



Angela Camos  
4201 W Sprucewood Dr #1  
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November 23, 2013

RE: Letter of support for Upper Cook Inlet sport fishery

Glenn Haight  
Alaska Board of Fisheries Executive Director  
PO Box 115526  
Juneau, AK 99811-5526

Dear Chair Johnstone and members of the Alaska Board of Fisheries,

Many people share my unease about the steep decline of king salmon on the Kenai River and elsewhere in Cook Inlet. It is a very important situation that demands careful consideration and action at your next fisheries meeting for Upper Cook Inlet. You must make this a priority - we need to act now before it is too late. From the many proposals for you to look at, I think these are areas to pay close attention to.

It is short-sighted to manage a fully allocated resource with multiple groups wanting fish on the basis of yield instead of maximizing the overall returns. A larger pie allows more fish to be utilized by more users. Put more king salmon into the Kenai River to spawn, not less. Lowering the escapement goals for kings is not a viable or responsible long-term policy.

I support proposals:

- #188: Early-run Spawning Escapement Goal of 5,300-9,000
- #207: Late-run Spawning Escapement Goal of 20,000-40,000

The Alaska Sustainable Salmon Policy directs that the burden of conservation will be applied to users in close proportion to the users' respective harvest of the salmon stock. Where the impact of resource use is uncertain, but likely presents a measureable risk to sustained yield, priority should be given to conserving the productive capacity of the resource. All user groups need to bear in the burden of conservation of Kenai River king salmon in an equitable manner.

I support proposals:

- #209: Paired restrictions for sport, personal use (dipnet) and set net fisheries
- #211: Allows for incremental gear restrictions for set net fisheries

Alaska residents should not have to buy our fish back from commercial fishermen. There should be increased, meaningful opportunity for sport and personal-use fishing for sockeye on the Kenai River. I support the expanded use of the commercial drift-gillnet fleet to harvest Kenai and Kasilof sockeye in Upper Cook Inlet.

I support proposals:





- #169: Kenai sockeye bag limit starts at 6, not 3
- #161: Allow more sockeye to enter and spawn in the Kenai River
- #112: Raise trigger to open Kasilof beaches to set net fishing
- #156: Mandate Tuesday window closure for Kasilof set net fishing
- #248: Coho bag limit of 3 when set net fishery closes
- #126: Prohibit commercial set net fishermen from stacking (doubling) permits
- #139: Expand time for commercial drift fleet to harvest Kenai and Kasilof sockeye

Your work on the Alaska Board of Fisheries is important. Alaska is known for its sustainable fisheries management. The crisis in low numbers of Kenai kings is a significant challenge. No other sport fishery in Alaska is as well-known as the Kenai. Your actions will shape the health of the fish and the viability of this fishery for years to come.

Sincerely,

Angela Camos

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Additional information about me:

I am a Resident Sport Angler, Personal Use / Dipnetter, Concerned Citizen



Garrick Martin.  
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November 24, 2013

RE: Letter of support for Upper Cook Inlet sport fishery

Glenn Haight  
Alaska Board of Fisheries Executive Director  
PO Box 115526  
Juneau, AK 99811-5526

Dear Chair Johnstone and members of the Alaska Board of Fisheries,

I am writing this letter to express my concerns about fish issues in Cook Inlet. I am very worried about the lack of king salmon. The Board of Fisheries must deal with the scarcity of kings in Cook Inlet at the next board meeting in Anchorage. There are many proposals to consider, but I want to talk about a few that are important to me.

I am a transplant from a reservation in Minnesota. I have seen 1st hand what happens to a mismanaged fisheries. My tribes' lake nearly had its prized fish, the walleye, wiped out. I came from a commercial fishing family. Harvesting the walleye was how we got our income. After the decline in numbers from the lake my tribe and the state closed the lake to walleye all together. It took the lake nearly 11 years to regain the numbers it once had in the years past. I am in no way against commercial fishing. I am for a better management plan on the commercial side.

It is an injustice to manage important Cook Inlet king salmon fisheries for the yield interests of commercial fisheries instead of maximum sustained returns that would benefit all user groups. Such management shortchanges everyone by reducing future returns and invites overfishing. It is vital to have adequate numbers of spawning king salmon.

I support proposals:

- #188: Early-run Spawning Escapement Goal of 5,300-9,000
- #207: Late-run Spawning Escapement Goal of 20,000-40,000

Sport, personal use and commercial set net fisheries can all fish but must share equitably in the burden of king salmon conservation. To assure future sustainable and healthy king salmon returns to the Kenai River, everyone must be held accountable for their harvest and mortality of kings. Without accountability for all user groups, there will be no conservation success stories for king salmon.

I support proposals:

- #209: Paired restrictions for sport, personal use (dipnet) and set net fisheries
- #211: Allows for incremental gear restrictions for set net fisheries





I support increased, meaningful opportunity for sport and personal use (dipnetting) fishing in Cook Inlet. Alaskans greatly depend upon the fish harvested in these fisheries. The social, recreational, cultural and economic values generated in these fisheries are much greater in value than those generated in the area's commercial salmon fisheries. As a public resource, it makes most sense to manage Cook Inlet salmon resources for the greatest number of Alaskans - those that fish and harvest in the sport and personal use (dipnetting) fisheries.

I support proposals:

- #169: Kenai sockeye bag limit starts at 6, not 3
- #161: Allow more sockeye to enter and spawn in the Kenai River
- #112: Raise trigger to open Kasilof beaches to set net fishing
- #156: Mandate Tuesday window closure for Kasilof set net fishing
- #248: Coho bag limit of 3 when set net fishery closes
- #126: Prohibit commercial set net fishermen from stacking (doubling) permits
- #139: Expand time for commercial drift fleet to harvest Kenai and Kasilof sockeye

I am grateful for the chance to let you know how concerned I am about the dire situation facing our Cook Inlet king salmon fisheries. Kings are very important to me as well as to my family and friends. Your decisions will greatly impact the direction and health of these king salmon runs for many years to come. The time is now to act on this most important resource.

Sincerely,

Garrick Martin

Garrick Martin.  
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Anchorage, AK 99502

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Additional information about me:

I am a Resident Sport Angler



Zachary Dahl  
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Toledo, OR 97391

November 24, 2013

RE: Letter of support for Upper Cook Inlet sport fishery

Glenn Haight  
Alaska Board of Fisheries Executive Director  
PO Box 115526  
Juneau, AK 99811-5526

Dear Chair Johnstone and members of the Alaska Board of Fisheries,

In areas like the Kenai River, many people feel like I do that king salmon are more important as a sport fishery than as a commercial fishery. In my mind, the obvious decline in the number of king salmon returning to the Kenai demands your attention. When returns, catch rates, and angler hours all drop by three quarters in less than a decade, something is wrong and business as usual is no longer acceptable. At the fast approaching Board of Fisheries meetings for Cook Inlet, please make king salmon management a priority consideration.

I'm from Oregon and it was my 1st year fishing in Alaska during 2013. We were not able to fish the Kenai due to record low runs and it being shut during my stay. In Oregon they restrict commercial fishing when runs are below historical averages, it's time for Alaska to do the same.

It is an injustice to manage important Cook Inlet king salmon fisheries for the yield interests of commercial fisheries instead of maximum sustained returns that would benefit all user groups. Such management shortchanges everyone by reducing future returns and invites overfishing. It is vital to have adequate numbers of spawning king salmon.

Therefore I am in support of proposal 188 that seeks to maintain an optimal escapement goal of 5,300 - 9,000 for early-run Kenai kings and proposal 207 that seeks a new optimal escapement goal of 20,000 - 40,000 for late-run Kenai kings.

In these times of historic low returns of king salmon to Cook Inlet and especially to the Kenai River, all user groups must share equitably in the burden of conservation. Sport anglers have seen harvest rates on the Kenai River for king salmon decline by 95 percent, while personal use (dipnetters) have foregone any harvest opportunity for Kenai kings the last two years. Meanwhile, in 2013, despite record-low numbers of king salmon, a severely restricted sport fishery and escapement goals barely being met, commercial set net sockeye fishermen were granted significant net-in-the-water time until near the end of the season.

Therefore I am in support of proposal 209 that seeks to pair restrictions for sport, personal use (dipnet) and commercial set net fisheries and proposal 211 that seeks to allow for incremental gear restrictions in the commercial set net fisheries.





A majority of Alaskans have access to the Cook Inlet salmon fisheries and we love to fish. Alaskans have the highest rates of participation in recreational fishing in the nation. Sport and personal use (dipnetting) fisheries provide essential food for many Alaskan households. Cook Inlet is the primary location in the state of Alaska where the major ity of residents provide food for their families. It must be a top management priority. It is time to put Alaskans first in Cook Inlet.

Therefore I am in support of proposal 169 that starts the Kenai sockeye bag limit at 6 fish, proposal 161 that allows more sockeye to enter and spawn in the Kenai River, proposal 112 that raises the trigger to open Kasilof beaches to set net fishing, proposal 156 that mandates a Tuesday window closure for Kasilof set net fishing, proposal 248 that sets a coho bag limit of 3 fish with the set net fishery closes, proposal 126 that prohibits commercial set net fishermen from stacking (doubling) permits, and proposal 139 that expands time for commercial drift fleet to harvest Kenai and Kasilof sockeye.

Restrictions will bring salmon levels back to historical levels, Just like they do on the Columbia. We need to continue to monitor and keep our fishing numbers at record levels, so future generations can enjoy the sport, even it that means we all have to take less fish home.

Your work on the Alaska Board of Fisheries is important. Alaska is known for its sustainable fisheries management. The crisis in low numbers of Kenai kings is a significant challenge. No other sport fishery in Alaska is as well-known as the Kenai. Your actions will shape the health of the fish and the viability of this fishery for years to come.

Sincerely,

Zachary Dahl

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Additional information about me:

I am a Non-Resident Sport Angler, Personal Use / Dipnetter, Concerned Citizen

Received from:

United Cook Inlet Drift Association



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1 of 2

## 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.

*Les Palmer can be reached at [les.palmer@rocketmail.com](mailto:les.palmer@rocketmail.com).*





PC 155

**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

| <b>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)</b> |                        |                         |                        |                         |     |                |              |              |
|--|------------------------|-------------------------|------------------------|-------------------------|-----|----------------|--------------|--------------|
| Fates  | 1989                   | 1990                    |                        | 1991                    |     | All<br>(n=446) | Percent<br>% | Percent<br>% |
|  | Late<br>Run<br>(n=100) | Early<br>Run<br>(n=125) | Late<br>Run<br>(n=120) | Early<br>Run<br>(n=101) |     |                |              |              |
| <b>Five Day Fates ( Mortality)</b>   |                        |                         |                        |                         |     |                |              |              |
| 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%           |              |              |
| <b>Final Fates ( Mortality)</b>  |                        |                         |                        |                         |     |                |              |              |
| 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 in-river 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  $\geq 19$  °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 |
| <b>1996-2009 Average</b> | <b>95,574</b>    | <b>110,371</b>   | <b>193,305</b>   | <b>190,032</b>   | <b>56,364</b>  | <b>645,646</b>   |         |
| <b>1996-2009 Total</b>   | <b>1,338,040</b> | <b>1,545,189</b> | <b>2,706,271</b> | <b>2,660,446</b> | <b>789,091</b> | <b>9,039,037</b> |         |

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



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

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

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

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](mailto: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:**

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- 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@aussharjah.edu](mailto:abartholomew@aussharjah.edu)); American University of Sharjah, P.O. Box 26666, Sharjah, United Arab Emirates
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- Bendock, 1992, Mortality and Movement Behavior of Hooked-and-Released Chinook Salmon in the Kenai River Recreational fishery, 1989-1991



Peter Carlson  
1122 walnut ave  
Kenai, AK 99611

December 22, 2013

RE: Letter of support for Upper Cook Inlet sport fishery

Glenn Haight  
Alaska Board of Fisheries Executive Director  
PO Box 115526  
Juneau, AK 99811-5526

Dear Chair Johnstone and members of the Alaska Board of Fisheries,

Kenai River king salmon are world famous - but today they face an uncertain future. I urge you to take responsible action to help return these giants to a healthy population. At the upcoming Board of Fisheries for Upper Cook Inlet, I ask that you to take a serious look at king salmon conservation. These are some thoughts about issues you will consider.

I believe that if anglers keep the bigger dollies and rainbows then less king eggs will be eaten by them. During times of scarcity for any fishery resource, the right thing to do is to make all user groups share equitably in the burden of conservation. All major indicators show a steep decline in Kenai River king salmon. All user groups must share equitably in the burden of Kenai River king salmon conservation. It is a shared responsibility to maintain the future and health of this resource.

Therefore I am in support of proposal 209 that seeks to pair restrictions for sport, personal use (dipnet) and commercial set net fisheries and proposal 211 that seeks to allow for incremental gear restrictions in the commercial set net fisheries.

The fix to the management failure of not providing Alaskan residents a reasonable opportunity to harvest meaningful numbers of fish for food is not directing them to purchase those same fish from commercial fishermen. That tactic is just insulting to Alaskans who want to harvest their own fish for personal consumption and to share with family and friends. In the Cook Inlet region, the harvest needs of 200,000 resident and non-resident anglers and the more than 30,000 personal use (dipnetting) households must be a top management priority, not an afterthought based on incidental escapement in the prosecution of commercial fisheries.

Therefore I am in support of proposal 169 that starts the Kenai sockeye bag limit at 6 fish, proposal 161 that allows more sockeye to enter and spawn in the Kenai River, proposal 112 that raises the trigger to open Kasilof beaches to set net fishing, proposal 156 that mandates a Tuesday window closure for Kasilof set net fishing, proposal 248 that sets a coho bag limit of 3 fish with the set net fishery closes, proposal 126 that prohibits commercial set net fishermen from stacking (doubling) permits, and proposal 139 that expands time for commercial drift fleet to harvest Kenai and Kasilof sockeye.

We all should have the right to harvest own food, we may not need to harvest huge numbers though. And still have all parties do there part.

I am grateful for the chance to let you know how concerned I am about the dire situation facing our Cook Inlet king salmon fisheries. Kings are very important to me as well as to my family and friends. Your decisions will greatly impact the direction and health of these king salmon runs for many years to come. The time is now to act on this most important resource.

Sincerely,





Peter Carlson

Peter Carlson  
1122 walnut ave  
Kenai, AK 99611

Email address: [petecarlson2011@hotmail.com](mailto:petecarlson2011@hotmail.com)

Phone number: 916-600-6828

Additional information about me:

I am a Resident Sport Angler, Conservationist, Concerned Citizen



Craig Chestler  
PO Box 1103  
Soldotna, AK 99669

December 23, 2013

RE: Letter of support for Upper Cook Inlet sport fishery

Glenn Haight  
Alaska Board of Fisheries Executive Director  
PO Box 115526  
Juneau, AK 99811-5526

Dear Chair Johnstone and members of the Alaska Board of Fisheries,

The upcoming Board of Fisheries meeting for Upper Cook Inlet will be critical for the sustainability of Kenai River king salmon and all other kings in Cook Inlet, many of which are stocks of concern. The abrupt fall in numbers of kings in the Inlet should be a red flag to all concerned parties. I urge you to action to deal with the conservation of kings at your upcoming meeting. My views on certain proposals are as follows.

I was a sport fishing guide(business owner) on the Kenai River for two years from 2010-2011. I also was a fly out fishing guide for 6 years. I personally feel that the Kenai River is a magnificent river and is being ruined by the in river over use and the ocean harvest methods. I strongly feel that drastic measures must now be taken in order to ensure the future sustainability of the Mighty Kenai King Salmon and the overall health of this wonderful body of water.....

Managing for the low end of the escapement goal for Kenai River king salmon is not good public policy. We need more kings in the river to spawn, not less. More fish in future years means everyone benefits. I support proposals:

#188: Early-run Spawning Escapement Goal of 5,300-9,000

#207: Late-run Spawning Escapement Goal of 20,000-40,000

The Alaska Sustainable Salmon Policy directs that the burden of conservation will be applied to users in close proportion to the users' respective harvest of the salmon stock. Where the impact of resource use is uncertain, but likely presents a measureable risk to sustained yield, priority should be given to conserving the productive capacity of the resource. All user groups need to bear in the burden of conservation of Kenai River king salmon in an equitable manner.

I support proposals:

#209: Paired restrictions for sport, personal use (dipnet) and set net fisheries

#211: Allows for incremental gear restrictions for set net fisheries

I support increased, meaningful opportunity for sport and personal use (dipnetting) fishing in Cook Inlet. Alaskans greatly depend upon the fish harvested in these fisheries. The social, recreational, cultural and economic values generated in these fisheries are much greater in value than those generated in the area's commercial salmon fisheries. As a public resource, it makes most sense to manage Cook Inlet salmon resources for the greatest number of Alaskans - those that fish and harvest in the sport and personal use (dipnetting) fisheries.

I support proposals:

#169: Kenai sockeye bag limit starts at 6, not 3

#161: Allow more sockeye to enter and spawn in the Kenai River

#112: Raise trigger to open Kasilof beaches to set net fishing





#156: Mandate Tuesday window closure for Kasilof set net fishing

#248: Coho bag limit of 3 when set net fishery closes

#126: Prohibit commercial set net fishermen from stacking (doubling) permits

#139: Expand time for commercial drift fleet to harvest Kenai and Kasilof sockeye

I feel that there should be some sort of a bag and possession limit on in river harvest... Especially the Guide King Salmon Harvest. Limit the amount of Female King Salmon Harvest with a limited amount of harvest tickets per season... Or make the river Catch and Release only until the optimal escapement for King Salmon has been reached for 3 consecutive years. Call me if you want more suggestions!!

Kenai River king salmon have a special place in my heart - I care deeply about them. All the best as you work towards effective solutions in ensuring their sustainability as one of the world's greatest sport fisheries. Fish On!

Sincerely,

craig m chestler

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Additional information about me:

I am a Resident Sport Angler, Personal Use / Dipnetter, Concerned Citizen