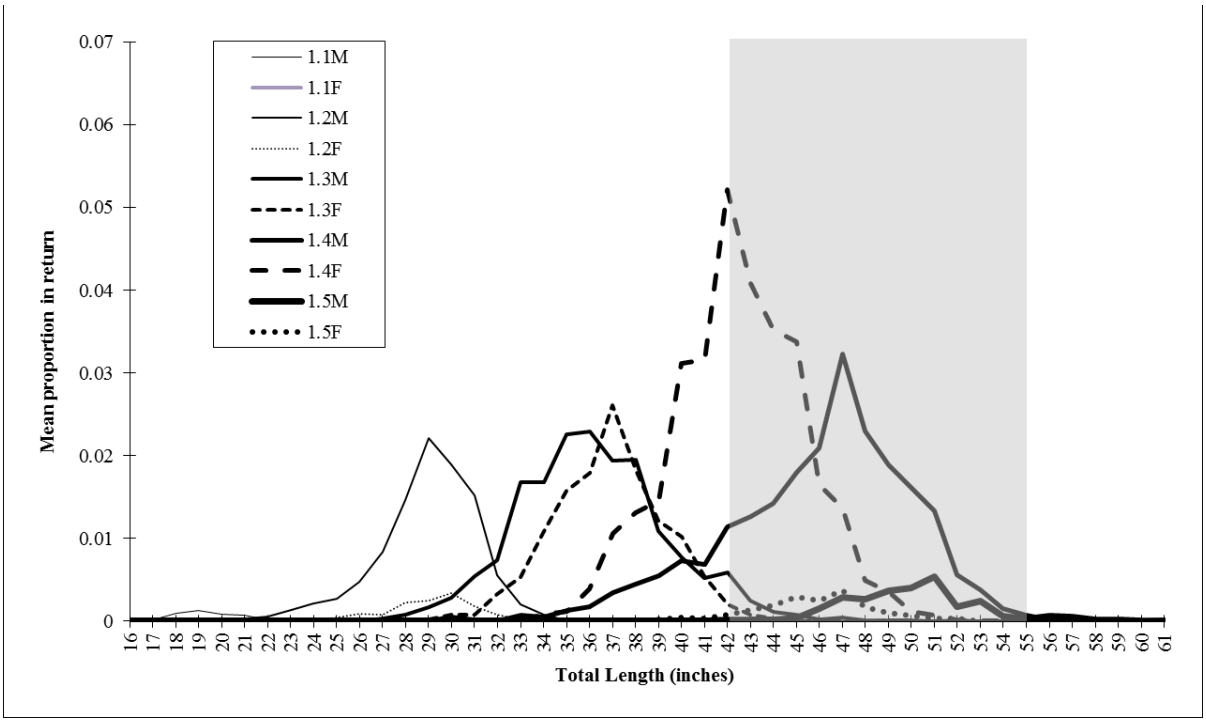

Figure 149-2.–Age-length-sex frequency relationships for Kenai River early-run king salmon, 1986–2016.

Table 149-1.–Total run by age class for Kenai River early-run king salmon, 1986–2016.

Year	Age Class					
	1.1	1.2	1.3	1.4	1.5	Total [a]
1986	404	6,690	7,281	4,272	1,540	20,187
1987	280	2,424	9,098	9,443	733	21,978
1988	322	1,889	4,076	11,330	2,612	20,229
1989	294	1,986	2,413	6,483	1,510	12,686
1990	338	2,113	2,972	4,144	744	10,311
1991	364	2,430	2,702	4,826	606	10,928
1992	337	2,903	3,656	4,738	688	12,322
1993	316	2,143	4,127	5,989	628	13,203
1994	312	2,139	3,299	6,953	838	13,541
1995	324	2,311	3,199	6,516	856	13,206
1996	262	2,235	3,142	4,373	343	10,355
1997	438	1,859	4,055	4,878	278	11,508
1998	316	4,532	3,775	3,226	440	12,289
1999	341	2,746	6,834	3,698	184	13,803
2000	485	2,643	4,156	3,587	223	11,094
2001	516	5,149	3,639	4,578	420	14,302
2002	435	1,995	4,028	4,216	424	11,098
2003	306	6,091	4,691	9,143	335	20,566
2004	307	3,880	8,008	10,510	937	23,642
2005	289	2,681	6,265	10,840	845	20,920
2006	229	5,006	3,787	8,422	809	18,253
2007	80	3,099	4,106	5,872	506	13,663
2008	73	1,364	3,914	4,626	286	10,263
2009	233	1,291	1,844	4,225	232	7,825
2010	484	1,965	3,434	1,899	101	7,883
2011	213	2,477	3,087	3,998	168	9,943
2012	240	656	1,901	2,519	103	5,419
2013	331	884	1,215	1,989	110	4,530
2014 [b]	752	2,295	2,215	475	40	5,776
2015 [b]	355	2,537	2,080	1,116	101	6,190
2016 [b]	482	2,618	4,753	1,929	69	9,851
Historical Mean	337	2,743	3,992	5,188	571	12,831
Recent 10-yr. Mean	324	1,919	2,855	2,865	172	8,134
Recent 5-yr. Mean	432	1,798	2,433	1,606	85	6,353

[a] Total estimates for years 1986–2012 are mean values from Appendix B1 in McKinley and Fleischman, 2013 FMS 13-03. The total estimate for year 2013 is a run reconstructed estimate for RM 13.7 sonar passage (Miller et al. 2016), and 2014 (Key et al. 2016), and preliminary estimates for 2015–2016 are RM 13.7 ARIS sonar passage estimates.

[b] During 2014–2016, age class estimates based on Chinook salmon captured in both nearshore and midriver inriver gillnetting.

Table 149-2.–Percentage of total run by age class for Kenai River early-run king salmon, 1986–2016.

Year	Age Class				
	1.1	1.2	1.3	1.4	1.5
1986	2.0	33.1	36.1	21.2	7.6
1987	1.3	11.0	41.4	43.0	3.3
1988	1.6	9.3	20.1	56.0	12.9
1989	2.3	15.7	19.0	51.1	11.9
1990	3.3	20.5	28.8	40.2	7.2
1991	3.3	22.2	24.7	44.2	5.5
1992	2.7	23.6	29.7	38.5	5.6
1993	2.4	16.2	31.3	45.4	4.8
1994	2.3	15.8	24.4	51.3	6.2
1995	2.5	17.5	24.2	49.3	6.5
1996	2.5	21.6	30.3	42.2	3.3
1997	3.8	16.2	35.2	42.4	2.4
1998	2.6	36.9	30.7	26.3	3.6
1999	2.5	19.9	49.5	26.8	1.3
2000	4.4	23.8	37.5	32.3	2.0
2001	3.6	36.0	25.4	32.0	2.9
2002	3.9	18.0	36.3	38.0	3.8
2003	1.5	29.6	22.8	44.5	1.6
2004	1.3	16.4	33.9	44.5	4.0
2005	1.4	12.8	29.9	51.8	4.0
2006	1.3	27.4	20.7	46.1	4.4
2007	0.6	22.7	30.1	43.0	3.7
2008	0.7	13.3	38.1	45.1	2.8
2009	3.0	16.5	23.6	54.0	3.0
2010	6.1	24.9	43.6	24.1	1.3
2011	2.1	24.9	31.0	40.2	1.7
2012	4.4	12.1	35.1	46.5	1.9
2013	7.3	19.5	26.8	43.9	2.4
2014 [a]	13.0	39.7	38.4	8.2	0.7
2015 [a]	5.7	41.0	33.6	18.0	1.6
2016 [a]	4.9	26.6	48.3	19.6	0.7
Historical Mean	3.2	22.1	31.6	39.0	4.0
Recent 10-yr. Mean	4.8	24.1	34.8	34.3	2.0
Recent 5-yr. Mean	7.1	27.8	36.4	27.2	1.5

[a] During 2014–2016, age class estimates based on Chinook salmon captured in both nearshore and midriver inriver gillnetting. The 2015 and 2016 estimates are preliminary until biometrically reviewed and published.

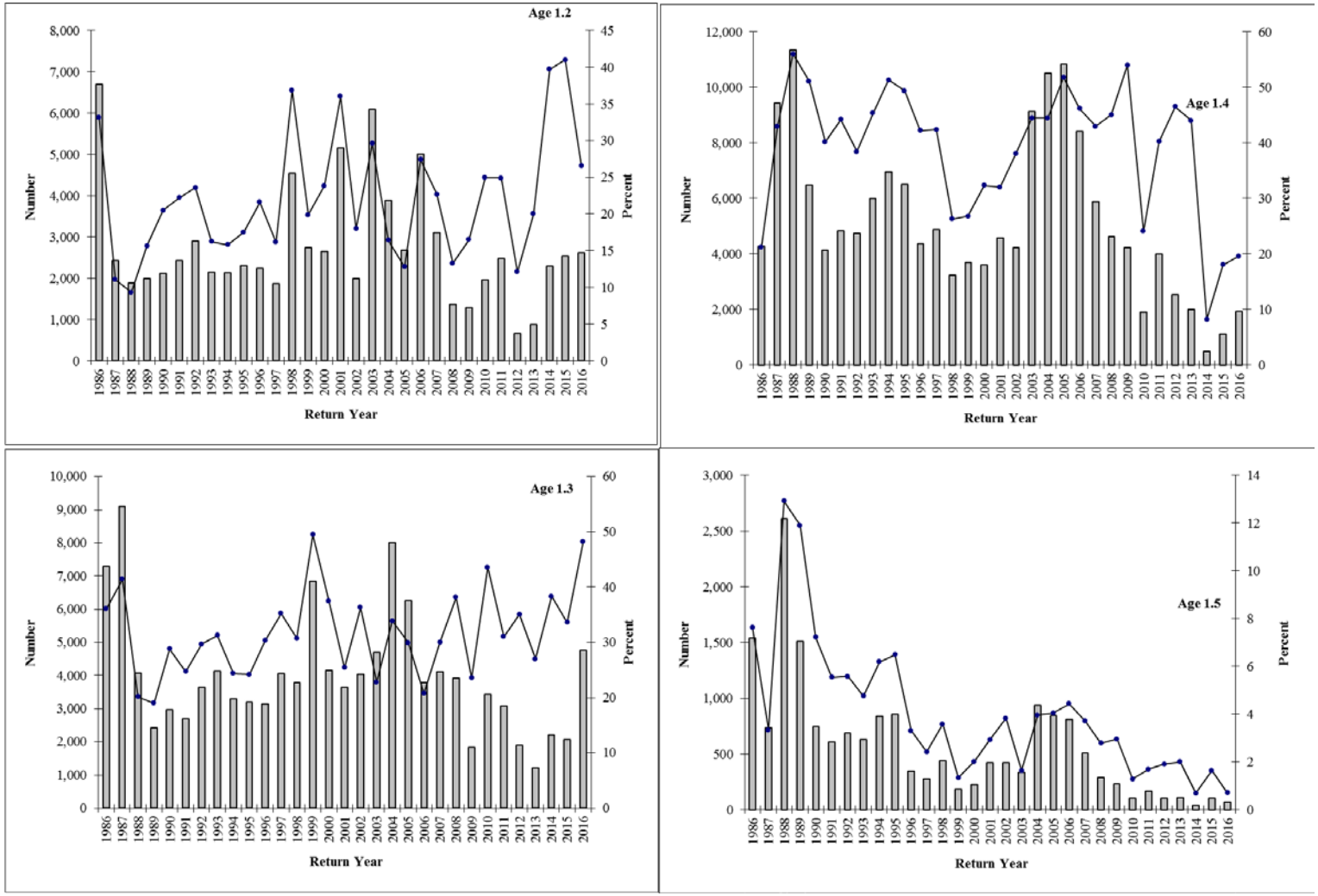

Figure 149-3–Number (gray bars) and percent (lines) of Kenai River early-run king salmon aged 1.2, 1.3, 1.4, and 1.5 in the total run, 1986–2016.

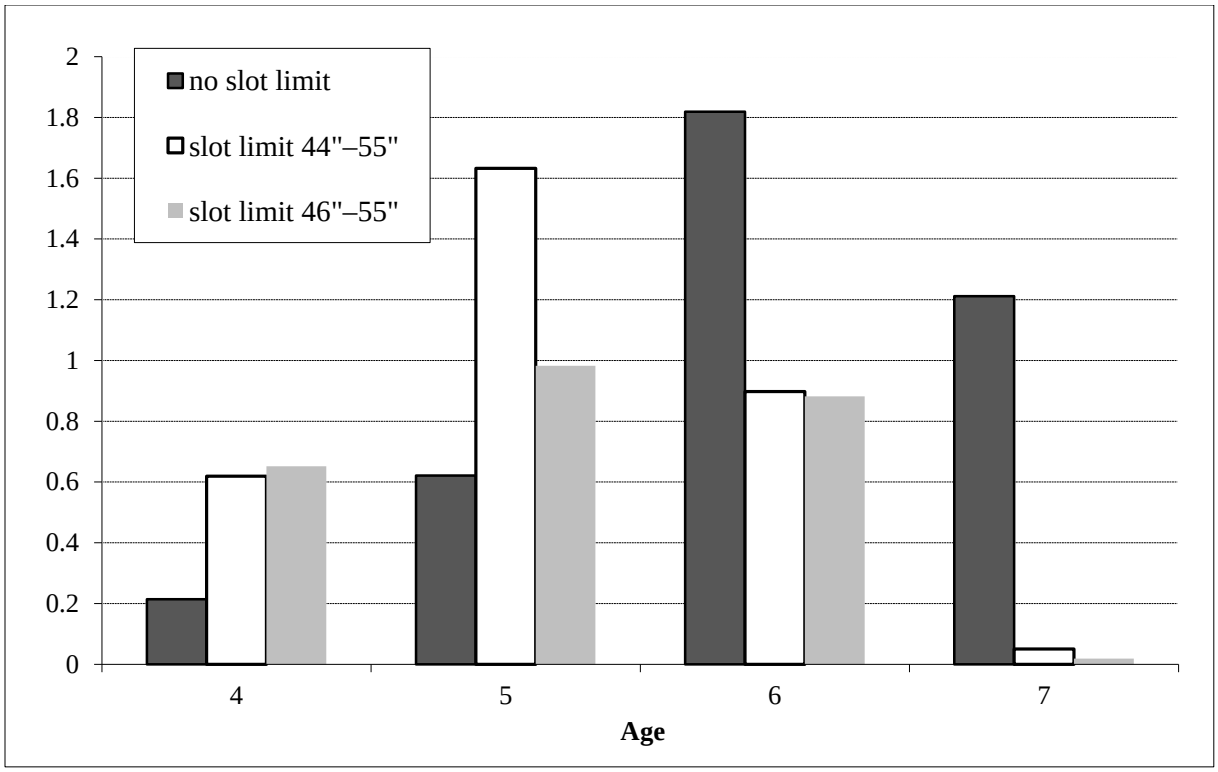

Figure 149-4.–Relative harvest selectivity by age for Kenai River early-run king salmon, before a slot limit (1986–2002) with a 44–55 slot limit (2003–2007), and with a 46–55 slot limit (2008–2013). Selectivity estimates less than 1 equate to no selectivity for that age class, 1 equates to no selectivity or neutral for that age class, and values greater than 1 equates to selectivity for that age class.

Table 149-5. – Kenai River early-run king salmon population data, 1986–2016.

Year	Inlet Marine Harvest [a]	Misc. Marine [b]	Kenaitze Educational Harvest [c]	Inriver Run [d]	Sport Harvest Above Sonar [e]	Catch-and-Release Mortality	Spawning Escapement	Total Run	Harvest Rate
1986	144	0	ND	20,100	8,156	242	11,702	20,244	0.41
1987	181	0	ND	21,750	13,557	306	7,887	21,931	0.63
1988	212	0	ND	19,800	15,209	340	4,251	20,012	0.77
1989	193	0	73	12,290	8,394	149	3,747	12,556	0.69
1990	235	0	40	9,842	1,807	378	7,657	10,117	0.21
1991	241	0	2	10,620	1,945	152	8,523	10,863	0.20
1992	300	0	73	11,930	2,241	236	9,453	12,303	0.21
1993	407	0	118	12,490	9,342	286	2,862	13,015	0.76
1994	343	0	56	13,160	8,171	285	4,704	13,559	0.63
1995	412	0	37	12,890	10,217	357	2,316	13,339	0.80
1996	235	0	104	9,764	6,623	287	2,854	10,103	0.69
1997	282	0	122	11,140	6,429	349	4,362	11,544	0.59
1998	289	0	131	11,930	1,170	254	10,506	12,350	0.13
1999	245	0	114	13,480	8,129	261	5,090	13,839	0.61
2000	239	0	124	10,790	1,818	185	8,787	11,153	0.20
2001	184	0	198	14,020	2,399	204	11,417	14,402	0.19
2002	168	0	48	10,860	899	78	9,883	11,076	0.10
2003	202	0	126	20,450	2,839	389	17,222	20,778	0.15
2004	194	0	72	23,460	3,386	257	19,817	23,726	0.15
2005	187	341	76	20,810	3,810	253	16,747	21,414	0.21
2006	252	0	65	18,180	4,693	205	13,282	18,497	0.27
2007	201	41	16	13,630	3,493	220	9,917	13,888	0.27
2008	107	102	40	10,210	3,500	123	6,587	10,459	0.36
2009	71	16	49	7,741	1,466	97	6,178	7,877	0.20
2010	88	48	32	5,874	1,336	90	4,448	6,042	0.25
2011	110	0	42	7,366	1,337	92	5,937	7,518	0.20
2012	48	0	19	3,228	316	10	2,902	3,295	0.12
2013	102	0	11	4,530 [f]	0	5	4,525	4,643	0.02
2014	78	18	1	5,776 [g]	0	0	5,776	5,873	0.02
2015	78	72	10	6,190 [g]	0	0	6,190	6,350	0.03
2016	*not avail.*	*not avail.*	4	9,851 [g]	*not avail.*	*not avail.*	*not avail.*	*not avail.*	*not avail.*
Avg. (1986-2005)	245	17	89	14,579	5,827	262	8,489	14,916	0.42
Avg. (2006-2015)	114	30	29	8,273	1,614	84	6,574	8,444	0.17
Avg. (1986-2015)	201	21	67	12,477	4,423	203	7,851	12,759	0.34

Source: State-Wide Harvest Surveys from Mills 1987-1994, Howe et al. 1995, 1996, 2001a-d, Walker et al. 2003; Jennings et al. 2004, 2006a-b, 2007, 2009a-b, 2010a-b, 2011a-b, 2015; Romberg et al., *In Prep* a-d; Alexandersdottir and Marsh 1990; Nelson et al. 1999; Hammarstrom and Timmons 2001a; Reimer et al. 2002, Reimer, A. 2003, 2004a-b, 2007; Eskelin, A. 2007, 2009, 2010; Perschbacher 2012a-d, 2014, 2015, J. Perschbacher, Sport Fish Biologist, ADF&G Soldotna, personal communication; McKinley and Fleischman 2013; 1994-2015 Educational data, Kenaitze Indian Tribe.

Note: ND = no data available

[a] Cook Inlet marine sport harvest; assumes 5% of Cook Inlet marine sport harvest.

[b] 60% of Commercial cost-recovery harvest and eastside setnet harvest before 25 June.

[c] Prior to 1994, there was no educational fishery, this was considered a subsistence fishery.

[d] 1986-2009 estimates based on run reconstruction model, McKinley and Fleischman 2013, FMS 13-03; 2010-2012 unexpanded estimates published in Miller et al. 2013-2015 (FDS 13-58, FDS 14-18, and FDS 15-09). 1986-2012 are sonar estimates at RM 8.6 expanded by the inverse of proportion midriver.

[e] Includes creel survey estimates for the area from Cook Inlet to the Soldotna Bridge and estimates from the SWHS from the Soldotna Bridge to the outlet of Kenai Lake.

[f] 2013 inriver run based on RM 13.7 ARIS sonar estimates of fish $\geq$750 mm plus estimate of number of fish <750 mm based on weir data and radio telemetry.

[g] 2014-2015, preliminary ARIS sonar estimates at RM 13.7. Values subject to change until report is published.

PROPOSAL 148 – 5 AAC 57.160. Kenai River and Kasilof River Early-run King Salmon Management Plan.

PROPOSED BY: Debra Blossom.

WHAT WOULD THE PROPOSAL DO? This would rewrite the *Kenai River and Kasilof River Early-run King Salmon Management Plan* to redefine Kenai River early-run king salmon stocks as tributary stocks and establish age and sex-based escapement goals.

WHAT ARE THE CURRENT REGULATIONS? Dates defining Kenai River king salmon tributary and mainstem spawners are not in regulation, but regulations pertaining to slot limits, bait, and closed waters have been created specific to dates to distinguish between the two stocks.
In waters of the Kenai River open to king salmon sport fishing, a nonretention slot limit is in effect from January 1–June 30 in the Kenai River from the mouth upstream to the Soldotna Bridge and from January 1–July 14 for those waters of the Kenai River from the Soldotna Bridge upstream to the outlet of Skilak Lake. Late-run regulations are in effect from July 1–31 below the Soldotna Bridge, and from July 15–31 upstream of the Soldotna Bridge; there is a bag and possession limit of one king salmon, 20 inches or greater in length. There is an annual limit of two king salmon, 20 inches or greater in length, from the Kenai River (except for king salmon less than 28 inches harvested before July 1). King salmon, 20 inches or greater in length, must be recorded on the back of the angler's fishing license or harvest record card.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would shift the date the department currently uses to manage the early- and late-runs of Kenai River king salmon eight days earlier. Shifting the date without adjusting the escapement goal would result in eight days of counts not counting towards escapement resulting in more restrictive actions inseason. Additionally, requiring the department to manage for the size and sex of king salmon escapement without adjusting the goal would lead to more restrictive actions inseason based on average age and sex compositions.

BACKGROUND: There are two general 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. Tributary stocks consist of king salmon spawning in the Killey River, Funny River, Slikok Creek, Benjamin Creek, Russian River, Juneau Creek, Quartz Creek, Crescent Creek, Dave Creek, and Grant Creek. 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.

Studies indicate that nearly all tributary spawning fish tagged and released prior to July 1 have migrated upstream past Slikok Creek by July 1. Approximately 15–28% of the king salmon tagged during June spawned in the mainstem. Of these mainstem spawners, about 50% migrated upstream of Slikok Creek by July 1 (Table 148-1, Figure 148–1).
Kenai River king salmon radio telemetry study results from 2010–2013 for tributary spawning king salmon indicate at least 96% of the radio-tagged, tributary spawning king salmon were in

waters closed to fishing (existing king salmon sanctuaries or spawning tributaries) by July 16 in every year studied (figures 148-2 and 148-3). The median date for the completion of spawning activity for tributary spawning fish was July 31 for all years.

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 or sanctuary above the Soldotna Bridge by July 10 (figures 148-2 and 148-3).
The median date for the completion of spawning activity is August 21 for mainstem-spawning king salmon that return prior to July 1, and August 30 for mainstem-spawning king salmon that return from July 1 through mid-August.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. Based on tagging data, the current management approach provides an appropriate balance between protecting tributary spawning king salmon and affording fishing opportunity for mainstem spawning king salmon. The department has not yet developed escapement goals based upon origin of spawning (tributary or mainstem), nor has the department developed a method to account for harvest of tributary spawners versus mainstem spawners.

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 148-1.–Distribution of mainstem spawning king salmon tagged prior to July 1 by date and area, Kenai River 2010–2014.

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

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

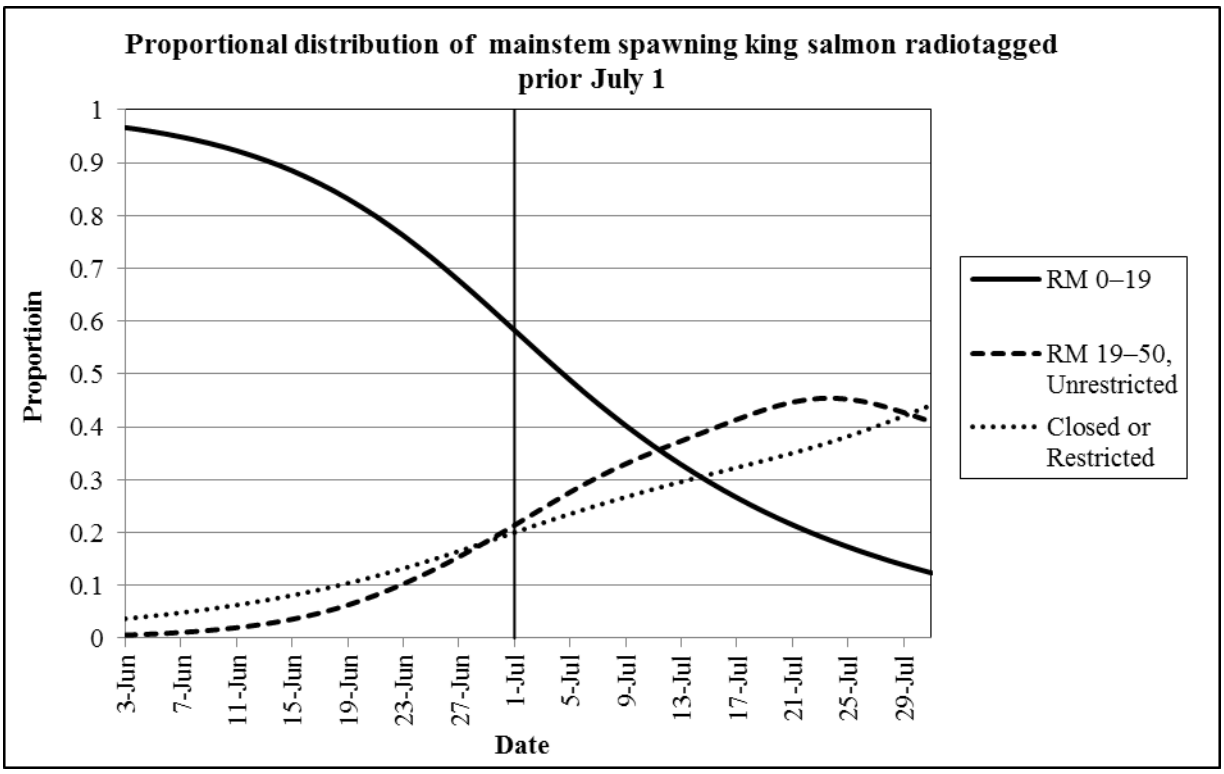

Figure 148–1.- Proportional distribution of radiotagged mainstem spawning Kenai River King salmon tagged prior to July 1 by date and area, 2010–2014.

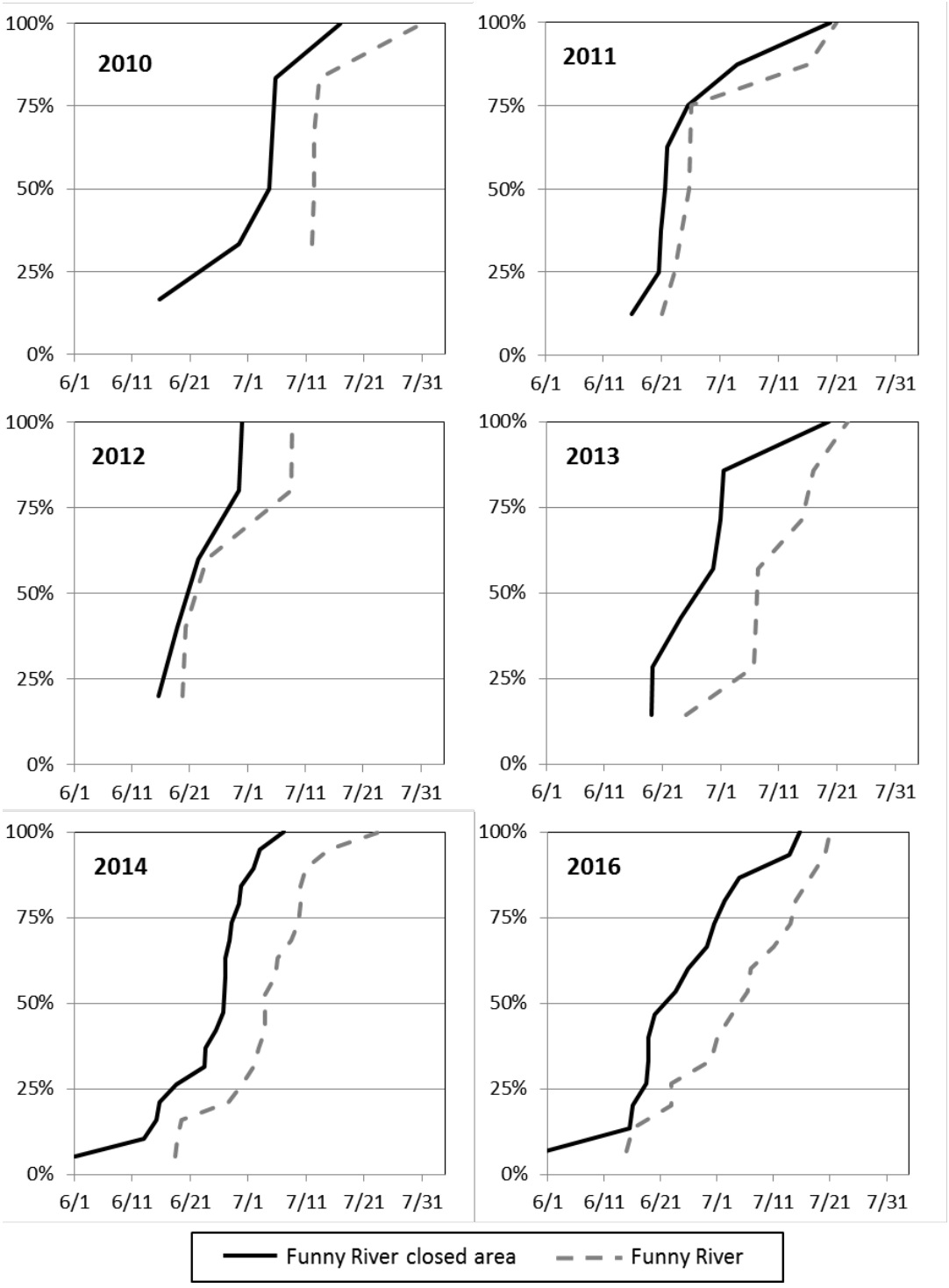

Figure 148-2.–Cumulative entry timing of Funny River bound king salmon into the Funny River closed area and into the Funny River drainage, 2010–2014 & 2016.

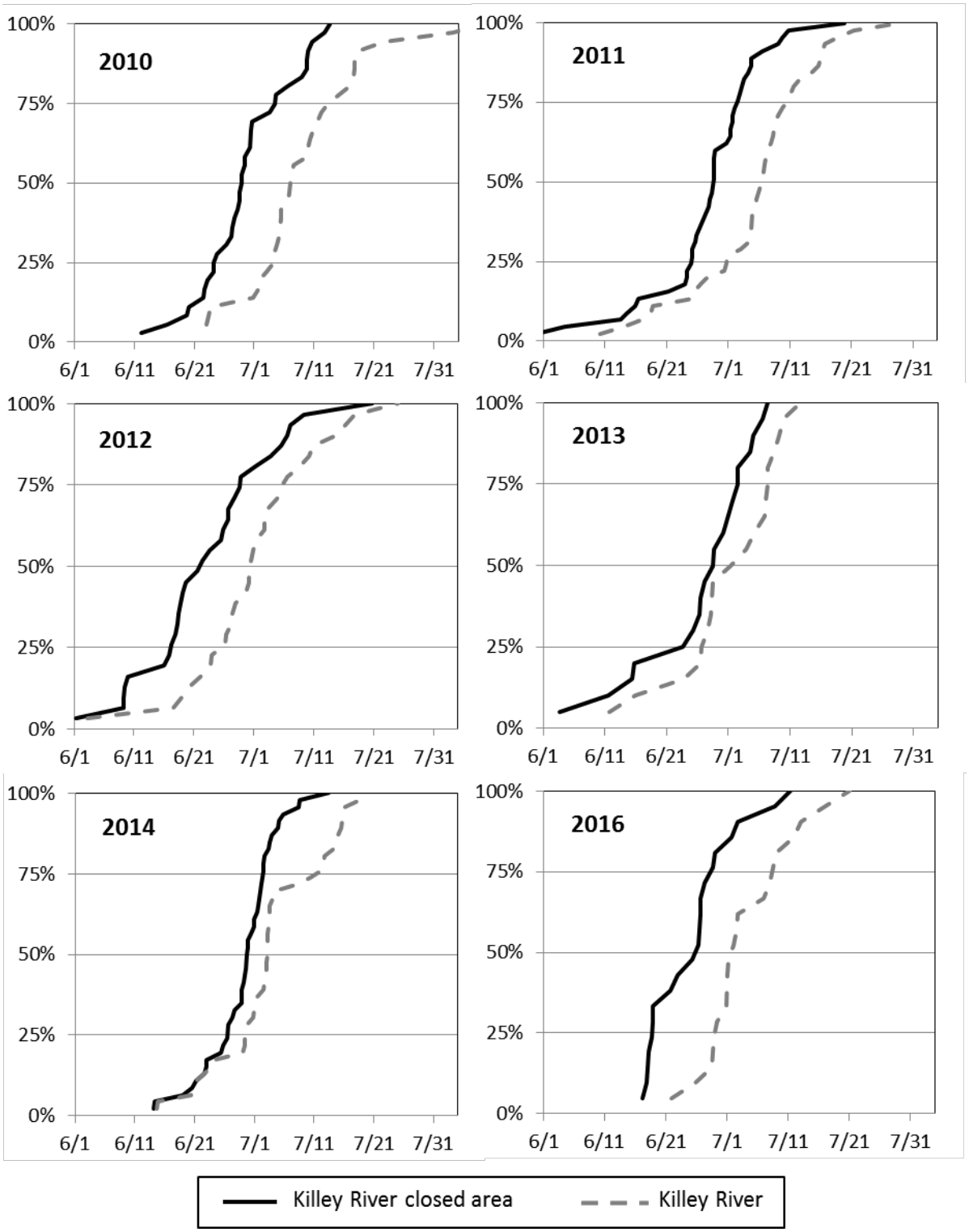

Figure 148-3.–Cumulative entry timing of Killey River/Benjamin Creek-bound king salmon into the Killey River closed area and into the Killey River drainage, 2010–2014 & 2016.

PROPOSALS 147 and 150 – 5 AAC 57.160. Kenai River and Kasilof River Early-run King Salmon Management Plan. and 5 AAC 57.120. General provisions for seasons, bag, possession, annual, and size limits, and methods and means for the Kenai River Drainage Area.

PROPOSED BY: Greg Brush (147) and Mark Wackler (150).

WHAT WOULD THE PROPOSAL DO? These would start the Kenai River king salmon fisheries as an unbaited, single-hook, artificial lure, no retention fisheries. Proposal 147 would apply to the early-run and proposal 150 would apply to early- and late-runs.

WHAT ARE THE CURRENT REGULATIONS? In waters of the Kenai River open to king salmon sport fishing, early-run regulations allow for a bag and possession limit of 10 king salmon, less than 20 inches, and one king salmon, 20 inches or greater in length and less than 42 inches or 55 inches or greater in length. Any king salmon caught that is 42 inches or longer, but less than 55 inches, must be released. The nonretention slot limit is in effect from January 1–June 30 in the Kenai River from the mouth upstream to ADF&G regulatory markers located approximately 300 yards downstream from the mouth of Slikok Creek and from January 1–July 14 for those waters of the Kenai River from ADF&G regulatory markers located approximately 300 yards downstream from the mouth of Slikok Creek upstream to the outlet of Skilak Lake.

If the early-run spawning escapement is projected to fall within the OEG range, the commissioner may, by EO, liberalize the sport fishery downstream from the outlet of Skilak Lake, by allowing the use of bait if the department projects that the total harvest under a liberalized sport fishery will not reduce the spawning escapement below the OEG range.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This may limit the department's ability to manage the fishery based upon preseason forecast information. It could provide fishing opportunity with minimal impact to the stock in years of low runs, but it could also preclude harvest in years of average to above average runs.

BACKGROUND: Management plans for the Kenai River king salmon sport fishery have been structured to provide fishing opportunity under various run sizes and ensure escapement goals are achieved. During 2013–2016, based upon recent trends in production and preseason forecast information, the early-run sport fishery was started with either nonretention or full closure restrictions. Although these years rank as the some of the lowest runs on record the escapement goal was achieved in all years except 2013 (Table 147–1).

The department applies a mortality rate of 8% to Kenai River king salmon that are caught and released, regardless of the gear type used to catch the fish. This mortality rate was determined from a previous study designed to measure the mortality rate of Kenai River king salmon that were caught and released using various gear types including single hooks, multiple hooks, bait, and no bait. It is possible that gear restricted to one unbaited, single-hook lure would have a release mortality rate less than 8%.

DEPARTMENT COMMENTS: The department is **OPPOSED** to these proposals due to the potential for additional exploitation in years of low run sizes, and low harvest rate in years of large run sizes. Regulations in place at the start of the season are designed to meet escapement goals and provide fishing opportunity over a range of run strengths. Over the past five years during low runs of king salmon, the department has used inseason stock assessment data and EO authority, as well as preseason closure (2014–2016) and catch-and-release (2013) EO restrictions to reduce harvest potential to achieve escapement goals for early-run Kenai River king 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.

Table 147-1 Kenai River early-run king salmon population data, 1986–2016.

Year	Inlet Marine Harvest [a]	Misc. Marine [b]	Kenaitze Educational Harvest [c]	Inriver Run [d]	Sport Harvest Above Sonar [e]	Catch-and-Release Mortality	Spawning Escapement	Total Run	Harvest Rate
1986	144	0	ND	20,100	8,156	242	11,702	20,244	0.41
1987	181	0	ND	21,750	13,557	306	7,887	21,931	0.63
1988	212	0	ND	19,800	15,209	340	4,251	20,012	0.77
1989	193	0	73	12,290	8,394	149	3,747	12,556	0.69
1990	235	0	40	9,842	1,807	378	7,657	10,117	0.21
1991	241	0	2	10,620	1,945	152	8,523	10,863	0.20
1992	300	0	73	11,930	2,241	236	9,453	12,303	0.21
1993	407	0	118	12,490	9,342	286	2,862	13,015	0.76
1994	343	0	56	13,160	8,171	285	4,704	13,559	0.63
1995	412	0	37	12,890	10,217	357	2,316	13,339	0.80
1996	235	0	104	9,764	6,623	287	2,854	10,103	0.69
1997	282	0	122	11,140	6,429	349	4,362	11,544	0.59
1998	289	0	131	11,930	1,170	254	10,506	12,350	0.13
1999	245	0	114	13,480	8,129	261	5,090	13,839	0.61
2000	239	0	124	10,790	1,818	185	8,787	11,153	0.20
2001	184	0	198	14,020	2,399	204	11,417	14,402	0.19
2002	168	0	48	10,860	899	78	9,883	11,076	0.10
2003	202	0	126	20,450	2,839	389	17,222	20,778	0.15
2004	194	0	72	23,460	3,386	257	19,817	23,726	0.15
2005	187	341	76	20,810	3,810	253	16,747	21,414	0.21
2006	252	0	65	18,180	4,693	205	13,282	18,497	0.27
2007	201	41	16	13,630	3,493	220	9,917	13,888	0.27
2008	107	102	40	10,210	3,500	123	6,587	10,459	0.36
2009	71	16	49	7,741	1,466	97	6,178	7,877	0.20
2010	88	48	32	5,874	1,336	90	4,448	6,042	0.25
2011	110	0	42	7,366	1,337	92	5,937	7,518	0.20
2012	48	0	19	3,228	316	10	2,902	3,295	0.12
2013	102	0	11	4,530 [f]	0	5	4,525	4,643	0.02
2014	78	18	1	5,776 [g]	0	0	5,776	5,873	0.02
2015	78	72	10	6,190 [g]	0	0	6,190	6,350	0.03
2016	*not avail.*	*not avail.*	4	9,851 [g]	*not avail.*	*not avail.*	*not avail.*	*not avail.*	*not avail.*
Avg. (1986-2005)	245	17	89	14,579	5,827	262	8,489	14,916	0.42
Avg. (2006-2015)	114	30	29	8,273	1,614	84	6,574	8,444	0.17
Avg. (1986-2015)	201	21	67	12,477	4,423	203	7,851	12,759	0.34

Source: State-Wide Harvest Surveys from Mills 1987-1994, Howe et al. 1995, 1996, 2001a-d, Walker et al. 2003; Jennings et al. 2004, 2006a-b, 2007, 2009a-b, 2010a-b, 2011a-b, 2015; Romberg et al., *In Prep* a-d; Alexandersdottir and Marsh 1990; Nelson et al. 1999; Hammarstrom and Timmons 2001a; Reimer et al. 2002, Reimer, A. 2003, 2004a-b, 2007; Eskelin, A. 2007, 2009, 2010; Perschbacher 2012a-d, 2014, 2015, J. Perschbacher, Sport Fish Biologist, ADF&G Soldotna, personal communication; McKinley and Fleischman 2013; 1994-2015 Educational data, Kenaitze Indian Tribe.

Note: ND = no data available

[a] Cook Inlet marine sport harvest; assumes 5% of Cook Inlet marine sport harvest.

[b] 60% of Commercial cost-recovery harvest and eastside setnet harvest before 25 June.

[c] Prior to 1994, there was no educational fishery, this was considered a subsistence fishery.

[d] 1986-2009 estimates based on run reconstruction model, McKinley and Fleischman 2013, FMS 13-03; 2010-2012 unexpanded estimates published in Miller et al. 2013-2015 (FDS 13-58, FDS 14-18, and FDS 15-09). 1986-2012 are sonar estimates at RM 8.6 expanded by the inverse of proportion midriver.

[e] Includes creel survey estimates for the area from Cook Inlet to the Soldotna Bridge and estimates from the SWHS from the Soldotna Bridge to the outlet of Kenai Lake.

[f] 2013 inriver run based on RM 13.7 ARIS sonar estimates of fish $\geq$750 mm plus estimate of number of fish <750 mm based on weir data and radio telemetry.

[g] 2014-2015, preliminary ARIS sonar estimates at RM 13.7. Values subject to change until report is published.

PROPOSAL 153 – 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: Kenai Area Fisherman's Coalition.

WHAT WOULD THE PROPOSAL DO? This would prohibit fishing for king salmon from markers 300 yards below Slikok Creek upstream to Skilak Lake.

WHAT ARE THE CURRENT REGULATIONS? In the Kenai River, there are five king salmon sanctuary areas managed under sport fishing restrictions designed to protect king salmon from January 1–July 31. Those waters are at the confluence of the following streams; Slikok Creek, Funny River, Lower Killey River, Moose River, and Morgan's Hole (Figure 153-1). Additional waters are closed to fishing from boats at Centennial Park from about river mile (RM) 20 upstream to RM 21, Morgan's Hole at RM 31 and at the confluence of the Moose and Kenai rivers near RM 36. The seasonal king salmon area closures total approximately 3.5 river miles of the 50 river miles open to king salmon fishing. In addition, the Kenai River upstream of Skilak Lake and all tributaries are closed to king salmon fishing. Bait is prohibited, only single-hook artificial lures are allowed in waters open to king salmon fishing upstream of ADF&G markers located approximately 300 yards upstream of Slikok Creek through July 14. In addition, only king salmon less than 42 inches in total length or greater than 55 inches in total length may be retained.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would close an additional 31 river miles of the Kenai River downstream of Skilak Lake, to king salmon fishing. This proposal would reduce the harvest of both tributary and mainstem spawning king salmon by an unknown amount. Harvest during the early run would be reduced less than late run harvest because less fishing effort typically occurs upstream of Slikok Creek. Harvest of mainstem spawning king salmon would likely increase downstream of Slikok Creek. Total fishing effort would likely decrease and crowding would likely increase downstream of Soldotna. Resulting decreases in harvest may lead to increases in escapement and exceeding escapement goals. However, conservation benefits to spawning fish would be limited because most mainstem spawning king salmon move above and below Slikok Creek throughout July and spawn after the king salmon season is closed on July 31. All regulations relating to sanctuary areas, boating restrictions, tackle restrictions, and size limits would need to be updated to reflect this proposed change. Closing large areas of the river to protect mainstem spawning king salmon would provide marginal benefits according to the biology and behavior of mainstem spawning Kenai River king salmon. Adopting this regulation would exacerbate crowding in the lower river, and would increase regulatory complexity when added to the existing sanctuary areas, boat fishing, and seasonal closures.

BACKGROUND: King salmon returning to the Kenai River are managed as two distinct runs: early-run (May 16–June 30) fish spawn primarily in tributary streams, whereas late-run (July 1–August 10) fish are destined primarily for mainstem spawning locations. Mainstem spawning king salmon are recognized as a single stock regardless of their time of entry into the river. Management plans for the Kenai River king salmon sport fishery have been structured to provide fishing opportunity under various run sizes and ensure escapement goals are achieved. King

salmon of Kenai River origin are harvested in several fisheries, including a recreational marine fishery along the eastern shore of Cook Inlet from Anchor Point to Cape Ninilchik; commercial set and drift gillnet fisheries in Cook Inlet that harvest late-run king salmon; and the sport fishery and personal use fisheries in the Kenai River itself (tables 153-1 and 153-2).

In 2014–2016, to reduce mortality of Kenai River tributary spawning king salmon, the sport fishery was closed or restricted to catch-and-release fishing by EO during late June through July, 300 yards downstream from the mouth of Slikok Creek at approximately RM 18.5, upstream to the outlet of Skilak Lake at RM 50. The area affected by these restrictive actions comprises about 60% of the Kenai River waters normally open to sport fishing for king salmon.

Regardless of entry time to the Kenai River, mainstem spawning king salmon spawn at about the same time and spawning location (above or below Slikok Creek) does not appear to be related to entry timing. The median date for the completion of spawning activity was August 21 for mainstem spawning king salmon that returned May and June, and August 31 for mainstem-spawning king salmon that returned in July and August. Since mainstem spawning king salmon did not show site fidelity to spawning areas until after the sport fishery closed on July 31, proposed regulations to conserve mainstem spawning king salmon by closing areas to king salmon fishing during July cannot be evaluated by spawning distribution.

To evaluate measures to conserve mainstem spawning king salmon while the fishery is open during July is also difficult because their distribution was different for each year studied. For example, the inseason EOs to close king salmon fishing upstream of Slikok Creek (RM 18.5) would have been more effective to reduce the harvest of mainstem spawning king salmon in 2012 and 2013 than in 2010 and 2011, because during 2010 and 2011 a large percentage of the early-run, mainstem-spawning radiotagged king salmon monitored remained downstream of Slikok Creek during July. The Kenai River downstream of the Soldotna Bridge (RM 21) was the most heavily utilized mainstem spawning area during the study; closures upstream of Slikok Creek have little conservation value for the largest mainstem spawning component (Figures 153-2 and 153-3). For example, radio-tagged mainstem spawning king salmon that enter the Kenai River prior to July 1 do not pass through the Kenai River area below Slikok Creek prior to migrating upriver. Data from 2010–2014 shows that approximately 60% of these mainstem spawning fish are located downstream of Slikok Creek in early July while about 20% were in closed areas upstream of Slikok Creek and approximately 20% were in areas open to fishing upstream of Slikok Creek. (Figure 153-4).

From 2010–2014, at least 94% of the radiotagged, tributary-spawning king salmon were located in closed waters (existing king salmon sanctuaries or spawning tributaries) by July 16 in every year studied.

Other areas around the state are also experiencing runs consisting of younger age classes (table 153-3, 153-4, and 153-5). King salmon age composition data collected from weirs on the Anchor, Deshka, and Funny rivers indicate the diminishing contribution of older fish to the run is characteristic of king salmon stocks throughout Cook Inlet.

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

COST ANALYSIS: Approval of this proposal would result in an additional direct cost for a private person who lives upstream of Slikok Creek to participate in this fishery.

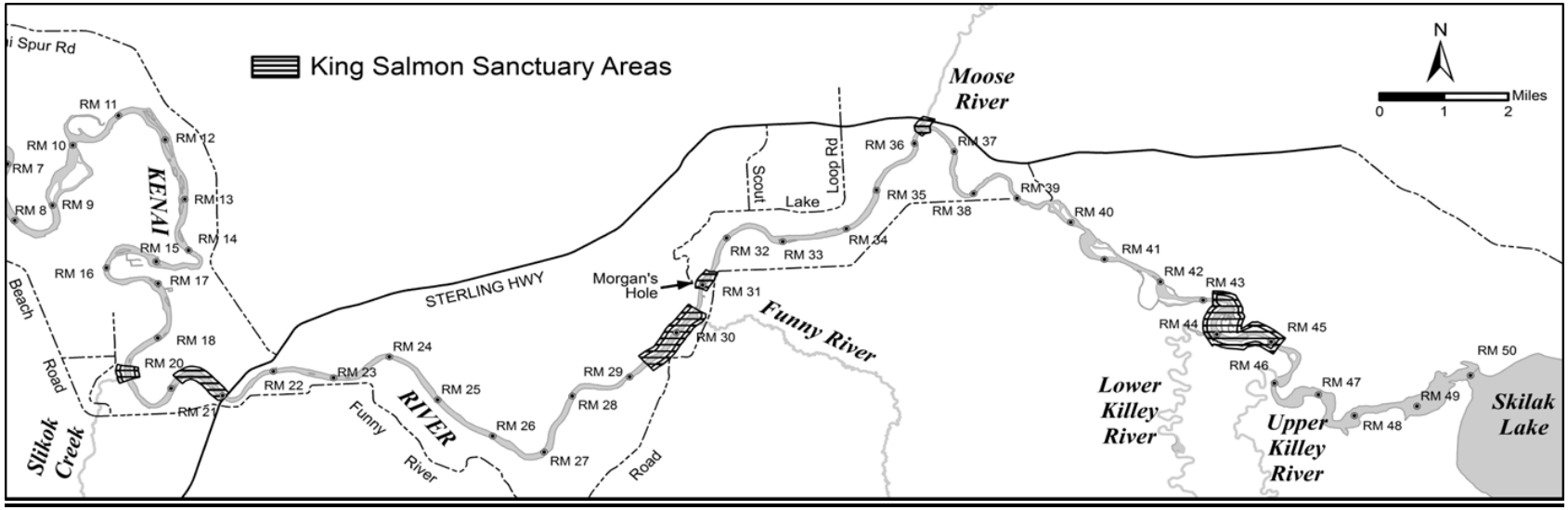

Figure 153-1.–Map of Kenai River showing king salmon spawning sanctuary areas.

Table 153-1. – Kenai River early-run king salmon population data, 1986–2016.

Year	Cook Inlet Marine Harvest [a]	Misc. Marine [b]	Kenaitze Educational Harvest [c]	Inriver Run [d]	Sport Harvest Above Sonar [e]	Catch-and-Release Mortality	Spawning Escapement	Total Run	Harvest Rate
1986	144	0	ND	20,100	8,156	242	11,702	20,244	0.41
1987	181	0	ND	21,750	13,557	306	7,887	21,931	0.63
1988	212	0	ND	19,800	15,209	340	4,251	20,012	0.77
1989	193	0	73	12,290	8,394	149	3,747	12,556	0.69
1990	235	0	40	9,842	1,807	378	7,657	10,117	0.21
1991	241	0	2	10,620	1,945	152	8,523	10,863	0.20
1992	300	0	73	11,930	2,241	236	9,453	12,303	0.21
1993	407	0	118	12,490	9,342	286	2,862	13,015	0.76
1994	343	0	56	13,160	8,171	285	4,704	13,559	0.63
1995	412	0	37	12,890	10,217	357	2,316	13,339	0.80
1996	235	0	104	9,764	6,623	287	2,854	10,103	0.69
1997	282	0	122	11,140	6,429	349	4,362	11,544	0.59
1998	289	0	131	11,930	1,170	254	10,506	12,350	0.13
1999	245	0	114	13,480	8,129	261	5,090	13,839	0.61
2000	239	0	124	10,790	1,818	185	8,787	11,153	0.20
2001	184	0	198	14,020	2,399	204	11,417	14,402	0.19
2002	168	0	48	10,860	899	78	9,883	11,076	0.10
2003	202	0	126	20,450	2,839	389	17,222	20,778	0.15
2004	194	0	72	23,460	3,386	257	19,817	23,726	0.15
2005	187	341	76	20,810	3,810	253	16,747	21,414	0.21
2006	252	0	65	18,180	4,693	205	13,282	18,497	0.27
2007	201	41	16	13,630	3,493	220	9,917	13,888	0.27
2008	107	102	40	10,210	3,500	123	6,587	10,459	0.36
2009	71	16	49	7,741	1,466	97	6,178	7,877	0.20
2010	88	48	32	5,874	1,336	90	4,448	6,042	0.25
2011	110	0	42	7,366	1,337	92	5,937	7,518	0.20
2012	48	0	19	3,228	316	10	2,902	3,295	0.12
2013	102	0	11	4,530 [f]	0	5	4,525	4,643	0.02
2014	78	18	1	5,776 [g]	0	0	5,776	5,873	0.02
2015	78	72	10	6,190 [g]	0	0	6,190	6,350	0.03
2016	*not avail.*	*not avail.*	4	9,851 [g]	*not avail.*	*not avail.*	*not avail.*	*not avail.*	*not avail.*
Avg. (1986-2005)	245	17	89	14,579	5,827	262	8,489	14,916	0.42
Avg. (2006-2015)	114	30	29	8,273	1,614	84	6,574	8,444	0.17
Avg. (1986-2015)	201	21	67	12,477	4,423	203	7,851	12,759	0.34

Romberg et al., *In Prep* a-d; Alexandersdottir and Marsh 1990; Nelson et al. 1999; Hammarstrom and Timmons 2001a; Reimer et al. 2002, Reimer, A. 2003, 2004a-b, 2007; Eskelin, A.

Note: ND = no data available

[a] Cook Inlet marine sport harvest; assumes 5% of Cook Inlet marine sport harvest.

[b] 60% of Commercial cost-recovery harvest and eastside setnet harvest before 25 June.

[c] Prior to 1994, there was no educational fishery, this was considered a subsistence fishery.

[d] 1986-2009 estimates based on run reconstruction model, McKinley and Fleischman 2013, FMS 13-03; 2010-2012 unexpanded estimates published in Miller et al. 2013-2015 (FDS 13-

[e] Includes creel survey estimates for the area from Cook Inlet to the Soldotna Bridge and estimates from the SWHS from the Soldotna Bridge to the outlet of Kenai Lake.

[f] 2013 inriver run based on RM 13.7 ARIS sonar estimates of fish ≥750 mm plus estimate of number of fish <750 mm based on weir data and radio telemetry.

[g] 2014-2016, preliminary ARIS sonar estimates at RM 13.7. Values subject to change until report is published.

Table 153-2.- Kenai River late-run king salmon population data, 1986–2016.

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

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

Note: ND = no data available

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

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

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

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

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

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

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

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

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

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

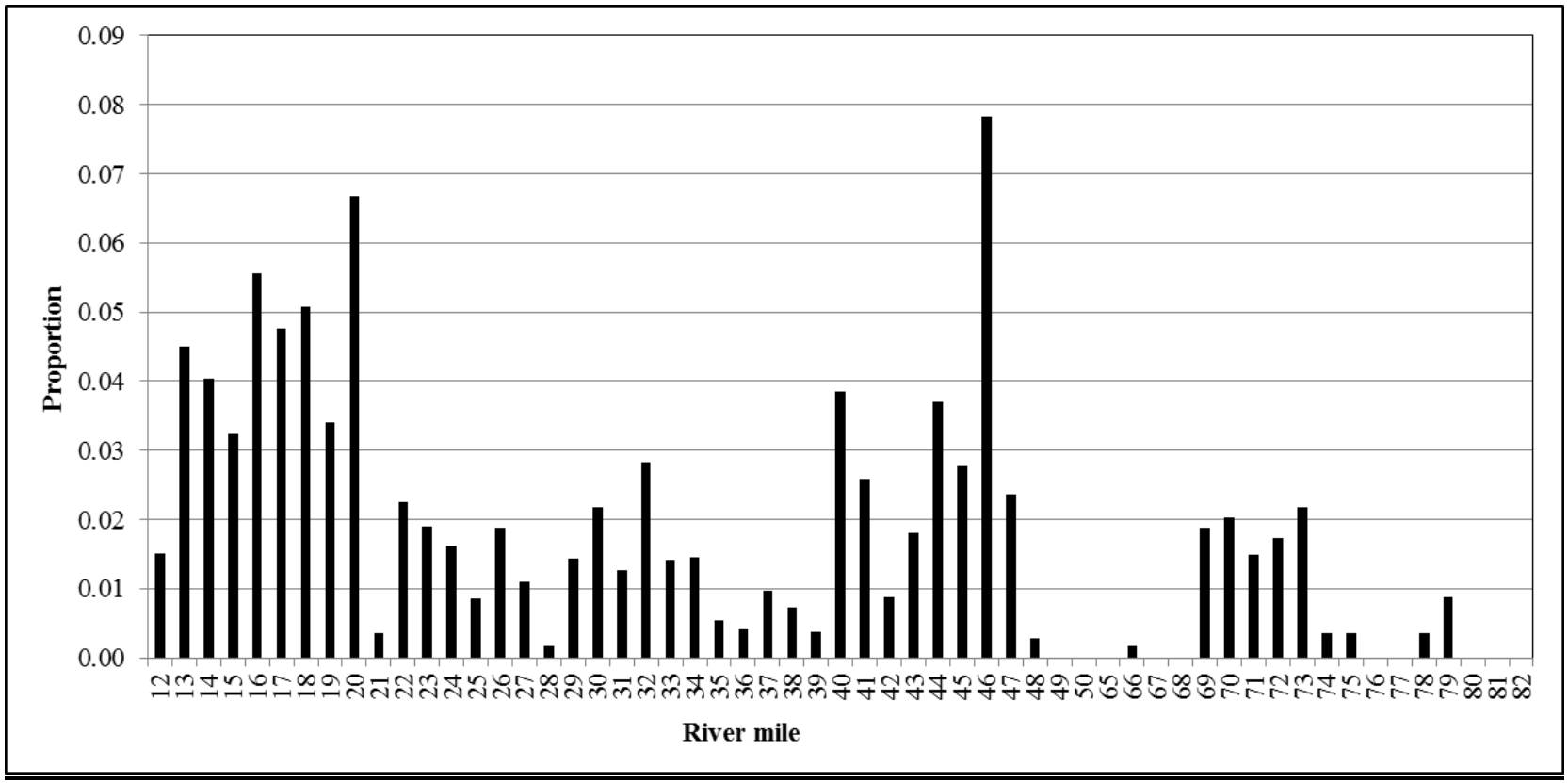

Figure 153-2.–King salmon spawning distribution within the mainstem Kenai River by river mile, 2010–2014.

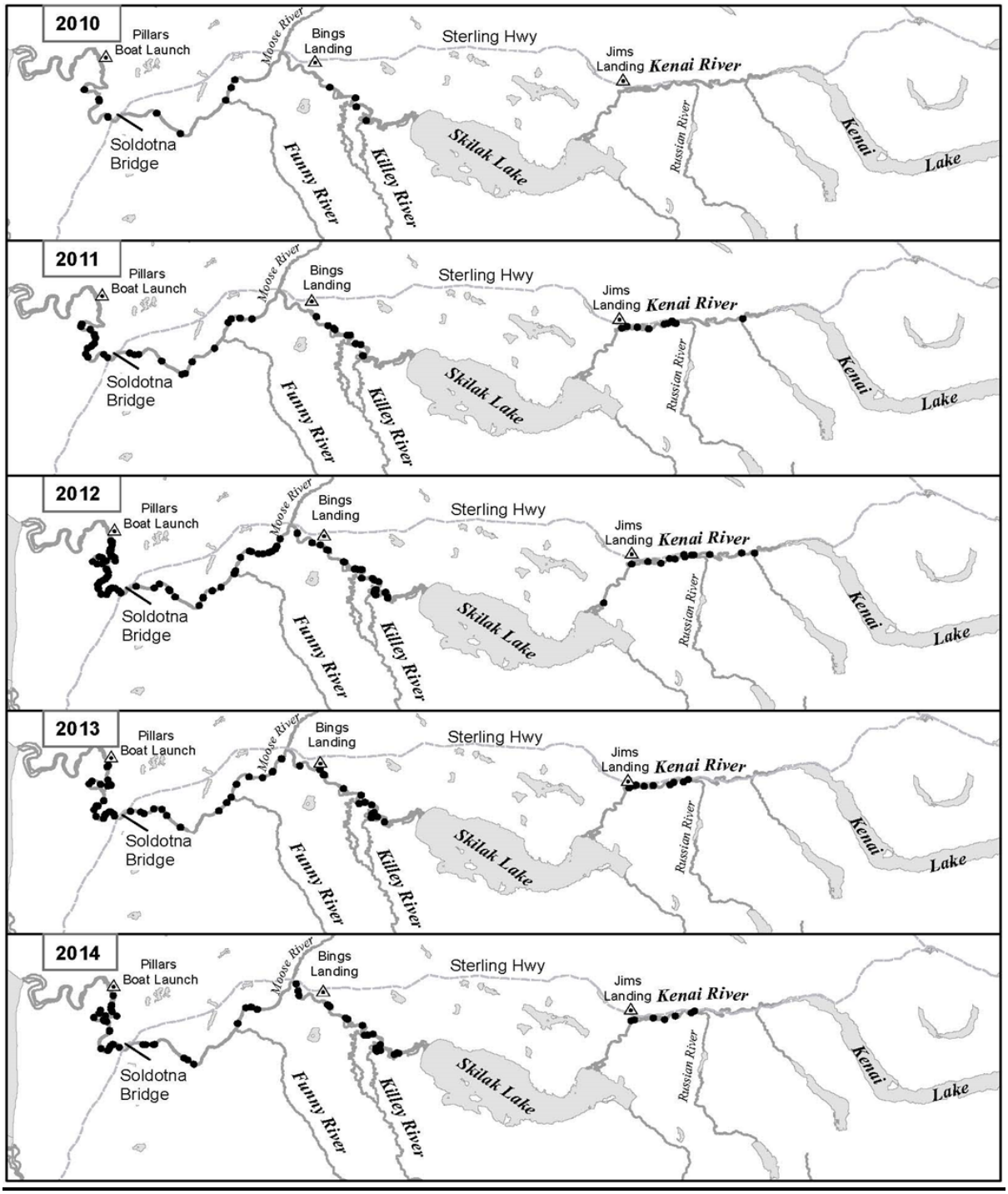

Figure 153-3.–Spawning destinations determined for radiotagged king salmon within mainstem Kenai River, 2010–2016.

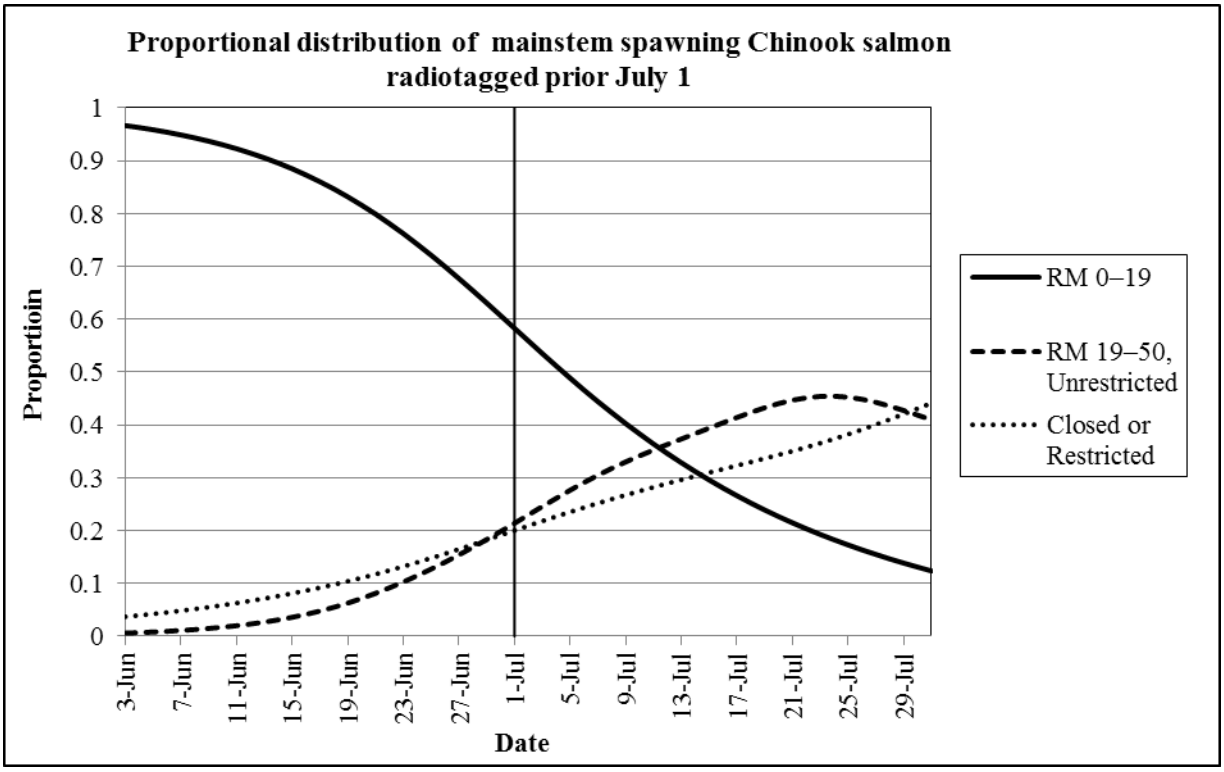

Figure 153-4.- Proportional distribution of mainstem spawning Kenai River king salmon radiotagged prior to July 1 by date and area, 2010–2014.

Table 153-3 .- King salmon age composition by year, Anchor River weir, 2003–2016.

	Anchor River Chinook salmon									
	Escapement		Percent By Ocean Age				Number of Fish by Ocean Age			
Year	Estimate	SE	1	2	3	4	1	2	3	4
2003	9,238	0	5.1	23.0	57.8	13.8	471	2,125	5,340	1,275
2004	12,016	283	8.8	20.7	48.6	21.9	1,057	2,487	5,840	2,632
2005	11,156	229	5.0	23.9	52.2	18.9	558	2,666	5,823	2,108
2006	8,945	289	6.4	16.5	52.1	25.0	572	1,476	4,660	2,236
2007	9,622	238	0.5	22.0	53.4	24.1	48	2,116	5,138	2,319
2008	5,806	169	4.4	21.8	68.5	5.2	255	1,266	3,977	302
2009	3,455	0	7.8	51.1	36.7	4.4	269	1,766	1,268	152
2010	4,449	103	7.0	36.1	51.3	5.6	311	1,606	2,282	249
2011	3,545	0	3.2	50.0	41.1	5.7	113	1,773	1,457	202
2012	4,509	100	10.8	34.3	50.4	4.5	487	1,547	2,273	203
2013	4,388	116.99	20.1	31.4	43.6	4.7	895	1,377	1,913	206
2014	2,497	0	13.6	36.6	40.8	9.1	339	914	1,018	227
2015	10,048	0	13.5	39.3	44.6	2.6	1,352	3,950	4,481	265
2016	7,148		6.2	41.2	47.9	4.7	445	2,948	3,421	334
Average 2003-2016	6,916		8.0	32.0	49.2	10.7	512	2,001	3,492	908

Table 153-4.- King salmon age composition by year, Deshka River weir, 2000–2016.

		Deshka River Chinook salmon							
		Percent by ocean age				Number of fish by ocean age			
Year	Escapemen	1	2	3	4	1	2	3	4
2000	33,965	0.0	10.7	79.2	10.1	0	3,644	26,895	3,426
2001	27,966	1.4	23.7	46.6	28.3	403	6,620	13,035	7,906
2002	28,535	1.6	26.3	56.5	15.6	460	7,517	16,108	4,449
2003	39,257	1.0	36.1	48.8	14.1	402	14,158	19,146	5,551
2004	56,659	1.0	18.0	66.0	15.0	567	10,199	37,395	8,499
2005	36,433	1.2	29.2	57.8	11.8	444	10,631	21,044	4,314
2006	29,922	0.0	22.7	55.1	22.1	0	6,806	16,494	6,622
2007	17,594	0.0	9.1	71.1	19.8	0	1,593	12,513	3,488
2008	7,284	0.0	15.7	38.0	46.4	0	1,141	2,766	3,378
2009	11,641	0.0	66.8	24.1	9.1	0	7,781	2,804	1,056
2010	18,223	0.9	20.8	69.6	8.6	163	3,796	12,691	1,573
2011	18,553	2.3	26.7	64.1	6.9	427	4,958	11,889	1,280
2012	13,952	4.2	54.7	26.0	15.2	579	7,628	3,621	2,124
2013	18,378	3.9	21.4	58.3	16.4	721	3,926	10,720	3,012
2014	16,099	8.7	39.7	39.7	12.0	1,397	6,386	6,386	1,929
2015	24,181	11.0	27.1	49.1	12.8	2,649	6,559	11,881	3,091
2016	22,690	16.1	43.0	34.0	6.9	3,651	9,754	7,720	1,565
Average 2003-2016	24,784	3.1	28.9	52.0	15.9	698	6,653	13,712	3,721

Table 153-5.- King salmon age composition by year, Funny River weir, 2007–2016[a].

		Percent by Ocean Age				
Year	Escapemen	1	2	3	4	5
2007	2,075	0.5	36.4	34.1	29.0	0.0
2008	1,246	0.8	32.0	38.5	28.7	0.0
2009	1,114	2.8	29.9	40.2	25.2	1.9
2010	1,187	6.1	45.0	36.6	12.2	0.0
2011	990	3.5	30.7	51.8	14.1	0.0
2012	879	6.3	54.0	34.0	5.2	0.0
2013	1,027	3.9	46.3	38.9	10.0	0.5
2014	1,297	4.0	53.0	36.0	7.0	0.0
2015	1,727	12.9	54.6	29.3	3.2	0.0
2016	1,609	3.0	42.8	49.1	5.1	0.0
Average 2007-2016	1,315	4.4	42.5	38.9	14.0	0.2

[a] Source: 2007-2015 USFWS Alaska Fishery Data Series Reports, 2016 is unplublished data.

PROPOSAL 154 – 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: Heather Pearson.

WHAT WOULD THE PROPOSAL DO? This would expand waters of the Kenai River closed to fishing for king salmon.

WHAT ARE THE CURRENT REGULATIONS? In the Kenai River, there are five king salmon "sanctuary areas" managed under sport fishing restrictions designed to protect king salmon from January 1–July 31. Those waters are at the confluence of the following streams; Slikok Creek, Funny River, Lower Killey River, Moose River, and Morgan's Hole (Figure 153-1). Additional waters are closed to fishing from boats at Centennial Park from about river mile (RM) 20 upstream to RM 21, Morgan's Hole at RM 31 and at the confluence of the Moose and Kenai rivers near RM 36. The seasonal king salmon area closures total approximately 3.5 river miles of the 50 river miles open to king salmon fishing. In addition, the Kenai River upstream of Skilak Lake and all tributaries are closed to king salmon fishing.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would close an additional 4.5 river miles the Kenai River downstream of Skilak Lake to king salmon fishing. This would reduce the harvest of king salmon by an unknown amount. Resulting decreases in harvest may lead to increases in escapement. However, conservation benefits to spawning fish would be limited because most mainstem-spawning king salmon spawn after the king salmon season is closed on July 31. All regulations relating to sanctuary areas, boating restrictions, tackle restrictions, and size limits in this area would need to be updated to reflect this proposed change. Closing large areas of the river to protect mainstem spawning king salmon would provide marginal benefits according to the biology and behavior of mainstem spawning Kenai River king salmon. Adopting this regulation would increase regulatory complexity when added to the existing sanctuary areas, boat fishing, and seasonal closures.

BACKGROUND: King salmon returning to the Kenai River are managed as two distinct runs: early-run (May 16–June 30) fish spawn primarily in tributary streams, whereas late-run (July 1–August 10) fish are destined primarily for mainstem spawning locations. Management plans for the Kenai River king salmon sport fishery have been structured to provide fishing opportunity under various run sizes and ensure escapement goals are achieved. King salmon of Kenai River origin are harvested in several fisheries, including a recreational marine fishery along the eastern shore of Cook Inlet from Anchor Point to Cape Ninilchik; commercial set and drift gillnet fisheries in Cook Inlet that harvest late-run king salmon; and the sport fishery and personal use fisheries in the Kenai River itself (Tables 153-1 and 153-2).

In 2014–2016, to reduce mortality of Kenai River tributary spawning king salmon, the sport fishery was closed or restricted to catch-and-release fishing during late June through July, 300 yards downstream from the mouth of Slikok Creek at approximately RM 18.5, upstream to the outlet of Skilak Lake at RM 50. The area affected by these restrictive actions comprises about 60% of the Kenai River waters normally open to sport fishing for king salmon.

Kenai River king salmon radiotelemetry study results from 2010–2013 indicates mainstem spawning king salmon spawned throughout the Kenai River upstream of tidal influence. Regardless of entry time to the Kenai River, mainstem spawning king salmon spawn at about the same time. The median date for the completion of spawning activity was August 21 for mainstem spawning king salmon that returned May and June, and August 30 for mainstem spawning king salmon that returned in July and August. Since mainstem spawning king salmon did not show site fidelity to spawning areas until after the sport fishery closed on July 31, proposed regulations to conserve mainstem spawning king salmon by closing areas to king salmon fishing during July cannot be evaluated by spawning distribution. For example, radio-tagged mainstem spawning king salmon that enter the Kenai River prior to July 1 do not pass through the Kenai River area below Slikok Creek prior to migrating upriver. Data from 2010 – 2014 shows that approximately 60% of these mainstem spawning fish are located downstream of Slikok Creek in early July while about 20% were in closed areas upstream of Slikok Creek and approximately 20% were in areas open to fishing upstream of Slikok Creek (Figure 153-4).
From 2010–2013, at least 96% of the radiotagged, tributary spawning king salmon were located in closed waters (existing king salmon sanctuaries or spawning tributaries) by July 16 in every year studied.

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

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

PROPOSAL 155 – 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: U.S. Fish and Wildlife Service.

WHAT WOULD THE PROPOSAL DO? This would expand waters of the Kenai River closed to fishing for king salmon.

WHAT ARE THE CURRENT REGULATIONS? In the Kenai River, there are five king salmon "sanctuary areas" managed under sport fishing restrictions designed to protect king salmon from January 1–July 31. Those waters are at the confluence of the following streams; Slikok Creek, Funny River, Lower Killey River, Moose River, and Morgan's Hole (Figure 153-1). Additional waters are closed to fishing from boats at Centennial Park from about river mile (RM) 20 upstream to RM 21, Morgan's Hole at RM 31 and at the confluence of the Moose and Kenai rivers near RM 36. The seasonal king salmon area closures total approximately 3.5 river miles of the 50 river miles open to king salmon fishing. In addition, the Kenai River upstream of Skilak Lake and all tributaries are closed to king salmon fishing.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would close an additional 4.5 river miles the Kenai River downstream of Skilak Lake to king salmon fishing. This would reduce the harvest of king salmon by an unknown amount. Resulting decreases in harvest may lead to increases in escapement. However, conservation benefits to spawning fish would be limited because most mainstem spawning king salmon spawn after the king salmon season is closed on July 31. Closing large areas of the river to protect mainstem spawning king salmon would provide marginal benefits according to the biology and behavior of mainstem spawning Kenai River king salmon. Adopting this regulation would increase regulatory complexity when added to the existing sanctuary areas, boat fishing, and seasonal closures.

BACKGROUND: King salmon returning to the Kenai River are managed as two distinct runs: early-run (May 16–June 30) fish spawn primarily in tributary streams, whereas late-run (July 1–August10) fish are destined primarily for mainstem spawning locations. Management plans for the Kenai River king salmon sport fishery have been structured to provide fishing opportunity under various run sizes and ensure escapement goals are achieved. King salmon of Kenai River origin are harvested in several fisheries, including a recreational marine fishery along the eastern shore of Cook Inlet from Anchor Point to Cape Ninilchik; commercial set and drift gillnet fisheries in Cook Inlet that harvest late-run king salmon; and the sport fishery and personal use fisheries in the Kenai River itself (tables 153-1 and 153-2).

In 2014–2016, to reduce mortality of Kenai River tributary spawning king salmon, the sport fishery was closed or restricted to catch-and-release fishing during late June through July, 300 yards downstream from the mouth of Slikok Creek at approximately RM 18.5, upstream to the outlet of Skilak Lake at RM 50. The area affected by these restrictive actions comprises about 60% of the Kenai River waters normally open to sport fishing for king salmon.

Kenai River king salmon radiotelemetry study results from 2010–2013 indicates mainstem spawning king salmon spawned throughout the Kenai River upstream of tidal influence. Regardless of entry time to the Kenai River, mainstem spawning king salmon spawn at about the same time. The median date for the completion of spawning activity was August 21 for mainstem spawning king salmon that returned May and June, and August 30 for mainstem spawning king salmon that returned in July and August. Since mainstem spawning king salmon did not show site fidelity to spawning areas until after the sport fishery closed on July 31, proposed regulations to conserve mainstem spawning king salmon by closing areas to king salmon fishing during July cannot be evaluated by spawning distribution. For example, radio-tagged mainstem spawning king salmon that enter the Kenai River prior to July 1 do not pass through the Kenai River area below Slikok Creek prior to migrating upriver. Data from 2010 – 2014 shows that approximately 60% of these mainstem spawning fish are still located downstream of Slikok Creek in early July while about 20% were in closed areas upstream of Slikok Creek and approximately 20% were in areas open to fishing upstream of Slikok Creek (Figure 153-4).

From 2010–2013, at least 96% of the radiotagged, tributary spawning king salmon were located in closed waters (existing king salmon sanctuaries or spawning tributaries) by July 16 in every year studied.

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

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

PROPOSAL 156 – 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: Kenai Area Fisherman's Coalition.

WHAT WOULD THE PROPOSAL DO? This would replace the slot limit for the Kenai River early-run king salmon fishery with a maximum size limit, and extend that limit through the late-run fishery to prohibit retention of king salmon greater than 42 inches in length.

WHAT ARE THE CURRENT REGULATIONS? In waters of the Kenai River open to king salmon sport fishing, early-run regulations allow for a bag and possession limit of 10 king salmon, less than 20 inches, and one king salmon, 20 inches or greater in length and less than 42 inches or 55 inches or greater in length. Any king salmon caught that is 42 inches or longer, but less than 55 inches, must be released unharmed. The nonretention slot limit is in effect from January 1–June 30 in the Kenai River from the mouth upstream to an ADF&G regulatory marker located at the outlet of Skilak Lake, and from January 1–July 14 from an ADF&G regulatory maker 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.

A king salmon 55 inches or greater in length taken from the Kenai River from January 1–July 31 must be sealed as specified in 5 AAC 57.160.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This proposal would essentially prohibit the harvest of all Kenai River tributary spawning ocean-age-5 king salmon. It would have no measurable impact on the spawning escapement or genetic contribution of early-run king salmon greater than 55 inches due to the insignificant harvest of this size class in the sport fishery. It would restrict the late-run sport fishery by a considerable amount from its current regulatory structure. This would simplify regulations in the early-run fishery by replacing the slot limit with a minimum size.

BACKGROUND: Prior to 2002, there was no slot limit in the Kenai River king salmon sport fishery; anglers were permitted to harvest king salmon regardless of the total length of the fish. However, the department, along with the public, recognized a decline in larger, older-aged king salmon returning to the Kenai River during the early run. Although the exact cause for the decline in older king salmon during the early run is not understood, the selective harvest or exploitation of larger, ocean-age-5 fish was the only practical factor that could be directly influenced by fishery managers. In 2002, the board adopted a slot limit harvest restriction of 40–55 inches. The intent of the slot limit was to reduce the harvest of ocean-age-5 king salmon while allowing the harvest of a trophy king salmon greater than 55 inches in length.

In 2003, the board adjusted the slot limit to 44–55 inches based on a department-recommended slot limit of 45–55 inches to protect the larger, older, ocean-age-5 king salmon returning to the Kenai River during the early run. This slot limit allowed approximately 73% of the returning early-run stocks to be available for harvest. Within this slot limit, most (87%) of the ocean-age-5 fish were protected, as were about 40% of the ocean-age-4 fish in the run.

In 2008, the board relaxed the slot limit again to 46–55 inches to allow for more harvest during years of higher abundance, yet still protect ocean-age-5 king salmon. This slot limit made approximately 83% of the returning early-run stocks available for harvest. Within this slot limit, 69% of the ocean-age-5 fish are protected, as are about 26% of the ocean-age-4 fish in the run (Figure 156-1). Also within this slot limit, 42% of ocean-age-5 females are protected and 86% of ocean-age-5 males are protected, while 8% of ocean-age-4 females are protected and 51% of ocean-age-4 males are protected (Figure 156-2).

In 2014, the board adjusted the slot limit to 42-55 inches. This slot limit made approximately 62% of the returning early-run stocks available for harvest. Within this slot limit, 92% of the ocean-age-5 fish are protected, as are about 49% of the ocean-age-4 fish in the run (Figure 156-1).

From 1986–1995, the early run included an average 1,076 ocean-age-5 king salmon, which comprised about 7.2% of the run (Table 156-1 and Figure 156-3). During 1996–2002, the average decreased to 330 ocean-age-5 king salmon, which comprised 2.8% of the run. From 2010–2013, however, an average of only 121 ocean-age-5 king salmon were estimated in the run, comprising about 1.8%. The last three years (2014-2016) were the lowest estimates of ocean-age-5 early-run king salmon the department has on record with an average of 70 king salmon comprising about 1% of the run.

Harvest selectivity prior to the slot limit being enacted favored harvesting older larger king salmon. From 2003–2007, harvest selectivity shifted to favor ocean-age-3 (5-year-olds) king salmon and very few ocean-age-5 (7-year-olds) king salmon were harvested (Figure 156-4). Since 2008, when the slot limit was adjusted to 46–55 inches, selectivity for ocean-age-3 king salmon decreased, while selectivity for the other age classes remained stable compared to the previous slot limit of 44–55 inches. From 2002–2013, a creel survey of the inriver sport fishery downstream of the Soldotna Bridge did not detect any harvest of ocean-age-5 king salmon, except for in 2007 and 2008 when 33 fish (0.9%) and 11 fish (0.3%), respectively, were estimated to have been harvested (tables 156-2 and 156-3). Department records indicate two king salmon over 55 inches have been sealed since the regulation was adopted in 2002.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. The department supports replacing the existing slot limit of 42–55 inches with a maximum size to simplify regulations and maintain the objective of preventing the harvest of ocean-age-5 early-run king 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.

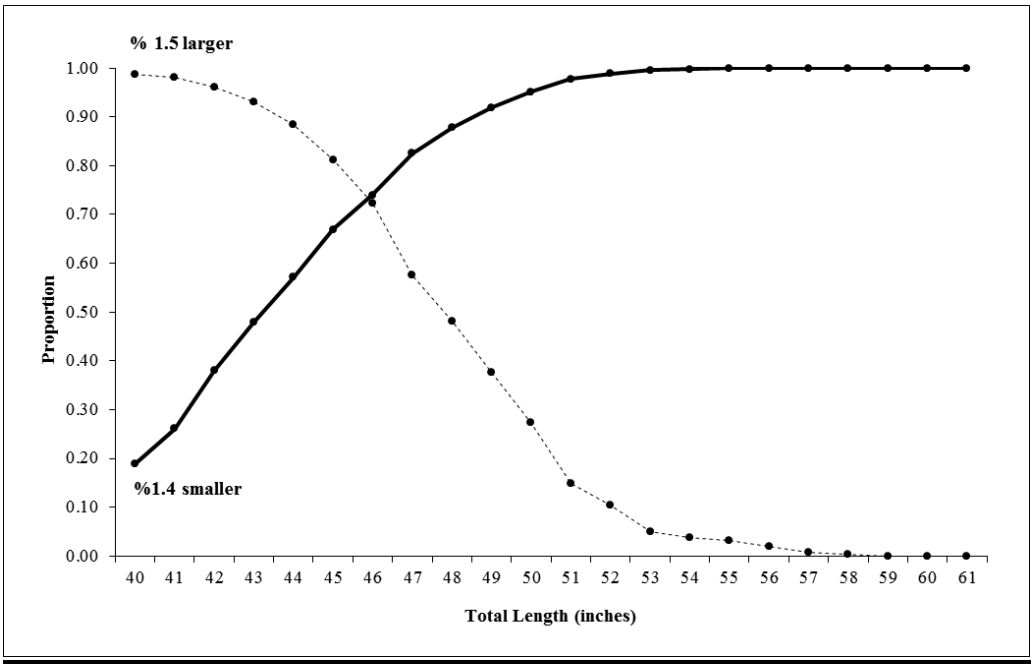

Figure 156-1.–Cumulative proportion of Kenai River early-run king salmon that aged 1.4 that are smaller (solid line), and those aged 1.5 that are larger (dotted line), than each 1 inch increment between 40 and 60 inches in total length.

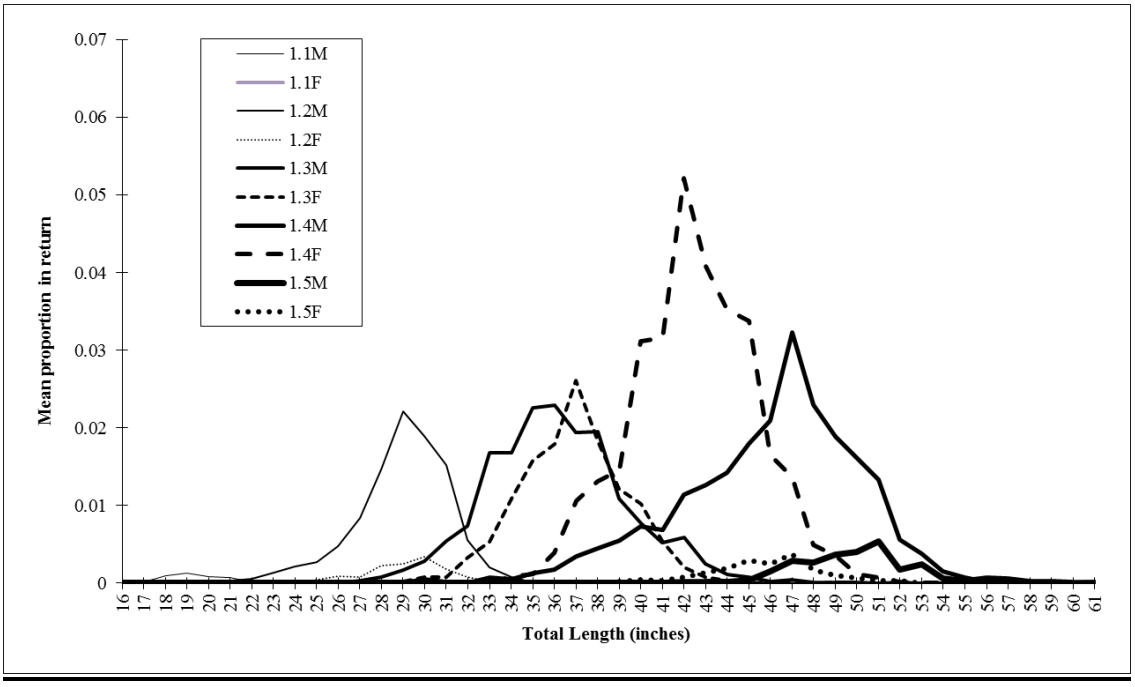

Figure 156-2.–Age-length-sex frequency relationships for Kenai River early-run king salmon, 1986–2016.

Table 156-1.–Total run by age class for Kenai River early-run king salmon, 1986–2016.

Year	Age Class					
	1.1	1.2	1.3	1.4	1.5	Total [a]
1986	404	6,690	7,281	4,272	1,540	20,187
1987	280	2,424	9,098	9,443	733	21,978
1988	322	1,889	4,076	11,330	2,612	20,229
1989	294	1,986	2,413	6,483	1,510	12,686
1990	338	2,113	2,972	4,144	744	10,311
1991	364	2,430	2,702	4,826	606	10,928
1992	337	2,903	3,656	4,738	688	12,322
1993	316	2,143	4,127	5,989	628	13,203
1994	312	2,139	3,299	6,953	838	13,541
1995	324	2,311	3,199	6,516	856	13,206
1996	262	2,235	3,142	4,373	343	10,355
1997	438	1,859	4,055	4,878	278	11,508
1998	316	4,532	3,775	3,226	440	12,289
1999	341	2,746	6,834	3,698	184	13,803
2000	485	2,643	4,156	3,587	223	11,094
2001	516	5,149	3,639	4,578	420	14,302
2002	435	1,995	4,028	4,216	424	11,098
2003	306	6,091	4,691	9,143	335	20,566
2004	307	3,880	8,008	10,510	937	23,642
2005	289	2,681	6,265	10,840	845	20,920
2006	229	5,006	3,787	8,422	809	18,253
2007	80	3,099	4,106	5,872	506	13,663
2008	73	1,364	3,914	4,626	286	10,263
2009	233	1,291	1,844	4,225	232	7,825
2010	484	1,965	3,434	1,899	101	7,883
2011	213	2,477	3,087	3,998	168	9,943
2012	240	656	1,901	2,519	103	5,419
2013	331	884	1,215	1,989	110	4,530
2014 [b]	752	2,295	2,215	475	40	5,776
2015 [b]	355	2,537	2,080	1,116	101	6,190
2016 [b]	482	2,618	4,753	1,929	69	9,851
Historical Mean	337	2,743	3,992	5,188	571	12,831
Recent 10-yr. Mean	324	1,919	2,855	2,865	172	8,134
Recent 5-yr. Mean	432	1,798	2,433	1,606	85	6,353

[a] Total estimates for years 1986–2012 are mean values from Appendix B1 in McKinley and Fleischman, 2013 FMS 13-03. The total estimate for year 2013 is a run reconstructed estimate for RM 13.7 sonar passage (Miller et al. 2016), and 2014 (Key et al. 2016), and preliminary estimates for 2015–2016 are RM 13.7 ARIS sonar passage estimates.

[b] During 2014–2016, age class estimates based on Chinook salmon captured in both nearshore and midriver inriver gillnetting.

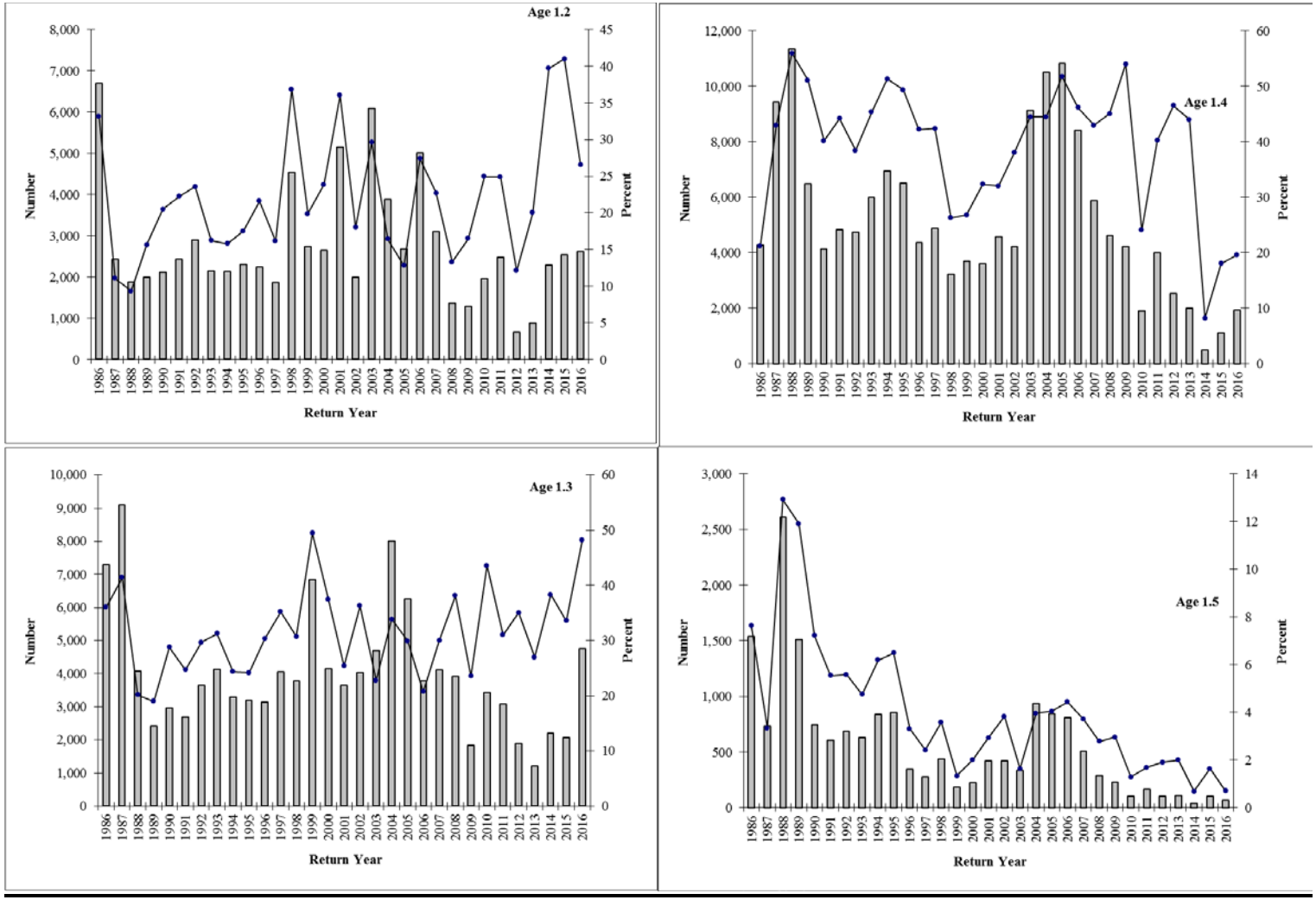

Figure 156-3–Number (gray bars) and percent (lines) of Kenai River early-run king salmon aged 1.2, 1.3, 1.4, and 1.5 in the total run, 1986–2016.

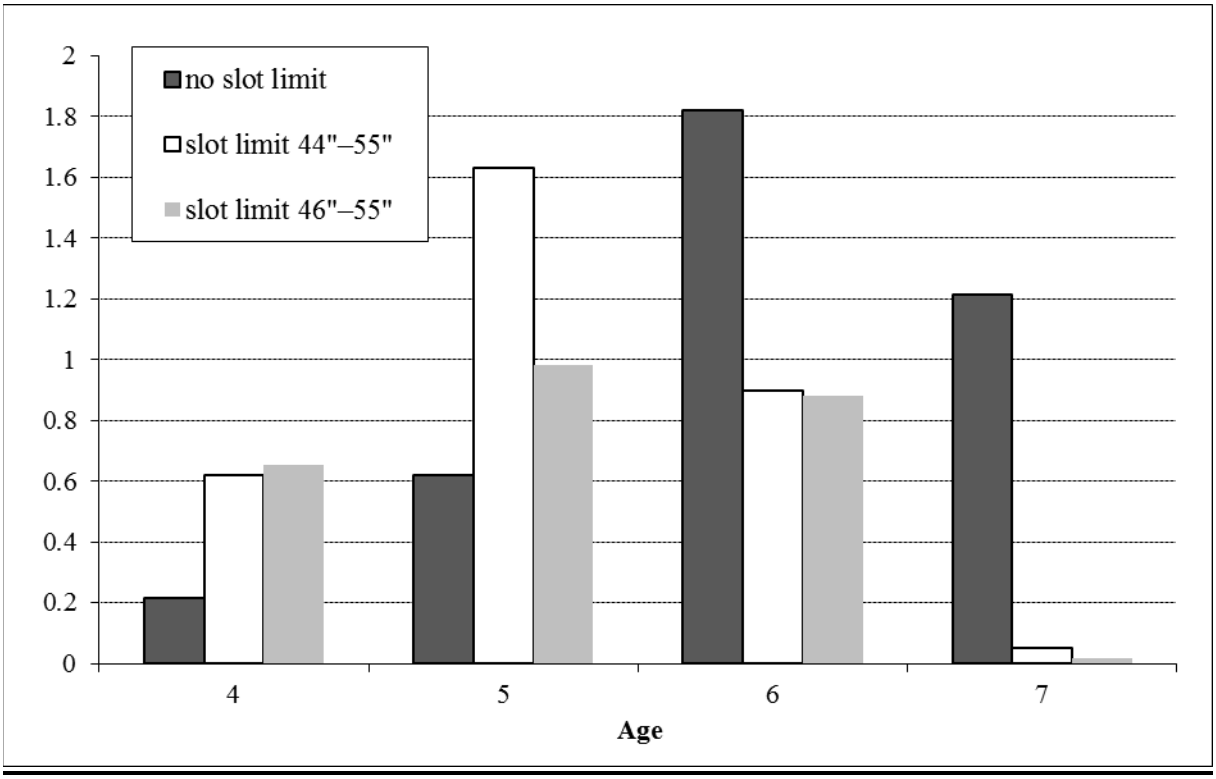

Figure 156-4 .–Relative harvest selectivity by age for Kenai River early-run king salmon, before a slot limit (1986–2002) with a 44–55 slot limit (2003–2007), and with a 46–55 slot limit (2008–2013). Selectivity estimates less than 1 equate to no selectivity for that age class, 1 equates to no selectivity or neutral for that age class, and values greater than 1 equates to selectivity for that age class.

Table 156-2.–Estimated sport harvest of Kenai River early-run king salmon by age class, 1986–2016.

Year	3	4	5	6	7	All
1986	15	583	2,957	3,874	728	8,156
1987	0	116	4,220	8,498	723	13,557
1988	26	291	1,855	11,950	1,086	15,209
1989	92	275	2,202	5,275	550	8,394
1990	0	102	102	1,349	255	1,807
1991	0	0	166	1,573	207	1,945
1992	0	94	377	1,698	71	2,241
1993	0	290	1,868	6,636	547	9,342
1994	0	303	675	6,960	233	8,171
1995	0	0	378	8,451	1,387	10,217
1996	0	414	1,288	4,760	161	6,623
1997	0	200	679	5,271	280	6,429
1998	0	15	228	851	76	1,170
1999	36	677	2,984	4,202	230	8,129
2000	38	19	303	1,401	57	1,818
2001	34	304	405	1,622	34	2,399
2002	0	116	377	406	0	899
2003	0	506	1,212	1,121	0	2,839
2004	0	372	1,693	1,321	0	3,386
2005	56	252	1,681	1,821	0	3,810
2006	62	781	1,738	2,112	0	4,693
2007	33	555	1,632	1,241	33	3,493
2008	0	397	1,977	1,115	11	3,500
2009	15	282	491	679	0	1,466
2010	30	295	679	333	0	1,336
2011	0	263	478	597	0	1,337
2012	0	18	165	512	0	316
2013[a]	ND	ND	ND	ND	ND	ND
2014[a]	ND	ND	ND	ND	ND	ND
2015[a]	ND	ND	ND	ND	ND	ND
2016[a,b]	ND	ND	ND	ND	ND	112
Avg. 1986–2016	16	279	1,215	3,171	247	4,743
Avg. 1986–2002	14	223	1,239	4,399	390	6,265
Avg. 2003–2016	20	372	1,175	1,085	4	2,390

Note: Slot limit went into regulations in 2003.

[a] During 2013–2016, age composition data is not available because sample size goal (19 readable scales) was not met due to fishery restrictions.

[b] Total harvest for 2016 is preliminary until Fall 2017 SWHS estimates are completed. Currently this only reflects creel harvest below Soldotna Bridge.

Table 156-3.–Estimated sport harvest of Kenai River early-run king salmon by percent composition of age class, 1986–2016.

Year	3	4	5	6	7
1986	0.18	7.14	36.25	47.50	8.93
1987	0.00	0.85	31.13	62.69	5.33
1988	0.17	1.92	12.20	78.57	7.14
1989	1.09	3.28	26.23	62.84	6.56
1990	0.00	5.63	5.63	74.65	14.08
1991	0.00	0.00	8.51	80.85	10.64
1992	0.00	4.21	16.84	75.79	3.16
1993	0.00	3.10	20.00	71.03	5.86
1994	0.00	3.70	8.26	85.19	2.85
1995	0.00	0.00	3.70	82.72	13.58
1996	0.00	6.25	19.44	71.88	2.43
1997	0.00	3.11	10.56	81.99	4.35
1998	0.00	1.30	19.48	72.73	6.49
1999	0.45	8.32	36.71	51.69	2.83
2000	2.09	1.04	16.67	77.08	3.13
2001	1.42	12.68	16.90	67.61	1.41
2002	0.00	12.90	41.94	45.16	0.00
2003	0.00	17.81	42.69	39.50	0.00
2004	0.00	11.00	50.00	39.01	0.00
2005	1.47	6.62	44.12	47.79	0.00
2006	1.33	16.65	37.03	45.00	0.00
2007	0.93	15.89	46.73	35.51	0.93
2008	0.00	11.36	56.49	31.85	0.31
2009	0.99	19.23	33.50	46.28	0.00
2010	2.21	22.09	50.80	24.90	0.00
2011	0.00	19.64	35.71	44.64	0.00
2012	0.00	2.59	23.74	73.67	0.00
2013[a]	ND	ND	ND	ND	ND
2014[a]	ND	ND	ND	ND	ND
2015[a]	ND	ND	ND	ND	ND
2016[a]	ND	ND	ND	ND	ND
Avg. 1986–2016	0.46	8.09	27.82	59.93	3.70
Avg. 1986–2002	0.32	4.44	19.44	70.00	5.81
Avg. 2003–2016	0.69	14.29	42.08	42.82	0.12

Note: Slot limit went into regulations in 2003.

[a] During 2013–2016, age composition data is not available because sample size goal (19 readable scales) was not met due to fishery restrictions.

PROPOSAL 159 – 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 57.121. Special provisions for seasons, bag, possession, and size limits, and methods and means for the Lower Section of the Kenai River Drainage Area.

PROPOSED BY: U.S. Fish and Wildlife Service.

WHAT WOULD THE PROPOSAL DO? This would extend time the slot limit for Kenai River king salmon is in effect upstream of Slikok Creek.

WHAT ARE THE CURRENT REGULATIONS? In waters of the Kenai River open to king salmon sport fishing, early-run regulations allow for a bag and possession limit of 10 king salmon, less than 20 inches, and one king salmon, 20 inches or greater in length and less than 42 inches or 55 inches or greater in length. Any king salmon caught that is 42 inches or longer, but less than 55 inches, must be released unharmed. The nonretention slot limit is in effect from January 1–June 30 in the Kenai River from the mouth upstream to an ADF&G regulatory marker located at the outlet of Skilak Lake, and from January 1–July 14 from an ADF&G regulatory maker 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.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase the January 1–July 14 slot limit dates for those waters of the Kenai River from an ADF&G regulatory maker 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 to January 1–July 31. It would have no measurable impact on the spawning escapement or genetic contribution for tributary spawning fish (those fish which the slot limit is designed to protect). Likewise, there would likely be no measureable impact on mainstem spawning escapement or genetic contribution. This proposal may decrease fishing effort in these waters, shifting effort downstream of Slikok Creek and increasing crowding in the downstream waters. Changing the date of the slot limit may put it in conflict with other actions, such as allowing use of bait in the fishery, described in the plan.

BACKGROUND: Prior to 2002, there was no slot limit in the Kenai River king salmon sport fishery; anglers were permitted to harvest king salmon regardless of the total length of the fish. However, the department, along with the public, recognized a decline in larger, older-aged king salmon returning to the Kenai River during the early-run. Although the exact cause for the decline in older king salmon during the early run is not understood, the selective harvest or exploitation of larger, ocean-age-5 fish was the only practical factor that could be directly influenced by fishery managers during the early-run sport fishery. Sport harvest selectivity of late-run king salmon favors older, larger king salmon. However, gear used in the commercial harvest of late-run king salmon tends to select smaller, younger fish due to the mesh size used in the fishery. Together, the combined harvest of user groups tends to be in proportion to the return of late-run king salmon each year (Figure 159-1).

In 2002, the board adopted a slot limit harvest restriction of 40–55 inches. The intent of the slot limit was to reduce the harvest of ocean-age-5 king salmon while allowing the harvest of a

trophy king salmon greater than 55 inches in length. The size of king salmon affected by the slot limit has changed several times since 2002 with last change of 42–55 inches enacted in 2014.
In 2014–2016, to reduce mortality of Kenai River tributary spawning king salmon, the sport fishery was closed or restricted to catch-and-release fishing during late-June through July, 300 yards downstream from the mouth of Slikok Creek at approximately RM 18.5, upstream to the outlet of Skilak Lake at RM 50. The area affected by these restrictive actions comprises about 60% of the Kenai River waters normally open to sport fishing for king salmon (Figure 159-2).
Kenai River king salmon radiotelemetry study results from 2010–2013 indicates mainstem spawning king salmon spawned throughout the Kenai River upstream of tidal influence. Regardless of entry time to the Kenai River, mainstem spawning king salmon spawn at about the same time. The median date for the completion of spawning activity was August 21 for mainstem spawning king salmon that returned May and June, and August 30 for mainstem spawning king salmon that returned in July and August. Since mainstem spawning king salmon did not show site fidelity to spawning areas until after the sport fishery closed on July 31, proposed regulations to conserve mainstem spawning king salmon by closing areas to king salmon fishing during July cannot be evaluated by spawning distribution (Table 159-2). For example, radio-tagged mainstem spawning king salmon that enter the Kenai River prior to July 1 do not transit through the Kenai River area below Slikok Creek prior to migrating upriver. Data from 2010–2014 shows that approximately 60% of these mainstem spawning fish are still located downstream of Slikok Creek in early July while about 20% were in closed areas upstream of Slikok Creek and approximately 20% were in areas open to fishing upstream of Slikok Creek (Figure 159-3).

The department radiotelemetry study indicated at least 96% of the radiotagged, tributary spawning king salmon were located in closed waters (existing king salmon sanctuaries or spawning tributaries) by July 16 in every year studied. For late-run king salmon, the combined harvest of user groups tends to be in proportion to the return of salmon each year making a late-run slot limit unnecessary.

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

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

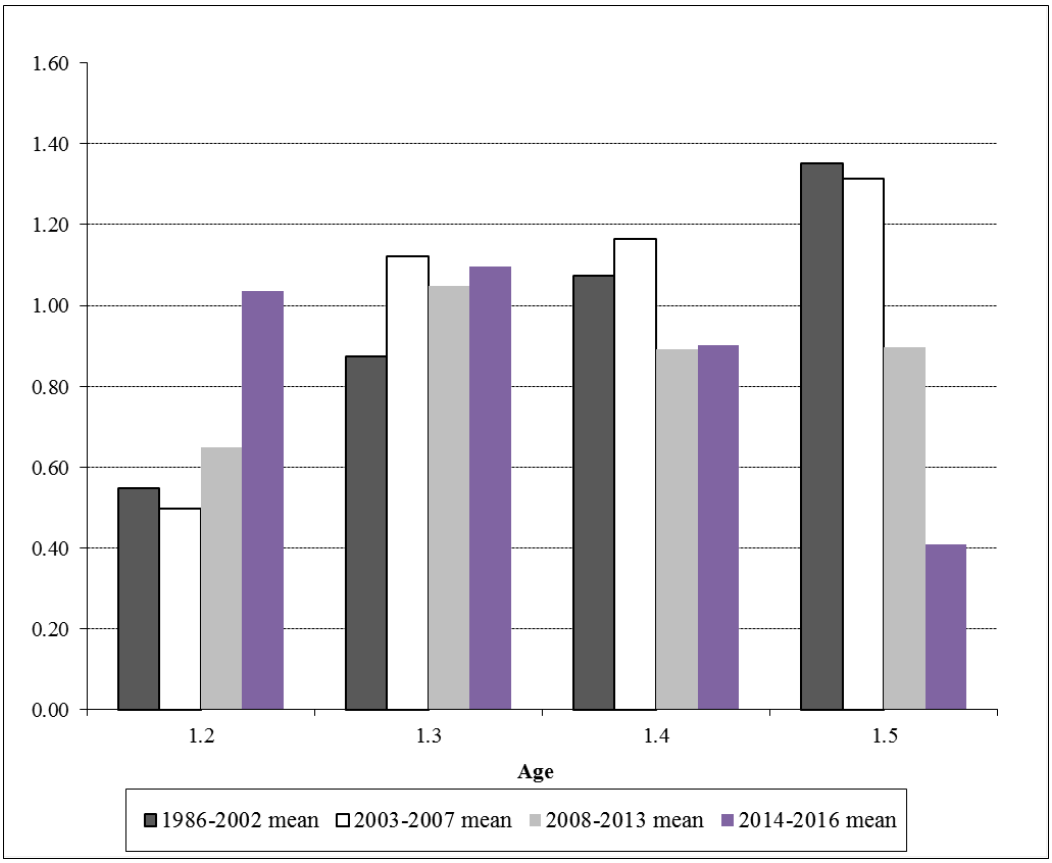

Figure 159-1. Relative harvest selectivity by age for Kenai River late-run king salmon, pre- (1986–2002) and post-implementation (2003–2010) of the slot limit. Selectivity estimates less than 1 equate to no selectivity for that age class, 1 equates to no selectivity or neutral for that age class, and values greater than 1 equate to selectivity for that age class.

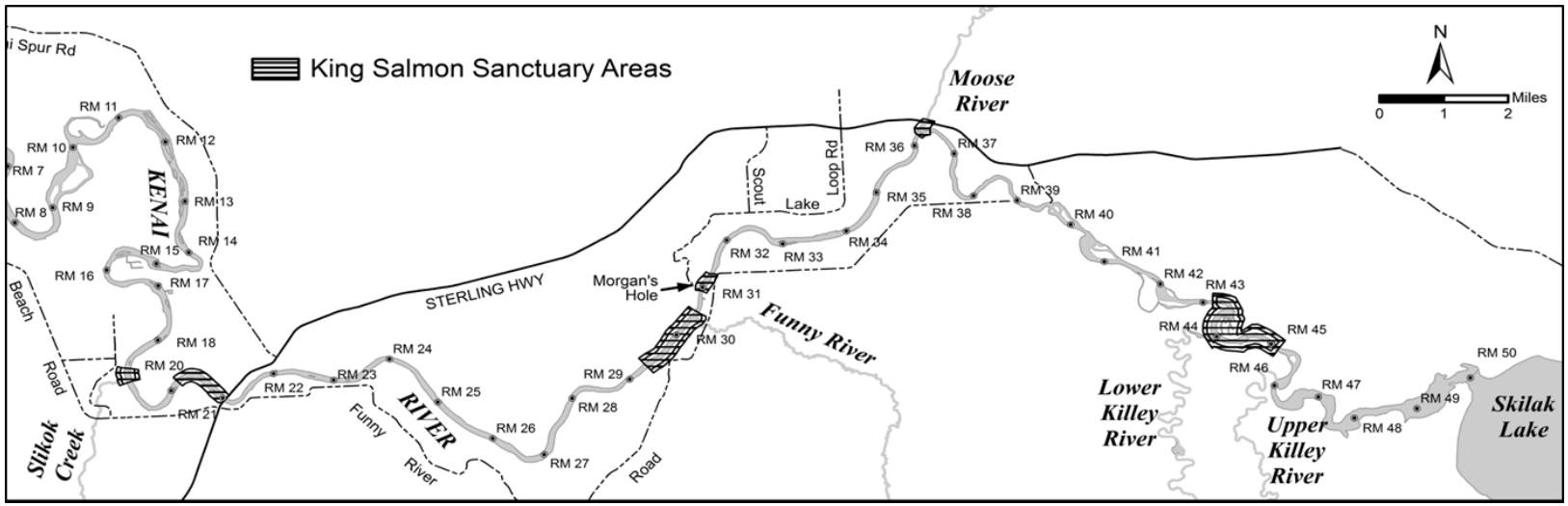

Figure 159-2 .-Map of Kenai River showing king salmon spawning sanctuary areas.

Table 159-2. Kenai River late-run king salmon population data with harvest rate by fishery, 1986–2016.

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

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

Note: ND = no data available

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

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

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

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

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

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

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

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

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

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

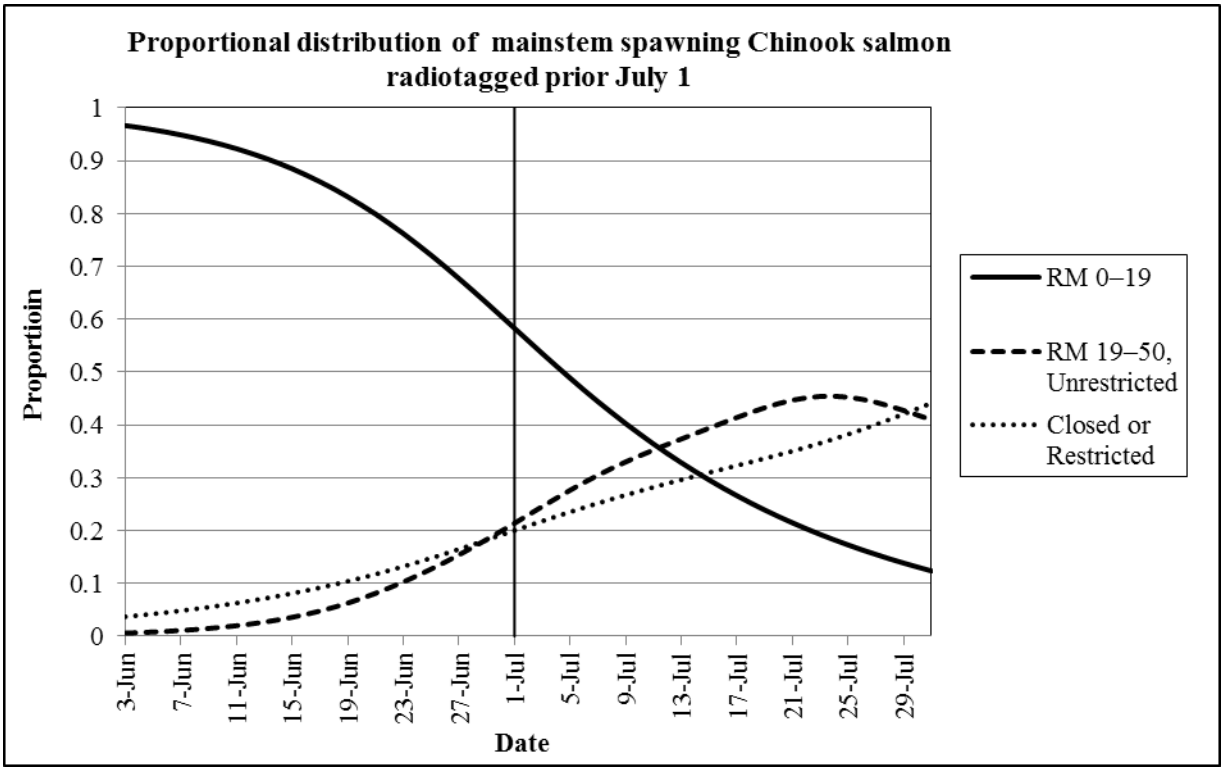

Figure 159-3.- Proportional distribution of mainstem spawning Kenai River king salmon radiotagged prior to July 1 by date and area, 2010–2014.

PROPOSAL 157 – 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: Kenai Area Fisherman's Coalition.

WHAT WOULD THE PROPOSAL DO? This would modify the annual limit of king salmon from the Kenai River to two fish, only one taken prior to July 1.

WHAT ARE THE CURRENT REGULATIONS? There is a combined annual limit of five king salmon, 20 inches or longer, from the waters of Cook Inlet. Of these five king salmon, no more than two may be taken from the Kenai River. King salmon, less than 28 inches, harvested before July 1 are not included in this limit. King salmon, 20 inches or greater in length, that are removed from the water must be retained and become part of the bag limit of the person who originally hooked the fish. Anglers who keep a king salmon, 20 inches or longer, must immediately record that harvest.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would implement an annual limit of one Kenai River king salmon prior to July 1. It would reduce exploitation of early-run Kenai River king salmon by a minimal amount, and would most likely have no measurable effect on escapement due to the low harvest rates during the early-run fishery (Table 157-1).

BACKGROUND: King salmon returning to the Kenai River are managed as two distinct runs: early-run (May 16–June 30) fish spawn primarily in tributary streams, whereas late-run (July 1–August 10) fish are destined primarily for mainstem spawning locations. Mainstem spawning king salmon are recognized as a single stock regardless of their time of entry into the river. Management plans for the Kenai River king salmon sport fishery have been structured to provide fishing opportunity under various run sizes and ensure escapement goals are achieved.

In 2014–2016, to reduce mortality of Kenai River tributary spawning king salmon, the sport fishery was closed or restricted to catch-and-release fishing by EO during late June through July, 300 yards downstream from the mouth of Slikok Creek at approximately RM 18.5, upstream to the outlet of Skilak Lake at RM 50. The area affected by these restrictive actions comprises about 60% of the Kenai River waters normally open to sport fishing for king salmon.

From 2010–2014, at least 94% of the radiotagged, tributary-spawning king salmon were located in closed waters (existing king salmon sanctuaries or spawning tributaries) by July 16 in every year studied.

Harvest rate for the early-run is low, averaging 17% since the slot-limit was placed into regulation.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. Tributary spawning king salmon have adequate protection through existing regulations and the department’s use of EO authority to restrict the sport fishery as necessary.

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 157-1 Kenai River early-run king salmon population data, 1986–2016.

Year	Inlet Marine Harvest [a]	Misc. Marine [b]	Kenaitze Educational Harvest [c]	Inriver Run [d]	Sport Harvest Above Sonar [e]	Catch-and-Release Mortality	Spawning Escapement	Total Run	Harvest Rate
1986	144	0	ND	20,100	8,156	242	11,702	20,244	0.41
1987	181	0	ND	21,750	13,557	306	7,887	21,931	0.63
1988	212	0	ND	19,800	15,209	340	4,251	20,012	0.77
1989	193	0	73	12,290	8,394	149	3,747	12,556	0.69
1990	235	0	40	9,842	1,807	378	7,657	10,117	0.21
1991	241	0	2	10,620	1,945	152	8,523	10,863	0.20
1992	300	0	73	11,930	2,241	236	9,453	12,303	0.21
1993	407	0	118	12,490	9,342	286	2,862	13,015	0.76
1994	343	0	56	13,160	8,171	285	4,704	13,559	0.63
1995	412	0	37	12,890	10,217	357	2,316	13,339	0.80
1996	235	0	104	9,764	6,623	287	2,854	10,103	0.69
1997	282	0	122	11,140	6,429	349	4,362	11,544	0.59
1998	289	0	131	11,930	1,170	254	10,506	12,350	0.13
1999	245	0	114	13,480	8,129	261	5,090	13,839	0.61
2000	239	0	124	10,790	1,818	185	8,787	11,153	0.20
2001	184	0	198	14,020	2,399	204	11,417	14,402	0.19
2002	168	0	48	10,860	899	78	9,883	11,076	0.10
2003	202	0	126	20,450	2,839	389	17,222	20,778	0.15
2004	194	0	72	23,460	3,386	257	19,817	23,726	0.15
2005	187	341	76	20,810	3,810	253	16,747	21,414	0.21
2006	252	0	65	18,180	4,693	205	13,282	18,497	0.27
2007	201	41	16	13,630	3,493	220	9,917	13,888	0.27
2008	107	102	40	10,210	3,500	123	6,587	10,459	0.36
2009	71	16	49	7,741	1,466	97	6,178	7,877	0.20
2010	88	48	32	5,874	1,336	90	4,448	6,042	0.25
2011	110	0	42	7,366	1,337	92	5,937	7,518	0.20
2012	48	0	19	3,228	316	10	2,902	3,295	0.12
2013	102	0	11	4,530 [f]	0	5	4,525	4,643	0.02
2014	78	18	1	5,776 [g]	0	0	5,776	5,873	0.02
2015	78	72	10	6,190 [g]	0	0	6,190	6,350	0.03
2016	*not avail.*	*not avail.*	4	9,851 [g]	*not avail.*	*not avail.*	*not avail.*	*not avail.*	*not avail.*
Avg. (1986-2005)	245	17	89	14,579	5,827	262	8,489	14,916	0.42
Avg. (2006-2015)	114	30	29	8,273	1,614	84	6,574	8,444	0.17
Avg. (1986-2015)	201	21	67	12,477	4,423	203	7,851	12,759	0.34

Source: State-Wide Harvest Surveys from Mills 1987-1994, Howe et al. 1995, 1996, 2001a-d, Walker et al. 2003; Jennings et al. 2004, 2006a-b, 2007, 2009a-b, 2010a-b, 2011a-b, 2015; Romberg et al., *In Prep* a-d; Alexandersdottir and Marsh 1990; Nelson et al. 1999; Hammarstrom and Timmons 2001a; Reimer et al. 2002, Reimer, A. 2003, 2004a-b, 2007; Eskelin, A. 2007, 2009, 2010; Perschbacher 2012a-d, 2014, 2015, J. Perschbacher, Sport Fish Biologist, ADF&G Soldotna, personal communication; McKinley and Fleischman 2013; 1994-2015 Educational data, Kenaitze Indian Tribe.

Note: ND = no data available

[a] Cook Inlet marine sport harvest; assumes 5% of Cook Inlet marine sport harvest.

[b] 60% of Commercial cost-recovery harvest and eastside setnet harvest before 25 June.

[c] Prior to 1994, there was no educational fishery, this was considered a subsistence fishery.

[d] 1986-2009 estimates based on run reconstruction model, McKinley and Fleischman 2013, FMS 13-03; 2010-2012 unexpanded estimates published in Miller et al. 2013-2015 (FDS 13-58, FDS 14-18, and FDS 15-09). 1986-2012 are sonar estimates at RM 8.6 expanded by the inverse of proportion midriver.

[e] Includes creel survey estimates for the area from Cook Inlet to the Soldotna Bridge and estimates from the SWHS from the Soldotna Bridge to the outlet of Kenai Lake.

[f] 2013 inriver run based on RM 13.7 ARIS sonar estimates of fish ≥750 mm plus estimate of number of fish <750 mm based on weir data and radio telemetry.

[g] 2014-2015, preliminary ARIS sonar estimates at RM 13.7. Values subject to change until report is published.

PROPOSAL 158 – 5 AAC 57.120. General provisions for seasons, bag, possession, annual, and size limits, and methods and means for the Kenai River Drainage Area.

PROPOSED BY: Greg Brush.

WHAT WOULD THE PROPOSAL DO? This would modify the annual limit of two king salmon for the Kenai River to include only one large fish.

WHAT ARE THE CURRENT REGULATIONS? There is a combined annual limit of five king salmon, 20 inches or longer, from the waters of Cook Inlet. Of these five king salmon, no more than two may be taken from the Kenai River. King salmon less than 28 inches, harvested before July 1 are not included in this limit. King salmon, 20 inches or greater in length, that are removed from the water must be retained and become part of the bag limit of the person who originally hooked the fish. Anglers who keep a king salmon, 20 inches or longer, must immediately record that harvest.

Any king salmon caught that is 42 inches or longer, but less than 55 inches, must be released unharmed. The nonretention slot limit is in effect from January 1–June 30 in the Kenai River from the mouth upstream to an ADF&G regulatory marker located at the outlet of Skilak Lake, and from January 1–July 14 from an ADF&G regulatory maker 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.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The effects of the proposal are difficult to assess since "large" fish is not defined in the proposal. It would not likely reduce the harvest of king salmon since the annual limit remains at two, but it may reduce the harvest of larger fish and increase the harvest of smaller fish by an unknown amount. It is difficult to determine if it would reduce selectivity of larger, older fish in the inriver sport fishery. It would add to regulatory complexity. It would displace anglers who seek to achieve their annual limit of two large fish to fish for king salmon in other rivers.

BACKGROUND: Prior to 1999, no more than five king salmon, 16 inches or greater in length, could be harvested from Cook Inlet fresh and salt waters annually, of which no more than two could be taken from the Kenai River. Harvested king salmon, 16 inches or greater in length, had to be recorded on the back of an angler's fishing license. Harvest and recording requirements were changed by the board at its 1999 UCI meeting to apply to king salmon, 20 inches or more in length, in all Cook Inlet waters.

In 2008, the board adopted a proposal that would allow the harvest of early-run Kenai River king salmon between the lengths of 20 and 28 inches to not count towards an angler's annual limit of two on the Kenai River and five in Cook Inlet fresh waters from January 1–June 30 in order to encourage harvest of smaller fish. The bag limit, however, was kept at one king salmon over 20 inches.

Nearly all king salmon less than 28 inches in length are age 1.1 or 1.2 king salmon. Most age 1.1 king salmon are 20 inches or less in total length, while age 1.2 fish range from approximately 22 to 34 inches in length (Tables 157-1 and 157-2; Figures 157-1 and 157-2). Harvest selectivity of early-run king salmon prior to the slot limit being enacted favored harvesting older larger king salmon, whereas since the slot limit in 2003, harvest selectivity has shifted to favor harvesting

smaller and younger king salmon (Figure 157-3). Sport harvest selectivity of late-run king salmon favors older, larger king salmon. However, gear used in the commercial harvest of late-run king salmon tends to select smaller, younger fish due to the mesh size used in the fishery. Together, the combined harvest of user groups tends to be in proportion to the return of late-run king salmon each year (Figure 157-4).

The board has addressed conservation of early-run tributary spawning king salmon through regulation including conservative sport fishing bag limits and methods and means, sanctuaries and other closed waters, and mandatory retention of king salmon removed from the water. The exemption of king salmon less than 28 inches harvested prior to July 1 from the annual limit was implemented to encourage harvest of the smaller fish anglers harvest at a disproportionately low rate. The department manages the early-run tributary spawning king salmon to achieve the OEG of 5,300–9,000 king salmon using EO authority to close or restrict the sport fishery as needed. The OEG has been achieved two of the previous three years (2013–2015) and was likely met in 2016.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal. The department is transitioning to Kenai River king salmon escapement goals based on escapement of king salmon 75 cm and greater in length and will be discussing those goals and their implications at the 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.

PROPOSAL 151 – 5 AAC 21.359. Kenai River Late-Run King Salmon Management Plan. 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., and 5 AAC 57.160. Kenai River and Kasilof River Early-run King Salmon Management Plan.

PROPOSED BY: Greg Brush.

WHAT WOULD THE PROPOSAL DO? This would repeal barbless hook provisions in Lower Kenai River.

WHAT ARE THE CURRENT REGULATIONS? During times when the retention of king salmon is prohibited, only one unbaited, barbless, single-hook, artificial lure may be used when sport fishing for king salmon. "Barbless" means the hook is manufactured without a barb or the barb has been completely removed or compressed so the barb is in complete contact with the shaft of the hook.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Allowing the use of barbed hooks would increase angler efficiency by some amount, with young and inexperienced anglers benefitting most directly. Repealing the barbless hook requirement would bring this regulation back in alignment with hook regulations statewide and reduce regulatory complexity in the Kenai River king salmon regulations. It would not impact mortality of released fish by a measurable amount. Gear restrictions are more easily enforced when they apply to fisheries rather than specific species.

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. Studies of mortality rates on fish released using barbed and barbless hooks are inconclusive. Results largely suggest there is no significant difference in mortality rates of fish caught on barbed versus barbless hooks, although due to the vast body of research on the topic, some studies do support the use of barbless hooks for specific species in some fisheries. It is important to consider the species and fishery when reviewing the results of release mortality studies.

Some western states have implemented barbless hook regulations. Washington and Oregon have barbless regulations for salmon, steelhead (Endangered Species Act listed), and cutthroat trout on sections of the Columbia and Willamette rivers as part of a broad based policy to restructure Columbia River sport fisheries and address allocation issues by reducing angler efficiency. Montana, Colorado, Wyoming, Utah, and Nevada have either rejected barbless hook proposals or repealed barbless regulations for reasons, including regulatory complexity and lack of measurable biological benefit.

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, including the use of barbless hooks, 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 **SUPPORTS** this proposal. The department encourages anglers to use best practices through outreach efforts. Anglers may currently use barbless hooks, but the department does not support regulations impacting sport fishing opportunity and efficiency in the absence of a measurable biological benefit.

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

PROPOSAL 152 – 5 AAC 57.121. Special provisions for the seasons, bag, possession, and size limits, and methods and means for the Lower Section of the Kenai River Drainage Area.

PROPOSED BY: Kenai River Professional Guide Association.

WHAT WOULD THE PROPOSAL DO? This would expand dates that backtrolling is prohibited and tie to prohibition of bait.

WHAT ARE THE CURRENT REGULATIONS? From July 1–July 31, in that portion of the Kenai River from an ADF&G regulatory marker located at approximately river mile 11 upstream to an ADF&G regulatory marker located at approximately river mile 12, a person may not sport fish for any species of fish from a vessel that is making upstream progress relative to the water with the aid of a motor.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Expanding the date earlier by eight weeks would prohibit backtrolling in the early-run king salmon fishery in the specified waters when the use of bait is allowed. It could increase crowding in areas unrestricted to backtrolling, and may decrease conflict between the two different fishing techniques (drifting or backtrolling) within the proposed areas which encompass approximately 2.5 river miles.

BACKGROUND: "Drifting" or "backtrolling" are common names used to describe lawful fishing techniques or practices used by anglers fishing on the Kenai River. Drifting is moving downstream without power at the same rate of speed as the current, while backtrolling is accomplished by moving downstream under power at a rate of speed less than the speed of the current. Either technique or practice is conducted using a wide variety of terminal tackle. On the Kenai River, some locations are known to be traditional drift fishing areas, while others are known to be backtrolling areas. Locations to do either can vary with stage of tide, water discharge level, water clarity, and presence of other boats. During periods of high angler effort with high boat density, social conflict increases between anglers in different boats, when boats in close proximity to each other are employing different fishing techniques to fish primarily for king salmon. Drifting boats move downstream into backtrolling boats or backtrolling boats prevent drifting boats from fishing an area.

In 2011 the board prohibited backtrolling in the waters between ADF&G regulatory markers at river mile 11 and 12 during the late-run from July 1–July 31. The early-run fishery begins the season without the use of bait and bait may only be allowed by EO when the run is projected to be within or above the escapement goal. There have been times where the use of bait is restricted by EO during the late run and backtrolling is still prohibited within these waters.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal. This is a social issue related to fishing technique preferences and does not present a biological concern.

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.

Kenai River Vessels and Habitat Restrictions (4 Proposals)

PROPOSAL 178 – 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: Tom Corr.

WHAT WOULD THE PROPOSAL DO? This would increase the number of days only nonmotorized vessels may fish on the lower Kenai River.

WHAT ARE THE CURRENT REGULATIONS? In the Kenai River, downstream from the outlet of Skilak Lake to the Sterling Highway Bridge, no one may fish from any motorized vessel on Mondays (except Memorial Day) during May, June, and July. For purposes of this regulation, a motorized vessel is one that has a motor on board.

From the Sterling Highway Bridge downstream to the mouth of the Kenai River, no one may fish on Mondays (except Memorial Day) during May, June, and July from a vessel that has on board no more than one motor that does not exceed 10 horsepower (HP), and it may only be used between the mouth of the Kenai River and ADF&G regulatory markers located at Cunningham Park, and only after fishing from the vessel has ceased for that day; a person may not deploy sport fishing gear from a vessel after a motor has been used to propel that vessel on the same day.

Presently, under DNR regulations, no one may operate a boat on the Kenai River (except Skilak and Kenai lakes) upstream of mile 4.2 with a motor or combination of motors with a propeller shaft rating greater than 50 HP. No one may operate a boat on the Kenai River upstream of river mile 4.2 unless the motor is a four-stroke motor or a direct fuel injection motor. This includes boats operated on both Kenai and Skilak lakes. The maximum length of vessels for the Kenai River (except Skilak and Kenai lakes) is 21 feet.

WHAT WOULD BE THE EFFECT IF THE PROPOSALS WERE ADOPTED? This would decrease fishing opportunity for power boat anglers by an additional day per week. This may reduce the level of participation in Kenai River sport fisheries, especially the early- and late-run king salmon fisheries, by an unknown amount. Conflict related to issues such as congestion on the river, bank erosion, and poor quality of the angling experience may be reduced. King salmon fishing effort and harvest would be lower initially. Effort and harvest may increase in the future if more anglers adapt to the new drift boat regulations.

BACKGROUND: There are a number of Kenai River seasonal and reach-specific boat fishing restrictions that have been implemented over the past 20 years. Prior to the 2002 season, fishing on Mondays in May and June was prohibited from any vessel. In February 2002, the board allowed fishing on Mondays from unguided nonmotorized vessels.

Power boats, often in high numbers, are transiting on the river each Monday even though fishing from a motorized vessel is restricted each Monday downstream of Skilak Lake. In July, for example, shore-based anglers (particularly those targeting sockeye salmon) travel to various

shore locations and fish from shallow waters or riverbanks throughout the lower river. From July 10–31, personal use dip net anglers transit the lower river both to and from the lower river area downstream of the Warren Ames Bridge open to dipnetting. Point of origin for river users transiting the river on Mondays in July include state-, city-, and privately-owned boat launches and campgrounds, commercial businesses (e.g., lodges), as well as privately-owned residences throughout the lower river.

In 2008, the board adopted a regulation prohibiting the taking of fish in the Kenai River personal use dip net fishery from a boat powered by a two-stroke motor, other than direct fuel injection. In 2008–2010, these new outboard motor type restrictions reduced hydrocarbon concentrations in the Kenai River that had been in excess of the Department of Environmental Conservation standard of 10 parts per billion during peak use in July.

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

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

PROPOSAL 179 – 5 AAC 57.121. Special provisions for the seasons, bag, possession, and size limits, and methods and means for the Lower Section of the Kenai River Drainage Area.

PROPOSED BY: Kenai Area Fisherman's Coalition.

WHAT WOULD THE PROPOSAL DO? This would add Thursdays as a day only nonmotorized vessels may fish on the Kenai River downstream of Sterling Highway Bridge.

WHAT ARE THE CURRENT REGULATIONS? In the Kenai River, downstream from the outlet of Skilak Lake to the Sterling Highway Bridge, no one may fish from any motorized vessel on Mondays (except Memorial Day) during May, June, and July. For purposes of this regulation, a motorized vessel is one that has a motor on board.

From the Sterling Highway Bridge downstream to the mouth of the Kenai River, no one may fish on Mondays (except Memorial Day) during May, June, and July from a vessel that has on board no more than one motor that does not exceed 10 horsepower (HP), and it may only be used between the mouth of the Kenai River and ADF&G regulatory markers located at Cunningham Park, and only after fishing from the vessel has ceased for that day; a person may not deploy sport fishing gear from a vessel after a motor has been used to propel that vessel on the same day.

Presently, under DNR regulations, no one may operate a boat on the Kenai River (except Skilak and Kenai lakes) upstream of mile 4.2 with a motor or combination of motors with a propeller shaft rating greater than 50 HP. No one may operate a boat on the Kenai River upstream of river mile 4.2 unless the motor is a four-stroke motor or a direct fuel injection motor. This includes boats operated on both Kenai and Skilak lakes. The maximum length of vessels for the Kenai River (except Skilak and Kenai lakes) is 21 feet.

WHAT WOULD BE THE EFFECT IF THE PROPOSALS WERE ADOPTED? This would decrease fishing opportunity for power boat anglers by an additional day per week. This may reduce the level of participation in Kenai River sport fisheries, especially the early- and late-run king salmon fisheries, by an unknown amount. Conflict related to issues such as congestion on the river, bank erosion, and poor quality of the angling experience may be reduced. King salmon fishing effort and harvest would be lower initially. Effort and harvest may increase in the future if more anglers adapt to the new drift boat regulations.

BACKGROUND: There are a number of Kenai River seasonal and reach-specific boat fishing restrictions that have been implemented over the past 20 years. Prior to the 2002 season, fishing on Mondays in May and June was prohibited from any vessel. In February 2002, the board allowed fishing on Mondays from unguided nonmotorized vessels. This may provide additional relief from erosion and turbidity caused by boat wakes and hydrocarbon pollution caused by outboard motor emissions, and for increased fishing opportunity from nonmotorized vessels without the presence of power boats in the fishery.

Power boats, often in high numbers, are transiting on the river each Monday even though fishing from a motorized vessel is restricted each Monday downstream of Skilak Lake. In July, for example, shore-based anglers (particularly those targeting sockeye salmon) travel to various shore locations and fish from shallow waters or riverbanks throughout the lower river. From July 10–31, personal use dip net anglers transit the lower river both to and from the lower river area downstream of the Warren Ames Bridge open to dipnetting. Point of origin for river users transiting the river on Mondays in July include state-, city-, and privately-owned boat launches and campgrounds, commercial businesses (e.g., lodges), as well as privately-owned residences throughout the lower river.

In 2008, the board adopted a regulation prohibiting the taking of fish in the Kenai River personal use dip net fishery from a boat powered by a two-stroke motor, other than direct fuel injection. In 2008–2010, these new outboard motor type restrictions reduced hydrocarbon concentrations in the Kenai River that had been in excess of the Department of Environmental Conservation standard of 10 parts per billion during peak use in July.

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

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

PROPOSAL 180 – 5 AAC 57.180. Riparian Habitat Fishery Management Plan for the Kenai River Drainage Area.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This would establish two Kenai River riparian habitat areas equal to approximately six-tenths of a mile between river miles 13–14 (Figure 180–1) that will be closed to fishing from shore within ten feet of the waterline from July 1–August 15.

WHAT ARE THE CURRENT REGULATIONS? There are no regulations prohibiting sport fishing within the proposed riparian habitat area. For the purposes of this regulation, "riparian habitat" means all areas within ten feet in either direction from the Kenai River waterline. The Kenai River shoreline in this area is open to fishing per 5 AAC 57.121.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would add approximately six–tenths of a mile of riparian habitat area to the Kenai River, in which fishing within 10 feet of the water line would be prohibited from July 1–August 15. It would have a negligible impact on the opportunity of sport anglers to fish from shore during this period of time.

BACKGROUND: Management rights of two state-owned parcels of land along the Kenai River were assigned to the department to implement the *Exxon Valdez* Oil Spill Trustee Council's objective to restore, enhance, and rehabilitate natural resources injured by the oil spill. The parcels are also subject to third-party conservation easements. The warranty deed and conservation easement include restrictive covenants that prohibit public access, including sport fishing, along the Kenai River shoreline of these parcels. Presently, 25 riparian fishery habitat closures of public lands are managed by the *Riparian Habitat Fishery Management Plan* in the Kenai River Special Management Area, encompassing approximately 17.6 river miles of riparian habitat (figures 180-2, 180-3, 180-4). Within these riparian habitat closed areas, sport fishing is only allowed from a boat located more than 10 feet from shore and not connected to the shore in any way. Fishing from the bank or in the water within 10 feet of the Kenai River waterline is not allowed.

DEPARTMENT COMMENTS: The department submitted and **SUPPORTS** this proposal. This would implement warranty deed and conservation easement restrictions for the parcel through regulation rather than by annual issuance of an EO.

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.

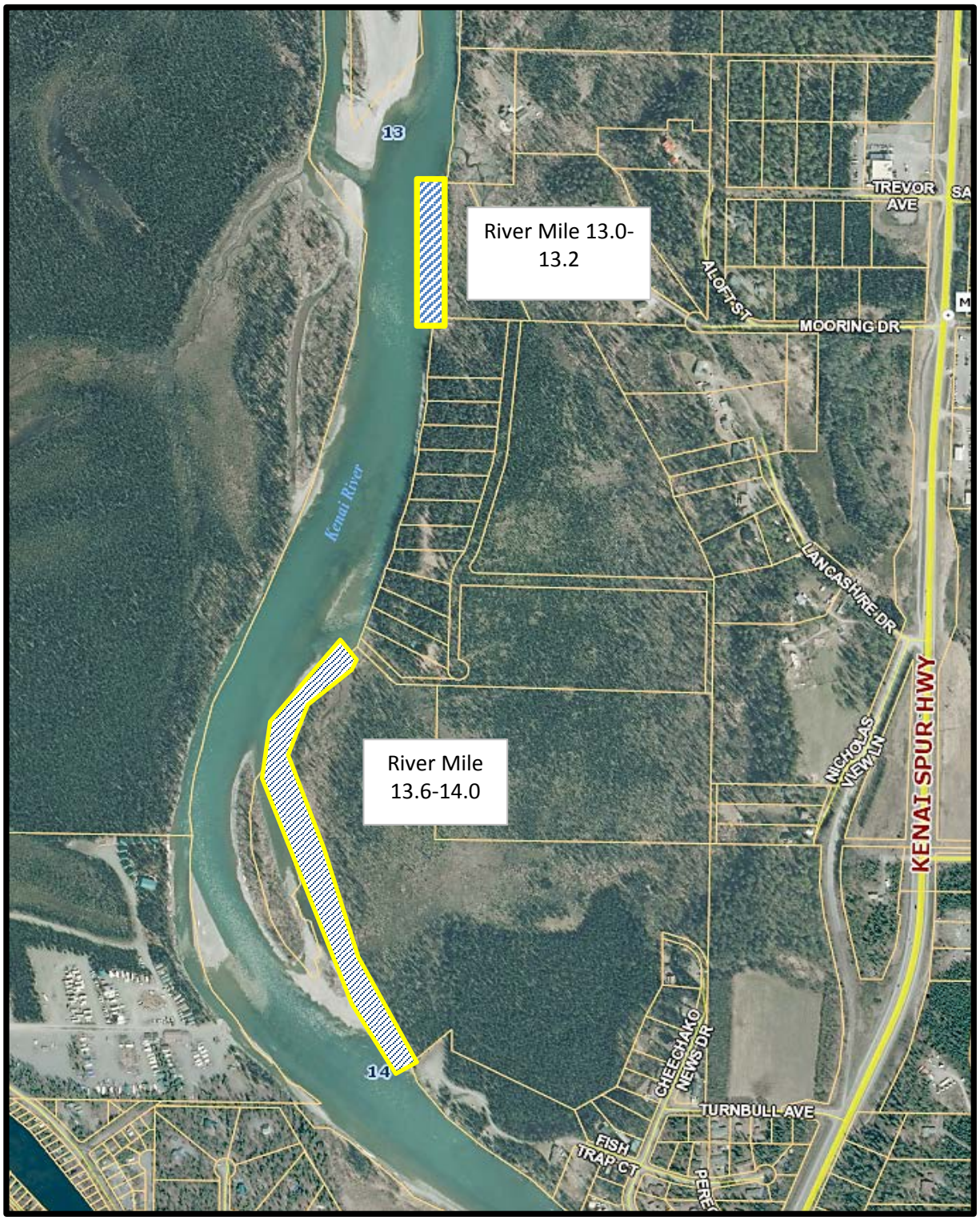
River Mile 13.0-13.2
River Mile 13.6-14.0
13
14
Kenai River
TREVOR AVE
ALOFT ST
MOORING DR
LANCASHIRE DR
NICHOLAS VIEW LN
KENAI SPUR HWY
CHEECHAKO NEWS DR
TURNBULL AVE
FISH TRAP CT

Figure 180-1.–Establish two Kenai River riparian habitat areas equal to approximately six-tenths of a mile that will be closed to fishing from shore within 10 feet of the waterline from July 1–August 15.

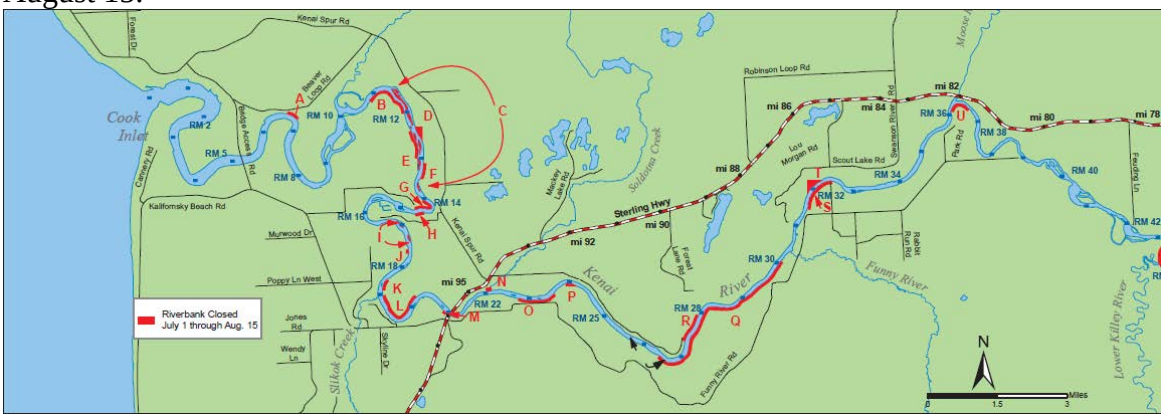

Figure 180-2.–Lower Kenai River riparian habitat areas closed to fishing from shore within 10 feet of the waterline from July 1–August 15.

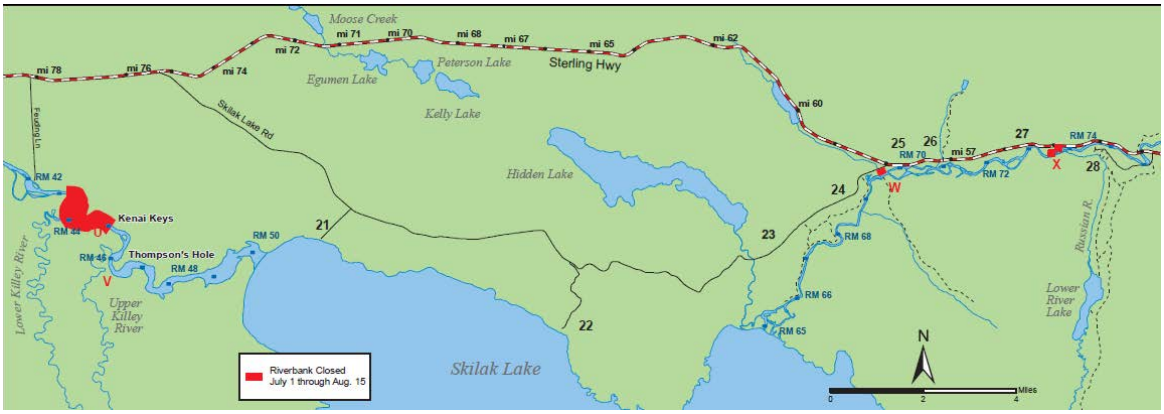

Figure 180-3.–Upper Kenai River riparian habitat areas closed to fishing from shore within 10 feet of the waterline from July 1–August 15.

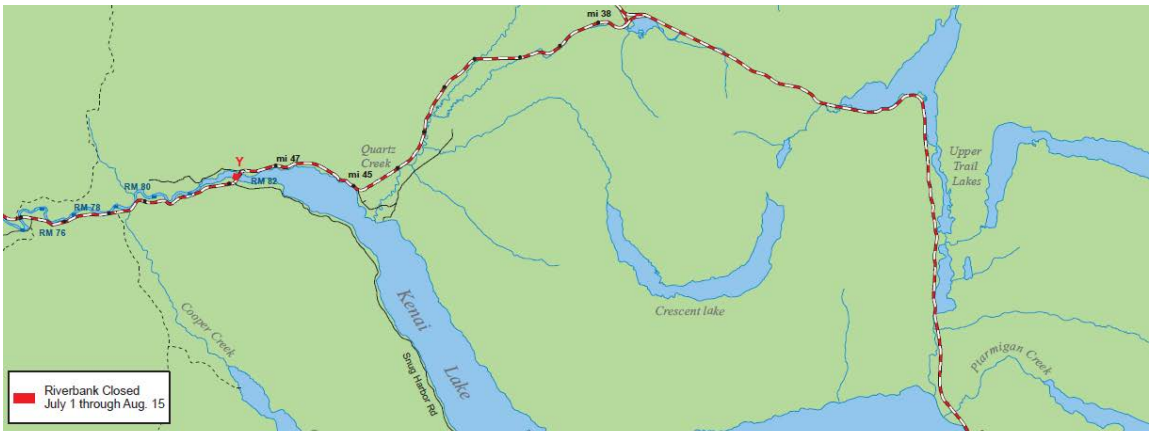

Figure 180-4.–Upper Kenai River riparian habitat areas closed to fishing from shore within 10 feet of the waterline from July 1–August 15.

PROPOSAL 181 – 5 AAC 57.120. General provisions for seasons, bag, possession, annul, 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: John McCombs.

WHAT WOULD THE PROPOSAL DO? This would only allow nonmotorized vessels to be used when sport or personal use fishing on the Kenai River.

WHAT ARE THE CURRENT REGULATIONS? In the Kenai River, downstream from the outlet of Skilak Lake to the Sterling Highway Bridge, no one may fish from any motorized vessel on Mondays (except Memorial Day) during May, June, and July. For purposes of this regulation, a motorized vessel is one that has a motor on board. From the Sterling Highway Bridge downstream to the mouth of the Kenai River, no one may fish on Mondays (except Memorial Day) during May, June, and July from a vessel that has on board no more than one motor that does not exceed 10 horsepower (HP), and it may only be used between the mouth of the Kenai River and ADF&G regulatory markers located at Cunningham Park, and only after fishing from the vessel has ceased for that day; a person may not deploy sport fishing gear from a vessel after a motor has been used to propel that vessel on the same day.

Under DNR regulations, no one may operate a boat on the Kenai River (except Skilak and Kenai lakes) upstream of mile 4.2 with a motor or combination of motors with a propeller shaft rating greater than 50 HP. No one may operate a boat on the Kenai River upstream of river mile 4.2 unless the motor is a four-stroke motor or a direct fuel injection motor. This includes boats operated on both Kenai and Skilak lakes. The maximum length of vessels for the Kenai River (except Skilak and Kenai lakes) is 21 feet.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would change the vessels used on the Kenai River to be primarily drift boats and would eliminate fishing opportunity from power boats completely. This proposal would most likely reduce the level of participation in most Kenai River sport fisheries, especially the king salmon, coho salmon, and resident species fisheries, by a significant amount. Conflict related to issues such as congestion on the river, bank erosion, and poor quality of the angling experience could be reduced.

BACKGROUND: There are a number of Kenai River seasonal and reach-specific boat fishing restrictions that have been implemented over the past 20 years. Prior to the 2002 season, fishing on Mondays in May and June was prohibited from any vessel. In February 2002, the board allowed fishing on Mondays from unguided nonmotorized vessels.

Power boats, often in high numbers, are transiting on the river each Monday even though fishing from a motorized vessel is restricted each Monday downstream of Skilak Lake. In July, for example, shore-based anglers (particularly those targeting sockeye salmon) travel to various shore locations and fish from shallow waters or riverbanks throughout the lower river. From July 10–31, personal use dip net anglers transit the lower river both to and from the lower river area downstream of the Warren Ames Bridge open to dipnetting. Point of origin for river users

transiting the river on Mondays in July include state-, city-, and privately-owned boat launches and campgrounds, commercial businesses (e.g., lodges), as well as privately-owned residences throughout the lower river.

In 2008, the board adopted a regulation prohibiting the taking of fish in the Kenai River personal use dip net fishery from a boat powered by a two-stroke motor, other than direct fuel injection. In 2008–2010, these new outboard motor type restrictions reduced hydrocarbon concentrations in the Kenai River that had been in excess of the Department of Environmental Conservation standard of 10 parts per billion during peak use in July.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal as a conservation measure for king salmon. The department has EO authority to restrict time, area, methods, and means to conserve king salmon. The department is **NEUTRAL** on the allocative aspects of this proposal.

COST ANALYSIS: Approval of this proposal is expected to result in an additional direct cost for a private person to participate in this fishery. New boats would need to be purchased to participate in fishing the Kenai River from a nonmotorized vessel.

Guides- Kenai and Kasilof Rivers (4 Proposals)

PROPOSALS 182 and 185 – 5 AAC 57.140. Kenai River guiding and guided fishing requirements in the Kenai River Drainage Area.

PROPOSED BY: Ted Wellman (182) and Douglas Wilson (185).

WHAT WOULD THE PROPOSAL DO? These would prohibit all guided fishing from 6 p.m. to 6 a.m.

WHAT ARE THE CURRENT REGULATIONS? During May, June, and July, sport fishing from a registered guide vessel downstream of Skilak Lake is permitted only from 6:00 a.m. to 6:00 p.m. In addition, downstream of the outlet of Skilak Lake, a person may not sport fish from a registered guide vessel on any Sunday or Monday from May 1–July 31 (except Memorial Day), except for approved charitable nonprofit organizations or educational public service activities.

WHAT WOULD BE THE EFFECT IF THESE PROPOSALS WERE ADOPTED? This would apply the restrictions on sport fishing from a registered guide vessel to all guided fishing activity, including guiding from shore. It would reduce the number of guided anglers fishing from shore for sockeye salmon, but would likely have little impact on overall angler effort as the reduction in guided anglers would likely be offset by an increase in unguided anglers during those hours. It is unlikely that there would be any measurable effect on total effort, catch, and harvest of king salmon as most, if not all, guided king salmon fishing is done from a vessel.

BACKGROUND: Since 1985, during June and July, sport fishing from registered guide vessels has been permitted only from 6:00 a.m. to 6:00 p.m. (except for the years 1986–1988 when during July, the time was 7:00 a.m. to 7:00 p.m.). In 2000, the daily time restrictions were extended to include the month of May. Guided anglers are also restricted from fishing on the Kenai River downstream of Skilak Lake from a registered guide vessel on Sundays or Mondays in May through July (except Memorial Day). These regulations are intended to restrict angling harvest of king salmon by reducing guided angling effort, provide unguided anglers with hours free of competition with guided anglers, and control angler congestion on the Kenai River.

Recently, with restrictions on king salmon fishing occurring annually since 2011, much of the guided sport fishing effort has been redirected to primarily fishing for sockeye salmon. Since restrictions have been implemented starting in 2011, sockeye fishing catches have increased over six-fold in the Lower Kenai in the month of July (Table 182-1). Using department freshwater guide logbook data for the month of July, catches went from averaging 2,023 sockeye during 2006–2010 to averaging 13,892 sockeye during 2011–2015, and the average proportion of guided nonresident anglers increased from 86% to 91%.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. If adopted the department would request clarification from the board if the prohibition is to apply only to the waters downstream of the outlet of Skilak Lake, or drainagewide.

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 182-1.– Guided freshwater logbook data from 2006–2015 for the Lower Kenai River during the month of July.

Year	Number of Trips	Resident Clients	Resident Percent	Non-Resident Clients	Non-Resident Percent	Total	King Salmon Catch	King Salmon Harvest	Sockeye Salmon Catch	Sockeye Salmon Harvest	Rainbow Trout Catch	Rainbow Trout Harvest	Dolly Varden Catch	Dolly Varden Harvest
2006	5,721	2,473	12%	18,992	88%	21,465	10,202	6,146	633	370	6,717	194	1,658	90
2007	5,530	2,720	14%	17,314	86%	20,034	8,581	5,240	2,420	1,850	6,269	128	1,340	53
2008	5,336	2,524	13%	16,448	87%	18,972	6,753	5,003	2,051	1,453	5,176	58	948	39
2009	3,952	2,307	17%	11,489	83%	13,796	5,261	3,393	1,489	1,225	2,009	19	704	29
2010	3,812	2,151	16%	11,174	84%	13,325	3,614	2,743	3,520	2,964	2,521	42	719	37
2011	3,795	1,780	13%	11,573	87%	13,353	4,507	3,092	7,587	6,046	1,513	14	538	21
2012	2,677	814	9%	8,174	91%	8,988	756	92	25,136	20,838	2,072	36	734	33
2013	2,740	772	8%	8,586	92%	9,358	1,163	733	11,416	9,639	3,169	64	1,289	63
2014	2,634	636	7%	8,401	93%	9,037	706	290	13,961	12,558	2,637	30	1,663	52
2015	2,814	796	8%	8,816	92%	9,612	2,281	1,754	11,358	10,087	3,380	99	1,791	94
2006-2010 Average	4,870	2,435	14%	15,083	86%	17,518	6,882	4,505	2,023	1,572	4,538	88	1,074	50
2011-2015 Average	2,932	960	9%	9,110	91%	10,070	1,883	1,192	13,892	11,834	2,554	49	1,203	53

Source: ADF&G Freshwater Sport Fish Guide Logbook.

PROPOSAL 183 – 5 AAC 57.140. Kenai River guiding and guided fishing requirements in the Kenai River Drainage Area.

PROPOSED BY: Mel Erickson.

WHAT WOULD THE PROPOSAL DO? This would allow guided anglers to fish on Mondays in August.

WHAT ARE THE CURRENT REGULATIONS? From July 31 or the end of the king salmon season, whichever is later, through November 30, sport fishing from a registered guide vessel for any species of fish on Mondays is prohibited downstream from the confluence of the Moose and Kenai rivers, and sport fishing from a registered guide vessel for coho salmon on Mondays upstream from the confluence of the Moose River and Kenai River is prohibited; any coho salmon caught must be released immediately without further harm.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase the amount of available guided fishing time for coho salmon by an additional four–five days (depending on calendar year) that were previously closed to fishing for coho salmon from guide boats below Moose River. This would increase the amount of guided fishing effort, catch, and harvest of Kenai River coho salmon and other fish species by an unknown amount. This proposal would remove all the available days during the August coho salmon season that unguided anglers could fish without anglers fishing from guided vessels present.

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 through a petition submitted by the department based on high Kenai River coho salmon harvests beginning in 1993 and 1994, which were thought to be unsustainable, and declining Moose River (Kenai River tributary) coho salmon smolt counts. As a result of that meeting, restrictions affecting all users were adopted into regulation to conserve Kenai River coho salmon. Additional restrictive regulations were added to the plan from 1997–99. These regulations were an attempt to reduce the total harvest of Kenai River coho salmon by 20% from combined sport and commercial users, and originally had a sunset clause of December 2002.

In 1999, the board again addressed this fishery by reducing the coho salmon bag limit in the Russian River and in that area of the Kenai River downstream from the confluence of the Russian and Kenai rivers to the ferry crossing from three to one per day. This conservation measure was in response to an increasingly popular clearwater fishery at the Russian River, where stocks are subject to higher exploitation rates.

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, more restrictions were put in place to conserve both Kenai River and Northern District coho salmon.

The net result of the management plan on the Kenai River sport fishery was an overall reduction of coho salmon harvest. Currently, the department does not manage the Kenai River coho salmon sport fishery inseason based upon abundance because no escapement goal for coho salmon 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.
Coho salmon fishing regulations were liberalized for the Kenai River by the board in 2005 and 2008. Changes resulted in a net gain in fishing time and area, and a seasonal increase in the bag limit, as well as less restrictive fishing methods. Coho salmon fishing regulations for other Northern Kenai Peninsula Management Area streams were not changed.
In 2008, liberalizations allowed for the Kenai River coho salmon sport fishery included:

1. The bag and possession limit was increased from two to three fish beginning September 1.
2. The season for coho salmon fishing within the lower Kenai River drainage downstream of Skilak Lake was extended by 30 days, from October 31 to November 30.
3. Bait was allowed from July 1–November 30 downstream of the Upper Killey River, and bait with multiple hooks from August 1–November 30 was allowed.

Total Kenai River drainage coho salmon sport fishery harvests prior to 2000 (three coho salmon per day) averaged 53,228 fish annually; since 2000 (two coho salmon per day), they increased to an average of 54,478 fish, with guided anglers averaging 26.1% of the total harvest during since 2000 (Table 183-1). Since inception of the sport fish guide logbook program in 2006, the number of guided trips in August, September, and October has averaged 2,974, 1,149, and 77, respectively (Tables 183-2, 183-3, and 183-4). Using the freshwater logbook data, the average proportion of guided nonresident anglers from 2006–2009 in August, September, and October was 90%, 81%, and 46%, respectively.

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 183-5). Overall harvest rates for Kenai River coho salmon runs prior to 2000 were high, in some cases (84% in 1999) under the previous Kenai River coho salmon management plan, which allowed a three-fish bag limit and more liberal commercial fishing in August; under a plan that allowed a two-fish bag limit and more restrictive commercial fishing, the harvest rate ranged from 35% to 47% from 2000 to 2004. New regulations in 2005 and 2008, which liberalized sport and commercial fisheries, very likely increased harvest rates of Kenai River coho salmon relative to the rates observed from 1999–2004. Research findings from studies conducted in Southeast Alaska with transboundary coho salmon stocks have indicated that an harvest rate of about 61% is sustainable.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. The department does not have any new data regarding coho salmon runs or exploitation rates but believes current management is sustainable. The Kenai River coho salmon stock is not monitored. Inriver harvest data indicate harvest of Kenai River coho salmon is relatively stable under existing regulations.

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

Table 183-1. – Guided and nonguided sport harvest of Kenai River coho salmon, 1984–2015.

Year	Bag Limit	Season Start	Season End	Guided Harvest	% of Total Harvest	Non-guided Harvest	% of Total Harvest	Kenai River Harvest [a]	Total Drainage Harvest [k]
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[b]	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[c]	3	entire year		13,728	32.5	28,565	67.5	42,293	47,860
1997[d]	3/1[e]	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[f]	3	7/1	9/30	8,087	25.6	23,550	74.4	31,637	35,591
2000[g]	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[h]	2	7/1	10/31	14,845	22.5	51,070	77.4	65,952	72,658
2005[i]	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[j]	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	70.6	57,055	60,833
Average (1984–1999)				14,634	27.6	34,788	72.4	49,434	53,228
Average (2000–2015)				12,938	26.1	36,937	73.9	49,890	54,478
Average (2011-2015)				14,050	28.8	35,375	71.2	49,423	53,541

2003; Jennings et al. 2004, 2006a-b, 2007, 2009a-b, 2010a-b, 2011a-b, 2015; Romberg et al., *In prep* a-d.

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

[b] No fishing after 3 coho harvested, to prevent "boat limits."

[c] Closed sections of 5 rm below lakes to all fishing to protect spawning cohos, from Jan 1 to June 14

[d] Guides retricted on Mondays

[e] Emergency order reduced bag limit to 1 per day on 8/11/98

[f] Repealed c

[g] Coho salmon sport fishing closed from 8/1-8/3

[h] Extended season to Oct. 31

[i] Repealed g, allowed to fish after limit of coho upstream of Soldotna Bridge, guides allowed to fish upstream of Moose for other species

[j] 2 per day in August/3 per day in Sept. thru Nov.

[k] Includes entire Kenai R drainage (Russian R, Beaver Cr, Funny R, Grant Cr, Hidden Cr/Lk, Jean Lk,

Table 183-2. –Guided freshwater logbook data from 2006–2015 for the Lower Kenai River during the month of August.

Year	Number of Trips	Resident Clients	Resident Percent	Non-Resident Clients	Non-Resident Percent	Total	Coho Salmon Catch	Coho Salmon Harvest	Sockeye Salmon Catch	Sockeye Salmon Harvest	Rainbow Trout Catch	Rainbow Trout Harvest	Dolly Varden Catch	Dolly Varden Harvest
2006	1,940	461	7%	6,121	93%	6,582	6,237	5,583	5,226	3,271	7,912	104	5,920	93
2007	2,002	729	11%	5,779	89%	6,508	6,865	6,338	4,318	2,948	11,399	86	6,010	71
2008	2,226	748	10%	6,660	90%	7,408	8,516	8,134	1,073	663	9,307	28	7,035	43
2009	1,642	714	14%	4,542	86%	5,256	7,319	6,811	1,497	1,028	7,944	19	6,448	21
2010	2,164	848	12%	6,368	88%	7,216	7,156	6,770	2,884	1,974	7,116	25	4,850	41
2011	2,236	937	13%	6,540	87%	7,477	7,506	7,283	5,010	3,334	11,394	30	7,319	54
2012	2,376	838	11%	7,049	89%	7,887	5,373	5,222	6,301	4,681	11,485	37	8,054	93
2013	2,401	1,017	12%	7,168	88%	8,185	10,096	9,619	3,018	2,271	7,168	25	5,119	56
2014	2,507	1,021	12%	7,547	88%	8,568	7,166	6,866	4,795	3,822	5,758	32	5,948	81
2015	2,685	1,176	13%	7,965	87%	9,141	8,019	7,837	14,450	12,213	19,350	79	6,893	97
2006-2015 Average	2,218	849	11%	6,574	89%	7,423	7,425	7,046	4,857	3,621	9,883	47	6,360	65

Source: ADF&G Freshwater Sport Fish Guide Logbook.

Table 183-3. –Guided freshwater logbook data from 2006–2015 for the Lower Kenai River during the month of September.

Year	Number of Trips	Resident Clients	Resident Percent	Non-Resident Clients	Non-Resident Percent	Total	Coho Salmon Catch	Coho Salmon Harvest	Sockeye Salmon Catch	Sockeye Salmon Harvest	Rainbow Trout Catch	Rainbow Trout Harvest	Dolly Varden Catch	Dolly Varden Harvest
2006	620	261	14%	1,609	86%	1,870	2,049	1,690	382	6	3,644	14	4,192	27
2007	566	285	17%	1,436	83%	1,721	1,942	1,652	118	6	7,415	51	4,605	19
2008	617	357	19%	1,548	81%	1,905	2,568	2,360	19	0	3,659	0	3,150	1
2009	709	539	26%	1,557	74%	2,096	2,675	2,540	85	7	7,364	5	4,097	0
2010	734	578	27%	1,597	73%	2,175	2,594	2,469	103	11	10,293	7	8,069	20
2011	771	603	26%	1,735	74%	2,338	2,995	2,844	81	11	7,165	18	5,588	1
2012	690	441	22%	1,603	78%	2,044	1,723	1,657	297	11	4,385	4	3,760	39
2013	806	645	26%	1,866	74%	2,511	3,159	3,040	180	18	7,615	11	5,383	2
2014	801	644	26%	1,794	74%	2,438	3,926	3,585	106	33	6,810	0	5,537	3
2015	883	608	22%	2,133	78%	2,741	4,166	4,013	219	103	8,426	29	6,160	11
2006-2015 Average	720	496	22%	1,688	78%	2,184	2,780	2,585	159	21	6,678	14	5,054	12

Source: ADF&G Freshwater Sport Fish Guide Logbook.

Table 183-4. –Guided freshwater logbook data from 2006–2015 for the Lower Kenai River during the month of October.

Year	Number of Trips	Resident Clients	Resident Percent	Non-Resident Clients	Non-Resident Percent	Total	Coho Salmon Catch	Coho Salmon Harvest	Sockeye Salmon Catch	Sockeye Salmon Harvest	Rainbow Trout Catch	Rainbow Trout Harvest	Dolly Varden Catch	Dolly Varden Harvest
2006	54	90	62%	56	38%	146	182	126	0	0	1,669	4	943	2
2007	54	90	55%	74	45%	164	199	123	0	0	836	6	365	0
2008	62	110	59%	76	41%	186	130	103	0	0	1,332	0	764	0
2009	27	54	64%	30	36%	84	122	98	1	0	140	0	36	0
2010	51	84	55%	68	45%	152	250	153	0	0	826	1	282	0
2011	36	50	47%	56	53%	106	294	200	0	0	227	0	38	0
2012	51	101	62%	63	38%	164	317	242	0	0	618	0	252	0
2013	22	25	40%	38	60%	63	128	104	0	0	22	0	27	0
2014	49	111	69%	49	31%	160	396	264	0	0	706	0	431	0
2015	52	113	68%	54	32%	167	662	420	1	0	274	6	208	6
2006-2015 Average	46	83	58%	56	42%	139	268	183	0	0	665	2	335	1

Source: ADF&G Freshwater Sport Fish Guide Logbook.

Table 183-5.–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

PROPOSAL 184 – 5 AAC 57.140. Kenai River guiding and guided fishing requirements in the Kenai River Drainage Area.

PROPOSED BY: Mel Erickson.

WHAT WOULD THE PROPOSAL DO? This would relax restrictions to guided fishing when king salmon fishing is closed by EO. This would allow fishing from a registered guide vessel from 6 p.m. to 6 a.m. in addition to fishing on Sundays, fishing from a motorized vessel on Mondays for both guided and unguided anglers, and allowing six persons to be carried by a registered guide vessel.

WHAT ARE THE CURRENT REGULATIONS? During May, June, and July, sport fishing from a registered guide vessel downstream of Skilak Lake is permitted only from 6:00 a.m. to 6:00 p.m. In addition, downstream of the outlet of Skilak Lake, a person may not sport fish from a registered guide vessel on any Sunday from May 1 through July 31.

On any Monday in May through July, except for Memorial Day, a person may not fish from a boat in the portion of the Kenai River from the outlet of Skilak Lake to the mouth of the river, except that unguided sport fishing from a nonmotorized vessel is allowed on Mondays in May through July.

In July, registered guide vessels may carry no more than five persons, including the guide, clients, and other passengers.

Guided anglers may fish from shore for any species when fishing from guided vessels is prohibited between 6 p.m. to 6 a.m.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase the number of days anglers may fish from guided vessels in years when king salmon fisheries are closed. Fishing from a guided vessel would be allowed 24 hours a day seven days a week, and five anglers would be allowed to fish from a guided vessel. This proposal may increase catch and harvest of rainbow trout, sockeye, pink, and silver salmon, and would increase user conflict between unguided and guided anglers on days typically allocated for fishing by unguided vessels. This proposal would also add to regulatory complexity.

BACKGROUND: The board has adopted management plans structured to constrain the harvest of both early-run and late-run king salmon stocks to sustainable levels while still providing for fishing opportunity. The management guidelines that the board has adopted through the years have closed specific areas of the river to all fishing, restricted certain areas of the river to shore fishing only, and imposed time and date closures for all guided and unguided boat anglers. In addition, the board has addressed the harvest disparity between guided and unguided anglers within the Kenai River king salmon sport fishery by reducing the number of hours and days guided anglers may fish, limiting the number of clients allowed to fish from a guided vessel, and prohibiting guides from fishing while clients are present/fishing.

Since 1985, during June and July, sport fishing from registered guide vessels has been permitted only from 6:00 a.m. to 6:00 p.m. (except for the years 1986–1988 when, during July, the time

was 7:00 a.m. to 7:00 p.m.). In 2000, the daily time restrictions were extended to include the month of May. Guided anglers are also restricted from fishing on the Kenai River downstream of Skilak Lake from a registered guide vessel on Sundays or Mondays in May through July (except Memorial Day). These regulations are intended to restrict harvest of king salmon by reducing guided angling effort, provide unguided anglers with hours free of competition with guided anglers, and reduce angler congestion on the Kenai River.

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.

COMMITTEE OF THE WHOLE–GROUP 6: Kenai, Kasilof, and Russian River-Sport and Personal Use (23 Proposals)

Kenai, Kasilof, and Russian Rivers (9 Proposals)

PROPOSAL 186 – 5 AAC 57.121. Special provisions for seasons, bag, possession, and size limits, and methods and means for the Kenai River Drainage Area.

PROPOSED BY: Patrick McCormick.

WHAT WOULD THE PROPOSAL DO? This would prohibit barbed hooks when sport fishing in the Kenai River upstream of the Lower Killey River, including the Russian River, from August 21–May 1.

WHAT ARE THE CURRENT REGULATIONS? The Kenai River 1¾ miles around the mouth of the Lower Killey River is fly-fishing-only waters from January 1–July 31. In waters upstream of the Lower Killey River to Skilak Lake, multiple hooks are allowed August 1–31, and only one single-hook, artificial lure is allowed the rest of the year. In Skilak Lake, multiple hooks are allowed year-round. The Upper Kenai River upstream of Skilak Lake, only one single-hook, artificial lure is allowed year-round, with the gap between point and shank of three-eighths inch or less. The Russian River and in the Kenai River, from ADF&G markers about 300 yards upstream of the public boat launch at Sportsman's Landing downstream to the powerline crossing on the Kenai River, are fly-fishing-only waters from June 11–August 20.
Legal gear in fly-fishing-only waters is:

- One single-hook, unbaited artificial fly with gap between point and shank of 3/8" or less. The fly must weigh less than ¼ oz, and
- If weights are used, they must be 18 inches ahead of the fly, and
- An attractor, including a bead, may be used

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Prohibiting the use of barbed hooks would reduce angler efficiency by an unknown amount. A 2010 study by California Department of Fish and Game examined capture efficiency of artificial flies fished with barbed and barbless hooks in trout fisheries in California. The study found angler efficiency decreased by 11–24%, with young and inexperienced anglers disproportionately affected. Reduced angler efficiency would result in either anglers fishing longer in order to achieve their bag limits, or a reduced harvest. Prohibiting barbed hooks would not reduce mortality of released fish by a measurable amount. Requiring all anglers to use barbless hooks only for a portion of the Kenai River would add complexity to the regulations and thereby increase the likelihood of violations.

BACKGROUND: Mortality of released fish is dependent mostly on hook placement. Hooking mortality is often higher for fish that have been hooked in vital areas, such the esophagus or gills. Other factors, such as fish size, gear type, bleeding, and elapsed time to unhook the fish, can influence survival to a lesser degree than hook location. Studies of mortality rates on fish released using barbed and barbless hooks are inconclusive. Results largely suggest there is no significant difference in mortality rates of fish caught on barbed versus barbless hooks, although

due to the vast body of research on the topic, some studies do support the use of barbless hooks for specific species in some fisheries. It is important to consider the species and fishery when reviewing the results of release mortality studies.

Some western states have implemented barbless hook regulations. Washington and Oregon have barbless regulations for salmon, steelhead (Endangered Species Act listed) and cutthroat trout on sections of the Columbia and Willamette rivers as part of a broad based policy to restructure Columbia River sport fisheries and address allocation issues by reducing angler efficiency. Montana, Colorado, Wyoming, Utah, and Nevada have either rejected barbless hook proposals or repealed barbless regulations for reasons including regulatory complexity and lack of measurable biological benefit.

In the Kenai River drainage area, both rainbow trout and Dolly Varden are managed more conservatively than the statewide standard through seasonal closures, conservative size limits, a one-fish bag limit, and methods and means restrictions. Flowing waters are closed to rainbow trout fishing and/or all fishing from May 2 through June 10. The bag and possession limit is one for both species throughout the drainage. In upper Kenai River from the Kenai Lake outlet downstream to Skilak Lake, harvested fish must be less than 16 inches in total length, while downstream of Skilak Lake, fish must be less than 18 inches in total length. In flowing waters of the drainage, bait is prohibited the entire year upstream of Skilak Lake and allowed only seasonally downstream of Skilak Lake.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. Anglers may currently use barbless hooks and many do. The department encourages anglers to use best practices through outreach efforts. However, the department does not support a regulation requiring the practice because of the added complexity to regulations and the negative effects it would have on sport fishing harvest and opportunity in the absence of a measurable biological benefit.

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

PROPOSAL 187 – 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: Tom Corr.

WHAT WOULD THE PROPOSAL DO? This would only allow barbless, unbaited, single-hook gear on the Kenai River from January 1–July 31.

WHAT ARE THE CURRENT REGULATIONS? Gear regulations in the Kenai River are complex and vary by section of the river and date. Only one unbaited, single-hook, artificial lure may be used during the proposed timeframe. When the retention of king salmon is prohibited in the Kenai River, only one unbaited, barbless, single-hook, artificial lure may be used when sport fishing for king salmon.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Allowing only barbless, unbaited, single-hook gear on the Kenai River would reduce angler efficiency by an unknown amount in the king salmon fishery as well as the sockeye, coho, and pink salmon, and resident species fisheries. Reduced angler efficiency would result in either anglers fishing longer in order to achieve their bag limits for salmon, or a reduced sport harvest in years when surplus was available. Prohibiting barbed hooks would not reduce mortality of released fish by a measurable amount.

BACKGROUND: Several Kenai River fisheries are already restricted to only one unbaited, single-hook, artificial lure or fly-fishing-only by regulation in order to reduce mortality in those fisheries. Additionally, the department uses EO authority to restrict gear when necessary to achieve escapement goals. The Kenai River supports major fisheries for sockeye, king, and coho salmon, and resident species. Existing regulations and management plans have been crafted to address specifics of each fishery.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. Regulations have been created to provide opportunity and allow harvest to achieve escapement goals. Anglers may currently use single-hook, unbaited gear or barbless hooks.

COST ANALYSIS: Approval of this proposal may result in an additional direct cost for a private person to participate in this fishery as new gear may need to be purchased.

PROPOSAL 188 – 5 AAC 57.121. Special provisions for the seasons, bag, possession, and size limits, and methods and means for the Lower Section of the Kenai River Drainage Area.

PROPOSED BY: Kenai Area Fisherman's Coalition.

WHAT WOULD THE PROPOSAL DO? This would allow only one single-hook or one single-hook lure in the Lower Kenai River mainstem and Skilak Lake.

WHAT ARE THE CURRENT REGULATIONS? Gear regulations in the Kenai River are complex and vary by section of the river and date. Only one unbaited, single-hook, artificial lure may be used in the majority of fisheries and multiple hooks and bait are allowed in others.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Allowing only unbaited, single-hook gear year-round on the Kenai River would reduce angler efficiency by an unknown amount, primarily for coho salmon. Reduced angler efficiency would result in either anglers fishing longer in order to achieve their bag limits for salmon, or a reduced sport harvest in years when surplus was available. This proposal would simplify regulations.

BACKGROUND: Several Kenai River fisheries are already restricted to only one unbaited, single-hook, artificial lure or fly-fishing-only by regulation in order to reduce mortality in those fisheries. Additionally, the department uses EO authority to restrict gear when necessary to achieve escapement goals. The Kenai River supports major fisheries for sockeye, king, and coho salmon, and resident species. Existing regulations and management plans have been crafted to address specifics of each fishery.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. Regulations have been created to provide opportunity and allow harvest to achieve escapement goals. Anglers may currently use single, unbaited gear.

COST ANALYSIS: Approval of this proposal may result in an additional direct cost for a private person to participate in this fishery as new gear may need to be purchased.

PROPOSAL 189 – 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: Mel Erickson.

WHAT WOULD THE PROPOSAL DO? This would allow fishing from shore on the Kenai River downstream of the Soldotna Bridge after harvesting a bag limit of coho salmon.

WHAT ARE THE CURRENT REGULATIONS? A person, after taking and retaining a bag limit of coho salmon, 16 inches or greater in length, from the Kenai River, may continue to sport fish only upstream from the Soldotna Bridge to department regulatory markers at the outlet of Skilak Lake. In these waters of the Kenai River the bag limit for coho, sockeye, and chum salmon in combination is three per day, six in possession, of which no more than two may be coho salmon during August. In addition, the bag and possession limit for pink salmon is six fish.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would allow anglers who harvest a bag limit of coho salmon to continue fishing from shore downstream of the Soldotna Bridge for other species like sockeye and pink salmon (Figure 189-1 map). This may provide some additional opportunity for anglers who fish this lower section of river and increase the harvest of other species. It may increase shoreline crowding below the bridge. Allowing anglers to continuing fishing from shore below the Soldotna Bridge would not likely have a significant impact on coho salmon stocks. Saltwater influence in the Kenai River likely ends around RM 13, but the department cannot provide data on coho salmon release mortality specific to any given river mile.

BACKGROUND: Anglers in the Kenai River must stop fishing for all species below the Soldotna Bridge for the remainder of the day after retaining a bag limit of coho salmon.
The regulation prohibiting sport fishing downstream of the Soldotna Bridge once a bag limit is taken was created to address release mortality of coho salmon low in the system. Studies indicate release related mortality of coho salmon can be significant low in the system as salmon undergo osmoregulation and their bodies adapt to the freshwater environment.

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 189-1). Overall harvest rates for Kenai River coho salmon runs prior to 2000 were high, in some cases (84% in 1999) under the previous Kenai River coho salmon management plan, which allowed a three-fish bag limit and more liberal commercial fishing in August; under a plan that allowed a two-fish bag limit and more restrictive commercial fishing, the harvest rate ranged from 35% to 47% from 2000 to 2004. New regulations in 2005 and 2008, which liberalized sport and commercial fisheries, very likely increased harvest rates of Kenai River coho salmon relative to the rates observed from 1999–2004. Research findings from studies conducted in Southeast Alaska with transboundary coho salmon stocks have indicated that a harvest rate of about 61% is sustainable.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. The department does not have any new data regarding coho salmon runs or 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.

Allowing anglers to continuing fishing from shore below the Soldotna Bridge would not likely have a significant impact on coho salmon stocks. There are no biological concerns with other species that may be caught or harvested in this shore fishery.

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

Table 189-1.–Estimated harvest, total run, and harvest rate of Kenai River coho salmon from 1999–2004.

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

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

[a] Kenai River coho salmon total 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

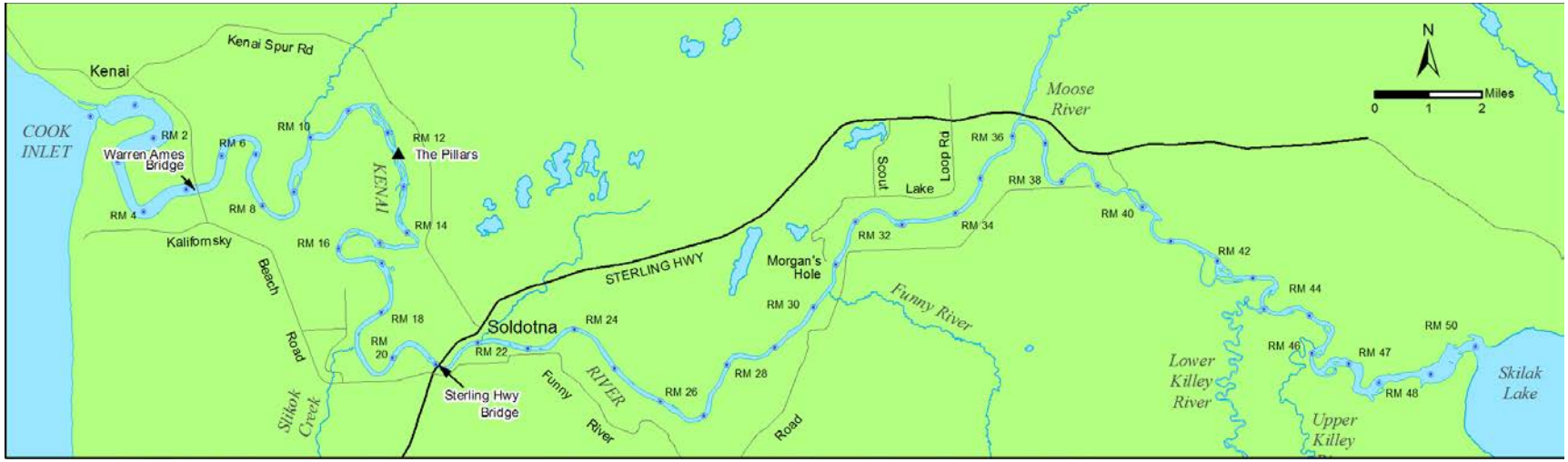

Figure 189-1.—Map of the lower Kenai River mainstem.

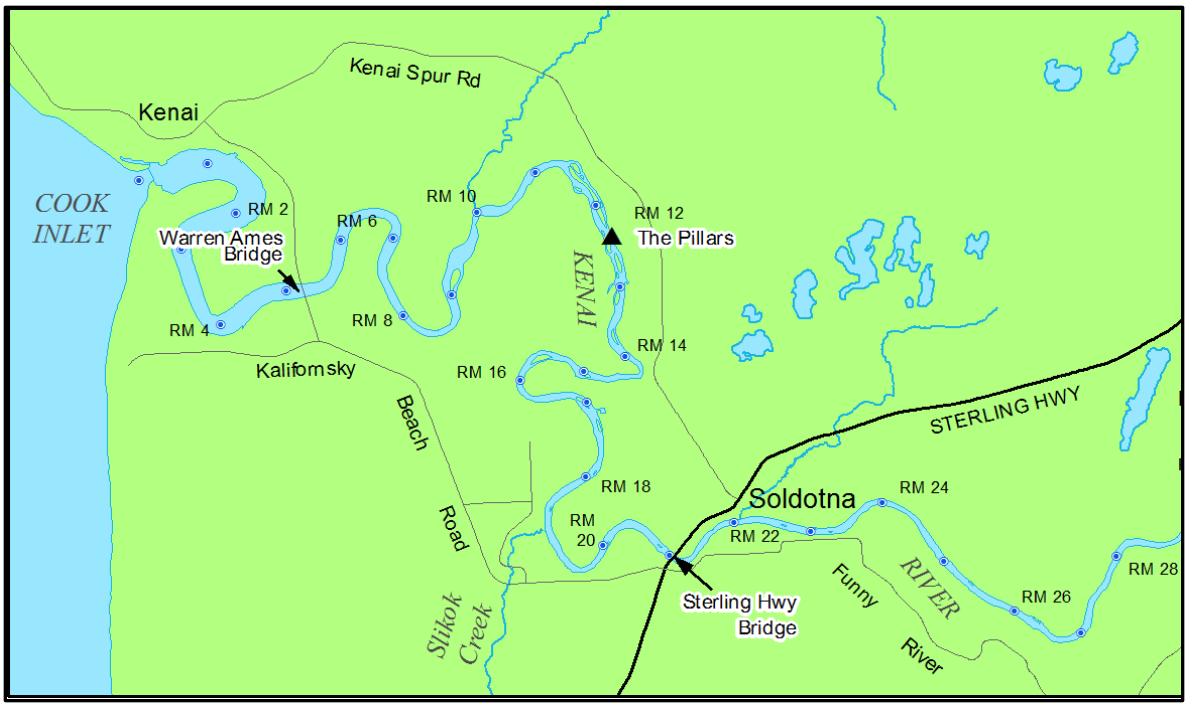

Figure 189-2.—Map of the lower Kenai River mainstem.

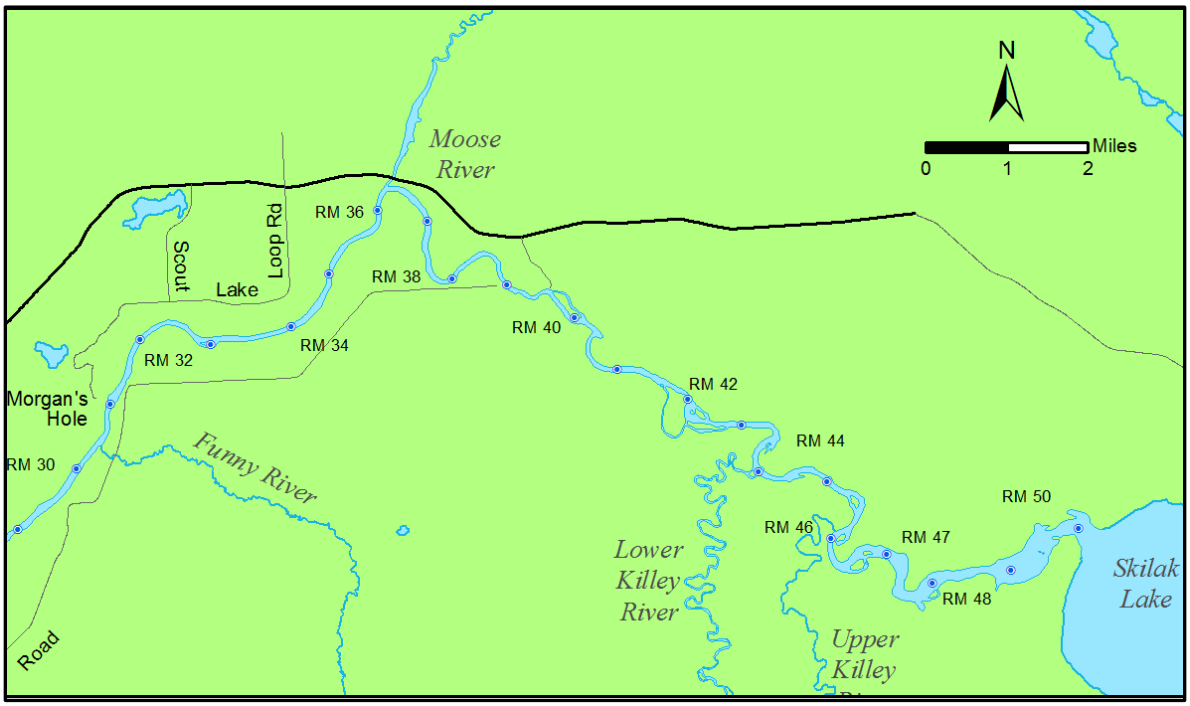

Figure 189-3.—Map of the lower Kenai River mainstem.

PROPOSAL 190 – 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: Kenai River Professional Guide Association.

WHAT WOULD THE PROPOSAL DO? Expand the waters open to fishing after harvesting a bag limit of coho salmon in the lower Kenai River.

WHAT ARE THE CURRENT REGULATIONS? A person, after taking and retaining a bag limit of coho salmon, 16 inches or greater in length, from the Kenai River, may continue to sport fish only upstream from the Soldotna Bridge to department regulatory markers at the outlet of Skilak Lake. In these waters of the Kenai River the bag limit for coho, sockeye, and chum salmon in combination is three per day, six in possession, of which no more than two may be coho salmon during August. In addition the bag and possession limit for pink salmon is six fish.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would allow anglers who harvest a bag limit of coho salmon to continue fishing upstream of Pillars State Recreational Site for other species like sockeye and pink salmon (Figure 189-1). This would add approximately 8.5 RM to the area anglers could fish. This may provide some additional opportunity for anglers who fish this lower section of river, increase the mortality of coho salmon by some amount, and increase the harvest of other species.

BACKGROUND: The Kenai River coho salmon fishery is a popular late summer and fall fishery. No escapement goal has been established for Kenai River coho salmon. Coho salmon runs can be highly variable and run size affects angler success. In the most recent ten years (2006–2015) that SWHS data is available, coho salmon harvest from the mouth of the Kenai River to the Soldotna Bridge ranged from 20,300–34,000 with an average harvest of 26,800 (Table 190-1).

Anglers in the Kenai River must stop fishing for all species below the Soldotna Bridge for the remainder of the day after retaining a bag limit of coho salmon. The regulation prohibiting sport fishing downstream of the Soldotna Bridge once a bag limit is taken was created to address release mortality of coho salmon low in the system. Studies indicate release related mortality of coho salmon can be significant low in the system as salmon undergo osmoregulation and their bodies adapt to the freshwater environment.

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 189-1). Overall harvest rates for Kenai River coho salmon runs prior to 2000 were high, in some cases (84% in 1999) under the previous Kenai River coho salmon management plan, which allowed a three-fish bag limit and more liberal commercial fishing in August; under a plan that allowed a two-fish bag limit and more restrictive commercial fishing, the harvest rate ranged from 35% to 47% from 2000 to 2004. New regulations in 2005 and 2008, which liberalized sport and commercial fisheries, very likely increased harvest rates of Kenai River coho salmon relative to the rates observed from 1999–2004. Research findings from studies conducted in Southeast

Alaska with transboundary coho salmon stocks have indicated that an harvest rate of about 61% is sustainable.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. Allowing anglers to continuing fishing from boats below the Soldotna Bridge would allow them to continue targeting coho salmon for catch-and-release, and would make it difficult to enforce regulations prohibiting "party fishing". Saltwater influence in the Kenai River likely ends around RM 13, but the department cannot provide data on coho salmon catch and release mortality specific to any given river mile. 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.

Table 190-1.–Estimated sport harvest of Kenai River coho salmon by river section, 1977–2015.

	Cook Inlet to Soldotna Bridge			Soldotna Bridge to Moose River			Moose River to Skilak Lake			Skilak Lake to Kenai Lake			Reach Not Specified [a]			All Sections		
Year	Prior to Sept 1	After Sept 1	Total	Prior to Sept	After Sept 1	Total	Prior to Sept	After Sept 1	Total	Prior to Sept	After Sept 1	Total	Prior to Sept	After Sept 1	Total	Prior to Sept	After Sept 1	Total
1977	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9,537
1978	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10,823
1979	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15,276
1980	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	26,838
1981	ND	ND	12,280	ND	ND	3,326	ND	ND	6,178	ND	ND	540	ND	ND	ND	ND	ND	22,324
1982	ND	ND	26,582	ND	ND	3,904	ND	ND	7,200	ND	ND	1,729	ND	ND	ND	ND	ND	39,415
1983	ND	ND	12,231	ND	ND	4,007	ND	ND	4,867	ND	ND	1,573	ND	ND	ND	ND	ND	22,678
1984	ND	ND	40,173	ND	ND	7,596	ND	ND	8,065	ND	ND	3,810	ND	ND	ND	ND	ND	59,644
1985	ND	ND	22,579	ND	ND	6,781	ND	ND	12,774	ND	ND	2,401	ND	ND	100	ND	ND	44,635
1986	ND	ND	38,338	ND	ND	10,336	ND	ND	8,348	ND	ND	3,088	ND	ND	ND	ND	ND	60,110
1987	ND	ND	19,612	ND	ND	6,222	ND	ND	4,077	ND	ND	3,299	ND	ND	ND	ND	ND	33,210
1988	ND	ND	34,690	ND	ND	4,863	ND	ND	5,714	ND	ND	3,427	ND	ND	91	ND	ND	48,785
1989	ND	ND	36,668	ND	ND	7,921	ND	ND	8,236	ND	ND	2,434	ND	ND	16	ND	ND	55,275
1990	ND	ND	40,567	ND	ND	8,446	ND	ND	7,281	ND	ND	4,031	ND	ND	ND	ND	ND	60,325
1991	ND	ND	49,499	ND	ND	13,438	ND	ND	9,520	ND	ND	3,699	ND	ND	7	ND	ND	76,163
1992	ND	ND	33,175	ND	ND	7,579	ND	ND	7,547	ND	ND	4,009	ND	ND	ND	ND	ND	52,310
1993	ND	ND	29,135	ND	ND	9,677	ND	ND	6,771	ND	ND	4,955	ND	ND	ND	ND	ND	50,538
1994	ND	ND	46,345	ND	ND	15,249	ND	ND	12,286	ND	ND	12,831	ND	ND	ND	ND	ND	86,711
1995	20,031	11,808	31,839	4,842	1,131	5,973	2,785	2,794	5,579	2,065	727	2,792	ND	ND	ND	29,723	16,460	46,183
1996	17,551	5,010	22,561	8,347	2,076	10,423	4,371	1,682	6,053	2,457	799	3,256	ND	ND	ND	32,726	9,567	42,293
1997	5,570	1,293	6,863	2,858	1,319	4,177	1,752	1,330	3,082	1,587	455	2,042	ND	ND	ND	11,767	4,397	16,164
1998	9,955	5,506	15,461	3,667	1,430	5,097	2,373	1,833	4,206	1,764	439	2,203	ND	ND	ND	17,759	9,208	26,967
1999	14,413	6,029	20,442	4,732	654	5,386	1,268	1,812	3,080	1,951	778	2,729	ND	ND	ND	22,364	9,273	31,637
2000	22,392	8,444	30,836	8,185	1,880	10,065	3,894	1,159	5,053	1,652	913	2,565	ND	ND	ND	36,123	12,396	48,519
2001	23,501	8,977	32,478	7,381	1,947	9,328	3,565	1,986	5,551	1,672	753	2,425	ND	ND	ND	36,119	13,663	49,782
2002	27,062	9,641	36,703	8,220	2,630	10,850	2,663	2,406	5,069	3,965	886	4,851	1,552	625	2,177	43,462	16,188	59,650
2003	20,093	5,963	26,056	8,961	2,029	10,990	3,160	1,517	4,677	2,690	490	3,180	1,367	352	1,754	36,271	10,351	46,657
2004	29,606	12,010	41,616	9,145	4,055	13,200	3,492	2,234	5,726	2,733	868	3,601	1,135	637	1,809	46,111	19,804	65,952
2005	17,331	7,810	25,141	10,793	3,563	14,356	1,697	2,739	4,436	2,310	2,103	4,413	1,671	339	2,065	33,802	16,554	50,411
2006	13,817	7,132	20,949	4,800	2,331	7,131	1,890	2,939	4,829	2,638	890	3,528	797	405	1,202	23,942	13,697	37,639
2007	12,891	7,443	20,334	6,322	1,133	7,455	3,230	2,361	5,591	2,390	1,400	3,790	621	226	847	25,454	12,563	38,017
2008	20,602	10,562	31,164	6,122	3,161	9,283	2,262	3,012	5,274	3,110	1,426	4,536	796	571	1,367	32,892	18,732	51,624
2009	19,022	9,044	28,066	5,509	2,907	8,416	4,016	3,879	7,895	2,391	1,966	4,357	1,146	80	1,226	32,084	17,876	49,960
2010	20,001	8,134	28,135	7,140	3,889	11,029	5,671	3,213	8,884	2,115	618	2,733	2,005	126	2,131	36,932	15,980	52,912
2011	16,784	10,562	27,346	6,509	2,430	8,939	2,185	3,346	5,531	1,038	1,175	2,213	61	42	103	26,577	17,555	44,132
2012	14,842	8,123	22,965	4,819	2,668	7,487	2,202	1,862	4,064	768	494	1,262	375	254	629	23,006	13,401	36,407
2013	17,414	6,417	23,831	12,090	2,860	14,950	3,669	3,232	6,901	1,649	1,329	2,978	212	82	294	35,034	13,920	48,954
2014	18,930	11,829	30,759	9,224	3,654	12,878	3,940	5,644	9,584	4,928	2,288	7,216	89	40	129	37,111	23,455	60,566
2015	20,317	13,685	34,002	7,673	4,467	12,140	2,881	5,210	8,091	2,356	404	2,760	45	29	74	33,272	23,795	57,067
Average (2006-2015)	17,462	9,293	26,755	7,021	2,950	9,971	3,195	3,470	6,664	2,338	1,199	3,537	615	186	800	30,630	17,097	47,728
Average (1981-2015)			28,555			8,826			6,515			3,464			890			47,818

Source: State-Wide Harvest Surveys from Mills 1979-1994; Howe et al. 1995, 1996, 2001a-d; Walker et al. 2003; Jennings et al. 2004,

Note: ND = no data available

[a] SWHS began reporting consistently in 2002.

PROPOSAL 191 – 5 AAC 57.170. Kenai River Coho Salmon Management Plan.

PROPOSED BY: Kenai River Sportfishing Association.

WHAT WOULD THE PROPOSAL DO? This would increase Kenai River coho salmon bag limit from two to three fish beginning on the day after the closure of the set gillnet fishery in the Upper Subdistrict.

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 two fish from July 1–August 31. The bag and possession limit for coho salmon 16 inches or greater is three fish in the Kenai River from Skilak Lake downstream to the mouth from September 1–November 30, and in the Kenai River between Kenai and Skilak lakes from September 1–October 31. In the Russian River, the bag and possession limit for coho salmon 16 inches or greater is one fish; the Russian River closes to fishing for coho salmon on October 1. After a person takes a bag limit of coho salmon from the Kenai River, a person may not fish for any species of fish downstream of the Soldotna Bridge. Coho salmon may not be removed from the water that are intended to be released, a coho salmon removed the water becomes part of the persons bag limit who caught the fish.

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 191-1) and likely 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 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 191-2). 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 (three coho per day) averaged 53,228 fish annually. Since 2000 (two coho per day), harvests have averaged of 54,500 fish. The recent five-year average (2011–2015) harvest is 53,500 (Table 191-3). Freshwater guide logbooks 2014–2016 indicate an average 227 guides are still operating in August reporting a harvest of 8,200 coho salmon (Table 191-4 and 191-5).

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 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. Inriver harvest data indicate harvest of Kenai River coho salmon is relatively stable under existing regulations. Additionally it 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.

Table 191-1.–Season closing date and reason for closure by year in the Upper Subdistrict set gillnet fishery, 2005–2016.

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

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

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

Table 191-2.–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 191-3.–Guided and nonguided sport harvest of Kenai River coho salmon, 1984–2015.

Year	Bag Limit	Season Start	Season End	Guided Harvest	% of Total Harvest	Non-guided Harvest	% of Total Harvest	Kenai River Harvest [a]	Total Drainage Harvest [k]
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[b]	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[c]	3	entire year		13,728	32.5	28,565	67.5	42,293	47,860
1997[d]	3/1[e]	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[f]	3	7/1	9/30	8,087	25.6	23,550	74.4	31,637	35,591
2000[g]	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[h]	2	7/1	10/31	14,845	22.5	51,070	77.4	65,952	72,658
2005[i]	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[j]	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	70.6	57,055	60,833
Average (1984–1999)				14,634	27.6	34,788	72.4	49,434	53,228
Average (2000–2015)				12,938	26.1	36,937	73.9	49,890	54,478
Average (2011–2015)				14,050	28.8	35,375	71.2	49,423	53,541

Source: Statewide Harvest Survey (Mills 1984-1994; Howe et al. 1995-1996, 2001a-d; Walker et al. 2003; Jennings et al. 2004, 2006a-b, 2007, 2009a-b, 2010a-b, 2011a-b, 2015; Romberg et al., *In prep*a-d.

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

[b] No fishing after 3 coho salmon harvested, to prevent "boat limits."

[c] Closed sections of 5 rm below lakes to all fishing to protect spawning coho salmon, from Jan 1 to June 14

[d] Guides retricted on Mondays

[e] Emergency order reduced bag limit to 1 per day on 8/11/98

[f] Repealed c

[g] Coho salmon sport fishing closed from 8/1-8/3

[h] Extended season to Oct. 31

[i] Repealed g, allowed to fish after limit of coho salmon upstream of Soldotna Bridge, guides allowed to fish upstream of Moose for other species

[j] 2 per day in August/3 per day in Sept. thru Nov.

[k] 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, and Trail Lk).

Table 191-4.─Guided sport fishing catch and harvest of Kenai River coho salmon in August by river section, 2013–2015.

Year	River Section	Number of Guides	Number of Trips	Coho Salmon Catch	Coho Salmon 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
	Average 2013–2015	227	3,321	8,542	8,211

Source: ADF&G Freshwater Sport Fish Guide Logbook.

Table 191-5.─Coho salmon guided fishing catch and harvest in August for Kasilof River, Kenai River and Russian River, 2013–2015.

	Kasilof River				Kenai River				Russian River			
Year	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
Mean	44	215	738	727	227	3,321	8,542	8,211	9	34	25	4

Source: ADF&G Freshwater Sport Fish Guide Logbook.

PROPOSAL 192 – 5 AAC 57.122. Special provisions for the seasons bag, possession, and size limits, and methods and means for the Middle Section of the Kenai River Drainage Area.

PROPOSED BY: Kenai River Professional Guide Association.

WHAT WOULD THE PROPOSAL DO? This would shorten the Kenai River coho salmon season by closing October 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 two fish from July 1–August 31. The bag and possession limit for coho salmon, 16 inches or greater, is three fish in the Kenai River from Skilak Lake downstream to the mouth from September 1–November 30, and in the Kenai River between Kenai and Skilak lakes from September 1–October 31.

Bait and multiple hooks are allowed from August 1–November 30 in the Kenai River from Skilak Lake downstream to the mouth, except from Skilak Lake downstream to the Upper Killey River confluence where only unbaited, single-hook artificial lures are allowed. In the Upper Kenai River, only unbaited, single-hook artificial lures are allowed year-round, except in the Russian River fly-fishing only area from June 11–August 20.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would decrease the Kenai River coho salmon season from Skilak Lake downstream to the mouth by 30 days. The shorter season would reduce the days with the more liberal bag limit of three coho salmon by a third. This would result in a reduced harvest of coho salmon and foregone opportunity in years with a harvestable surplus. This shorter season would impact local unguided anglers disproportionately to guided anglers. Changing the season date to October 31 would bring the regulations below Skilak Lake in alignment with those waters of the Kenai River between Kenai and Skilak lakes. Without changing the date during which bait and multiple hooks are allowed, liberalized gear would be available for use while fishing for resident species.

BACKGROUND: 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. Bag limits and seasons have been developed over the years to provide for an inriver fishery that is sustainable over a wide range of abundance levels.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. While the proposal creates regulatory alignment with the Upper Kenai River and may reduce harvest during years of low coho salmon abundance, it may also forego opportunity in years with a harvestable surplus. In addition, if this proposal were to pass, the board may want to consider modifying more liberal gear designed for coho salmon during the month of November. The department does not have any new data regarding coho salmon runs or exploitation rates but believes current management is sustainable. The Kenai River coho salmon stock is not monitored.

Inriver harvest data indicate harvest of Kenai River coho salmon is relatively stable under existing regulations.

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

PROPOSAL 193 – 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 57.150. Russian River Sockeye Salmon Management Plan.

PROPOSED BY: J. Michael Robbins.

WHAT WOULD THE PROPOSAL DO? This would give the department authority to create an archery fishery for sockeye salmon in a section of the Russian River (Figure 193-1).

WHAT ARE THE CURRENT REGULATIONS? Unless otherwise provided in specific area regulations, sport fishing in Alaska may only be conducted by the use of a single line attached to not more than one plug, spoon, spinner, series of spinners, or two flies, or two hooks attached to a pole or rod. The use of archery equipment in Alaska is allowed only for freshwater fish species with no bag limits or with liberal harvest limits (i.e., whitefish, suckers), or northern pike. The use of archery equipment is not permitted in any salt waters of Alaska.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This could create a safety concern in areas where anglers are concentrated in a narrow, wooded, rocky stream environment, and may increase harvest of salmon. If the bow fishery were created in waters not open to anglers, no displacement of an existing fishery would occur. The number of injured and wounded salmon returning to spawn would likely increase due to non-lethal hits from arrows. US Forest Service staff have stated "bowfishing would not be compatible with our current regulation on FS lands" and would need to be resolved.

BACKGROUND: Anglers use archery equipment or "bowfishing" equipment in other states to target "rough" fish that generally are not targeted by sport anglers. The use of archery equipment for salmon has not been allowed in Alaska.

Russian River sockeye salmon are managed to achieve an early-run SEG of 22,000–44,000, and a late-run SEG of 30,000–110,000 as measured by a weir located near the outlet of Lower Russian Lake. The early-run goal has been achieved the past five years (2012–2016) and the late-run goal has been achieved during that same five year period (Table 193-1). Average annual sockeye salmon harvest for the most recent five years available from SWHS (2011–2015) is 26,200 early-run and 16,200 late-run sockeye salmon (Table 193-1).

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. The department has concerns that the use of archery gear for salmon will lead to safety issues in this location where salmon attract a large number of people in relatively small or confined areas.

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.

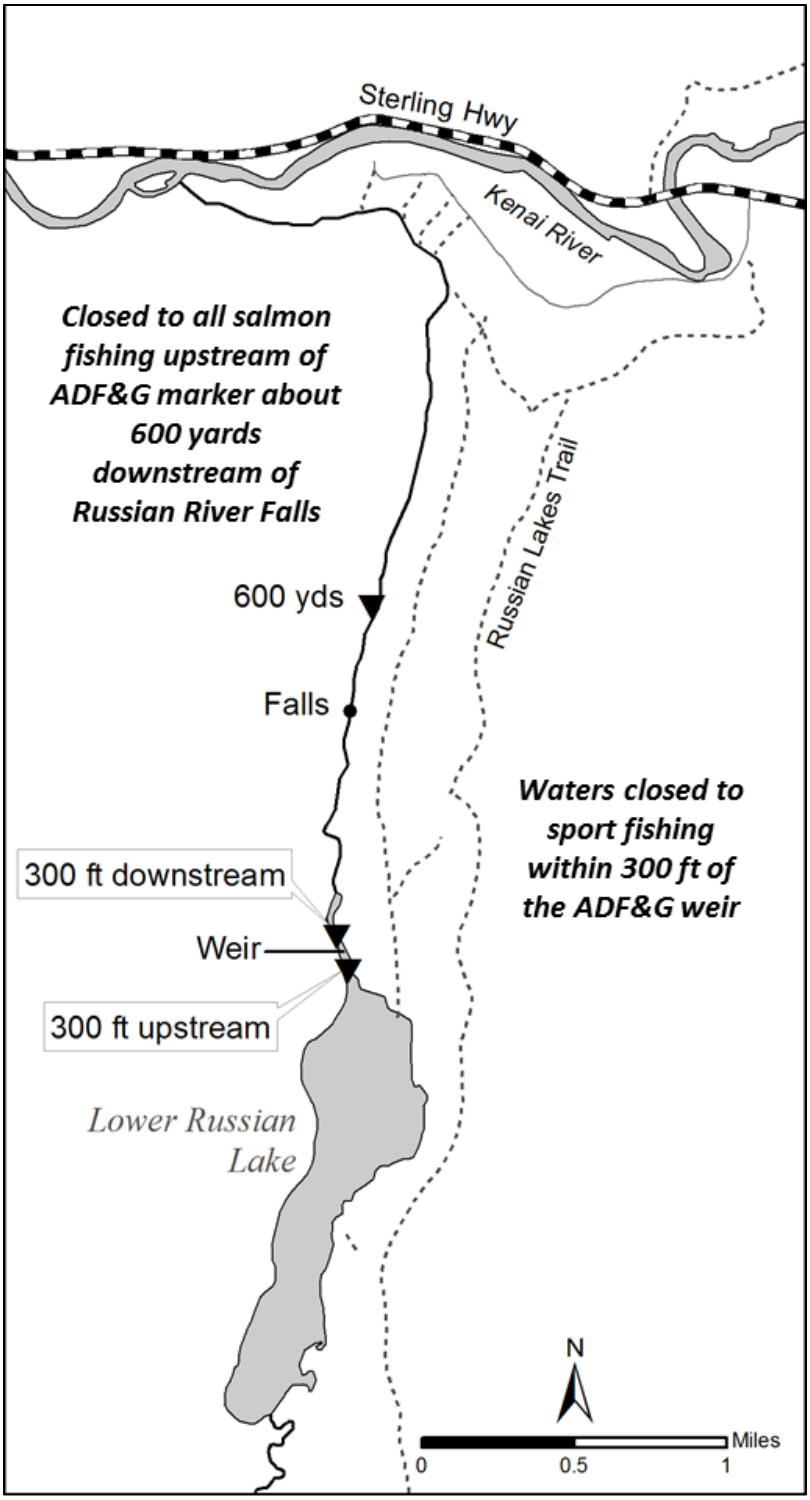

Figure193-1.─Map of lower Russian River, Russian River falls and weir sport fishing closure.

Table 193-1.─Angler effort, harvest, and escapement, Russian River early-run (ER) and late-run (LR) sockeye salmon, 1963–2016.

	Effort [a]	Sport Harvest [b]		Subsistence Harvest [c]		Spawning Escapement [d]		Total Run [e]	
Year		ER	LR	ER	LR	ER	LR	ER	LR
1963 [f]	7,880	3,670	1,390	ND	ND	14,384	43,816	18,054	45,206
1964 [f]	5,330	3,550	2,450	ND	ND	12,695	40,104	16,245	42,554
1965 [f]	9,720	10,030	2,160	ND	ND	21,514	17,616	31,544	19,776
1966 [f]	18,280	14,950	7,290	ND	ND	16,658	29,696	31,608	36,986
1967 [f]	16,960	7,240	5,720	ND	ND	13,710	42,336	20,950	48,056
1968 [f]	17,280	6,920	5,820	ND	ND	9,192	41,952	16,112	47,772
1969	14,930	5,870	1,150	ND	ND	5,000[g]	28,872	5,870	30,022
1970	10,700	5,750	600	ND	ND	5,451	26,200	11,201	26,800
1971	15,120	2,810	10,730	ND	ND	2,654	54,421	5,464	65,151
1972	25,700	5,040	16,050	ND	ND	9,273	79,115	14,313	95,165
1973	30,690	6,740	8,930	ND	ND	13,120	25,068	19,860	33,998
1974	21,120	6,440	8,500	ND	ND	13,164	24,904	19,604	33,404
1975	16,510	1,400	8,390	ND	ND	5,645	31,961	7,045	40,351
1976	26,310	3,380	13,700	ND	ND	14,736	31,939	18,116	45,639
1977	69,510	20,400	27,440	ND	ND	16,061	21,362	36,461	48,802
1978	69,860	37,720	24,530	ND	ND	34,240	34,334	71,960	58,864
1979 [h]	55,000	8,400	26,840	ND	ND	19,749	87,852	28,149	114,692
1980	56,330	27,220	33,500	ND	ND	28,624	83,984	55,844	117,484
1981	51,030	10,720	23,720	ND	ND	21,142	44,523	31,862	68,243
1982	51,480	34,500	10,320	ND	ND	56,106	30,800	90,606	41,120
1983	31,860	8,360	16,000	ND	ND	21,272	33,734	29,632	49,734
1984	49,550	35,880	21,970	ND	ND	28,908	92,659	64,788	114,629
1985	50,770	12,300	58,410	ND	ND	30,605	136,969	42,905	195,379
1986	52,250	35,100	30,810	ND	ND	36,338	40,281	71,438	71,091
1987	113,010	154,200	40,580	ND	ND	61,513	53,932	215,713	94,512
1988	72,030	54,780	19,540	ND	ND	50,406	42,476	105,186	62,016
1989	60,570	11,290	55,210	ND	ND	15,278	138,377	26,628	193,587
1990	84,710	30,215	56,180	ND	ND	25,144	83,434	56,931	139,614
1991	85,741	65,390	31,450	ND	ND	31,660	78,175	97,779	109,625
1992	60,499	30,512	26,101	ND	ND	37,117	62,584	67,629	88,685
1993	58,093	37,261	26,772	ND	ND	39,857	99,259	77,118	126,031
1994	64,134	48,923	26,375	ND	ND	44,872	122,277	93,795	148,652
1995	48,185	23,572	11,805	ND	ND	28,603	61,982	52,175	73,787
1996	50,122	39,075	19,136	ND	ND	52,905	34,691	91,980	53,827
1997	46,914	36,788	12,910	ND	ND	36,280	65,905	73,068	78,815
1998	47,942	42,711	25,110	ND	ND	34,143	113,480	76,854	138,590
1999	64,536	34,283	32,335	ND	ND	36,607	139,863	70,890	172,198
2000	69,864	40,732	30,229	ND	ND	32,736	56,580	73,468	86,809
2001	55,972	35,400	18,550	ND	ND	78,255	74,964	113,655	93,514

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Table 193-1.–Page 2 of 2.

	Effort [a]	Sport Harvest [b]		Subsistence Harvest [c]		Spawning Escapement [d]		Local Run [e]	
Year		ER	LR	ER	LR	ER	LR	ER	LR
2002	68,263	52,139	31,999	ND	ND	85,943	62,115	138,082	94,114
2003	50,448	22,986	28,085	ND	ND	23,650	157,469	46,636	185,554
2004	60,784	32,727	22,417	ND	ND	56,582	110,244	89,309	132,661
2005	55,801	37,139	18,503	ND	ND	52,903	59,473	90,042	77,976
2006	70,804	51,167	29,694	ND	ND	80,524	89,160	131,691	118,854
2007	57,755	36,805	16,863	380	316	27,298	53,068	64,483	70,247
2008	55,444	42,492	23,680	928	478	30,989	46,638	74,409	70,796
2009	64,518	59,097	33,935	605	369	52,178	80,088	111,880	114,392
2010	39,873	23,412	9,333	615	246	27,074	38,848	51,101	48,427
2011	47,264	22,697	14,412	684	315	29,129	41,529	52,510	56,256
2012	41,152	15,231	15,074	867	461	24,115	54,911	40,213	70,446
2013	59,682	27,162	20,146	768	567	35,776	31,573	63,706	52,286
2014	57,544	35,870	17,864	1,276	496	44,920	52,277	82,066	70,637
2015	55,420	29,997	13,744	989	704	50,226	46,223	81,212	60,671
2016	*not avail.*	*not avail.*	*not avail.*	*not avail.*	*not avail.*	38,739	37,837	*not avail.*	*not avail.*
Average (1963–2015)	47,948	28,084	20,650			32,152	61,813	59,808	82,538
Average (2011–2015)	52,212	26,191	16,248	917	509	36,833	45,303	63,941	62,059

Source: Mills 1979–1994, Howe et al. 1995, 1996, 2001a-d, Walker et al. 2003; Jennings et al. 2004, 2006a-b, 2007, 2009a-b, 2010a-b, 2011a-b, 2015; Romberg et al., *In Prep*a-d; Pappas and Marsh 2004; Subsistence data (federal), USFWS.

Note: ND = no data collected.

[a] Effort is angler days of effort in the fishery. 1963–1995 estimated from an in-season creel survey and only measures effort primarily for sockeye from June 11 to August 20. 1996–2015 estimated from the SWHS and includes effort for the whole year and for other species.

[b] Harvest from 1963–1995 estimated from an inseason creel survey. No early/late run breakdown available from SWHS prior to 1996. Harvest from 1996–2015 estimated from the annual SWHS.

[c] Federal subsistence fishery started in 2007, includes Russian River Falls and Upper Kenai dipnet/rod-and-reel; does not include Moose Range Meadows data.

[d] Escapement for the early-run are the number of fish counted passing the weir from its installation in June thru July 14. Escapement for the late-run are the number of fish counted passing the weir from July 15 through when the weir is shut off after reaching three days of 1% of fish passage prior to September 10, or whichever is later.

[e] Escapement above weir plus harvest; 1989–1991 includes 60 fish (in 1989) used to test brood source for disease, 1,572 fish (in 1990) and 729 fish (in 1991) used as brood source for stocking in Resurrection Bay.

[f] Fish tower counts were used from 1960–1968. A weir was used to count sockeye salmon from 1969 to present.

[g] Breach in weir during the early-run, used a footsurvey at Upper Russian Creek to estimate the number of early-run Russian sockeye salmon.

[h] First year of operation of fish pass near barrier falls.

PROPOSAL 194 – 5 AAC 57.122. Special provisions for the seasons, bag, possession, and size limits, and methods and means for the Middle Section of the Kenai River Drainage Area.

PROPOSED BY: Will Lee.

WHAT WOULD THE PROPOSAL DO? This would limit the harvest of lake trout on Hidden Lake to fish less than 16 inches in length.

WHAT ARE THE CURRENT REGULATIONS? The bag and possession limit for lake trout in Hidden Lake is one fish with no size limit.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL IS ADOPTED? Harvest of lake trout in Hidden Lake would decrease by an unknown amount. It may also result in an increase in fishing effort in the future if the numbers, age, and size of lake trout in the population increase as a result of a reduction in the harvest.

BACKGROUND: In 1983, the fishery was liberalized to allow a bag limit of 12 lake trout: two over 20 inches and 10 under 20 inches. In 1997, the regulations changed to two per day and in possession regardless of size. Concurrent to the 1997 bag limit reduction from 12 fish to two fish was the closure of Hidden Lake to burbot fishing. The closure reduced the number of lines that could be used by anglers fishing through the ice from 15 to two lines. In 2008, the board adopted a department proposal to decrease the bag and possession limit of lake trout in Hidden Lake from two fish of any size to one fish of any size.

Lake trout populations generally exist at low densities, mature at a relatively old age, and have slow growth rates, low fecundity, alternate-year spawning regimes, and strict habitat requirements. Due to these life history characteristics, lake trout can be overexploited by relatively low harvest rates. Consequently, many Alaska lake trout fisheries are conservatively managed yield-based fisheries. In these fisheries a general lake area model is used to estimate annual yield potential (sustainable harvest) and regulations are designed to ensure annual harvest do not exceed the yield potential. The lake area model indicates the sustainable yield for Hidden Lake may be approximately 400 lake trout per year. The recent five-year average (2011-2015) harvest of lake trout in Hidden Lake is 105; which is consistent with the drop in effort over that same period (Table-194-1).

Department objectives for the lake trout fishery are to: 1) provide opportunity for angler participation at a level that can be supported by the fisheries resource and associated habitat, and 2) ensure through appropriate management and research programs, that the population does not decline below the level necessary to ensure sustained yield.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. Lake trout harvest in Hidden Lake has declined in recent years, but is consistent with the decline in effort and well below the sustainable harvest determined for the lake.

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 194–1. Hidden Lake fishing effort and lake trout catch and harvest as determined by Statewide Harvest Survey, 1977–2015.

Year	Effort	Catch	Harvest
1977	7,462	ND	1,542
1978	4,028	ND	850
1979	5,974	ND	1,109
1980	5,783	ND	1,860
1981	4,761	ND	1,069
1982	6,728	ND	2,117
1983	6,761	ND	1,437
1984	4,835	ND	1,047
1985	3,676	ND	1,405
1986	6,254	ND	3,761
1987	12,532	ND	1,050
1988	4,820	ND	1,183
1989 [a]	1,152	ND	619
1990	4,188	2,020	1,260
1991	4,426	2,302	1,494
1992	4,172	2,005	995
1993	5,030	2,358	1,449
1994	3,014	1,271	822
1995	4,443	1,103	852
1996	2,305	2,082	1,131
1997	2,575	1,091	524
1998	1,576	1,012	550
1999	2,017	1,452	545
2000	1,804	437	318
2001	1,604	734	160
2002	1,412	653	200
2003	1,761	443	285
2004	1,902	1,188	482
2005	1,548	728	216
2006	1,975	580	386
2007	2,449	1,084	420
2008	1,543	891	210
2009	3,559	2,351	616
2010	2,393	1,396	235
2011	1,314	1,124	61
2012	835	369	123
2013	1,745	612	197
2014	743	330	61
2015	645	741	82
Mean	3,481	1,168	839

Source: State-Wide Harvest Surveys from Mills 1979-1994; Howe et al. 1995, 1996, 2001a-d; Walker et al. 2003; Jennings et al. 2004, 2006a-b, 2007, 2009a-b, 2010a-b, 2011a-b, 2015; Romberg et al., *In Prep* a-d.

Note: ND = no data available

[a] Access restricted due to campground construction.

Kenai River Personal Use (13 Proposals)

PROPOSAL 195 – 5 AAC 77.540. *Upper Cook Inlet Personal Use Salmon Fishery Management Plan.*

PROPOSED BY: City of Kenai.

WHAT WOULD THE PROPOSAL DO? This would remove the provision to extend the personal use fishery hours to 24 hours per day when the department determines the abundance of the Kenai River late-run sockeye salmon is greater than 2.3 million fish.

WHAT ARE THE CURRENT REGULATIONS? Subject to the requirement of achieving the lower end of the escapement goal (OEG) of 700,000 to 1,400,000 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 may result in an increase in crowding during the regularly scheduled fishing hours of 6:00 a.m. to 11:00 p.m. and reduce opportunity for personal use fishers in years of high sockeye salmon abundance. If adopted, this may result in an increase in the harvest of sockeye salmon in other fisheries, primarily the commercial drift and ESSN fisheries. Any benefit to the inriver sport fishery would depend on management actions to the commercial 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 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–August 5 (later amended to July 31) for the dip net fishery in the Kenai River. Establishment of a regular season provided predictability to this fishery. The regulatory season dates were independent of the abundance of returning salmon and were not tied to the management plans for other user groups. The household annual limit was 25 salmon for the head of the household and 10 additional salmon per member of the household, of which only one may be a king salmon.

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 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. If the department can determine that the late run exceeds two million fish, the department may liberalize the fishery by EO to 24 hours per day until the season closure on July 31.

The *Kenai River Late-Run Sockeye Salmon Management Plan* (5 AAC 21.360) provides the department direction to liberalize and restrict the personal use salmon fishery, based upon meeting the OEG, when circumstances require. The Kenai River personal use dip net fishery was closed inseason by EO in 1998 due to low abundance of Kenai River late-run sockeye salmon, and in 2006 due to late run timing. During 1999–2001, 2008, and 2009, the Kenai River personal use dip net fishery was not liberalized or restricted. The Kenai River personal use dip net fishery was liberalized during the 2002–2005, 2007, and 2010–2013 seasons. The fishery was liberalized by increasing the daily hours the fishery was open based on inseason projections of sockeye salmon run strengths greater than two million fish prior to 2011, and greater than 2.3 million fish starting in 2011. For the past ten years (2007–2016), the OEG has been achieved seven times and likely an eighth in 2016, exceeded once and been under once (Table 195-1). The inriver run goal has been achieved twice, exceeded seven times and been under once.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. The department makes a concerted effort to provide the City of Kenai with advanced notice prior to liberalizing the fishery. Department staff has observed clean-up operations (at night and sometimes during the day) when the fishery is open and have not witnessed any safety conflicts. Although no data has been collected on the level of participation during nighttime fishing, participation is significantly lower than during the daytime.

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 195-1.–Kenai River late-run sockeye salmon inriver-harvest and spawning escapement, 1987–2016.

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

-continued-

Table 195-1.–Page 2 of 2

Year	Personal Use/Subsistence Dip Net, and Educational Harvest [a]	Sport Harvest Below Sonar [b]	Kenai River Sonar Count [c]	Sport Harvest Above Sonar	Spawning Escapement	Inriver Goal	BEG/SEG	OEG	Pre-season 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	368,634	1,212,921	1,100,000-1,350,000	700,000-1,200,000	700,000-1,400,000	4.0	4.7
2013	350,302	78,837	1,359,893	379,685	980,208	1,000,000-1,200,000	700,000-1,200,000	700,000-1,400,000	4.4	3.5
2014	384,018	78,057	1,520,340	301,998	1,218,341	1,000,000-1,200,000	700,000-1,200,000	700,000-1,400,000	3.8	3.3
2015	384,095	83,112	1,709,051	309,004	1,400,047	1,000,000-1,200,000	700,000-1,200,000	700,000-1,400,000	3.6	3.9
2016	*not avail.*	*not avail.*	1,383,692	*not avail.*	*not avail.*	1,100,000-1,350,000	700,000-1,200,000	700,000-1,400,000	4.7	3.5

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

Note: ND = no data available

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

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

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

PROPOSAL 196 – 5 AAC 77.540. *Upper Cook Inlet Personal Use Salmon Fishery Management Plan.*

PROPOSED BY: Steve Vanek.

WHAT WOULD THE PROPOSAL DO? This would prohibit dip nets from being attached to a vessel.

WHAT ARE THE CURRENT REGULATIONS? Salmon may be taken by dip net in the Kenai River from a boat, in the area from a department regulatory marker located near the Kenai city dock upstream to the downstream side of the Warren Ames Bridge.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It would likely result in a reduction in salmon harvest and participation; and increase lost gear in the Kenai River personal use fishery. Increasing the difficulty of fishing from a vessel would likely increase crowding of the shore fishery. It would be inconsistent with other personal use vessel regulations around the state. If adopted, this may result in an increase in the harvest of sockeye salmon in other fisheries, primarily the commercial drift and ESSN fisheries. Any benefit to the inriver sport fishery would depend on management actions to the commercial fisheries.

BACKGROUND: Department estimates of personal use salmon harvest are by fishery location and participants do not record if the fish were harvested from a boat or from shore. Dipnetters who participate in the Kenai River personal use fishery from a vessel secure the net to the vessel with a line. When the dip net is deployed during a drift, the line prevents the net from being taken by the current.

DEPARTMENT COMMENTS: The department **OPPOSES** prohibiting attachment of dip nets to a vessel because it would not provide any conservation or management benefit relative to status quo. The department is **NEUTRAL** on the allocative aspects of this proposal.

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

PROPOSAL 197 – 5 AAC 77.540. *Upper Cook Inlet Personal Use Salmon Fishery Management Plan.*

PROPOSED BY: Steve Vanek.

WHAT WOULD THE PROPOSAL DO? This would prohibit dipnetting from a vessel that is not anchored in the Kenai and Kasilof river personal use fisheries.

WHAT ARE THE CURRENT REGULATIONS? Salmon may be taken by dip net in the Kenai and Kasilof personal use fisheries from a boat or from shore.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It would result in a reduction in the salmon harvest and participation in the Kenai and Kasilof river personal use fisheries. Increasing the difficulty of fishing from a vessel would likely increase use of the shore fishery. It would be inconsistent with other personal use vessel regulations around the state. If adopted, this may result in an increase in the harvest of sockeye salmon in other fisheries, primarily the commercial drift and ESSN fisheries. Any benefit to the inriver sport fishery would depend on management actions to the commercial fisheries.

BACKGROUND: Department estimates of personal use salmon harvest are by fishery location and participants do not record if the fish were harvested from a boat or from shore. Dipnetters who participate in personal use fisheries from a vessel typically drift along shore with the current.

DEPARTMENT COMMENTS: The department **OPPOSES** requiring dip net vessels to be anchored because it would not provide any conservation or management benefit relative to status quo. The department is **NEUTRAL** on the allocative aspects of this proposal.

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

PROPOSAL 198 – 5 AAC 77.540. *Upper Cook Inlet Personal Use Salmon Fishery Management Plan.*

PROPOSED BY: Steve Vanek.

WHAT WOULD THE PROPOSAL DO? This proposal would prohibit webbing in personal use dip nets that exceeds 2.5 inch stretched measure.

WHAT ARE THE CURRENT REGULATIONS? Dip nets are legal gear as defined under the statewide general provisions of 5 AAC 39.105(d)(24), *Types of legal gear*. A dip net is a bag-shaped net supported on all sides by a rigid frame; the maximum straight-line distance between any two points on the net frame, as measured through the net opening, may not exceed five feet; the depth of the bag must be at least one-half of the greatest straight-line distance, as measured through the net opening; no portion of the bag may be constructed of webbing that exceeds a stretched measurement of 4.5 inches; the frame must be attached to a single rigid handle and be operated by hand.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It would create an exception to the statewide regulation for Cook Inlet. A reduction in mesh size from the current 4.5 inches may result in fewer sockeye salmon harvested in the personal use dip net fisheries. The proposal is unlikely to change king salmon harvest because king salmon aren't any more likely to be gilled in 2.5 inch mesh web than in 4.5 inch mesh web. Personal use fishermen may require more time to obtain the same amount of fish. If adopted, this may result in an increase in the harvest of sockeye salmon in other fisheries, primarily the commercial drift gillnet and ESSN fisheries. Any benefit to the inriver sport fishery would depend on management actions to the commercial fisheries.

BACKGROUND: Prior to 1988, there were no restrictions on dip net mesh size. In 1988, the board adopted the current statewide regulation limiting mesh size to a maximum of 4.5 inches. This regulation was adopted in response to staff and public observation indicating more fish were "gilled" than "dipped" when larger mesh was used. At that time, the board agreed that smaller mesh should be used to ensure fish were dipped.

DEPARTMENT COMMENTS: The department is **OPPOSED** to changing the maximum mesh size allowed for use with a dip net in Upper Cook Inlet personal use fisheries as there would be no conservation benefit in deviating from the current regulations. In addition, the regulation which stipulates the maximum mesh size allowed for use with a dip net is a statewide provision, under 5 AAC 39.105. A uniform statewide standard provides regulatory consistency that is easier to enforce. The department is **NEUTRAL** on the allocative aspects of this proposal.

COST ANALYSIS: Approval of this proposal would result in an additional direct cost for a private person to participate in this fishery as webbing would need to be replaced.

PROPOSAL 199 – 5 AAC 77.540. *Upper Cook Inlet Personal Use Salmon Fishery Management Plan.*

PROPOSED BY: Kenai / Soldotna Fish and Game Advisory Committee.

WHAT WOULD THE PROPOSAL DO? This would prohibit dipnetting on the Kasilof River from a vessel with a motor on board greater than 10 horsepower.

WHAT ARE THE CURRENT REGULATIONS? Salmon may be taken by dip net in the Kasilof River from shore or a boat, in the area from a department regulatory marker located on Cook Inlet outside the mouth of Kasolif River to ADF&G markers posted approximately one mile upstream. No retention of king salmon is allowed in the Kasilof River dip net fisheries.

In the Kasilof River sport fishing from a motorized vessel is not allowed January 1–July 31 from the mouth upstream to the Sterling Highway Bridge. Motors 10 hp or less may be used downstream of ADF&G regulatory markers located approximately at river mile 3, and only after fishing from the vessel has stopped for the day.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would likely result in a reduction in the harvest of sockeye salmon in the Kasilof River personal use fishery. This proposal may displace those who would have fished from a motorized vessel to the shore, thereby increasing use of the shore fishery. If adopted, this may result in an increase in the harvest of sockeye salmon in other fisheries, primarily the commercial drift gillnet and ESSN fisheries. Any benefit to the inriver sport fishery would depend on management actions to the commercial fisheries.

BACKGROUND: Department estimates of personal use salmon harvest are by fishery location and participants do not record if the fish were harvested from a boat or from shore.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal as a means to manage the fishery. Reducing the efficiency of the Kasilof River personal use fishery does not address a conservation issue in the fishery and is potentially a safety issue for vessels at the mouth of the Kasilof River where large commercial drift boats run and anchor. The department is **NEUTRAL** on the allocative aspects of this proposal.

COST ANALYSIS: Approval of this proposal is may result in an additional direct cost for a private person to participate in this fishery if they needed to purchase a drift boat.

PROPOSAL 200 – 5 AAC 77.540. *Upper Cook Inlet Personal Use Salmon Fishery Management Plan.*

PROPOSED BY: Paul A. Shadura II.

WHAT WOULD THE PROPOSAL DO? This would amend the number of king salmon that may be retained in the Upper Cook Inlet personal use fishery to 10 king salmon under 20 inches.

WHAT ARE THE CURRENT REGULATIONS? The annual limit for each Upper Cook Inlet personal use salmon fishing permit is 25 salmon for the head of a household and 10 salmon for each additional household member. Only one king salmon of any size per household permit may be retained from the Kenai River dip net fishery.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Eliminating harvest of king salmon 20 inches or greater in the Kenai River personal use fishery would, depending on the contribution of jack king salmon to the run and harvest that year, have some impact on the achievement of Kenai River late–run king salmon escapement goals. The more liberal bag limit for king salmon less than 20 inches of ten fish will not provide significant additional harvest since king salmon are rarely harvested in the dip net fishery.

BACKGROUND: Harvest of king salmon in the personal use fishery is not reported by length, but total harvest in those years king salmon were allowed to be retained (1996–2011 and 2016) ranged from 66 to 1,509 fish, averaging 806 fish overall (Table 200-1). Retention of king salmon in the Kenai River personal use dip net fishery was prohibited for the entire season from 2012 to 2014 and most of the season in 2015 in an effort to achieve the Kenai River late-run king salmon sustainable escapement goal. The department has the emergency order authority to prohibit the retention of king salmon in the Kenai River personal use dip net fishery inseason if the department projects that the escapement goal for late-run king salmon will not be met.

DEPARTMENT COMMENTS: The department 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 200-1.–Kenai River late-run sockeye salmon inriver-harvest and spawning escapement, 1987–2016.

Year	Permits Issued[a]	Sockeye	King	Coho	Pink	Chum	Total
1996	14,576	102,821	295	1,932	2,404	175	107,627
1997	14,919	114,619	364	559	619	58	116,219
1998[b]	15,535	103,847	254	1,011	1,032	85	106,229
1999	17,197	149,504	488	1,009	1,666	102	152,769
2000	16,107	98,262	410	1,449	1,457	193	101,771
2001	16,915	150,766	638	1,555	1,326	155	154,440
2002	17,568	180,028	606	1,721	5,662	551	188,568
2003	19,110	223,580	1,016	1,332	1,647	249	227,824
2004	21,910	262,831	792	2,661	2,103	387	268,774
2005	21,905	295,496	997	2,512	1,806	321	301,132
2006[a]	18,563	127,630	1,034	2,235	11,127	551	142,577
2007	23,046	291,270	1,509	2,111	1,939	472	297,301
2008	23,722	234,109	1,362	2,609	10,631	504	249,215
2009	29,619	339,993	1,189	2,401	5,482	285	349,350
2010	31,590	389,552	865	2,870	3,655	508	397,450
2011[c]	34,515	537,765	1,243	4,745	3,914	915	548,583
2012[c]	34,315	526,992	40	4,008	3,770	425	535,236
2013[c]	35,211	347,222	11	3,169	3,625	701	354,727
2014[c]	35,989	379,823	0	4,710	19,140	1194	404,866
2015[c]	34,920	377,532	66	4,150	4,147	957	386,852
2016	31,216	259,057	638	3,277	7,834	717	271,524
Average 1996–2016	24,212	261,557	658	2,477	4,523	453	269,668

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

[a] Permits are for all Upper Cook Inlet personal use fisheries.

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

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

PROPOSAL 201 – 5 AAC 77.540. *Upper Cook Inlet Personal Use Salmon Fishery Management Plan.*

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This would decrease the area open to dipnetting from shore in the Kenai River personal use dip net fishery from the mouth of Kenai River upriver to a line between No Name Creek to ADF&G regulatory markers.

WHAT ARE THE CURRENT REGULATIONS? Participants may dip net from shore, in the area from ADF&G regulatory markers located on the Cook Inlet beaches outside the terminus of the river upstream to the downstream side of the Warren Ames Bridge, except dipnetting is closed on the north shore from an ADF&G regulatory marker located below the end of Main Street, upstream to an ADF&G regulatory marker located near the Kenai city dock.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would reduce the waters of the Kenai River personal use fishery open to dipnetting from shore by approximately 3½ miles and define the upstream boundary near the mouth of the river by a physical feature rather than a regulatory marker (Figure 201-1). It would protect habitat along the banks of the upper section of the fishery where participants commonly access the personal use fishery by parking along Bridge Access Road and walking across the wetlands to dip net. It would displace dipnetters that utilize this shore fishery and likely increase crowding in the open area at the mouth of the Kenai River.

BACKGROUND: To designate the personal use dip net boundary near the mouth of the Kenai River, department markers are placed on the shore line at the base of the north shore bluff below the end of Main Street, which is a short distance upstream of the Kenai River - No Name Creek confluence. Markers are frequently lost in tidal currents or removed by participants who fish above No Name Creek. Participation in the shore-based personal use fishery in the area just downstream of the Warren Ames Bridge has increased. Use occurs on both the north and south shores. On the south shore, access is supported by the Kenai Flats Day Use Area operated by the Alaska Department of Natural Resources, Division of Parks and Outdoor Recreation (DNR-DPOR) which is designed with 32 vehicle parking stalls which require a $5 day use fee during the personal use fishery. On the north shore, no designated parking is available. Participants in the dip net fishery access this section of river by crossing over, as well as fishing from, and staging equipment on, vegetated tides lands. Use of the these lands for personal use fishing has increased to the extent that the number of vehicles at the Kenai River Flats Day Use Area parking area may often exceed capacity for the 22-day fishery. Often vehicles are parked in the right of way along both sides of the roadway, on both sides of the Warren Ames Bridge. Impact to the vegetated tide lands has not been assessed; however, it is evident that dip net fishing from the vegetated tide lands downstream of the Warren Ames Bridge may be negatively impacting the riparian habitat in the lower Kenai River.

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

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

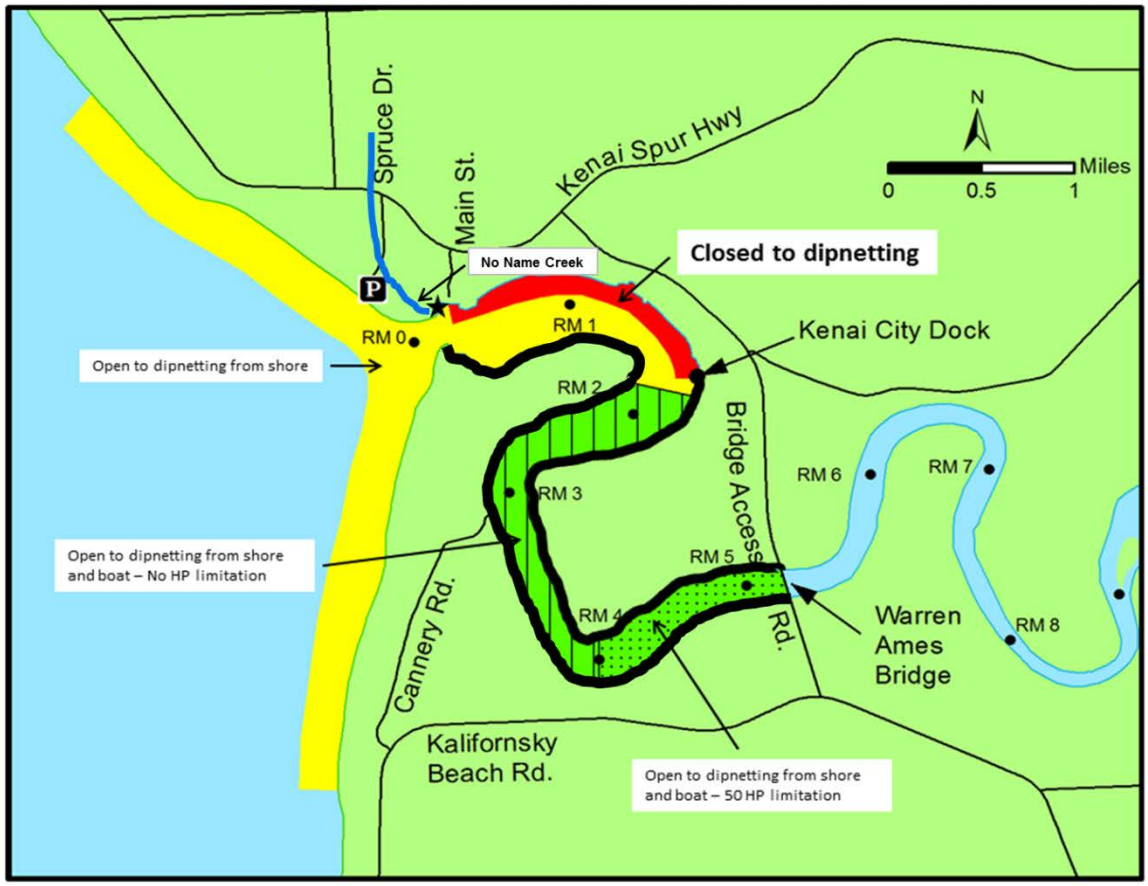

Figure 201-1.–Kenai River area open to dipnetting from boat and shore (proposed bank closure denoted by thick black lines).

PROPOSAL 202 – 5 AAC 77.540. *Upper Cook Inlet Personal Use Salmon Fishery Management Plan.*

PROPOSED BY: Ronald Jordan.

WHAT WOULD THE PROPOSAL DO? Extend the Cook Inlet personal use dip net fisheries to the second Sunday of August.

WHAT ARE THE CURRENT REGULATIONS? Subject to the requirement of achieving the lower end of the optimal escapement goal (OEG), 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 10–31, seven days per week, from 6:00 a.m. to 11:00 p.m. The commissioner may extend, by emergency order (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 two million.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase the number of king, sockeye and coho salmon harvested in the personal use fishery by an undetermined amount. There would likely be additional costs to the City of Kenai to provided contractual services for an extended time.

BACKGROUND: The *Kenai River Late-Run Sockeye Salmon Management Plan* (5 AAC 21.360) provides direction to liberalize and restrict the personal use salmon fishery, based upon meeting the optimal escapement goal, when circumstances require. The Kenai River personal use dip net fishery was closed inseason by EO in 1998 due to low abundance of Kenai River late-run sockeye salmon, and in 2006 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. During 1999–2001, 2008, and 2009, the Kenai River personal use dip net fishery was not liberalized or restricted. The Kenai River personal use dip net fishery was liberalized during the 2002–2005, 2007, and 2010–2013 seasons. Minimum daily coho salmon harvests in the Kenai River personal use dip net fishery from 2007–2016 are reported in Table 202-1.

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 202-2). 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% to 47% from 2000 to 2004. New regulations in 2005 and 2008, which liberalized sport and commercial fisheries, very likely increased harvest rates of Kenai River coho salmon relative to the rates observed from 1999–2004. Research findings from studies conducted in Southeast Alaska with transboundary coho salmon stocks have indicated that a harvest rate of about 61% is sustainable.

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 exploitation rates but believes current management is sustainable. The Kenai River coho salmon stock is not monitored. Inriver harvest data indicate harvest of Kenai River coho salmon is relatively stable under existing regulations.

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

Table 202-1.–Minimum daily harvests of coho salmon (not expanded for nonrespondents) in the Kenai River personal use dipnet fishery, from 2006–2016.

Date	2006[a]	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Average
10-Jul	17	5	1	42	86	10	35	49	40	80	57	38
11-Jul	9	12	14	37	22	87	26	14	35	39	85	35
12-Jul	2	9	12	92	60	13	28	22	185	124	97	59
13-Jul	61	23	0	13	59	23	123	27	62	79	39	46
14-Jul	61	67	13	49	40	37	85	81	108	38	54	58
15-Jul	133	25	70	107	76	86	59	160	53	140	146	96
16-Jul	37	5	18	73	111	593	140	228	71	75	173	139
17-Jul	17	12	60	63	188	176	116	160	73	150	120	103
18-Jul	24	84	62	174	90	245	144	113	117	325	70	132
19-Jul	27	46	98	200	83	99	86	173	208	170	33	111
20-Jul	134	97	117	79	108	47	177	208	164	140	75	122
21-Jul	236	199	196	63	120	76	375	70	119	105	79	149
22-Jul	[b]	89	35	51	69	252	163	97	99	103	185	114
23-Jul	[b]	41	93	31	99	570	195	41	141	87	157	146
24-Jul	[b]	77	68	58	219	131	119	51	167	302	108	130
25-Jul	[b]	102	82	165	75	167	195	51	197	193	22	125
26-Jul	[b]	163	235	76	59	156	57	60	259	80	33	118
27-Jul	[b]	117	99	57	40	141	112	95	262	89	99	111
28-Jul	[b]	151	125	182	74	119	182	115	128	62	99	124
29-Jul	[b]	69	88	95	72	206	133	89	242	140	113	125
30-Jul	[b]	74	226	135	133	153	161	166	201	95	107	145
31-Jul	80	28	292	49	76	130	96	53	176	278	201	133
Total	838	1,495	2,004	1,891	1,959	3,517	2,807	2,123	3,107	2,894	2,152	2,357

Source: K. Dunker, Sport Fish Biologist, ADF&G Anchorage, personal communication.

[a] In 2006, the personal use fishery was reopened from August 3-10, resulting

[b] Fishery closed

Table 202-2.–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

PROPOSAL 203 – 5 AAC 77.540. *Upper Cook Inlet Personal Use Salmon Fishery Management Plan.*

PROPOSED BY: Alaska Outdoor Council.

WHAT WOULD THE PROPOSAL DO? This would allow the department to extend the season and liberalize the bag limit (except king salmon retention would not be included in the extended season) in the Kenai River personal use fishery when the sonar estimate is projected to exceed 1.2 million sockeye salmon.

WHAT ARE THE CURRENT REGULATIONS? Subject to the requirement of achieving the lower end of the optimal escapement goal (OEG, 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 10–31, 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 two million.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? If the department implemented the proposed authorities, this would increase the number of sockeye and coho salmon harvested in the personal use fishery by an undetermined amount when Kenai River late run sockeye salmon inriver run is greater than 1.2 million. Increasing the harvest limit during the season would increase regulatory complexity especially in situations where a user may have already turned in their permit prior to the increase.

BACKGROUND: Beginning with the 1996 season, the board established a season of July 10–August 5 (later amended to July 31) for the dip net fishery in the Kenai River. Establishment of a regular season provided predictability to this fishery. The regulatory season dates were independent of the abundance of returning salmon and were not tied to the management plans for other user groups. The household annual limit was 25 salmon for the head of the household and 10 additional salmon per member of the household, of which only one may be a king salmon. The most recent five-year (2012–2016) average number of sockeye salmon harvested per household permit is 14.3 fish (Table 203-1).

The *Kenai River Late-Run Sockeye Salmon Management Plan* (5 AAC 21.360) provides direction to liberalize and restrict the personal use salmon fishery, based upon meeting the optimal escapement goal, when circumstances require. In 2006 the Kenai River sockeye run was unusually late and the personal use dip net fishery was reopened by emergency order August 3 and extended through August 10. The reported harvest (not expanded for nonrespondents) during that timeframe was 1,017 coho salmon.

The management plan also states the sockeye runs will be managed to meet an OEG of 700,000–1,400,000 late-run sockeye salmon; achieve inriver goals measured at the Kenai River sonar counter; and distribute the escapement of sockeye salmon evenly within the OEG range in proportion to the size of the run. For the past ten years (2007–2016), the OEG has been achieved seven times and likely an eighth in 2016, exceeded once and been under once (Table 203-2). The inriver run goal has been achieved twice, exceeded seven times and been under once.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. Modifying permit stipulations inseason is problematic and increases the cost to the department in administering the permit program. 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. The department is **NEUTRAL** on the allocative aspects of this proposal.

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

Table 203-2.–Number of salmon by species, harvested per household permit in Upper Cook Inlet Personal Use fisheries, 2006–2016.

Year	Permits Issued	Sockeye	Chinook	Coho	Pink	Chum	Total Salmon
2006	18,563	11.64	0.08	0.20	0.67	0.04	12.63
2007	23,046	15.48	0.08	0.12	0.10	0.03	15.81
2008	23,722	13.43	0.07	0.14	0.50	0.03	14.17
2009	29,619	15.45	0.05	0.14	0.24	0.02	15.89
2010	31,590	16.28	0.03	0.27	0.21	0.03	16.82
2011	34,515	18.26	0.04	0.20	0.14	0.03	18.67
2012	34,315	18.34	0.00	0.16	0.14	0.02	18.66
2013	35,211	12.90	0.00	0.15	0.13	0.03	13.21
2014	35,989	14.06	0.00	0.26	0.74	0.05	15.12
2015	34,920	14.95	0.00	0.30	0.21	0.06	15.52
2016	31,216	11.17	0.03	0.15	0.31	0.04	11.70

Note: Upper Cook Inlet Personal Use Permits are for participation in the Kenai River dip net fishery, the Kasilof River dipnet fishery, the Kasilof River set gillnet fishery, and the Fish Creek dip net fishery. These data are for all fisheries combined. On average, 76% of personal use permit holders participate in the Kenai River dipnet fishery.

Table 203-2.–Kenai River late-run sockeye salmon inriver-harvest and spawning escapement, 1987–2016.

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

-continued-

Table 203-2.–Page 2 of 2

Year	Personal Use/Subsistence Dip Net, and Educational Harvest [a]	Sport Harvest Below Sonar [b]	Kenai River Sonar Count [c]	Sport Harvest Above Sonar	Spawning Escapement	Inriver Goal	BEG/SEG	OEG	Pre-season 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	368,634	1,212,921	1,100,000-1,350,000	700,000-1,200,000	700,000-1,400,000	4.0	4.7
2013	350,302	78,837	1,359,893	379,685	980,208	1,000,000-1,200,000	700,000-1,200,000	700,000-1,400,000	4.4	3.5
2014	384,018	78,057	1,520,340	301,998	1,218,341	1,000,000-1,200,000	700,000-1,200,000	700,000-1,400,000	3.8	3.3
2015	384,095	83,112	1,709,051	309,004	1,400,047	1,000,000-1,200,000	700,000-1,200,000	700,000-1,400,000	3.6	3.9
2016	*not avail.*	*not avail.*	1,383,692	*not avail.*	*not avail.*	1,100,000-1,350,000	700,000-1,200,000	700,000-1,400,000	4.7	3.5

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

Note: ND = no data available

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

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

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

PROPOSAL 204 – 5 AAC 77.540. *Upper Cook Inlet Personal Use Salmon Fishery Management Plan.*

PROPOSED BY: Kenai River Sportfishing Association.

WHAT WOULD THE PROPOSAL DO? This would extend the boundary of the Kenai River personal use dip net boat fishery upstream to Cunningham Park.

WHAT ARE THE CURRENT REGULATIONS? Salmon may be taken by dip net from a boat in an approximate 3.5 river mile area of the Kenai River, from a department regulatory marker located near the Kenai city dock upstream to the downstream side of the Warren Ames Bridge; however, salmon may not be taken from a boat powered by a two stroke motor other than a motor manufactured as a direct fuel injection motor. Salmon may also be taken from shore from department regulatory markers located on Cook Inlet beaches outside the terminus of the river upstream to the downstream side of the Warren Ames Bridge, except dipnetting is closed on the north shore from a department regulatory marker located below the end of Main Street upstream to a department regulatory marker located near the Kenai city dock (Figure 204-1).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase the area open to dipnetting from a vessel by approximately 1.5 miles. Initially, this may decrease crowding in the waters open to dipnetting from a vessel, but over time may encourage growth of the fishery. This proposal would also increase conflict between sport anglers targeting king salmon and personal use fishermen in this section of river. Depending on run strength, increased participation would likely result in increased personal use harvest of king and sockeye salmon potentially reducing harvest in other salmon fisheries, including the commercial drift and ESSN fisheries, and Kenai River sport fishery.

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.

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.

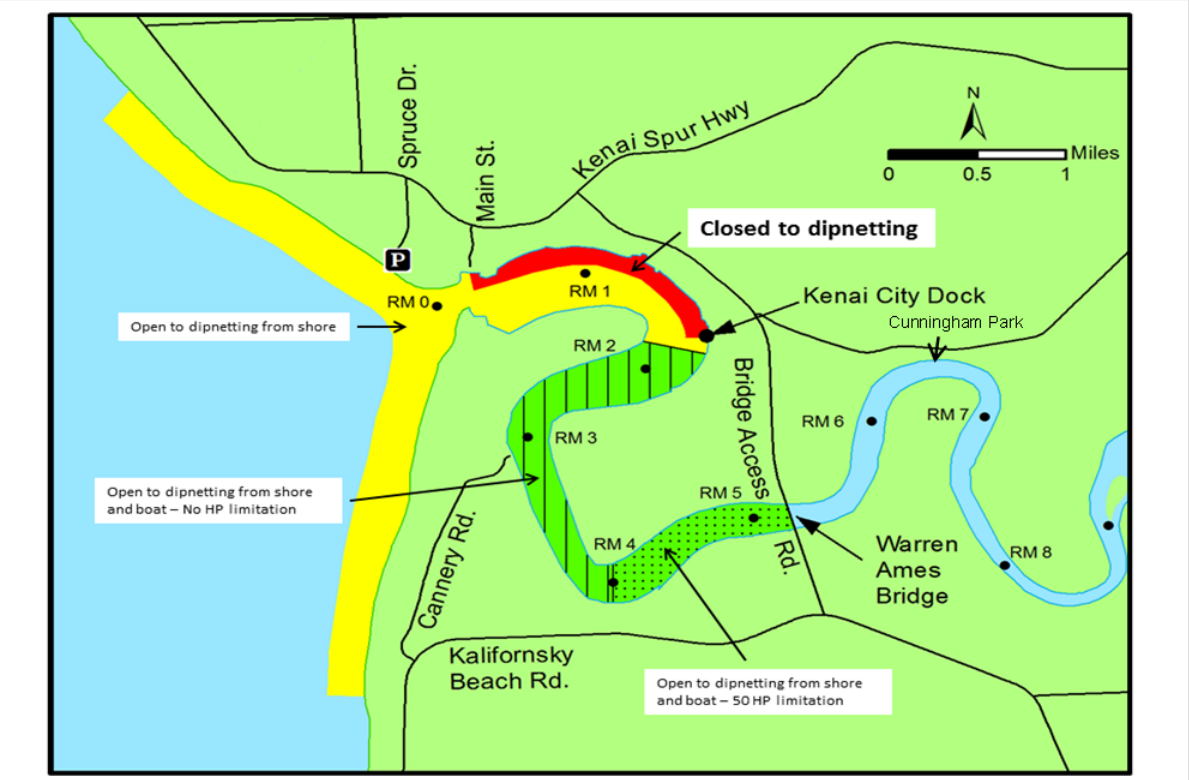

Figure 204-1.–Kenai River area open to dipnetting from boat and shore.

PROPOSAL 205 – 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 allow shore based personal use dipnetting in the Kenai River upstream to Skilak Lake from private land and from an approved shoreline habitat protective structure that has been permitted by Department of Natural Resources, Division of Parks and Recreation.

WHAT ARE THE CURRENT REGULATIONS? Salmon may be taken by dip net from a boat in an approximate 3.5 river mile area of the Kenai River, from a department regulatory marker located near the Kenai city dock upstream to the downstream side of the Warren Ames Bridge; however, salmon may not be taken from a boat powered by a two stroke motor other than a motor manufactured as a direct fuel injection motor. Salmon may also be taken from shore from department regulatory markers located on Cook Inlet beaches outside the terminus of the river upstream to the downstream side of the Warren Ames Bridge, except dipnetting is closed on the north shore from a department regulatory marker located below the end of Main Street upstream to a department regulatory marker located near the Kenai city dock (Figure 204-1).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase the area open to dipnetting from shore by approximately 45 miles. This may decrease crowding along the shore, but would increase sockeye salmon harvest significantly above the sockeye salmon enumeration sonar site at RM 19. The inriver goal was established to provide a stable sport fishery upriver and is measured by sockeye salmon passing the RM 19 sonar. Increasing harvest upriver of the sonar would allocate salmon from the sport to personal use fishery. Enforcement of bag limits and residency in the personal use fishery would become more difficult with the dramatic increase in access points along the river. This would likely decrease harvest in other salmon fisheries, including the commercial drift and ESSN fisheries; and Kenai River personal use dipnet fishery.

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.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. The department has concerns regarding the difficulty in attempting to enforce the fishery. There are limited access points currently in the fishery where enforcement has the opportunity to inspect users for compliance of harvest limits, marking requirements, and recording requirements.

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

PROPOSAL 206 – 5 AAC 77.540. *Upper Cook Inlet Personal Use Salmon Fishery Management Plan.*

PROPOSED BY: Jon Madison.

WHAT WOULD THE PROPOSAL DO? This would create an area upstream of the Kenai River personal use fishery where recording and fin clip requirements are waived for fish that have not been offloaded.

WHAT ARE THE CURRENT REGULATIONS? A person shall record all fish harvested on the permit, in ink, immediately upon harvesting the fish; for the purposes of this paragraph, "immediately" means before concealing the salmon from plain view or transporting the salmon from the "fishing site". Salmon may be taken by dip net from a boat in an approximate 3.5 river mile area of the Kenai River, from a department regulatory marker located near the Kenai city dock upstream to the downstream side of the Warren Ames Bridge.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? It would create an exception to the regulation requiring that all harvested fish must be recorded and fin clipped prior to leaving the fishing site. It would have no effect on participation or harvest in the personal use fishery.

BACKGROUND: The term "fishing site" has been interpreted differently among participants in the personal use fishery. Fishing from shore has different characteristics than fishing from a boat and these differences also lead to varying interpretations by the public of what constitutes the fishing site.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal and defers to the Department of Public Safety regarding potential enforcement issue were it to pass.

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

PROPOSAL 207 – 5 AAC 77.540. *Upper Cook Inlet Personal Use Salmon Fishery Management Plan.*

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This would amend the boundary description language for the area open to dipnetting in the Kasilof River personal use salmon fishery.

WHAT ARE THE CURRENT REGULATIONS? Salmon may be taken by dipnet in the personal use fishery in the Kasilof River from ADF&G regulatory markers located on Cook Inlet beaches outside the terminus of the river.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would clarify the boundary and waters open to participants in the Kasilof River personal use fishery.

BACKGROUND: The seaward boundary outside of the terminus is not clearly defined as a straight line between markers (Figure 207-1 map). This has created confusion among participants in the personal use fishery.

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

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

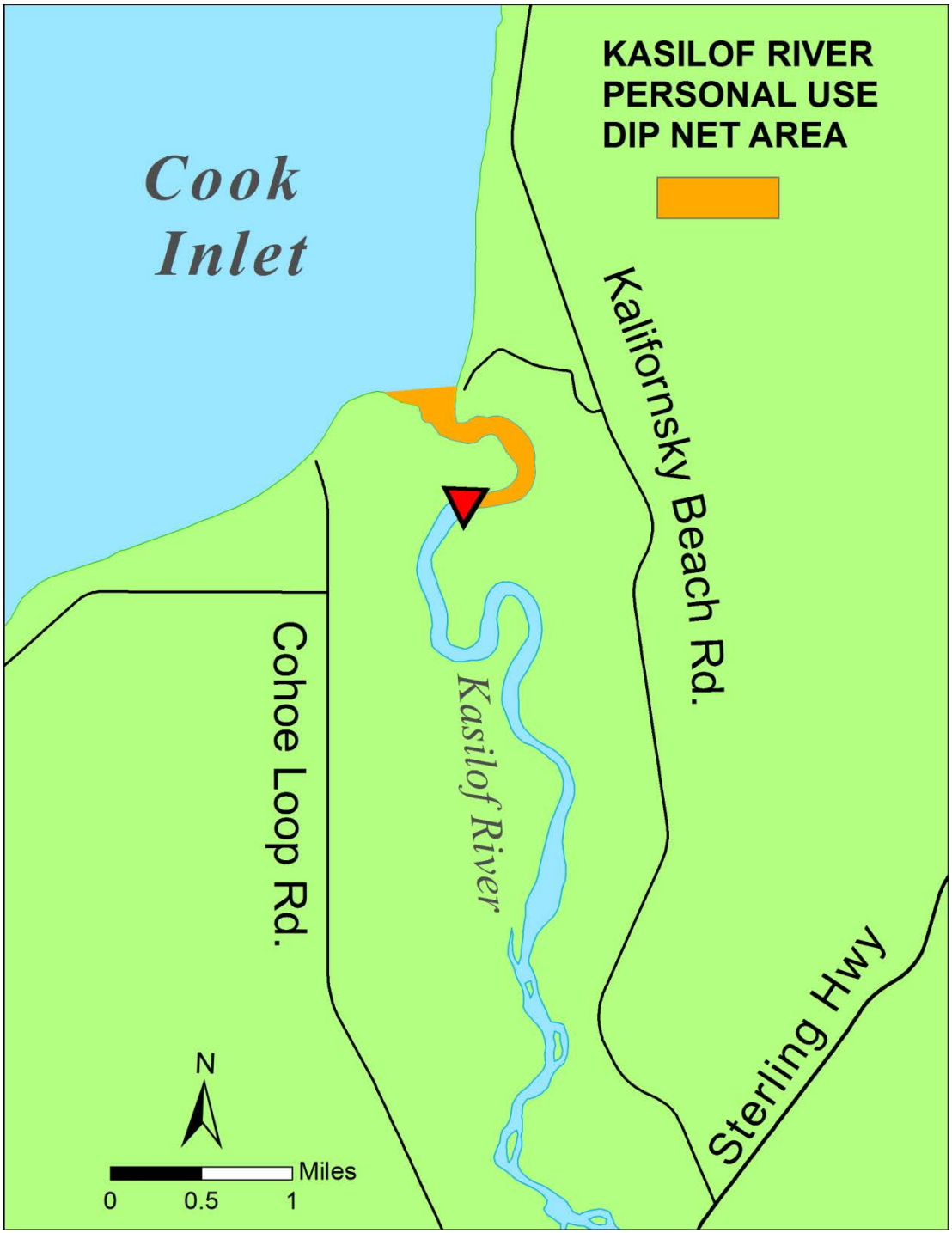

Figure 207-1.–Kasilof River area open to personal use dip net fishing.

Cook Inlet Personal Use (1 Proposal)

PROPOSAL 208 – 5 AAC 77.540. *Upper Cook Inlet Personal Use Salmon Fishery Management Plan.*

PROPOSED BY: Jon Madison.

WHAT WOULD THE PROPOSAL DO? Allow 10 Dolly Varden/Arctic char per household in Cook Inlet personal use fisheries.

WHAT ARE THE CURRENT REGULATIONS? Cook Inlet personal use fisheries allow the head of a household to harvest 25 salmon and each additional member is allowed 10 salmon. A household is allowed 10 flounder. Dolly Varden and other resident species are not allowed to be harvested.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would allow harvest of an unknown, but likely small number of Dolly Varden in Cook Inlet personal use 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 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.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. The fishery was created to harvest surplus salmon, not other species. Sport fishing regulations for Dolly Varden/Arctic char are extremely conservative in the Kenai River and the department is not currently conducting any assessment studies on these stocks.

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.

COMMITTEE OF THE WHOLE–GROUP 7: Northern District Commercial and Susitna River Sport Fisheries (20 Proposals)

Northern District Commercial Salmon (10 Proposals)

PROPOSAL 209 – 5 AAC 21.366. Northern District King Salmon Management Plan.

PROPOSED BY: Matanuska Valley Fish and Game Advisory Committee.

WHAT WOULD THE PROPOSAL DO? This would repeal the entire *Northern District King Salmon Management Plan*.

WHAT ARE THE CURRENT REGULATIONS? The *Northern District King Salmon Management Plan* (5 AAC 21.366) regulates the directed king salmon commercial fishery in the ND of UCI. The purpose of the plan is to ensure an adequate escapement of king salmon into ND drainages and to provide management guidelines to the department; the department shall manage ND king salmon stocks primarily for sport and guided sport uses in order to provide sport and guided sport fishermen with a reasonable opportunity to harvest these salmon over the entire run as measured by the frequency of inriver restrictions.

The directed king salmon season opens the first Monday on or after May 25 and continues through June 24 unless closed earlier by EO. Fishing periods are Mondays only from 7:00 a.m. to 7:00 p.m. Permit holders are allowed one 35-fathom set gillnet with a mesh size not to exceed six inches, and may not operate nets within 1,200 feet seaward of another set gillnet. The fishery will close if 12,500 king salmon are harvested. The area from the wood chip dock (south of Tyonek) to Susitna River is closed during these commercial fishing periods.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would eliminate the directed king salmon commercial fishery in the ND through June 24. Based on 2007–2016 average annual harvest, king salmon harvest in the ND commercial set gillnet fishery would be reduced by approximately 1,900 king salmon annually (Table 209-1). This would increase the number of king salmon migrating to streams in NCI on average by approximately 1,900 fish. This proposal would not affect management of the Tyonek subsistence fisheries because they are managed through subsistence regulations. It may increase king salmon harvest in the NCI sport fishery and the Tyonek subsistence fishery.

BACKGROUND: The *Northern District King Salmon Management Plan* was first adopted in 1986. The *Northern District King Salmon Management Plan* has been modified at various board meetings. In 2002, season opening date was changed from the first Monday on or after June 1 to the first Monday on or after May 25. Number of fishing periods remained at three with only one period open in that area from an ADF&G regulatory marker located one mile south of Theodore River to Susitna River. In 2005, number of commercial fishing periods remained the same, but the length of those periods was increased from six to 12 hours in duration. In 2008, the number of fishing periods was increased from three periods per year, to four or five, dependent on the calendar year. Season opening date remained the same but closing date was changed to through

June 24, unless closed by EO. The area from one mile south of the Theodore River to the Susitna River remained open to fishing for the second regular Monday period only.

Missed escapement goals on certain Susitna drainage streams 2008–2010 prompted the board to designate six king salmon stocks as Stocks or Concern (SOC) in 2011. In response to the SOC designation, the board closed sport fishing in the Theodore, Lewis, and Chuitna rivers beginning with the 2011 season. The board also modified the *Northern District King Salmon Management Plan*, to close the ND set gillnet fishery from the wood chip dock to the Susitna River (Figure 209-1) while the sport fishery is closed. This area has remained closed to commercial fishing during ND directed king salmon fishery since 2011. The board also took action to reduce the sport harvest within Unit 2 of the Susitna River drainage by removing a weekend of fishing, limiting fishing time to 6 a.m. to 11 p.m., closing Goose Creek to king salmon fishing, and closing the confluence of Alexander Creek to sport fishing for all species during the king salmon run.

Beginning in 2012, the department began taking even more restrictive actions in the sport and commercial fisheries in response to below-average king salmon runs throughout NCI. The commercial fishery reduced all 12-hour periods to six hours in duration, and then from 2013–2015, the first fishing period of the year was also closed. In 2015, when inseason escapement estimates revealed the Deshka River king salmon minimum escapement goal was projected to be met, fishing time was returned to 12-hour periods for the June 15 and June 22 fishing periods. In 2016, the May 30 fishing period was reduced to six hours in length, with the remaining three periods being 12-hours in duration.

In the sport fishery, harvest reductions were implemented by EO prior to the start of the season since 2012 and have varied by area, from 100% reduction in the Eastside Susitna area to a 60% reduction on the Yentna River drainage to less than 25% on the Deshka River (Figure 209-2). Harvest reductions have been based upon the level needed to achieve escapement goals in the various areas based on the immediate past two or three years of harvest and escapement data. In addition, consideration has been given to potential shifts in effort due to some areas being restricted more than other areas. The strategy to reduce harvest by 50% in 2012 was inadequate and a midseason closure of the entire Susitna and Little Susitna rivers ensued, ultimately resulting in about a 70% sport harvest reduction area wide. The management strategy in 2013 was based heavily on the outcome of the 2012 season and a 70%–75% reduction was targeted. The restrictions developed for the 2013 season resulted in a favorable outcome in terms of opportunity and achievement of goals and this set of restrictions were continued through the 2015 season. In 2016, escapement and harvest data from 2013–2015 in combination with the observance of stronger age class returns over recent years warranted increasing sport harvest on the Deshka and Little Susitna rivers only. Bait was allowed per regulation on the Deshka River from the outset of the season and one additional day of harvest allowed on the Little Susitna River. None of the Eastside Susitna streams have demonstrated the ability to sustain harvest in recent years.

Forty-one commercial permit holders participated in the 2016 ND king salmon fishery, with an estimated harvest of 2,030 fish (Table 209-1; 209-2). Number of permit holders participating in this fishery rapidly declined beginning in 1993, which is the first year set gillnet fishermen were

required to register (prior to fishing) to fish in one of three areas (ND, Upper Subdistrict, or Greater Cook Inlet) for the entire year (5 AAC 21.345). The registration requirement served to eliminate a common practice of fishing in multiple areas in UCI during the same year.

From 1990–2016, average annual harvest of king salmon in the ND directed commercial fishery was approximately 2,600 fish, although the most recent average (2007–2016) was approximately 1,900 fish (Table 209-1). A harvest cap of 12,500 king salmon was only reached one time in 1986. After the 1993 registration requirements went into effect, the number of fishermen participating in the fishery, and thus harvests, declined. From 1990–2015, average annual harvest of king salmon in the NCI area sport fishery was approximately 28,000 fish. Similar to the decline in the commercial harvest, the most recent average (2007–2015) was approximately 13,000 fish. Based on the most recent harvest data, the directed commercial fishery averaged 18% of the harvest, while the sport fishery averaged 82% of the harvest.

During the most recent 10 years (2007–2016), escapement of Deshka River king salmon at the weir was below the goal range two years and within the goal range eight years (Table 209-3). Escapement goals on Eastside Susitna streams have been met about half the time during this same time period despite being restricted to catch-and-release since 2012 (Figure 209-3)

Since 2013, the department conducted a project on the Susitna River to determine king salmon abundance and spawning distribution on the Susitna River. Based on these investigations, estimated king salmon abundance in the Susitna River upstream of the Yentna River was approximately 89,500 fish in 2013; 68,000 fish in 2014; and 88,600 fish in 2015 (Table 209-4). Additionally, estimated king salmon abundance in the Yentna River was approximately 22,300 fish in 2014 and 48,500 fish in 2015. Spawning distribution in 2014 and 2015 indicated the major destinations were the combined Eastside Susitna River streams (17% and 20%), Deshka River (15% and 19%), Talkeetna River (15% and 10%), and Chulitna River (18% and 8%) (Table 209-5).

Based on these estimates of king salmon abundance in the Susitna River only, the commercial fishery harvest rate in 2014 and 2015 was 1.2% and 2.4% of the Susitna River king salmon run and the sport harvest rate was 2.2% and 2.6%. When all NCI king salmon stocks are considered, the commercial fisheries harvest rate is less than estimates for the Susitna River alone.

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 209-1.–Permits, periods fished, and king salmon harvest in the Northern District directed king salmon fishery from May 25–June 24 and harvest of king salmon in Northern District sport fisheries, 1990–2016.

	ND Commercial Fishery				ND Sport Fisheries		
Year	Permits	Periods	Commercial Harvest	Percent	Sport Harvest	Percent	Total Harvest
1990	130	3	8,072	21%	30,724	79%	38,796
1991	140	4	6,305	16%	33,984	84%	40,289
1992	137	3	3,918	8%	46,649	92%	50,567
1993	80	4	3,072	6%	52,089	94%	55,161
1994	73	2	3,014	8%	33,279	92%	36,293
1995	65	1	3,837	16%	20,154	84%	23,991
1996	58	1	1,690	7%	23,795	93%	25,485
1997	45	2	894	3%	27,097	97%	27,991
1998	51	2	2,240	8%	24,869	92%	27,109
1999	56	2	2,259	6%	38,313	94%	40,572
2000	47	3	2,046	5%	37,333	95%	39,379
2001	43	3	1,616	4%	34,491	96%	36,107
2002	36	3	1,747	6%	28,566	94%	30,313
2003	30	3	1,185	4%	31,547	96%	32,732
2004	44	3	1,819	6%	30,402	94%	32,221
2005	52	3	3,150	9%	32,941	91%	36,091
2006	59	3	3,887	11%	32,389	89%	36,276
2007	62	3	3,132	10%	28,592	90%	31,724
2008	74	4	3,855	17%	18,855	83%	22,710
2009	55	3	1,266	10%	11,625	90%	12,891
2010	51	4	1,674	13%	11,260	87%	12,934
2011	61	4	2,187	17%	10,313	83%	12,500
2012	38	4	1,030	24%	3,190	76%	4,220
2013	38	4	1,134	23%	3,808	77%	4,942
2014	44	4	1,377	26%	3,957	74%	5,334
2015	40	4	1,560	18%	7,342	82%	8,902
2016	41	4	2,030	NA	NA	NA	NA
Annual Averages							
1986–2016	61	3	2,592	12%	25,291	88%	27,905
2007–2016	50	4	1,925	18%	10,994	82%	12,906

Note: NA = data not available.

Table 209-2.–King salmon harvest from Northern District directed fishery by statistical area, May 25–June 24, 2007–2016.

Year	Date	Trading Bay 247-10	Tyonek 247-20	Beluga 247-30	Susitna Flats 247-41	Pt. McKenzie 247-42	Fire Island 247-43	Pt. Possession 247-70	Birch Hill 247-80	#3 Bay 247-90	Total
2007	05/28	178	99	21	15	42	7	78	28	30	
	06/04	237	162	228	131	94	124	240	36	18	
	06/11	94	366	126	120	87	181	346	24	20	
	Total	509	627	375	266	223	312	664	88	68	3,132
2008	05/26	39	272	42	33	16	27	35	24	11	
	06/02	110	165	49	72	50	37	96	7	11	
	06/09	103	535	143	275	208	153	168	72	31	
	06/16	118	282	138	162	81	110	132	33	15	
	Total	370	1254	372	542	355	327	431	136	68	3,855
2009	05/25	ND	28	14	6	3	1	24	3		
	06/01	111	147	36	12	24	15	68	32	10	
	06/08	148	181	94	64	101	56	77	3	8	
	Total	259	356	144	82	128	72	169	38	18	1,266
2010	05/31	141	102	ND	43	48	42	32	5	20	
	06/07	180	302	ND	71	63	71	74	22	19	
	06/14	ND	61	ND	8	54	25	19	8	5	
	06/21	17	147	ND	2	23	39	20	7	4	
	Total	338	612	ND	124	188	177	145	42	48	1,674
2011	05/30	118	85	ND	57	73	129	55	29	6	
	06/06	305	192	ND	51	53	112	64	19	25	
	06/13	132	208	ND	31	60	72	66	18	13	
	06/20	27	83	ND	18	20	32	22	3	9	
	Total	582	568	ND	157	206	345	207	69	53	2,187
2012	05/28	129	20	ND	7	5	2	32	9	8	
	06/04	35	27	ND	36	26	44	40	ND	6	
	06/11	252	101	ND	16	29	11	58	19	5	
	06/18	10	34	ND	12	14	16	20	ND	7	
	Total	426	182	ND	71	74	73	150	28	26	1,030
2013	06/03	117	ND	ND	91	75	51	24	9		
	06/10	179	ND	ND	52	74	51	87	14	12	
	06/17	121	ND	ND	16	13	15	55	8	4	
	06/24	44	ND	ND	3	13	ND	ND	ND	6	
	Total	461	ND	ND	162	175	117	166	31	22	1,134
2014	06/02	125	38	ND	39	40	43	92	74	30	
	06/09	263	ND	ND	37	45	71	22	10	3	
	06/16	103	ND	ND	15	39	32	48	14	6	
	06/23	41	95	ND	8	23	5	10	3	3	
	Total	532	133	ND	99	147	151	172	101	42	1,377
2015	06/01	83	38	ND	52	38	93	39	25	9	
	06/08	92	76	ND	48	27	85	72	41	22	
	06/15	93	80	ND	58	80	75	38	5	7	
	06/22	86	29	ND	34	33	51	37	10	4	
	Total	354	223	ND	192	178	304	186	81	42	1,560
2016	05/30	315	170	ND	39	5	45	131	23	23	
	06/06	43	177	ND	1	46	19	76	ND	6	
	06/13	152	74	ND	32	52	101	173	ND	16	
	06/20	42	93	ND	11	37	55	71	1	1	
	Total	552	514	ND	83	140	220	451	24	46	2,030

Note: ND = no data.

Table 209-3.–King salmon escapement and escapement goals in the Deshka River, 1986–2016.

		Escapement Goal	
Year	Escapement	Range	Below, Within, Above
1986	47,616	13,000–28,000	Above
1987	35,687	13,000–28,000	Above
1988	43,767	13,000–28,000	Above
1989	23,520	13,000–28,000	Within
1990	41,622	13,000–28,000	Above
1991	21,331	13,000–28,000	Within
1992	20,387	13,000–28,000	Within
1993	16,450	13,000–28,000	Within
1994	10,165	13,000–28,000	Below
1995	10,038	13,000–28,000	Below
1996	14,234	13,000–28,000	Within
1997	35,587	13,000–28,000	Above
1998	36,401	13,000–28,000	Within
1999	29,030	13,000–28,000	Above
2000	33,965	13,000–28,000	Above
2001	27,963	13,000–28,000	Above
2002	28,535	13,000–28,000	Above
2003	39,257	13,000–28,000	Above
2004	56,659	13,000–28,000	Above
2005	36,433	13,000–28,000	Above
2006	29,922	13,000–28,000	Above
2007	17,594	13,000–28,000	Within
2008	6,416	13,000–28,000	Below
2009	11,960	13,000–28,000	Below
2010	18,594	13,000–28,000	Within
2011	19,026	13,000–28,000	Within
2012	14,088	13,000–28,000	Within
2013	18,532	13,000–28,000	Within
2014	16,335	13,000–28,000	Within
2015	24,395	13,000–28,000	Within
2016	22,874	13,000–28,000	Within
Average	26,077		Below = 4 (13%)
			Within = 14 (45%)
			Above = 13 (42%)

Table 209-4.–A partial list of salmon abundance and distribution studies conducted by the department in the Susitna River since 2006.

		Mainstem Susitna River		Yentna River		Total	
Species	Return Year	Abundance Point Estimate	Spawner Distribution	Abundance Point Estimate	Spawner Distribution	Abundance Point Estimate	Source
Sockeye	2006	107,000	Weighted	311,197	Weighted	418,197	FDS 07-83
Salmon	2007	87,883	Weighted	239,849	Weighted	327,732	FDS 11-19
	2008	70,552	Weighted	288,988	Weighted	359,540	FDS 11-12
Coho	2009	Not Done	Radio Only	Not Done	Radio Only	Not Done	FDS 10-72
Salmon	2010	73,640	Weighted	122,777	Weighted	196,417	FDS 13-05
	2011	131,878	Weighted	84,677	Weighted	216,555	*FDS In prep.*
	2012	90,397	Weighted	93,919	Weighted	184,316	*FDS In prep.*
	2013	130,026	Weighted	Not Done	Not Done	Not Done	AEA 2014
	2014	84,879	Weighted	73,819	Not Done	158,698	AEA 2015, *FDS In prep.*
	2015	97,789	Not Done	110,321	Not Done	208,110	*FDS In prep.*
Chum	2009	Not Done	Radio Only	Not Done	Radio Only	Not Done	FDS 10-72
Salmon	2010	151,127	Weighted	205,869	Weighted	356,996	FDS 13-05
	2011	1,468,231	Weighted	283,801	Weighted	1,752,032	*FDS In prep.*
	2012	229,903	Weighted	99,442	Weighted	329,345	*FDS In prep.*
King	2012	Not Done	Radio Only	Not Done	Not Done	Not Done	AEA 2013
Salmon	2013	89,463	Weighted	Not Done	Radio Only	Not Done	AEA 2014
	2014	68,225	Weighted	22,267	Weighted	90,492	AEA 2015
	2015	88,600	Weighted	48,400	Weighted	137,000	*FDS In prep.*
	2016	*under way*	*under way*	*under way*	*under way*	*under way*	
	2017	*planned*	*planned*	*planned*	*planned*	*planned*	

Note: FDS is Fishery Data Series, published by the Alaska Dept. Fish & Game, Anchorage. AEA is Alaska Energy Authority.

Table 209-5.–King salmon abundance and spawning distributions in the entire Susitna drainage, 2014 and 2015 obtained by mark-recapture.

	2014			2015		
Location	Total Abundance	Tributary Abundance	Percent of Total	Total Abundance	Tributary Abundance	Percent of Total
Susitna River above the mainstem tagging site	68,225			88,580		
PRM 34–102.4 mainstem Susitna River [a]		2,098	2%		5,600	4%
Deshka River		14,024	15%		25,454	19%
Eastside Susitna River		15,073	17%		27,490	20%
Talkeetna River		14,024	15%		13,236	10%
PRM 102.4–153.4 mainstem Susitna River [b]		6,609	7%		6,109	4%
Chulitna River		16,397	18%		10,691	8%
Yentna River above tagging site	22,267			48,416		
Lake Creek drainage		5,163	6%		10,805	8%
Kahiltna River drainage		4,195	5%		7,481	5%
Talachulitna River drainage		1,721	2%		9,351	7%
Skwentna River drainage, other than the Talachulitna River		4,303	5%		11,221	8%
Remaining Yentna River drainage, other than the areas above		6,885	8%		9,558	7%
Total Susitna Drainage	90,492		100%	136,996		100%

[a] PRM 34 upstream to the Chulitna River Confluence.
[b] Chulitna River Confluence to Devils Canyon.

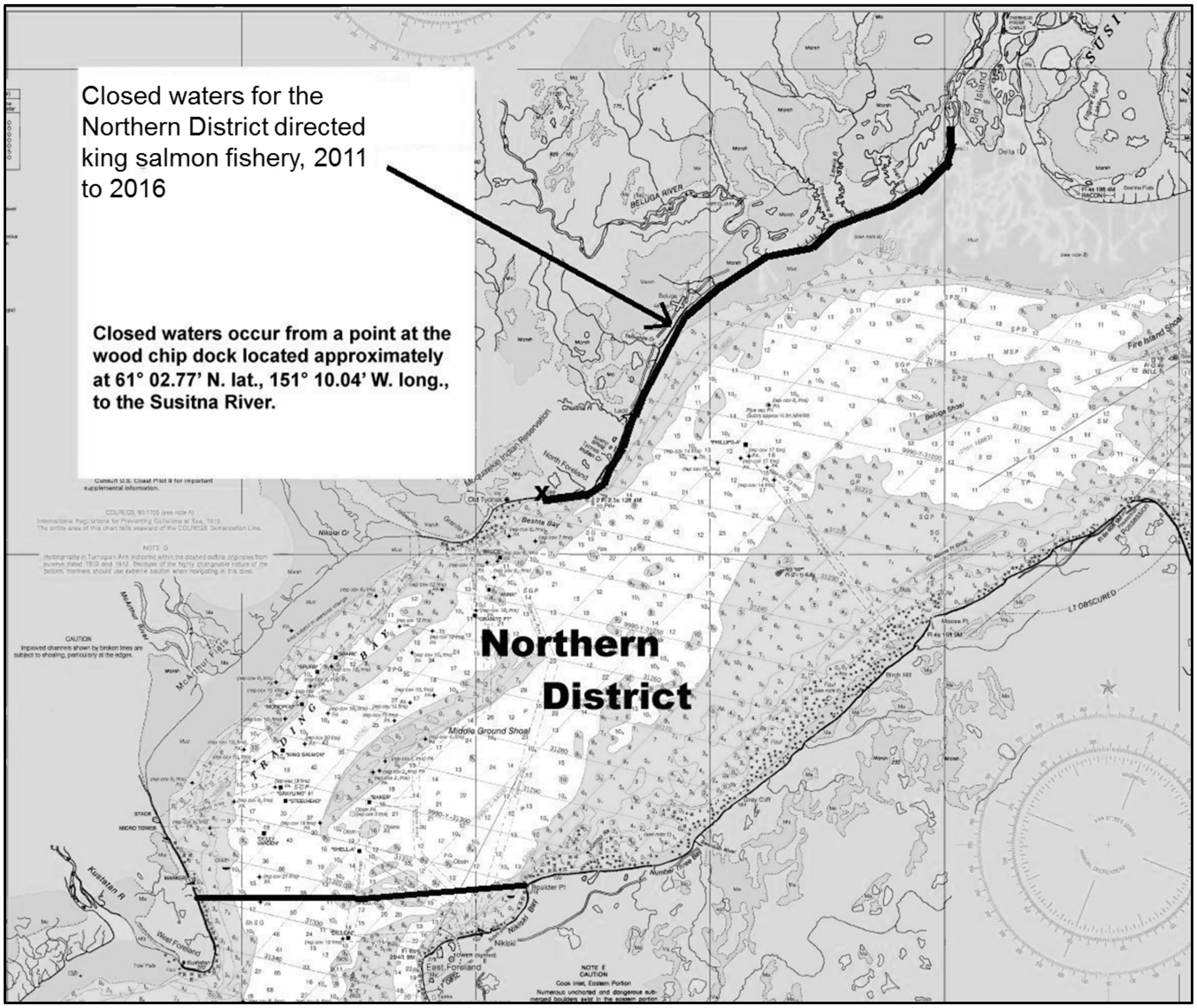

Figure 209-1.–Area closed during the directed king salmon fishery in the Northern District, 2011–2016.

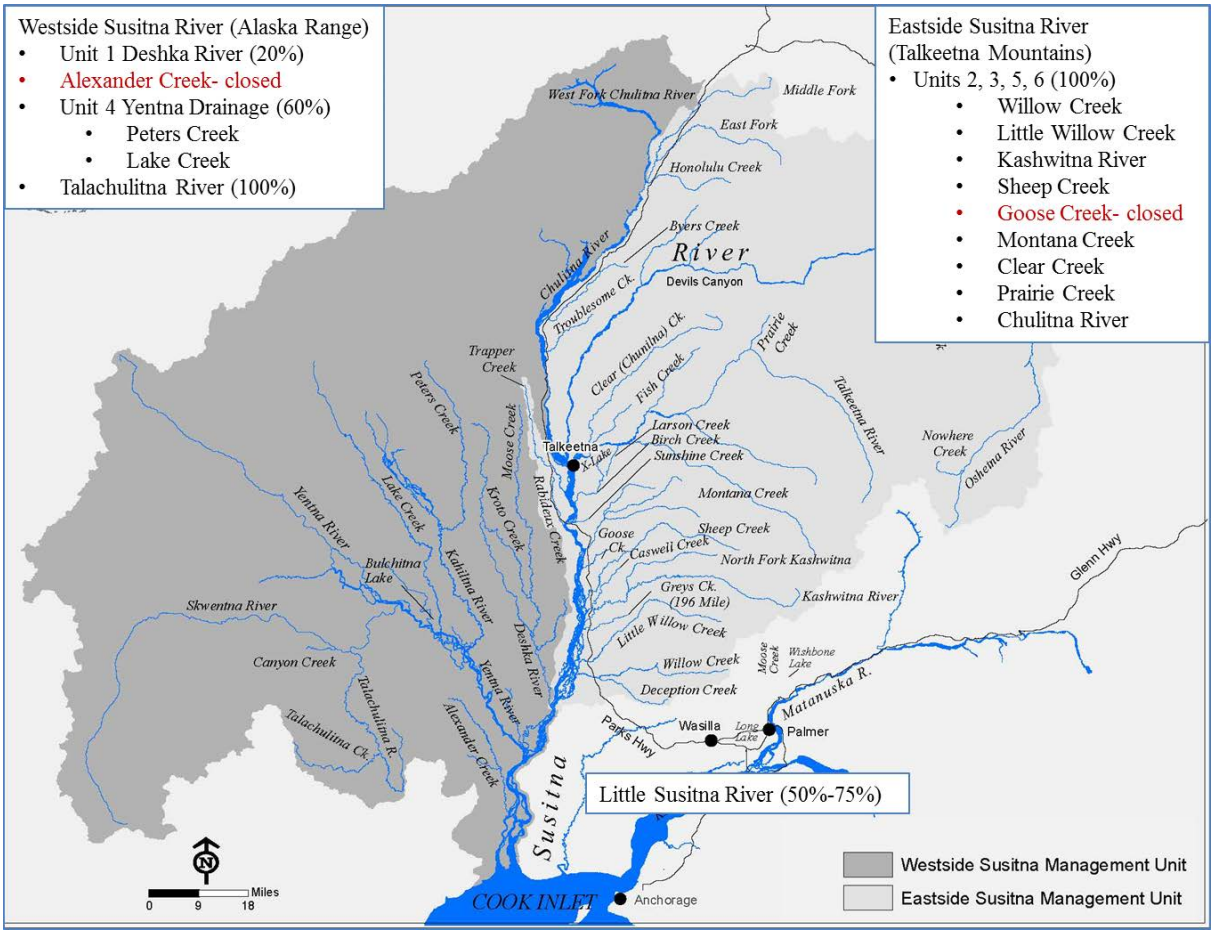

Figure 209-2.–Approximate king salmon sport harvest targeted reductions by area of the Susitna River and Little Susitna River drainages, 2012–2016.

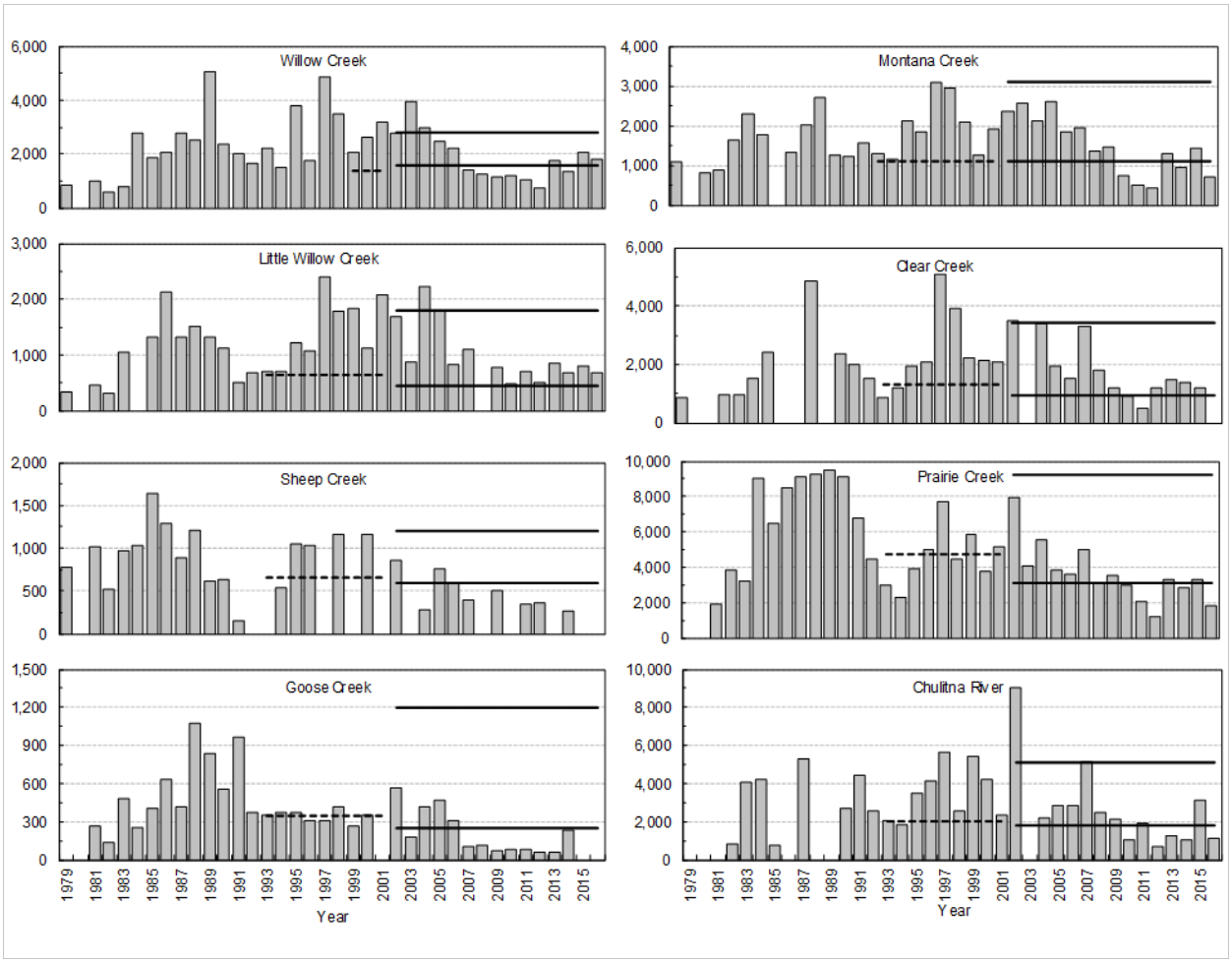

Figure 209-3.–King salmon escapements at Eastside Susitna River tributaries and Chulitna River, 1979–2016. Note: y-axis = king salmon escapement (in number of fish); dashed line = BEG; and solid lines = SEG range.

PROPOSAL 211 – 5 AAC 21.366. Northern District King Salmon Management Plan.

PROPOSED BY: Ben Allen.

WHAT WOULD THE PROPOSAL DO? This would require the department to close the ND set gillnet fishery until the first regular period on or after June 24 if the Susitna River drainage king salmon sport fishery is restricted by EO.

WHAT ARE THE CURRENT REGULATIONS? The *Northern District King Salmon Management Plan* (5 AAC 21.366) regulates the directed king salmon commercial fishery in the ND of UCI. The purpose of the plan is to ensure an adequate escapement of king salmon into ND drainages and to provide management guidelines to the department; the department shall manage ND king salmon stocks primarily for sport and guided sport uses in order to provide sport and guided sport fishermen with a reasonable opportunity to harvest these salmon over the entire run as measured by the frequency of inriver restrictions.

The directed king salmon season opens the first Monday on or after May 25 and continues through June 24 unless closed earlier by EO. Fishing periods are Mondays only from 7:00 a.m. to 7:00 p.m. Permit holders are allowed one 35-fathom set gillnet with a mesh size not to exceed six inches, and may not operate nets within 1,200 feet seaward of another set gillnet. The fishery will close if 12,500 king salmon are harvested. The area from the wood chip dock (south of Tyonek) to Susitna River is closed during these commercial fishing periods.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase the number of king salmon migrating to streams in NCI when the Susitna River king salmon sport fishery is restricted. It is unclear as to what type of sport fishing restrictions would trigger closure of the commercial fishery or if a portion or all of the Susitna River sport fishery has to be restricted. Based on the 2007–2016 average annual harvest, king salmon harvest in the ND commercial set gillnet fishery would be reduced by approximately 1,900 king salmon annually if the commercial fishery were closed for the entire season (Table 209-1).

BACKGROUND: The *Northern District King Salmon Management Plan* was first adopted in 1986. The *Northern District King Salmon Management Plan* has been modified at various board meetings. In 2002, season opening date was changed from the first Monday on or after June 1 to the first Monday on or after May 25. Number of fishing periods remained at three with only one period open in that area from an ADF&G regulatory marker located one mile south of the Theodore River to the Susitna River. In 2005, number of commercial fishing periods remained the same, but the length of those periods was increased from six to 12 hours in duration. In 2008, the number of fishing periods was increased from three periods per year, to four or five, dependent on the calendar year. Season opening date remained the same but closing date was changed to through June 24, unless closed by EO. The area from one mile south of the Theodore River to the Susitna River remained open to fishing for the second regular Monday period only.

In the sport fishery, harvest reductions were implemented by EO prior to the start of the season since 2012 (Table 211-1) and have varied by area, from 100% reduction in the Eastside Susitna area to a 60% reduction on the Yentna drainage to less than 25% on the Deshka River (Table

211-2). Harvest reductions have been based upon the level needed to achieve escapement goals in the various areas based off the immediate past two to three years of harvest and escapement data. In addition, consideration has been given to potential shifts in effort due to some areas being more restrictive than other areas. The strategy to reduce harvest by 50% in 2012 was inadequate and a midseason closure of the entire Susitna and Little Susitna rivers ensued, ultimately resulting in about a 70% sport harvest reduction area wide. The management strategy in 2013 was based heavily on the outcome of the 2012 season and a 70-75% reduction was targeted. The restrictions developed for the 2013 season resulted in a favorable outcome in terms of opportunity and achievement of goals and this set of restrictions were continued through the 2015 season. In 2016, escapement and harvest data from 2013–2015 in combination with the observance of stronger age class returns over recent years warranted increasing sport harvest on the Deshka and Little Susitna rivers only. Bait was allowed per regulation on the Deshka River from the outset of the season and one additional day of harvest allowed on the Little Susitna River. None of the Eastside Susitna streams have demonstrated the ability to sustain harvest in recent years.

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 211-1.–Preseason and inseason EOs issued to manage king salmon sport fisheries in the NCI Management Area, 2012–2016.

Little Susitna

	Preseason EOs	Inseason EOs
2012	annual 2; single hook only; harvest Fri - Mon (4 days)	closed June 15
2013	annual 2; single hook only; harvest Sat - Mon (3 days)	
2014	same as 2013	reinstated 7 days/wk July 4
2015	same as 2013	reinstated 7 days/wk June 19; restored to regulation June 27; liberalized adding bait July 3
2016	annual 2; single hook only; harvest Fri - Mon (4 days)	restored to regulation June 27; liberalized adding bait July 6

Deshka River

	Preseason EOs	Inseason EOs
2012	annual 2	closed June 25
2013	annual 2; single hook artificial only	reinstated bait June 29
2014	same as 2013	reinstated bait June 14
2015	same as 2013	reinstated bait June 13; restored to regulation June 27
2016	annual 2	restored to regulation June 11

Eastside Susitna area (units 2, 3, 5, 6)

	Preseason EOs	Inseason EOs
2012	annual 2; single hook only; harvest through second Monday, then C&R only on weekends	closed June 25
2013	C & R only; single hook only	none
2014	same as 2013	none
2015	same as 2013	none
2016	same as 2013	none

Yentna River

	Preseason EOs	Inseason EOs
2012	annual 2	closed June 25
2013	annual 2; single hook only; harvest Fri - Mon (4 days)	none
2014	same as 2013	none
2015	same as 2013	none
2016	same as 2013	none

Talachulitna River

	Preseason EOs	Inseason EOs
2012	annual 2	closed June 25
2013	C & R only; single hook only	none
2014	same as 2013	none
2015	same as 2013	none
2016	same as 2013	none

Table 211-2.–King salmon sport harvest reduction by area as a result of emergency restrictions in the Northern Cook Inlet area, 2012–2015.

	Susitna River Drainage							
Harvest reductions	Little Susitna	Deshka River	Unit 2 streams	Talkeetna River	Yentna drainage	Talachulitna River	Total	
Average low year harvest (2009–2011)	1,123	2,414	1,238	1,361	3,210	325	9,653	
2012 Target reduction	50%	22%	90%	25%	45%		50%	
2012 harvest	216	1,650	35	113	875	17	2,944	
2012 Actual % reduction	81%	32%	97%	92%	73%	95%	70%	[a]
2013 Target reduction	75%	25%	100%	100%	60%	100%	70-75%	
2013 harvest	336	1,087	0	0	1,340	0	2,781	
2013 Actual % reduction	70%	55% [b]	100%	100%	58%	100%	71%	
2014 Target reduction	75%	25%	100%	100%	60%	100%	70-75%	
2014 harvest	437	1,329	0	0	689	0	2,486	
2014 Actual % reduction	61%	45%	100%	100%	79%	100%	74%	
2015 Target reduction	75%	25%	100%	100%	60%	100%	70-75%	
2015 harvest	672	1,927	0	0	1,544	0	4,549	
2015 Actual % reduction	40%	20%	100%	100%	52%	100%	53%	[c]

[a] Midseason closures resulted in further harvest reduction than targeted.
[b] Warm water temperatures may have contributed to low fishing success.
[c] Relaxation of restrictions on Deshka and Little Susitna rivers may have resulted in less harvest reduction than targeted.

PROPOSAL 210 – 5 AAC 21.358. Northern District Salmon Management Plan.

PROPOSED BY: Earl Young.

WHAT WOULD THE PROPOSAL DO? This would repeal and readopt the management plan with the modified plan removing language that directs the department to minimize the harvest of ND coho salmon stocks. The new purpose statement of the management plan would read "The purposes of this management plan are to provide the department direction for management of salmon stocks in the ND of UCI. The department shall manage chum, pink, and sockeye salmon stocks utilizing fishing time in *5* AAC 21.320(a)(1)." The proposal also deletes provisions which currently prohibit personal use set gillnetting in the ND and says the commissioner may depart from the provisions of the management plan in this section under 21.363(e).

WHAT ARE THE CURRENT REGULATIONS? The management plan states that the purposes of this plan are to minimize harvest of coho salmon bound for the ND of UCI and to provide the department direction for management of salmon stocks. The department shall manage chum, pink, and sockeye salmon stocks primarily for commercial uses to provide commercial fishermen with an economic yield from the harvest of these salmon resources based on abundance. The department shall also manage chum, pink, and sockeye salmon stocks to minimize harvest of ND coho salmon, to provide sport and guided sport fishermen a reasonable opportunity to harvest these salmon resources over the entire run.

To minimize incidental take of coho salmon stocks bound for the ND, the board adopted the following provisions in the management plan. First, additional fishing periods, other than the regular weekly fishing periods, may not be provided when coho salmon are expected to be the most abundant species harvested during that period. Additional fishing periods may not be provided based on the abundance of ND coho salmon. Finally, after August 15, the department shall limit the harvest of coho salmon in the ND by limiting commercial fishing time to weekly fishing periods only.

In 2008, the board provided the department authority to reduce gear in the commercial fishery from July 20 through August 6 each year. During this time period, the ND set gillnet fishery is open for regular 12-hour Monday and Thursday fishing periods, but will be limited to either three set gillnets not to exceed 105 fathoms, two set gillnets not to exceed 70 fathoms, or one 35-fathom set gillnet per permit; however, from July 31 through August 6, the General Subdistrict south of the Susitna River may be limited to no more than two set-gillnets not to exceed 70 fathoms in length.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would not impact current management in the ND set gillnet fishery or Central District drift gillnet fishery. When adopting or modifying specific management plans that apply in Cook Inlet, future board action would be guided by the proposed principle contained in the preamble. Allowing use personal use gillnets would increase the harvest salmon by an unknown amount. Removing the provision that allows the commissioner to deviate from the provisions of the management plan is not expected to affect management of the fishery.

BACKGROUND: Purpose statements found at the beginning of most UCI salmon management plans provide direction to future boards, stake holders, and the department on the long-term management objectives of the board at the time that plan was adopted. Purpose statements first appeared in the *Upper Cook Inlet Salmon Management Plan* in 1981. These statements have changed slightly over the years as the board has deliberated extensively to balance the allocation needs and desires of various user groups. In 1999, the *North District Salmon Management Plan* was adopted and current language directing the department to minimize harvest of ND coho salmon has remained unchanged since.

Prior to 1978, all salmon stocks in UCI were basically managed primarily for commercial uses, since sport use of these stocks was small at that time. In 1978, the board adopted the first rendition of the UCI salmon management plan as an uncodified policy. From 1981–1996, it remained relatively unchanged and directed the department to manage most stocks returning to UCI prior to July 1 "primarily" for sport uses. From July 1–August 15, most stocks were managed "primarily" for commercial uses with certain exceptions. After August 15, salmon stocks moving to Kenai Peninsula drainages were managed for sport purposes, while all other stocks were managed for commercial purposes. In addition, in managing the commercial fishery, the department was instructed to "minimize" harvest of certain stocks important to sport uses, such as Kenai River king and coho stocks. In 1996, the plan was changed to management priority by stocks; sockeye, pink, and chum salmon stocks were to be managed for commercial purposes with the caveat that a reasonable opportunity be provided to other users, and coho and king salmon stocks were managed for sport purposes.

There are several restrictions intended to reduce ND set gillnet fishery harvest of coho salmon. Beginning in 1993, after August 15, the ND was restricted to regular periods only, and beginning in 1997, additional fishing periods (outside regular periods) were not allowed if coho salmon were expected to be the most abundant species. These restrictions can be found in the *Upper Cook Inlet Salmon Management Plan* (1993–1998), the *Northern District Coho Salmon Management Plan* (1997–1998), and the *Northern District Salmon Management Plan* (1999–present). In 2008. hen Susitna River sockeye salmon were designated a stock of yield concern, set gillnet gear reductions were implemented to reduce sockeye salmon harvest. These gear reductions have likely resulted in reduced harvest of ND coho salmon stocks.

Poor returns of coho salmon to UCI in 1997 and 1999, coupled with not meeting escapement goals, prompted the board to restrict coho salmon sport fisheries on select NCI streams. In 2000, the board conducted a special out-of-cycle session to address Cook Inlet coho salmon. Because of the broad decline in coho salmon abundance, restrictive action was taken in a wide geographic range (i.e., Anchorage, Kenai, Susitna River, Knik Arm, and parts of Western Cook Inlet (WCI)). Coho salmon restrictions were placed on both sport and commercial fisheries throughout most of the UCI area. The "minimize" language in the ND plan was changed from "minimize Susitna River coho" to "minimize ND coho." In 2000, as a result of a petition to the board, additional restrictions were put in place in many areas of Cook Inlet. In the ND, set gillnets were restricted to two nets instead of three from August 1–10.

The department conducted a marine tagging study in 2002 in order to estimate total number coho, pink, and chum salmon entering UCI (Table 210-1). Radio-telemetry tags were used to

develop an estimate of coho salmon escapement into streams across UCI, while PIT tags were used to estimate the total run for all species. In 2002, the estimated coho salmon total run to UCI, as estimated by PIT tags, was 2.52 million fish (95% confidence interval (CI): 2.16–2.87 million fish); given the commercial harvest of 0.25 million fish, the total escapement of coho into all UCI streams was 2.27 million fish (95% CI: 1.91–2.62 million fish). The UCI coho salmon escapement estimate using radio-telemetry data was 1.36 million fish (95% CI: 0.98–1.96). Based on radio-telemetry tracking of coho salmon from the 2002 study, an estimated 663,000 coho salmon entered the Susitna River (Susitna River and Yentna River). In 2002, the weir estimate of coho salmon in the Little Susitna River was approximately 48,000 fish, or about 7.2% of the number of coho salmon that entered the Susitna River (Table 210-2). In 2002, the estimated total escapement of coho salmon that entered all streams in UCI was approximately 1.36 million fish, meaning Susitna River comprised approximately 49% of the UCI total.

NCI coho salmon stocks are harvested in Central District drift and setnet fisheries. Genetic stock composition estimates of commercial harvest of coho salmon are currently underway and preliminary results will be made available at the 2017 UCI board meeting.

Commercial harvest of coho salmon in the ND set gillnet fishery from 2007–2016 has averaged approximately 32,900 fish (Table 210-3). From 1999–2016, Little Susitna coho salmon escapement was below the escapement goal in six years, within the goal in eight years and above the goal in four years (Table 210-4).

The department has conducted mark-recapture experiments to estimate abundance of adult salmon in the Mainstem Susitna (Susitna River above the Yentna River confluence) and Yentna rivers as part of Susitna-Watana dam studies. Sockeye salmon estimates are available for 2006 – 2008, coho salmon for 2010 – 2015, chum salmon 2010 – 2012, and king salmon for 2013 – 2015 (Table 210-5). Drainagewide sockeye salmon abundance point estimates ranged from 418,197 in 2006 to 327,732 in 2007. Coho salmon ranged from a high of 262,821 in 2015 to a low of 158,698 in 2014. Chum salmon ranged from 1,752,032 in 2011 to 329,345 in 2012. Drainagewide king salmon abundance estimates are only available for two years, 2014 and 2015, with run sizes of 90,492 and 137,000 respectively. In 2013, the Mainstem king salmon abundance was estimated to be 89,463, and the Yentna River abundance was not estimated as only distribution was studied that year.

Pink salmon escapement is monitored secondarily to coho salmon on the Deshka River and is considered a minimum count. Weir counts ranged from 9,000 to 1,279,148 and averaged 348,500 on even numbered years from 1998–2016 (Table 210-6). Weir counts have been below average since 2002.

NCI supports relatively large coho salmon sport fisheries. On the Little Susitna, anglers fish an average of 26,000 days each season, about half of which is associated with coho salmon. Average sport harvest from 1996–2005 was 14,400 fish (Table 210-7). A more recent average since 2005 is 8,000 fish. Sport harvest in 2011 of 2,450 fish and in 2012 of 1,680 coho salmon reflect poor run years when the sport fishery was closed midseason. The average sport harvest on Jim Creek from 1996 to 2015 was 7,620 coho salmon.

Coho salmon escapement is monitored on several NCI streams. In the Little Susitna River, it is monitored by weir and evaluated against an SEG of 10,100–17,700 fish. The average escapement from 1996–2005 was 22,400 fish (Table 210-8). A more recent average since 2005 is 13,400 based on complete weir count years. The SEG was achieved in six of the past 10 years. The SEG was not achieved in 2009–2012 despite inseason restrictions and closures in 2011 and 2012 to reduce sport harvest inseason. The sport fishery was restricted inseason in 2016 and the resultant weir count was near the low end of the SEG range. The SEG was attained in 2013 with a count of 13,583 coho salmon. The SEG for the Jim Creek system was not met in five of the past 10 years (2010–2012, 2014 and 2016). Coho salmon escapement is also monitored on the Deshka River of the Susitna drainage and on Fish Creek of the Knik Arm area.

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 210-1.–Upper Cook Inlet total population estimates of coho, pink, and chum salmon in 2002; estimates derived from (Willette et al. 2003).

2002 Marine Tagging Study					
		Estimate (millions)			Commercial
Species	Tag type	Total Pop	Harvest	Esc	harvest rate
Coho	PIT	2.52	0.25	2.27	10%
	Telemetry	1.61	0.25	1.36	15%
Pink	PIT	21.28	0.45	20.83	2%
Chum	PIT	3.88	0.24	3.64	6%

Table 210-2.–Coho salmon passage estimates into the Susitna River based on two different tagging studies. Little Susitna River coho salmon escapement is presented as a proportion of the Susitna River.

	Total passage estimate of Susitna River coho salmon			Little Susitna River proportion
Year	Tag type	Passage	Little Su Weir	of Susitna River population.
2002	Radio	663,000	47,938	7.20%
2010	Dart	196,000	9,214	4.70%

Table 210-3.–Commercial salmon harvest in the Northern District set gillnet fishery, 2007–2016.

Year	King	Sockeye	Coho	Pink	Chum
2007	3,818	17,467	21,531	3,527	608
2008	3,983	26,230	42,177	3,524	1,629
2009	1,631	40,652	37,629	6,554	3,077
2010	1,750	40,177	38,111	3,778	3,904
2011	2,299	35,482	22,113	839	6,718
2012	1,049	22,580	13,206	4,003	2,299
2013	1,327	23,423	42,413	1,985	2,237
2014	1,470	37,687	35,200	7,695	2,406
2015	1,923	55,876	46,616	2,193	6,069
2016	2,202	47,150	30,476	7,968	3,168
Average	2,145	34,672	32,947	4,207	3,212

Table 210-4.–Little Susitna River coho salmon weir enumeration and escapement goals.

Year	Count	Escapement Goal	Met/Below/ Within/Above
1988	21,437		
1989	15,855		
1990	15,511	7,500	Met
1991	39,241	7,500	Met
1992	21,182	7,500	Met
1993	34,822	7,500	Met
1994	28,948	7,500	Met
1995	12,266	7,500	Met
1996	15,803	7,500	Met
1997	9,894[a]	7,500	Met
1998	15,159	7,500	Met
1999	3,017	9,600–19,200	Below
2000	15,436	9,600–19,200	Within
2001	30,587	9,600–19,200	Above
2002	47,938	10,100–17,700	Within
2003	10,877	10,100–17,700	Within
2004	40,199	10,100–17,700	Above
2005	16,839[a]	10,100–17,700	Within
2006	8,786[a]	10,100–17,700	Within[a]
2007	17,573	10,100–17,700	Within
2008	18,485	10,100–17,700	Above
2009	9,523	10,100–17,700	Below
2010	9,214	10,100–17,700	Below
2011	4,826	10,100–17,700	Below
2012	6,779[a]	10,100–17,700	Below
2013	13,583[a]	10,100–17,700	Within
2014	24,211	10,100–17,700	Above
2015	12,756	10,100–17,700	Within
2016	10,041	10,100–17,700	Below

[a] Weir washed out, incomplete count; escapement goal in 2006 goal was believed to be within or above goal.

Table 210-5.–Susitna River drainage mark-recapture abundance estimates for sockeye salmon in 2006–2008, coho salmon 2010–2015, chum salmon 2010–2012, and king salmon 2013–2015.

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

Table 210-6.–Pink salmon weir counts during even years on the Deshka River, 1998–2016.

Year	Pink salmon weir count
1998	541,946
2000	1,279,148
2002	946,256
2004	390,087
2006	83,454
2008	12,947
2010	9,078
2012	78,857
2014	78,111
2016	65,567
Average	348,545

Table 210-7.–Effort and harvest of coho salmon on the Little Susitna River and Jim Creek, 1996–2015.

	Little Susitna River		Jim Creek	
Year	Angler-days	Sport Harvest	Angler-days	Sport Harvest
1996	24,575	16,753	7,561	3,911
1997	27,883	7,756	5,349	1,786
1998	22,108	14,469	5,272	4,197
1999	30,437	8,864	6,860	2,612
2000	39,556	20,357	10,975	5,653
2001	33,521	17,071	13,028	8,374
2002	40,346	19,278	17,989	14,707
2003	31,993	13,672	13,474	6,415
2004	33,819	15,307	19,342	11,766
2005	27,490	10,203	19,605	10,114
2006	28,547	12,399	25,271	19,259
2007	35,636	11,089	21,342	11,848
2008	31,989	13,498	27,874	17,545
2009	28,151	8,346	16,486	11,573
2010	24,846	10,662	16,140	8,442
2011	12,779	2,452	9,810	3,132
2012	10,115	1,681	7,474	1,858
2013	12,012	5,229	8,474	3,258
2014	13,636	6,922	9,376	3,045
2015	17,845	8,880	3,425	2,910
Average				
1996–2015	26,364	11,244	13,256	7,620
1996–2005	31,173	14,373	11,946	6,954
2006–2015	21,556	8,116	14,567	8,287

Table 210-8.–Coho salmon counts on select streams within the Northern Cook Inlet, 1996–2016.

Year	Little Susitna (weir count)	[a]	Fish Creek (Weir Count)		McRoberts Creek (Jim Creek system) (Foot count)	Desha River (Weir count)	[e]
1996	15,803		682		72	no count	
1997	9,894	[b]	2,578		701	8,063	
1998	15,159		5,463		922	6,773	[b]
1999	3,017		1,766		12	4,563	[b]
2000	15,436		5,218	[d]	657	26,387	
2001	30,587		9,247	[d]	1,019	29,927	
2002	47,938		14,651	[d]	2,473	24,612	[b]
2003	10,877		1,231	[d]	1,421	17,305	
2004	40,199		1,415	[c d]	4,652	62,940	
2005	16,839	[b]	3,011	[c d]	1,464	47,887	
2006	8,786	[b]	4,967	[c d]	2,389	59,419	[b]
2007	17,573		6,868	[c d]	725	10,575	
2008	18,485		4,868	[c d]	1,890	12,724	
2009	9,523		8,214	[d]	1,331	27,348	
2010	9,214		6,977	[d]	242	10,393	
2011	4,826		1,428	[c d]	261	7,508	[b]
2012	6,779	[b]	1,237		213	6,825	
2013	13,583	[b]	7,593	[b]	663	22,341	
2014	24,211		10,283		122	11,578	
2015	12,756	[b]	7,912		571	10,775	
2016	10,049		2,484	[c]	106	6,820	[b]
Average							
1996–2016	18,193	[f]	5,932		1,043	21,791	
1996–2005	22,377	[f]	5,105		1,339	32,085	
2006–2016	13,412	[f]	7,036		774	14,070	
SEG	10,100-17,700		1,200-4,400		450-700	No goal	

[a] Weir located at river mile (rm) 34 in 1986; rm 32 in 1998–1995 and 2012–2016; rm 71 from 1996–2010.
[b] Incomplete count due to high water or pulling weir early.
[c] 1994–1996 and 2004–2008, 2011, and 2016 weir was removed on August 15 before the majority of the coho run. In 1997 the weir was out on September 1.
[d] Coho salmon counted below weir after it was pulled: 761 (2000), 800 (2001), 536 (2002), 911 (2003), 1,840 (2004), 825 (2005), 756 (2006), 2,750 (2007), 4,735 (2008), 452 (2009), 57 (2010), 872(2011).
[e] Deshka River weir locations: 1995 (rm 17) and 1997–2016 (rm 7).
[f] Complete count years only.

PROPOSAL 212 – 5 AAC 21.310. Fishing seasons.

PROPOSED BY: Alaska Outdoor Council.

WHAT WOULD THE PROPOSAL DO? This would close the Northern District set gillnet fishery on August 15.

WHAT ARE THE CURRENT REGULATIONS? Currently, the ND set gillnet regular season begins on the first regularly scheduled fishing period on or after June 25 and the season ends when closed by EO.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Based on the most recent 10 years of harvest, this would result in a reduction in ND set gillnet coho salmon harvest of approximately 8,770 fish per year, or 25% of the annual coho salmon harvest each year (Table 212-1). This would increase the number of coho salmon migrating to streams in NCI and likely increase the sport harvest in NCI.

BACKGROUND: The season opening and closing dates for the ND set gillnet fishery are governed by 5 AAC 21.310. *Fishing seasons*. The regular season for the ND set gillnet fishery begins on the first Monday or Thursday on or after June 25 and remains open until closed by EO. This regulation has remained unchanged since 1981. From 1979–1981 the season was from June 25 until August 15. Prior to 1979 the season closed by EO.

There are several management plan restrictions intended to minimize ND set gillnet fishery harvest of coho salmon. Beginning in 1993, after August 15, the ND was restricted to regular periods only, and beginning in 1997, additional fishing periods (outside regular periods) were not allowed if coho salmon were expected to be the most abundant species. These restrictions can be found in the *Upper Cook Inlet Salmon Management Plan* (1993–1998), the *Northern District Coho Salmon Management Plan* (1997–1998), and the *Northern District Salmon Management Plan* (1999–present). Furthermore, there are gear restrictions in place designed to conserve Susitna River sockeye salmon that provide some reduction in coho salmon harvest as well.

While there are management plan restrictions in place to minimize commercial coho salmon harvest in the ND, the department also has EO authority to further restrict fisheries for coho salmon conservation. EO restrictions are often based on coho salmon passage in the Little Susitna River. The ND set gillnet fishery was restricted or closed by EO in two of the previous 10 years (2012 and 2016; Table 212-2). From 1990–2016, the Little Susitna coho salmon SEG was met or exceeded in 21 out of 27 years, or 78% of the time (Table 212-3).

The Knik Arm area supports major sport fisheries for salmon, other than king salmon, at the Little Susitna River and Jim Creek and minor weekend only fisheries at Fish, Cottonwood, and Wasilla creeks. While coho salmon are primarily targeted, other species such as sockeye, chum, and pink salmon are harvested. Sustained yield of these species is maintained by conservative bag limits and seasons in the sport fisheries. The current bag limit for coho salmon has been in effect since 2000 when the board met out of cycle to reduce coho salmon harvest throughout Knik Arm after poor runs were experienced in 1997 and 1999. Aside from the general

regulations, these streams are managed separately. The small streams of Fish, Cottonwood, and Wasilla creeks are often managed together as a unit as they share similarities in fishery structure and salmon production and because a past study found coho salmon weir counts on these streams to be significantly correlated. These small streams are restricted primarily to intertidal fisheries, and have been open to salmon fishing on weekends only (Saturday and Sunday) since 1971 because harvestable surpluses cannot normally accommodate continuous daily exploitation. A 6 a.m.–6 p.m. fishery was a restriction added during the 2000 board meeting. Coho salmon are the targeted species in these small and restrictive sport fisheries and sockeye salmon are secondarily targeted at Cottonwood Creek. The Fish Creek SEG of 1,200–4,400 coho salmon has been achieved in every year since 2000, including some below average or weak run years observed area wide (Table 212-4). Fish Creek has been liberalized inseason in 7 of the past 10 years by EO and weir counts used to liberalize Cottonwood and Wasilla creeks as well. While there are no SEGs on Cottonwood or Wasilla creeks, escapement index surveys are conducted annually on these streams by foot. Foot surveys are an index of spawning escapement and represent only a fraction of the true escapement. Trends in abundance on Cottonwood and Wasilla creeks, with few exceptions, have mirrored that of Fish Creek since 2000.

The Little Susitna River supports a high use coho salmon fishery on a large run of coho salmon relative to other NCI salmon producing streams. The fishery is open seven days per week with no limitation to hours. However, regulations are in place to minimize catch-and-release mortality by prohibiting bait use for the first half of the fishing season and by prohibiting fishing after a bag limit is reached, a measure added during the 2011 board meeting. Weir counts are used to gauge run strength and as an inseason indicator of run strength to the Knik Arm area. The weir was moved downstream from river mile 71 to river mile 32.5 in 2012 for more timely management of the fishery. Anglers fish an average of 27,000 days annually during the last 10 years; over half is directed at coho salmon and the rest is directed at king salmon (Table 212-3). The SEG of 10,100–17,700 coho salmon is based on weir counts. Under current regulation (since 2000), harvest has averaged 10,500 coho salmon and average escapement for the same period was 17,600 coho salmon. The inriver harvest rate is 44%, varying widely from 29% to75% due to large variations in run size, while fishing power is more constant. The SEG was achieved or exceeded 11 times since 2000 (16 years). Note that the weir flooded in 2006, but likely the goal would have been exceeded in that year. The escapement goal has been missed on below average run years of 2009–2010 and weak run years of 2011–2012 and 2016 in which coho salmon runs across NCI were also weak. The Jim Creek coho salmon fishery has doubled in terms of effort and harvest since 2002. In 2014, the board reduced fishing time and area in an effort to reduce harvest to more historical levels after the SEG was missed 2010–2012 (Table 212-5). Since 2012, the SEG range was missed twice and made twice. Evaluation of these restrictions is currently being evaluated by a weir program initiated in 2015.

Genetic stock composition estimates of commercial harvest of coho salmon are currently underway and preliminary results will be made available at the 2017 UCI board meeting.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on 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 212-1.–Northern District commercial salmon harvest, 2007–2016.

Harvest after August 15

Year	King	Sockeye	Coho	Pink	Chum
2007	0	2,284	7,383	16	77
2008	0	277	9,414	480	16
2009	0	675	9,073	33	77
2010	1	715	9,812	144	177
2011	2	731	5,223	13	441
2013	3	303	7,688	13	132
2014	0	864	8,657	453	153
2015	0	4,516	12,926	216	295
Average	1	1,296	8,772	171	171

Note: 2012 and 2016 not included because the fishery was restricted or closed by EO (see Table 212-2)

Harvest from all year

Year	King	Sockeye	Coho	Pink	Chum
2007	3,818	17,467	21,531	3,527	608
2008	3,983	26,230	42,177	3,524	1,629
2009	1,631	40,652	37,629	6,554	3,077
2010	1,750	40,177	38,111	3,778	3,904
2011	2,299	35,482	22,113	839	6,718
2013	1,327	23,423	42,413	1,985	2,237
2014	1,470	37,687	35,200	7,695	2,406
2015	1,923	55,876	46,616	2,193	6,069
Average	2,275	34,624	35,724	3,762	3,331

Note: 2012 and 2016 not included because the fishery was restricted or closed by EO (see Table 212-2)

Percentage of harvest after August 15

Year	King	Sockeye	Coho	Pink	Chum
2007	0%	13%	34%	0%	13%
2008	0%	1%	22%	14%	1%
2009	0%	2%	24%	1%	3%
2010	0%	2%	26%	4%	5%
2011	0%	2%	24%	2%	7%
2013	0%	1%	18%	1%	6%
2014	0%	2%	25%	6%	6%
2015	0%	8%	28%	10%	5%
Average	0%	4%	25%	5%	6%

Note: 2012 and 2016 not included because the fishery was restricted or closed by EO (See Table 212-2)

Table 212-2.–EO actions taken in the ND commercial fishery to conserve coho salmon from 2007–2016.

Year	EO	Action	Reason
2012	2S-32-12	Closed set gillnetting in the General Subdistrict of the Northern District of UCI on Thursday, August 9, 2012.	To conserve Little Susitna River coho salmon.
	2S-35-12	Closed set gillnetting in the General Subdistrict of the Northern District of UCI on Monday, August 13, 2012.	To conserve Little Susitna River coho salmon.
	2S-37-12	Closed set gillnetting in the all waters of the Northern District of UCI on Thursday, August 16, 2012.	To conserve Northern District coho salmon stocks.
	2S-38-12	Closed set gillnetting in the all waters of the Northern District of UCI for the remainder of the 2012 season beginning August 20, 2012.	To conserve Northern District coho salmon stocks.
2016	2S-35-16	Closed that portion of the General Subdistrict of the Northern District east of the Susitna River, including Fire Island for the remainder of the 2016 season beginning August 17, 2016.	To conserve Little Susitna River coho salmon.

Table 212-3.–Effort, harvest, and escapement of coho salmon on the Little Susitna River, 1994–2016.

		Coho salmon			Other harvest		
Year	Angler-days	Harvest	Weir count	Inriver harvest rate [a]	Sockeye	Chum	Pink
1994	45,149	17,665	27,820	39%			
1995	41,119	14,451	11,817	55%			
1996	24,575	16,753	15,803	51%			
1997	27,883	7,756	9,894 [b]				
1998	22,108	14,469	15,159	49%			
1999	30,437	8,864	3,017	75%			
2000	39,556	20,357	15,436	57%			
2001	33,521	17,071	30,587	36%	1,959	513	163
2002	40,346	19,278	47,938	29%	2,133	1,227	283
2003	31,993	13,672	10,877	56%	3,337	838	30
2004	33,819	15,307	40,199	28%	2,776	326	346
2005	27,490	10,203	16,839 [b]		1,442	602	181
2006	28,547	12,399	8,786 [b]		1,556	720	517
2007	35,636	11,089	17,573	39%	2,387	278	181
2008	31,989	13,498	18,485	42%	1,699	370	118
2009	28,151	8,346	9,523	47%	1,152	387	226
2010	24,846	10,662	9,214	54%	1,257	455	292
2011	12,779	2,452	4,826	34%	295	538	138
2012	10,115	1,681	6,779 [b]		506	722	72
2013	12,012	5,229	13,583 [b]		271	284	93
2014	13,636	6,922	24,211	22%	66	700	208
2015	17,845	8,880	12,756 [b]		166	740	154
2016			10,049				
Average	27,889	11,682	16,573	44%	1,400	580	200

[a] BEG 7,500 from 1994 to 1998; BEG 9,600–19,200 from 1999 to 2001; SEG 10,100–17,700 from 2002 to 2013.

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

Table 212-4.–Salmon escapement and harvest on small Knik Arm streams, 2001–2016.

	Fish Creek					Cottonwood Creek				
		Other salmon harvest					Other salmon harvest			
Year	Coho Escapement (weir count)	Coho	Sockeye	Chum	Pink	Coho Escapement (foot count)	Coho	Sockeye	Chum	Pink
2001	9,247 [b]	361	10	0	11	983	647	314	0	0
2002	14,651 [b]	1233	147	9	65	1,191	561	319	0	0
2003	1,231 [b]	112	57	0	0	229	665	961	0	0
2004	1,415 [ab]	774	400	0	0	430	532	719	0	0
2005	3,011 [ab]	535	79	0	0	619	668	538	0	0
2006	4,967 [ab]	281	0	13	28	912	789	279	0	0
2007	6,868 [ab]	120	289	16	48	1,024	856	766	0	0
2008	4,868 [ab]	993	26	0	153	1,821	308	672	0	0
2009	8,214 [b]	1,178	647	22	0	942	1503	341	0	0
2010	6,977 [b]	805	632	0	227	756	301	256	0	0
2011	1,428 [ab]	414	87	0	0	698	619	893	0	0
2012	1,237	274	548	0	94	467	616	193	0	0
2013	7,593 [c]	356	193	0	0	1,618	297	80	0	0
2014	10,283	622	242	0	222	1,698	275	238	0	62
2015	7,912	2,041	180	0	0	1,068	53	216	0	156
2016	2,484 [a]					373				

	Wasilla Creek				
		Other salmon harvest			
Year	Coho Escapement (foot count)	Coho	Sockeye	Chum	Pink
2001	505	0			
2002	1,196	664	12	81	0
2003	294	261	0	28	0
2004	1,148	488	33	0	0
2005	130	347	0	18	0
2006	737	857	260	0	0
2007	430	324	70	0	29
2008	1,536	1086	30	0	0
2009	978	1002	165	13	14
2010	1,223	2,149	242	0	0
2011	576	372	161	70	15
2012	[d]	191	0	0	0
2013	460	1,286	320	0	0
2014	1,059	853	69	40	0
2015	375	1,471	39	32	0
2016	301				

[a] 2004–2008, 2011, and 2016 weir was removed on August 15 at the historical 35th percentile of the coho run.

[b] Coho salmon counted below weir after it was pulled:
Fish Creek 2000–2011: 761 (2000), 800 (2001), 536 (2002), 911 (2003), 1,840 (2004), 825 (2005), 756 (2006), 2,750 (2007), 4,735 (2008), 452 (2009), 57 (2010), 872 (2011).
Cottonwood Creek1999–2004: 20 (1999), 406 (2000), 604 (2001), 189 (2002), 85 (2003), 266 2004)

[c] Incomplete or partial count due to weir submersion.

[d] No survey conducted.

Table 212-5.–Effort, harvest, and escapement of coho salmon Jim Creek drainage, 1993–2016.

		Coho escapement				Other harvest			
		Foot index count							
Year	Effort	McRoberts Creek [a]	Upper Jim Creek	Total Index	Weir Count	Coho	Sockeye	Chum	Pink
1993	6,824	503	535	1,038	5,532	2,878	1,041	46	0
1994	9,658	506	2,119	2,625	6,451	3,946	1,258	169	9
1995	10,893	702	1,288	1,990		3,549	990	433	58
1996	7,561	72	439	511		3,911	1,077	321	10
1997	5,349	701	563	1,264		1,786	864	0	9
1998	5,272	922	560	1,482		4,197	1,220	77	22
1999	6,860	12	320	332		2,612	614	162	13
2000	10,975	657	2,561	3,218		5,653	1,543	61	41
2001	13,028	1,019	575	1,594		8,374	922	122	176
2002	17,989	2,473	1,630	4,103		14,707	1,268	101	27
2003	13,474	1,421	393	1,814		6,415	1,554	105	22
2004	19,342	4,652	1,045	5,697		11,766	2,499	144	302
2005	19,605	1,464	1,883	3,347		10,114	848	32	27
2006	25,271	2,389	1,750	4,139		19,259	2,173	0	140
2007	21,342	725	1,150	1,875		11,848	3,001	49	14
2008	27,874	1,890	1,029	2,919		17,545	4,187	250	33
2009	16,486	1,331	1,193	2,524		11,573	2,612	229	47
2010	16,140	242	420	662		8,442	2,440	12	57
2011	9,810	261	229	490		3,132 [b]	1,852	7	141
2012	7,474	213 [c]	495	708		1,858 [b]	1,348	60	0
2013	8,474	663	1,029	1,692		3,258	1,596	0	55
2014	9,376	122	618	740		3,045	1,021	38	210
2015	3,425	571	374	945	3,572	2,910 [b]	1,050	0	12
2016		106	307	413	1,764	[b]			
Averages									
1993–2002	9,441	757	1,059	1,816		5,161	1,080	149	37
2003–2012	17,682	1,459	959	2,418		10,195	2,251	89	78
2011–2015	7,712	366	549	915		2,841	1,373	21	84

[a] SEG 450–1,400

[b] fishery restricted or closed early.

[c] foot survey conducted late.

PROPOSAL 213 – 5 AAC 21.358. Northern District Salmon Management Plan.

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

WHAT WOULD THE PROPOSAL DO? This would close the area within one mile of the Little Susitna River to commercial fishing when the Little Susitna River sport fishery is restricted to no bait.

WHAT ARE THE CURRENT REGULATIONS? Commercial fishing around the mouth of the Little Susitna River is regulated by 5 AAC 21.350(i), which does not allow fishing within 500 yards of the terminus of streams or rivers. In addition, 5 AAC 39.290(a) prohibits commercial fishing: (1) within the fresh water of streams and rivers of the state; (2) within 500 yards of the fresh water of a stream that is a salmon stream; and (3) over the beds or channels of fresh water of streams and rivers of the state. A salmon stream terminus is defined as a line drawn between the seaward extremities of the exposed tideland banks of any salmon stream at mean lower low water (5 AAC 39.975(14)). A salmon stream is defined as any stream used by salmon for spawning or for traveling to a spawning area (5 AAC 39.975(10)).

In Little Susitna River flowing waters, from its mouth upstream to the Parks Highway, only unbaited, artificial lures are allowed October 1–August 5. Bait is allowed August 6–September 30.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would reduce commercial harvest of Little Susitna River coho salmon by an unknown, but likely small, amount depending on annual salmon abundance because it displaces one set gillnet operation.

BACKGROUND: There is one set gillnet operation that fishes just east of the Little Susitna River. The operator currently has two set gillnet permits and an active State of Alaska shore fisheries lease (Figure 213-1). Shore fisheries leases are not required in order to fish commercially in Cook Inlet, but they do provide lease owners the rights to fish specific areas identified in the leases. For a number of years, no one has fished with set gillnets west of the Little Susitna River to the Susitna River because that area is largely unfishable due to the mud flats. The 500-yard closed waters regulation that applies to the Little Susitna River has been in effect since at least 1977. In the most recent 20 year time period (1997–2016), an average of 10 permit holders per year have caught an average of approximately 200 king and 3,700 coho salmon per year in statistical area 247-31 (Figure 213-2; Table 213-1).

The Little Susitna River supports large fisheries on a modestly sized king salmon run and a large coho salmon run relative to other NCI salmon producing streams. Anglers fish an average of 27,000 days annually during the last 10 years; over half is directed at coho salmon and the rest is directed at king salmon (Table 213-2). Effort was stable until 2009, and then it declined as a result of low king and coho salmon, and restrictive actions taken to reduce harvests during those years.

The SEG of 900–1,800 king salmon is based on a postseason aerial index count. Prior to 2009, harvest for king salmon was stable and averaged approximately 2,600 fish (1999–2008; 10 year).

Escapements across the same time period were also stable with an average of 1,500 king salmon. The inriver harvest rate can be estimated only from years of complete weir counts (1988–1989, 1994–1995 and 2014–2015) since the aerial index count only represents 40–60% of the actual escapement. The inriver harvest rate ranged from 28% to 59% during 1988, 1989, 1994, and 1995. The harvest rate of 12% since 2012 was likely due to preseason and inseason restrictions imposed on the sport fishery to address low king abundance. The king salmon SEG has been achieved eight of the past 10 years (SEG missed in 2010–2011).

The Little Susitna River supports a high use coho fishery on a large run of coho salmon relative to other NCI salmon producing streams. The fishery is open seven days per week with no limitation to hours. Weir counts are used to gauge run strength and as an inseason indicator of run strength to the Knik Arm area. The weir was moved downstream from river mile 71 to river mile 32.5 in 2012 for more timely management of the fishery. The SEG of 10,100–17,700 coho salmon is based on weir counts. Under current regulation (since 2000), harvest has averaged 10,500 coho salmon and average escapement for the same period was 17,600 coho salmon (Table 213-2). The inriver harvest rate is 44%, varying widely from 29% to75% due to large variations in run size, while fishing power is more constant. The SEG was achieved or exceeded 11 times since 2000 (16 years). Note that the weir flooded in 2006, but likely the goal would have been exceeded in that year. The escapement goal has been missed on below average run years of 2009–2010 and weak run years of 2011–2012 and 2016 in which coho runs across NCI were also weak.

The Little Susitna River supports a modest sport fishery for sockeye salmon. Some sockeye are caught incidental to targeting coho salmon in the lower 30 miles of river; however, the main fishery targeting sockeye salmon occurs at the mouth of Nancy Lake Creek, a tributary entering the Little Susitna at about river mile 65. Average sport harvest (2003–2015) for Little Susitna River sockeye salmon is 1,600 fish (Table 213-3).

The department has nine years of complete sockeye salmon counts on the Little Susitna (1988–1989, 1994–1995, and 2013–2016) from years in which the weir was operated in the lower river and downstream of sockeye spawning destinations (Table 213-3). The average weir count for these years was 5,428 fish.

The weir in its present location (river mile 32), is not an accurate measure of escapement because the majority of harvest occurs near the mouth of Nancy Lake Creek, which is about 30 miles upstream of the weir. Assuming the weir counts represent the majority of the inriver run, and harvest reported by the SWHS represents the majority of harvest upstream of the weir, then escapements of sockeye salmon on the Little Susitna River have varied from approximately 830 to 13,500 fish during 1988–2016 (complete count years only).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal but **OPPOSES** this proposal as a means of conserving Little Susitna salmon. This would unnecessarily close waters to one set gillnet operation that currently fishes the area open to commercial fishing. Current sport and commercial harvest levels appear to be sustainable across the majority of years. Little Susitna king and coho salmon sport and commercial fishing

regulations and the department's EO authority provide opportunity to harvest salmon excess to escapement needs and meet established escapement goals.

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

Table 213-1.–Commercial salmon harvest and number of permits fished in the Northern District statistical area 247-41, 1997–2016.

		Commercial salmon harvest				
Year	Permits fished	King	Sockeye	Coho	Pink	Chum
1997	14	119	4,239	3,843	140	896
1998	13	105	1,580	3,194	707	820
1999	10	102	1,300	1,271	17	507
2000	7	76	1,344	4,738	611	339
2001	9	64	901	5,628	4	422
2002	12	141	3,380	6,223	50	759
2003	12	305	8,884	4,917	193	1,821
2004	14	362	4,457	10,600	197	849
2005	12	438	1,963	4,483	55	214
2006	10	569	466	1,531	37	156
2007	9	301	1,129	2,033	97	166
2008	10	547	1,160	5,362	125	353
2009	7	92	1,935	2,267	6	255
2010	7	127	2,678	2,130	94	374
2011	6	163	3,208	1,990	62	1,436
2012	7	71	1,458	666	47	518
2013	9	165	798	3,115	170	469
2014	10	101	1,573	3,664	246	646
2015	13	209	2,825	4,204	104	1,737
2016	9	96	2,957	2,013	179	761
Average	10	208	2,412	3,694	157	675

Table 213-2.–Effort, harvest, and escapement of king and coho salmon on the Little Susitna River, 1988–2016.

Year	Angler-days	King salmon Harvest	King salmon Escapement (aerial index) [a]	King salmon Escapement (weir count)	Coho salmon Harvest Rate	Coho salmon Harvest	Coho salmon Escapement (weir count) [b]
1988	49,731	2,822	3,197	7,374	0.28	19,009	20,491
1989	54,708	4,204	no count	4,367	0.49	14,129	15,232
1990	40,159	1,965	922			7,497	14,310
1991	50,838	2,102	892			16,450	37,601
1992	49,304	3,920	1,441			20,033	20,393
1993	42,249	3,441	no count			27,610	33,378
1994	45,149	4,204	1,221	2,981	0.59	17,665	27,820
1995	41,119	1,698	1,714	2,809	0.38	14,451	11,817
1996	24,575	1,484	1,079			16,753	15,803
1997	27,883	2,938	no count			7,756	9,894 [c]
1998	22,108	2,031	1,091			14,469	15,159
1999	30,437	2,713	no count			8,864	3,017
2000	39,556	2,802	1,094			20,357	15,436
2001	33,521	2,243	1,238			17,071	30,587
2002	40,346	3,144	1,660			19,278	47,938
2003	31,993	2,138	1,114			13,672	10,877
2004	33,819	2,362	1,694			15,307	40,199
2005	27,490	2,724	2,095			10,203	16,839 [c]
2006	28,547	3,303	1,855			12,399	8,786 [c]
2007	35,636	3,210	1,731			11,089	17,573
2008	31,989	2,219	1,297			13,498	18,485
2009	28,151	1,653	1,028			8,346	9,523
2010	24,846	889	589			10,662	9,214
2011	12,779	828	887			2,452	4,826
2012	10,115	216	1,154			1,681	6,779 [c]
2013	12,012	336	1,651			5,229	13,583 [c]
2014	13,636	437	1,759	3,135 [c]		6,922	24,211
2015	17,845	672	1,507	5,026	0.12	8,880	12,756 [c]
2016			1,622	4,969			10,049
Average [d]	32,162	2,239	1,421	4,588		12,919	19,736

[a] BEG 850 from 1994 to 2001; SEG 900–1,800 from 2002 to 2016.

[b] BEG 7,500 from 1994 to 1998; BEG 9,600–19,200 from 1999 to 2001; SEG 10,100–17,700 from 2002 to 2016.

[c] Incomplete count due to high water and weir submersion.

[d] Complete count years only.

Table 213-3.–Sport harvest and escapement estimates of sockeye salmon on the Little Susitna River for years a weir was operated at river mile 32.5, 1988–2016.

Year	Harvest	Weir count	
1988	2,310	3,824	
1989	2,315	6,203	
1990	891	1,045	[a]
1991	1,722	9,377	[a]
1992	1,274	4,827	[a]
1993	2,487	7,313	[a]
1994	1,809	15,328	
1995	1,116	7,129	
1996	2,286	ND	
1997	1,845	ND	
1998	872	ND	
1999	1,282	ND	
2000	3,661	ND	
2001	1,959	ND	
2002	2,133	ND	
2003	3,337	ND	
2004	2,776	ND	
2005	1,442	ND	
2006	1,556	ND	
2007	2,387	ND	
2008	1,699	ND	
2009	1,152	ND	
2010	1,257	ND	
2011	295	ND	
2012	506	249	[a]
2013	271	367	[a]
2014	66	900	
2015	166	1,499	
2016		3,113	
Average	1,603	5,428	[b]

[a] Partial count. Weir not operated during the first 1/3 of the historical run.
[b] Complete count years only.

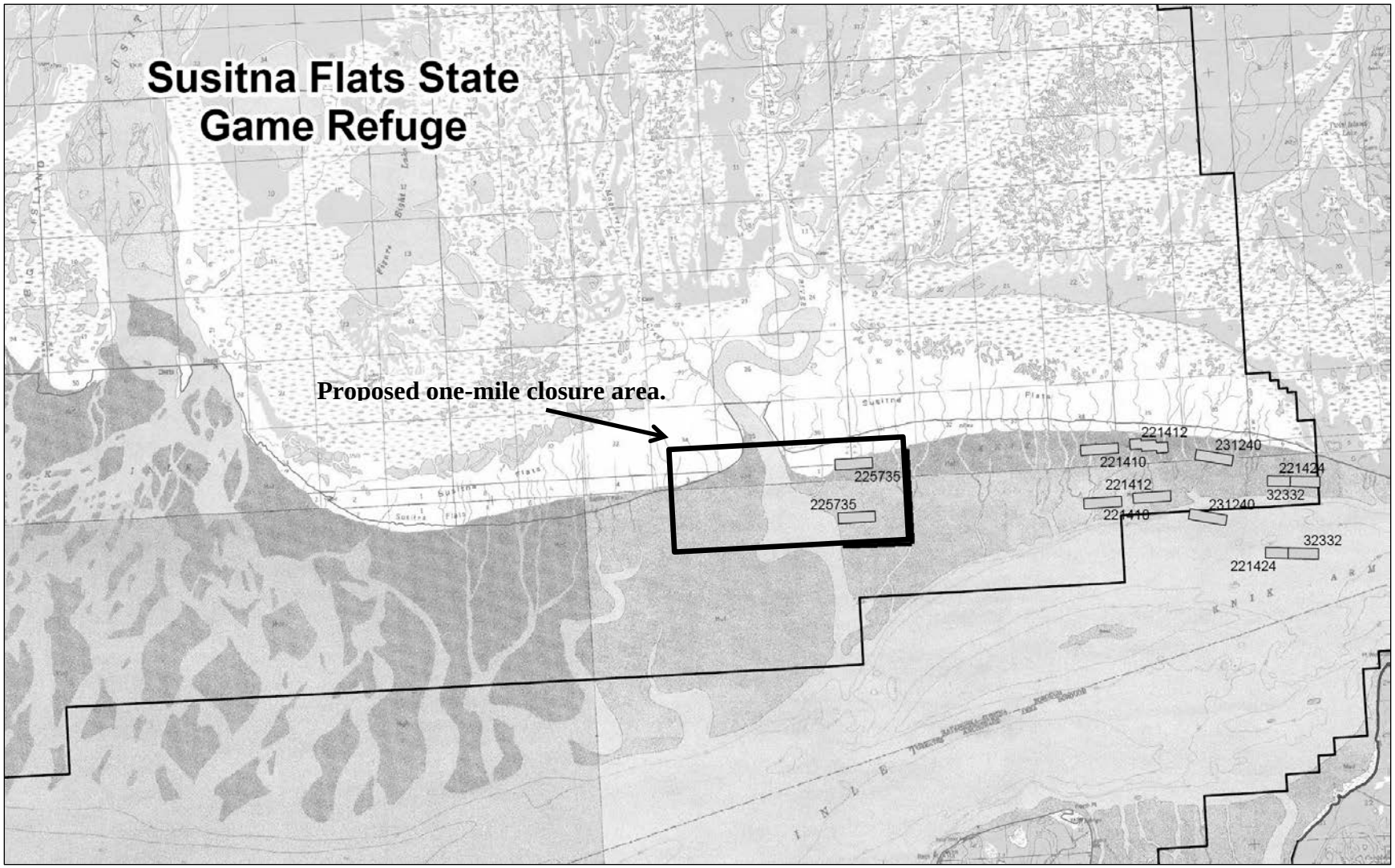

Figure 213-1.–Map of shore fisheries leases from the Susitna River east to Knik Arm.

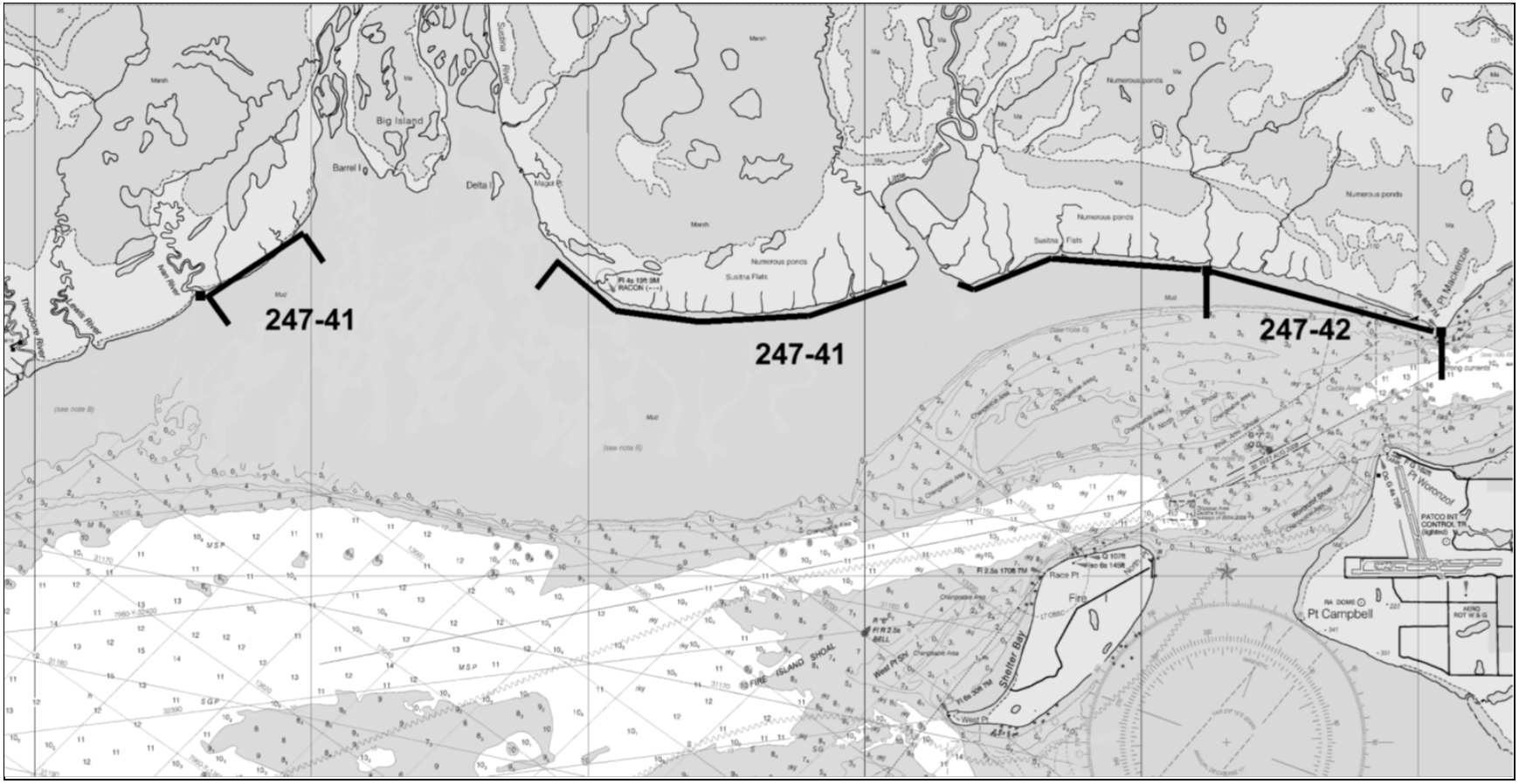

Figure 213-2.–Map of commercial fishing statistical areas 247-41 and 247-42.

PROPOSAL 214 – 5 AAC 21.366. Northern District King Salmon Management Plan.

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

WHAT WOULD THE PROPOSAL DO? This would close the area within one mile of the Little Susitna River to commercial fishing when the Little Susitna River sport fishery is restricted by EO. Additionally, this proposal would close the ND set gillnet fishery until the first regular period on or after June 24 if more than half of the ND streams with king salmon escapement goals are closed to king salmon sport harvest.

WHAT ARE THE CURRENT REGULATIONS? Commercial fishing around the mouth of the Little Susitna River is regulated by 5 AAC 21.350(i), which does not allow fishing within 500 yards of the terminus of streams or rivers. In addition, 5 AAC 39.290(a) prohibits commercial fishing (1) within the fresh water of streams and rivers of the state; (2) within 500 yards of the fresh water of a stream that is a salmon stream; and (3) over the beds or channels of fresh water of streams and rivers of the state. A salmon stream terminus is defined as a line drawn between the seaward extremities of the exposed tideland banks of any salmon stream at mean lower low water (5 AAC 39.975(14)).

The directed king salmon season in the ND opens on the first Monday on or after May 25 and continues through June 24 unless closed earlier by EO. Fishing periods are Mondays only from 7:00 a.m. to 7:00 p.m. If the Deshka River is closed to sport fishing, the entire commercial fishery will close.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would reduce commercial harvest of Little Susitna River coho salmon by an unknown, but likely small, amount depending on annual salmon abundance because it displaces one set gillnet operation. Additionally, this proposal would close the directed king salmon commercial fishery in the ND if more than half of the ND streams with king salmon escapement goals are closed to king salmon sport harvest. Based on the 2007–2016 average annual harvest, king salmon harvest in the ND commercial set gillnet fishery would be reduced by approximately 1,900 king salmon annually if the commercial fishery were closed for the entire season (Table 209-1). This would also increase the number of king salmon migrating to streams in NCI by a similar amount.

This proposal was unclear as to what type of sport fishing restrictions would trigger closure of the commercial fishery or if a portion or all of the Susitna River sport fishery has to be restricted. Based on the 2007–2016 average annual harvest, king salmon harvest in the ND commercial set gillnet fishery would be reduced by approximately 1,900 king salmon annually if the commercial fishery were closed for the entire season (Table 209-1).

BACKGROUND: There is one set gillnet operation that fishes just east of the Little Susitna River. The operator currently has two set gillnet permits and an active State of Alaska shore fisheries lease (Figure 213-1). Shore fisheries leases are not required in order to fish commercially in Cook Inlet, but they do provide lease owners the rights to fish specific areas identified in the leases. For a number of years, no one has fished with set gillnets west of the Little Susitna River to the Susitna River because that area is largely unfishable due to the mud

flats. The 500-yard closed waters regulation that applies to the Little Susitna River has been in effect since at least 1977. In the most recent 20 year time period (1997–2016), an average of 10 permit holders per year have caught an average of approximately 200 king and 3,700 coho salmon per year in statistical area 247-31 (Figure 213-2; Table 213-2).

Forty-one commercial permit holders participated in the 2016 ND king salmon fishery, with an estimated harvest of 2,030 fish (Table 209-1). The 1986–2016 average annual harvest of king salmon in the ND directed commercial fishery is approximately 2,800 fish, although the most recent 10-year average (2007–2016) is approximately 1,900.

There are 17 escapement goals established for king salmon in Northern Cook Inlet Management Area (NCIMA) waters (Table 214-1). Sport fishing for king salmon is currently closed by regulation in five of the streams with escapement goals; Theodore, Lewis, and Chuitna rivers, and Goose, and Alexander creeks. In addition to these streams that are closed by regulation, the department has implemented EOs to close sport fishing to the retention of king salmon in select NCIMA waters annually since 2012 (Table 214.2). Seven of the streams with escapement goals within the Eastside Susitna (units 2, 3, 5, and 6) were closed to the harvest of king salmon seven days per week by EO; Chulitna and Talachulitna rivers, and Sheep, Little Willow, Montana, Clear, and Willow creeks. Three streams with escapement goals within the Yentna River drainage (unit 4) and Knik Arm were closed to the harvest of king salmon for 3–4 days per week; Lake Creek, Peters Creek and Little Susitna River.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this allocative proposal. The department **OPPOSES** unnecessarily closing waters currently open to commercial fishing near the mouth of the Little Susitna River as a means of conserving Little Susitna River salmon. It is unclear if systems with escapement goals that are closed by regulation or if an area was restricted to catch-and-release for only part of the week would be factored into the proposed stipulation.

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 214-1.–King salmon escapement goals for Northern Cook Inlet Management Area waters.

Drainage	Escapement Goal Range	2016 Estimate	2015 Estimate	2014 Estimate	2013 Estimate
Little Susitna River	900–1,800	1,622	1,507	1,759	1,651
Chulitna River	1,800–5,100	1,151	3,137	1,011	1,262
Clear Creek	950–3,400	No survey	1,205	1,390	1,471
Goose Creek	250–650	No survey	No survey	232	62
Little Willow Creek	450–1,800	675	788	684	858
Montana Creek	1,100–3,100	692	1,416	953	1,304
Prairie Creek	3,100–9,200	1,853	3,290	2,812	3,304
Sheep Creek	600–1,200	No survey	No survey	262	No survey
Willow Creek	1,600–2,800	1,814	2,046	1,335	1,752
Alexander Creek	2,100–6,000	754	1,117	911	588
Deshka River	13,000–28,000	22,874	24,316	16,335	18,531
Lake Creek	2,500–7,100	3,588	4,686	3,506	3,655
Peters Creek	1,000–2,600	1,122	1,514	1,443	1,643
Talachulitna River	2,200–5,000	4,295	2,582	2,256	2,285
Chuitna River	1,200–2,900	1,372	1,965	1,398	1,690
Lewis River	250–800	0	5	61	61
Theodore River	500–1,700	68	426	312	476

[a] Met goals in 11 out of 16 streams in 2013.
[b] Met goals in 4 out of 17 streams in 2012.
[c] Met goals in 8 out of 17 streams in 2014.

Table 214-2.–Preseason and inseason EOs issued to manage king salmon in Northern Cook Inlet Management Area, 2012–2016.

Little Susitna

	Preseason EOs	Inseason EOs
2012	annual 2; single hook only; harvest Fri - Mon (4 days)	closed June 15
2013	annual 2; single hook only; harvest Sat - Mon (3 days)	
2014	same as 2013	reinstated 7 days/wk July 4
2015	same as 2013	reinstated 7 days/wk June 19; restored to regulation June 27; liberalized adding bait July 3
2016	annual 2; single hook only; harvest Fri - Mon (4 days)	restored to regulation June 27; liberalized adding bait July 6

Deshka River

	Preseason EOs	Inseason EOs
2012	annual 2	closed June 25
2013	annual 2; single hook artificial only	reinstated bait June 29
2014	same as 2013	reinstated bait June 14
2015	same as 2013	reinstated bait June 13; restored to regulation June 27
2016	annual 2	restored to regulation June 11

Eastside Susitna area (units 2, 3, 5, 6)

	Preseason EOs	Inseason EOs
2012	annual 2; single hook only; harvest through second Monday, then C&R only on weekends	closed June 25
2013	C & R only; single hook only	none
2014	same as 2013	none
2015	same as 2013	none
2016	same as 2013	none

Yentna River

	Preseason EOs	Inseason EOs
2012	annual 2	closed June 25
2013	annual 2; single hook only; harvest Fri - Mon (4 days)	none
2014	same as 2013	none
2015	same as 2013	none
2016	same as 2013	none

Talachulitna River

	Preseason EOs	Inseason EOs
2012	annual 2	closed June 25
2013	C & R only; single hook only	none
2014	same as 2013	none
2015	same as 2013	none
2016	same as 2013	none

PROPOSAL 215 – 5 AAC 21.366Northern District King Salmon Management Plan.

PROPOSED BY: Ben Allen.

WHAT WOULD THE PROPOSAL DO? This would close commercial fishing within one mile of the Little Susitna River if the Little Susitna River sport fishery is restricted to harvest less than seven days per week and restricted to artificial lures only by EO.

WHAT ARE THE CURRENT REGULATIONS? Commercial fishing around the mouth of the Little Susitna River falls under the regulations 5 AAC 21.350(i), which does not allow fishing within 500 yards of the terminus of streams or rivers. In addition, 5 AAC 39.290(a) prohibits commercial fishing (1) within the fresh water of streams and rivers of the state; (2) within 500 yards of the fresh water of a stream that is a salmon stream; and (3) over the beds or channels of fresh water of streams and rivers of the state. A salmon stream terminus is defined as a line drawn between the seaward extremities of the exposed tideland banks of any salmon stream at mean lower low water (5 AAC 39.975(14)).

The directed king salmon season opens in the ND on the first Monday on or after May 25 and continues through June 24 unless closed earlier by EO. Fishing periods are Mondays only from 7:00 a.m. to 7:00 p.m. If the Deshka River is closed to sport fishing, the entire commercial fishery will close.

In Little Susitna River flowing waters, from its mouth upstream to the Parks Highway, open season for king salmon is January 1–July 13. The bag and possession limit is one king salmon 20 inches or longer. Only unbaited, artificial lures are allowed October 1–August 5. The waters within 300 feet of a fish weir are closed to sport fishing.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WAS ADOPTED? This would reduce commercial harvest of Little Susitna River coho salmon by an unknown, but likely small, amount depending on annual salmon abundance because it displaces one set gillnet operation.

BACKGROUND: There is one set gillnet operation that fishes just east of the Little Susitna River. The operator currently has two set gillnet permits and an active State of Alaska shore fisheries lease (Figure 213-1). Shore fisheries leases are not required in order to fish commercially in Cook Inlet, but they do provide lease owners the rights to fish specific areas identified in the leases. For a number of years, no one has fished with set gillnets west of the Little Susitna River to the Susitna River because that area is largely unfishable due to the mud flats. The 500-yard closed waters regulation that applies to the Little Susitna River has been in effect since at least 1977. In the most recent 20 year time period (1997–2016), an average of 10 permit holders per year have caught an average of approximately 200 king and 3,700 coho salmon per year in statistical area 247-31 (Figure 213-2; Table 213-2).

The Little Susitna River supports large fisheries on a modestly sized king salmon run relative to other NCI salmon producing streams. Anglers fish an average of 27,000 days annually during the last 10 years; over half is directed at coho salmon and the rest is directed at king salmon (Table

215-1). Effort was stable until 2009, and then it declined as a result of low king and coho salmon runs, and restrictive actions taken to reduce harvests during those years.

The SEG of 900–1,800 king salmon is based on a postseason aerial index count. Prior to 2009, harvest for king salmon was stable and averaged approximately 2,600 fish (1999–2008; 10 year). Escapements across the same time period were also stable with an average of 1,500 king salmon. The inriver harvest rate can be estimated only from years of complete weir counts (1988–1989, 1994–1995, and 2014–2015) since the aerial index count only represents 40–60% of the actual escapement. The inriver harvest rate ranged from 28% to 59% during 1988, 1989, 1994, and 1995. The harvest rate of 12% since 2012 was likely due to preseason and inseason restrictions imposed on the sport fishery to address low king abundance. Since 2012, in the Little Susitna River, harvest was restricted to three or four days per week and catch-and-release only other days of the week. Gear was restricted to one, single-hook only during each of those years (Table 215-2). The king salmon SEG has been achieved eight of the past 10 years (SEG missed 2010–2011).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal but **OPPOSES** this proposal as a means of conserving Little Susitna River salmon. This would unnecessarily close waters to one set gillnet operation that currently fishes the area open to commercial fishing. Current sport and commercial harvest levels appear to be sustainable across the majority of years. Little Susitna River king and coho salmon sport and commercial fishing regulations and the department's EO authority provide opportunity to harvest salmon excess to escapement needs and meet established escapement goals.

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

Table 215-1.–Effort, harvest, and escapement of king salmon on the Little Susitna River, 1988–2016.

		King salmon			
Year	Angler-days	Harvest	Escapement (aerial index) [a]	Escapement (weir count)	Harvest Rate
1988	49,731	2,822	3,197	7,374	0.28
1989	54,708	4,204	no count	4,367	0.49
1990	40,159	1,965	922		
1991	50,838	2,102	892		
1992	49,304	3,920	1,441		
1993	42,249	3,441	no count		
1994	45,149	4,204	1,221	2,981	0.59
1995	41,119	1,698	1,714	2,809	0.38
1996	24,575	1,484	1,079		
1997	27,883	2,938	no count		
1998	22,108	2,031	1,091		
1999	30,437	2,713	no count		
2000	39,556	2,802	1,094		
2001	33,521	2,243	1,238		
2002	40,346	3,144	1,660		
2003	31,993	2,138	1,114		
2004	33,819	2,362	1,694		
2005	27,490	2,724	2,095		
2006	28,547	3,303	1,855		
2007	35,636	3,210	1,731		
2008	31,989	2,219	1,297		
2009	28,151	1,653	1,028		
2010	24,846	889	589		
2011	12,779	828	887		
2012	10,115	216	1,154		
2013	12,012	336	1,651	2,379 [b]	
2014	13,636	437	1,759	3,135	0.12
2015	17,845	672	1,507	5,026	0.12
2016			1,622	4,969	
Average	32,162	2,239	1,421	4,588	

[a] BEG 850 from 1994 to 2001; SEG 900–1,800 from 2002 to 2016.

[b] Incomplete count due to high water and weir submersion.

Table 215-2.–Preseason and inseason emergency orders issued to manage king salmon in the Little Susitna River, 2012–2016.

	Little Susitna	
	Preseason EOs	Inseason EOs
2012	annual 2; single hook only; harvest Fri - Mon (4 days)	closed June 15
2013	annual 2; single hook only; harvest Sat - Mon (3 days)	
2014	same as 2013	reinstated 7 days/wk July 4
2015	same as 2013	reinstated 7 days/wk June 19; restored to regulation June 27; liberalized adding bait July 3
2016	annual 2; single hook only; harvest Fri - Mon (4 days)	restored to regulation June 27; liberalized adding bait July 6

PROPOSAL 216 – 5 AAC 21.350. Closed waters.

PROPOSED BY: Matanuska Valley Fish and Game Advisory Council; Alaska Sportfishing Association.

WHAT WOULD THE PROPOSAL DO? This would close commercial fishing within one mile of the Little Susitna River.

WHAT ARE THE CURRENT REGULATIONS? Commercial fishing around the mouth of the Little Susitna River falls under the regulations 5 AAC 21.350(i), which does not allow fishing within 500 yards of the terminus of streams or rivers. In addition, 5 AAC 39.290(a) prohibits commercial fishing (1) within the fresh water of streams and rivers of the state; (2) within 500 yards of the fresh water of a stream that is a salmon stream; and (3) over the beds or channels of fresh water of streams and rivers of the state. A salmon stream terminus is defined as a line drawn between the seaward extremities of the exposed tideland banks of any salmon stream at mean lower low water (5 AAC 39.975(14)). A salmon stream is defined as any stream used by salmon for spawning or for traveling to a spawning area (5 AAC 39.975(10)).

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would reduce commercial harvest of Little Susitna River king, sockeye and coho salmon by an unknown, but likely small, amount depending on annual salmon abundance because it displaces one set gillnet operation.

BACKGROUND: There is one set gillnet operation that fishes just east of the Little Susitna River. The operator currently has two set gillnet permits and an active State of Alaska shore fisheries lease (Figure 213-1). Shore fisheries leases are not required in order to fish commercially in Cook Inlet, but they do provide lease owners the rights to fish specific areas identified in the leases. For a number of years, no one has fished with set gillnets west of the Little Susitna River to the Susitna River because that area is largely unfishable due to the mud flats. The 500-yard closed waters regulation that applies to the Little Susitna River has been in effect since at least 1977. In the most recent 20 year time period (1997–2016), an average of 10 permit holders per year have caught an average of approximately 200 king and 3,700 coho salmon per year in statistical area 247-31 (Figure 213-2; Table 213-2).

The Little Susitna River supports large fisheries on a modestly sized king salmon run and a large coho salmon run relative to other NCI salmon producing streams. Anglers fish an average of 27,000 days annually during the last 10 years; over half is directed at coho salmon and the rest is directed at king salmon (Table 216-1). Effort was stable until 2009, and then it declined as a result of low king and coho salmon runs, and restrictive actions taken to reduce harvests during those years.

The SEG of 900–1,800 king salmon is based on a postseason aerial index count. Prior to 2009, harvest for king salmon was stable and averaged approximately 2,600 fish (1999–2008; 10 year). Escapements across the same time period were also stable with an average of 1,500 king salmon. The inriver harvest rate can be estimated only from years of complete weir counts (1988–1989, 1994–1995 and 2014-2015) since the aerial index count only represents 40–60% of the actual

escapement. The inriver harvest rate ranged from 28% to 59% during 1988, 1989, 1994, and 1995. The harvest rate of 12% since 2012 was likely due to preseason and inseason restrictions imposed on the sport fishery to address low king abundance. The king salmon SEG has been achieved eight of the past 10 years (SEG missed 2010-2011).

The Little Susitna River supports a high use coho salmon fishery on a large run of coho salmon relative to other NCI salmon producing streams. The fishery is open seven days per week with no limitation to hours. Weir counts are used to gauge run strength and as an inseason indicator of run strength to the Knik Arm area. The weir was moved downstream from river mile 71 to river mile 32.5 in 2012 for more timely management of the fishery. The SEG of 10,100–17,700 coho salmon is based on weir counts. Under current regulation (since 2000), harvest has averaged 10,500 coho salmon and average escapement for the same period was 17,600 coho salmon (Table 216-1). The inriver harvest rate is 44%, varying widely from 29% to 75% due to large variations in run size, while fishing power is more constant. The SEG was achieved or exceeded 11 times since 2000 (16 years). Note that the weir flooded in 2006, but likely the goal would have been exceeded in that year. The escapement goal has been missed on below average run years of 2009–2010 and weak run years of 2011–2012 and 2016 in which coho runs across NCI were also weak.

The Little Susitna River supports a modest sport fishery for sockeye salmon. Some sockeye salmon are caught incidental to targeting coho salmon in the lower 30 miles of river; however, the main fishery targeting sockeye salmon occurs at the mouth of Nancy Lake Creek, a tributary entering the Little Susitna at about river mile 65. Average sport harvest (2003–2015) for Little Susitna River sockeye salmon is 1,600 fish (Table 216-2).

The department has nine years of complete sockeye salmon counts on the Little Susitna (1988–1989, 1994–1995, and 2013–2016) from years in which the weir was operated in the lower river and downstream of sockeye spawning destinations (Table 216-2). The average weir count for these years was 5,428 fish.

The weir in its present location (river mile 32), is not an accurate measure of escapement because the majority of harvest occurs near the mouth of Nancy Lake Creek, which is about 30 miles upstream of the weir. Assuming the weir counts represent the majority of the inriver run, and harvest reported by the SWHS represents the majority of harvest upstream of the weir, then escapements of sockeye salmon on the Little Susitna River have varied from approximately 830 to 13,500 fish during 1988–2016 (complete count years only).

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal but **OPPOSES** this proposal as a means of conserving Little Susitna River salmon. This would unnecessarily close waters currently open to commercial fishing. Current sport and commercial harvest levels appear to be sustainable across the majority of years. Little Susitna River king and coho salmon sport and commercial fishing regulations and the department's EO authority provide opportunity to harvest salmon excess to escapement needs and meet established escapement goals.

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

Table 216-1.–Effort, harvest, and escapement of king and coho salmon on the Little Susitna River, 1988–2016.

Year	Angler-days	King salmon Harvest	King salmon Escapement (aerial index) [a]	King salmon Escapement (weir count)	Coho salmon Harvest Rate	Coho salmon Harvest	Coho salmon Escapement (weir count) [b]
1988	49,731	2,822	3,197	7,374	0.28	19,009	20,491
1989	54,708	4,204	no count	4,367	0.49	14,129	15,232
1990	40,159	1,965	922			7,497	14,310
1991	50,838	2,102	892			16,450	37,601
1992	49,304	3,920	1,441			20,033	20,393
1993	42,249	3,441	no count			27,610	33,378
1994	45,149	4,204	1,221	2,981	0.59	17,665	27,820
1995	41,119	1,698	1,714	2,809	0.38	14,451	11,817
1996	24,575	1,484	1,079			16,753	15,803
1997	27,883	2,938	no count			7,756	9,894 [c]
1998	22,108	2,031	1,091			14,469	15,159
1999	30,437	2,713	no count			8,864	3,017
2000	39,556	2,802	1,094			20,357	15,436
2001	33,521	2,243	1,238			17,071	30,587
2002	40,346	3,144	1,660			19,278	47,938
2003	31,993	2,138	1,114			13,672	10,877
2004	33,819	2,362	1,694			15,307	40,199
2005	27,490	2,724	2,095			10,203	16,839 [c]
2006	28,547	3,303	1,855			12,399	8,786 [c]
2007	35,636	3,210	1,731			11,089	17,573
2008	31,989	2,219	1,297			13,498	18,485
2009	28,151	1,653	1,028			8,346	9,523
2010	24,846	889	589			10,662	9,214
2011	12,779	828	887			2,452	4,826
2012	10,115	216	1,154			1,681	6,779 [c]
2013	12,012	336	1,651			5,229	13,583 [c]
2014	13,636	437	1,759	3,135 [c]		6,922	24,211
2015	17,845	672	1,507	5,026	0.12	8,880	12,756 [c]
2016			1,622	4,969			10,049
Average [d]	32,162	2,239	1,421	4,588		12,919	19,736

[a] BEG 850 from 1994 to 2001; SEG 900–1,800 from 2002 to 2016.

[b] BEG 7,500 from 1994 to 1998; BEG 9,600–19,200 from 1999 to 2001; SEG 10,100–17,700 from 2002 to 2016.

[c] Incomplete count due to high water and weir submersion.

[d] Complete count years only.

Table 216-2.–Sport harvest and escapement estimates of sockeye salmon on the Little Susitna River for years a weir was operated at river mile 32.5, 1988–2016.

Year	Harvest	Weir count	
1988	2,310	3,824	
1989	2,315	6,203	
1990	891	1,045	[a]
1991	1,722	9,377	[a]
1992	1,274	4,827	[a]
1993	2,487	7,313	[a]
1994	1,809	15,328	
1995	1,116	7,129	
1996	2,286	ND	
1997	1,845	ND	
1998	872	ND	
1999	1,282	ND	
2000	3,661	ND	
2001	1,959	ND	
2002	2,133	ND	
2003	3,337	ND	
2004	2,776	ND	
2005	1,442	ND	
2006	1,556	ND	
2007	2,387	ND	
2008	1,699	ND	
2009	1,152	ND	
2010	1,257	ND	
2011	295	ND	
2012	506	249	[a]
2013	271	367	[a]
2014	66	900	
2015	166	1,499	
2016		3,113	
Average	1,603	5,428	[b]

[a] Partial count. Weir not operated during the first 1/3 of the historical run.
[b] Complete count years only.

PROPOSAL 217 – 5 AAC 21.366. Northern District Salmon Management Plan.

PROPOSED BY: Trevor E. Rollman.

WHAT WOULD THE PROPOSAL DO? This would remove the Eastern Subdistrict of the ND from the suite of restrictive set gillnet gear reduction options in the *Northern District Salmon Management Plan* that occur from July 20 through August 6.

WHAT ARE THE CURRENT REGULATIONS? The purposes of the *Northern District Salmon Management Plan* are to minimize the harvest of coho salmon bound for the ND of UCI and to provide the department direction for management of salmon stocks. The department shall manage the chum, pink, and sockeye salmon stocks primarily for commercial uses to provide commercial fishermen with an economic yield from the harvest of these salmon resources based on abundance. The department shall also manage chum, pink, and sockeye salmon stocks to minimize harvest of ND coho salmon and to provide sport and guided sport fishermen a reasonable opportunity to harvest these salmon resources over the entire run.

From the beginning of the regular commercial salmon fishing season, which occurs on or after June 25, through July 19, the ND set gillnet fishery is open for two regular 12-hour fishing periods per week. From July 20 through August 6, ND set gillnet fishery will fish regular 12-hour Monday and Thursday fishing periods, but may be limited to either three set gillnets not to exceed 105 fathoms, two set gillnets not to exceed 70 fathoms, or one 35-fathom set gillnet per permit; however, from July 31 through August 6, the General Subdistrict south of the Susitna River may be limited to two set-gillnets not to exceed 70 fathoms in length. ND commercial salmon fisheries shall be managed to minimize the incidental take of coho salmon stocks bound for the ND. Minimizing coho salmon harvest is accomplished two ways. First, additional fishing periods, other than the regular weekly fishing periods, are not allowed when coho salmon are expected to be the most abundant species harvested during that period; additional fishing periods may not be provided based on the abundance of ND coho salmon. Second, after August 15, the department shall limit the harvest of coho salmon in the ND by limiting commercial fishing time to the two weekly fishing periods only.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would allow the Eastern Subdistrict of the ND to fish a full complement of set gillnet gear from July 20–August 6. This would likely increase set gillnet harvest of salmon in the Eastern Subdistrict by an unknown amount.

BACKGROUND: In 2008, Susitna River sockeye salmon were classified as a stock of yield concern. An action plan describing the existing management plans and EO authority that the department was to follow to conserve Susitna River sockeye salmon was developed and adopted by the board. Further restrictions were adopted in the action plan for the ND commercial set gillnet fishery. Specifically, from July 20–August 6, if the department's assessment of abundance indicates that restrictions are necessary to achieve sockeye salmon escapement goals, the ND set gillnet fishery may be limited to no more than one 35-fathom set gillnet per permit. At the 2011 meeting, the board modified the plan by adding the option of limiting the General Subdistrict of the ND to the use of two set gillnets per permit from July 31 through August 6.

Since 2005, the department has sampled the commercial sockeye salmon harvest in the ND to collect genetic information for stock identification. Fish bound for the Susitna River drainage are categorized under the reporting groups Susitna/Yentna and Judd/Chelatna/Larson (Sus/Yent and JCL; Figure 217-1). From 2006–2013, the proportion of the Eastern Subdistrict total sockeye salmon harvest that could be attributed to the Sus/Yent and JCL reporting groups averaged 12% and has ranged from 6%–22% (Table 217-1). Given the total run estimates to the Susitna River during that time period, harvest rate averaged 0.4% and ranged from 0.1%–0.4% (Table 217-1). Genetic information from the years following 2013 is not available at this time. From 2007–2016, total sockeye salmon harvest in the Eastern Subdistrict between July 20 and August 6 averaged 4,897 fish per year (Table 217-2).

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 217-1.–Harvest of Susitna River drainage sockeye salmon in the Eastern and General Subdistricts of the Northern District, 2006–2013.

	Eastern Subdistrict				General Subdistrict				
Year	Total Harvest	Proportion Sus/Yent and JCL	Sus/Yent and JCL harvest	Sus/Yent and JCL harvest rate	Total Harvest	Proportion Sus/Yent and JCL	Sus/Yent and JCL harvest	Sus/Yent and JCL harvest rate	Susitna River total run
2006	9,467	18%	1,742	0.37%	3,163	30%	955	0.20%	474,415
2007	9,222	14%	1,263	0.21%	8,245	30%	2,490	0.42%	590,365
2008	16,652	22%	3,613	0.79%	9,578	32%	3,046	0.67%	457,490
2009	18,057	6%	1,138	0.35%	22,595	26%	5,875	1.82%	322,496
2010	15,051	8%	1,219	0.40%	25,126	20%	4,975	1.62%	307,393
2011	9,909	7%	694	0.13%	25,573	42%	10,638	1.96%	542,405
2012	10,765	13%	1,399	0.43%	11,815	17%	2,032	0.63%	321,947
2013	11,037	11%	1,203	0.34%	12,386	45%	5,524	1.56%	354,440
Average	12,520	12%	1,534	0.38%	14,810	30%	4,442	1.11%	421,369

Note: Sus/Yent and JCL is the Susitna River (Sus), Yentna River (Yent) and Judd, Chelatna and Larson Lakes (JCL).

Table 217-2.–Commercial salmon harvest in the Eastern and General Subdistricts of the Northern District from July 20 through August 6, 2007–2016.

		Eastern Subdistrict					General Subdistrict				
Year	Number of periods	King	Sockeye	Coho	Pink	Chum	King	Sockeye	Coho	Pink	Chum
2007	1		1,280	1,065	685	45		1,717	2,341	118	33
2008	5	3	2,770	2,831	1,334	49	23	3,336	10,786	151	592
2009	6	6	8,583	5,455	2,359	381	2	6,453	15,430	755	1,726
2010	5	2	3,749	3,442	1,237	372	1	10,396	12,636	1,303	2,226
2011	5	1	2,982	1,000	430	427		9,898	8,213	194	3,594
2012	5	1	4,925	2,986	3,126	97	1	3,626	6,380	178	982
2013	5	5	1,888	2,986	551	143	6	1,963	17,174	210	681
2014	5	2	5,251	2,772	3,086	228	2	7,455	14,707	601	937
2015	6	4	9,648	3,858	992	253	3	16,636	20,448	240	3,745
2016	5	5	7,891	2,582	1,450	102	4	9,763	10,634	390	1,286
Average	5	3	4,897	2,898	1,525	210	5	7,124	11,875	414	1,580

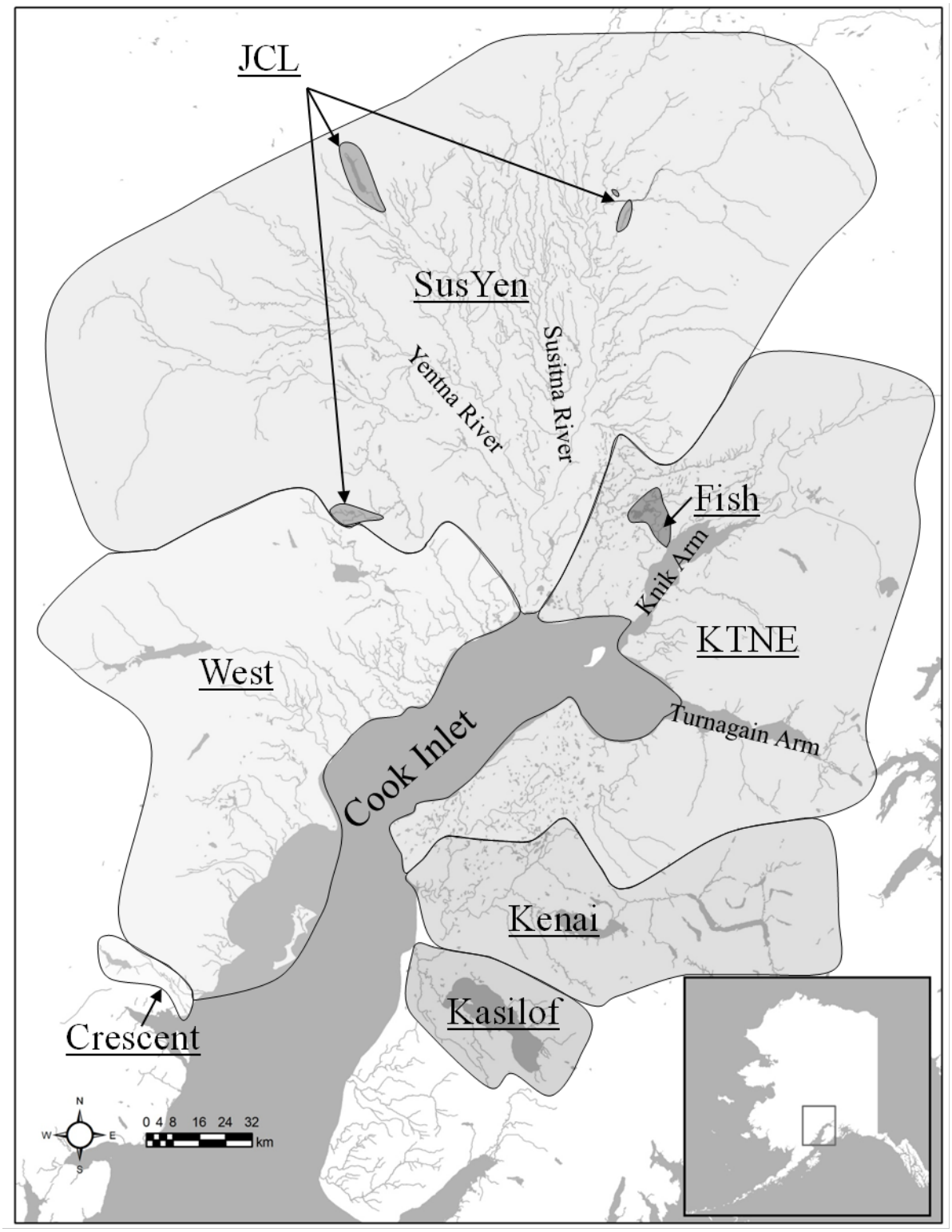

Figure 217-1.–Map of Upper Cook Inlet showing reporting group areas for mixed stock analysis using genetic markers for sockeye salmon.

PROPOSAL 218 – 5 AAC 21.366. Northern District King Salmon Management Plan.

PROPOSED BY: Northern District Setnetters of Cook Inlet.

WHAT WOULD THE PROPOSAL DO? This would allow participants in the directed ND king salmon set gillnet commercial fishery to operate one set gillnet per permit rather than per permit holder.

WHAT ARE THE CURRENT REGULATIONS? The *Northern District King Salmon Management Plan* (5 AAC 21.366) regulates the directed king salmon commercial fishery in the ND of UCI. The purpose of the plan is to ensure an adequate escapement of king salmon into ND drainages and to provide management guidelines to the department; the department shall manage the ND king salmon stocks primarily for sport and guided sport uses in order to provide sport and guided sport fishermen with a reasonable opportunity to harvest these salmon over the entire run as measured by the frequency of inriver restrictions. In order to meet board intent to manage ND king salmon stocks primarily for sport and guided sport uses this fishery is managed conservatively.

The directed king salmon season in the ND opens the first Monday on or after May 25 and continues through June 24 unless closed earlier by EO. Fishing periods are Mondays only from 7:00 a.m. to 7:00 p.m. Permit holders are allowed one 35-fathom set gillnet and may not operate their nets within 1,200 feet nor seaward of another set gillnet.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This may increase the total number of set gillnets and salmon harvested in this fishery by an unknown amount, depending on abundance.

BACKGROUND: The *Northern District King Salmon Management Plan* was first adopted in 1986, a Cook Inlet set gillnet permit holder could only own one limited entry permit. When the regulations changed in 2011 to allow one person to own and operate two S04H permits, there was confusion over the interpretation of the management plan regarding how much gear one person owning two permits could fish.

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

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

Forty-one commercial permit holders participated in the 2016 ND king salmon fishery, with an estimated harvest of 2,030 fish (Table 209-1; 209-2). Number of permit holders participating in this fishery rapidly declined beginning in 1993, which is the first year set gillnet fishermen were required to register (prior to fishing) to fish in one of three areas (ND, Upper Subdistrict, or

Greater Cook Inlet) for the entire year (5 AAC 21.345). The registration requirement served to eliminate a common practice of fishing in multiple areas in UCI during the same year.

From 1990–2016, average annual harvest of king salmon in the ND directed commercial fishery was approximately 2,600 fish, although the most recent average (2007–2016) was approximately 1,900 fish (Table 209-1). A harvest cap of 12,500 king salmon was only reached one time in 1986. After the 1993 registration requirements went into effect, the number of fishermen participating in the fishery, and thus harvests, declined. From 1990–2015, average annual harvest of king salmon in the NCI area sport fishery was approximately 28,000 fish. Similar to the decline in the commercial harvest, the most recent average (2007–2015) was approximately 13,000 fish. Based on the most recent harvest data, the directed commercial fishery averaged 18% of the harvest, while the sport fishery averaged 82% of the harvest.

During the most recent 10 years (2007–2016), escapement of Deshka River king salmon at the weir was below the goal range two years and within the goal range eight years (Table 209-3). Escapement goals on Eastside Susitna streams have been met about half the time during this same time period despite being restricted to catch-and-release since 2012 (Figure 209-3)

Since 2013, the department conducted a project on the Susitna River to determine king salmon abundance and spawning distribution on the Susitna River since 2013. Based on these investigations, estimated king salmon abundance in the Susitna River upstream of the Yentna River was approximately 89,500 fish in 2013; 68,000 fish in 2014; and 88,600 fish in 2015 (Table 209-4). Additionally, estimated king salmon abundance in the Yentna River was approximately 22,300 fish in 2014 and 48,500 fish in 2015. Spawning distribution in 2014 and 2015 indicated the major destinations were the combined Eastside Susitna River streams (17% and 20%), Deshka River (15% and 19%), Talkeetna River (15% and 10%), and Chulitna River (18% and 8%) (Table 218-1).

Based on these estimates of king salmon abundance in the Susitna River only, the commercial fishery harvest rate in 2014 and 2015 was 1.2% and 2.4% of the Susitna River king salmon run and the sport harvest rate was 2.2% and 2.6%. When all NCI king salmon stocks are considered, the commercial fisheries harvest rate is less than estimates for the Susitna River alone.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on the allocative aspects of this proposal. The department supports clarifying board intent regarding the number of set gillnets that can be fished.

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

Table 218-1.–King salmon abundance and spawning distributions in the entire Susitna drainage, 2014 and 2015 obtained by mark-recapture.

	2014			2015		
Location	Total Abundance	Tributary Abundance	Percent of Total	Total Abundance	Tributary Abundance	Percent of Total
Susitna River above the mainstem tagging site	68,225			88,580		
PRM 34–102.4 mainstem Susitna River [a]		2,098	2%		5,600	4%
Deshka River		14,024	15%		25,454	19%
Eastside Susitna River		15,073	17%		27,490	20%
Talkeetna River		14,024	15%		13,236	10%
PRM 102.4–153.4 mainstem Susitna River [b]		6,609	7%		6,109	4%
Chulitna River		16,397	18%		10,691	8%
Yentna River above tagging site	22,267			48,416		
Lake Creek drainage		5,163	6%		10,805	8%
Kahiltna River drainage		4,195	5%		7,481	5%
Talachulitna River drainage		1,721	2%		9,351	7%
Skwentna River drainage, other than the Talachulitna River		4,303	5%		11,221	8%
Remaining Yentna River drainage, other than the areas above		6,885	8%		9,558	7%
Total Susitna River Drainage	90,492		100 %	136,996		100 %

[a] PRM 34 upstream to the Chulitna River Confluence.
[b] Chulitna River Confluence to Devils Canyon.

Susitna River Sport Fisheries (10 Proposals)

PROPOSAL 230 – 5 AAC 61.XXX. *Deshka River King Salmon Management Plan*.

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

WHAT WOULD THE PROPOSAL DO? Create a Deshka River King Salmon Management Plan. Elements of the management plan include setting a threshold, below which preseason restrictions would be enacted in the Deshka River sport fishery. The threshold would be based on a preseason forecast for Deshka River king salmon. The management plan would also establish specific inseason projection thresholds and specific weir counts that would trigger various inseason actions in the Deshka River sport fishery.

WHAT ARE THE CURRENT REGULATIONS? The Deshka River is open to king salmon fishing January 1–July 13 from the mouth upstream 17 miles, and all waters within a one-half mile radius of its confluence with the Susitna River. The remainder of the drainage is closed to king salmon fishing. In the area open to king fishing, no bait is allowed January 1–May 14; beginning June 1 through July 13 bait is allowed; fishing is allowed only between 6:00 a.m. and 11:00 p.m. The bag and possession limit for king salmon, 20 inches or greater in length, is one fish. After retaining a king salmon 20 inches or greater in length, a person may not fish for king salmon on that same day.

An annual limit of five king salmon, 20 inches or longer, may be taken from fresh waters of Cook Inlet north of the latitude of Point Adam, and from Cook Inlet salt waters, except that king salmon harvested in Cook Inlet salt waters south of Anchor Point Light from October 1 to March 31, and king salmon longer than 20 inches, but less than 28 inches, harvested in the Kenai River from January 1 through June 30 are not included in the limit. Of these five total king salmon, no more than two may be taken from the Kenai River and no more than two may be taken from Deep Creek and Anchor River combined.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would likely have little to no effect on management of the fishery because all of the stipulations in the proposal are already provided through the department's EO authority. This would not result in a more predictable fishery because it would likely increase the number of EO issued each season. Actual actions necessary to achieve the escapement goal could differ by severity and time. Printing a management plan that contains various options that may or may not be used in the upcoming season would not provide the public with any more clarity on what to expect for the fishing season than what the department already provides. Printing a management plan in the sport fish regulatory summary booklet would add cost and complexity to the booklet.

BACKGROUND: A weir was installed on the Deshka River in 1995 and has been in operation ever since to facilitate data used for management of the king salmon fishery in a timely manner. King salmon escapements in the Deshka River, as in many other systems in Alaska, started trending downward beginning in 2007 (Figure 230-1). In 2009, the department issued a combination of preseason and inseason restrictions by EO to achieve the Deshka River SEG range, as well as to provide for sport fishing opportunity throughout the king salmon season and

avoid closures to the sport fishery(Table 230-1). Preseason EOs were also issued 2012–2015 and were based heavily on escapement and harvest levels of the immediate past years, past performance in achieving goals on the Deshka River and adjacent streams, and anticipated sport harvest. The total run given in the preseason outlook has been considered less of an index in recent years due to error associated in the outlook (Table 230-2) and more weight has been given to the other factors. In a general sense, the outlook has value in providing a look at the strength of recent age class returns.

Inseason EOs have been based on projections of escapement; the severity of restrictions have generally been guided by the magnitude of the projection and the level of harvest reduction needed to achieve the goal. Inseason actions are also influenced by intricacies or unique variables specific to the Deshka River. Each season can present a unique set of circumstances where weir counts alone are insufficient to manage the fishery. The manager's local knowledge of the fishery, such as fishing success by certain dates and areas, expectations of daily counts based on historical run timing, assessing how runs are building or not building in comparison to other similar years, and effect of water level and temperature on fish behavior at certain points throughout the run, are critical aspects of management decisions. Climatic conditions can affect fish behavior and therefore, run timing of salmon. This tends to be more prevalent on the Deshka River than other NCI systems due to the river being prone to high water temperatures and low water levels. Flexibility to respond to changing conditions affords a greater chance at maximizing sport opportunity and achieving escapement goals. During the 2013 season, environmental conditions contributed to the run being seven days late and a decision was made to delay closure of the Deshka River sport fishery, even though the projection was well below the SEG at the first quarter of the historical run. Warm water temperature was causing fish to stack and hold in the confluence area and fishing success was low. Had the sport fishery been closed, as would have typically occurred with such a poor projection of escapement at this point of the run, about 10 days of opportunity would have been lost during the middle portion of the season. Conversely, in 2014–2016, run timing was 7–10 days early, which caused a falsely inflated projection throughout most of the season and managers had to justify liberalizing the fishery by assessing a number of projection models in combination with other indices of run strength. Early run timing is the most difficult management scenario where early liberalizations can lead to failing to achieve the SEG if the run is weaker than expected.

Since 2007, with the exception of 2008 and 2009, the SEG range has been achieved in every year through the continued period of below average runs. Age class returns have been stronger in recent years, allowing for less conservative emergency restrictions to the fishery. The only preseason restriction placed on the fishery in 2016 was an annual limit restriction, which was restored by June 11.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. The proposed plan does not identify and address issues between user groups, provide the department additional guidance or tools necessary to manage the fishery, or provide clarity to the public. During low runs, the Deshka River sport fishing regulations can be adjusted by EO preseason and, if needed, inseason, to respond to anticipated shortfalls in king salmon escapement. A management plan based upon the preseason outlook and weir counts alone could result in confusion and lost

opportunity by not allowing for other variables important in the decision-making process. The department is **NEUTRAL** on the allocative aspects of this proposal.

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

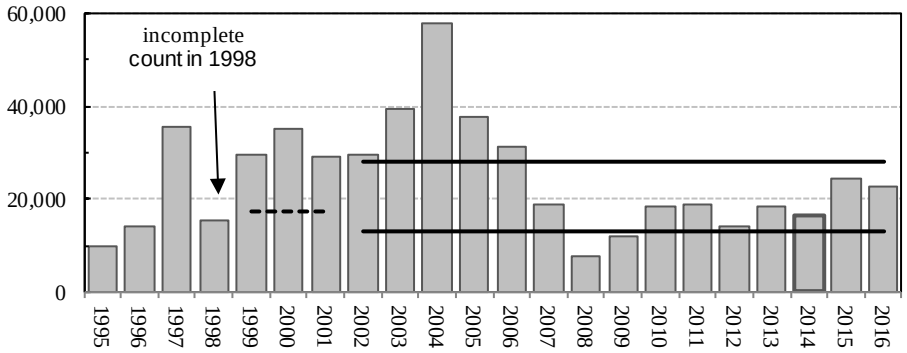

Figure 230-1.–King salmon escapements on the Deshka River, 1995-2016. y-axis = king salmon escapement (in number of fish). Dashed line = biological escapement goal. Solid line = sustainable escapement goal.

Table 230-1.–Emergency orders (EO) issued on the Deshka River king salmon fishery, 2009–2016.

Year	Preseason EO	Date issued	Inseason EO	Date issued
2009	no bait, harvest Sat-Mon only May 15	20-Apr	closed June 13	11-Jun
2010	none		no bait June 12; rescinded June 19	9-Jun; 18-Jun
2011	none		none	
2012	annual limit of 2 May 15	1-May	no bait & closed above weir June 20; entire fishery closed June 25	18-Jun; 22-Jun
2013	annual limit of 2; single hook; no bait May 15	18-Apr	reinstate bait and multiple hooks June 29	28-Jun
2014	annual limit of 2; single hook; no bait May 1	27-Feb	reinstate bait and multiple hooks June 14	13-Jun
2015	annual limit of 2; single hook; no bait May 1	19-Feb	reinstate bait and multiple hooks June 13; restore annual limit June 27	11-Jun; 26-Jun
2016	annual limit of 2 on May 1	18-Feb	restore annual limit June 11	10-Jun

Table 230-2.–Accuracy of the Deshka River king salmon outlook, 1999–2016.

Return year	Forecast Total Run	Actual Total Run	Forecast difference by major age class (forecast-actual)				
			Age 4	Age 5	Age 6	Total difference	overall effect
1999	26,810	33,371	-4,374	-363	-1,824	6,561	underforecast
2000	33,337	42,273	3,508	-17,945	5,502	26,955	underforecast
2001	40,753	33,210	385	-5,768	12,926	19,079	overforecast
2002	43,805	32,955	994	5,640	4,216	10,850	overforecast
2003	41,041	46,193	-8,524	-969	4,341	13,834	underforecast
2004	60,833	66,383	-2,537	-933	-2,080	5,550	underforecast
2005	48,687	44,134	-4,692	2,924	6,321	13,938	overforecast
2006	49,071	38,451	-628	12,056	-808	13,491	overforecast
2007	37,007	24,032	6,592	4,117	2,266	12,975	overforecast
2008	20,268	9,656	6,428	2,060	2,124	10,612	overforecast
2009	20,593	12,721	1,024	4,148	2,699	7,872	overforecast
2010	30,775	22,207	4,864	2,742	962	8,568	overforecast
2011	21,080	22,049	270	-4,306	3,068	7,644	underforecast
2012	21,665	16,113	-4,181	9,419	983	14,583	overforecast
2013	26,791	20,953	2,936	5,986	-2,262	11,184	overforecast
2014	19,063	16,884	-579	1,486	1,865	3,930	overforecast
2015	20,418	23,835	-1,034	-2,491	108	3,633	underforecast
2016	24,638	22,631	-4,768	3,657	3,119	11,544	overforecast

PROPOSAL 231 – 5 AAC 61.XXX. *Susitna River King Salmon Management Plan.*

PROPOSED BY: Andy Couch.

WHAT WOULD THE PROPOSAL DO? Create a Susitna River King Salmon Management Plan. Elements of the plan include setting dates during which harvest may be allowed if certain escapement objectives are met.

WHAT ARE THE CURRENT REGULATIONS? Specific streams within Unit 2 of the Susitna River are open to king salmon fishing in their lower sections from January 1 through the third Monday in June, followed by two consecutive three-day weekends (Saturday–Monday). These waters are closed Tuesdays–Fridays after the third Monday in June through July 13. Bag and possession limit is one king salmon over 20 inches. The East Fork of the Chulitna within Unit 6 is of similar regulation except open to catch-and–release fishing for king salmon Tuesdays–Fridays. Units 3 and 5 are open to king salmon fishing January 1–July 13 seven days per week. The bag limit is one king salmon over 20 inches in length and two in possession in units 3 and 5.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This may increase the likelihood of failing to achieve the king salmon escapement goal of select Susitna River tributaries. Due to the close proximity of streams, many of which are road accessible, this proposal fails to take into account ballooning effects of effort shifting to a few streams that may be open to sport fishing.

BACKGROUND: Historically, Eastside Susitna fisheries have averaged about 30% of the total NCI king salmon harvest. From 1979–1993, harvest trended upward from about 1,300 king salmon in 1979 to 22,700 in 1993, representing a period of fishery growth. From 1996–2002, harvest remained stable at about 12,000 fish. Harvest steadily declined after this period to 2,710 fish in 2011 and 0 fish by 2013 (Table 231-1). Below average harvest reflects diminished runs after 2006 and subsequent restrictions placed on the sport fisheries within the Eastside.

Northern Cook Inlet king runs began trending downward in 2007 mirroring most of the state. Missed escapement goals on certain Susitna River drainage streams during 2008–2010 prompted the board to designate seven king salmon stocks as SOC, three of which reside within Unit 2 (Willow and Goose were designated SOCs in 2011; Sheep Creek was designated a SOC in 2014) of the Eastside Susitna. The board took action to reduce sport harvest within Unit 2 by removing a weekend of fishing, limiting fishing time to 6 a.m. to 11 p.m., and closing Goose Creek to king salmon fishing. This effort proved to be ineffective and further harvest reduction was necessary to achieve escapement goals. Beginning in 2012, the department utilized a management strategy that took into account harvest reductions necessary to achieve escapement goals by management area and public input from stakeholder meetings. Public meetings early on in the downturn of production revealed that a full season of fishing opportunity, even though highly restrictive, was preferred over a less restrictive season that would likely be interrupted by midseason closures. The goal was to maximize fishing opportunity while conserving stocks. Harvest reductions were implemented by EO prior to the start of the season and have varied by area, from 100% reduction in the Eastside Susitna area to a 60% reduction on the Yentna River drainage to less than 25% on

the Deshka River (Figure 231-1). Harvest reductions have been based upon the level needed to achieve escapement goals in the various areas based off the immediate past two to three years of harvest and escapement data. In addition, consideration has been given to potential shifts in effort due to some areas being more restrictive than other areas. The strategy to reduce harvest by 50% in 2012 was inadequate and a midseason closure of the entire Susitna and Little Susitna rivers ensued, ultimately resulting in about a 70% sport harvest reduction area wide. The management strategy in 2013 was based heavily on the outcome of the 2012 season and a 70-75% reduction was targeted. The restrictions developed for the 2013 season resulted in a favorable outcome in terms of opportunity and achievement of goals and this set of restrictions were continued through the 2015 season. In 2016, escapement and harvest data from 2013–2015 in combination with the observance of stronger age class returns over recent years warranted increasing sport harvest on the Deshka and Little Susitna rivers only. Bait was allowed per regulation on the Deshka River from the outset of the season and one additional day of harvest allowed on the Little Susitna River. Review of data in preparation for the 2017 season is precursory at the time of these staff comments, however, further increase in harvest may be warranted for Deshka and Little Susitna rivers, and harvest indicated for the Talachulitna River for the first time since 2012. The Talachulitna River is an example of a system that has been restricted to catch-and-release fishing and recovered to a level where a harvestable surplus is evident. None of the Eastside Susitna streams have demonstrated the ability to sustain harvest in recent years. Unlike the Talachulitna River, escapement goals in this area have not been met consistently and when met, have been low in the goal range (Figure 231-2).

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. Restoration of harvest will occur on Eastside Susitna streams if escapement goals can be consistently met at levels supporting sustainable harvest. The proposed plan does not identify and address issues between user groups, provide the department additional guidance or tools necessary to manage the fishery, or provide clarity to the public. The department is **NEUTRAL** on the allocative aspects of this proposal.

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

Table 231-1.–Eastside Susitna River drainage king salmon harvest by fishery, 1979–2015.

Year	Willow Creek	Lt. Willow Creek	Kashwitna River	Caswell Creek	Sheep Creek	Goose Creek	Montana Creek	Birch Creek	Sunshine Creek	Talkeetna River [a]	Chulitna River	Indian Creek	Portage Creek	Total
1979	459	0	ND	156	10	ND	312	ND	10	312	ND	ND	ND	1,259
1980	289	32	ND	215	45	ND	559	ND	13	172	ND	ND	ND	1,325
1981	585	0	ND	249	0	ND	661	ND	57	373	ND	ND	ND	1,925
1982	629	0	ND	471	0	0	241	0	52	450	ND	ND	ND	1,843
1983	534	0	231	272	0	0	504	0	105	934	ND	ND	ND	2,580
1984	774	37	0	586	0	0	1,522	0	125	1,272	ND	ND	ND	4,316
1985	1,063	25	ND	527	0	0	979	0	771	871	ND	ND	ND	4,236
1986	1,017	872	73	327	1,778	145	2,796	290	327	908	ND	ND	ND	8,533
1987	1,987	711	116	88	1,610	334	1,726	44	319	1,639	ND	ND	ND	8,574
1988	2,349	937	0	578	1,847	218	1,070	28	303	1,762	ND	ND	ND	9,092
1989	2,846	507	11	357	1,116	385	1,708	28	368	2,372	ND	ND	ND	9,698
1990	3,237	387	6	330	1,537	504	478	0	465	2,358	ND	ND	ND	9,302
1991	3,208	684	41	305	1,519	288	575	47	230	2,025	ND	ND	ND	8,922
1992	8,884	1,023	16	592	2,663	1,033	3,078	101	365	3,338	ND	ND	ND	21,093
1993	8,626	1,200	38	531	2,300	633	4,054	9	280	4,729	ND	ND	ND	22,400
1994	5,980	745	78	562	1,349	361	3,111	108	297	2,144	ND	ND	ND	14,735
1995	2,742	436	18	397	746	226	1,004	0	132	2,126	ND	ND	ND	7,827
1996	2,690	896	21	128	1,397	437	1,612	22	53	3,585	43	43	0	10,927
1997	3,135	699	10	30	550	298	2,181	30	53	3,800	0	33	20	10,839
1998	2,793	546	15	226	700	348	1,471	83	116	3,846	41	219	15	10,419
1999	4,988	1,344	83	142	2,558	371	3,279	134	11	3,701	156	0	0	16,767
2000	3,782	578	160	561	851	258	1,728	223	472	2,740	10	0	10	11,373
2001	4,573	941	74	238	1,420	160	2,646	65	93	2,866	38	11	21	13,146
2002	3,591	580	217	115	928	403	2,026	35	38	2,616	38	0	11	10,598
2003	3,922	510	373	26	1,284	350	1,242	167	154	1,276	25	0	ND	9,329
2004	2,818	445	125	23	914	335	1,071	0	25	2,473	0	52	64	8,345
2005	2,466	621	112	394	878	150	1,328	287	205	1,960	12	15	ND	8,428
2006	2,141	449	210	264	707	27	1,672	97	211	1,561	0	0	ND	7,339
2007	2,258	870	223	190	964	31	1,294	0	0	2,476	0	31	0	8,337
2008	1,101	505	237	30	589	134	1,188	46	431	1,479	26	37	31	5,834
2009	499	85	212	17	393	0	257	0	0	1,982	17	0	ND	3,462
2010	218	169	214	0	153	0	371	26	56	1,013	35	0	19	2,274
2011	282	33	172	0	213	0	362	0	16	1,087	113	16	32	2,326
2012	13	0	8	0	0	0	13	0	0	113	0	0	0	147
2013	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0

[a] Talkeetna River and tributaries including Clear Creek.

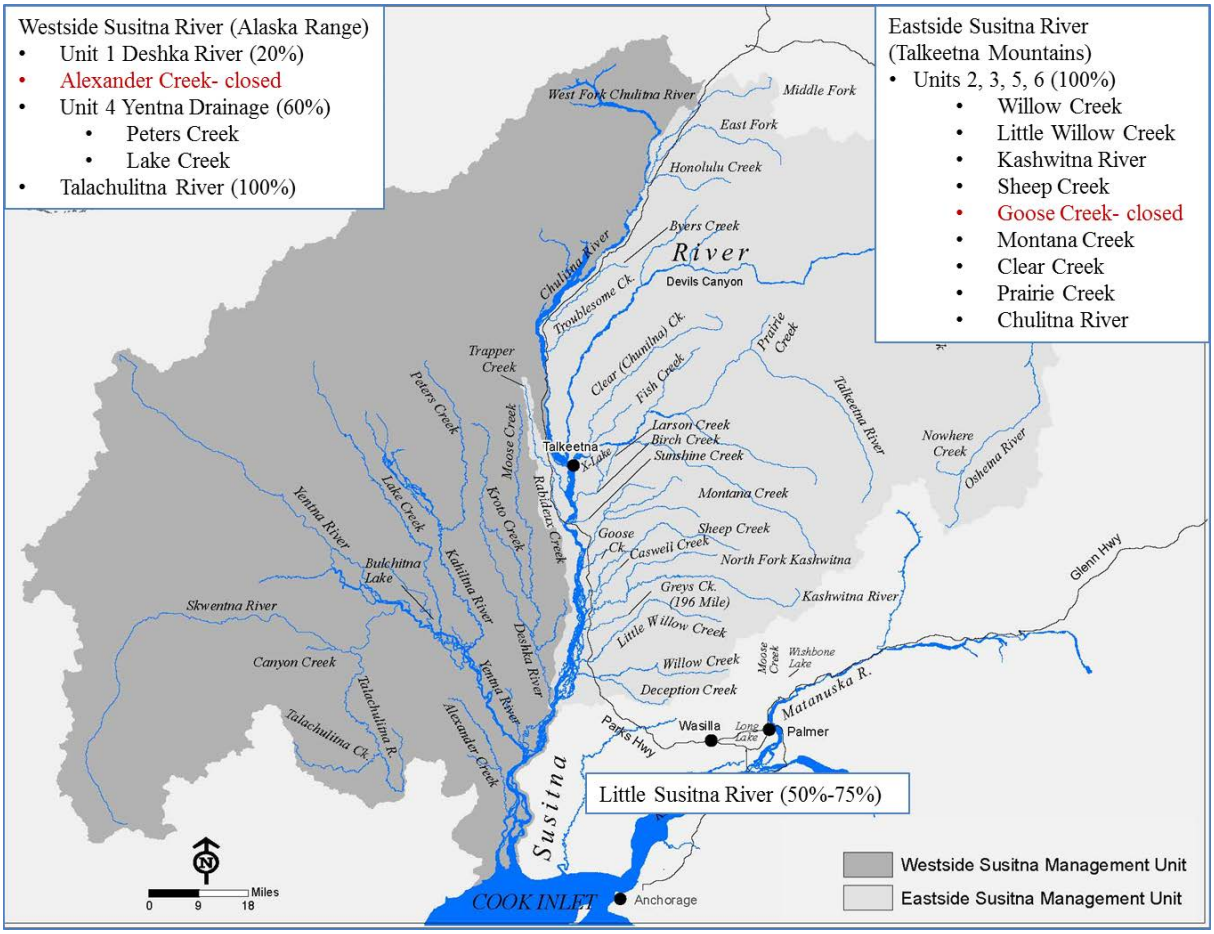

Figure 231-1.–Approximate king salmon sport harvest targeted reductions by area of the Susitna River and Little Susitna River drainages, 2012–2016.

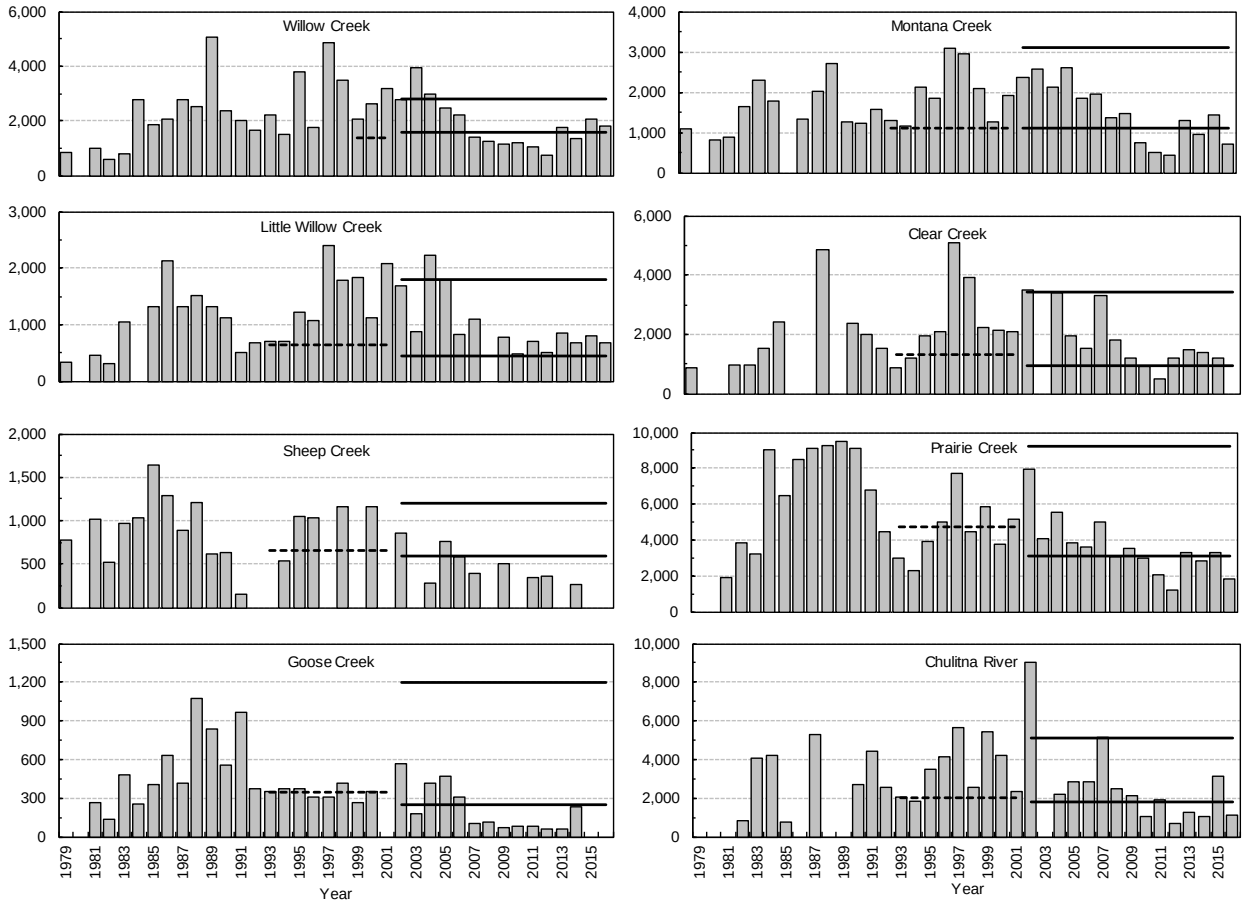

Figure 231-2.–King salmon escapements at Eastside Susitna River tributaries and Chulitna River, 1979–2016. y-axis = king salmon escapement (in number of fish). Dashed line = biological escapement goal. Solid lines = sustainable escapement goal range.

PROPOSAL 219 – 5 AAC 61.114. Special provisions for the seasons, bag, possession, and size limits, and methods and means for Unit 2 of the Susitna River Drainage Area.

PROPOSED BY: Joe Mathis.

WHAT WOULD THE PROPOSAL DO? Allow an unbaited, single-hook, artificial lure, no retention fishery on resident species upstream of the Alaska Railroad bridge when waters of Montana Creek are closed to fishing for king salmon.

WHAT ARE THE CURRENT REGULATIONS? Montana Creek is open to fishing from its mouth upstream to ADF&G markers located ½ mile above the Parks Highway January 1 through the third Monday in June, followed by two consecutive three-day weekends (Saturday–Monday). Fishing in this section is closed on all other days during the king salmon season, which ends July 13.

Sport fishing upstream of the ½ mile regulatory marker is closed to all salmon fishing. This section is open year round for resident species; only single-hook, artificial lures are allowed.

Retention of rainbow trout or Arctic grayling is prohibited in Montana Creek and within ½ mile of its confluence with the Susitna River.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would increase fishing opportunity for resident species by expanding the area open to fishing for resident species during the king salmon season by about 3/4 of a mile. This would also increase angling pressure on king salmon concentrated and staging for spawning in the same area. It may result in mortality of a portion of incidentally caught king salmon. This would increase regulatory complexity as multiple hooks would be allowed in this area on some days of the week (days open to king fishing between the Alasak Railroad bridge and Parks Highway) and single hook only allowed on other days in this section.

BACKGROUND: Montana Creek is one of 10 streams within Unit 2 of the Susitna River that have a long history of highly restrictive king salmon restrictions due to relatively moderate productive potential paired with high angling pressure from the road system. King salmon fisheries on these streams were opened in 1978 following a period of low abundance. King fishing was allowed in the lower sections of these streams, with the upstream margin mostly set at the Parks Highway. In the case of Montana Creek, the upstream marker in 1978 was set 1 mile above the Alaska Railroad bridge (Figure 219-1), the same location used today (1/2 mile above the Parks Highway in current regulation). This was done to make the fishery area size comparable to other Unit 2 streams (the highway is closer to the mouth of Montana Creek than on other Unit 2 streams). King salmon fishing in these lower sections was initially weekend only, gradually expanding to 3-day weekends since 1987. When these sections are open during the king salmon season, fishing is allowed for all species and when closed during the king salmon season, fishing is not allowed for any species. The intent serves two purposes, first to maintain harvest at a sustainable level by restricting area and time and secondly, to provide added protection for king salmon, which increasingly become highly concentrated in the lower reaches of these streams throughout the month of June as they stage for spawning. This behavior is

observed most prominently on Willow and Montana creeks. The board opted to remove any chance that king salmon may be incidentally caught by rainbow trout anglers or purposefully targeted under the guise of trout fishing during days closed to king salmon fishing. This in turn aided enforcement personnel as it reduced the potential for illegal fishing activity.

There hasn't been a harvestable surplus of Montana Creek king salmon and the fishery has been restricted by emergency order to nonretention since 2012. The sustainable escapement goal has not been achieved in three of the past five years (Figure 219-2).

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. Conservative regulations currently in place to protect king salmon as they are concentrated and staging in lower Montana Creek should be continued. Furthermore, creating regulation where multiple hooks were allowed part of the week while single hook only required the rest of a week would add complexity to an area already fraught with complex regulation and increase confusion among anglers and enforcement personnel. Approximately 10 river miles and multiple access sites upstream of the king salmon fishery already provide excellent angling opportunity for those targeting resident rainbow trout and Arctic grayling.

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

Figure 219-1.–Location of waters restricted to fishing on 3-day weekends and closed the remainder of the week during the king salmon season on Montana Creek (mouth to ADF&G marker).

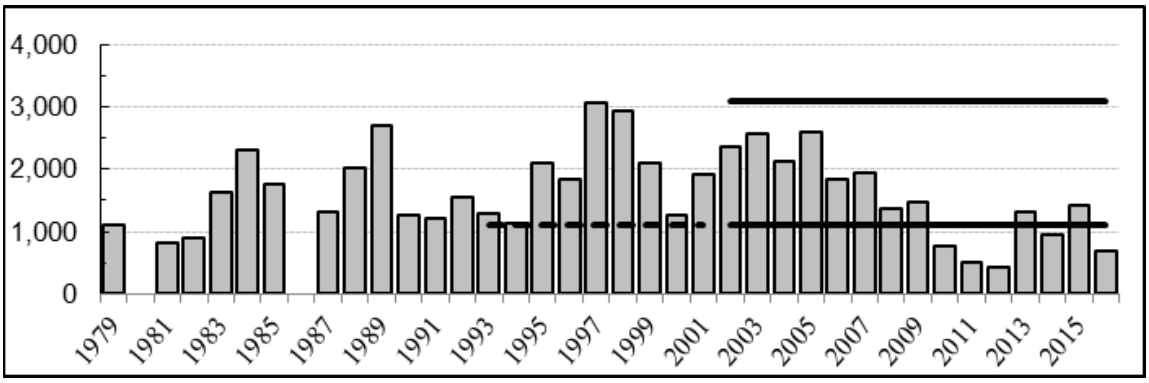

Figure 219-2. Montana Creek king salmon escapement counts (aerial), 1979–2016

PROPOSAL 221 – 5 AAC 61.114. Special provisions for the seasons, bag, possession, and size limits, and methods and means for Unit 2 of the Susitna River Drainage Area., 5 AAC 61.116. Special provisions for the seasons, bag, possession, and size limits, and methods and means for Unit 3 of the Susitna River Drainage Area., 5 AAC 61.120. Special provisions for the seasons, bag, possession, and size limits, and methods and means for Unit 5 of the Susitna River Drainage Area., and 5 AAC 61.122. Special provisions for the seasons, bag, possession, and size limits, and methods and means for Unit 6 of the Susitna River Drainage Area.

PROPOSED BY: Patrick McCormick.

WHAT WOULD THE PROPOSAL DO? Prohibit harvest of king salmon in units 2, 3, 5 and 6, except Willow Creek.

WHAT ARE THE CURRENT REGULATIONS? Specific streams within Unit 2 of the Susitna River are open to king salmon fishing in their lower sections from January 1 through the third Monday in June, followed by two consecutive three-day weekends (Saturday–Monday). These waters are closed Tuesdays–Fridays after the third Monday in June–July 13. Bag and possession limit is one king salmon over 20 inches. The East Fork of the Chulitna within Unit 6 has similar regulations except open to catch-and-release fishing for king salmon Tuesdays–Fridays. Units 3 and 5 are open to king salmon fishing January 1 through July 13 seven days per week. One king salmon over 20 inches in length is allowed per day and two in possession in units 3 and 5.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would unnecessarily reduce king salmon harvest during years when there is harvestable surplus in these management units. Since the department uses EO authority to restrict these fisheries, there may be little to no effect on achieving escapement goals during low runs, but the potential to exceed escapement goals during years of average to above average runs would be increased.

BACKGROUND: The management units referenced in this proposal reside within the Eastside Susitna Management Area (Figure 221-1). They correspond to Parks Highway streams from Willow Creek to Talkeetna (Unit 2), upper Susitna River north of Talkeetna (Unit 3), Talkeetna River drainage (Unit 5), and Chulitna River drainage (Unit 6). Each unit represents a river or assemblage of streams sharing similar attributes that can be grouped for management purposes. King salmon fisheries within Unit 2 are the most restrictive as they involve 10 streams easily accessible from the Parks Highway sharing high angler effort and moderate productive potential. Given their close proximity to each other, management actions taken on one stream can easily affect effort and harvest on adjacent streams, and for this reason, these streams are generally managed together as a unit. Unit 2 fisheries have long been restricted in regulation by both time and area, providing weekend only fishing and harvest opportunity during the peak of the king season. Regulations are similar for Unit 6. Units 3 and 5 have historically supported fishing and harvest seven days per week.

Northern Cook Inlet king salmon runs began trending downward in 2007 mirroring most of the state. Missed escapement goals on certain Susitna River drainage streams during 2008–2010

prompted the board to designate seven king salmon stocks as SOC, three of which reside within Unit 2 (Willow and Goose were designated SOCs in 2011; Sheep Creek was designated a SOC in 2014) of the Eastside Susitna. The board took action to reduce sport harvest within Unit 2 by removing a weekend of fishing, limiting fishing time to 6 a.m. to 11 p.m., and closing Goose Creek to king salmon fishing. This effort proved to be ineffective and further harvest reduction was necessary to achieve escapement goals. Beginning in 2012, the department utilized a management strategy that took into account harvest reductions necessary to achieve escapement goals by management area and public input from stakeholder meetings. Public meetings early on in the downturn of production revealed that a full season of fishing opportunity, even though highly restrictive, was preferred over a less restrictive season that would likely be interrupted by midseason closures. The goal was to maximize fishing opportunity while conserving stocks. Harvest reductions were implemented by EO prior to the start of the season and have been greatest on Eastside Susitna streams vs other areas of NCI. A 100% reduction to sport harvest has been targeted on Eastside Susitna streams (Table 221-1) by allowing only catch-and-release fishing opportunity. Escapement goals in this area have been met about half the time since 2012 with this strategy (Figure 221-2). Until 2016, Eastside Susitna escapements fluctuated up and down similar to other areas of the NCI, such as Westside Susitna tributaries and the Little Susitna River. In 2016, king runs to Eastside Susitna streams dropped unexpectedly unlike runs to the other areas. Managers suspect the 200-year flood of 2012 may have negatively impacted egg survivals in Eastside Susitna streams, affecting the return of 4-yr old fish in 2016 and five and six year old fish returning in 2017 and 2018. While catch-and-release mortality has been low on Eastside Susitna streams, managers are considering whether this small impact will be allowable in the next couple years as siblings from the 2012 brood year return.

Eastside Susitna fisheries historically average about 30% of the total NCI king salmon harvest. From 1979–1993, harvest trended upward from about 1,300 king salmon in 1979 to 22,700 in 1993, representing a period of fishery growth. From 1996–2002, harvest remained stable at about 12,000 fish. Harvest steadily declined after this period to 2,710 fish in 2011 and 0 fish by 2013 (Table 221-1). Below average harvest reflects diminished runs after 2006 and subsequent restrictions places on the sport fisheries within the Eastside. Historically, approximately 500–4,000 hatchery fish taken in the Willow Creek sport fishery have contributed to the annual Eastside Susitna harvest. The hatchery component has dwindled since 2008, first due to small smolt size, the result of a cold water rearing issue at the hatchery 2007–2011, and second due to poor marine survivals related to the statewide downturn. Returns of hatchery fish in recent years have been insufficient to sustain a fishery as even egg take goals have not been met.

DEPARTMENT COMMENTS: The department **OPPOSES** increasing pressure on the Willow Creek wild stock and allowing harvest of hatchery fish. The advantage of managing these fisheries by EO is in tailoring fisheries to maximize fishing opportunity while conserving stocks through this period of low productivity. Further, the department recommends Unit 2 streams continue to be managed as a unit. Allowing a sport fishery to occur at Willow Creek only, even on hatchery fish, would double or triple pressure on the wild stock to a level that would likely not be sustainable as effort normally expended on adjacent streams in the area would be directed to Willow Creek. Aside from the wild stock, the hatchery stock on Willow Creek cannot currently sustain harvest. The department is **NEUTRAL** on the allocative aspects of this proposal.

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

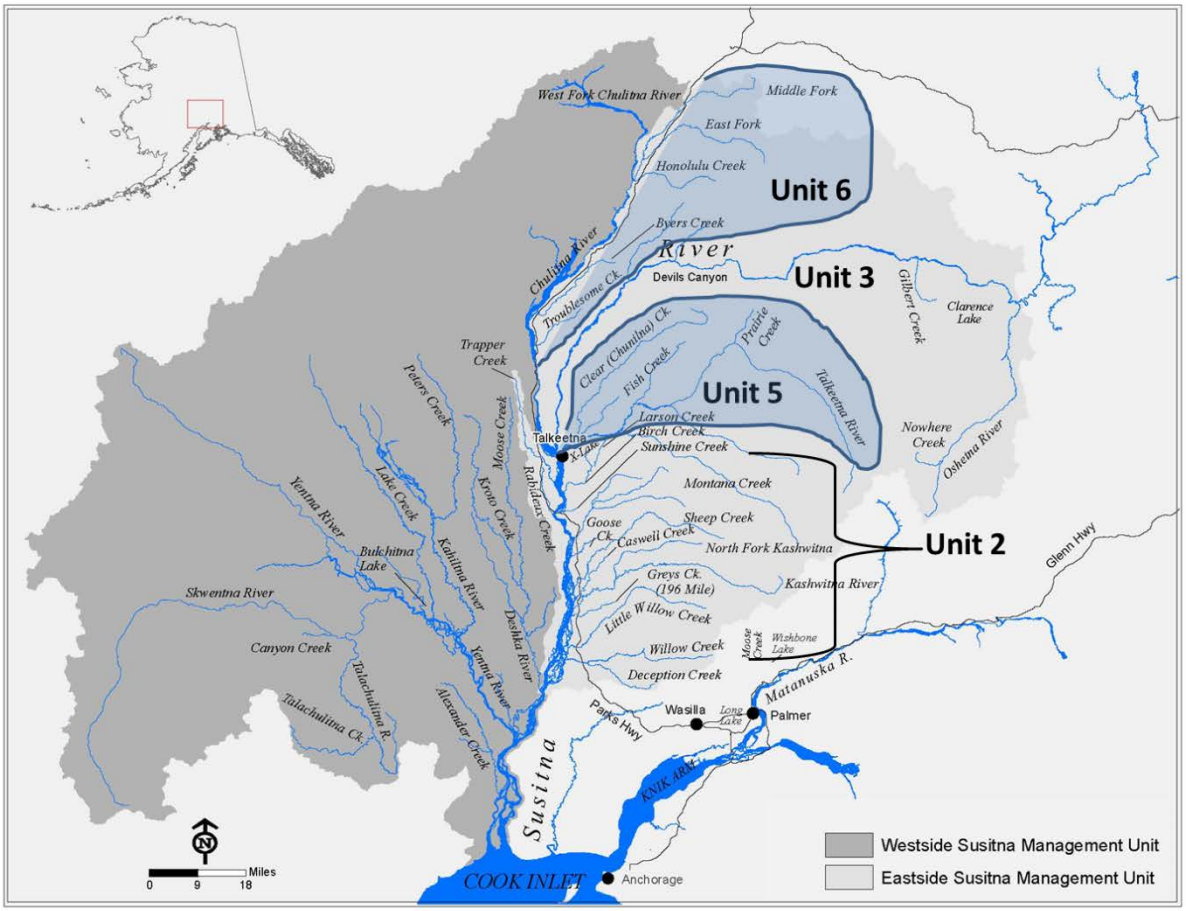

Figure 221-1.–Management units of the Eastside Susitna management area. Unit 2= Susitna River from Deshka River to Talkeetna River; Unit 3= Susitna River upstream of Talkeetna River; Unit 5= Talkeetna River drainage; Unit 6= Chulitna River drainage.

Table 221-1.–Eastside Susitna River drainage king salmon harvest by fishery, 1979–2015.

Year	Willow Creek	Lt. Willow Creek	Kashwitna River	Caswell Creek	Sheep Creek	Goose Creek	Montana Creek	Birch Creek	Sunshine Creek	Talkeetna River [a]	Chulitna River	Indian Creek	Portage Creek	Total
1979	459	0	ND	156	10	ND	312	ND	10	312	ND	ND	ND	1,259
1980	289	32	ND	215	45	ND	559	ND	13	172	ND	ND	ND	1,325
1981	585	0	ND	249	0	ND	661	ND	57	373	ND	ND	ND	1,925
1982	629	0	ND	471	0	0	241	0	52	450	ND	ND	ND	1,843
1983	534	0	231	272	0	0	504	0	105	934	ND	ND	ND	2,580
1984	774	37	0	586	0	0	1,522	0	125	1,272	ND	ND	ND	4,316
1985	1,063	25	ND	527	0	0	979	0	771	871	ND	ND	ND	4,236
1986	1,017	872	73	327	1,778	145	2,796	290	327	908	ND	ND	ND	8,533
1987	1,987	711	116	88	1,610	334	1,726	44	319	1,639	ND	ND	ND	8,574
1988	2,349	937	0	578	1,847	218	1,070	28	303	1,762	ND	ND	ND	9,092
1989	2,846	507	11	357	1,116	385	1,708	28	368	2,372	ND	ND	ND	9,698
1990	3,237	387	6	330	1,537	504	478	0	465	2,358	ND	ND	ND	9,302
1991	3,208	684	41	305	1,519	288	575	47	230	2,025	ND	ND	ND	8,922
1992	8,884	1,023	16	592	2,663	1,033	3,078	101	365	3,338	ND	ND	ND	21,093
1993	8,626	1,200	38	531	2,300	633	4,054	9	280	4,729	ND	ND	ND	22,400
1994	5,980	745	78	562	1,349	361	3,111	108	297	2,144	ND	ND	ND	14,735
1995	2,742	436	18	397	746	226	1,004	0	132	2,126	ND	ND	ND	7,827
1996	2,690	896	21	128	1,397	437	1,612	22	53	3,585	43	43	0	10,927
1997	3,135	699	10	30	550	298	2,181	30	53	3,800	0	33	20	10,839
1998	2,793	546	15	226	700	348	1,471	83	116	3,846	41	219	15	10,419
1999	4,988	1,344	83	142	2,558	371	3,279	134	11	3,701	156	0	0	16,767
2000	3,782	578	160	561	851	258	1,728	223	472	2,740	10	0	10	11,373
2001	4,573	941	74	238	1,420	160	2,646	65	93	2,866	38	11	21	13,146
2002	3,591	580	217	115	928	403	2,026	35	38	2,616	38	0	11	10,598
2003	3,922	510	373	26	1,284	350	1,242	167	154	1,276	25	0	ND	9,329
2004	2,818	445	125	23	914	335	1,071	0	25	2,473	0	52	64	8,345
2005	2,466	621	112	394	878	150	1,328	287	205	1,960	12	15	ND	8,428
2006	2,141	449	210	264	707	27	1,672	97	211	1,561	0	0	ND	7,339
2007	2,258	870	223	190	964	31	1,294	0	0	2,476	0	31	0	8,337
2008	1,101	505	237	30	589	134	1,188	46	431	1,479	26	37	31	5,834
2009	499	85	212	17	393	0	257	0	0	1,982	17	0	ND	3,462
2010	218	169	214	0	153	0	371	26	56	1,013	35	0	19	2,274
2011	282	33	172	0	213	0	362	0	16	1,087	113	16	32	2,326
2012	13	0	8	0	0	0	13	0	0	113	0	0	0	147
2013	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0

[a] Talkeetna River and tributaries including Clear Creek.

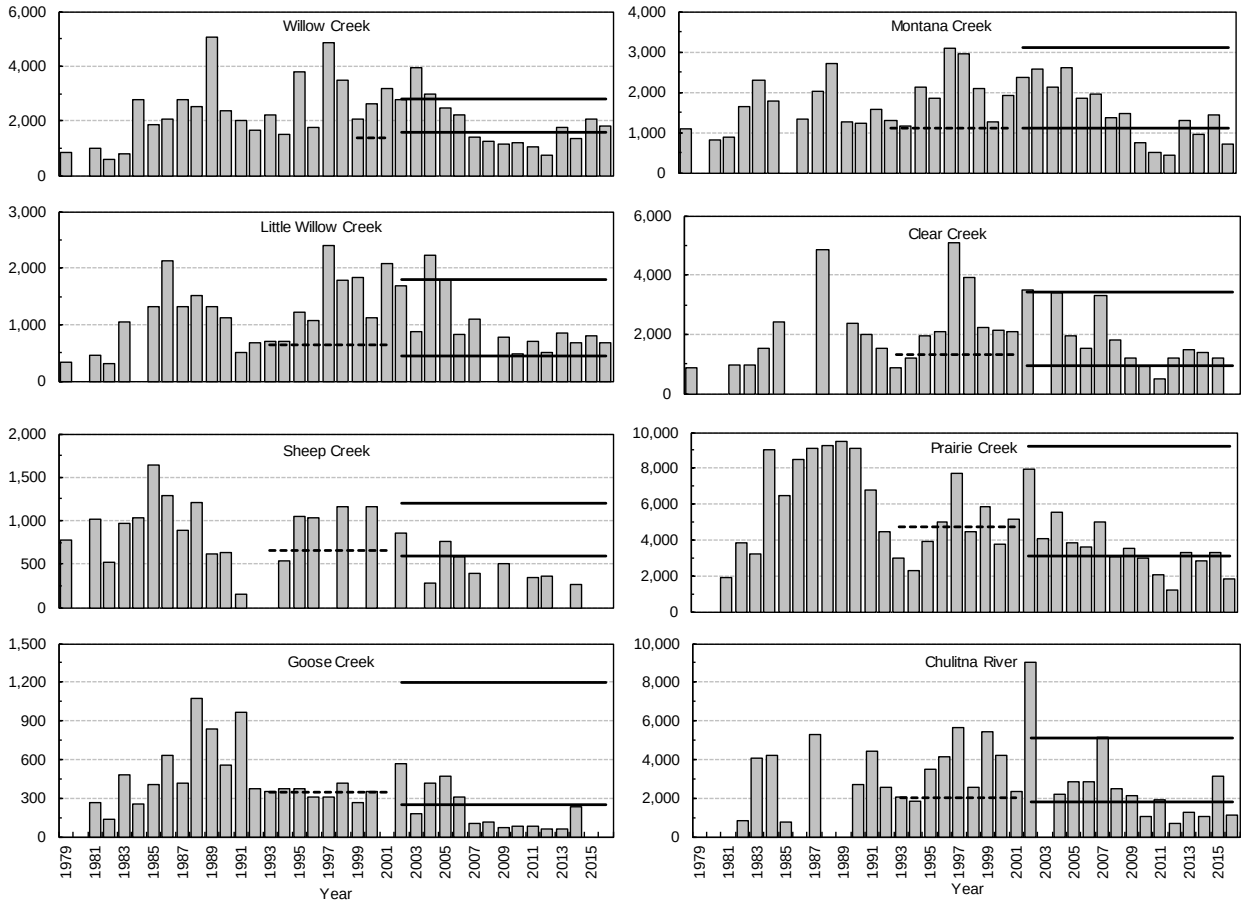

Figure 221-2.–King salmon escapements at Eastside Susitna River tributaries, 1979–2016. y-axis = king salmon escapement (in number of fish). Dashed line = biological escapement goal. Solid lines = sustainable escapement goal range.

PROPOSAL 223 – 5 AAC 61.114. Special provisions for the seasons, bag, possession, and size limits, and methods and means for Unit 2 of the Susitna River Drainage Area.

PROPOSED BY: Paul Warta.

WHAT WOULD THE PROPOSAL DO? Prohibit king salmon fishing in Unit 2 any time retention of king salmon is not allowed.

WHAT ARE THE CURRENT REGULATIONS? Specific streams within Unit 2 of the Susitna River are open to king salmon fishing in their lower sections from January 1 through the third Monday in June, followed by two consecutive three-day weekends (Saturday–Monday). These waters are closed Tuesdays–Fridays after the third Monday in June through July 13. Bag and possession limit is one king salmon over 20 inches.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Opportunity to fish catch-and-release king salmon fishing would be eliminated in years the department restricts the fishery by EO. Fewer than 175 king salmon lost annually to catch-and-release mortality would be added to escapements across Unit 2 streams.

BACKGROUND: Northern Cook Inlet king runs began trending downward in 2007 mirroring the rest of the state. Missed escapement goals on certain Susitna drainage streams 2008-2010 prompted the board to designate seven king salmon stocks as SOC, three of which reside within Unit 2 (Willow and Goose were designated SOCs in 2011; Sheep Creek was designated in 2014) of the Eastside Susitna. The board took action to reduce sport harvest within Unit 2 by removing a weekend of fishing, limiting fishing time to 6 a.m. to 11 p.m., and closing Goose Creek to king salmon fishing. This effort proved to be ineffective and further harvest reduction was necessary to achieve escapement goals. Beginning in 2012, the department utilized a management strategy that took into account harvest reductions necessary to achieve escapement goals by management area and public input from stakeholder meetings. Public meetings early on in the downturn of production revealed that a full season of fishing opportunity, even though highly restrictive, was preferred over a less restrictive season that would likely be interrupted by midseason closures. The goal was to maximize fishing opportunity while conserving stocks. Harvest reductions were implemented by emergency order prior to the start of the season and have been greatest on Eastside Susitna streams vs other areas of NCI. A 100% reduction to sport harvest has been necessary to achieve goals on Unit 2 streams. This area has been restricted to catch-and-release fishing only, which provides some fishing opportunity with limited impact to the resource. Effort expended catch-and-release fishing has been low as observed by staff surveys during peak fishing weekends. For example, in recent years about 15 anglers could be seen fishing at the mouth of Willow Creek on a given weekend day compared to 200 anglers on average run years with no restrictions in place. Consequently, catch-and-release mortality has been low, averaging about 50 fish at Willow Creek and 175 total fish for the Unit 2 area since 2012 (Table 223-1).

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. Catch-and-release fisheries are desirable to many anglers and are an option for providing sustainable fishing opportunity in some cases where a harvestable surplus is not available. The department is **NEUTRAL** on the allocative aspects of this proposal.

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

Table 223-1.–Unit 2 Susitna River drainage king salmon catch by fishery, 2012–2015.

Year	Willow Creek	Lt. Willow Creek	Kashwitna River	Caswell Creek	Sheep Creek	Goose Creek	Montana Creek	Birch Creek	Sunshine Creek	Total
2012	198	14	8	14	17	13	468	0	0	732
2013	385	294	0	0	278	212	1,371	15	531	3,086
2014	561	137	101	10	795	0	357	0	31	1,992
2015	1724	162	744	0	53	0	284	0	0	2,967
Average	717	152	213	6	286	56	620	4	141	2,194

Unit 2 Susitna River drainage Chinook salmon catch-and-release mortality [a] by fishery, 2012-2015.

Year	Willow Creek	Lt. Willow Creek	Kashwitna River	Caswell Creek	Sheep Creek	Goose Creek	Montana Creek	Birch Creek	Sunshine Creek	Total
2012	16	1	1	1	1	1	37	0	0	59
2013	31	24	0	0	22	17	110	1	42	247
2014	45	11	8	1	64	0	29	0	2	159
2015	138	13	60	0	4	0	23	0	0	237
Average	57	12	17	0	23	5	50	0	11	176

[a] estimates based on 8% mortality rate on fish released.

PROPOSAL 220 – 5 AAC 61.120. Special provisions for the seasons, bag, possession, and size limits, and methods and means for Unit 5 of the Susitna River Drainage Area.

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

WHAT WOULD THE PROPOSAL DO? Establish sport fishery closure times in the Larsen Creek drainage. This proposal would close Larsen Creek drainage and waters within 1/4 mile of its confluence with the Talkeetna River to fishing from 11 a.m. to 6 a.m. July 1–August 15.

WHAT ARE THE CURRENT REGULATIONS? The Larson Creek drainage and all waters within one-quarter mile of its confluence with the Talkeetna River are closed to sport fishing for king salmon, but open to fishing for other salmon. The Larson Creek drainage upstream of an ADF&G regulatory marker, located approximately one-quarter mile upstream of its confluence with the Talkeetna River, is closed to sport fishing for all salmon. The bag and possession limit is three salmon.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Regulatory compliance would be improved at the cost of increased regulatory complexity. Sport harvest savings would not likely affect achievement of the escapement goal during the majority of years. Unimpeded fish passage during the night may be a secondary benefit.

BACKGROUND: Larson Creek, a tributary of the Talkeetna River (Figure 220-1), supports one of the few, and also one of the most popular sockeye salmon fisheries in the Mat–Su Valley area. It is a relatively small fishery accessed either by ATV off the road system or by a 20 minute boat ride from the Talkeetna Boat Launch. The average sport harvest of sockeye salmon in the Talkeetna River is approximately 2,400 fish, of which approximately two-thirds can be attributed to Larson Creek (Table 220-1). In general, fishing power is low in the sport fishery as harvest is low relative to escapement. Nearly all of the sport fishing effort occurs at the confluence with the Talkeetna River. Fishing space is limited and even a dozen anglers can create a crowded fishery. Sockeye salmon escapements to this system averaged about 24,600 fish from 2007–2016. An SEG range of 15,000–50,000 was set for this system in 2008. Since the SEG has been in place, the goal has been missed three times, in 2011, 2014, and 2016. During the 2001 meeting, the board adopted a proposal to close a portion of Larson Creek (Talkeetna River drainage) and Larson Lake to fishing for sockeye salmon. This was done in an effort to stop snagging that occurred on Larson Creek upstream of the mouth, and to eliminate the targeting of spawning sockeye salmon in Larson Lake. The current fishery is now confined to the mouth area. However, regulatory compliance remains an issue and reports of snagging and over limits are common.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal as a conservation tool, but supports providing enforcement the tools they need to improve compliance.

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

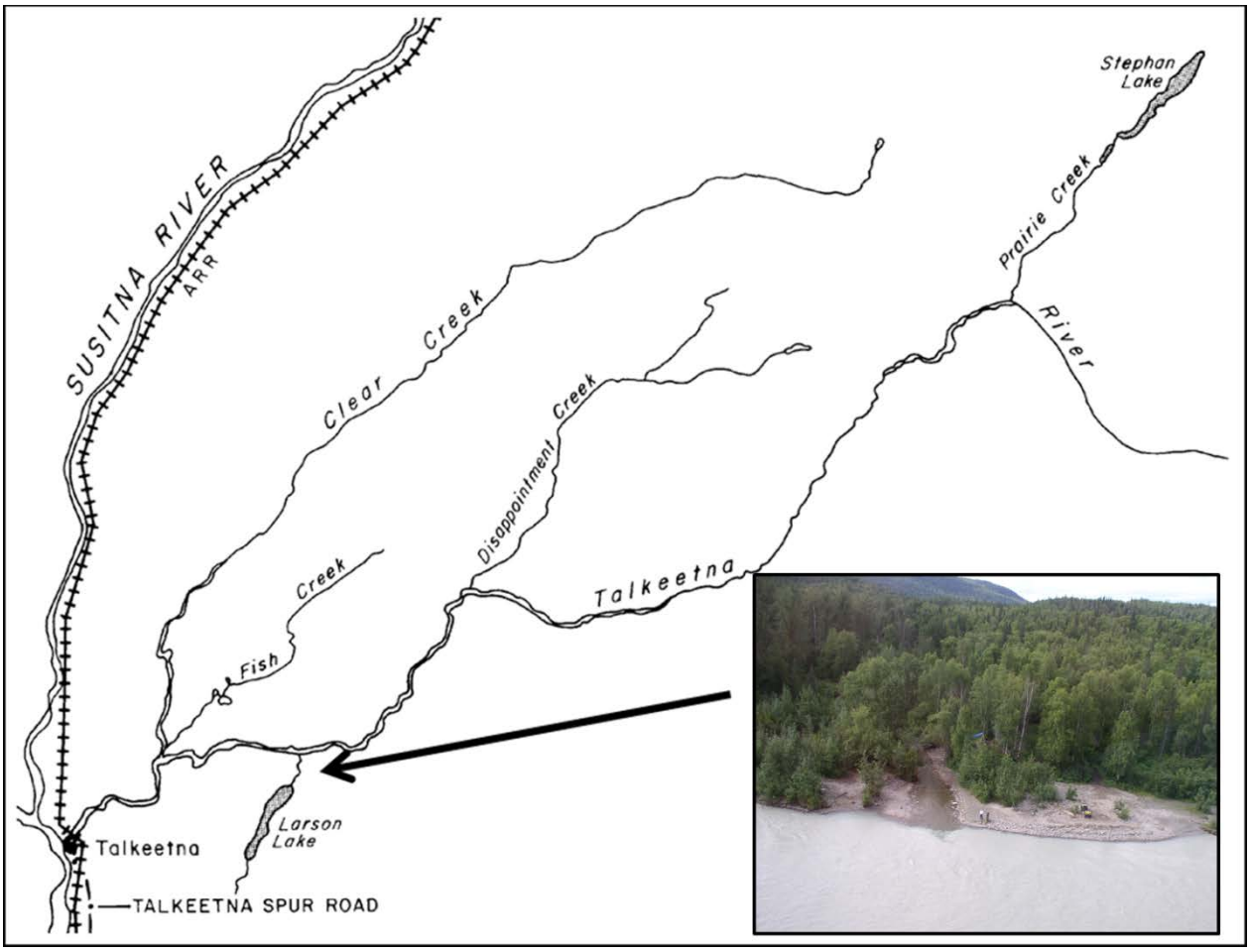

Figure 220-1.–Location of Larson Creek in the Talkeetna drainage.

Table 220-1.– Angler-days, harvest, and escapement for Larson Creek sockeye salmon, 2005–2016.

Year	Angler Days	Estimated harvest	Escapement	Harvest rate
2005	395	845	9,751	8%
2006	56	73	57,411	0%
2007	70	628	47,736	1%
2008	117	1,001	35,040	3%
2009	671	4,050	40,933	9%
2010	703	2,232	20,324	10%
2011	202	962	12,413	7%
2012	674	2,519	16,708	13%
2013	1,567	2,328	21,810	10%
2014	709	1,653	12,430	12%
2015	90	1,142	23,213	5%
2016	*Not available*		14,313	

Sustainable Escapement Goal established in 2008 = 15,000–50,000

PROPOSAL 222 – 5 AAC 61.120. Special provisions for the seasons, bag, possession, and size limits, and methods and means for Unit 5 of the Susitna River Drainage Area.

PROPOSED BY: Central Peninsula Fish and Game Advisory Committee

WHAT WOULD THE PROPOSAL DO? Prohibit fishing for king, sockeye, and coho salmon in the Larson Creek drainage.

WHAT ARE THE CURRENT REGULATIONS? The Larson Creek drainage and all waters within one-quarter mile of its confluence with the Talkeetna River are closed to sport fishing for king salmon, but open to fishing for other salmon. The Larson Creek drainage upstream of an ADF&G regulatory marker, located approximately one-quarter mile upstream of its confluence with the Talkeetna River, is closed to sport fishing for all salmon. The bag and possession limit is three salmon.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would eliminate the sport fishery at the mouth of Larson Creek; this fishery targets sockeye salmon returning to Larson Lake during July and, to a small degree, coho salmon in August. Reductions in harvest by closing the sport fishery would not likely affect achievement of the escapement goal during the majority of years.

BACKGROUND: Larson Creek, a tributary of the Talkeetna River (Figure 222-1), supports one of the few, and also one of the most popular sockeye salmon fisheries in the Mat-Su Valley area. It is a relatively small fishery accessed either by ATV off the road system or by a 20 minute boat ride from the Talkeetna Boat Launch. The average sport harvest of sockeye salmon in the Talkeetna River is approximately 2,500 fish, of which approximately two-thirds can be attributed to Larson Creek (Table 222-1). In general, the inriver harvest rate is low, averaging 7% from 2005–2015. Nearly all of the sport fishing effort occurs at the confluence with the Talkeetna River. Sockeye salmon escapements to this system averaged about 24,600 fish from 2007 to 2016. An SEG range of 15,000–50,000 was set for this system in 2008. Since the SEG has been in place, the goal has been missed three times, in 2011, 2014, and 2016. The department used EO authority to restrict the Larsen Creek sockeye salmon sport fishery in 2014, 2015, and 2016. During the 2001 meeting, the board adopted a proposal to close a portion of Larson Creek (Talkeetna River drainage) and Larson Lake to fishing for sockeye salmon. This was done in an effort to stop the illegal snagging that occurred on Larson Creek upstream of the mouth, and to eliminate the targeting of spawning sockeye salmon in Larson Lake. The current fishery is now confined to the mouth area. However, regulatory compliance remains an issue and reports of snagging and over limits are common. Sport fishing effort and harvest estimates for this fishery are low and variable.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal as a conservation measure. The department has EO authority to manage the sport fishery in an effort to achieve the SEG. The department is **NEUTRAL** on the allocative aspects of this proposal.

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

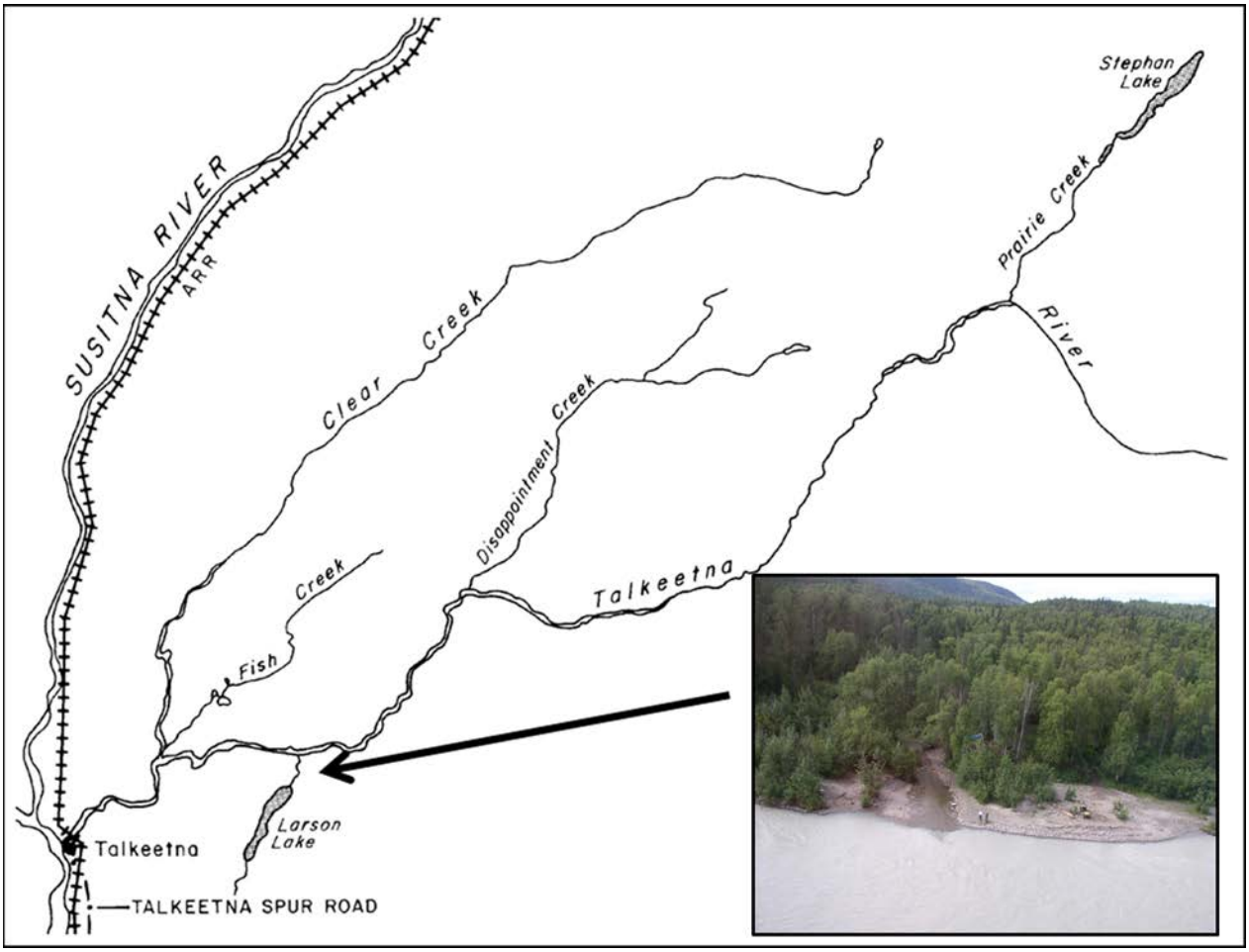

Figure 222-1.–Location of Larson Creek in the Talkeetna drainage.

Table 222-1.–Larson Creek sockeye salmon angler-days, harvest, and escapement, 2005–2016.

Year	Angler Days	Estimated harvest	Escapement	Harvest rate
2005	395	845	9,751	8%
2006	56	73	57,411	0%
2007	70	628	47,736	1%
2008	117	1,001	35,040	3%
2009	671	4,050	40,933	9%
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2016	*Not available*		14,313	

Sustainable Escapement Goal established in 2008 = 15,000–50,000

PROPOSAL 226 – 5 AAC 61.114. Special provisions for the seasons, bag, possession, and size limits, and methods and means for Unit 2 of the Susitna River Drainage Area.

PROPOSED BY: Ben Allen.

WHAT WOULD THE PROPOSAL DO? Create a bag limit of one hatchery king salmon in the Susitna River drainage.

WHAT ARE THE CURRENT REGULATIONS? Streams within Unit 2 of the Susitna River are open to king salmon fishing in their lower sections from January 1 through the third Monday in June, followed by two consecutive three-day weekends (Saturday–Monday). These waters are closed Tuesdays–Fridays after the third Monday in June through July 13. Bag and possession limit is one king salmon over 20 inches.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Catch-and-release mortality on the Willow Creek wild king salmon stock would likely increase by an unknown amount. This may also decrease the likelihood of achieving the egg take goal at Deception Creek during years of poor king salmon production.

BACKGROUND: Northern Cook Inlet king salmon runs began trending downward in 2007 mirroring the rest of the state. A 100% reduction to sport harvest has been necessary to achieve escapement goals on Eastside Susitna streams (Table 226-1) by allowing only catch-and-release fishing opportunity by emergency order since 2012. Escapement goals in this area have been met about half the time with this management strategy (Figure 226-1).

Willow Creek has been enhanced with hatchery king salmon since 1982. The hatchery program was built upon years of favorable king salmon runs and has contributed approximately 500–4,000 hatchery fish to the annual Eastside Susitna harvest. The hatchery component has dwindled since 2008, first due to small smolt size, the result of a cold water rearing issue at the hatchery 2007–2011, and second due to poor marine survivals related to the statewide downturn. Returns of hatchery fish in recent years have been insufficient to sustain a fishery as even egg take goals have not been met (Table 226-2). The viability of this stocking program remains in question during this period of low marine survival.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. The Willow Creek wild king salmon stock cannot withstand additional fishing pressure. All returning hatchery fish are currently needed in the department's effort to meet egg take goals and rebuild the Willow Creek brood stock.

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 226-1.–Eastside Susitna River drainage king salmon harvest by fishery, 1979–2015.

Year	Willow Creek	Lt. Willow Creek	Kashwitna River	Caswell Creek	Sheep Creek	Goose Creek	Montana Creek	Birch Creek	Sunshine Creek	Talkeetna River [a]	Chulitna River	Indian Creek	Portage Creek	Total
1979	459	0	ND	156	10	ND	312	ND	10	312	ND	ND	ND	1,259
1980	289	32	ND	215	45	ND	559	ND	13	172	ND	ND	ND	1,325
1981	585	0	ND	249	0	ND	661	ND	57	373	ND	ND	ND	1,925
1982	629	0	ND	471	0	0	241	0	52	450	ND	ND	ND	1,843
1983	534	0	231	272	0	0	504	0	105	934	ND	ND	ND	2,580
1984	774	37	0	586	0	0	1,522	0	125	1,272	ND	ND	ND	4,316
1985	1,063	25	ND	527	0	0	979	0	771	871	ND	ND	ND	4,236
1986	1,017	872	73	327	1,778	145	2,796	290	327	908	ND	ND	ND	8,533
1987	1,987	711	116	88	1,610	334	1,726	44	319	1,639	ND	ND	ND	8,574
1988	2,349	937	0	578	1,847	218	1,070	28	303	1,762	ND	ND	ND	9,092
1989	2,846	507	11	357	1,116	385	1,708	28	368	2,372	ND	ND	ND	9,698
1990	3,237	387	6	330	1,537	504	478	0	465	2,358	ND	ND	ND	9,302
1991	3,208	684	41	305	1,519	288	575	47	230	2,025	ND	ND	ND	8,922
1992	8,884	1,023	16	592	2,663	1,033	3,078	101	365	3,338	ND	ND	ND	21,093
1993	8,626	1,200	38	531	2,300	633	4,054	9	280	4,729	ND	ND	ND	22,400
1994	5,980	745	78	562	1,349	361	3,111	108	297	2,144	ND	ND	ND	14,735
1995	2,742	436	18	397	746	226	1,004	0	132	2,126	ND	ND	ND	7,827
1996	2,690	896	21	128	1,397	437	1,612	22	53	3,585	43	43	0	10,927
1997	3,135	699	10	30	550	298	2,181	30	53	3,800	0	33	20	10,839
1998	2,793	546	15	226	700	348	1,471	83	116	3,846	41	219	15	10,419
1999	4,988	1,344	83	142	2,558	371	3,279	134	11	3,701	156	0	0	16,767
2000	3,782	578	160	561	851	258	1,728	223	472	2,740	10	0	10	11,373
2001	4,573	941	74	238	1,420	160	2,646	65	93	2,866	38	11	21	13,146
2002	3,591	580	217	115	928	403	2,026	35	38	2,616	38	0	11	10,598
2003	3,922	510	373	26	1,284	350	1,242	167	154	1,276	25	0	ND	9,329
2004	2,818	445	125	23	914	335	1,071	0	25	2,473	0	52	64	8,345
2005	2,466	621	112	394	878	150	1,328	287	205	1,960	12	15	ND	8,428
2006	2,141	449	210	264	707	27	1,672	97	211	1,561	0	0	ND	7,339
2007	2,258	870	223	190	964	31	1,294	0	0	2,476	0	31	0	8,337
2008	1,101	505	237	30	589	134	1,188	46	431	1,479	26	37	31	5,834
2009	499	85	212	17	393	0	257	0	0	1,982	17	0	ND	3,462
2010	218	169	214	0	153	0	371	26	56	1,013	35	0	19	2,274
2011	282	33	172	0	213	0	362	0	16	1,087	113	16	32	2,326
2012	13	0	8	0	0	0	13	0	0	113	0	0	0	147
2013	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0

[a] Talkeetna River and tributaries including Clear Creek.

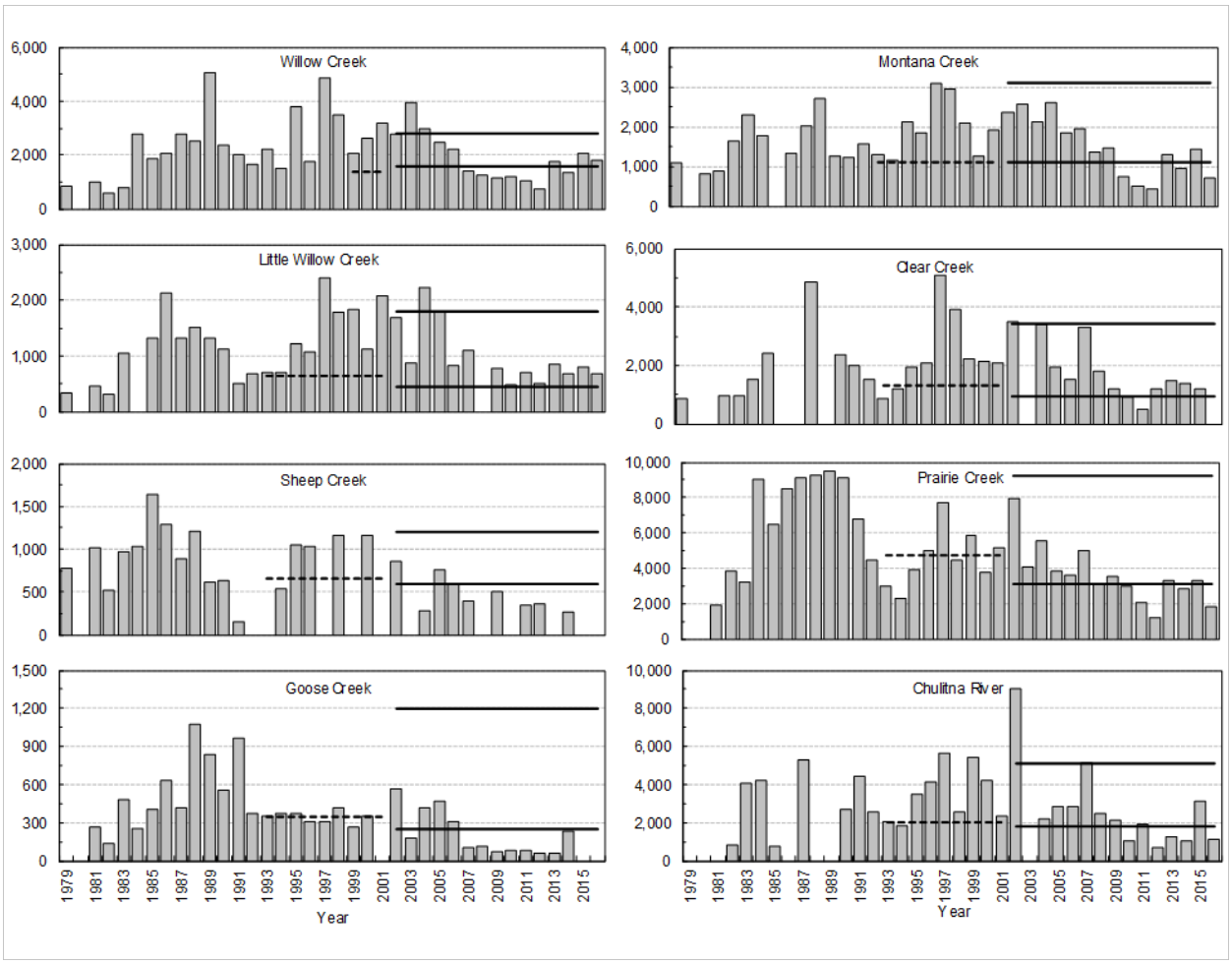

Figure 226-1.–King salmon escapements at Eastside Susitna River tributaries and Chulitna River, 1979–2016. y-axis = king salmon escapement (in number of fish). Dashed line = biological escapement goal. Solid lines = sustainable escapement goal range.

Table 226-2.–Deception Creek brood and stocking goals and performance, 2007–2016.

	Goals			Performance		
Brood year	Total broodstock [a,b]	Deception broodstock [a,c]	Deception Stocking	Total broodstock [a,b]	Deception broodstock [a,c]	Deception stocking
2007	52	17	100,000	55	18	111,322
2008	82	25	150,000	71	27	155,125
2009	94	25	150,000	59	23	140,266
2010 [d]	0	0		0	0	
2011	87	25	150,000	30	23	151,220
2012	85	24	150,000	24	24	149,041
2013	104	35	212,000	121	33	211,812
2014	112	37	212,000	84	36	214,495
2015	114	38	212,000	30	15	69,933 [e]
2016	116	39	212,000	45	19	

[a] Brood stock numbers listed as number of pairs unless noted otherwise.

[b] Total broodstock includes hatchery origin adults used to stock other sites, such as the Eklutna Tailrace.

[c] Only naturally produced fish are authorized for stocking back into Deception Creek.

[d] 2010 egg takes were not planned due to the transition from a 1-check smolt to a 0 check smolt.

[e] Lost approximately 24,500 after a high ozone level in the rearing tank occurred.

PROPOSAL 227 – 5 AAC 61.114. Special provisions for the seasons, bag, possession, and size limits, and methods and means for Unit 2 of the Susitna River Drainage Area.

PROPOSED BY: Amber Allen.

WHAT WOULD THE PROPOSAL DO? Allow harvest of hatchery king salmon when emergency orders restrict the sport fishery.

WHAT ARE THE CURRENT REGULATIONS? Streams within Unit 2 of the Susitna River are open to king salmon fishing in their lower sections from January 1 through the third Monday in June, followed by two consecutive three-day weekends (Saturday–Monday). These waters are closed Tuesdays–Fridays after the third Monday in June through July 13. Bag and possession limit is one king salmon over 20 inches.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Catch-and-release mortality on the Willow Creek wild stock would likely increase by an unknown amount. This may also decrease the likelihood of achieving the egg take goal at Deception Creek during years of poor king salmon production. This effect would only be experienced on years that an EO was issued to restrict a king salmon sport fishery.

BACKGROUND: Northern Cook Inlet king salmon runs began trending downward in 2007 mirroring the rest of the state. A 100% reduction to sport harvest has been necessary to achieve escapement goals on Eastside Susitna streams (Table 227-1) by allowing only catch-and-release fishing opportunity by EO since 2012. Escapement goals in this area have been met about half the time with this management strategy (Figure 227-1).

Willow Creek has been enhanced with hatchery king salmon since 1982. The hatchery program was built upon years of favorable king salmon runs and has contributed approximately 500–4,000 hatchery fish to the annual Eastside Susitna harvest. The hatchery component has dwindled since 2008, first due to small smolt size, the result of a cold water rearing issue at the hatchery 2007–2011, and second due to poor marine survivals related to the statewide downturn. Returns of hatchery fish in recent years have been insufficient to sustain a fishery as even egg take goals have not been met (Table 227-2). The viability of this stocking program remains in question during this period of low marine survival.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. The Willow Creek wild stock cannot withstand additional fishing pressure. All returning hatchery fish are currently needed in the department's effort to meet egg take goals and rebuild the Willow Creek brood stock.

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 227-1.–Eastside Susitna River drainage king salmon harvest by fishery, 1979–2015.

Year	Willow Creek	Lt. Willow Creek	Kashwitna River	Caswell Creek	Sheep Creek	Goose Creek	Montana Creek	Birch Creek	Sunshine Creek	Talkeetna River [a]	Chulitna River	Indian Creek	Portage Creek	Total
1979	459	0	ND	156	10	ND	312	ND	10	312	ND	ND	ND	1,259
1980	289	32	ND	215	45	ND	559	ND	13	172	ND	ND	ND	1,325
1981	585	0	ND	249	0	ND	661	ND	57	373	ND	ND	ND	1,925
1982	629	0	ND	471	0	0	241	0	52	450	ND	ND	ND	1,843
1983	534	0	231	272	0	0	504	0	105	934	ND	ND	ND	2,580
1984	774	37	0	586	0	0	1,522	0	125	1,272	ND	ND	ND	4,316
1985	1,063	25	ND	527	0	0	979	0	771	871	ND	ND	ND	4,236
1986	1,017	872	73	327	1,778	145	2,796	290	327	908	ND	ND	ND	8,533
1987	1,987	711	116	88	1,610	334	1,726	44	319	1,639	ND	ND	ND	8,574
1988	2,349	937	0	578	1,847	218	1,070	28	303	1,762	ND	ND	ND	9,092
1989	2,846	507	11	357	1,116	385	1,708	28	368	2,372	ND	ND	ND	9,698
1990	3,237	387	6	330	1,537	504	478	0	465	2,358	ND	ND	ND	9,302
1991	3,208	684	41	305	1,519	288	575	47	230	2,025	ND	ND	ND	8,922
1992	8,884	1,023	16	592	2,663	1,033	3,078	101	365	3,338	ND	ND	ND	21,093
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1995	2,742	436	18	397	746	226	1,004	0	132	2,126	ND	ND	ND	7,827
1996	2,690	896	21	128	1,397	437	1,612	22	53	3,585	43	43	0	10,927
1997	3,135	699	10	30	550	298	2,181	30	53	3,800	0	33	20	10,839
1998	2,793	546	15	226	700	348	1,471	83	116	3,846	41	219	15	10,419
1999	4,988	1,344	83	142	2,558	371	3,279	134	11	3,701	156	0	0	16,767
2000	3,782	578	160	561	851	258	1,728	223	472	2,740	10	0	10	11,373
2001	4,573	941	74	238	1,420	160	2,646	65	93	2,866	38	11	21	13,146
2002	3,591	580	217	115	928	403	2,026	35	38	2,616	38	0	11	10,598
2003	3,922	510	373	26	1,284	350	1,242	167	154	1,276	25	0	ND	9,329
2004	2,818	445	125	23	914	335	1,071	0	25	2,473	0	52	64	8,345
2005	2,466	621	112	394	878	150	1,328	287	205	1,960	12	15	ND	8,428
2006	2,141	449	210	264	707	27	1,672	97	211	1,561	0	0	ND	7,339
2007	2,258	870	223	190	964	31	1,294	0	0	2,476	0	31	0	8,337
2008	1,101	505	237	30	589	134	1,188	46	431	1,479	26	37	31	5,834
2009	499	85	212	17	393	0	257	0	0	1,982	17	0	ND	3,462
2010	218	169	214	0	153	0	371	26	56	1,013	35	0	19	2,274
2011	282	33	172	0	213	0	362	0	16	1,087	113	16	32	2,326
2012	13	0	8	0	0	0	13	0	0	113	0	0	0	147
2013	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0

[a] Talkeetna River and tributaries including Clear Creek.

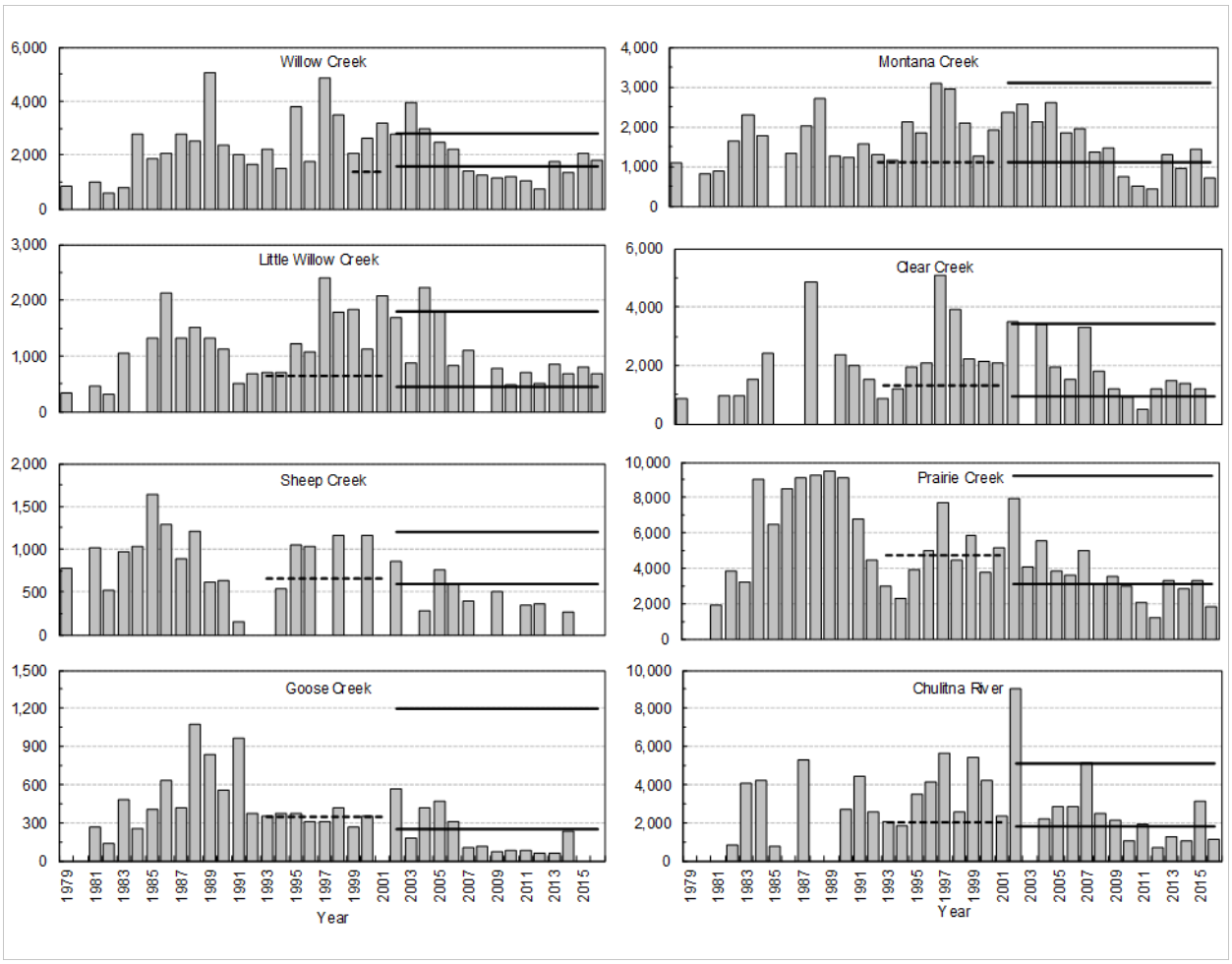

Figure 227-1.–King salmon escapements at Eastside Susitna River tributaries and Chulitna River, 1979–2016. y-axis = king salmon escapement (in number of fish). Dashed line = biological escapement goal. Solid lines = sustainable escapement goal range.

Table 227-2.–Deception Creek brood and stocking goals and performance, 2007–2016.

	Goals			Performance		
Brood year	Total broodstock [a,b]	Deception broodstock [a,c]	Deception Stocking	Total broodstock [a,b]	Deception broodstock [a,c]	Deception stocking
2007	52	17	100,000	55	18	111,322
2008	82	25	150,000	71	27	155,125
2009	94	25	150,000	59	23	140,266
2010 [d]	0	0		0	0	
2011	87	25	150,000	30	23	151,220
2012	85	24	150,000	24	24	149,041
2013	104	35	212,000	121	33	211,812
2014	112	37	212,000	84	36	214,495
2015	114	38	212,000	30	15	69,933 [e]
2016	116	39	212,000	45	19	

[a] Brood stock numbers listed as number of pairs unless noted otherwise.

[b] Total broodstock includes hatchery origin adults used to stock other sites, such as the Eklutna Tailrace.

[c] Only naturally produced fish are authorized for stocking back into Deception Creek.

[d] 2010 egg takes were not planned due to the transition from a 1-check smolt to a 0 check smolt.

[e] Lost approximately 24,500 after a high ozone level in the rearing tank occurred.

PROPOSAL 229 – 5 AAC 61.122. Special provisions for the seasons, bag, possession, and size limits, and methods and means for Unit 6 of the Susitna River Drainage Area

PROPOSED BY: Todd Hallsten, Parker Wallace, Thys Grogan, Austin Gibbs.

WHAT WOULD THE PROPOSAL DO? Reduce the maximum legal size for rainbow trout in Byers Creek from 20 inches to 16 inches.

WHAT ARE THE CURRENT REGULATIONS? The bag and possession limit for rainbow trout in Byers Creek is two fish, only one of which can be 20 inches or longer in length, with an annual limit for rainbow trout, 20 inches or longer, of two per year. Anglers are not allowed to retain rainbow trout during the spawning closure from April 15 through June 14. Gear is limited to artificial lure only September 1–July 13.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would reduce harvest opportunity for rainbow trout in Byers Creek. It would likely have little impact on Byers Creek rainbow trout abundance and age and size structure because harvest is low.

BACKGROUND: Byers Creek is located in the upper Chulitna River drainage between Talkeetna and Cantwell within Unit 6 of the Susitna River drainage. Byers Creek is currently managed conservatively for rainbow trout in accordance to the standard established in the *Statewide management standards for wild trout* (5 AAC 75.220). Bag, possession, and annual limits mirror the regulatory standard, a standard also applied to neighboring rainbow trout streams and the greater Susitna River drainage. The spawning season closure and bait restriction deviates from the standard and provides additional protection to Byers Creek rainbow trout.

Angler effort on Byers Creek is low and averages approximately 400 days per year (Table 229-1). The average rainbow trout catch and harvest for Byers Creek is approximately 1,400 and 45 fish, respectively. Given the number of fish that are caught and released, it is likely that a large part of the harvest may be due to the retention of mortally-hooked fish that would otherwise have been released.

Past telemetry studies on seasonal movements and habitat use of Susitna River drainage rainbow trout found extensive movements between tributaries during summer rearing and spawning periods. Trout of Unit 6 likely share this same behavior, which sets up the potential for sharing habitats within Unit 6 and movements between adjacent tributaries that support rainbow trout fisheries, such as Troublesome Creek, Honolulu Creek and East Fork Chulitna River. Based on this research, it is vital to manage Susitna River basin rainbow trout populations on a broad scale.

DEPARTMENT COMMENTS: The department **OPPOSES** this proposal. Byers Creek rainbow trout are already managed conservatively in accordance to the standard established in the statewide management standards for wild trout and by additional restrictive gear regulations. There are currently no biological concerns for rainbow trout in the upper Chulitna River drainage.

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 229-1.–Effort, catch, and harvest of rainbow trout on Byers Creek, 2006–2016.

	Effort	Catch	Harvest
2006	649	1140	226
2007	770	7099	117
2008	241	222	0
2009	315	879	0
2010	204	253	36
2011	795	3088	40
2012	293	424	0
2013	64	39	26
2014	402	906	0
2015	342	166	17
Average	408	1,422	46

COMMITTEE OF THE WHOLE–GROUP 8: Regulatory Alignment (13 Proposals)

Sport Fishing (13 Proposals)

PROPOSAL 71 – 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: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This would align size restrictions for Dolly Varden and rainbow/steelhead trout bag limit in the flowing waters of the Kenai River Drainage Area.

WHAT ARE THE CURRENT REGULATIONS? Arctic char/Dolly Varden may be taken from January 1–December 31, in all flowing waters from the mouth of the Kenai River upstream to Skilak Lake, and the waters of Skilak Lake, except the waters within a one-half mile radius of the Kenai River inlet; bag and possession limit of one fish less than 18 inches in length; Arctic char/Dolly Varden 18 inches or greater in length may not be retained and must be released immediately.

From June 11–May 1, in all flowing waters from the waters of Skilak Lake within a one-half mile radius of the Kenai River inlet, upstream to Kenai Lake, including the flowing waters of the Kenai Lake drainage; bag and possession limit of one fish less than 16 inches in length; Arctic char/Dolly Varden or rainbow trout 16 inches or greater in length may not be retained and must be released immediately.

Rainbow/steelhead trout may be taken from June 11–May 1 in that portion of the Kenai River upstream to an ADF&G regulatory marker located approximately one mile upstream from the mouth of the Lower Killey River upstream to Skilak Lake and the waters of Skilak Lake, except the water within a one-half mile radius of the Kenai River inlet; bag and possession limit of one fish less than 18 inches in length; rainbow/steelhead trout 18 inches or greater in length may not be retained and must be released immediately.

From June 11–May 1, in all flowing waters upstream of Skilak Lake, and the waters of Skilak Lake within a one-half mile radius of the Kenai River inlet; bag and possession limit of one fish less than 16 inches in length; Rainbow/Steelhead trout 16 inches or greater in length may not be retained and must be released immediately.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This may decrease the harvest of Arctic char/Dolly Varden and rainbow/steelhead trout in the Lower Section of the Kenai River Drainage Area downstream of Skilak Lake by a small amount. The size (total length) of the one fish Dolly Varden or rainbow/steelhead trout bag limit Kenai River anglers may retain would not differ between river sections. Aligning regulations for consistency will improve public communication, decrease regulatory complexity and increase public understanding of the sport fishing regulations in the Kenai River Drainage Area.

BACKGROUND: Past regulations governing the harvest of Arctic char/Dolly Varden and rainbow/steelhead trout in the Kenai River drainage were liberal and became progressively conservative and complex as the fishery grew in popularity. Numerous incremental regulation changes occurred during the 10–15 year period prior to 2005. During the 2005 Upper Cook Inlet board meeting, several department proposals related to Kenai River drainage Arctic char/Dolly Varden and rainbow trout were considered. The department believed these proposals would provide a diversity of fishing opportunity commensurate with the productive capability of the native populations, reconcile the overly complex system of regulations for resident species that often conflicted by time and area through the Kenai River drainage, resolve regulatory inconsistencies throughout the drainage, and create a system of regulations that better served the public. Consequently, the board adopted the Kenai River drainage regulations for flowing waters of the lower Kenai River that allowed for a June 11–May 1 open season with a bag and possession limit of one Arctic char/Dolly Varden or rainbow/steelhead trout less than 16 inches in total length above Skilak Lake. Also the new size limit was set at 18 inches downstream of Skilak Lake for both species.

The retention of fish 16 inches or less excludes a higher percentage of the spawning female segment of the reproductive populations of both species than does 18 inches and focuses harvest upon the more abundant smaller-sized fish. Research information from the past indicates that a small fraction of spawning female rainbow trout 16 inches or less however, no recent data is available about the size structure of Kenai River drainage Arctic char/Dolly Varden or rainbow/steelhead trout populations. Establishment of a maximum size limit of 16 inches for these resident species in all river sections provides consistent regulations and protects nearly all spawning fish of both species as well as reduces regulation complexity.

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

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

PROPOSAL 72 – 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: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This would clarify the Upper Section of the Kenai River drainage waters are closed to coho salmon, and align the season of coho salmon less than 16 inches in length in flowing waters of the lower and middle Kenai River drainage with that of the season for coho salmon greater than 16 inches. Fishing for coho salmon less than 16 inches year round in lakes and ponds would still be allowed.

WHAT ARE THE CURRENT REGULATIONS? Coho salmon 16 inches or greater may be taken in the Lower Section of the Kenai River Drainage Area only from July 1–November 30 and in the Middle and Upper Sections of the Kenai River Drainage Area only from July 1–October 31. Coho salmon less than 16 inches in length may be taken January 1–December 31 in the Kenai River Drainage Area.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would provide sustainable harvest opportunity for landlocked coho salmon less than 16 inches in total length and create consistent regulations in Kenai River Drainage Area lakes for salmon, other than king salmon, less than 16 inches in length. Harvest of coho salmon less than 16 inches in total length in the flowing waters may be reduced by some unknown amount.

BACKGROUND: The Upper Section of the Kenai River Drainage includes Kenai Lake and all its tributaries. Currently, coho salmon greater than 16 inches have limited seasons in both the Lower and Middle sections of the Kenai River Drainage, but coho salmon less than 16 inches are open year-round. This leads to regulatory complexity and circumvents the intent of providing a sustainable fishing season for coho salmon in flowing waters of the Kenai River Drainage.

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

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

PROPOSAL 73 – 5 AAC 56.122. Special provisions for the seasons, bag, possession, annual, and size limits, and methods and means for the Kenai Peninsula Area.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This would align the Swanson River rainbow trout spawning closure with the proposed Kenai River drainage rainbow trout spawning closure start date and end date of May 1–June 10.

WHAT ARE THE CURRENT REGULATIONS? Flowing waters of the Swanson River drainage are closed to sport fishing from April 15–June 14 while the flowing waters of the Middle and Upper Sections of the Kenai River drainage area are closed to sport fishing from May 2–June 10.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The sport fishing season in the flowing waters of the Swanson River drainage would be increased by an additional 19 days per year, except for king salmon which is closed year round. The catch and harvest of resident species such as rainbow trout and Dolly Varden could increase by a small amount. Aligning regulations for consistency will improve public communication, decrease regulatory complexity and increase public understanding of the sport fishing regulations in the Northern Kenai Peninsula Area and Kenai River Drainage Area.

BACKGROUND: The department submitted this proposal and others to provide the board an opportunity to review Northern Kenai Peninsula Area and Kenai River Drainage Area sport fishing regulations and consider changes to simplify and align regulations. Nearly all existing regulations for dates to trigger general or special provisions to sport fish regulations are at the first, last or middle day of a month. The purpose is to create regulations: 1) with consistent dates that encompass biological concerns and 2) that are easily understood by the public. Regulations have been adopted in the Kenai River drainage over the years for various fisheries based on biological as well as social issues. In many cases, dates to implement or discontinue regulations for one fishery do not align with regulations for another fishery in the same area. Over time this creates regulations that are disjointed, overly complex, and not implicit to the public. These proposals identify regulations that, taken as a whole, would align dates and waters to simplify regulations without impacting fishery management objectives.

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

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

PROPOSAL 74 – 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: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This would align the Kenai River king salmon sanctuaries start date, and boat closures start date with the proposed rainbow trout spawning closure start date of May 1.

WHAT ARE THE CURRENT REGULATIONS? From January 1–July 31, a person may not sport fish from a boat; in the following waters (Figure 74-1):

- in that portion of the Kenai River from an ADF&G regulatory marker approximately 300 yards downstream of the mouth of Slikok Creek upstream to an ADF&G regulatory marker located approximately 300 yards upstream from the mouth of Slikok Creek
- in that portion of the Kenai River from an ADF&G regulatory marker approximately one mile downstream from the mouth of Funny River, upstream to an ADF&G regulatory marker located approximately 200 yards upstream from the mouth of Funny River;
- in that portion of the Kenai River from a department regulatory marker located approximately three-quarters of a mile downstream from the mouth of the Lower Killey River, upstream to a department regulatory marker located approximately one mile upstream from the mouth of the Lower Killey River;
- from May 15 until the end of the king salmon season, or July 31, whichever is later, a person may not sport fish from a boat; in the following waters;
- in that portion of the Kenai River form an ADF&G regulatory located approximately 250 yards downstream from the upper breakwater at Centennial Park boat launch, upstream to the Sterling Highway Bridge at Soldotna;
- in that portion of the Kenai River from an ADG&G regulatory marker located approximately 100 yards downstream from the landing at Morgan's Hole, at river mile 31, upstream to an ADF&G regulatory marker located at the north section line of Section 28,Township 5 North, Range 9 West, Seward Meridian;
- in that portion of the Kenai River from an ADF&G markers located approximately 100 yards downstream of the mouth of Moose River, upstream to ADF&G regulatory markers located approximately 100 yards upstream from the of the Moose River, and the Moose River upstream to the upstream edge of the Sterling Highway Bridge.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would result in a total net gain in the number of days and area of the Kenai River that would be open to sport fishing from boats. There would be a reduction in the time open to sport fishing from a boat in three areas by 14 days. This may reduce the catch of resident species by an unknown amount and but not affect king salmon catch and harvest because relatively very few or no king salmon are present in these areas May1–14. There would also be an increase of 120 days in time available to sport fish from a boat in the other three areas because the boat closure date would begin later (May 1 rather than January 1). This may increase the catch of resident species by an

unknown amount and but not affect king salmon catch and harvest because relatively very few or no king salmon are present in these areas January 1–April 30.

Aligning regulations for consistency will improve public communication, decrease regulatory complexity and increase public understanding of the sport fishing regulations in the Northern Kenai Peninsula Area and Kenai River Drainage Area.

BACKGROUND: The department submitted this proposal and others to provide the board an opportunity to review Northern Kenai Peninsula Area and Kenai River Drainage Area sport fishing regulations and consider changes to simplify and align regulations. Nearly all existing regulations for dates to trigger general or special provisions to sport fish regulations are at the first, last or middle day of a month. The purpose is to create regulations: 1) with consistent dates that encompass biological concerns and 2) that are easily understood by the public. Regulations have been adopted in the Kenai River drainage over the years for various fisheries based on biological as well as social issues. In many cases, dates to implement or discontinue regulations for one fishery do not align with regulations for another fishery in the same area. Over time this creates regulations that are disjointed, overly complex, and not implicit to the public. These proposals identify regulations that, taken as a whole, would align dates and waters to simplify regulations without impacting fishery management objectives.

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

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

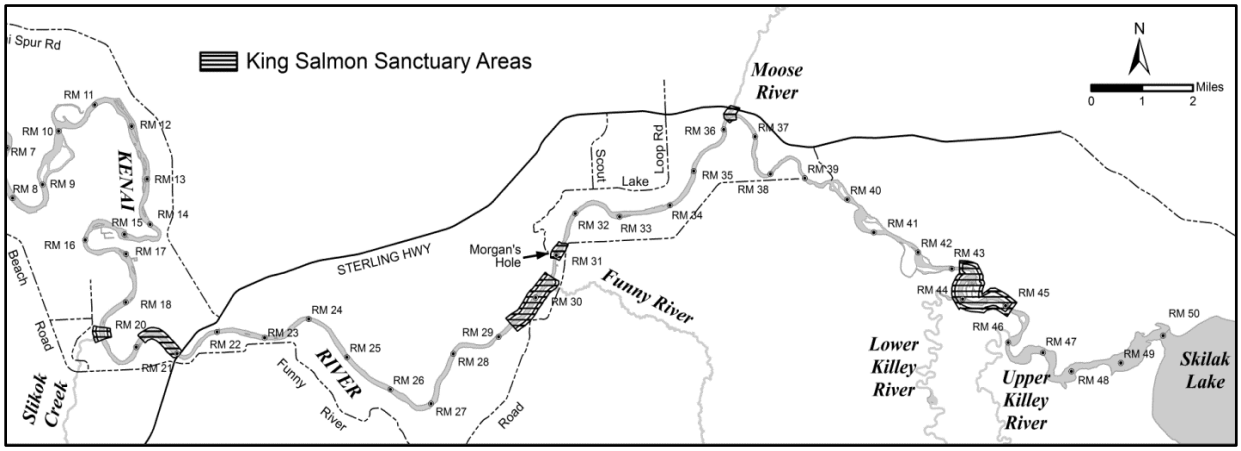

Figure 74-1. –Map of Kenai River showing king salmon sanctuary areas.

PROPOSAL 75 – 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: Mike Buntjer.

WHAT WOULD THE PROPOSAL DO? This would align the date anglers are prohibited from fishing from boats with the rainbow trout closure date.

WHAT ARE THE CURRENT REGULATIONS? From January 1–July 31, a person may not sport fish from a boat; in the following waters (Figure 75-1):

- in that portion of the Kenai River from an ADF&G regulatory marker approximately 300 yards downstream of the mouth of Slikok Creek upstream to an ADF&G regulatory marker located approximately 300 yards upstream from the mouth of Slikok Creek;
- in that portion of the Kenai River from an ADF&G regulatory marker approximately one mile downstream from the mouth of Funny River, upstream to an ADF&G regulatory marker located approximately 200 yards upstream from the mouth of Funny River;
- in that portion of the Kenai River from a department regulatory marker located approximately three-quarters of a mile downstream from the mouth of the Lower Killey River, upstream to a department regulatory marker located approximately one mile upstream from the mouth of the Lower Killey River;
- from May 15 until the end of the king salmon season, or July 31, whichever is later, a person may not sport fish from a boat; in the following waters;
- in that portion of the Kenai River form an ADF&G regulatory located approximately 250 yards downstream from the upper breakwater at Centennial Park boat launch, upstream to the Sterling Highway Bridge at Soldotna;
- in that portion of the Kenai River from an ADG&G regulatory marker located approximately 100 yards downstream from the landing at Morgan's Hole, at river mile 31, upstream to an ADF&G regulatory marker located at the north section line of Section 28,Township 5 North, Range 9 West, Seward Meridian;
- in that portion of the Kenai River from an ADF&G markers located approximately 100 yards downstream of the mouth of Moose River, upstream to ADF&G regulatory markers located approximately 100 yards upstream from the of the Moose River, and the Moose River upstream to the upstream edge of the Sterling Highway Bridge.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would result in a total net gain in the number of days and area of the Kenai River that would be open to sport fishing from boats. There would be a reduction in the time open to sport fishing from a boat in three areas by 13 days. This may reduce the catch of resident species by an unknown amount and but not affect king salmon catch and harvest because relatively very few or no king salmon are present in these areas May 2–14. There would also be an increase of 120 days in time available to sport fish from a boat in the other three areas because the boat closure date would begin later (May 2 rather than January 1). This may increase the catch of resident species by an unknown amount and but not affect king salmon catch and harvest because relatively very few or no king salmon are present in these areas January 1–April 30.

Aligning regulations for consistency will improve public communication, decrease regulatory complexity and increase public understanding of the sport fishing regulations in the Northern Kenai Peninsula Area and Kenai River Drainage Area.

BACKGROUND: The department submitted a similar proposal (Proposal 74) to align regulations for consistency to improve public communication, decrease regulatory complexity and increase public understanding of the sport fishing regulations in the Northern Kenai Peninsula Area and Kenai River Drainage Area.

DEPARTMENT COMMENTS: The department **SUPPORTS** this proposal but recommends the start date of the boat closures be amended to May 1 rather than May 2 as proposed.

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

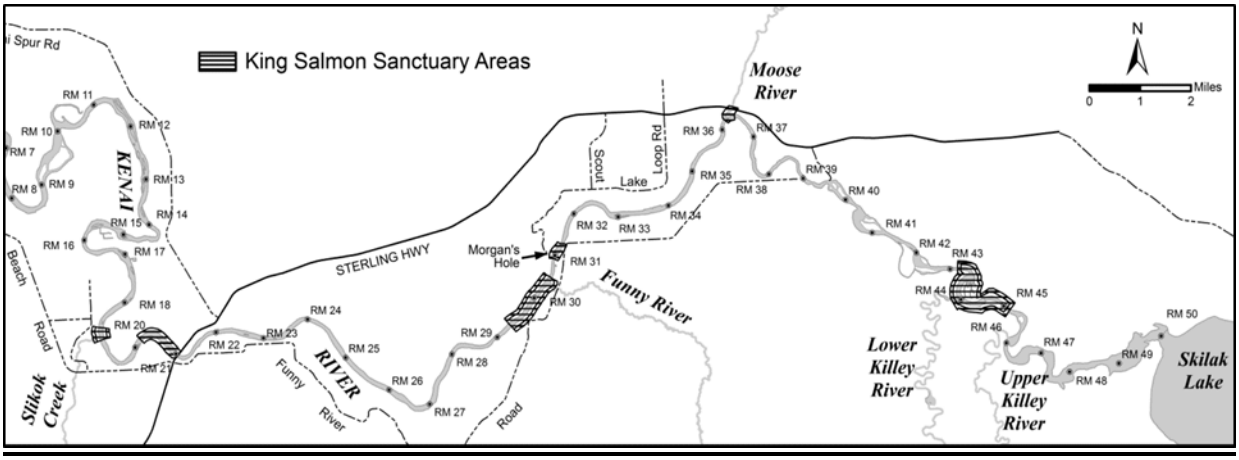

Figure 75-1. –Map of Kenai River showing king salmon sanctuary areas.

PROPOSAL 76 – 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: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This would align the Kenai River tributary fishing closure start dates with the proposed king salmon sanctuaries and rainbow trout spawning closure start dates of May 1–June 10, and align all Kenai River tributary closures so they have identical closure periods.

WHAT ARE THE CURRENT REGULATIONS? The following waters of the Kenai River are closed to sport fishing as follows:

- from April 15–August 15, Slikok Creek, is closed to sport fishing;
- from January 1–December 31, the flowing waters of Soldotna Creek upstream of ADF&G markers located approximately 100 feet upstream from its confluence with the Kenai River;
- from May 2–June 10, the flowing water of Soldotna Creek downstream form an ADF&G regulatory marker located approximately 100 feet upstream from its confluence with the Kenai River;
- from January 1–July 31, in that portion of the Kenai River from an ADF&G regulatory marker located approximately one mile downstream from the mouth of the Funny River, upstream to an ADF&G regulatory marker located approximately 200 yards upstream from the mouth of the Funny River, is closed to the taking of king salmon;
- from June 11–August 14, the Funny River from the Kenai River upstream to the Funny River Road Bridge;
- from May 2–June 10, the flowing water of the Moose River upstream of the upper edge of the Sterling Highway Bridge;
- from January 1–July 31, that portion of the Kenai River from a department regulatory marker located approximately three-quarters of a mile downstream from the mouth of the Lower Killey River, upstream to a department regulatory marker located approximately one mile upstream from the mouth of the Lower Killey River, is closed to the taking of king salmon;
- from January 1–July 31, that portion of the Kenai River from an ADF&G regulatory marker approximately 300 yards downstream of the mouth of Slikok Creek upstream to an ADF&G regulatory marker located approximately 300 yards upstream from the mouth of Slikok Creek is closed to the taking of king salmon;
- from May 2–June 10, in that portion of the Kenai River from an ADF&G regulatory marker located approximately one mile upstream from the mouth of the Lower Killey River upstream to an ADF&G regulatory marker located at the outlet of Skilak Lake.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This affects nine areas in the Kenai River Drainage Area. The open season would either increase or decrease by a number of days depending on location. However, it would result in a total net increase in the number of days that would be open to sport fishing. Catch may increase by an unknown amount

in resident species fisheries, but there would not be an affect upon the king salmon fishery because relatively few or no king salmon are present in these areas from January 1–April 30, and king salmon fishing is closed in all tributaries of the Kenai River. Aligning regulations for consistency will improve public communication, decrease regulatory complexity and increase public understanding of the sport fishing regulations in the Northern Kenai Peninsula Area and Kenai River Drainage Area.

BACKGROUND: The department submitted this proposal and others to provide the board an opportunity to review Northern Kenai Peninsula Area and Kenai River Drainage Area sport fishing regulations and consider changes to simplify and align regulations. Nearly all existing regulations for dates to trigger general or special provisions to sport fish regulations are at the first, last or middle day of a month. The purpose is to create regulations: 1) with consistent dates that encompass biological concerns and 2) that are easily understood by the public. Regulations have been adopted in the Kenai River drainage over the years for various fisheries based on biological as well as social issues. In many cases, dates to implement or discontinue regulations for one fishery do not align with regulations for another fishery in the same area. Over time this creates regulations that are disjointed, overly complex, and not implicit to the public. These proposals identify regulations that, taken as a whole, would align dates and waters to simplify regulations without impacting fishery management objectives.

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

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

PROPOSAL 77 – 5 AAC 57.122. Special provisions for the seasons, bag, possession, and size limits, and methods and means for the Middle Section of the Kenai River Drainage Area.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This would align the Kenai River tributary fishing closure dates with the proposed king salmon sanctuaries and rainbow trout spawning closure dates of May 1–June 10, and align all Kenai River tributary closures so they have similar closure dates such that salmon fishing is prohibited.

WHAT ARE THE CURRENT REGULATIONS? The following waters of the Middle Section of the Kenai River drainage are open to sport fishing as follows:

- from June 11–May 1, the Kenai River from the waters of Skilak Lake within a one-half mile radius of the Kenai River inlet, upstream to the downstream edge of the Sterling Highway Bridge at the outlet of Kenai Lake;
- from June 11–September 14 and from November 1–May 1, Cooper Creek;
- from June 11–May 1 flowing waters of the Russian River drainage upstream of a point approximately 100 yards from its confluence with the Kenai River, excluding Upper Russian (Goat) Creek;
- from July 15–May 1, the Russian River Sanctuary, including waters upstream from ADF&G regulatory markers located just downstream of the ferry crossing on the Kenai River to ADF&G regulatory markers located approximately 300 yards upstream of the public boat launch at Sportsman's Landing (including the waters around the upstream end of the island near the Russian River mouth) and the Russian River from its mouth upstream 100 yards to ADF&G regulatory markers is open to sport fishing, except sockeye salmon may be taken only from July 15–August 20;
- from June 11–August 20, the waters of the Kenai River near the confluence of the Russian River, from the powerline crossing on the Kenai River upstream to the Ferry Crossing, are open to sport fishing for sockeye salmon;
- from June 11–August 20, the waters of the Russian River from its mouth upstream to an ADF&G regulatory marker located approximately 600 yards downstream from the falls are open to sport fishing for sockeye salmon;
- from June 11–July 31 and from September 1–May 1, the Upper Russian (Goat) Creek upstream from an ADF&G regulatory marker located approximately 300 yards from its confluence with Upper Russian Lake;
- from June 11–May 1, Jean Lake Creek, and Hidden Lake Creek;
- from July 1–September 30, the waters of the Russian River from its mouth upstream to an ADF&G regulatory marker located approximately 600 yards downstream from the falls are open to sport fishing for coho salmon;
- the Russian River drainage upstream of an ADF&G regulatory marker located approximately 600 yards downstream from the falls is closed to sport fishing for salmon.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This affects 10 areas in the Kenai River Drainage Area. The open season would either increase or decrease

by a number of days depending on location. However, it would result in a total net increase in the number of days that would be open to sport fishing. Catch may increase by an unknown amount in resident species fisheries but there would not be an affect upon the king salmon fishery because relatively few or no king salmon are present in these areas from January 1 – April 30, and king salmon fishing is closed in all tributaries of the Kenai River. Aligning regulations for consistency will improve public communication, decrease regulatory complexity and increase public understanding of the sport fishing regulations in the Northern Kenai Peninsula Area and Kenai River Drainage Area.

BACKGROUND: The department submitted this proposal and others to provide the board an opportunity to review Northern Kenai Peninsula Area and Kenai River Drainage Area sport fishing regulations and consider changes to simplify and align regulations. Nearly all existing regulations for dates to trigger general or special provisions to sport fish regulations are at the first, last or middle day of a month. The purpose is to create regulations: 1) with consistent dates that encompass biological concerns and 2) that are easily understood by the public. Regulations have been adopted in the Kenai River drainage over the years for various fisheries based on biological as well as social issues. In many cases, dates to implement or discontinue regulations for one fishery do not align with regulations for another fishery in the same area. Over time this creates regulations that are disjointed, overly complex, and not implicit to the public. These proposals identify regulations that, taken as a whole, would align dates and waters to simplify regulations without impacting fishery management objectives.

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

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

PROPOSAL 78 – 5 AAC 57.123. Special provisions for the seasons, bag, possession, and size limits, and methods and means for the Upper Section of the Kenai River Drainage Area.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This would align the closure dates for all the tributaries of the Upper Section of the Kenai River Drainage Area with the dates proposed for the king salmon sanctuaries and the dates proposed for the rainbow trout spawning closure. In addition, this creates the same fishing season in all the tributaries of the Upper Section of the Kenai River Drainage Area with a closed season date of May 1–June 10.

WHAT ARE THE CURRENT REGULATIONS? The following waters are open to sport fishing, only from June 11–May 1, only one unbaited, single, hook, artificial lure may be used, the bag and possession limit of rainbow/steelhead trout and Arctic char/Dolly Varden is one fish less than 16 inches in length:

- Kenai Lake from the Sterling Highway Bridge at the outlet, upstream to ADF&G regulatory markers located approximately one-quarter mile upstream;
- The following waters are open to sport fishing for finfish other than salmon, only from June 11–May 1, only one unbaited, single-hook, artificial lure may be used, the bag and possession limit of rainbow/steelhead trout and Arctic char/Dolly Varden is one fish less than 16 inches in length:
- Crescent Creek drainage except Crescent Lake;
- Quartz Creek drainage from its mouth to the upstream side of the Sterling Highway Bridge;
- Snow River drainage, except the South Fork of the Snow River.

The following waters are open to sport fishing for finfish other than salmon, only from June 11–September 14 and from November 1–May 1, only one unbaited, single, hook, artificial lure may be used, the bag and possession limit of rainbow/steelhead trout and Arctic char/Dolly Varden is one fish less than 16 inches in length:

- Quartz Creek drainage upstream of the upstream side of the Sterling Highway Bridge, including Devils Creek, Johns Creek, Jerome Creek, Summit Creek, and Slate Creek;
- South Fork of the Snow River.

The following waters are open to sport fishing only from June 11–May 1, the bag and possession limit for rainbow/steelhead trout is two fish, of which only one may be 20 inches or greater in length;

- Crescent Lake.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The open season would increase or decrease by a number of days depending on location. However, it would result in a total net increase in the number of days that would be open to sport fishing.

Catch would increase by an unknown amount in resident species fisheries, but there would not be an affect upon the king salmon fishery because relatively few or no king salmon are present in these areas from January 1–April 30, and king salmon fishing is closed in all tributaries of the Kenai River. Aligning regulations for consistency will improve public communication, decrease regulatory complexity and increase public understanding of the sport fishing regulations in the Northern Kenai Peninsula Area and Kenai River Drainage Area.

BACKGROUND: The department submitted this proposal and others to provide the board an opportunity to review Northern Kenai Peninsula Area and Kenai River Drainage Area sport fishing regulations and consider changes to simplify and align regulations. Nearly all existing regulations for dates to trigger general or special provisions to sport fish regulations are at the first, last or middle day of a month. The purpose is to create regulations: 1) with consistent dates that encompass biological concerns and 2) that are easily understood by the public. Regulations have been adopted in the Kenai River drainage over the years for various fisheries based on biological as well as social issues. In many cases, dates to implement or discontinue regulations for one fishery do not align with regulations for another fishery in the same area. Over time this creates regulations that are disjointed, overly complex, and not implicit to the public. These proposals identify regulations that, taken as a whole, would align dates and waters to simplify regulations without impacting fishery management objectives.

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

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

PROPOSAL 79 – 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: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This would change the Kenai River king salmon sanctuary areas (Figure 79–1) and the Moose-Kenai rivers confluence area from fly-fishing-only waters to waters limited to only one unbaited, single-hook artificial fly, and align the dates of these special provisions with the May 1–June 10 dates proposed for other provisions.

WHAT ARE THE CURRENT REGULATIONS? From January 1–July 31, the following waters are designated fly-fishing-only waters, closed to sport fishing from a boat, and closed to the taking of king salmon:

- in that portion of the Kenai River, from department markers about 300 yards downstream of the mouth of Slikok Creek upstream to department markers located approximately 300 yards upstream from the mouth of Slikok Creek;.

- in that portion of the Kenai River, from an ADF&G regulatory marker located approximately one mile downstream from the mouth of the Funny River, upstream to an ADF&G regulatory marker located approximately 200 yards upstream from the mouth of the Funny River;.
- in that portion of the Kenai River, from a department regulatory marker located approximately three-quarters of a mile downstream from the mouth of the Lower Killey River, upstream to a department regulatory marker located approximately one mile upstream from the mouth of the Lower Killey River;.
- in that portion of the Kenai River, from an ADF&G markers located approximately 100 yards downstream of the mouth of Moose River, upstream to ADF&G regulatory markers located approximately 100 yards upstream from the of the Moose River, and the Moose River upstream to the upstream edge of the Sterling Highway Bridge;.
- In waters designated as fly-fishing-only waters, sport fishing is only permitted with not more than one unweighted, single-hook artificial fly with gap between point and shank three-eighths inch or less; and weights may be used 18 inches or more ahead of the fly.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? There would be no effect on harvest of fish. The regulations will be less complex and easy for the public to understand.

BACKGROUND: The department submitted this proposal and others to provide the board an opportunity to review Northern Kenai Peninsula Area and Kenai River Drainage Area sport fishing regulations and consider changes to simplify and align regulations. Nearly all existing regulations for dates to trigger general or special provisions to sport fish regulations are at the first, last or middle day of a month. The purpose is to create regulations: 1) with consistent dates that encompass biological concerns and 2) that are easily understood by the public. Regulations have been adopted in the Kenai River drainage over the years for various fisheries based on

biological as well as social issues. In many cases, dates to implement or discontinue regulations for one fishery do not align with regulations for another fishery in the same area. Over time this creates regulations that are disjointed, overly complex, and not implicit to the public. These proposals identify regulations that, taken as a whole, would align dates and waters to simplify regulations without impacting fishery management objectives.

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

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

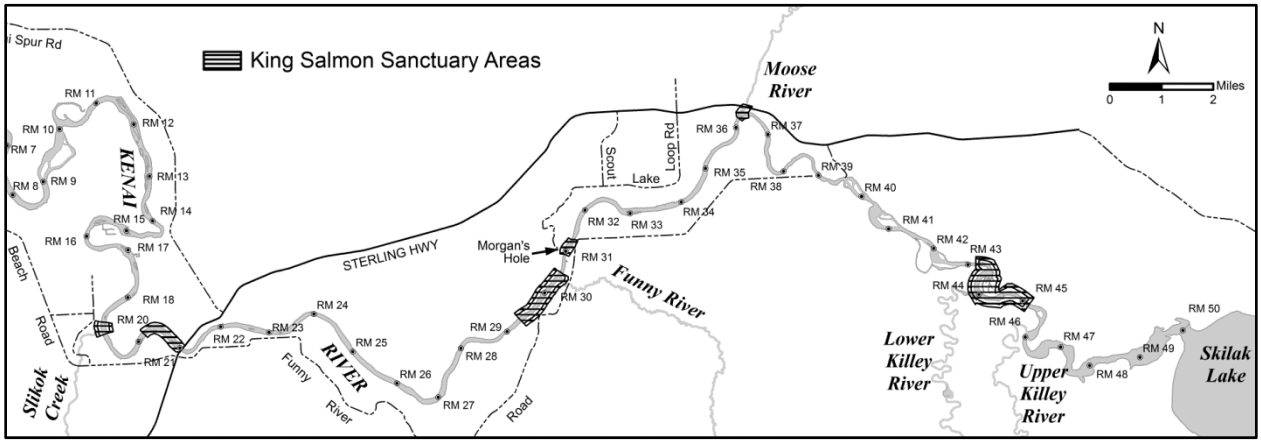

Figure 79-1. –Map of Kenai River showing king salmon sanctuary areas.

PROPOSAL 80 – 5 AAC 57.121. Special provisions for the seasons, bag, possession, and size limits, and methods and means for the Lower Section of the Kenai River Drainage Area; 5 AAC 57.122. Special provisions for the seasons, bag, possession, and size limits, and methods and means for the Middle Section of the Kenai River Drainage Area; and 5 AAC 57.123. Special provisions for the seasons, bag, possession, and size limits, and methods and means for the Upper Section of the Kenai River Drainage Area.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This would align gear restrictions for Kenai River tributaries by restricting gear to only one unbaited, single-hook, artificial lure, with a gap between point and shank of three-eighths inch or less.

WHAT ARE THE CURRENT REGULATIONS? Gear restrictions for most of the tributaries of the Kenai River Drainage Area are regulated by general provisions for the Kenai Peninsula Area because most of the tributaries are not specifically addressed in the special provisions for the Kenai River Drainage Area except as follows:

In Hidden Lake Creek, only one unbaited, single-hook, artificial lure may be used;
From January 1–December 31, in the flowing waters of the Kenai Lake drainage, including waters of Kenai Lake within one-quarter mile radius of all inlet streams, only one unbaited, single-hook, artificial lure may be used.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? Catch rates of resident species could be reduced by a minimal amount. Incidental catch of salmon could be reduced by a minimal amount. Aligning regulations for consistency will improve public communication, decrease regulatory complexity and increase public understanding of the sport fishing regulations in the Northern Kenai Peninsula Area and Kenai River Drainage Area.

BACKGROUND: The department submitted this proposal and others to provide the board an opportunity to review Northern Kenai Peninsula Area and Kenai River Drainage Area sport fishing regulations and consider changes to simplify and align regulations. Nearly all existing regulations for dates to trigger general or special provisions to sport fish regulations are at the first, last or middle day of a month. The purpose is to create regulations: 1) with consistent dates that encompass biological concerns and 2) that are easily understood by the public. Regulations have been adopted in the Kenai River drainage over the years for various fisheries based on biological as well as social issues. In many cases, dates to implement or discontinue regulations for one fishery do not align with regulations for another fishery in the same area. Over time this creates regulations that are disjointed, overly complex, and not implicit to the public. These proposals identify regulations that, taken as a whole, would align dates and waters to simplify regulations without impacting fishery management objectives.

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

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

PROPOSAL 81 – 5 AAC 56.122. Special provisions for the seasons, bag, possession, annual, and size limits, and methods and means for the Kenai Peninsula Area.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This would create consistent rainbow/steelhead trout regulations in the Kasilof River above and below the Sterling Highway Bridge and amend the open season date for Tustumena Lake tributaries to protect spawning rainbow/steelhead trout.

WHAT ARE THE CURRENT REGULATIONS? In the Kasilof River downstream of the Sterling Highway Bridge; rainbow/steelhead trout may not be possessed or retained; rainbow/steelhead trout caught must be released immediately; a person may not remove a rainbow/steelhead trout from the water before releasing the fish;

In the Kasilof River upstream of the Sterling Highway Bridge; the bag and possession limit for rainbow/steelhead trout is two fish, of which only one may be 20 inches or greater in length;

Tustumena Lake and its tributaries; are open to sport fishing only from June 11–May 1.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? The number of days the Tustumena Lake tributaries would be open to fishing each year will be reduced by one day. The harvest of rainbow/steelhead trout in the upper Kasilof River drainage would be eliminated (average 68 fish, 1996–2015; Table 81–1)**.** All areas of the Kasilof River and other Kenai Peninsula streams will have the same rainbow/steelhead trout regulations, and tributaries of Tustumena Lake will have rainbow/steelhead trout spawning closure dates that are consistent with other Northern Kenai Peninsula Management Area lakes.

Aligning regulations for consistency will improve public communication, decrease regulatory complexity and increase public understanding of the sport fishing regulations in the Northern Kenai Peninsula Area and Kenai River Drainage Area.

BACKGROUND: The department submitted this proposal and others to provide the board an opportunity to review Northern Kenai Peninsula Area and Kenai River Drainage Area sport fishing regulations and consider changes to simplify and align regulations. Nearly all existing regulations for dates to trigger general or special provisions to sport fish regulations are at the first, last or middle day of a month. The purpose is to create regulations: 1) with consistent dates that encompass biological concerns and 2) that are easily understood by the public. Regulations have been adopted in the Kenai River drainage over the years for various fisheries based on biological as well as social issues. In many cases, dates to implement or discontinue regulations for one fishery do not align with regulations for another fishery in the same area. Over time this creates regulations that are disjointed, overly complex, and not implicit to the public. These proposals identify regulations that, taken as a whole, would align dates and waters to simplify regulations without impacting fishery management objectives.

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

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

Table 81-1.-Harvest and catch of steelhead and rainbow trout in the Kasilof River fishery, 1986–2015.

	Steelhead		Rainbow Trout		Total	
Year	Catch[a]	Harvest[a]	Catch[a]	Harvest[a]	Catch[a]	Harvest[a]
1986	ND	92	ND	ND	ND	ND
1987	ND	185	ND	ND	ND	ND
1988	ND	36	ND	ND	ND	ND
1989	ND	48	ND	ND	ND	ND
1990	ND	145	ND	ND	ND	ND
1991	131	12	1,390	313	1,521	325
1992	1,521	520	965	246	2,486	766
1993	6,862	2,237	778	150	7,640	2,387
1994	5,347	1,262	764	76	6,111	1,338
1995	2,951	692	860	110	3,811	802
1996	1,320	36	1,587	192	2,907	228
1997	499	7	1,040	236	1,539	243
1998	223	0	533	0	756	0
1999	764	0	914	0	1,678	0
2000	617	65	1,824	133	2,441	198
2001	577	26	846	77	1,423	103
2002	983	21	1,031	47	2,014	68
2003	619	26	1,383	22	2,002	48
2004	299	0	249	53	548	53
2005	954	38	658	33	1,612	71
2006	380	7	1,006	26	1,386	33
2007	628	8	6,824	40	7,452	48
2008	506	0	1,450	0	1,956	0
2009	619	38	666	13	1,285	51
2010	333	7	327	0	660	7
2011	463	0	248	13	711	13
2012	861	111	639	0	1,500	111
2013	1,107	47	1,158	29	2,265	76
2014	1,134	0	2,374	0	3,508	0
2015	1,742	0	1,052	0	2,794	0
Mean (1986–2015)	1,258	189	1,223	72	2,480	279
Mean (1996–2015)	731	22	1,290	46	2,022	68

Source: Statewide Harvest Survey from Mills 1979–1994; Howe et al. 1995, 1996, 2001a-d; Walker et al. 2003; Jennings et al. 2004, 2006a-b, 2007, 2009a-b, 2010a-b, 2011a-b, 2015; Romberg et al., *In Prep*a-d.

Note: ND = no data available

[a] Beginning in 1996, fishery regulated as catch- and-release below Sterling Hwy. Bridge; retention allowed above the Sterling Hwy. Bridge.

PROPOSAL 82 – 5 AAC 56.122. Special provisions for the seasons, bag, possession, annual, and size limits, and methods and means for the Kenai Peninsula Area.

PROPOSED BY: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This would amend Kasilof River early-run king salmon possession requirements to include a minimum distance from shore (100 yards) an angler must be before they can fillet, mutilate, or otherwise disfigure a king salmon in a manner that prevents the determination that a harvested fish is a hatchery king salmon.

WHAT ARE THE CURRENT REGULATIONS? In the Kasilof River drainage, excluding Crooked Creek and Tustumena Lake and its tributaries: a person may not possess a king salmon that has been filleted, mutilated, or otherwise disfigured in a manner that prevents the determination that the fish is a hatchery king salmon, until the fish is permanently offloaded from the vessel if the fish was taken from a vessel or permanently transported way from the fishing site if the fish was taken from the riverbank.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would reduce the potential to illegally harvest a naturally-produced king salmon when harvest of naturally-produced king salmon is prohibited. It would create a regulation for the Kasilof River that is identical to existing regulation in other stocked waters of the Kenai Peninsula.

BACKGROUND: The department submitted this proposal to provide the board an opportunity to review Northern Kenai Peninsula Area and Kenai River Drainage Area sport fishing regulations and consider changes to simplify and align regulations. Nearly all existing regulations for dates to trigger general or special provisions to sport fish regulations are at the first, last or middle day of a month. The purpose is to create regulations: 1) with consistent dates that encompass biological concerns and 2) that are easily understood by the public. Regulations have been adopted in the Kenai River drainage over the years for various fisheries based on biological as well as social issues. In many cases dates to implement or discontinue regulations for one fishery, do not align with regulations for another fishery in the same area. Over time this creates regulations that are disjointed, overly complex, and not implicit to the public. These proposals identify regulations that, taken as a whole, would align dates and waters to simplify regulations without impacting fishery management objectives. Aligning regulations for consistency will improve public communication, decrease regulatory complexity and increase public understanding of the sport fishing regulations in the Northern Kenai Peninsula Area and Kenai River Drainage Area.

Currently on the Ninilchik River, a person may not possess a king salmon that has been filleted, mutilated, or otherwise disfigured in a manner that prevents the determination that the fish is a hatchery king salmon, until the person has stopped fishing in the Ninilchik River drainage for the day and has moved more than 100 yards away from the Ninilchik River.

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

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

PROPOSAL 83 – 5 AAC 56.120. General provisions for the seasons, bag, possession, annual, and size limits, and methods and means for the Kenai Peninsula Area; and 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: Alaska Department of Fish and Game.

WHAT WOULD THE PROPOSAL DO? This would repeal liberal bag limits and gear regulations for northern pike in waters where they have been extirpated.

WHAT ARE THE CURRENT REGULATIONS? Northern pike may be taken from January 1–December 31; No bag, possession or size limit. Northern pike may be taken by spear and bow and arrow or with two hooks per line when fished through the ice and if both hooks are attached to the same single piece of bait.

Sport fishing gear restrictions; in Mackey Lakes, Derks Lake, Sevena Lake, Union Lake, and the unnamed lakes on Tote Road, five lines may be used to fish for northern pike through the ice; allowable gear is limited to standard ice fishing gear as specified in 5 AAC 57.120(9)(B); Fishing gear must be closely attended as specified in 5 AAC 75.033; All other species of fish caught must be released immediately;

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would aid in preventing illegal fishing activities in previously designated northern pike waters which no longer support northern pike and where native species populations (rainbow trout, Dolly Varden and rearing salmonids) are in a process of recovery to reestablish viable populations.

BACKGROUND: Liberal northern pike regulations of the Kenai Peninsula are no longer necessary due to the department's successful eradication program. Since 2008 eight lakes, including five designated northern pike lakes listed under existing regulations, have been treated with rotenone and are presently being actively restored to historic native species assemblages by department transplanting efforts and by natural recolonization. Existing regulations may allow anglers to claim they are fishing for northern pike in lakes subjected to general provisions, which has the potential to become a conservation concern because other species can be harvested. The remaining unnamed lake on Tote Road can be managed by EO, prior to eradication.

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

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

COMMITTEE OF THE WHOLE–GROUP 9: Kuskokwim River Salmon Management Plan (1 Proposal)

Kuskokwim River Salmon Management Plan (1 Proposal)

PROPOSAL 279 – 5 AAC 07.365. Kuskokwim River Salmon Management Plan.

PROPOSED BY: Alaska Board of Fisheries.

WHAT WOULD THE PROPOSAL DO? This seeks to provide guidelines to the Alaska Department of Fish and Game regarding the use of 4-inch or less mesh set gillnets during the early season king salmon subsistence fishery closure.

WHAT ARE THE CURRENT REGULATIONS? *Kuskokwim River Salmon Management Plan* (5 AAC 07.365 (c)) closes the subsistence king salmon fishery on the Kuskokwim River through June 11 and provides guidance on the frequency of king salmon directed subsistence opportunity after June 11. This closure is in place regardless of expected annual king salmon returns. Kuskokwim Area subsistence specific gear regulations (5 AAC 01.270 (n)) allow, during times of king salmon conservation, the department to provide opportunity with 4-inch or less mesh set gillnets within 100 feet of the ordinary high water mark.

WHAT WOULD BE THE EFFECT IF THE PROPOSAL WERE ADOPTED? This would provide specific guidelines on use of 4-inch or less mesh set gillnets during the early season king salmon subsistence fishing closure. It would allow the retention of any king salmon caught in 4-inch or less mesh gillnets during the early season closure.

BACKGROUND: Since 2010, the Kuskokwim River has experienced poor king salmon returns. Total run estimates for Kuskokwim River king salmon in 2010, 2012, and 2013 are the three lowest on record. King salmon escapement in 2013 was below the Kuskokwim River drainagewide escapement goal range (65,000–120,000 fish) established in January 2013. While the king salmon returns have improved, the 2014–2016 runs have remained below average.
Restrictions to the subsistence fishery have been necessary during recent years in order to achieve king salmon escapement goals. Restrictions implemented in 2014 to conserve king salmon included restrictions to fishing area and gillnet mesh size, and requirements for the live release of king salmon from fish wheels, beach seines, and dip nets. This allowed users to continue to subsistence fish for nonsalmon and other salmon species while reducing king salmon harvest to achieve escapement goals. Subsistence fishing with 4-inch or less mesh gillnets for nonsalmon species was not restricted and any king salmon caught incidentally could be retained. The department received numerous reports that subsistence users were drifting 4-inch or less mesh gillnets to target king salmon.

In 2014 and in subsequent years, Kuskokwim Area residents and members of the Kuskokwim River Salmon Management Working Group (WG) have expressed the need for subsistence fishing opportunities to harvest nonsalmon species during the early part of the salmon fishing season. Fishers have reported harvesting several species of fish during that time of year but primarily target whitefishes, including migrating adult sheefish that are most commonly caught

in the period following river ice break-up and until the early portion of the king salmon run. In household harvest surveys and ethnographic interviews in 23 Kuskokwim Area communities conducted since 2006, respondents also reported the use of gillnets for the harvest of nonsalmon species in the mainstem Kuskokwim River during all months of the year. In these same surveys, approximately 86% of households reported using nonsalmon species. Kuskokwim Area fishers use 4-inch or less mesh gillnets to harvest nonsalmon species in locations including the mainstem Kuskokwim River, which results in the incidental harvest of salmon, including king salmon, when adult migrating salmon are present.

Prior to the 2015 fishing season, the board adopted new criteria for the use of 4-inch or less mesh gillnets during times of king salmon conservation. During these times, 4-inch or less mesh gillnets were required to be operated only as set nets with no part of the net more than 100 feet from the ordinary high water mark (bank orientation). This was an effort to address concerns for targeted king salmon fishing using 4-inch or less mesh gillnets during nonsalmon directed subsistence fishing opportunities. The 2015 king salmon subsistence fishery was managed by the U.S. Fish and Wildlife Service within the Yukon Delta National Wildlife Refuge boundaries and by the department upstream of the refuge boundary at Aniak. Restrictions used in 2015 to conserve king salmon included fishing area, gillnet length and mesh size, and requirements for live release of king salmon from fish wheels, beach seines, and dip nets. This allowed users to subsistence fish for nonsalmon species while reducing king salmon harvest to achieve escapement goals. Additionally, both agencies implemented a 4-inch or less mesh gillnet fishing schedule, required gillnets be operated as set nets, and allowed any king salmon caught incidentally to be retained. A bank orientation was not required within the Yukon Delta Refuge. Subsequently, some subsistence users continued to target king salmon by setting 4-inch or less mesh gillnets in areas where king salmon are known to travel. In response to this, the U.S. Fish and Wildlife Service inseason manager discontinued scheduled 4-inch or less mesh gillnet opportunity.

During the January 2016 board meeting regulations were adopted that close directed subsistence fishing for king salmon in the Kuskokwim River through June 11. As a part of this early season closure the department sought input from the Kuskokwim River Salmon Management Working Group (WG) on additional subsistence fishing restrictions that may be warranted in the 2016 season. The WG voted to close the Kuskokwim River mainstem to the use of 4-inch or less mesh gillnets during the early season king salmon subsistence fishery closure because of concerns for targeted king salmon harvest and the perceived increase harvest of whitefish. The WG also supported that any 4-inch or less mesh gillnet opportunity during the early season king salmon subsistence fishery closure be at the discretion of the management agencies. The removal of 4-inch or less mesh gillnets from the Kuskokwim River was implemented beginning May 20. Additional restrictions to the fishery beginning May 20 included fishing area andgillnet length and mesh size, and requirements for live release of king salmon from fish wheels, beach seines, and dip nets. This allowed some limited subsistence fishing opportunity for nonsalmon species during the early season king salmon fishing closure. At their May 26 meeting, the WG passed a motion in support of the Kuskokwim River Inter-Tribal Fish Commission's request for a 72-hour subsistence fishing opportunity with 4-inch or less mesh gillnets on the Kuskokwim River mainstem. Working Group member comments ranged from "*the length of time for the subsistence closure to all gillnets on the Kuskokwim River was too long and that an opportunity*

would have little impact on the king salmon run this early in the season" to "*..that the strength of the king salmon run could not be determined at this point in the season and that Kuskokwim River residents had testified during the spring Alaska Board of Fisheries meeting requesting for a conservative management approach in 2016*". A 4-inch or less mesh gillnet fishing opportunity was not provided because the department concluded that providing any gillnet opportunity in the Kuskokwim River mainstem prior to June 12 would be contrary to the intent of the early season king salmon subsistence fishery closure.

The use of 4-inch or less mesh gillnets to illegally target king salmon during times of king salmon conservation has been of concern since at least 2014. King salmon may potentially become entangled in 4-inch or less mesh gillnets anytime they are allowed and it is possible for users to direct fishing activity with 4-inch or less mesh gillnets towards the harvest of king salmon using a variety of techniques. The department has allowed the retention of king salmon incidentally caught in 4-inch or less mesh gillnets since requiring release of fish caught in gillnets would result in high mortality and potential waste of fishery resources. It is very difficult to determine whether king salmon caught in 4-inch or less mesh gillnets were legitimately taken incidental to nonsalmon directed fishing activity or were intentionally targeted for harvest. The board has tried to address this by adopting operational criteria (i.e. set gillnets only with the bank orientation) during times of king salmon conservation.

The early season king salmon subsistence fishing closure adopted in 2016 was a result of numerous proposals to the board intended to move more king salmon through the lower portion of the Kuskokwim River prior to providing directed fishing opportunity. These proposals were brought forth by middle Kuskokwim River subsistence users concerned for equitable king salmon subsistence fishing opportunity. There is no set date when the early season closure goes into effect, but once implemented it will remain through June 11. Depending on annual king salmon run abundance, the intent of the early season king salmon fishing closure may be impacted by king salmon harvested during 4-inch or less mesh gillnet fishing activity. Higher king salmon run sizes would not be of as much concern compared to lower run sizes as observed in recent years.

DEPARTMENT COMMENTS: The department is **NEUTRAL** on this proposal. Under current regulations, the department has discretion to provide subsistence fishing opportunity for nonsalmon species during the king salmon run. The department supports providing a reasonable opportunity for for success in harvesting nonsalmon fish for subsistence uses while managing for the conservation of king salmon. During the 2014–2016 subsistence fishing seasons, opportunity to harvest fish with dip nets, fish wheels, beach seines, and other fishing gear that can allow for live release of king salmon has been allowed during times of gillnet restrictions. Additionally, unrestricted mesh size gillnets have been allowed in all "nonsalmon" tributaries during the entirety of the 2014–2016 subsistence fishing seasons.

While addressing this proposal, the board may wish to evaluate whether proposed changes to the management plan still provide reasonable opportunities for subsistence uses of nonsalmon species.

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

SUBSISTENCE REGULATION REVIEW:

1. Is this stock in a nonsubsistence area? No.

2. Is the stock customarily and traditionally taken or used for subsistence? Yes; the board made a positive customary and traditional use finding for salmon in the Kuskokwim Area (5 AAC 01.286(a)(2)), and specifically for king, chum, sockeye, coho, and pink salmon in the Kuskokwim River Drainage (5 AAC 01.286(a)(3)). The board has also determined that there is a positive customary and traditional use finding for halibut, Pacific cod, and all other finfish in the Kuskokwim Area (5 AAC 01.286(a)(1)).

3 Can a portion of the stock be harvested consistent with sustained yield? Yes.

4 What amount is reasonably necessary for subsistence use? The board has found that 67,200–109,800 king salmon; 41,200–116,400 chum salmon; 32,200–58,700 sockeye salmon; 27,400–57,600 coho salmon; and 500–2,000 pink salmon are reasonably necessary for subsistence uses in the Kuskokwim River (5 AAC 01.286(b)(1-5)); 6,900–17,000 salmon are reasonably necessary for subsistence uses in Districts 4 and 5, combined (5 AAC 01.286(b)(6)); and 12,500–14,400 salmon are reasonably necessary in the remainder of the Kuskokwim Area (5 AAC 01.286(b)(7)). While not in codified regulations, the board determined in December 1997 that 1,583,033 to 2,638,384 pounds of all freshwater finfish, excluding salmon, was the amount reasonably necessary for subsistence uses in the Kuskokwim Area.

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.