

**On-Time Public Comment List
Lower Cook Inlet Finfish
December 8–11, 2013**

Kenai Area Fisherman’s Coalition	PC 01
Patrick D. Reiland.	PC 02
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Bruce A. Susinger	PC 05
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Gary Sinnhuber	PC 07
Alaska Whitefish Trawlers Association	PC 08
Mike Kramer	PC 09

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PC 1
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Board of Fisheries

Please accept our Kenai Area Fisherman's Coalition (KAFC) comments on Lower Cook Inlet (LCI) proposals in preparation for your LCI finfish meeting scheduled for Dec. 8 – Dec. 11.

Proposal 46 – To allow party fishing in Cook Inlet saltwater sport fisheries

We are **Oppose** to this proposal. We feel this could lead to additional hook and release mortality and may lead to enforcement difficulties, especially where proxy fishing for salmon is concerned.

Proposal 48 – Designate all waters where Catch & Release fishing occurs on salmon as single, unbaited, barbless-hook waters

We **Support** this proposal. When fisheries become C&R it is because management recognizes the need to become more restrictive in order to protect certain stocks. At that point it becomes important to minimize C&R mortality as much as possible and this regulation change would be an appropriate measure in doing so.

Proposal 58 – Closing the Anchor River Wednesday fishery

We **Support** this proposal. The Anchor River Chinook runs have been very poor in recent years and we believe it is prudent at this point to reduce opportunity and subsequent harvest to help recover these stocks.

Proposal 59 – Delay opening Anchor River, Deep Creek and Staiki by two weeks

We **Oppose** this proposal. We do not want to restrict local Dolly Varden fishing during this time for what we see as an enforcement problem. Trout gear and King gear are quite different and anyone targeting Kings should be obvious to enforcement officials.

Proposal 60 – Allows fishing in LCI streams in November & December

We **Oppose** this proposal. We felt that after Nov. 1, these fish deserve to be left alone. Colder water temperatures make the fish more dormant and less appealing to catch. A hard battle at the end of someone's rod at this time of year may be too stressful for some fish to recover from.

Proposal 67 & 68 – To move the Bluff Point marker north to the Anchor River marker

We **Oppose** these proposals. We do not believe that these waters are absolute feeder King waters. There most assuredly would be some LCI stream Kings transiting these waters. Current concerns for low King salmon abundance throughout Cook Inlet should take priority over any need for more harvest opportunity. This change would also increase the 2 fish per day area and increase already tenuous King salmon harvests.

Proposal 70 – Modify the date in which LCI King salmon have to be recorded from Apr. 1 to May 1

We **Oppose** this proposal. There are both LCI and UCI Kings moving through these waters at this time and this proposal could add additional harvests to various runs that are already having difficulties making escapements.

Proposal 71 – Reduce LCI King salmon limit to 1 fish per day and 2 annually



PC 1
2 of 2

We **Oppose** this proposal. This proposal would place an undue restriction on Cook Inlet sport fishermen.

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PC 2
1 of 1

We own prop. on lower cook inlet. I have sport fished for over 25 years. I have seen the king pop. go down every year and the Halibut also have gotten smaller ..Lets be honest the draggers in the gulf and the bering seaare putting the serious hurt on both with there by catch allowance. We have got to stop this or consider losing the fishery. Consider this my statement as a citizen of the state of Alaska



Circle hooks and barbless hooks

By Les Palmer

My recent column about proposals for regulating fish hooks generated some reader response.

Pete Rosko, the avid fisherman and fishing guide who invented the Crippled Herring, Kandlefish and Sonic BaitFish jigs, thinks there ought to be a federal law requiring that all hooks being fished with natural bait be single and barbless.

Corey Wilcox wrote that he has been fishing with circle hooks for sockeye salmon for years. He claims that he rarely hooks a sockeye anywhere other than in the mouth, maybe one or two per season.

As anyone who fishes for sockeyes with hook and line soon learns, they seldom bite. This reluctance on the part of the fish poses a dilemma for anglers. To legally harvest a sockeye with sport-fishing gear in freshwater, it must be hooked in the mouth. Anglers catch most sockeyes by "lining"—pulling a line through the fishes' mouths, sometimes called "flossing." While trying to catch a limit, it's common for anglers to snag several fish. I've had days when I hooked a dozen or so reds, and not one was hooked in the mouth.

"Some people have expressed concern they won't hook as many fish with circle hooks, and I have to agree that they're correct," Wilcox says. "You won't hook fish in the belly, back, tail, or dorsal fin, so yes, that's correct. However, I haven't failed to obtain a limit whenever the fish were present in decent numbers."

Circle hooks don't require "setting," and tend to hook fish in the corner of the jaw. This is another good thing about them when used for sockeye fishing, he says.

"Because I'm not 'setting' the hook, there are less projectiles flying around the airspace on the river, which I believe is something we all benefit from," he says.

After an incident that happened to him this summer, Wilcox has crimped the barbs on his circle hooks.

"I was a bit perturbed one afternoon when an adjacent fisherman netted my fish and then proceeded to crimp my barb without asking," he said. "I indicated that I appreciated his assistance with the netting, but not so much his mutilation of my tackle. He insisted that I was going to like it once I tried it, and begrudgingly I had to admit later that I did."

I see several obvious benefits of using barbless circle hooks for sockeye fishing, including:

- fewer fish being mutilated or forced to wear an assortment of flies to the spawning grounds, and fewer fish becoming exhausted and dying from being "played";
- less gear lost to snagged fish;
- no valuable fishing time wasted in laboriously pulling in snagged fish that have to be released;
- going barbless causes less mutilation and stress to fish that for some reason must be released;
- barbless hooks are easily removed from the mesh of salmon nets;



■ and barbless hooks are easily removed from human flesh, resulting in less pain and fewer trips to the hospital emergency room.

Wilcox says he typically uses a snelled 2/0 Gamakatsu "Nautilus" circle hook and a small-size Lil' Corky for floatation.

In the past two years, more and more anglers have been using barbless circle hooks for sockeyes. Next chance I get, I plan to give them a try.

For more info, do a Google search for "circles for sockeye." You'll should get a hit on a thread on the Alaska Outdoors Forum that has everything you need to know, and more.

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**Cumulative
Salmon
Mortality:**

**The Fates and Impact on
Spawning Salmon as a
Result of
Catch/Hook and Release Practices**

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Dr. Roland R. Maw





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Cumulative Salmon Mortality: The Fates and Impact on Spawning Salmon as a Result of Catch/Hook and Release Practices

Abstract:

Nearly half (50%) of the salmon caught/ hooked and released (C&R) fail to successfully spawn. These C&R practices prevent salmon from reaching a spawning location or result in poor spawning success. Salmon mortality and mortality rates have a wide range of definitions in scientific reports. The Alaska Department of Fish & Game (ADF&G), Federal agencies, stakeholders and the general public all limit or expand the definition of mortality. Mortality as discussed here refers to all the forms of removing salmon from a spawning population. This total cumulative mortality includes dead, diseased, back-outs, physically damaged, including biased sex ratios, egg/sperm (gamete) retentions and spawning of infertile eggs. This total cumulative mortality is seven to ten times (7 to 10x) greater than most of the mortality rates reported by ADF&G, especially for Chinook and Coho. All salmon management models and techniques involve accurate estimates of the spawning population. Biological, enumeration, management, allocation and regulatory errors are made whenever these total cumulative mortalities are not accurately assessed.

Introduction:

The survival and spawning success of Chinook and Coho salmon are significantly lower (50 to 90%) after a catch/hook and release (C&R) event, thus, creating morbid salmon that maybe still live, but never arrive at a spawning location or fail to successfully spawn. Over thirty-six percent (36.8%) of the Chinook that were C&R in the Kenai River failed to reach the spawning grounds. Over seventy percent (70%) of the Coho in the Little Susitna River that had a C&R event failed to survive or even attempt to spawn. In the Unalakleet River, of the coho that had a C&R event, fifteen percent (15%) also failed to reach the spawning areas. None of these studies examined the spawning success of the surviving salmon. Not recognizing effects of C&R practices resulting in salmon morbidity, lost spawners and poor spawning success rates go to the very core of why we establish escapement goals, regulate fishing activities (harvests) and apply prudent management practices. The real question is "How do C&R practices impact the spawning numbers, sex ratios, salmon morbidity, spawning success and quality of the spawn, collectively labeled non-survivors or total cumulative salmon mortality?"



A. Fates and Impacts on Chinook Salmon, Kenai River

1. Chinook Salmon – the First 5 Days – Mortality, Morbidity and Spawning Failures

Table 1, (Table 5, Bendock 1992) has been reconstructed below. It describes a 15.9% non-survivor, mortality rate within the first five (5) days following a C&R event. Table 5 doesn't include spawning failures (egg retention, infertile eggs and mate selection failures) once these Chinook are on the spawning beds

Table 5. Five-day and final fates for 466 chinook salmon that were tagged and released in the Kenai River during 1989 through 1991. (Bendock, 1992)							
	1989		1990		1991		
Fates	Late Run (n=100)	Early Run (n=125)	Late Run (n=120)	Early Run (n=101)	All (n=446)	Percent %	Percent %
Five Day Fates (Mortality)							
Survivor	63	112	106	94	375		84.1%
<i>Non-Survivor Mortality</i>					71		15.9%
1) Mortality	9	11	7	4	31	7.0%	
2) Sport Harvest	13	1	3	0	17	3.8%	
3) Set Net	6	0	1	0	7	1.6%	
4) Tag Net	7	1	1	3	12	2.7%	
5) Sub Net	1	0	0	0	1	0.2%	
6) Drop Out	0	0	2	0	2	0.4%	
7) Unknown	1	0	0	0	1	0.2%	
Final Fates (Mortality)							
Survivor	40	94	71	77	282		63.2%
<i>Non-Survivor Mortality</i>					164		36.8%
1) Mortality	9	15	7	6	37	8.3%	
2) Sport Harvest	22	9	12	5	48	10.8%	
3) Set Net	9	0	5	0	14	3.1%	
4) Tag Net	7	2	6	4	19	4.3%	
5) Sub Net	1	0	0	0	1	0.2%	
6) Drop Out	7	3	11	3	24	5.4%	
7) Up Lost	3	2	8	4	17	3.8%	
8) Unknown	2	0	0	2	4	0.9%	



Definitions used in Table 5 on the previous page:

Survivor: a fish that has sustained upstream movement, transmitted radio signals in either normal or active modes, or were harvested after 5 days at large;

Mortality: a fish that failed to move upstream from the intertidal area (rkm 19.3, rm 12), transmitted radio signals in mortality mode, or was recovered as a carcass within 5 days of release (see discussion below),

Note: Mortality definition does not include total cumulative mortality;

Sport Harvest: fish tagged with transmitters that were recovered in the recreational fishery;

Set Net Harvest: fish tagged with transmitters that were recovered in the eastside Cook Inlet commercial set net fishery or fish processing plants;

Tag Net Harvest: fish tagged with transmitters that were recovered in the ADF&G gill net studies conducted in the Kenai River;

Education Net Harvest: fish tagged with transmitters that were recovered in the inriver Kenaitze Tribal education fishery;

Drop-Out: fish that returned to Cook Inlet and were not subsequently relocated.

Please note in Table 5 on the previous page, the non-survivor mortality rates for Five Day Fates, 71 (15.9%), is much lower than the Final Non-Survivor Fates, 164 (36.8%). These results indicate that 71 (15.9%) Chinook were not surviving after 5 days. At the Final Fates measurement, 164 (36.8%) had suffered some form of mortality, morbidity, or removal from the spawning population (non-survivors).

It is noted in Table 5 that the Five Day Fate mortality rate (fate 1) was 31, or 7.0% of the Chinook. This Five Day mortality, 7%, is one of the seven (7) fates that, when combined, comprise the non-survivor 15.9% mortality rate. This 7% Five Day Fate (fate 1) mortality rate is often reported as the only and total C&R mortality. This 7% Five Day Fate mortality is somewhat accurate, but highly misleading, as this 7% Five Day Fate mortality rate totally ignores the 15.9% or 71 mortality, morbidity, or removals. During the first Five Days, 15.9% of the Chinook were non-surviving, morbid, or removed from the population.



2. Chinook Salmon – Final Fates – Mortality, Morbidity and Spawning Failures

The bottom half of Table 5 summarizes the Final Fates of the 446 Chinook that were caught and released. There were 164 (36.8%, Fates 1-8) of the original C&R (n=446) Chinook that never reached survivor status. In total, 164 (36.8%) Chinook were categorized as non-survivors. Just because Bendock listed Chinook (n=282) as survivors, doesn't mean successful spawning occurred. Survivors are not the same as spawners. No verification was made concerning egg/sperm retention, quality of spawn, mate selection, selection or defense of redd sites or the viability of eggs or fry. This 164 (36.8%) mortality or morbidity rate is attributable to C&R practices. These 164 fish do not contribute to the spawning population or future generations. These 164 (36.8%) morbid removals are 5 to 6 times larger than the reported 5 day mortality rate of 7%. To accurately determine and describe the Total Cumulative Mortality, Morbidity or Spawner removals, the final non-survivor (36.8 %) must be added to the Spawning failure (10-15 %). For Chinook about 50% of the caught/hooked and released fish will not successfully spawn, deposit viable eggs.

3. Other Practices Considered: Catch and Release or Slot Limits

The voluntary practice of C&R fishing for Chinook salmon in the Kenai River has been increasing. Even now, some individuals only practice C&R Chinook fishing. Some eight years ago, a reverse slot limit regulation relied on a 6-7% Five Day mortality rate, while totally ignoring that 36.8% are non-survivors. Total cumulative mortality of these C&R Chinook are dead, morbid, or never survive to spawn. The absence of large, over 55 inch, Chinook and the slot limit size Chinook have been all but eliminated from the Kenai River returns in both early and late runs.

4. Early Run Chinook and Catch and Release

In the early run component of the Kenai Chinook population, some years 90% of these fish were caught and released, or harvested and released. In recent years, the percentage of the early run component that is being caught has decreased.

5. Movements Through the Lower Kenai River Sport Fishery

Holding or milling behavior was observed for most radio-tagged fish. Few fish migrated directly to a spawning destination following release and many spent a week or longer milling in the intertidal zone before initiating upstream movement. Often, these Chinook spent 30-31 days in the river before spawning.



6. Early-Run Component Spawning Activity

Completion of early-run spawning activity, as evidenced by consecutive mortality signals or downstream movement from maximum upper locations, occurred from 24 June through 23 August with peak spawning in mid-July. Median spawning dates were 15 July for Funny River, 17 July for Killey River, 22 July for Benjamin Creek and 19 July for mainstem spawners.

7. Late-Run Component Spawning Activity

Completion of late-run spawning activity, evidenced by consecutive mortality signals or downstream movement from maximum upper locations, occurred from 24 July to 11 September with a median spawning date of 17 August. Median spawning date for radio-tracked fish was earliest for the lower reach (10 August), latest for the upper reach (25 August), and intermediate for the middle and interlake reaches (16 and 22 August, respectively)

8. Early Run Spawning Destinations

Holding or milling behavior of radio-tracked salmon was observed both enroute to, and near spawning destinations. An average of approximately 1 month transpired between tagging and spawning destinations during this period. Lower Kenai River spawners frequently milled for one to several weeks in the upper intertidal reach before migrating the remaining few kilometers to a spawning site. Several fish that did not move for up to 10 days in the lower river were subsequently sport harvested and reported to be in excellent condition. Early-run fish often entered tributaries such as Beaver Creek or the Funny River for one or more days before continuing up the mainstem to a final destination.

9. Lower Kenai River Sport Fishery

If salmon backed down to Cook Inlet in response to hooking events, it is possible that mandatory catch and release fishing during a late-run conservation shortfall may result in higher gill net mortalities, due to sustained high catch rates in the lower river recreational fishery. However, the disproportionately high sport fishing harvest occurs in the lower 32 river kilometers (Hammarstrom 1989) likely targets on lower-river spawners.

Salmon that back downstream and possibly return upstream a second time, or mill in the lower Kenai River, may result in multiple sonar counts which can affect the accuracy



of the inriver return estimate. Other studies have shown that salmon may return to salt water after being handled in fresh water, and there is abundant anecdotal evidence of these movements based on the presence of sportfishing tackle (hooks and lures) on salmon caught in Cook Inlet gill net fisheries.

10. Exodus of Chinook, Both Early and Late Components, from the Lower Reaches of the Kenai River

The slow exodus of early-run fish from the reach of the river open to fishing makes them vulnerable to harvest throughout much of both the early and late runs. Since early-run fish cannot be physically distinguished from late run fish, additional closures in the fishery may be necessary to protect them from harvest in years of a conservation shortfall.

11. Multiple Hooking Events

All of the Chinook salmon used in this study, Bendock 1992, were hooked and released at least once, and 48 of these fish (the sport harvested component) were hooked at least twice. Anglers reported additional hook-and-release events for 18 fish during the 3 years of study; thus, at least 15% of the fish in this study were hooked multiple times. Of fish that were released more than once, the proportion that spawned was half of the overall rate, while the proportion of drop outs was three times (3x) higher. Additional hooking events and subsequent injuries may explain the abrupt downstream movements we observed in some fish that had penetrated several kilometers upstream. Furthermore, as catch rates increase in the sport fishery, morbidity and mortality may also increase due to cumulative injury from multiple hooking events.

The 15.9% Five Day Fate and the 36.8% Final Fate mortalities include those Chinook that were caught and released once, only to be caught a second time. These Chinook were harvested or released. Fifteen percent (15%) of the (n=446) or 67 Chinook were hooked multiple times. The Five Day and Final Fate mortality rates include the harvested portion of these 67, twice-caught Chinook. The Five Day and Final Fate cumulative mortalities do not include Chinook that were hooked and escaped (not landed) or hooked with fishing line break-offs. These Chinook also have an associated hooking and escape mortality. It is generally accepted that a second hooking of a Chinook, regardless of escape or release, will result in a 100% mortality, morbidity, or removal from the spawning population. Extended hook and struggle (playing) times also are not included in the 15.9% Five Day Fate or 36.8% Final cumulative mortality, morbidity or spawner removals.



12. Targeting of Large Female Chinooks

Large female Chinook are regularly targeted and are involved in C&R events. As a result, these large female Chinook have higher hooking rates, even multiple C&R events. Their Five Day and Final Fates both reveal higher spawning failures, morbidity, than other components of the return. These C&R events resulted in male-biased sex ratios, 80% male and 20% female, in many locations in the Kenai River and its tributaries.

B. Susitna River Chinook

1. Susitna River Spawning Destinations and Milling Areas

Similar behaviors were observed for Chinook salmon spawning in tributaries to the Susitna River (ADF&G 1983). The variability we observed in movement rates for salmon between the point of release and the upper automated data collection computer (DCC) may be explained, in part, by the tendency of Chinook salmon to hold for prolonged periods or temporarily back downstream, and because fish spawning in the vicinity of the DCC spent their entire stream life enroute to that location.

C. Successful Spawning of Catch & Release Salmon

McConnachie, et al, 2012, *Hormones and Behavior* 62 (2012) 67-76
62, P 67-76. Consequences of Acute Stress and Cortisol Manipulation on the Physiology, behavior, and reproductive outcome of female Pacific salmon on spawning grounds

1. Conclusion

Because the migratory and spawning processes of Pacific salmon are regarded as remarkable challenges, we strive to understand the links among physiology, behavior and fitness in these animals. Salmon migrations historically have shown a large degree of consistency, but any environmental changes or anthropogenic perturbations are considered a potential threat to reproduction, and thus survival, of a given population. Our results suggest that acute stressors do not influence behavior or reproductive outcome when experienced upon arrival at spawning grounds. However, there is a limit to the ability of these fish to tolerate elevated cortisol levels because experimental cortisol elevation for several days negatively affected reproductive success and longevity. Collectively, our results address a void in current research, explaining how



varying degrees of cortisol elevation can influence reproductive behavior and spawning success of Pacific salmon. Finally, our study is among the first field studies conducted to investigate the ecological consequences of stress during reproduction for a semelparous species.

2. (4.3) Conclusions and Management Considerations

Gale, et al, 2011, Fisheries Research 112 (2011) 85-95
112, P 85-95. Physiological Impairment of Adult Sockeye Salmon in Fresh Water After Simulated Capture-and-Release Across a Range of Temperatures

Through river warming and changes in migration behaviour an increasing proportion of adult Fraser River sockeye salmon are undertaking migrations at temperatures that are well above their optimum and occasionally approaching their critical thermal limits, and hence have relatively low aerobic and cardiac scope available to migrate (Eliason et al., 2011; Farrell et al., 2008). Large proportions of the returning runs have perished during migrations as a result of high temperatures (Macdonald et al., 2010; Martins et al., 2011). Our results confirm that even without physical injury, which is a frequent consequence of gear encounters (Davis, 2002), the exhaustive exercise associated with fisheries capture results in substantial physiological stress in sockeye salmon. Air exposure during release results in additional disturbances as was evident from the plasma analyses and the inability of air-exposed fish to maintain equilibrium after release. Even a temporary loss of equilibrium is likely dangerous to fish since it makes them far more vulnerable to repeat fisheries capture, predation, and drifting downstream. Due to the nature of the lower Fraser River fishery, sockeye salmon are very likely to encounter fishing gear (either recreational or commercial) more than once. If release of captured fish is intended as a conservation measure employed by managers, the increased probability of mortality may be a consideration when planning for openings and desired escapement numbers, or when accounting for the impact of non-retention fisheries. While laboratory experiments such as this one on adult salmon have limitations in their applicability to wild migrants, this study was an important first step to understanding thermal impacts on capture-and-release stressors in sockeye salmon. We must acknowledge the caveats that fish in our study benefited from the absence of injuries typically incurred when encountering fishing gears, but were artificially challenged with the stress of captivity. However, the findings still have important implications for capture-and-release of river-migrating fish. Sockeye salmon exposed to our simulated capture treatments were characterized by elevated lactate, sodium, and chloride levels and lower potassium levels compared to their "handling only" counterparts, cortisol and glucose concentrations above expected levels for river-migrants, depressed ventilation,



and the inability to maintain equilibrium. In order to survive, released fish will have to cope with ionoregulatory imbalances, oxygen deficits, and altered acid-base status, and clear lactate and other metabolites from the blood and tissues. The elimination of air exposure in sockeye salmon that will be released, particularly in temperatures ≥ 19 °C, will increase the probability of their survival through a reduction in equilibrium loss, as well as reducing the magnitude of physiological impairments. We also suggest that future research should investigate easily observable metrics such as equilibrium loss, ventilation rates, and reflex impairment (Davis, 2010; Davis and Ottmar, 2006) that could be developed into real-time tools to understand the physiological status of fish as they are being released. Given that temperatures in the Fraser River are expected to continue to warm in future years (Ferrari et al., 2007; Morrison et al., 2002) and Fraser sockeye salmon have shown declines in productivity over the past 20 years (a federal judicial inquiry is currently examining the potential causes of this decline), field research on survival and fitness consequences on sockeye salmon escaping from fishing gear (e.g. using telemetry to track released fish), particularly on stocks that are less tolerant of high temperatures, is warranted.

D. Fate(s) of Coho Caught and Released

There are at least two coho Catch and Release (C&R) studies that were completed by the Alaska Department of Fish & Game (ADF&G). The first C&R coho study by Doug Vincent-Lang et al. (1993) found a 70% mortality rate, actually died, in the lower reaches of the Little Susitna River. It is thought that this 70% mortality is associated with cohos that had not osmoregulated (physiologically adapted from salt to fresh water). The final fates of these coho were not reported by the Vincent-Lang et al. (1993) report. Thus, the Final Fates, morbidity and mortality of the remaining 30% of the C&R coho was never determined.

The second C&R coho study by Lisa Stuby (2002) occurred in the Unalakleet River on Norton Sound. In this study, the coho had osmoregulated. Blush-colored fish were considered osmoregulated to fresh water. This study also reports an overall mortality rate, actually died, of 15.2%. The Final Fates, morbidity and mortality rates of the remaining coho was never determined.

The conclusion from these two studies shows that each river system in Alaska may be different with regards to C&R mortality on coho salmon with respect to distance from the river. Vincent-Lang et al. (1993) also reported that scale-loss and abrasion of the mucus coat were major factors contributing to mortality rates in coho salmon that were captured and released. It was evident in the Stuby (2002) study that the most



probable cause of C&R mortality was from bleeding.

E. Application of Catch & Release Mortality

Estimates of C&R Events in Cook Inlet 1996-2009 (ADF&G Reports)

Year	Responses						Total
	with catch	King	Coho	Sockeye	Pink	Chum	
1996	15,036	87,006	34,679	154,545	156,626	51,349	484,205
1997	13,368	103,169	64,169	154,443	53,923	36,994	412,698
1998	13,095	70,756	79,991	121,677	217,973	53,121	543,518
1999	13,578	115,015	82,405	173,944	52,498	50,128	473,990
2000	17,608	109,704	153,609	184,033	449,681	76,155	973,182
2001	14,407	102,065	139,320	146,903	108,408	66,663	563,359
2002	13,901	89,887	176,167	220,652	287,010	99,339	873,055
2003	13,502	129,641	118,725	261,515	85,511	84,455	679,847
2004	12,595	99,454	167,114	229,592	280,311	63,298	839,769
2005	12,041	121,662	117,485	251,886	81,842	43,900	616,775
2006	12,104	99,905	133,834	220,149	275,577	50,936	780,401
2007	11,565	96,116	84,676	217,548	120,073	34,109	552,522
2008	11,521	61,537	101,113	180,593	279,875	41,482	664,600
2009	10,970	52,123	91,902	188,791	211,138	37,162	581,116
1996-2009 Average	95,574	110,371	193,305	190,032	190,032	56,364	645,646
1996-2009 Total	1,338,040	1,545,189	2,706,271	2,660,446	789,091	9,039,037	

Chinook	Coho	Sockeye	Pink	Chum	Total
95,574	110,371	193,305	190,032	56,364	
0.50 ^a	0.50 ^b	0.20 ^c	0.20 ^c	0.20 ^c	
47,787	55,186	38,661	38,006	11,273	190,913
Average 190,913 mortality, morbidity and spawning failures					
^a Combines non-survivor and spawning failures					
^b Combines osmoregulated and non-osmoregulated coho					
^c Utilizes a 20% mortality, morbidity and spawning failures					



Table 4. Total of 1996-2009 Mortality, Morbidity and Spawning Failures					
Chinook	Coho	Sockeye	Pink	Chum	Total
1,338,040	1,545,189	2,706,271	2,660,446	789,091	
0.50 ^a	0.50 ^b	0.20 ^c	0.20 ^c	0.20 ^c	
669,020	772,595	541,254	532,089	157,818	2,672,776
Total 2,672,776 mortality, morbidity and spawning failures					
^a Combines non-survivor and spawning failures					
^b Combines osmoregulated and non-osmoregulated coho					
^c Utilizes a 20% mortality, morbidity and spawning failures					

All Five Salmon Species C&R Mortality, Morbidity and Spawning Failures

14 year Chinook Failures	669,020
14 year Coho Failures	772,595
14 year Sockeye Failures	541,254
14 year Pink Failures	532,089
14 year Chum Failures	<u>157,818</u>
14 Year Cumulative C&R Failures	2,672,776

Notes: It was difficult to determine if personal use (dipnet) releases are included in this C&R data

Summary:

It is evident from studying ADF&G reports that these total cumulative mortality, morbidity, or lost spawner rates were never considered, reported or used when presenting biological data, brood tables, escapement goals, or presentations to the BOF, or to the public. On some occasions, a 7% mortality rate was used, but not in a consistent manner.



The following is provided to the Board of Fisheries in order to assist in understanding the significance of some of these C&R events.

Note: This article reviewed 274 C&R studies across North America.

Aaron Bartholomew & James A. Bohnsack

A Review of Catch-and-Release Angling Mortality with Implications for No-Take

Reserves Pages 143 - 144

National Marine Fisheries Service Southeast Fisheries Science Center, 75 Virginia Beach Drive, Miami, FL 33149, USA Phone: +1-971-06-5152416; E-mail: abartholomew@ausharjah.edu); American University of Sharjah, P.O. Box 26666, Sharjah, United Arab Emirates

Reviews in Fish Biology and Fisheries (2005) 15: 129-154 © Springer

2005 DOI10.1007/s11160-005-2175-1

Implications for fisheries

Fisheries are often compared or evaluated in terms of total landings (Coleman et al., 2004; Nussman, 2005). However, direct comparisons can be problematic because commercial landings are measured in weight and recreational landings are measured in numbers and then converted to weight (Department of Commerce, 2000). Weight comparisons alone can obscure the importance of size and age structure, total numbers, or reproductive potential. Landings also do not accurately reflect total mortality or fishing impacts in some fisheries because they do not directly reflect release mortality. Our results indicate that release mortality represents a considerable portion of total fishing mortality in some fisheries. Assuming the mean 18% mortality reported in this study, for the example, the 80% release rate for gray and yellowtail snapper in Biscayne National Park (Harper et al., 2000) is equivalent to 72% of landings in numbers. Our results also indicate that many reported mortality estimates probably underestimate actual mortality, as least for marine species, because they rarely include predation during capture and after release, or consider cumulative mortality from multiple releases.

We have shown that C&R fishing has grown substantially as a total proportion of marine fishing over the last two decades. C&R fishery strategies are based on the principle that short-term lost yield from releasing fishes is compensated for in the long-term by



increased yield from growth of released fish; increased numbers of recruits from greater spawning per recruit; or in the case of C&R fisheries, increased total numbers of C&R encounters.

The effectiveness of C&R strategies depends on achieving adequate release survival. Increased regulatory use of more restrictive minimum sizes, slot limits, bag limits, quotas, and seasonal closures at some point can be expected to face reduced effectiveness because all these measures require more releases and risk higher total mortality.

- F. **The following is provided to the Board of Fisheries in order to assist in understanding the significance of some of these C&R events. Retyped from:**

Arctic-Yukon-Kuskokwim

CHINOOK SALMON RESEARCH ACTION PLAN:

Evidence of Decline of Chinook Salmon Populations and Recommendations for Future Research

Arctic-Yukon-Kuskokwim Sustainable Salmon Initiative, AYK SSI Chinook Salmon Expert Panel, August 2013, Pages 51 – 54

5.6 Hypothesis 6 – Escapement Quality

Hypothesis: Selective fishing and natural mortality have altered the genetic character of the stocks so that the expression of size, sex ratio, and composition of life history types have been altered and have contributed to declines in egg deposition to reduce recruitment in AYK Chinook salmon stocks.

5.6.1 Description of the Hypothesis

This hypothesis focuses on the role of genetic selection by the fishery over multiple generations to change the components of age, size, growth, and the time to maturity (phenotypic characters) that are genetically determined. Phenotypic characters are determined both by genetics and the environment. For example, genetics control the potential for growth and the environment provides that controls the expression of that potential. The genetic changes hypothesized could affect the recruitment of subsequent generations of salmon.



5.6.2 Plausibility of the Biological Mechanism(s)

Fishing-induced evolution (FIE) in salmonids is challenging to demonstrate conclusively in the wild. However, declines in Chinook salmon abundance (Yukon and Kuskokwim rivers; JTC 2011; K. Schaberg, ADFG, personal communication), increasingly male-biased sex ratios (Yukon, and Kogrugluk rivers; Hamazaki 2009; K. Harper, USFWS, personal communication), and decreased size of spawners (attributed to declines in size-at-age and declines in the return of the oldest age classes) (Yukon and Kuskokwim rivers; JTC 2011; K. Harper, USFWS, personal communication) are consistent with expected patterns that would result from selective harvest of the largest individuals, particularly when harvest rates increase (Bromaghin et al. 2008, [20011] 2011; Hard et al. 2009).

Disproportionate escapement of small fish causing genetic selection could produce lower than expected returns because fecundity and possibly egg quality are positively correlated with female size; male-biased sex ratios also reduce the overall egg production by a population. These effects in the short term can be caused simply by selective fishing affecting the immediate escapement quality and in the long term could be caused via changes in the genetic components that affect age, size, and time of maturity in salmon. Hence, the combined short- and long-term effects of selective fishing illustrate the complexity of this hypothesis. If size- and age-at-maturity are highly heritable, then the effects of selection would result a propensity of stocks to propagate more small young mature fish in subsequent generations. This mechanism could cause a long-term decline in returns-per-spawner in the absence of other processes such as density-dependence and environmental forcing.

5.6.3 Summary of Evidence for Hypothesis

Declines in female composition of escapement and size- and age-at-maturity in both Yukon and Kogrugluk rivers is consistent with the hypothesis that FIE has driven declines in returns-per-spawner. Using realistic estimates of trait heritability (genetics), harvest selectivity, population productivity, and management strategies, recent modeling (Bromaghin et al. 2008, 2011) demonstrated that observed declines in size- and age-at-maturity fell within the range of modeled phenotypic changes attributable to FIE. This model also suggests that efforts to counteract declines would likely require reductions in size selectivity of gear and exploitation rates, and that improvements would be slow to materialize, requiring multiple generations under the new selection regime.



While declines in size- and age-at-maturity of returning adults provide compelling evidence of the potential for FIE to explain patterns in recruits-per-spawner, the available evidence cannot rule out other mechanisms of potential causes for changes in the age and size of returning adults. For instance, environmental variables could be the casual mechanism for the observed declines in age and size of returns, and subsequent waning of recruits-per-spawner ratios in recent years in the AYK region. This alternative mechanism could be more likely if patterns of change occurred also in stocks that have low exploitation rates or where fishing gear is not selective for large, old individuals. Age-at-maturity data collected from projects estimating escapements and commercial harvests of Goodnews River Chinook salmon also show declines, despite the use of small mesh gillnet gear, which is presumably less selective for large individuals, throughout the history of that fishery (J. Linderman, ADFG, personal communication). While there is some synchrony in declines of size- and age-at- maturity and female proportions across the AYK region and across the entire US west coast, the cause and ecological consequences of these declines remain unclear.

5.6.4 Priority Research Themes and Example Questions

Casualty of Genetic Changes/FIE vs. Environmental Variables

1. What proportion of changes in size- and age-at-maturity of returning Chinook salmon adults are determined by changes in genetics caused by selective fishing versus environmental variables?
2. How has size- and age-at-maturity of returning adults changed among stocks, and drainage areas (Yukon and Kuskokwim rivers) and has this occurred synchronously with stocks elsewhere such as in Bristol Bay populations coastwide?
3. What is the relationship between size- and age-at-maturity of returning adults in stocks fished by gear selective for small fish versus gear selective for large fish?
4. Which explanation, genetic selection or changes in environmental parameters (e.g., ocean conditions), better accounts for the phenotypic changes in size- and age-at- maturity of returning adults in stocks? What is the relative contribution of anthropogenic and environmental variables as casual mechanisms for changes in size- and age-at-maturity?



Variables Affecting Spawning and Reproductive Fitness

1. Are fewer eggs being deposited than in the past because the size- and age-at-maturity of returning adults in stocks has changed? What is the relative role of different variables affecting fecundity and egg deposition?
2. Among those salmon that escape and have access to spawning grounds, does size-at-maturity and age-at-maturity of returning adults affect whether they spawn or not, or in the success of their spawning (i.e., successful hatch, juvenile recruitment)? The identification of parent-offspring/sibling relationships in regards to key phenotypes (age- and size-at-maturity, migration timing, and fecundity) and reproductive fitness would illuminate underlying assumptions and could be obtained through pedigree analyses.
3. Do stock-recruit relationships improve if they are expressed in units of eggs rather than as aggregate spawning population numbers?



References:

- McConnachie, et al, 2012, *Hormones and Behavior* 62 (2012) 67-76
62, P 67-76. Consequences of Acute Stress and Cortisol Manipulation on the Physiology, Behavior, and Reproductive Outcome of Female Pacific Salmon on Spawning Grounds
- Gale, et al, 2011, *Fisheries Research* 112 (2011) 85-95
112, P 85-95. Physiological Impairment of Adult Sockeye Salmon in Fresh Water after Simulated Capture-and-Release across a Range of Temperatures
- Aaron Bartholomew & James A. Bohnsack
A Review of Catch-and-Release Angling Mortality with Implications for No-Take Reserves Pages 143 – 144
- National Marine Fisheries Service Southeast Fisheries Science Center, 75 Virginia Beach Drive, Miami, FL 33149, USA Phone: +1-971-06-5152416; E-mail: abartholomew@ausharjah.edu; American University of Sharjah, P.O. Box 26666, Sharjah, United Arab Emirates
- *Reviews in Fish Biology and Fisheries* (2005) 15: 129-154 © Springer 2005 DOI10.1007/s11160-005-2175-1
- CHINOOK SALMON RESEARCH ACTION PLAN:
Evidence of Decline of Chinook Salmon Populations and Recommendations for Future Research
Arctic-Yukon-Kuskokwim Sustainable Salmon Initiative, AYK SSI Chinook Salmon Expert Panel, August 2013, Pages 51 – 54
- Bendock, 1992, Mortality and Movement Behavior of Hooked-and-Released Chinook Salmon in the Kenai River Recreational fishery, 1989-1991



Carol,

Sept. 2013

Enclosed are my thoughts/opinions on the new proposals for future changes in A.D.F.+G. sportfishing regulations. The proposals I have addressed are from Numbers #46 thru #77, the other proposals above this number are concerned mainly with coastal charter boats, as I have not operated charter boats since 2005, and lack new data on this fishery, I will refrain on an opinion on these. However, as I realize our Sportsfish are migratory (esp. Salmon) I believe a community effort/awareness of all facets of the life-cycles of our fish will be needed to help preserve, protect, and enhance our wild stocks for future Alaskans/anglers.

I have included my personal ideas on the end of these, not so much as a specific proposal, but, to give you an idea of the "drift", I believe A.D.F.+G. regulations should take to accomplish the Depts. goals.

We are quickly reaching a point where our actions in the future may dramatically effect our future stocks of King Salmon (my opinion) so, naturally, they should be given a maximum effort of an protection effort by regulation. With an ever-growing demand by more Sports-anglers for our Salmon, an effort to promote the large stocks of Sockeye Salmon we receive on the Peninsula as a food/user resource, would become a reasonable substitute, until our King stocks become once again a more viable fishery for Sportsanglers/food user groups.

(Cont.)

②

(Cont.)



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2 of 9

I believe, the actions taken by A.D.F.+G. for this past 2013 season for King Salmon on the "Peninsula" were exactly correct. I have listened to more than my share of "Belly-aching" by locals, guides and visiting anglers, I have dis-counted these opinions, which, (In my opinion), are solely based on the amount of income, or loading their freezers, or sheer amount of "bragging" of fish caught!

As wild creatures, our Salmon, do not run on exact schedules, (run-timing) or suitable spawning areas in our rivers (which fluctuate in prime areas). Education to the public, by your dept., would help many of these persons to better understand these factors in Regulation changes. I might further suggest more involvement by your dept. in the way of the news media; (I.E.) Radio talk shows during the seasons; local newspapers (a short weekly article); the Homer "Kids"; fishing-fair; "Fish Alaska" magazine a short article, (I believe these to be great informative channels to the public) and Angler Associations, as they are almost exclusively all resident Alaskans.

As Alaskans, we have been very blessed for many years of an over-abundance of Salmon resources, and now we have to become more responsible of our resources thru Education, Regulations, and a more higher respect for the resources we cherish.

Thank You for your consideration of my views,
Hopes this helps!

Sincerely,
Bruce A. Susinger

3

Carol,



PC 5
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Below are my suggestions on proposed Reg. changes as per the copy you provided me, also insights as to what may be a more effective way of solving the situations noted per proposal, at the end are my own suggestions.

Prop. #46

Rather, than a Reg. change, this I believe could be solved thru an "Enforcement Memo" to field officers, Troopers, etc., to use more discretion in issuing citations for this; as I was once a "Charter Skipper" myself and can testify to this situation; (I.E. so long as the harvest limit of Saltwater anglers per boat is not exceeded, there would be no over-harvest by legal "skippers") who are simply assisting their clients in a lawful method of take.

Prop. #47

In my experience, the dis-continuance of use of treble- or double hooks is beneficial on survival rates, rather, I've witnessed much more damage with these hooks. A single barbed hook for anglers wishing to keep their catch, encourage pinched-down barbs/ no bait for anglers practising "Catch + Release", would lessen mortality.

Prop. #48

Again as above, "Catch + Release", if properly done, in (my opinion) results in a lower mortality rate on fish. Furthermore, almost all the illegal "snaggers" I have witnessed were using treble/double or larger single hooks than needed to secure fish. So, besides a possible ban on treble/double hooks, including a "size" restriction on single-hooks would be more effective,

Prop. #49

See above;

; to prevent undue harassment.

(Cont. Pg. 4)

④ (Cont.)



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Prop. # 50 This proposal seems directly aimed at "Fresh Water" guiding services, would directly affecting their incomes, approx. 1/3 of my guided clients are now only wishing to "catch a salmon", photo-graph it in the water, and release it properly for spawning. Again, single-hook, smaller sizes, "pinched-down barbs", and no bait. I have trouble believing this 69% percent figure of mortality rate, especially with means mentioned above. I can picture "dumpsters" with Coho in them, if all anglers are forced to retain their fish caught, and cannot find a proper person to transfer them to? This would create a "wanton waste" situation.

Prop. # 51 Again as above;

Prop. # 52 Again as above;

Prop. # 53 This proposal seems "over-kill" reg, as there is already a regulation prohibiting fish from being removed from water that are to be released.

Prop. # 54 As you know, we have had in the past 5 years many more King Salmon spawning in the lower areas of the Anchor River system, this Regulation Proposal would basically close the Anchor River to fishing from present closed area (at "Forks") down to the "Slide Hole", where Kings are now spawning. Leaving only the area below "Slide Hole" to mouth of river open to fish. (Approx. $1\frac{3}{4}$ mile of fishable river). The July 15th date of re-opening the Anchor River did much to alleviate this problem, further, a more aggressive "enforcement" in the latter-half of July would help this situation.

5 (Cont.)



PC 5
5 of 9

Prop. #55 Reduction of total harvest of King Salmon in Cook Inlet and all fresh-water systems draining into it, not only makes sense due to "weak" returns, but, would also raise quality of fishing. (See my suggestions, end of Proposals).

Prop. #56 As above;

Prop. #57 I would foresee this proposal as an "Enforcement-Nightmare", for an already under-staffed amount of your Field Officers, Troopers, etc. I could just hear the amount of "Red Tape" thru Commercial Purchased Fish, boxes marked non-fish, etc., besides the amount of fish processors complaining to the Governor's office of A.D.F. + G. trying to limit their incomes on a very short period in which they operate.

Prop. #58 I totally agree, even though this directly affects my income, I'm in total agreement, it makes sense!

Prop. #59 Again, totally agree.

Prop. #60 During the month of November almost entirely the Sports anglers are composed of Alaska residents, (my experience) and enforcement problems are minimal, therefore, the month of November only to be open for late season Steelheading, and Dolly Varden harvest would have little effect and allow locals and extra 30 days of angling. (No need/reason for December).

Prop. #61 Agree, see my suggestions, (Keep Hatchery Fish Only).

Prop. #62 Not my area of expertise, so I'll restrain on comment.

Prop. #63 By-product Salmon heads are legal, I dislike the idea of Sports-caught fish as bait, seems "Wanton waste".

(Cont.)

6



(Cont.)

- Prop. # (64) Again as above;
- Prop. # (65) This seems "reasonable" and would give "Charter Skippers" an alternative bait to use, while not affecting Sports fish.
- Prop. # (66) No Sportfish (esp. Salmon) should be subjected to wounding by "bow + arrow", raise limit on N. Pike.
- Prop. # (67) We do need a better (more visible) Southern boundary marker for Saltwater anglers.
- Prop. # (68) As above, makes sense.
- Prop. # (69) I do not agree, as our King Salmon "runs" have been showing up at a later period than previous years.
- Prop. # (70) This seems reasonable as this would allow a better / longer season for "winter kings" and very few of our "spawners" are taken at this time period.
- Prop. # (71) I totally agree, (2) Two King Salmon Harvest is plenty under the present condition of weak returns.
(See my suggestions).
- Prop. # (72) Makes sense, as it encourages "Youth Angling".
- Prop. # (73) Makes sense, as there are many people now over-harvesting these fish. This would be a method of determining "Sports-caught" vs. "Personal Use" fish.
- Prop. # (74) Long over-due Regulation, as these fish have been dramatically been reduced and targeted over the past 15 years, I know of, species are slow in recovery.
- Prop. # (75) This proposal runs directly counter of the "protection" these fish need and deserve. Keep current Regs.
- Prop. # (76) Makes sense.
- Prop. # (77) Use of G.P.S. by skippers is all that is needed.
(End of my review of proposals).

Here, are my thoughts/ideas/proposals on a direction I believe, A.D.F.+G. should consider for a possible Regulation change beginning, Jan. 1, 2014 to preserve and enhance our Sportfishing resources, while not causing too detrimental effect on food-gathers, Sportfishers (Resident + Non-resident), and Guide Operators for the Cook Inlet/Kenai Peninsula as follows;

My Proposals;

- ① Dis-continue to allow any/all "Proxy" fishing for all King Salmon in Cook Inlet (Saltwater) and Kenai Peninsula (Freshwater streams); For over 20 years I have witnessed people all over the Kenai Peninsula taking double-limits of King Salmon on our streams; when asked by myself as to the over-limit, everyone of them replied; Quote "They were Proxy fishing for a friend!"; Unquote. Furthermore, everyone of these people were also being very selective of their fish being almost exclusively, large, egg-bearing female fish kept as "Harvest Record" fish, with smaller or medium-sized males being caught and released until another larger female was retained! I also noticed everyone of these anglers using eggs as bait, so, it led me to believe these people were nothing more than using a well-intended "Proxy" regulation to do nothing more than "game hog" fish within an ADF+G. loophole. The damage done by this type of fishing certainly has to be devastating to the male/female ratio of spawning Kings' on our streams; and this regulation would end that. Continue "Proxy" fishing for Pink, Sockeye, and Coho for food user groups.
(Cont.)

My Proposals (Cont.)

- ② A season "Harvest Limit" of 2 Winter Kings within Cook Inlet/Resurrection Bay within the Gore Pt. to the S. Marker (Bluffs area) or Resurrection Bay boundaries until May, 1st, after which, 2 King Salmon to only be retained in either Saltwater or Freshwater Streams, no more than 1 King Salmon to be retained for season from any specific freshwater drainage, or a combination of Saltwater until season harvest of total of 2 King Salmon is reached until closure. This would disappate angling pressure, decrease the over-harvest I now believe is happening, and in general would help our "weak" King runs.
- ③ When Kenai Peninsula streams re-open a hook-size restriction of a single barbed hook, no wider between gap/gape of hook to be 3/8" inch, this Regulation would deter many people/anglers contending they were fishing for other species, while they were merely foul-hooking King Salmon for photo's, etc. No treble or double hooks permitted. As we all know, a single well sharpened hook is all that is needed to secure a fish.
- ④ No Wednesdays open for King Salmon on any of the Kenai Peninsula streams. This regulation just makes sense due to "weak" King returns.

(Cont.)

⑨



My Proposals (Cont.)

- ⑤ A possible simplification or easier to understand all the new Regs. by A.D.F. & G. (Especially Kenai River), as in the past 5 years, I have met more & more visiting anglers unable to understand Regs., so I believe this needs to be addressed; sooner, rather than later to alleviate the confusion.

As stated in the beginning of my letter, I believe, the actions concerning management of the King Season for the 2013 to have been correct. Hopeful, thru perseverance/determination on all anglers genuinely concerned with our "weak" King returns, we can all help in pre-levels of returns of a precious resource we and our children and their children can enjoy!

Keep up the "Good" fight,

My Best & Have a Great Winter!

Sincerely,

Bruce A. Susinger

BRUCE A. SUSINGER

P.O. Box 922

ANCHOR POINT, AK. 99556

(907) 299-1916 cell/mssg.

P.S.

We had a very large out-migration of Smolts — especially King Parr, so hopefully in a few years.?

Also, due to the long, lateness of a Spring-Run-off this April/May (Sea-Bound) the Out-Migration of Steelhead, we are experiencing a late Steelhead return.



Cook Inlet Sport Fishing and Personal Use Salmon

Sport Fishing and Personal Use

Proposal	KRSA Position	Comment(s)
46	Oppose	Sport bag limits should apply to individuals
47	Oppose**	
48	Oppose**	
49	Oppose**	
50	Oppose**	
51	Oppose**	
52	Oppose**	
53	Oppose**	
54	Oppose**	
55	Oppose**	
56	Oppose**	
57	Oppose**	

Those proposals marked ** which appear in both the Lower Cook Inlet and the Upper Cook Inlet proposal booklets fall into a category of proposals that KRSA contends has one or more of three very negative attributes. These negative attributes are:

1. Outside the authority of the Alaska Board of Fisheries to address.
2. Not implementable with current technology and/or budget.
3. So sweeping in nature and potentially harmful to sportfishing opportunity and the economic value provided to the state, region, area by participants in the sport fishery and so radically and dangerously divergent from the fishery specific regulatory development that is our custom in Alaska that the proposals should fail unanimously or perish of no action.

Freshwater - Salmon

58	Oppose	Support adaptive management, opportunity
59	Support	ADFG proposal
60	Support*	*Support conditioned on ADFG support
61	Support*	*Support conditioned on ADFG support
62	Support	ADFG proposal

Saltwater - Salmon and Lingcod

63	Support*	*Support conditioned on ADFG support
64	Support*	*Support conditioned on ADFG support
65	Support*	*Support conditioned on ADFG support
66	Oppose	Snagging and archery side-by-side, NOT pretty
67	Oppose*	*Support #209, #218 in UCI, addresses same



68	Oppose*	*Support #209, #218 in UCI, addresses same
69	Oppose*	*Support #209, #218 in UCI, addresses same
70	Support*	*Support conditioned on ADFG support
71	Oppose	Destroys too much fishing opportunity
72	Support	ADFG proposal
73	Support	ADFG proposal
74	Oppose	Not an ADFG proposal to restrict
75	Oppose	Lingcod conservation balance

Cook Inlet Subsistence Fisheries

76	Support	ADFG proposal
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Cook Inlet Commercial Fisheries

Salmon Fishing Districts, Subdistricts, and Sections

77	No Position	
78	Support	ADFG proposal
79	Support	Coho salmon conservation

Salmon Closed Waters

80	Support	Clarifies closed waters regs
81	Oppose	Too sweeping in nature

Salmon Hatchery Management Plans and Special Harvest Areas

82	Support	Clarifies fishing strategy
83	Support	Puts in regs what is being done
84	Support	Puts in regs what is being done
85	Oppose	Sport should share in equitably in benefit

Cook Inlet Groundfish Pot Storage and Landing Requirements

86	Support	ADFG proposal
87	Support	ADFG proposal

Groundfish Trawl and Pollock Management Plans and Observer Coverage

43	Support*	*KRSA support for these three proposals is conditioned upon support from the ADFG on these proposals as written. ADFG comments are not available at the time of this writing.
44	Support*	
45	Support*	

Submitted By Gary Sinnhuber
Affiliation Silverfin Guide Service and member of the Homer Fish and Game Advisory Committee
Phone 907-299-0311
Email silverfin@xyz.net
Address PO Box 1657
Homer, Alaska 99603



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1 of 1

Proposal Number 59

I am opposed to this proposal. While I appreciate what Fish and Game is trying to accomplish with this proposal, making it a semi-permanent regulation to close our lower Kenai Peninsula rivers for an additional two weeks is not the answer. With the current situation of low numbers of returning King Salmon, Fish and Game can, and has limited fishing in July by EO, which is the way it should be handled if needed, until the King Salmon numbers rebound. If this proposal became regulation, not counting the 9 days that we are allowed to fish for King Salmon on Deep Creek and Ninilchik Rivers, we would only be allowed to fish for 3.5 months from July 15th through October 31st.

Allowing fishing by artificial means for the first two weeks of July by an EO is a good solution for significantly reducing the hooking of King Salmon, while still allowing fishing for other species that are entering these rivers from the saltwater.

Sincerely, Gary Sinnhuber

Submitted By Bob Krueger

Affiliation Alaska Whitefish Trawlers Association

Alaska Whitefish Trawlers Association

PO Box 991

Kodiak, AK 99615

Proposal 43 Oppose

Proposal 44 Oppose

Proposal 45 Oppose

The Alaska Whitefish Trawlers Association (AWTA) is located in Kodiak and represents the majority of independently owned trawl vessels that harvest groundfish in the Central Gulf of Alaska (CGOA). Our member vessels also harvest groundfish in the Western Gulf of Alaska (WGOA) and Bering Sea (BS).

Proposals 43 & 44

We oppose these proposals that would create a new state waters non-pelagic (bottom) trawl fishery for all species of groundfish (Proposal 43) or for Pollock (Proposal 44) in the Central and Western Gulf of Alaska.

- There is no mechanism for the management of Prohibited Species Caps (PSC) inside state waters. Halibut, Tanner Crab and Chinook salmon resources would be compromised by this new increased effort inside state waters. A large and complex system for the monitoring, assessing, reporting and management of PSC inside state waters would have to be developed. The development of this program would demand a significant amount of time, work by ADFG personnel and money.
- There is no observer program for fisheries inside state waters. This proposal calls for 100% observer coverage inside state waters with the cost being paid by the vessels. While the cost for the onboard observers could be paid for by the vessels, the entire state-run management structure required to manage a new observer program would have to be funded by the state at significant cost
- The movement of 25% of the massive stocks of Pollock, Rockfish, shallow-water flatfish and deep-water flatfish from Federal to State waters and designating it for harvest only by vessels under 58' in length is a direct re-allocation from one user group to another.
- There are only two (2) under 58' vessels that are home-ported in Kodiak and fish primarily in Central Gulf of Alaska. These proposals would take access to 25% of all groundfish (proposal 43) or Pollock (Proposal 44) in the Central Gulf away from the 35+ trawl vessels and grant access to these two vessels.
- It is impossible for two under 58' vessels to harvest the TAC's of all groundfish Central Gulf of Alaska. It is likely that enormous amounts of groundfish would not be harvested every year with the resulting lack of revenues for historic trawl vessels, their processors and the community infrastructure that supports these fisheries.
- There is a large group of less than 58' trawl vessels that fish in the Western Gulf of Alaska and a many of these vessels have Central Gulf of Alaska endorsements. Since it is impossible for 2 vessels to harvest the TAC's in the CGOA, it is likely that these WGOA vessels would move into the CGOA and target groundfish. Again, this is a direct reallocation from one user group to another, this time from the historic Kodiak fleet to the under 58' Sand Point and King Cove fleets
- CGOA trawl vessels and their associated processors have worked together to develop business plans for the harvest and processing of groundfish. Any reallocation to other user groups will disrupt these long-established relationships.
- CGOA trawl vessels have built relationships with support business and vendors and any reallocation will have a significant impact on these other businesses...
- The city and borough of Kodiak have invested heavily in infrastructure (harbors, shipyard, etc.) and they depend on the revenues that flow from the trawl fleet. Any reduction of groundfish to the trawl fleet will have a significant impact on Kodiak.
- All federal participants have made substantial investments in gear and technology to harvest groundfish while minimizing bycatch. Any reallocation that limits access to the resource will lead to excessive stranded capital for these fleets.
- Temporal and Spatial measures have been taken to protect Stellar Sea Lions. All groundfish harvests are split into different seasons with specific PSC caps established for each season within each fishery. Areas around rookeries and haul-outs have been closed. Having more harvest come out of the sensitive near-shore state waters will likely result in a Section 7 consultation of the SSL protection measures.
- The North Pacific Fisheries Management Council is moving forward with the development of a new management structure for trawl fisheries in the Gulf of Alaska. The interaction between federal and state-waters is an important component of the management structure. Any changes in the federal/state-water relationship need to be conducted within that process.
- ***This proposal was submitted by an under 58' vessel that is a new entrant into Gulf of Alaska trawl fisheries with very little history. This proposal is aimed at dis-enfranchising vessels with long-term histories of participation in, and dependence***

on, Gulf of Alaska trawl fisheries for the specific gain of themselves and a very small group of new small vessels.

Proposal 45

We oppose this propose that would require 100% observer coverage for trawl vessels targeting groundfish inside state waters.

- The North Pacific Groundfish and Halibut Observer program has been in place since the beginning of 2013. It has extended observer coverage to not only the trawl fleet but also to other sectors that impact our important fisheries resources. This is a very complex program developed over a number of years and it is unrealistic to create a new state designed, implemented and managed observer program inside state waters within any reasonable time frame.
- The North Pacific Fisheries Management Council has already begun the process of developing a new trawl management program in the Gulf of Alaska. One of the requirements in this new program will be 100% observer coverage.
- The GOA trawl industry has been the subject of numerous Prohibited Species Cap (PSC) reductions over the past few years. There has been a reduction in the Halibut PSC cap as well as the establishment of reduced caps for Chinook salmon in both our Pollock and non-Pollock fisheries trawl fisheries. There has also been action taken to require new modified trawl sweeps for all vessels targeting flatfish as well as an area closure in the Marmot Bay area.

The established trawl industry in the Gulf of Alaska is comprised of harvesting vessels, processors, vendors and communities that support this industry. Working together, the trawl industry delivers large volumes of groundfish that provide fish for the processors, employment opportunities doe processor workers, and economic benefits to local vendors as well as our coastal communities. The trawl industry is a major economic engine which provides tremendous economic and social benefit to the State of Alaska and those who live here.

AWTA asks that the Board reject proposals 43, 44, and 45. We also ask that the Board work alongside the North Pacific Fisheries Management Council and the GOA trawl industry as the new fishery management structure is developed.

Best Regards,

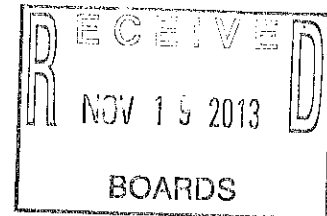
Robert L. Krueger, President

Alaska Whitefish Trawlers Association

Robert.Krueger@alaskawhitefishtrawlers.org



To: Board of Fisheries
From Mike Kramer,
Re: LCI proposal comments



47-49 Single, Unbaited, Barbless hooks for Salmon. OPPOSE.

Hook and release mortality is greatly exaggerated in support of these proposals. Hook and line King fishing is difficult enough when there are few fish and it becomes exceedingly more difficult with single unbaited hooks. In my experience with hooking and landing thousands of Kings, single hooks have a much higher rate of mortality than a single treble. The long sharp siwash hooks, especially when barbless, tend to penetrate through the entire lower jaw, often piercing the artery, resulting in a bleeding fish. A single treble on a plug however will 90% of the time lodge two short hooks in the corner of the jaw, making for an easy release. Single baitless hook requirements undeniably discourage people from fishing and require expensive gear modifications. These type of restrictions on the sport fishery tend to spread statewide, and if the board believes that LCI's depressed Salmon runs require hook restrictions, this concept will undoubtedly spread to all other regions of the State. Such restrictions are difficult to roll back or repeal once established in regulation.

50-53 Prohibit catch and release for Coho. OPPOSE

Many people fish for Silvers to catch multiple fish in a day. With catch and release, anglers can focus their harvest on the brightest males and thereby promote conservation by releasing hens. Many others have put up enough Sockeye for the winter and simply enjoying releasing all their Silvers. There is no reliable study cited on catch and release mortality.

55-56 Decrease annual limit of King Salmon. OPPOSE

The board should not endorse the belief that sport fishers should only be able to harvest 1 or 2 Kings for family consumption every year. No commercial fisher faces a season limit and most kill many more King Salmon each year than any sport fisher is currently allowed. The board is encouraged to recognize that most Alaskans, who eat Salmon, must catch it themselves and must participate in a sport fishery to do so. The Board should not tell these consumptive users, who already bear the brunt of conservation efforts due to their location on the harvest chain, that they are only worthy of retaining 1 or 2 fish per year. These yearly restrictions are seldom repealed once they catch hold in an area. When abundance returns, the sport limit will not rise and the extra fish will likely all will be allocated to the commercial fishery.

197-198 Catch and release-no bait to start early and late Kenai sport seasons.
OPPOSE



This is the opposite of how commercial fisheries are managed. They Harvest heavy on the early part of the run then conserve as needed later in the season. This board has repeatedly rejected proposals to limit the May harvest of King Salmon in the Copper River Commercial fishery, even after several years of partial or total restrictions on upriver users when it is determined the King return is weak. The Board should recognize that if commercial harvest of the early runs were minimized or eliminated all users could then equitably share the remaining return. With catch and release and no bait automatically in place, there would be no incentive for commercial managers to worry about providing a sport harvest at all.

241 Prohibit fishing from a vessel between 10 pm and 4 am on the Kenai. OPPOSE

The Kenai is crowded and no additional fish are going to escape whether fishing occurs 24 hours or 18. All Anglers will continue to fish, however they will all be concentrated in the 18-hour day. The board should not restrict the hours one may fish in an effort to save Fish, when the only impact will be to condense all the anglers into an 18-hour day. Enforcement would be difficult as well

275 Limit PU permits to 30,000. OPPOSE

Kenai is a non-subsistence area; therefore the only mechanism to provide for subsistence needs is a PU fishery. Alaskans harvesting Salmon for personal consumption should be the board's highest priority. Alaskans should be encouraged to harvest their own protein rather than forced to buy Cook Inlet salmon at Fred Meyer. This proposal would restrict the opportunity for Alaskans to harvest their own fish to only the first 30,000 who applied. This proposal would likely also violate the equal access provisions, title 8 sections 3,15,and 17 of our State Constitution.

281 Prohibit retention of King Salmon in PU fishery. OPPOSE

Again, the board must ask why so many of these Cook Inlet proposals seek to prevent Alaskans from harvesting any King Salmon? Personal consumptive use of Salmon by Alaskans should be the highest and best use of our King Salmon resource. The board cannot let commercial fishers continue to harvest thousands of these fish to be sold in markets throughout the world, while denying all other Alaskans the opportunity to harvest a King to feed their family.

Mike Kramer
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