

Richard Erkeneff PO Box 3447 Soldotna, AK 99669

January 14, 2014

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,

King salmon management and conservation needs to be at the top of the list of priorities that you deal with at the next Board of Fisheries meeting for Upper Cook Inlet. No other issue has changed as dramatically as the disappearance of healthy runs of king salmon on the world famous Kenai River and in other rivers in Cook Inlet. Please take time to carefully consider how best manage these iconic fish - your actions will be critical in how well king salmon survive. My opinions on various proposals are as follows. The proposals from the kenai river sport fishing association when implemented will provide a fair and balanced approach between user groups and put the fish first.

King salmon are a sport fish priority in Cook Inlet salmon fisheries. Sport fisheries benefit more from greater abundances of fish, not less. We benefit from managing Kenai River king salmon fisheries for maximum sustained return, not minimum escapement goals. Making sure we have healthy escapements to deliver larger returns of kings is critical.

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.

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. 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.

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.

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 N 1 fo 201

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Sometimes it's more important to our actions to creat our past. Bringing back the kings should be our legacy for the youth. We need to do this even if we sacrifice our personal pleasures and financial gains. Service on the Alaska Board of Fisheries is time-consuming and important work. Thank you for the chance to share my ideas. I trust that you recognize the critical state facing king salmon on the Kenai River and in Cook Inlet. I wish you and your colleagues on the board good fortune as you tackle these matters.

Sincerely,

Dick Erkeneff

Richard Erkeneff PO Box 3447 Soldotna, AK 99669

Email address: Richarderkeneff@aol.com Phone number: 907-262-5818 Additional information about me: I am a Resident Sport Angler, Conservationist



BURNE

Jarod Brown CMR 464 Box 172 apo, AK 09226

January 14, 2014

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 was raised on the Kenai River. Some of my best memories were there catching fish off the banks or watching my father take eager and excited clients out on fishing trips.

King salmon are a sport fish priority in Cook Inlet salmon fisheries. Sport fisheries benefit more from greater abundances of fish, not less. We benefit from managing Kenai River king salmon fisheries for maximum sustained return, not minimum escapement goals. Making sure we have healthy escapements to deliver larger returns of kings is critical.

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.

When one group is restricted, all should be restricted. We should place paired restrictions upon sport, personal-use and commercial set net fisheries so that all participants share in the burden of conservation equitably in times of scarcity. Commercial set net fishermen must share in the conservation of Kenai kings; on ce bait and or harvest restrictions occur in the sport fishery, commercial fishermen must be restricted to regular periods only.

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.

I am concerned that you are robbing the generations to come the joy and excitement of catching that rare and beautiful king salmon. Not only is this a wonderful way for families to interact but also to show the new leaders of the fishing industry (our children) the right way to conserve and protect one of Alaska's biggest industries. I have spent a lot of time away form my home defending our country both in the Marines and Army. I can tell you it pains me to hear that the river i grew up on and loved so much is in such despair that a decline of 80% has not been looked at closer. It is our responsibility to the state and to the people that we take action and ensure proper conservation methods are implemented. I beg you to look at this problem with a non biased eye and correct the action the need to be corrected. The Alaska Board of Fisheries faces an urgent responsibility to give clear direction on how best to mitigate the king salmon disaster occurring in Cook Inlet and on the Kenai River. Simply lowering escapement numbers and then maintaining status quo management is not a recipe for long ferme.



success. I urge you to take the necessary time to fully work through the king salmon conservation and management issues at your next meeting for Upper Cook Inlet. There is no higher priority than this. Sincerely,

Sgt Jarod Brown

Jarod Brown CMR 464 Box 172 apo, AK 09226

Email address: Brown.Jarod.D@gmail.com Phone number: +49 15140468866 Additional information about me: I am a Resident Sport Angler, Conservationist, Concerned Citizen



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BOARDS

Jeremy Wallis po box 872612 wasilla, AK 99687

January 14, 2014

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 kings are world famous for their quality as a sport fish. However, the sharp drop in numbers and increase in restrictions / closures for king fishing on the Kenai now make headlines. Just meeting minimum escapements is not enough. Barely scraping by does not do this once premier sport fishery justice. You must take up proper consideration of king salmon management and conservation at the next Upper Cook Inlet meeting of the Alaska Board of Fisheries.

As a grandson of a long time Alaska Fish and Game biologist, I have seen the importance of conserving our waters and wildlife. In 1984 my parents made the decision to move back to Alaska and to bring their three boys closer to our grandparents who resided in Homer. At that same time my grandfather was retiring form his role as a biologist. After he retired he then had plenty of time to teach his grandchildren the ways of fishing. Now many years later I too am teaching my children the v alues of our waters. the only difference is the gear I use and the way we are managing fish. For years I have seen the decline of our kings. Its our responsibility to protect these waters.

As ocean productivity seems to be in a general statewide decline for king salmon, I think it is a mistake to lower escapement goals as a management response. Fewer spawners seem to bear fewer fish and it can be a reinforcing downward cycle. We must have adequate numbers of spawning king salmon in our rivers. This will maximize the overall size of the returns. Larger returns greatly reduce our risks for overfishing this invaluable resource.

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

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.

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

I know that as a body you feel the same way I do about our kings. I urge you to do something about it. you have been intrusted with a great responsibility. The decisions you make will impact our futures. Thank you for listening to my views on these subjects. Together we can all make a lasting difference in the long term health of our fishery resources. I trust you will do the right thing when considering how best to conserve and restore once healthy salmon runs to their former glory. Sincerely,

Jeremy Wallis

Jeremy Wallis po box 872612 wasilla, AK 99687

Email address: wallis.Jeremy@ymail.com Phone number: 907-841-6911 Additional information about me: I am a Resident Sport Angler, Conservationist, Personal Use / Dipnetter, Concerned Citizen



Paul Carlson PO Box 91451 Anchorage, AK 99509

January 14, 2014

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,

Major indicators show a steep decline in Kenai River king salmon. Angler hours have dropped by 80 percent and harvest rates are 95 percent less than a decade ago. We are barely, if at all, making minimum escapements for kings on the Kenai and many other rivers in Cook Inlet. Although king salmon declines are a statewide issue, it is an emergency situation here. For your next meeting, I will share with you a couple of important ideas for your consideration.

I moved up here 9 years ago on a 3 month contract and never left. I love to fish. I used to have family and friends come to fish. Now, not so much. They know the fishing has taken a turn for the worse. Consequently, they don't buy licenses, gas, hotel rooms, waders, tackle, flies, food or float trips. I now go on fly out trips where the commie nets don't touch the fish returns. Biased management of the Upper Cook Inlet has taken a toll on the fishery and the local economy. Continued misman agement and biased management (favoring commercial taking of fish) will push this once great fishery past the point of no return. If it does, YOU are to blame. Do what is right. Manage this fishery fairly.

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.

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.

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.





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Paul Carlson

Paul Carlson PO Box 91451 Anchorage, AK 99509

Email address: pauljcarlson2@hotmail.com Phone number: 907 227 7022 Additional information about me: I am a Resident Sport Angler



Joshua vukelich 11576 bridle path lane Lakeside, CA 92040

January 14, 2014

RE: Letter of support for Upper Cook Inlet sport fishery

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

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

Kenai kings are world famous for their quality as a sport fish. However, the sharp drop in numbers and increase in restrictions / closures for king fishing on the Kenai now make headlines. Just meeting minimum escapements is not enough. Barely scraping by does not do this once premier sport fishery justice. You must take up proper consideration of king salmon management and conservation at the next Upper Cook inlet meeting of the Alaska Board of Fisheries.

I'm a father of two from California. My summers are spent with Alaskan relatives fishing the kenai every year. Each summer is an experience for my sons and a time to grow as a family. The opportunity to fish and bond with my lived ones is a memory we make each summer. My fear is that these memories may be in jeopardy. We must protect our resources and kings for many generations to come. Our government must place more stringent rules to provide my sons and grandsons future resources. I'm a fishermen, a father, and a concerned about the future.

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

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.

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 putting Alaskan residents first in the management of Cook Inlet salmon fisheries. Many people harvest fish to feed our families and share with friends. Access to fish is one of the primary reasons Alaskans value living in Alaska. When fishery managers puts the needs of Alaskan residents behind the needs of national and global fish markets, people are justifiably resentful. Cook Inlet supports Alaska's V





largest sport and personal use (dipnetting) fisheries. The needs of Alaskan residents must be a top priority in 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

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#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

These issues are real and require immediate attention. If the salmon population sneezes we all catch a cold. This is real and the impact is yet measurable. We don't know why, where and how the kings are diminishing, but we continue to prevent or limit the permits. Our government must take this issue and drive all of its efforts to protect not only the specie but the future of our resource.

The Alaska Board of Fisheries faces an urgent responsibility to give clear direction on how best to mitigate the king salmon disaster occurring in Cook Inlet and on the Kenai River. Simply lowering escapement numbers and then maintaining status quo management is not a recipe for long-term success. I urge you to take the necessary time to fully work through the king salmon conservation and management issues at your next meeting for Upper Cook Inlet. There is no higher priority than this. Sincerely,

Joshua vukelich

Joshua vukelich 11576 bridle path lane Lakeside, CA 92040

Email address: joshuav@vuesharvest.com Phone number: 3107687415 Additional information about me: 1 am a Non-Resident Sport Angler



Colleen Laraux P. O. Box 2053 Bethel, AK 99559

January 14, 2014

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 very concerned about the decline of king salmon in Cook Inlet, especially on the Kenai River. Kenai kings are important and must not be ignored. The health of king salmon is now threatened. When you consider actions at your next meeting, please keep these ideas in mind.

As ocean productivity seems to be in a general statewide decline for king salmon, I think it is a mistake to lower escapement goals as a management response. Fewer spawners seem to bear fewer fish and it can be a reinforcing downward cycle. We must have adequate numbers of spawning king salmon in our rivers. This will maximize the overall size of the returns. Larger returns greatly reduce our risks for overfishing this invaluable resource.

I support proposals:

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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 putting Alaskan residents first in the management of Cook Inlet salmon fisheries. Many people harvest fish to feed our families and share with friends. Access to fish is one of the primary reasons Alaskans value living in Alaska. When fishery managers puts the needs of Alaskan residents behind the needs of national and global fish markets, people are justifiably resentful. Cook Inlet supports Alaska's largest sport and personal use (dipnetting) fisheries. The needs of Alaskan residents must be a top priority in Cook Inlet.

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These issues are important to me as an Alaskan, because I want my children and grandchildren to participate in the same traditional activities I was honored to do in my lifetime.

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,

Colleen Laraux

Colleen Laraux P. O. Box 2053 Bethel, AK 99559

Email address: claraux@gmail.com Phone number: 907-244-6750 Additional information about me: I am a Resident Personal Use / Dipnetter



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Grant Gullicks 5615 CHILKOOT CT ANCHORAGE, AK 99504

January 14, 2014

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 life long outdoorsman and conservationist. I have lived in Alaska for four years and in that time even I have noticed a significant drop in returning kings. It is time to act before it is too late. Restrictions need to be put in place on all who harvest returning salmon. As a sport fisherman I have made my own decision not to harvest any kings the last two years and I will continue to do so until I see a healthier population. We must all sacrifice in order to preserve this one of a kind fishery. strict regulations must be implemented on the group that harvests the highest numbers, the commercial fl eet and on the smaller group, the sport fishing and personal dip netting segments. If nothing is done it is obvious that the Alaskan King salmon will become a thing of the past.

King salmon are a sport fish priority in Cook Inlet salmon fisheries. Sport fisheries benefit more from greater abundances of fish, not less. We benefit from managing Kenai River king salmon fisheries for maximum sustained return, not minimum escapement goals. Making sure we have healthy escapements to deliver larger returns of kings is critical.

I support proposals:

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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 9S 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.

I support proposals:

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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 the rown fish for the 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.

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In my four years here I have noticed a large amount of favoritism towards the commercial harvest of our fishery. This came to a head last year with the gross mismanagement of the Kenai Sockeye run. The Commercial fleet enjoyed huge catches and extended regulations while Alaska residents using a sport fishing license to fill their freezer suffered a huge drop in fish numbers and limited, if any, fishing success as a result during what should have been the peak of the run. As a concerned outdoorsman, the protection of the natural places and the wildlife that depends on them is very important to me. I will do everything I can to help save the Kings. The time has come to more evenly distribute the use and conservation of the Alaskan fishery.

Thank you for the opportunity to comment on these issues. I appreciate your consideration of my thoughts and concerns. As you consider the many proposals, remember - Long Live the Kings! Sincerely,

Grant Gullicks

Grant Gullicks 5615 CHILKOOT CT ANCHORAGE, AK 99504

Email address: biggrant18@yahoo.com Phone number: 907-227-1694 Additional information about me: I am a Resident Sport Angler, Conservationist



Jodi Dingle 2612 Glenwood Street Anchorage, AK 99508

January 14, 2014

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 am a relatively new resident of the State of Alaska having moved here from Honolulu, HI, in late 2010. I work for CH2M HILL, primarily supporting our oil and gas work on the North Slope. I have a Masters in Business Administration and am a 47-year-old female. LIVING in a place is important to me as opposed to RESIDING somewhere. Fishing, sailing, hiking, biking, skate skiing, downhill skiing, stand up padd ling are all activities I enjoy in Alaska.

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.

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salmon resources for the greatest number of Alaskans - those that fish and harvest in the sport and personal use (dipnetting) fisheries.

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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,

Jodi Dingle

Jodi Dingle 2612 Glenwood Street Anchorage, AK 99508

Email address: JLDINGLE@GMAIL.COM Phone number: 808-721-9892 Additional information about me: I am a Resident Sport Angler, Personal Use / Dipnetter, Concerned Citizen



Keith Holtan 630 Ames Rd Kenai, AK 99611

January 14, 2014

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Kenai kings are world famous for their quality as a sport fish. However, the sharp drop in numbers and increase in restrictions / closures for king fishing on the Kenai now make headlines. Just meeting minimum escapements is not enough. Barely scraping by does not do this once premier sport fishery justice. You must take up proper consideration of king salmon management and conservation at the next Upper Cook Inlet meeting of the Alaska Board of Fisheries.

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.

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.

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 majority 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, pr oposal 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. Service on the Alaska Board of Fisheries is time-consuming and important work. Thank you for the chance to share my ideas. I trust that you recognize the critical state facing king salmon on the Kenai.





River and in Cook Inlet. I wish you and your colleagues on the board good fortune as you tackle these matters. Sincerely,

Keith Holtan

Keith Holtan 630 Ames Rd Kenai, AK 99611

Email address: kdholtan@yahoo.com Phone number: 907-394-1963 Additional information about me: I am a Resident Sport Angler, Conservationist, Personal Use / Dipnetter, Concerned Citizen



Hans C Brons 3732 Robin Street ANC, AK 99504

January 14, 2014

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 very concerned about the decline of king salmon in Cook Inlet, especially on the Kenai River. Kenai kings are important and must not be ignored. The health of king salmon is now threatened. When you consider actions at your next meeting, please keep these ideas in mind.

King salmon are a sport fish priority in Cook Inlet salmon fisheries. Sport fisheries benefit more from greater abundances of fish, not less. We benefit from managing Kenai River king salmon fisheries for maximum sustained return, not minimum escapement goals. Making sure we have healthy escapements to deliver larger returns of kings is critical.

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 harv est 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.

I live and fish on the Kenai river all summer. Every thing that can be done to save the kings needs to happen. If we need to close the river to king fishing to save them, let's close it.

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,

Hans Brons

Hans C Brons 3732 Robin Street ANC, AK 99504





Email address: hcbrons@gmail.com Phone number: 907-227-9226 Additional information about me: I am a Resident Sport Angler, Personal Use / Dipnetter



Leslie Notestine 13401 Baywind Dr. Anchorage, AL 99516

January 14, 2014

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 kings are world famous for their quality as a sport fish. However, the sharp drop in numbers and increase in restrictions / closures for king fishing on the Kenai now make headlines. Just meeting minimum escapements is not enough. Barely scraping by does not do this once premier sport fishery justice. You must take up proper consideration of king salmon management and conservation at the next Upper Cook Inlet meeting of the Alaska Board of Fisheries.

I am a 40 year Alaskan resident and recently retired. I fish almost exclusively on the Kenai Penn. and can personally attest to the dramatic loss of the Kenai King salmon. Ten or more years ago, I would catch approx 20 kings fishing on weekends and 1 week's vacation. I now have much more time, as well as my own recreational property on the Kenai, and consider my self lucky to catch 1 King per season. (I did not catch a single Kenai King 2 years ago and a measly 24 inch King last July.) My family members where not as fortunate and caught nothing. Typically, my family would keep a total of 2 Kings for smoking and steaks, but not anymore. The statistic stating Kenai King salmon harvests are down 95% is FACT! 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

All fishermen can be passionate to a fault, as our needs are always great with families to feed. However, during times of crisis everyone is responsible for the health of our fisheries. Success requires the best efforts from everyone to sustain future returns. No one should be exempt in the conservation of Kenai River 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

My recreational life in Alaska, has basically revolved around sport fishing of Kenai King salmon. I believe that the Kenai River king salmon management plan is outdated and unjust for the sport fishing user group. I also feel that the Dept of Fish and Game has submitted to pressures from commercial fishing interests and consistently lowered their escapement goals for Kenai Kings in order to let the commercial fishery continue harvesting when the expected low return is known. It is extremely obvious, these policies can not sustain the Kenai King fishery. The King Salmon is a prized fish for residential sportsmen and tourists alike. I believe that if one user group is restricted, then all groups should bear the burden. I do not believe I should have to purchase my fish from commercial fishermen. The Board of Fisheries must take action to preserve this resource for ALL users groups, current and future generations. A loss of this fish w ould be a travesty and an embarassment to the state.

Thank you for your service to responsible fisheries management in Alaska. I can think of no higher priority than to deal successfully and in a forthright manner with the crisis we are now facing with the Kenai River king salmon. Their future is in your hands. Sincerely,

Les Notestine

Notestine, Leslie 13401 Baywind Dr. Anchorage, AL 99516

Email address: alaska.notes@gmail.com Phone number: (907) 345-4639 Additional information about me: I am a Resident Sport Angler, Personal Use / Dipnetter, Concerned Citizen



Kenneth Manning PO Box 775 Kasilof, AK 99610

January 14, 2014

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 am Kenneth Manning, and have been exercising my fishing rights for over 50 years to feed my self, family, and five generations of Alaskans. Pursuant to our Alaska constitution Article VIII Section 3 "common use" requires subsistence use first priority, then sport, then commercial. The elimination of subsistence use by "non-subsistence use areas" designation (AS 16.05.258(c) is unconstitutional and is pending litigation to reinstate subsistence priority, then sport, then commercial. At a time when the Kenai River Kings are in dangerously low numbers, the commercial use must be reduced or elim inated first. I request that subsistence and sport fishing be given priority use over commercial use, as required by the constitution Article VIII Section 3 "common use".

Adequate numbers of king salmon must be allowed to spawn. We must manage the Kenai River king run for maximum sustained return, not for minimum escapement goals. Managing for lower numbers of spawning king salmon is a bad idea and leaves no room for margin of error. Recent returns show a change from the historical norms: there are now a larger proportion of younger fish; all fish are smaller at age; there are a larger proportion of immature males; and there are a smaller number of the larger, more fecund females. All of these issues with the quality of the more recent king salmon escapements points to taking a precautionary, conservative management approach.

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

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

All fishermen can be passionate to a fault, as our needs are always great with families to feed. However, during times of crisis everyone is responsible for the health of our fisheries. Success requires the best efforts from everyone to sustain future returns. No one should be exempt in the conservation of Kenai River 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

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.

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

Preservation of the Kenai River kings by reducing user groups is essential to prevent extinction, and limited use must be done in accordance with "common use" priorities, which mandates that commercial fishing be the first use eliminated or reduced.

Thank you for listening to my views on these subjects. Together we can all make a lasting difference in the long term health of our fishery resources. I trust you will do the right thing when considering how best to conserve and restore once healthy salmon runs to their former glory. Sincerely,

Kenneth Manning

Kenneth Manning PO Box 775 Kasilof, AK 99610

Email address: kasilofken@gmail.com Phone number: 907-384-4377 Additional information about me: I am a Resident Sport Angler, Personal Use / Dipnetter, Concerned Citizen



JAN 1 6 2014

BOARDS

James Hunt PO Box 405 Broken Bow, NE 68822

January 15, 2014

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 am a 59-year-old Catholic priest from Nebraska who has enjoyed fishing on the Kenai and surrounding area six of the last seven years. In that time i have noticed a big change in the king population. Two years ago I caught and released a large king on the Kisilof and felt great about it. The battle to land the king was memorable, releasing it felt even better. There are more than enough sockeye to be taken that I don't ever need to take another king out of the water. Saving this incredible species for future generat lons is far more important.

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. 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.

All fishermen can be passionate to a fault, as our needs are always great with families to feed. However, during times of crisis everyone is responsible for the health of our fisheries. Success requires the best efforts from everyone to sustain future returns. No one should be exempt in the conservation of Kenai River king salmon.

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.

Commercial fisheries in Alaska do a great job in providing food resources to national and global markets. However, the majority of Alaskans do not want to be dependent upon that supply chain for an essential food source for their families. Many Alaskans put fish in their freezers from a rod and reel and / or dipnet. Nowhere do more Alaskan families depend upon access and opportunity to harvest fish than in Cook Inlet, home to the state's largest sport and personal use (dipnet) fisheries. I favor reasonable opportunities for Alaskans to harvest meaningful numbers of fish for consumption.

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 fisher 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. Thank you for listening to my views on these subjects. Together we can all make a lasting difference in the long term health of our fishery resources. I trust you will do the right thing when considering how best to conserve and restore once healthy salmon runs to their former glory. Sincerely,

James M. Hunt

James Hunt PO Box 405 Broken Bow, NE 68822

Email address: frjim1@msn.com Phone number: 308-872-5716 Additional information about me: I am a Non-Resident Sport Angler, Concerned Citizen



Suzean Bacon PO box 524 Talkeetna, AK 99676

January 15, 2014

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,

King salmon management and conservation needs to be at the top of the list of priorities that you deal with at the next Board of Fisheries meeting for Upper Cook Inlet. No other issue has changed as dramatically as the disappearance of healthy runs of king salmon on the world famous Kenai River and in other rivers in Cook Inlet. Please take time to carefully consider how best manage these iconic fish - your actions will be critical in how well king salmon survive. My opinions on various proposals are as follows. 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.

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.

All fishermen can be passionate to a fault, as our needs are always great with families to feed. However, during times of crisis everyone is responsible for the health of our fisheries. Success requires the best efforts from everyone to sustain future returns. No one should be exempt in the conservati on of Kenai River king salmon.

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 majority 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. 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 is provide the set of the





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,

Suzean bacon

Suzean bacon PO box 524 Talkeetna , AK 99676

Email address: sbacon212@aol.com Phone number: 9077333802 Additional information about me: I am a Resident Personal Use / Dipnetter, I don't fish but receive fish from others



JAN 1 6 2014

BOARDS

Roger Byerly PO BX 508 Sterling , AK 99672

January 15, 2014

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 kings are world famous for their quality as a sport fish. However, the sharp drop in numbers and increase in restrictions / closures for king fishing on the Kenai now make headlines. Just meeting minimum escapements is not enough. Barely scraping by does not do this once premier sport fishery justice. You must take up proper consideration of king salmon management and conservation at the next Upper Cook Inlet meeting of the Alaska Board of Fisheries.

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

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 majority of residents provide food for their families. It must be a top management priority. It is time to put Alaskans first in 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

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,

Roger Byerly

Roger Byerly PO BX 508 Sterling , AK 99672

Email address: anglers@alaska.net Phone number: 907-262-1747 Additional information about me: I am a Resident Sport Angler



Marlene Byerly PO BX 508 Sterling , AK 99672

January 1S, 2014

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.

As ocean productivity seems to be in a general statewide decline for king salmon, I think it is a mistake to lower escapement goals as a management response. Fewer spawners seem to bear fewer fish and it can be a reinforcing downward cycle. We must have adequate numbers of spawning king salmon in our rivers. This will maximize the overall size of the returns. Larger returns greatly reduce our risks for overfishing this invaluable resource.

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

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.

#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





Thank you for your service to responsible fisheries management in Alaska. I can think of no higher priority than to deal successfully and in a forthright manner with the crisis we are now facing with the Kenai River king salmon. Their future is in your hands. Sincerely,

Marlene Byerly

Marlene Byerly PO BX 508 Sterling , AK 99672

Email address: anglers@alaska.net Phone number: 907-953-6111 Additional information about me: I am a Resident Sport Angler, Concerned Citizen

PC 292 1 of 3

ï	CITY OF HOMER	
2	HOMER, ALASKA	
3		
. 4	RESOLUTION 14-019(A)	Lewis
5		
6	A RESOLUTION OF THE CITY COUNCIL OF HOMER, ALASKA,	
7	STRONGLY OPPOSING ALASKA BOARD OF FISHERIES	
8	PROPOSALS 138, 139, 140, 142, AND 143 THAT CLOSE OR	
9	RESTRICT WATERS OF COOK INLET NEAR HOMER TO	
10	COMMERCIAL DRIFT FISHING.	
11		
12	WHEREAS, The waters of the Cook Inlet Commercial Drift Fishing District Area 1 a	ire the
13	 closest drift fishing grounds to Homer encompassing approximately 600 square miles of 	fCook
14	Inlet from Anchor Point north to Kalgin Island; and	
15 16		
16	WHEREAS, The waters of Area 1 have been part of the traditional fishing grout	nds of
17 18	the Cook Inlet Commercial Drift Fishery since statehood; and	
18 19		
20	WHEREAS, Area 1 is integral to the Homer fishing economy; and	
21	WHEREAS Macka Roard of Eighering Description and the second state	
22	WHEREAS, Alaska Board of Fisheries Proposals 138, 139, 140, 142, and 143 clo restrict commercial drift fishing in Area 1; and	ose or
23	,nat souther out diffe issuing if Alea 1, and	
24	WHEREAS, Closing Area 1 to commercial drift fishing will result a tripling of trave	1.4.4.
25	for Homer based vessels to reach fishing grounds; and	ltime
26	and the second of the second Bill of the second s	
27	WHEREAS, increased travel costs will force the over 100 vessels that represer	
28	Homer based drift commercial fishing fleet to relocate to communities closer to open fi	n ine obina
29	grounds; and	ទាំពាម្ព
30		
31	WHEREAS, Businesses in Homer would lose the economic activity associated	with
32	provisioning the fleet in Homer including food, fuel, supplies, gear, and professional m	aring
33	trades services; and	wi ji i u
34		
35	WHEREAS, Local jobs in seafood processing, marine trades, and trucking wi	ill be
36	negatively impacted if fish is delivered to another port; and	
37		

P 1/3

P 2/3

PC 292 2 of 3

Page 2 of 3
RESOLUTION 14-019(A)
CITY OF HOMER

40	2013; and
41	
42	WHEREAS, Problems with Susitna salmon production have been identified and are the
43	result of freshwater habitat issues; and
44	
45	WHEREAS, Intensive management of saltwater fisheries will never solve the problems
46	found in the freshwater habitats of spawning and rearing salmon; and
47	
48	WHEREAS, The Board of Fisheries should eliminate restrictions on Central District drift
49	gillnetting during the July 9 through July 31 time period because it is now known that these
50	restrictions are not an effective method of improving Susitna sockeye production; and
51	
52	WHEREAS, Although it is impossible to discern the revenue generated from the
53	commercial drift fishery exclusively because many vessels participate in multiple
54	fisheries, the Homer Port and Harbor enterprise fund received combined revenues of
55	\$849,742 in 2013 from these fishing vessels, tenders, and processors; and
56 57	
57 58	WHEREAS, Adopting the proposed changes to Area 1 of the Cook Inlet Commercial
50 59	Drift Fishing District will have a negative economic impact to Homer's Port and Harbor
60	Enterprise in fish processing tax, wharfage, Fish Dock ice sales and crane usage, moorage and
61	uplands leases, and gear storage; and
62	
63	WHEREAS, Proposals to close or restrict commercial drift fishing in Area 1 disproportionally affects the occupantic health of any summer it.
64	disproportionally affects the economic health of one community.
65	NOW, THEREFORE, BE IT RESOLVED that the Homer City Council strongly opposes
66	Alaska Board of Fisheries Proposals 138, 139, 140, 142, and 143 that restrict or close
67	commercial drift fishing in Area 1.
68	
69	PASSED AND ADOPTED by the City Council of Homer, Alaska, this 13th day of January,
70	2014.
71	
72	

WHEREAS, The Homer Port and Harbor identified 170 accounts comprised of fishing

vessels, tenders, and seafood processors participating in the Upper Cook Inlet drift fishery in

2014-01-15 14:50 CITY CLERK'S OFFICE

P 3/3

PC 292 3 of 3

Page 3 of 3 RESOLUTION 14-019(A) CITY OF HOMER





2 MARY E. WYTHE, MAYOR



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PC 293

Alaska Board of Fish Letter of support, January, 2014

To: THE ALASKA BOARD OF FISH

Date: January 13, 2014

The undersigned, all residents of the Old Believer Village of Nikolaevsk Alaska, respectfully submit this letter. Nikolaevsk is a community of fishing families that rely heavily on salmon and the Cook inlet Salmon Drift Fishery. Our lives and culture are intricately entwined with both and both are threatened by the current management plan. In an effort to save salmon and the commercial Drift Fishery we write this letter in support of proposals submitted by United Cook Inlet Drift Association (UCIDA) especially proposals 135, 136 and 137

REASONS FOR OUR SUPPORT:

- 1. The current management plan, including area restrictions on the Drift Fleet, is based on old data collected by ADF&G regarding salmon returns to the Yentna River.
- 2. The latest technology, now used by ADF&G, has produced new scientific data regarding salmon returns to the Yentna River. (See Historic Yenta Escapement Data from ADF&G reports data submitted to Board of Fish by UCIDA)
- 3. This new data shows that the returns to the Yentna have historically been grossly undercounted and that the Yentna has greatly exceeded its escapement goals since 1982 (2005 being only exception)
- The new data means that the current management plan, including the area restrictions imposed on the Drift Fleet are based on faulty inaccurate data.
- 5. In light of this, a very strong argument can be made that much of the current management plan, including the area restrictions on the Drift Fleet, were never necessary, are now inappropriate and should be changed.
- 6. New Technologies and studies have resulted in scientific data identifying in-river problems seriously effecting salmon production in certain rivers and lakes in the Anchorage- Mat-Su area and on the Kenai Peninsula.(See data submitted to Board of Fish by UCIDA)
- 7. Some In-river problems identified by ADF&G that negatively affect salmon production are trampled spawning grounds, excessive erosion and run off, increasing numbers of culverts, excessive water temperature, turbidity, mortality related to hook and release, fish that are counted as spawners but die on the spawning beds with eggs intact due to the added stress of being hooked and released numerous times. These problems are the result of encroachments on in-river habitat and the increased harvest of salmon associated with a growing population. These problems and cannot be fixed by the current management plan including the area restrictions and others on the Drift Fleet which has not grown due to limited entry. Changes to the management plan are necessary or these problems will persist.
- 8. In-river production problems such as predation on salmon smolt by foreign species such as Northern Pike cannot be resolved by the current management plan including area restrictions and others on the Drift Fleet. A change in the management plan is necessary.

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Alaska Board of Fish Letter of support, January, 2014

9. The current management plan including area restriction on the Drift feet is responsible for over escapement in the Kenai River and the associated consequences that negatively affect production. Unless the plan is changed this problem will persist

CONCLUSION:

In light of the fact that the current management plan, which includes area restrictions on the Drift Fleet, is based on old inaccurate data, the plan is no longer valid and should be changed. New technology has generated new data which supports changing the plan and eliminating the area restrictions on the Drift Fleet. We support doing this as proposed by UCIDA's proposals 135,136 and 137. The current plan cannot fix the in-river problems that negatively affect production. The current plan threatens sustainability and is responsible for lost opportunity and income to the Drift Fleet. It has increased the Fleets expenses and is not conducive to an orderly or profitable fishery. We believe that leaving it in place is contrary to the Board's role of conserving and developing the fishery resources of the state. Changing the plan and eliminating the area restriction as proposed by UCIDA would make for a workable orderly fishery much like the one that existed and worked well for many years.

Finally, as a minority group, we look to the Board of Fish process for protection from the devastating effects of encroachments on the salmon resources by the overwhelming and growing majority of the Anchorage-Mat-Su area. We encourage the Board to take the time necessary to address these issues in depth at the upcoming meeting so that the growing threats to Upper Cook Inlet Salmon, the commercial Drift Fishery, and our way of life can be recognized by the Board, addressed and ultimately resolved.

Sincerely and with respect,

The Residents of the Fishing Village of Nikolaevsk

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Alaska Board of Field Letter of support, January, 2014

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Alaska Board of Fish Letter of support, January, 2014

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 $^{\rm a}$ Mark recapture estimates from 2009 to 2011 are preliminary values



Jim Colver PO Box 427 Palmer, AK 99645

January 16, 2014

Alaska Board of Fisheries Upper Cook Inlet Finfish Meeting PO Box 115526 Juneau, AK 99811

Fax (907) 465-6094

Re: Opposition to Proposal 290 / Changes to the Kasilof River PU Set Gillnet Fishery

Dear Board of Fisheries Members,

I am opposed to this proposal because 1) it will change the dates of the **Kasilof River PU Set Gillnet Fishery** creating potential conflicts with the commercial fishery and, 2) it will reduce opportunity for Alaskans to harvest sockeye salmon because it will create an unnecessary inflexible arbitrary regulatory closure trigger.

My Family has been participating in the Kasilof River personal use set gillnet fishery since 1996 and in the Cook Inlet subsistence PU set gillnet fishery since the eighties.

The fishery is an important cultural and traditional event for our extended family including my 85 year old mother and especially for our children. This is how we feed our family. The entire family assists in harvesting, cleaning and caring for the sockeye salmon. It is a fishery that youth can participate in and be taught fishing skills, work ethic, and resource conservation. You can't send an 8 year old in the river with a dipnet, but a child can help pick fish out of a gillnet.

There is no biological or scientific evidence to support this proposal to tie the closure of this fishery to Chinook conservation measures.

This past summer, the Kasilof River PU set gillnet fishery was closed on June 20th after only 5 days by Emergency Order because of Chinook sport fishing conservation measures in the Kenai & Kasilof Rivers. During the 5 day opening only 46 Chinook were harvested, and 14,400 sockeyes were caught (the average red harvest is about 22,000 for the normal scheduled 10 day season). I didn't see or hear of anyone on the beach that caught a king saimon. People were very upset at the loss of opportunity to harvest sockeyes.

The 2013 early run met the escapement goal for Kasilof River wild Chinooks with an escapement of 1,102, within the escapement goal range of 650 to 1,700 naturally-produced kings . (data provided by ADF&G Sport Fish Area Management)



If there is a Chinook conservation concern, the Department can close the PU fishery by EO. Creating an arbitrary regulatory closure trigger as this proposal mandates will reduce flexibility of managers from being able to make in-season management decisions and would likely result in lost opportunity for PU fishers.

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Changing The Season Dates For The Kasilof River Pu Set Gillnet Fishery Is A Bad Idea

If the season dates are changed as proposed in this proposal to June 20-30 from June 15-25 this may create a conflict with the Kasilof District commercial set gillnet fishery. That season usually opens about June 26-30th and can be opened on the 20th by EO if triggered by Kasilof River sockeye escapement. Opening the season later may create user conflicts between PU set gillnet and commercial set gillnet fishers. The reason this fishery is in scheduled by regulation from June 15-25 is to occur before commercial fishing generally starts on eastside beaches.

For these reasons this proposal is a bad idea.

Sincerely. Colver Jim



Jim Colver PO Box 427 Palmer, AK 99645

January 16, 2014

Alaska Board of Fisheries Upper Cook Inlet Finfish Meeting PO Box 115526 Juneau, AK 99811

Fax (907) 465-6094

Re: Opposition to PU Proposals 269, 270, 271,272,273,274,275,276,277,278279,280, 281,283,284,285,286,287,288,289

Support Proposal 282

Dear Board of Fisheries Members,

I am opposed to these proposals because the will result in lost time, opportunity, and harvest for Alaskans to participate in the Upper Cook Inlet personal use salmon fishery.

I support proposal 282 as it would allow Alaskans to share in the resource when sockeyes are abundant.

Thousands of South-central residents participate in Kenai and Kasilof personal use fisheries due to the lack of comparable local opportunities. Because of the exploitation of Northern District salmon stocks, Mat-Su residents need to participate in the Kasilof and Kenai River personal use fisheries to put food on the table.

One of the primary issues concerning current personal use fisheries is allowing opportunity and regulatory windows for delivery of fish in sufficient numbers to provide reasonable fishing opportunity.

Sinceré

Jim Colver

Jan 16 2014 1:22PM HP LASERJET FAX



PC and

PC 296 1 of 1 907-235-8363 Fax: 907-235-4135 Email: nomar@xyz.net

p.1

104 East Pioneer Avenue, Homer, Alaska, 99603

Re: Proposals 138, 139, 140, 141, 142, and 143

To whom it may concern.

l oppose proposals 138, 139, 140, 141, 142, and 143.

If adopted these proposals would close Area 1 to drift gillnetting. Regardless of their intentions, the result would be the reallocation of economic resources from Homer up the Inlet. If Area 1 is closed to fishing, the 100 plus drift boats that fish out of Homer for the first part of the season and deliver fish here would have to relocate up the Inlet, taking their business with them.

When asked "Who is likely to suffer?" on the mentioned proposals there was not one word of the economic losses to the City of Homer and the many small business that support the Upper inlet Drift Fisheries. As owner of a marine trades business in Homer the result of these proposals would be a direct loss of income. I'm only one of many small family-run marine trades businesses that would be affected. In addition; it would create a loss in hours, and possibly employment, for the 12-15 employees who support their families through my business. It would also result in the loss of a substantial amount of revenue to the Homer Harbor possibly causing harbor rate increases to make up for lost revenue.

I feel that if there is a biological concern of Upper Inlet salmon stocks that Fish and Game already has the tools it needs to manage the fishery and they are the appropriate body to regulate closed areas. Given that there is no stock identification survey that proves that closing Area 1 would in fact increase Upper Inlet fish stocks, I feel that it's best to not adopt proposals 138 through 143 and leave the biological management to Fish and Game.

i don't think that it is the Board of Fisheries intention to reallocate economic resources from one community to another. Passing these proposals based on a few groups' armchair biological management ideas would do just that, having far reaching consequences for an unknown gain.

Sincerely, nitekell

www.nomaralaska.com





January 16, 2014

ADF&G Board Support Attn: Francis 1255 W. 8th Street Juneau, AK 99811-5526

Dear Francis:

Attached please find a report that the South Central AK Dipnetters Association would like to submit the UCI BOF meeting.

Thank you for your time and assistance.





Food Security on the Kenai Peninsula, Alaska

A Report on Local Seafood Use, Consumer Preferences, and Community Needs



Human Dimension Laboratory, Water and Environmental Research Center Center for Cross-Cultural Studies University of Alaska Fairbanks





Cover Photo and layout by Philip A. Loring

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Food Security on the Kenai Peninsula, Alaska

A Report on Local Seafood, Consumer Preferences, and Community Needs

WERC-HD Occasional Report No. 01

Project Team

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About the Human Dimensions Laboratory

Faculty and students at the Human Dimensions Lab study coastal and environmental issues such as water and food security, marine resource policy and governance, environmental quality, and the engineered environment through a social and cultural frame. The HD Lab is a collaboration of faculty at the Institute of Northern Engineering and the Center for Cross-Cultural Studies at UAF.



About the Center for Cross-Cultural Studies

The Center for Cross-Cultural Studies addresses research, development and instructional issues associated with educational policies, programs and practices in culturally diverse contexts, with an emphasis on Alaska Native, rural and distance education. The research agenda for the center is established in cooperation with Native organizations, school districts and state/federal agencies, with a focus on applied research that will benefit the people of Alaska. The Center also houses the Alaska Native Knowledge Network, which serves as a resource for compiling and exchanging information related to Alaska Native knowledge systems and ways of knowing.

About the Alaska Center for Climate Assessment and Policy

The Alaska Center for Climate Assessment and Policy is was established in 2006 with core funding from the Climate Program Office of the National Oceanic and Atmospheric Administration (NOAA). ACCAP is one of a group of Regional Integrated Sciences and Assessments (RISA) programs nation-wide. The RISA program supports research that addresses sensitive and complex climate issues of concern to decision-makers and policy planners at a regional level.







Executive Summary

This document reports on a research project undertaken by faculty and students at the University of Alaska Fairbanks in the fall of 2011. We distributed a survey to 1500 randomly selected residents in the Kenai Peninsula region of Alaska, to determine the prevalence of food security, and to elicit the role of locally-caught seafood in household food security. We queried residents on a variety of details related to whether and how they participate in local fisheries, how they procure locally-caught seafood, and whether they are currently coping with some level of food stress or shortage. In addition, we obtained a number of demographic and socioeconomic details at the household level, so that we could explore in detail the relationships between income, fishing activities, access to local seafood, and food security.

In the sections that follow, we provide extensive details on the results of this survey. In summary, we found that access to locally-caught seafood plays a significant role in providing for household food security, especially for the lowest-income households. A great majority of households report fishing, but nearly a quarter report that sharing is in fact the primary way that they obtain local seafood. Thus, both income and access to seafood play primary roles in determining household food security outcomes. These households notwithstanding, many households in the Kenai Peninsula continue to face some degree of food insecurity, with about five percent of respondents facing moderate to severe food shortages.

These data serve to underscore the importance of local seafood to Alaskans, an essential step in understanding if and how communities are vulnerable to changes in those fisheries. But, we also highlight a gap in the equitable access to locally caught seafood. We conclude by discussing the need to improve access, perhaps through innovative new marketing approaches that aim to keep more Alaska seafood in the freezers and on the supper tables of Alaskans.



Hannah Harrison in Seward, AK. Photo by Philip Loring



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Introduction

This report explores the issue of food security in Alaska, focusing on the details of the Kenai Peninsula (Figure 1) and the results of a survey distributed to this region in October 2011 to 1500 randomly selected households. **Food security is an issue of growing concern across Alaska**. With a dearth of local agricultural production, Alaska exists on the borderlands of a global industrial food system that excels at producing high volumes of food commodities but that fails to provide diverse and distributed populations with affordable, high-quality, and culturally relevant foods. Historically, foodways in Alaska have been linked through subsistence activities to wild fish and game, and also to small-scale "outpost-style" agricultural production, which has been an important yet often understated component of people's food portfolios in the state since the 1800s at least. More recently, however, the state's changing economy and lifestyles have created greater dependence on imported foods, and as a result, Alaska's people and communities are more vulnerable than ever to the vagaries of climate, weather, and global markets and geopolitics.

A great deal of literature is already available that examines the economic, ecological, and sociocultural dimensions of these food system transitions, addressing such questions as how dietary changes relate to nutritional outcomes, how high-latitude biogeography circumscribes agricultural production, and how small-scale farmers and fishers can compete effectively in economic markets that are both constructed and dominated by large-scale interests (see the Bibliography for some representative citations). Unaddressed, however, are recently observed state-wide increases in the prevalence of food insecurity and in diet-related negative health outcomes such as type-2 diabetes, coronary heart disease, and colorectal cancer. These trends raise important questions regarding the drivers and determinants of

dietary change, food insecurity, as well as how people are coping with these challenges. These trends and questions are what the research detailed in this report aims to address.

Food security and insecurity are admittedly complex terms with shifting definitions that can and should vary

Food security means having reliable access to affordable, safe, high quality and culturally relevant foods.

depending on the place, scale, or societal level of interest. For the purposes of this report, food security is defined only generally, as when people have **reliable access** to affordable, safe, and high quality foods that are culturally relevant and that meet nutritional needs, and without having to resort to activities such as stealing or scavenging. By comparison, food *insecurity* can describe a variety of circumstances, including whether people are coping with some degree of food shortage, perhaps by skipping meals or reducing meal size. It can also describe scenarios where people *do* have relatively regular access to sufficient foods, but from sources that are vulnerable to disruption. This is arguably the case for much of Alaska. Thus, food security as used here also **implies a degree of control over the quality and reliability of one's food sources.** As already noted, there is an important cultural dimension here with respect to how control and self-sufficiency are defined, and as such there are practical limits on the extent to which one can measure indicators of food security/insecurity in a generalizable and comparative way. This issue will be discussed in more detail in the section on methods.

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Figure 1. Map of the Kenai Peninsula region of Alaska. Major communities are noted.

Despite the terminological and methodological challenges to defining and measuring food security, even the most basic measures show that food insecurity is on the rise across Alaska. The statewide rate of food insecurity in Alaskan households in 2010 was 14.5% according to the US Department of Agriculture's "Household Food Insecurity in the United States" report, a report that they have been releasing biennially since 2001. This rate is less than a national average reported by the same study (roughly 16%), but a "meal gap" model created by the non-profit organization Feeding America (<u>www.feedingamerica.org</u>) shows that rates of food insecurity in many rural and predominately-Alaska Native communities may be as high as 30%. What's more, these same models suggest that the highest values of food insecurity are likely among children in these regions.

Rural communities are undergoing a dramatic social and economic restructuring, or "dying" in the words of some Alaska Natives, as many residents move out of the 'bush' and into Alaska's urban centers for jobs, cheaper food and fuel, and healthcare. Everything costs more in rural Alaska (Figure 2); generally speaking, we know that food and fuel prices are related, but for the most remote and rural communities in the state, these costs are exacerbated, and as a result communities can be especially vulnerable to the vagaries of the global geopolitics and economics.



Add these socioeconomic challenges to the negative health trends noted earlier, Alaskans face a

veritable "axis of vulnerability" across social, economic, and ecological issues. In order for communities to understand, plan for, and manage these challenges, it is necessary that research identify and strive to understand the many pathways through which fundamental changes to food systems can undermine physical and mental health, as well as community social and cultural and ecological health outcomes.



Opportunities and Challenges

Alaskans are, of course aware of these challenges. Likewise, they are active in the search for **Figure 2.** Weekly food costs for a family of four and gasoline prices for Fairbanks, AK, Kenai-Soldotna, AK, and Portland, OR. Data are from the UAF Cooperative Extension Service.

innovative and effective solutions. In many parts of the state, people in communities as diverse as Nikolski in the Aleutian Islands and Fairbanks in the Alaskan Interior are trying to rebuild and revitalize local food systems with community gardens, farmers' markets, oyster mariculture, community supported agriculture and fisheries, and cooperative purchasing, to name just a few examples. Even in the most remote areas of the state, including communities on the Aleutian Islands and many north of the Arctic Circle, people are trying to revitalize a tradition of "outpost-style" gardening with seasonextending hoop houses, greenhouses powered by renewable energy, and regional community-shared and supported agriculture programs. There are a plethora of good ideas for improving food security and diet-related health outcomes in Alaska, and no shortage of motivated individuals for putting these ideas to action.

Nevertheless, many of these initiatives are challenged or stalled. Funding can be an issue, as can infrastructure and social policy. The most immediate challenges include a lack of physical/built infrastructure to meet production, processing and storage requirements. Other challenges include a lack of social services for these professionals, and stringent state and federal policies regarding food safety, quality and marketing that are designed for industrial food production and prove to be overly cumbersome and too expensive for the small-scale producer. Environmental and climatic change have also been a difficult challenge for many local food entrepreneurs. Whether hunter, fisher, or farmer, many Alaskans are finding themselves constrained by changes to weather, the timing of the seasons, and to the distribution, abundance, and migration patterns of fish and game. The food system is



effectively split in Alaska—among those with the time, skill, financial resources and opportunities to fish, farm, or harvest local foods for themselves and their families—and those who, whether out of preference, expedience or both, patronize conventional "box store" markets.

Many of the same challenges are seen in the local seafood sector, and any discussion of food security in Alaska is incomplete without at least some attention to both the current and potential future role of fisheries. For thousands of years, coastal and living marine resources have provided a keystone for the cultural, economic, and environmental health and wellbeing of Alaska's people and communities. Today, Alaska's commercial fishing industry is widely hailed as sustainable, creates over \$5.8 billion in direct and indirect economic outputs, and provides over 50 percent of the United States' wild landings. Fishing and fishing-related industries also employ more workers in Alaska than any other sector, and rank third for total economic value behind North Slope oil and the federal government. Likewise, noncommercial fishing activities continue to be of utmost importance to rural and urban communities across the state:

The food system is effectively split in Alaska—among those with the time, skill, financial resources and opportunities to fish, farm, or harvest local foods for themselves and their families—and those who do not. "bush" communities in Alaska's coastal zone and inland rely on salmon and other fish for much of their yearly food supply, and many urban households in the greater Fairbanks and Anchorage areas share a valued tradition of dip-netting for salmon on the Copper and Kenai rivers.

However, not all of the successes and benefits of Alaska's commercial fisheries are enjoyed by Alaskans, and very

little of the fish caught commercially in these fisheries is marketed in state. Even grocery stores in such iconic fishing communities as Homer, the purported "halibut fishing capital of the world," do not have fresh seafood counters. Some individuals are experimenting with innovative ways to market locally caught seafood, with schemes for direct marketing and community supported fishing. But here too, these initiatives repeatedly come up against challenges that relate to policy, infrastructure, and human resources. Commercial fishing involves long and hard days; many fishermen simply do not have the time prioritize the local marketing of their daily catch, as opposed to selling everything at once to a major fish processor. Likewise, in lieu of any sort of cooperative buying group, local demand for fish is often considered too small or inconsistent by many fishermen to make a serious business commitment to developing the local market. Some local fishermen and processors also cite cumbersome and expensive food safety policies and protocols that limit their ability to innovate on a small-scale. In Alaska, it seems that if you do not fish for yourself, or do not know someone who fishes, you are out of luck, and limited to the industrially-processed and packaged alternatives to locally caught seafood.

Impetus, Aims, Scope

This research study was designed to dig deeper into food security in Alaska and more specifically into the role of locally caught seafood in food security, particularly in the Kenai Peninsula region of the state. A premise of contemporary local/alternative food movements is that people and communities are more food secure, and hence more sustainable, when more of their food is produced, processed, and marketed locally. Embedded in this premise are a number of assumptions, however, related to best



practices and outcomes in respect to both social and environmental systems. For example many of the following claims are likely familiar to the reader:

- "Local food is healthier."
- "Local and small-scale agriculture provide better working conditions and living wages."
- "Local food systems are safer because they are more transparent, and you know your farmer and fisher."
- "Local food systems are more sustainable because they more closely connect people with their environments."

While these sentiments make for good marketing and for a vision for the future that is both valid and appreciable, none of these outcomes or premises should be considered certain. While burgeoning, local/alternative food movements across the US and elsewhere in the world are still struggling with many of the same issues we have come to blame on the industrial agricultural food complex. This does not mean that local/alternative food systems are a dead end, but rather that these persistent problems, such as inequity in access to the high quality foods that local food systems can provide, are not simply agricultural or ecological problems to begin with, but are rooted in unaddressed societal, cultural, educational, and economic issues that are part and parcel to developing and maintaining more sustainable food systems.

Alaska is rich with natural resources and also with the potential for developing secure and self-reliant communities around sustainable and locally-oriented food systems. Successes and failures, opportunities and dead ends, benefits and tradeoffs are all important issues to be evaluated and assessed. This research attempts a minor portion of that assessment. How are people in one of the most productive salmon fisheries of the world benefitting from that resource? How equitable is access to that resource and how are the benefits distributed? What is the status of current harvest regimes, and are they sustainable in both biological and societal terms? These are the questions that we have attempted to address through this work, and as we describe in the remainder of this report, these are questions that we have only begun to answer.

It should be noted that the primary impetus for this research was demonstrated community interest and need. Exploratory interviews were held with representatives from multiple community stakeholder groups in the region, including:

- MAPP of Southern Kenai Peninsula <u>http://mappofskp.net/</u>
- Kachemak Bay Research Reserve <u>http://www.adfg.alaska.gov/index.cfm?adfg=kbrr.home</u>
- Sustainable Homer http://www.sustainablehomer.org/
- Kenai Peninsula Food Bank <u>http://kpfoodbank.org/</u>

Through these interactions we learned of a variety of concerns among local residents related to issues of food security, climate change, community health, and the sustainability of local fisheries. The following research protocol describes a study design with extensive local input to address these concerns.



Study Area and Methods

Cook Inlet (Figure 1) is well known among Alaskans for its highly valued and heavily contested fisheries. The Inlet includes a stretch of ocean that reaches 180 miles north from the Gulf of Alaska, along the west coast of the Kenai Peninsula, to the city of Anchorage. The associated estuaries and watershed covers approximately 100,000 square kilometers of the South-central portion of the state and is home to over 400,000 Alaskans—more than half of the total population of the state. Scattered throughout the region are a few large and several smaller communities; Anchorage is the major city, with the bulk of the population living in the city or surrounding areas; about 50,000 people live on the Kenai Peninsula, a land mass about the size of Maine.

We selected the Kenai Peninsula as our strategic case study location to explore whether the region can serve as an accurate microcosm for exploring statewide food security issues. In planning this research we encountered a common perception that the communities of the Kenai Peninsula are demographic and socioeconomic exceptions rather than the norm for Alaska, and indeed there are differences between in vital statistics for the region and the state (see the table below). Still, we argue that many of the sociocultural, economic, ecological, and geopolitical circumstances and challenges found here are nevertheless representative of those found statewide, if only at a more subtle level. The region is home

to renewable resource industries such as fishing and tourism as well as contentious debates over non-renewable extractive resource industries such as coal and offshore oil development.

Communities on the Peninsula include the iconic fishing ports of Homer and Seward, which are regularly among the top twenty US fishing ports when ranked by dollar value of wild landings. Other large communities include Kenai and Soldotna, which rely extensively on commercial fisheries and tourism. Smaller, predominately Alaska

Vital Statistics ¹	Kenai Peninsula	Alaska
Population	56,293	722,718
Demography		
Caucasian	85.0%	67.9%
African American	0.6%	3.6%
AKN/AI	7.5%	14.9%
Asian	1.2%	5.6%
Native Hawaiian	0.3%	1. 1 %
2+ Races	5.4%	7.0%
Unemployment ²	9.3%	7.6%
Food Insecurity ³	14.7%	14.6%
Children	20.4%	19.9%
Per Capita Income	\$29,127	\$30,726
Below Poverty Level	9.5%	9.5%

Table 1. Comparative details for the Kenai Peninsula.

Native or Russian communities include Seldovia, Port Graham, and Nanwalek, which are not on the road system. In isolated communities, subsistence hunting and fishing play an especially important role in household livelihoods and community well-being. The Cook Inlet watershed and the Kenai River in particular host all five species of Pacific salmon, with salmon runs numbering in the millions. Finally, more than 70 percent of the land on the Kenai Peninsula is federally managed, which approximately parallels land jurisdiction for the state at large.

With respect to food security, data from the Feeding America show that the Kenai Peninsula Borough has rates that approximate the state average. Other relevant socioeconomic data that put the borough in a statewide and national context are shown in Table 1.



Methods

In order to better understand the state of household food security in the region, including the role of locally caught seafood, we distributed a survey via the US Postal Service to 1500 households randomly selected from a list of residential addresses for all of the zip codes on the Kenai Peninsula. Surveys were designed and distributed following a modified version of the "Tailored Design Method" crafted by Don Dillman and



Figure 3. The method used to measure food security in this research provides a unit-less "score" for each household between 11 and 44. The scale does not begin at zero because the method is not designed to capture the most extreme kinds of hunger that some people experience.

colleagues. To raise awareness, we arranged interviews on local public radio to discuss the research. To maximize response rates, we sent post-cards notifying recipients that their address had been randomly selected and that they should expect a survey soon. With the survey we included a token incentive—a one dollar bill. We also followed the survey with a reminder post-card thanking people for their participation. As we discuss in the results section below, our high response rates confirm the efficacy of this survey distribution methodology.

Respondents were asked to report if someone in their household fishes and if so, to specify whether this includes fishing commercially, fishing for sport, fishing as a guide/charter, and/or fishing for personal

		hich of the following would Sircle one for each pair.
Pacific Cod	-or-	Black Cod
Black Cod	-or-	Halibut
Halibut	~0 1 ~	Rockfish
Pacific Cod	-0 r -	Rockfish
Salmon	-or-	Halibut
Rockfish	-or-	Black Cod
Salmon	-or-	Black Cod
Salmon	-or-	Pacific Cod
Halibut	-or-	Pacific Cod
Salmon	-or-	Rockfish

Figure 4. An example of a paired comparison test.

use or subsistence. Next they were asked to report if they consume fish or other seafood; for those with a positive response, several questions followed regarding how and where they obtain the seafood, and their preferences when selecting seafood. To measure food security, the survey included six questions about "coping strategies." These ask respondents to report how often they take actions such as reducing meal size or skipping meals because there is not enough food and/or so that someone else in their household can eat (Figure 3). Responses to these questions are tallied in such a way as to create a score in the range of 11 to 44, with 11 being extremely food insecure and 44 being completely food secure.

Seafood consumption preferences were also elicited using a series of paired comparisons (Figure 4), with



respondents asked to chose between two kinds of fish, and asked to do so for every permutation of possible comparisons. This method not only allows the identification of consumption preferences both within and among groups, it also reveals the relative strength of those preferences, something we explore in the results section below.

Other questions on the survey addressed household composition and income level, and whether or not respondents presently rely on some form of nutritional assistance such as the Alaska Food Stamp Program or the Special Supplemental Nutrition Program for Women, Infants, and Children (WiC).

The complete survey can be found as an Appendix at the back of this report.

Who Responded?

Of the 1500 surveys mailed, 490 responses were received and 75 were returned as undeliverable, for an adjusted response rate of 34.38 percent and a confidence level greater than 95 percent that the sampled population is representative of the population of the Kenai Peninsula at large. Table 2 provides response rates by ethnicity / culture group.

Socioeconomic details such as household composition and income were comparable to figures for the rest of the state (Figure 5); for example, the median household

Ethnicity/Culture	n	Rate		
Caucasian		395	83.0%	
African American		1	0.2%	
AKN/AI		42	8.8%	
Asian		7	1.5%	
Native Hawaiian		3	0.6%	
Hispanic		6	1.3%	
Russian		5	1.0%	
Other		17	3.6%	
Total		459	100%	

Table 2. Response count and rates (among those who answered this question.)



Figure 5. Comparison - Kenai and State Data

■ State Unemployment Rate

- Unemployment Rate (AK Data)
- Respondents Unemployment
- Respondents Using Food
- State Food Stamp Usage

Figure 5. This chart presents socioeconomic data for survey respondents compared against data from state agencies. Note differences between unemployment rates, and similarities regarding the use of food assistance programs.



income in 2010 in the Kenai Peninsula Borough according to the state of Alaska was \$57k, and in our study, the median income was in the \$50-75k range. Interestingly, income in the Peninsula was relatively balanced, with the highest percentage of respondents' households (27.5 percent) failing within the \$25-\$50k income bracket

(Figure 6).

Significant variance from the mean was found for the household income reported by among Alaska Native / American Indian (AKN/AI) respondents. Over 30 percent of AKN/AI respondents reported household incomes in the lowest bracket, roughly 10 percent more than in the Caucasian group. Similarly, 7 percent fewer AKN/AI respondents reported incomes at the highest level than Caucasian respondents.



Respondents' Household Income

Figure 6. The distribution of household income for the entire population as well as just for Alaska Native and Caucasian households. Other ethnicity/culture groups are not included here because response rates for those groups were too low.

Additional data stand out as noteworthy. For example, over 14 percent of respondents reported that they were unemployed, which is nearly twice the state unemployment rate reported for the State of Alaska, and five points higher than the reported rate for the Kenai Peninsula Borough. It may be the case that our numbers include those who have dropped out of the workforce, but these differences nevertheless warrant additional research.

Fishing & Fish Consumption

Nearly 80 percent of respondents reported that someone in their household fishes, the majority of which (66.5 percent) describe their primary fishing activities as for personal use and subsistence. Sport fishing was the next most common kind of fishing (42 percent), followed by a much smaller group of commercial fishers (7 percent) and guide/charter operators (2 percent).

Fishing is not the only way that Kenai Peninsula residents obtain seafood (Figure 7). While 80 percent of people report fishing, only 62 percent of respondents describe fishing as their primary way of obtaining seafood. 23 percent of respondents instead reported that **sharing** was the most common way they procure fish. Very few people, by comparison, obtained seafood through other means, such as major or local grocers. This aligns with the fact that grocers in the Kenai Peninsula do not carry locally caught seafood, but only an assortment of frozen products that are packaged and distributed from out of state.





That 23 percent of people in the Kenai Peninsula rely on sharing for their seafood is also an important finding because it indicates that a considerable number of people rely on local seafood even though they do not harvest it themselves. As such, we also explored the demographics of who relies on shared fish, and found a compelling, if not terribly surprising pattern (Figure 8). The contribution of fishing and sharing as the primary



source of fish are found to correlate negatively with one another, with a positive relationship between fishing and household income, and a negative relationship between sharing and household income. In other words, more low income households rely on sharing as their primary source of locally-caught seafood than do households at higher income levels; more high-income households rely on fishing as their primary source of locally caught seafood than do lower-income households; and changes in one are made up for by changes

in the other as income varies.

One additional finding relates only to the lowest household income category: barter and trade of fish, which is different from sharing in that it describes and explicit component of fair exchange of goods and services, are the primary methods of procuring locally-caught seafood for 10 percent of respondents at the lowest household income level. For all other income levels, the contribution of barter and trade were 3 percent or less. This is significant because it represents an important



Primary Method of Procurement,

Figure 8. Respondents' primary method of procurement was found to vary significantly with income level. As you can see above, lower-income households share more and fish less than higher income households. Also noteworthy is a significant percentage of households relying on barter and trade at the lowest income level.



pattern of local exchange, and raises the question of what goods and services people in this income bracket are providing in return. Also, it is significant because barter and trade of fish caught under the auspices of personal use and/or sport fishing is, with some exceptions, illegal in the State of Alaska.

Consumption Rates & Preferences

While fishing and fish consumption are ubiquitous across the Peninsula, we thought it important to

explore how often people consume fish, which types they prefer, and whether preference and consumption patterns vary among respondents, whether by demographic or socioeconomic group (Figure 9).

Many residents report regularly consuming seafood regularly, with between 45 and 50 percent of all respondents reporting that they eat it multiple times per week. Salmon was easily the most emphasized species, with 93 percent reporting an emphasis on salmon. Halibut and



What Kinds of Local Seafood Do You Eat?

Figure 9. Residents of the Kenai Peninsula rely on a wide variety of seafood resources. Salmon, halibut, and clams round out the top three emphasized items.

clams round out the top three consumed resources. When asked to describe the role of salmon in their household, 67 percent reported that it is an important part of their diet, 24 percent responded that it is an important part of their financial security, and 55 percent reported that salmon are important to their community and/or culture

Interestingly, household income did not prove to influence how frequently people eat seafood (Figure 10). Indeed, all households had the same pattern, split roughly 50-50 between eating salmon "sometimes," which describes as 2-5 times per week, and "rarely," which describes once of fewer times per week (but not never).

Consumption patterns are not necessarily predictors of preference, and both are important components of food security (described later in more detail.) How, if at all, do preferences regarding seafood vary among our respondents? As described in the methods section we queried respondents on their preferences regarding salmon, halibut, rockfish, black cod, and pacific cod, comparing two options at a time for each permutation, with a method that allows us to infer both order and strength of preference within a group (Figure 11). While the overall pattern of preference seen in these data are not surprising, halibut being the most popular, followed by salmon, rockfish, black cod, and pacific cod, we also found an interesting effect of income on reported fish preference. At the lowest income levels, the strength of overall preferences was much reduced. That does not mean that low-income respondents do not have



strong preferences, but as a group, that these demand as a result of these preferences is less stratified. In other words, the different fish species are more equally interchangeable, most noticeably the case for salmon and halibut.

Conversely for the highest income level, fish preferences were extraordinarily strong, with halibut and salmon being preferred more exclusively, and Pacific cod coming in a dead last.

We can only speculate about what these

data tell us about the interactions

between food cost, availability,

How Often Do You Eat Seafood?



Figure 10. The frequency at which people consume seafood is an important parameter for understanding its role in household and community food security, and also provides insight into dietary patterns and regional health status.

household socioeconomic status, and consumer preferences. In one sense, the data seem to contradict the hypothesis that lower-income households will covet more strongly those food items that society deems luxurious than high-income households. In other words, among Americans in general, Alaska halibut and salmon have a reputation as expensive, gourmet foods. It stands to reason that the lowest income household will report stronger preferences for these foods because they consider them to be exclusive or associate them with a higher quality of life. One possible explanation for the patterns seen in Figure 11 is that strong preferences are more likely develop among those households that are less economically constrained.





Figure 11. Relative preference among income groups for the five major kinds of fish included in our survey. The *y* axis indicates a normalized, unit-less scale for preferences. The data can be interpreted both for the order of preference and by the distance between points, which indicates strength of preference.



Food Security: Availability, Access, Utilization

Food security is a process. People are constantly navigating changes and uncertainty, whether with respect to food prices or salmon returns, and when people are able to make dietary and lifestyle decisions that support health in its various biophysical, social, and ecological dimensions, we can think of them as experiencing food security. Within this process, we can think about three general issues that drive a household or community's food security: availability of food, access to food, and utilization.

Food availability involves the amount, type and quality of food a person or community has at its disposal; this can be analyzed in terms of availability from local production, the efficiency of distribution channels for moving food where it needs to be, and the vulnerability of those distribution channels to supply and disruption.

Food access involves the ability of each person to procure the foods that are available, including physical and logistic access to the locations where foods can be procured, affordability of foods, as well as how food allocation mechanisms such as subsidies, trade agreements, and other government policies work. Limits to access also involve any policy barriers, such as hunting and fishing regulations, that impede a consumer's ability to acquire foods that meet their sociocultural and biophysical food needs and preferences.

When people are able to make dietary and lifestyle decisions that support health in its various biophysical, social, and ecological dimensions, we can think of them as experiencing faod security.

This latter issue of sociocultural and biophysical needs also relates to the third aspect of food security f**ood utilization**—which refers to people's ability to derive all potential and needed benefits from the foods they do have access to. Utilization includes factors such as food safety nutritional quality, and food consumption patterns and preferences.

In the sections that follow, we describe the patterns that emerged specifically for our measurement of household food security scores, using the unit-less index of 11-44 described in the Methods section. This index does not give us any specific information about availability, access, or utilization, just a crude measure of whether or not people are coping with some degree of food insecurity. More robust inferences can be made, however, when exploring how reported food security scores vary among different households, perhaps by income level or by relative access to locally caught seafood. We do not claim to have identified *causal* relationships in this analysis, but do believe we have uncovered **compelling empirical patterns that match a number of common hypotheses about food security and the role of local food systems.**

Local Seafood and Food Security in the Kenai Peninsula

Overall food insecurity in the Kenai Peninsula was found to be more extensive than suggested by Feeding America's data for the region, which, as noted in Table 1, is a rate of 14.7 percent. We found



that 27 percent of respondents report some degree of food insecurity, and only 39 percent of respondents achieved a perfect score of 44, indicating that a very significant number of people are making some accommodations in their diet (Figure 12)!

It is also possible to compare average food security scores by community in the region (Figure 13). While the surv ey was distributed to a random selection of addresses in the Peninsula, some smaller communities did not have high enough response rates (e.g., 1 or 2) to be included in our analysis. The average food score for the peninsula is 41, which if you refer back to the methods section qualifies as relatively food secure.

Food Security in the Peninsula



Figure 12. Distribution of food security scores as categorized in Figure 3.

However, there is pretty dramatic variation among communities. The community of Nikiski in particular, scores statistically significantly lower on average than the rest of the peninsula; likewise, Ninilchik scores higher than other communities, though a low sample size (17) for Ninilchik may mean that this is not statistically significant.

Another, more revealing way to look at the distribution of food security in the Peninsula is to look at how scores vary by income and/or other demographic details. Figure 14a shows how food security scores vary by income bracket. We found a weak (r=0.500) but significant correlation in the overall



score and income. However, we also want to explore the role of access to local seafood in producing household food security. To do so, we first used a statistical tool called a two-tailed Students T-test (Table 3), with which we found a statistically significant increase in the mean food security score for those with access to locally caught fish for the lowest income bracket. We interpret this as supporting a hypothesis that access to local seafood does improve food security for low-income households.

population between food security

Figure 13. Food security score by community. Overall average score for the region is 41. Nikiski and Ninilchik are the only two communities with average food security scores that are statistically significantly different from average.





Figures 14a and 14b. These box plots show how food security scores are distributed within and among income brackets. The blue regions represent the food security scores for the middle two quartiles, while the 'whiskers' illustrate the total range from minimum to maximum reported score. Box plot B shows how the distribution of food security scores changes when low-income households with access to locally caught seafood are removed from the sample. Recall that the index range is 11-44.

To look at this finding another way, we temporarily removed from the sample population low-income households who have access to local fish. Our rationale for doing so was that the correlation between household income and food security score should not change when these households are removed from the population. Confirming our hypothesis, we found that the correlation coefficient between household income and food security score improves from a weak correlation (r=0.500) to a much stronger correlation (r=0.709) when low income households with access to fish are removed from the sample.

These are extremely significant findings as they relate to the claims made in support of local food systems discussed in the Introduction. Specifically, these data support the premise that **local food** systems can support better social outcomes, i.e., food security. Indeed, we know of no other study in

Household Income	Food Security Score, With Fish	Food Security Score, Without Fish	Difference	р
>\$25k	39.19	36.32	2.87*	0.003666577
\$25k-\$50k	39.42	38.23	1.19	0.164935747
\$50k-75k	42. 1 5	42.93	-0.78	0.262101295
\$75k-\$100k	43.32	43.42	-0.10	0.775600889
>\$100k	43.53	42.75	0.78	0.376032664
All	41.30	39.31	1.99	
ANOVA	F=25.9	F=16.02		

Table 3. Comparison of Food Security Scores among households with and without access to locally caught seafood.



Alaska or elsewhere that provides empirical data in support of this premise. Also of interest is that so many Kenai Peninsula residents obtain their fish through sharing and barter and trade. This suggests that the Kenai Peninsula has a relatively robust local food system, albeit "informal" or "alternative" in the sense that it is not oriented around a mainstream market-based distribution system for moving food from production to consumption. However, we cannot forget the many households in the region that do

experience moderate to severe food insecurity, many of which report not having access to local seafood. These people's experiences highlight the need to better understand the drivers and determinants that limit local marketing of locally caught seafood, such that these households might also enjoy the security that Alaskan seafood already provide for so many others.

There are a few final details related to socioeconomics and

food security in the Kenai Peninsula that bear reporting. First, we explored whether food security varies with ethnicity/culture group. While we did find a significant difference in income among different ethnic/culture groups (Figure 6), we did not find that ethnic/culture group influences average food security score. This finding is likely related to the findings discussed above that access to local fish among these households improves their food security. Respondents were also asked to identify whether anyone in their household was unemployed, disabled, or retired. Based on these responses, we found that households with members who are disabled or unemployed both have statistically significantly lower food security scores than average (Fig. 15).

Even more interesting, is that the greatest differential is not at the lowest income bracket, <\$25k/year. Rather, food security scores are lowest among households in the \$25k-\$50k bracket that report one or more members unemployed. There are multiple possible meanings of these data that need to be explored through additional research in more detail. One is that some households in this income bracket do not qualify for food assistance programs that they would otherwise benefit from (the "meal gap" hypothesized by the group Feeding America). Note that in Fig. 15, the two highest income brackets are omitted because too few respondents fell into this category for comparisons to be statistically significant.

Food Security for Non-workers

We hypothesized that access to

locally caught fish helps buffer the

lowest-income households against

food insecurity. Our data support

this hypothesis.



Figure 15. Average food security scores are reported for the first three income groups, for households with members who are not in the work force, i.e., unemployed, disabled, retired. A statistically significant decrease from mean is observed for households with one or more members who are unemployed, but only in the \$25k-\$50 income bracket.



Discussion

Food security is an issue of growing concern among residents of the Kenai Peninsula as well as the State of Alaska as a whole. Recent and record declines and shortfalls in the returns of king salmon to the Kenai River, and related closures in 2012 of some commercial and sport fisheries as a result, highlight the immense importance of salmon and other fisheries to the region. The data on which we report here increase our understanding of both the ubiquity of local seafood use in the Kenai Peninsula, and its importance to household food security. It is encouraging to know that so many Alaskans benefit from these fisheries, and even more encouraging knowing that many low-income households are able to

A premise of small-scale alternative food movements is that developing local food production systems for local consumption will strengthen community sustainability and security. Our data show this to be the case for the Kenai Peninsula. But, there is still work to be done. make ends meet because of the access they enjoy to locally caught seafood. It is clear that the stakes are high for managing these resources sustainably.

Some attention must be turned, however, to those food insecure households in the region who report not having access to locally caught seafood. While many obviously do enjoy the benefits of local seafood, whether because they harvest it themselves or because they can obtain it via sharing or barter and trade, our data suggest that many local residents do not enjoy these benefits. Perhaps this is because these families do not have the time,

supplies, or resources to fish for themselves, or that they lack the requisite social relationships with people who have fish to spare. Research is needed to better understand this vulnerable group, and to identify existing and new venues for expanding the distribution and marketing of locally caught seafood so that they may benefit from local resources as much as their neighbors.

There is no doubt that Alaska's fisheries provide much to the state by way of income, employment, and cultural value. However, the colorful images of rugged-yet-thriving people and communities that adorn many of the marketing materials for Alaska's commercial fisheries (Figure 16) might unintentionally obscure the more complicated reality that is presently on display in places like the Kenai Peninsula and the many more remote rural regions of the state: high and growing rates of food insecurity, rural economic decline, and domination of the commercial fishing industry by international corporations and export markets. It is hard not to find contradictions when contrasting the gains of a \$5.8 billion food industry with rural food insecurity rates that range between 15 and 30 percent of the population.

A question remains as to what role Alaska fisheries can and should play in improving the food security of Alaskans. Much is made lately of the need to improve the sustainability and self-reliance of Alaska communities through improvements to local food systems. A premise of these small-scale alternative food system movements is that developing local food production for local consumption will strengthen the system's sustainability and security. Our data show this to be the case for the Kenai Peninsula. But, there is still work to be done.





Figure 16. An exhibit featuring the Alaska seafood industry at the Alaska SeaLife Center (Seward, AK). This exhibit was constructed with support from the Alaska Seafood Marketing Institute (ASMI). Photo used with permission.

Clearly, Alaskans do not currently have equitable access to Alaska's seafood resources. It seems counterintuitive that one is hard-pressed to purchase fresh, locally caught seafood in Alaska. Even in such iconic fishing communities as Homer, the self-described halibut capital of the world, grocery stores do not have a seafood counter. The commercial fishing industry has developed around national and global rather than local markets, but reform is possible. There are several exciting and ongoing projects that aim to improve the presence of locally caught and grown foods in the Alaska marketplace. These include farm-to-school and fish-to-school programs that focus on making our schoolchildren, a group that is currently among the most food insecure in the state, the first beneficiaries of food systems innovation (Appendix II). Taking a cue from the extremely successful business model of community supported agriculture, some fishermen are also experimenting with community supported fishing (CS-Fish or CSF). These programs are creating new spaces for insinuating food systems reform at the state and community level, and also for developing the beginnings of the civic apparatus necessary for ensuring food security for all Alaskans.

A Note on Climate Change

It is important when discussing the future of food security and seafood in Alaska to raise the issue of climate change, specifically with respect to how the observed and projected impacts of a changing climate might impact salmon, other coastal and marine living resources, and coastal communities.



Whether or not driven by anthropogenic forcing, we already know that ecosystems and fisheries in Alaska waters are changing rapidly in response to changes in air temperature, sea temperature, and seaice conditions. In the Kenai Peninsula and Cook Inlet regions, the effects of climate change have been pronounced, including events such as spruce bark beetle outbreaks, three 50-100 year flood events since 2002, seasonal (summer) drying trends observed for area wetlands, and significant warming trends observed for salmon streams across the Cook Inlet watershed. The latter three can have direct impacts on salmon, and have spurred concern among many area residents. Writer and Homer resident Nancy Lord, for example, in her recent book *Early Warming*, writes,

Salmon are adaptive; we know this. The five Alaska species have managed to survive in this part of the world for six million years, through periods of warmth and cold. ... [However], the challenge this time looks to come from climate change that modifies both freshwater and marine conditions on a large scale, and rapidly. Despite all of Alaska's bragging about our sustainable salmon management, we may find ourselves up the proverbial creek. This time, the degree and speed of change may be more than salmon, as a species, can adapt to (p. 29)

There is clear evidence that river and stream temperatures are rising across the state, and in particular for the Cook Inlet watershed (Figure 17). Of 41 salmon streams that are monitored by the regional nonprofit Cook InletKeeper, 35% as of 2009 already showed temperatures above 20°C along adult salmon migration corridors. The temperature threshold for adult Chinook salmon is thought to be between 20° and 21°C. Just how local salmon populations will be impacted by these changes is unclear. It is true, as Lord writes, that salmon have proven over millennia to be extremely adaptive. However, that process of adaptation could lead to changes as minimal as a change in the timing of salmon runs, or as significant as northward migration and complete regional die-offs of salmon within the next 50 to 100 years. Too, it is important to recognize that salmon today have to contend with a human footprint that is much more extensive than found in Alaska even a few decades ago (i.e., because of the development of roads, bridges, and culverts, fishing pressure, and off-shore energy development). As such, past patterns of adaptability for salmon are not necessarily effective predictors of future salmon behavior. To paraphrase Sue Mauger, area biologist from the local environment non-profit Cook Inlet Keeper who is quoted extensively in Lord's book, salmon today are being stressed from several directions at once.

Part and parcel of anticipating the possible future impacts of climate change is developing an understanding of which communities, sectors, and demographics will be most vulnerable to likely changes. From the perspective of food security, the uncertain future status of Cook Inlet salmon represents a worrisome vulnerability for all communities in the Kenai, particularly because so many local households rely on locally caught salmon. A poignant but as-yet unanswered question is how families will respond if salmon runs do indeed decline, especially those families at the lowest income levels.


Figure 17. In 2011, summer stream temperatures exceeded Alaska's Water Temperature Criteria of 13oC at 42 sites, 15oC at 36 sites, and 20oC at 11 sites. Temperature logger sites and their contributing watersheds are color-coded by the highest exceedance value. Cook Inletkeeper is also using projections for climate change to model possible future water temperatures, and these data should be available in 2013. Map by Cook Inletkeeper and the Nature Conservancy.



Conclusion

As noted earlier we can only draw inferences from the data we discuss in this report. In-depth, household-level ethnographic research is necessary to better understand the patterns we have identified. However, given that many of our findings track with the general principles and premises of local food systems being researched elsewhere in the world, we believe that our analysis is on the right track. **The opportunity is real for Alaska to be a leader in the ongoing global pattern of food system reform**. Alaska fisheries have undergone multiple complex ecological and sociopolitical transitions in the last few hundred years, and some of those transitions are continuing. While the managers of these fisheries can claim many successes, there remains room for improvement. It is our firm belief that it is possible to build community food security through the proactive local marketing of locally-caught seafood in Alaska in a way that enriches our peoples and strengthens our communities, without sacrificing responsible management or important commercial activities.

Alaska has a globally recognized track record for setting the standard for effective and sustainable fisheries management, and as such is particularly well situated to once again lead the world in developing fisheries and food system governance that ensures outcomes of food security and environmental justice for all stakeholders.



Acknowledgements

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Hannah Harrison at Kachemak Bay. Photo by Philip Loring.



Appendix I. The Survey

UKAST UKARATY DIALARA FAIRBANKS	You've Been Selected—We Need Your	Help!
		10/31/11
Dear Kenai Peninsu	la Resident,	
In particular, my res consistent and relia of learning about th their thoughts, expe	or you help in understanding the quality of life in the Kenai Per search team is trying to better understand how many Peninsule ble access to healthy foods, for themselves and for their familie is kind of issue is by asking all different kinds of people who liv riences, and opinions. Your address is one of only a small nu to help in this study.	residents do not have s. The best way we have e in your area to share
To make sure we he over) in your house purchasing grocerie	ar from all different types of people who live in the area, we as hold complete this questionnaire, preferably one who is respon s on a regular basis.	k that an adult (age 18 or Isible for paying bills or
voluntary and will	onnaire should only take about 20 minutes to complete. Your 1 be kept anonymous. Your names are not on our mailing list, a with your mailing address.	
telephone at 907-47 by the University of participant in this st	tions about this survey, please contact me, Dr. Philip Loring, th 4-7163 or by email at <u>ploring@alaska.edu</u> . This study has been Alaska's Office of Research Integrity. If you have any questions udy, you may contact them by telephone at 907-474-7800 (Fai he Fairbanks area) or <u>fyirb@uaf.edu</u> .	reviewed and approved about your rights as a
By taking a few min belping us a great do concerns in your co	ates to share your thoughts about life in the Kenai Peninsula, yo al, you will be helping to raise awareness about living conditio ninunity.	ou wili not only be ns and economic
accept the enclosed	y completing the questionnaire and look forward to receiving y dollar as a token of thanks for your time. If you prefer taking th IRL: <u>http://www.surveymonkey.com/s/KenaiFoodSecurity</u>	
Many Thanks,		
Dr. Philip A Loring University of Alaska	Fairbanks	
	Alaska Center for Climate Assessment & Policy University of Alaska Fairbanks PO Box 755910, Fairbanks AK 99775	



	ou for taking the time to complete our survey! Your thoughtful answers will b better understand the economic challenges facing Alaskans, and the
special ro	ole that wild, local seafood plays in the livelihoods of Alaska families.
	Section 1 - Seafood
1. Dog	you or does someone in your household fish for salmon, halibut, or any other kind of I wild seafood?
100	
ſ <u></u>	
	 V 2. If you said yes to Question 1, how would you describe these fishing activities? Select <u>all</u> that apply.
	For commercial purposes
	G For sport
	🗋 For tourism (I am a guide or charter)
	□ For subsistence or personal use
	 If you said yes to Question 1, what kinds of wild sealood did you harvest this year (2011)? Select <u>all</u> that apply.
	🗋 Salmon
	🗌 Halibut
	🗋 Pacific Cod
	Black cod (sablefish)
	$\Box \operatorname{Crab}(\operatorname{any})$
	Clams
	Chains Other
Į	
γ 4. Ηοι	r frequently do you and your family eat seafood? Please select only <u>one.</u>
	🗋 Frequently (almost every day)
	Sometimes (2-5 times per week)
	Rarely (once or fewer times per week)
	V 4b. Why not? Please use this space to elaborate, and then skip to Section 3 on page 6
	is way not clease are an space to entry and then ship to been and on page t



 How often do you eat 	each of the follow	wing kinds of seafo	od?	
	Frequently (More than once a week)	Regularly (three to four times a month)	Rarely (one or fewer times a month)	Never
Salmon				
Halibut				
Pacific Cod				
Black Cod (Sablefish)			D	D
Rockfish	D			
Crab (any)		D		
Clams				
. If faced with the choic each pair.	ce, which of the fo	bliowing would you	ı prefer to eat? Plec	use cirvle one for
each pair.	te, which of the fa refer salmon to haliba		ı prefer to eat? <i>Plet</i>	ise circle one for
each pair.			ı prefer to eat? Plet	ise cirvle one for
each pair. Example: If you pi	refer salmon to haliba	nt, circle salmon.	ı prefer to eat? <i>Plet</i>	ise cirvle one for
each pair. Example: If you pi Halidut	efer salmon to halibs -or-	at, circle salmon. Salmon	ı prefer to cat? <i>Plet</i>	ise cirvle one for
each pair. Example: If you pr Halibut Pacific Cod Black Cod Halibut	refer salmon to haliba -or- -Or-	nt, circle salmon. Salmon Black Cod	ı prefer to eat? <i>Plet</i>	isë cirvle one for
each pair. Example: If you pr Haldut Pacific Cod Black Cod Halibut Pacific Cod	-01- -01- -01- -01- -01- -01-	ut, circle salmon. Salmon Błack Cod Halibut Rockfish Rockfish	ı prefer to eat? <i>Plet</i>	ise cirvle one for
each pair. Example: If you pr Halibut Pacific Cod Black Cod Halibut Pacific Cod Salmon	-01- -01- -01- -01- -01- -01- -01-	at, circle salmon. Salmon Black Cod Halibut Rockfish Rockfish Halibut	ı prefer to eat? <i>Plet</i>	isë cirvle one for
each pair. Example: If you pr Halibut Pacific Cod Black Cod Halibut Pacific Cod Salmon Rockfish	-or- -Or- -Or- -Or- -Or- -Or- -Or- -Or-	st, circle salmon. Salmon Black Cod Halibut Rockfish Rockfish Halibut Black Cod	ı prefer to eat? <i>Plet</i>	tse cirvle one for
each pair. Example: If you pr Halibut Pacific Cod Black Cod Halibut Pacific Cod Saimon Rockfish Saimon	-or- -Or- -Or- -Or- -Or- -Or- -Or- -Or-	nt circle salmon. Salmon Błack Cod Halibut Rockfish Rockfish Halibut Błack Cod Błack Cod	a prefer to eat? <i>Plec</i>	ise cirvle one for
each pair. Example: If you pr Halibut Pacific Cod Black Cod Halibut Pacific Cod Salmon Rockfish	-or- -Or- -Or- -Or- -Or- -Or- -Or- -Or-	st, circle salmon. Salmon Black Cod Halibut Rockfish Rockfish Halibut Black Cod	ı prefer to eat? <i>Plet</i>	15ê cîrvle one for
each pair. Example: If you pr Haldout Pacific Cod Black Cod Halibut Pacific Cod Saimon Rockfish Saimon Saimon	-01- -01- -01- -01- -01- -01- -01- -01-	at, circle salmon. Salmon Błack Cod Halibut Rockfish Rockfish Halibut Błack Cod Błack Cod Pacific Cod	ı prefer to eat? <i>Plet</i>	isë cirvle one for
each pair. Example: If you pr Hakbur Pacific Cod Black Cod Halibut Pacific Cod Salmon Rockfish Salmon Salmon Halibat	-01- -01- -01- -01- -01- -01- -01- -01-	at, circle salmon. Salmon Black Cod Halibut Rockfish Rockfish Halibut Black Cod Black Cod Black Cod Pacific Cod	ı prefer to eat? <i>Plet</i>	tse cirvle one for

ſ



Kenai Peninsula Food Security Survey
7. Other than fishing, how do you get seafood? <i>Select <u>all</u> that apply.</i>
 I buy from a fisherman (dockside, farmers' market, fish share, personal arrangement) From a major grocery store (Safeway, Fred Meyer, Walmart) From a less common grocery store (Save-u-more, Three Bears, etc.) Fish processor (Ed's Kasilof, Coal Point, etc.) Someone shares their fish with me for free Barter or trade (e.g., swapping goods, favors, or services for fish) Other
8. What is the <u>most common</u> way you get seafood? <i>Select <u>only one</u>,</i>
 Fishing From a fisherman (dockside, farmers' market, fish share, other arrangement) From a major grocery store (Safeway, Fred Meyer, etc.) From a less common grocery store (Save-u-more, Three Bears, etc.) From a fish processor (Ed's Kasilof, Coal Point, etc.) Someone shares their fish with me for free Barter or trade (e.g., swapping goods, favors, or services for fish) Other
Continue to the Next Page, Please.
Page 3 of 8

	PC 297 34 of 42
Kenai Peninsula Food Security Survey	
Section 2 – Salmon	
In this section we ask only about salmon unless otherwise indicated . We understand that halibut, cod, and other seafood are also important! By focusiug on salmon, we keep the survey short while still getting valuable information for you. 10. How would you describe the role of salmon in your household? <i>Select <u>all</u> that apply</i> .	
Salmon is an important part of our diet Salmon is important to our financial security	

Salmon is important to our culture or identity
💭 Salmon is important to our community
Salmon is important for other reasons (explain)
\Box We neither regularly consume nor fish for salmon in our household \circ

10b. Why not? Please use this space to elaborate, and then skip to Section 3 on page 6.

11. During the local salmon fishing season (roughly, late May through September) how frequently does your family eat salmon? Please select only one.

□ Frequently (almost every day)

□ Sometimes (2-5 times per week)

□ Rarely (once or fewer times per week)

□ Never

12. When local salmon are not in season (roughly, October through May), how many times a week does your family eat salmon? Please select only one,

□ Frequently (almost every day)

- □ Sometimes (2-5 times per week)
- □ Rarely (once or fewer times per week)

🔲 Never

Page 4 of 8



13. Do you use any preserva not in season? <i>Select <u>all</u> (</i>	tion/storage methods to keep salmon for consumption when it is that apply.
□ Freeze □ Smoke □ Dry □ Can / jar	
🗖 Salt 🗋 Other (please sy	pecify]:
🗋 We do not pres	erve or otherwise store salmon
13b	. Why not? Please use this space to elaborate, and then skip to Section 3 on page t
14. If your answer to Questio	on 14 is that you freeze or otherwise preserve salmon, do you ever
find yourself with left ov	er salmon when the fishing season opens the next year?
🗆 Yes, usually	
🗆 Yes, sometimes	Į.
 Yes, sometimes No, never 	Ų
	Å
	15b. If yes, what do you do with the left over salmon? <i>Please select <u>all</u> that app</i>
	 If yes, what do you do with the left over salmon? Please select all that approach the select all the
	 ↓ 15b. If yes, what do you do with the left over salmon? Please select all that app □ Sell it □ Trade or barter it
	 ↓ 15b. If yes, what do you do with the left over salmon? Please select all that app. □ Sell it □ Trade or barter it □ Give it away
	 ↓ 15b. If yes, what do you do with the left over salmon? Please select all that app □ Sell it □ Trade or barter it
	 15b. If yes, what do you do with the left over salmon? Please select all that app Sell it Trade or barter it Give it away Donate it
	 ↓ 15b. If yes, what do you do with the left over salmon? Please select all that appn □ Sell it □ Trade or barter it □ Give it away □ Donate it □ Throw it away
	 ↓ 15b. If yes, what do you do with the left over salmon? Please select all that apps □ Sell it □ Trade or barter it □ Give it away □ Donate it □ Throw it away □ Dog food
🗋 No, never	 ↓ 15b. If yes, what do you do with the left over salmon? Please select all that app □ Sell it □ Trade or barter it □ Give it away □ Donate it □ Throw it away □ Dog food □ Compost it
🗋 No, never	 ↓ 15b. If yes, what do you do with the left over salmon? Please select all that app □ Sell it □ Trade or barter it □ Give it away □ Donate it □ Throw it away □ Dog food □ Compost it □ Other
☐ No, never 15. Do you believe that Cook ☐ Yes ☐ No	↓ 15b. If yes, what do you do with the left over salmon? Please select all that app Sell it Trade or barter it Give it away Donate it Throw it away Dog food Compost it Other

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	Kenai Peninsula Food Security Survey
	Section 3 – Food Security
Food s	ecurity means having access at all times to affordable, safe, nutritious, and culturally preferred foods.
djust or	few questions ask you to think about the foods you eat, and how much you economize your family's diet to make ends meet. Remember, all of your are strictly anonymous.
prei	he last month, how often have you and your household eaten foods that are <u>less</u> <u>ferred</u> but are <u>more affordable,</u> in order to make sure that everyone in the household ld eat? <i>Please select only <u>one</u>.</i>
	Frequently (almost every day)
	🗋 Sometimes (2-5 times per week)
	Rarely (once or fewer times per week)
	🗋 Never
	te last month, how often has someone in your household had to limit their portion size in er to make sure everyone in the household could eat? <i>Please select only <u>one</u>,</i>
	Frequently (almost every day)
	Sometimes (2-5 times per week)
	Rarely (once or fewer times per week) Never
	ie last month, how often have you had to horrow food, or horrow money to buy food, <i>s</i> o : everyone in the household could eat? <i>Please select only <u>one</u>.</i>
	Frequently (almost every day)
	Sometimes (2-5 times per week)
	Rarely (once or fewer times per week)
	🗔 Never
	ie last month, how often have you or another adult in your household limited their tion size <u>specifically so that a child could eat</u> ? <i>Please select only <u>one</u>,</i>
	Frequently (almost every day)
	□ Sometimes (2-5 times per week)
	Rarely (once or fewer times per week)
	🗇 Never
	Page 6 of 8



Kenai Peninsula Food Security Survey
20. In the last month, how often have you or anyone else in your household had to skip a meal because there was not enough food? <i>Please select only <u>one</u>.</i>
 Frequently (almost every day) Sometimes (2-5 times per week) Rarely (once or fewer times per week) Never
21. In the last month, how often have you or anyone else in your household gone an entire day without eating because there was not enough food? <i>Please select only <u>one</u></i> .
 Frequently (almost every day) Sometimes (2-5 times per week) Rarely (once or fewer times per week) Never
22. In the last month, have you used of the following food assistance programs? <i>Please select <u>all</u> that apply.</i>
 Food Stamps / Quest WIC - Women, Infant, and Children Food Bank Soup kitchen Free or reduced school lunch program Other
Section 4 – Demographic Data
Almost done! The next few questions give us some background information so that we can better understand your community. Remember that all of your answers are kept entirely anonymous .
23. What is your zip code? 24. How many people regularly eat in your home? (At least one meal per day, at least ouce per week). Please provide the number of adults (age 18 and older) and the number of children.
Adults Children
25. How many of the people you listed in your answer to Question 24 are not immediate family members? Please provide the number of adults (age 18 and older) and the number of children.
Adults Children
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Still hours

Dr. Philip A Loring, Lead Investigator

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Appendix II. Additional Programs and Resources

Listed here are just a sampling of the various local food-related programs and resources that we are aware of at the time of writing.

• The Alaska Food Policy Council

http://alaskafoodpolicy.blogspot.com/

http://dhss.alaska.gov/dph/Chronic/Pages/Obesity/nutrition/default.aspx

The Alaska Food Policy Council is an open-membership organization that works to strengthen Alaska's food systems to spur local economic development, increase food security, and improve nutrition and health. It serves as a resource for information on local and state food systems, and works to identify and propose policy and environmental changes that can improve the production, processing, distribution, health, security and safety of our food.

The Alaska Grown Resource Book

http://dnr.alaska.gov/ag/ag_AKGrownResourceBook.htm

- Alaskans Own Seafood
 - http://alaskansown.com/index.php

"Alaskans Own" is a Community Supported Fishery (CSF) program, a seafood subscription that offers longline and troll-caught fish harvested from Southeast waters. Modeled after Community Supported Agriculture (CSA) subscriptions that deliver fresh produce from local farmers, their CSF program provides wild Alaskan seafood to subscribers.

• Catch of the Season

http://www.akmarine.org/our-work/catch-of-the-season

A project of the Alaska Marine Conservation Council (AMCC), the Catch of the Season Project is a yearly Community Supported Fishery that provides the opportunity to purchase shares of Kodiak Tanner crab. The program provides direct support to both ocean conservation and independent fishermen whose sustainable harvesting practices set a vital standard.

Cook Inletkeeper

http://www.inletkeeper.org

• Farm to School (Alaska)

http://dnr.alaska.gov/ag/ag_FTS.htm

The Farm to School (FTS) program is designed to offer expertise and support to all areas of the state to pursue farm to school activities and interests. The prevailing program goal is having product produced and/or harvested in Alaska available in the school food environment. We hope that through a variety of outreach efforts, we will increase the procurement and use of food grown in the state by public schools.

Kenai Peninsula Food Bank

http://kpfoodbank.org/

The Food Bank is a non-profit organization founded in 1988, which provides food to over 67 non-profit agencies for their feeding programs throughout the Kenai Peninsula.



Kenai Resilience

http://www.kenairesilience.org/

The mission of Kenai Resilience is to "gather and celebrate local skills, knowledge and resources toward cultivating a more sustainable community." Among other activities, the group offers a local food directory and hosts regular community potlucks, where members discuss issues related to local food and food security, screen documentary films to help raise awareness.

MAPP of Southern Kenai Peninsula

http://mappofskp.net/

The goal of MAPP SKP is to develop and sustain healthy communities via "participation from many diverse organizations and individuals who live, work and play" in the Southern Kenai Peninsula. Started in November of 2008, MAPP SKP conducted the first collaborative, area-wide health needs assessment in Alaska, to identify opportunities for health improvement and to serve as a catalyst for community action.

• People Promoting Weilness

http://kpmapp.org/

People Promoting Wellness is a community-driven (Kenai, Soldotna, Kasilof, Nikiski, Funny River and Sterling area) initiative that is using the Mobilizing Action through Planning and Partnerships (MAPP) strategic visioning process to address community health issues. Currently, PPW is facilitated by public health leadership and exists to help communities identify and prioritize issues related to health and community and then formulate goals and strategies for positively addressing them.

Sitka Local Foods Network

http://sitkalocalfoodsnetwork.org/

The Sitka Local Foods Network is a 501(c)3 non-profit group dedicated to promoting the growing, harvesting and eating of local foods in Sitka, Alaska. Initiatives include the Sitka Farmers Market, the Sitka Community Greenhouse and Education Center, expanding local community and family gardens, promoting the responsible and sustainable use of traditional foods, and providing educational opportunities, technical expertise and encouragement to Sitkans wishing to grow their own food.

• Sitka Fish to Schools

http://sitkawild.org/issues/community/environmental-education/fish-to-schools/

The Sitka Conservation Society (SCS) is a founding partner and coordinator of the Sitka "Fish to Schools" program. Their mission is to deepen youth understanding of local seafood resources by integrating locally-caught seafood into the school lunch program, introducing stream to plate curricula, and fostering a connection to the local fishing culture.

Sustainable Homer

http://www.sustainablehomer.org/local_food.htm

Sustainable Homer is dedicated to being the resource for information and available programs that can help people make a difference. Sustainable Homer has hosted speakers on a variety of topics from peak oil to permaculture and collaborated on forums concerning energy and conservation to promoting local foods.



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Endnotes

¹ Data presented here are for 2011 from the US Cenus Bureau's QuickFacts website unless otherwise noted, accessed 09/12/2012

² Unemployment data from the State of Alaska Department of Labor and Workforce Development Research and Analysis website, accessed 09/12/2012

³ Food insecurity rates are from Feeding America's Map the Meal Gap model, accessed 07/12/2011



Food Security on the Kenai Peninsula, Alaska

A Report on Local Seafood, Consumer Preferences, and Community Needs WERC-HD Occasional Report No. 01

Alaska Native Knowledge Network Center for Cross Cultural Studies Human Dimensions Lab at the Water and Environmental Research Center Alaska Center for Climate Assessment and Policy www.ankn.uaf.edu

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January 16, 2014

Alaska Department of Fish & Game Board Support Attn: Francis 1255 W. 8th Street Juneau, AK 99811

Dear Francis:

Attached please find a copy of our report that we would like to submit for the Upper Cook Inlet BOF meeting which starts on January 31, 2014.

Thank you for your time.

Regards,

9

Keliy Hanke on behalf of Andy Szczesny – KRPGA And Steve McClure – KRPGA





History and Current Status of Sport Fish Guided Angler Participation on the Kenai River, Alaska



ASSOCIATION







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Citation:-_Kenai River Professional Guide Association, 2014.-_History and current status of sport fish guided angler participation on the Kenai River, Alaska.-_Report compiled by K. Delaney.

Executive Summary



Sport fish guiding on the Kenai tracks its modern roots back to the <u>mid 1970'smid-1970s</u> at which time fishing king salmon from boats became a common practice. Kenai River sport fishing guides are regulated by the State of Alaska through the Department of Natural Resources (DNR), Division of Parks and Outdoor Recreation, the Department of Fish and Game (ADFG), Division of Sport Fish and the U.S. Fish and Wildlife Service (USFWS).–Guide numbers are available since 1985 with the State's creation of the Kenai River Special Management Area (KRSMA).–Fishing by guided sport fishermen-anglers is managed by the ADFG through a series of regulations adopted by the Alaska Board of Fisheries (BOF). Sport fishing guides must complete training curricula and hold business insurance.

The number of sport fishing guides who obtained a commercial services permit from DNR has ranged from a low of 160 in 1985 to a high of 396 in each of 2006 and 2007.–_Permits were obtained by 285 guides in 2013.–_By decade, the number of guides obtaining commercial services permits has averaged: 243 (1985-1994), 337 (1995-2004) and 343 (2005-2013).–_An average of 270 sport fishing guides obtained commercial services permits during the six years since reaching a record high of 396 on 2007.–_Of those guides permitted in 2013, 46%-_percent_have been guiding on the Kenai for 10 years or more and 71%-_percent_are Alaska residents.

The guide logbook program has been in place since 2006 and is now considered to provide the most accurate estimates of guided angler effort as measured in angler-days.—Logbook data highlights the dramatic decline in guided angler effort for king salmon during 2012 and 2013 but also indicates that some guides and guided anglers are experimenting with trips for sockeye salmon during that same July timeframe.—Guided angler effort for the months of August, September and October has shown a slight increase in the Kenai River downstream of Skilak Lake.

The ADFG conducts two additional programs that provide independent estimates of guided angler effort.—These are the on-site creel census of anglers fishing for early and late-run king salmon in the Kenai River and the statewide harvest survey which provides for an estimate of angler days by river reach via a mail survey. The creel census has been conducted since 1981 in the river reach from easured by angler-hours spent fishing for king salmon.—Record low numbers of king salmon over the last two years also dramatically reduced angler effort in corresponding fisheries.—Late-run king salmon anglers fished an average of 83,258 hours per years in 1981-2002.—Effort in 2003-2011 averaged 93,900 angler-hours per year. Guided effort plummeted to an average of only 29,507 angler-hours during 2012 and 2013.—Guided effort during the early-run king salmon fishery also declined sharply.

Estimates of angler days by guided anglers are reported by river reach for 1984-2012 from the State-Wide Harvest Survey (SWHS) conducted by the Alaska Department of Fish and Game, ADFG Division of Sport Fish, Research and Technical Services Section.–River reaches include Cook Inlet to the Soldotna Bridge, Soldotna Bridge to Moose River, Moose River to Skilak Lake outlet, Skilak Lake inlet to Kenai Lake and Kenai River unspecified.–Estimated total guided angler effort has averaged 47,440 angler-days for the years 1984-2012. Estimated total guided angler effort has averaged 51,430 for the recent (2003-2012) decade.–Estimates derived from logbook data track generally with estimates from the State Wide Harvest Survey SWHS but produce estimates of effort that are consistently 10-15%-percent lower.

According to the Department's<u>ADFG's</u> Economic Impacts and Contributions of Sport fishing in Alaska, 2007, a non-resident guided angler fishing in freshwater spent \$790 per day in direct expenditures.—<u>A</u> resident guided angler spent an estimated \$509 per day in direct expenditures.—<u>Expanding these estimates of daily direct expenditures by the average number of angler-days shown in the State-Wide Harvest StudySWHS</u> for the Kenai River gives a total estimate of average direct expenditures by guided anglers fishing the Kenai River of approximately \$40,000,000.

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HISTORY



The modern era of sport fish guiding on the Kenai River traces its roots back to the mid_-1970's at which time numbers of king salmon began to increase significantly and anglers learned to effectively catch these remarkable fish while fishing from boats.—_No accurate estimate exist to describe the number of individuals who provided sport fish guiding services during the late_-1970's but as the popularity of the fishery increased there was a steady increase in both guided and non-guided sport fishing effort.—_As the popularity of the sport fishery increased so did the rate of development along the banks of the Kenai River.

State of Alaska Department of Fish & Game, Division of Sport Fish

Beginning in 1995 owners of any business that engaged in sport fish guiding of anglers anywhere in Alaska were required to register their business information, employees acting as sport fishing guides for the business, and list all vessels used for guiding.–_In 1997, sport fishing guides were required to register and provide information about the employing business.–_In 1998, the Alaska Board of Fisheries (BOF) adopted new statewide sport fishing guide registration regulations and definitions (5 AAC 75.075).–_This was a registration process and not a licensing process.–_No fees were required and businesses and guides were allowed to provide services in any area of the state.–_In 1998 ADF&G continued to register guide businesses and guides but stopped registering charter vessels because the Commercial Fisheries Entry Commission (CFEC) implemented a licensing program for vessels.–_From 1998 through 2004 ADF&G continued to register sport fishing business and sport fishing guides.

On May 11, 2004, the Alaska Legislature adopted House Bill 452 that established licensing requirements for sport fishing guide businesses and for sport fishing guides on a statewide basis.—_This bill was created to establish minimum standards required of both freshwater and saltwater sport fishing guides and business owners before a license could be obtained.—_The standards were established to protect consumers and promote the viability and legitimacy of a professional sport fish guide industry.—_Businesses providing sport fish guided services are required to hold liability insurance with a minimum of \$300,000 coverage for all incidents in a year.—_Licensed sport fishing guides were required



to be citizens of the United States, Canada or Mexico, hold a current file and current have a current year Alaska sport fishing license and have a valid U. S. Coast Guard operator's license if they were to operate a motorized vessel in navigable waters. License application forms and the information collected have remained consistent in design since 2006.

Department of Natural Resources, Division of Parks & Outdoor Recreation

In response to increasing use and development in the Kenai River watershed, the Alaska State Legislature established the Kenai River Special Management Area (KRSMA) in 1984 as a unit of the state park system.—A comprehensive management plan for the area, developed by agencies and a public advisory board, guides the cooperative efforts of the land managers. The plan's goal is to protect the natural resources and fish and wildlife habitat, manage the river's recreational and commercial uses, and provided public facilities.

Sport fishing guides intending to provide services within the KRSMA were required to obtain a commercial services permit beginning in 1985.–Sport fishing guides must now have a state park commercial use permit and meet safety training and insurance requirements. It is illegal to book a fishing trip or pay someone for guide service who is not a registered guide within the Kenai RiverKR SMA. All sport fishing guide vessels are required to display a current Kenai River guide decal, a large three digit boat number and the Kenai River KRSMASMA guide identification card.

Kenai Wildlife Refuge Guide Requirement

Guides utilizing Skilak Lake, the upper Kenai River (above Skilak Lake), upper or lower Skilak Lake boat launches or any upland area within the <u>Kenai National</u> <u>Wildlife Refuge (KNWR)</u> boundaries for bank fishing, must obtain a Refuge Special Use Permit.–_Guides who do obtain a Refuge special use permit must report all visitor use.–_The overall number of sport fishing guide permits covering the upper Kenai River is limited and strictly enforced.

CURRENT STATUS



Commercial Permits

The Alaska Department of Natural Resources, Division of Parks and Outdoor Recreation issues commercial services permits to individuals providing guiding services in the KRSMA.—Records are kept of the numbers of sport fishing guides annually by the type of vessel that they use to transport guided anglers when fishing.

Guide numbers are available since 1985 with the State's creation of the Kenai River Special Management Area (KRSMA).– The number of sport fishing guides who obtained a commercial services permit from DNR has ranged from a low of 160 in 1985 to a high of 396 in each 2006 and 2007.

285 guides obtained permits in 2013 to provide sport fishing services. The number of sport fishing guides obtaining commercial services permits has averaged, 243 (1985-1994), 337 (1995-2004) and 343(2005-2013).–_During the six years since reaching a record high of 396 in 2007 the average number of sport fishing guides obtaining commercial services permits is 270.

Drift-boat guides have averaged 18%<u>percent</u> of the total number in the years 2004-2013.—During 2013 drift-boat only guides comprised 26%<u>percent</u> of the total number of sport fishing guides receiving commercial services permits.

Of those sport fishing guides permitted in 2013 46% <u>percent</u> have been guiding on the Kenai for 10 years or more and 71% <u>percent</u> are Alaska residents.



Figure 1. Kenai River commercial operator trends and numbers.

Sport Fish Freshwater Guide Logbook

The guide logbook program has been in place since 2006 and is now considered to provide the most accurate estimates of guided angler effort as measured in angler-days.—The logbook data allows for assessment of angler effort not only by river reach but also by month.—Estimates derived from logbook data track generally with estimates from the State Wide Harvest SurveySWHS but produce estimates of effort that are consistently 10-15%-percent lower.

Logbook data confirms the dramatic decline in guided angler effort for king salmon during 2012 and 2013 in both the early run (May-June) and the late-run (July) but does suggest that some guides and guided anglers are experimenting with trips for sockeye salmon during that same July timeframe.

Guided angler effort for the months of August, September and October has shown a slight increase in the Kenai River downstream of Skilak Lake which illustrates interest by guided anglers in the sport fishery for coho salmon.



Logbook data also suggests that guided angler participation in that reach of the Kenai River between Skilak and Kenai Lakes, largely a fishery for resident species, has remained relatively stable in the years 2006-2012.

Non_-residents comprised an average of 82%-<u>percent</u> of the total guided angler effort in the river reach from Skilak Lake to Cook Inlet during May and June.-_Non_residents comprised an average of 87%-<u>percent</u> of the total guided angler effort in the river reach from Skilak Lake to Cook Inlet during July.

Another piece of data available from the sport fish guide logbook data is an estimate of the number of trips taken by sport fish guides.—The trip data closely tracks with the angler day effort data but does allow for insight into the number of guides operating in a reach of the river during any specific time strata.





Cook Inlet to Skilak Lake - May & June

Figure 2. Kenai River guided angler effort, May and June, Cook Inlet to Skilak Lake outlet, 2006-2012 from freshwater guide logbook data.–_(2012 data is for Cook Inlet to Soldotna Bridge only since that was all that was open to fishing for king salmon.)



Cook Inlet to Skilak Lake - July

Figure 3. Kenai River guided angler effort, July, Cook Inlet to Skilak Lake outlet, 2006-2012 from freshwater guide logbook data.–<u>(</u>2012 data is for Cook Inlet to Soldotna Bridge only since that was all that was open to fishing for king salmon.)





Figure 4. Kenai River guided angler effort, August and September, Cook Inlet to Skilak Lake outlet, 2006-2012 from freshwater guided logbook data.



Skilak Lake to Kenai Lake

Figure 5. Kenai River guided angler effort, year round, Skilak Lake inlet to Kenai Lake outlet, 2006-2012 from freshwater guided logbook data.





Cook Inlet to Skilak Lake, May & June





Figure 7. Kenai River guided angler trips, Cook Inlet to Skilak Lake outlet, July, 2006-2012 from freshwater guide logbook data.-<u>(Cook Inlet to Soldotna Bridge only since this</u> was the only area open to fishing for king salmon.)





Guided Trips - May & June 2006 - 2012 Kenai River, Cook Inlet to Skilak Lake



Figure 8. Kenai River guided angler resident/non-resident proportions, Cook Inlet to Skilak Lake outlet, May and June, 2006-2012 from guided logbook data.



Guided Trips - July 2006 - 2012 Kenai River, Cook Inlet to Skilak Lake



Figure 9. Kenai River guided angler resident/non-resident proportions, Cook Inlet to Skilak Lake outlet, July, 2006-2012 from guide logbook data.



Creel Survey

Guided angler-effort for early-run and late-run king salmon is estimated annually by the-ADFG through an on-site creel survey of all anglers fishing for king salmon on the Kenai River from the mouth upstream to the Soldotna Bridge from May 16 through July 31.–Angler effort estimated through the creel survey is measured in angler-hours and because of the on-site nature of the survey and the large sample size, the estimates derived from the creel survey are considered accurate and precise.

The Creel Census has been in effect since 1981.–As would be expected, estimates of angler effort in the king salmon fisheries show a dramatic decline over the last two years during which record low numbers of king salmon have been observed.

Estimated angler-hours expended annually for early-run king salmon averaged 44,725 for the years 1981-2011.—In stark contrast, guided angler effort during 2012 and 2013 averaged only 7,712 angler-hours.

Estimated angler-hours expended annually for late-run king salmon averaged 83,258 for the years 1981-2002.– Average annual angler-hours for the years 2003-2011 was estimated at 93,900 angler-hours.– In stark contrast, guided angler effort during 2012 and 2013 averaged only 29,507 angler-hours.

Guided angler effort comprised less than 50%-<u>percdent</u> of the total effort in the early-run king salmon fishery during the years 1981 through the late 1990's and slightly more than 50%-<u>percent</u> of the total since the late 1990's-__ Guided angler effort comprised less than 50%-<u>percent</u> of the total angler effort in the late-run king salmon fishery during all years 1981 through 2010.-_During 2011-2013, years of low abundance of late-run king salmon, guided angler effort has averaged about 6<u>0 percent</u> of the total angler effort in that fishery.-_It is important to note that total angler effort (guided and non-guided) in the late-run fishery has declined by an average of 67%-<u>percent</u> during 2011-2013 as compared to the preceding ten years.



Figure 10. Guided angler effort for early-run and late-run king salmon as estimated from a creel survey of anglers on the Kenai River from the mouth upstream to the Soldotna Bridge from May 16 through July 31, 1981–2013.



Figure 11. Guided percentage of total effort for early-run and late-run king salmon as estimated from a creel survey of anglers on the Kenai River from the mouth upstream to the Soldotna Bridge from May 16 through July 31, 1981–2013.



Figure 12. Angler effort for early-run king salmon as estimated from a creel survey of guided and unguided anglers on the Kenai River from the mouth upstream to the Soldotna Bridge from May 16 through June 30, 1981–2013.



Figure 13. Angler effort for late-run king salmon as estimated from a creel survey of guided and unguided anglers on the Kenai River from the mouth upstream to the Soldotna Bridge from July 1 through July 31, 1981–2013.

Statewide Harvest Survey



Estimates of guided angler effort as measured by angler-days and reported by river reach are available from 1984-2012 from the State-Wide Harvest Survey SWHS conducted by the Alaska Department of Fish and Game, Division of Sport Fish, Research and Technical Services Section.—River reaches include Cook Inlet to the Soldotna Bridge, Soldotna Bridge to Moose River, Moose River to Skilak Lake outlet, Skilak Lake inlet to Kenai Lake and Kenai River unspecified.

Estimated guided angler effort for the Kenai River, all reaches combined, has averaged 47,440 angler-days for the years 1984-2012.–Estimated total guided angler effort has averaged 51,430 for the recent (2003-2012) decade.

Statewide Harvest Survey estimates indicate that the guided angler effort has comprised an average of 14 <u>%-percent</u> of the total sport fishing effort on the Kenai River, all reaches combined, during the years 2003–2012.–_ This supports the conclusions drawn from logbook data.

When considering the Kenai River, all sections, guided angler effort comprised an average of 14 <u>%-percent</u> of total angler effort for the years 2003-2012.



State-wide Harvest Survey 450,000 400,000 350,000 250,000 250,000 250,000 150,000 50,000 50,000 0 1984 1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006 2008 2010 2012

Figure 14. Kenai River guided and unguided effort (angler days) from Cook Inlet to Kenai Lake based on the statewide harvest survey.



State-wide Harvest Survey

Figure 15. Kenai River guided effort (angler days) from Cook Inlet to Kenai Lake based on the

statewide harvest survey.

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ALASKA BOARD OF FISHERIES REGULATION OF GUIDED ANGLERS

The Alaska Board of Fisheries (BOF) develops and adopts the regulations that ultimately govern the conduct of guided anglers fishing on the Kenai River.—_The BOF has chosen to limit both the days of the week during which guided anglers can fish and also the hours of the day that guided anglers are allowed to fish for king salmon.

ECONOMIC CONTRIBUTION OF SPORT FISH GUIDING AND GUIDED ANGLERS

In 2007 the Alaska Department of Fish and Game, Division of Sport Fish contracted with Southwick Associates to conduct a survey to estimate the economic impacts and contributions of sport fishing to the State of Alaska.

According to the Economic Impacts and Contributions of Sport fishing Fishing in Alaska, Summary Report 2007, a non-resident guided angler fishing in freshwater spent \$790 per day in direct expenditures.—A resident guided angler spent an estimated \$509 per day in direct expenditures.

Averaging these estimates of daily expenditures by the resident/non-resident composition of the angler-days from the guide logbook and expanding these estimates of daily direct expenditures by the average number of angler-days shown in the State Wide Harvest Study<u>SWHS</u> for the Kenai River gives a total estimate of average direct expenditures by guided anglers fishing the Kenai River during the last decade approximately \$40,000,000.



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 | 304 | 263 | 275

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 | 330 | 312 | 268 | 232 | 198 | 171 | 224 | 208 | 217
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| 29% | 29% | 26% | 25% | 24% | 26% | 27% | 24% | 21% | 17%

 | 21% | 24% | 23% | 22% | 20% | 19%

 | 24%
 | 23% | 27%
 | 26% | 25% | 29%

 | 32%
 | 29% | 32% | 29% | 19% | 25% | 23% | | |
 |
| 101 | 101 | 100 | 68 | 91 | 106 | 113 | 105 | 84 | 67

 | 78 | 92 | 87 | 84 | 73 | 68

 | 94
 | 88 | 97
 | 80 | 67 | 81

 | 101
 | 96 | 100 | <i>LT</i> | 44 | 50 | 40 | | |
 |
| 71% | 71% | 74% | 75% | 76% | 74% | 73% | 76% | %6 <i>L</i> | 83%

 | 79% | 76% | %LL | 78% | 80% | 81%

 | 77%
 | 77% | 73%
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| 249 | 252 | 279 | 273 | 293 | 306 | 312 | 332 | 323 | 317

 | 297 | 291 | 287 | 296 | 295 | 292

 | 306
 | 287 | 260
 | 224 | 196 | 194

 | 214
 | 234 | 212 | 191 | 188 | 148 | 131 | | |
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| 19% | 15% | 16% | 13% | 12% | 8% | 7% | %6 | 10% | 8%

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| 99 | 52 | 60 | 46 | 46 | 32 | 29 | 41 | 42 | 32

 | 36 | 35 | 39 | 39 | 39 | 35

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 | 47 | 41 | 37

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 | 20% | 21% | 21% | 21% | 22% | 23%

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| 91 | 74 | 82 | 62 | 62 | 51 | 53 | 68 | 83 | 81

 | 74 | 79 | 78 | 80 | 80 | 82

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 | 06 | 69 | 63

 | 86
 | 87 | 97 | 84 | 77 | 60 | 40 | | |
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| 74% | %61 | 78% | 83% | 84% | 88% | 88% | 84% | 80% | 79%

 | 80% | %62 | 79% | 79% | 78% | %LL

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 | 74% | %69 | %69 | 67% | 20% | %LL | | |
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| 259 | 279 | 297 | 300 | 322 | 361 | 372 | 369 | 324 | 303

 | 301 | 304 | 296 | 300 | 288 | 278

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 | 214 | 194 | 212

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 | 243 | 215 | 184 | 155 | 138 | 131 | | |
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| 81% | 85% | 84% | 87% | 88% | 92% | 63% | 91% | %06 | 92%

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| 13 | 12 | 11 | 10 | 60 | 08 | 07 | 90 | 05 | 04

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301 80% 74 20% 323 76% 105 21% 356 90% 301 80% 74 20% 323 76% 105 24% 359 90% 301 80% 74 20% 317 83% 79% 21% 339 91% | 284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 301 85% 279 79% 74 21% 52 15% 279 71% 101 29% 319 84% 297 78% 82 22% 60 16% 279 74% 100 29% 316 87% 300 83% 62 17% 46 13% 273 75% 89 25% 338 88% 351 88% 51 12% 32 8% 306 74% 106 26% 346 91% 351 88% 51 12% 29 75% 91 27% 356 91% 366 91 26% 312 8% 51 24% 365 90% 301 80% 71 9% 317 84% 21% 355 90% 3 | 284 $81%$ 259 $74%$ 91 $26%$ 66 $19%$ 249 $71%$ 101 $29%$ 301 $85%$ 279 $79%$ 74 $21%$ 52 $15%$ 252 $71%$ 101 $29%$ 316 $87%$ 297 $78%$ 82 $22%$ 60 $16%$ 279 $74%$ 100 $26%$ 316 $87%$ 300 $83%$ 62 $17%$ 46 $13%$ 273 $75%$ 89 $25%$ 338 $88%$ 322 $84%$ 62 $16%$ 46 $12%$ 293 $76%$ 91 $24%$ 336 $37%$ $88%$ 51 $12%$ 32 $8%$ 306 $74%$ 106 $26%$ 396 $91%$ 361 $88%$ 51 $12%$ 29 $7%$ 312 $7%$ 312 $27%$ 365 $91%$ 361 $88%$ 51 $12%$ 29 $7%$ 312 $7%$ 106 $26%$ 366 $91%$ 372 $88%$ 51 $12%$ 29 $7%$ 312 $7%$ 106 $27%$ 365 $90%$ 312 $86%$ 51 $12%$ 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$31%$</th><th>284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 311 85% 279 79% 74 21% 52 15% 279 74% 101 29% 311 87% 300 83% 62 17% 60 16% 273 75% 89 259 316 87% 300 83% 51 12% 46 13% 273 75% 89 25% 316 92% 361 88% 51 12% 23 86% 317 76% 101 29% 316 91% 317 88% 51 12% 32 76% 105 24% 316 91% 301 80% 53 12% 333 76% 81 21% 317 84% 51 12% 323 76% 113 24% 325 90% <t< th=""><th>284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 311 85% 279 74% 91 21% 52 15% 29 74% 101 29% 311 85% 279 78% 62 17% 60 15% 273 75% 91 29% 316 87% 361 83% 51 12% 46 13% 273 75% 91 29% 316 91% 361 83% 51 12% 29 76% 101 29% 316 91% 367 367 32 87% 305 76% 101 29% 355 90% 321 10% 12% 32 87% 317 84% 21% 355 90% 301 80% 76% 107 27% 24% 355 90% 306 76%</th><th>284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 301 85% 279 79% 74 21% 52 15% 273 71% 101 29% 319 87% 300 87% 51 17% 60 16% 273 77% 89 25% 316 87% 301 88% 51 12% 29 7% 91 29% 316 91% 351 86% 51 12% 29 7% 312 75% 81 24% 316 91% 317 86% 51 12% 29 7% 101 29% 355 90% 324 80% 31 28% 312 24% 21% 355 90% 301 80% 312 10% 323 79% 84 21% 355 90% 307 7</th><th>284 $81%$ 259 $74%$ 91 $26%$ 66 $19%$ 249 $71%$ 101 $29%$ 311 $87%$ 279 $74%$ 101 $24%$ 101 $29%$ 316 $87%$ 327 $87%$ 52 $15%$ 57 $71%$ 101 $29%$ 316 $87%$ 52 $15%$ 57 $75%$ 91 $24%$ 316 $93%$ 51 $12%$ 29 $75%$ 91 $24%$ 21 316 $91%$ 361 $80%$ 51 $12%$ 233 $75%$ 91 $24%$ $21%$ 316 $91%$ 361 $80%$ 21 $12%$ 317 $81%$ $21%$ $21%$ 335 $90%$ 321 $80%$ 31 $11%$ $21%$ $21%$ 335 $90%$ 301 $90%$ $21%$ $21%$ <td< th=""><th>284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 311 85% 279 79% 74 21% 52 15% 73% 101 29% 316 87% 297 78% 60 16% 273 75% 89 253 316 87% 301 87% 51 17% 46 12% 293 76% 101 29% 336 93% 371 88% 51 12% 22 8% 306 74% 106 26% 346 91% 361 88% 51 12% 22 8% 317 8% 113 27% 355 90% 301 80% 71 12% 317 8% 113 21% 355 90% 20% 10% 23% 317 83% 67 11% 341 90% <td< th=""><th>284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 311 85% 279 79% 74 21% 52 15% 75% 101 29% 316 87% 307 79% 62 17% 66 13% 75% 91 24% 316 87% 307 75% 51 12% 57 75% 91 24% 366 91% 317 88% 51 12% 23 8% 312 75% 91 24% 365 90% 331 79% 81 21% 32 8% 317 83% 67 11% 24% 355 90% 301 80% 74 20% 73% 106 24% 355 90% 301 80% 74 21% 75% 24% 333 90% 31 10% 23</th><th>284 81% 259 74% 91 26% 66 19% 249 71% 101
 29% 311 88% 279 74% 21 21% 52 15% 273 71% 101 29% 316 87% 300 83% 62 17% 66 13% 273 75% 91 24% 316 87% 301 83% 51 12% 32 75% 91 24% 365 93% 351 88% 51 12% 32 75% 113 24% 365 90% 301 80% 51 12% 32 76% 113 27% 365 90% 301 10% 317 83% 51 12% 323 76% 137 24% 365 90% 301 70% 317 83% 51 10% 24% 317 81% 301 <</th><th>284 81% 259 74% 91 26% 19% 249 71% 101 29% 301 85% 239 79% 74 213% 52 15% 233 75% 101 29% 316 81% 320 83% 62 15% 46 13% 233 75% 91 24% 336 93% 371 88% 51 12% 23 75% 113 24% 336 93% 371 88% 51 12% 33 76% 113 24% 345 90% 301 80% 51 12% 33 76% 113 24% 355 90% 301 80% 51 12% 31 24% 24% 355 90% 301 80% 31 10% 24% 24% 355 90% 246 10% 23 76%</th><th>284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 310 85% 279 74% 91 227 74% 101 29% 3116 87% 300 83% 62 17% 66 19% 273 75% 89 255 316 87% 300 83% 51 12% 52 15% 101 29% 316 99% 369 84% 51 12% 32 8% 317 76% 101 29% 355 90% 312 88% 51 12% 32 8% 113 27% 355 90% 312 80% 74 10% 323 76% 113 27% 355 90% 301 70% 317 76% 81 21% 341 90% 206 71% 317 83% 71%</th><th>284 81% 259 74% 91 266 199 249 71% 101 296 301 85% 279 74% 91 21% 52 15% 101 29% 316 87% 300 83% 62 17% 46 13% 273 75% 91 29% 316 87% 300 83% 51 12% 53 75% 91 24% 396 91% 367 84% 53 12% 32 8% 317 78% 113 27% 396 91% 304 79% 81 21% 33 79% 84 21% 341 90% 304 79% 317 78% 84 21% 341 90% 304 79% 81 21% 79% 84 21% 341 90% 304 79% 84 21% 71% 87%</th><th>284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 310 85% 271 73% 62 15% 275 71% 101 29% 316 87% 300 83% 51 17% 61 13% 273 75% 91 29% 316 87% 300 83% 51 12% 23 75% 91 24% 101 29% 316 91% 321 88% 51 12% 23 75% 101 24% 316 91% 321 88% 51 12% 332 76% 101 24% 316 91% 301 80% 53 12% 332 76% 105 24% 317 84% 301 13% 34 90% 317 76% 107 25% 314 90% 301 90%</th><th>284 81% 559 74% 91 26% 10 29% 101 29% 310 89% 279 79% 71 21% 52 15% 75 74% 101 29% 316 87% 300 83% 62 17% 46 13% 755 74% 101 29% 316 97% 301 83% 62 17% 46 13% 75% 89 25% 316 91% 317 88% 51 12% 32 76% 113 27% 317 91% 301 80% 51 12% 32 76% 113 27% 318 91% 301 80% 71 32 76% 113 27% 314 90% 301 80% 71 9% 12% 21% 314 90% 301 79% 317 89% 71% 113%</th><th>284 81% 259 74% 91 26% 64 19% 239 71% 101 29% 301 86% 279 78% 6 13% 773 77% 101 29% 316 87% 300 83% 62 17% 46 13% 77% 101 29% 316 93% 51 12% 30 78% 30 78% 91 24% 20% 316 93% 317 88% 51 12% 30 78% 81 27% 78% 113 27% 317 93% 81 21% 31 96% 317 78% 81 27% 318 91% 301 80% 81 21% 317 78% 81 21% 314 90% 301 79% 81 21% 317 78% 81 21% 314 90% 211 7</th><th>81% 259 74% 91 26% 66 19% 249 71% 101 29% 84% 279 73% 62 17% 66 13% 273 74% 101 29% 84% 270 83% 62 17% 66 13% 273 74% 101 29% 84% 371 88% 53 12% 6 13% 273 75% 89 25% 91% 371 88% 53 12% 23 73% 113 73% 113 73% 91% 317 83% 53 12% 35 90% 331 73% 133 73% 134 23% 91% 311 80% 33 130% 331 83% 61 13% 23% 91% 301 80% 73 317 83% 61 13% 23% 91% 301 80% <t< th=""></t<></th></td<></th></td<></th></t<></th></t<> | 284 $81%$ 259 $74%$ 91 $26%$ 66 $19%$ 249 $71%$ 101 $29%$ 301 $85%$ 279 $79%$ 74 $21%$ 52 $15%$ 522 $71%$ 101 $29%$ 316 $84%$ 297 $78%$ 82 $22%$ 60 $16%$ 279 $74%$ 101 $29%$ 316 $84%$ 300 $83%$ 62 $17%$ 46 $13%$ 273 $75%$ 89 $25%$ 338 $88%$ 321 $88%$ 51 $12%$ 32 $8%$ 306 $74%$ 100 $26%$ 339 $92%$ 361 $88%$ 51 $12%$ 32 $8%$ 306 $74%$ 106 $26%$ 339 $91%$ 372 $88%$ 51 $12%$ 29 $7%$ 312 $27%$ 356 $91%$ 369 $84%$ 68 $16%$ 41 $9%$ 312 $73%$ 113 $27%$ 356 $91%$ 307 $84%$ 80 326 41 $9%$ 312 $73%$ 113 $27%$ 357 $90%$ 301 $80%$ 74 106 $26%$ 312 $10%$ 323 $76%$ 105 $24%$ 356 $91%$ 307 $84%$ $21%$ 323 $76%$ 317 $83%$ $21%$ 356 $90%$ 301 $80%$ $74%$ $21%$ $21%$ $21%$ $21%$ 334 | 284 $81%$ 259 $74%$ 91 $26%$ 66 $19%$ 249 $71%$ 101 $29%$ 310 $85%$ 279 $79%$ 74 $21%$ 21 $29%$ 310 $85%$ 277 $78%$ 82 $22%$ $57%$ $21%$ 101 $29%$ 316 $81%$ 52 $17%$ 66 $16%$ 46 $13%$ $27%$ 89 $25%$ 386 312 $88%$ 51 $12%$ 22 $86%$ 312 $86%$ 312 $29%$ 312 $24%$ 310 $24%$ 312 $25%$ 312 $21%$ 312 $21%$ 312 $21%$ 312 $21%$ 312 $21%$ 312 $21%$ 312 $21%$ 312 $21%$ 312 $21%$ 312 $21%$ 312 $21%$ 312 $21%$ $21%$
$312%$ $31%$ | 284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 311 85% 279 79% 74 21% 52 15% 279 74% 101 29% 311 87% 300 83% 62 17% 60 16% 273 75% 89 259 316 87% 300 83% 51 12% 46 13% 273 75% 89 25% 316 92% 361 88% 51 12% 23 86% 317 76% 101 29% 316 91% 317 88% 51 12% 32 76% 105 24% 316 91% 301 80% 53 12% 333 76% 81 21% 317 84% 51 12% 323 76% 113 24% 325 90% <t< th=""><th>284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 311 85% 279 74% 91 21% 52 15% 29 74% 101 29% 311 85% 279 78% 62 17% 60 15% 273 75% 91 29% 316 87% 361 83% 51 12% 46 13% 273 75% 91 29% 316 91% 361 83% 51 12% 29 76% 101 29% 316 91% 367 367 32 87% 305 76% 101 29% 355 90% 321 10% 12% 32 87% 317 84% 21% 355 90% 301 80% 76% 107 27% 24% 355 90% 306 76%</th><th>284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 301 85% 279 79% 74 21% 52 15% 273 71% 101 29% 319 87% 300 87% 51 17% 60 16% 273 77% 89 25% 316 87% 301 88% 51 12% 29 7% 91 29% 316 91% 351 86% 51 12% 29 7% 312 75% 81 24% 316 91% 317 86% 51 12% 29 7% 101 29% 355 90% 324 80% 31 28% 312 24% 21% 355 90% 301 80% 312 10% 323 79% 84 21% 355 90% 307 7</th><th>284 $81%$ 259 $74%$ 91 $26%$ 66 $19%$ 249 $71%$ 101 $29%$ 311 $87%$ 279 $74%$ 101 $24%$ 101 $29%$ 316 $87%$ 327 $87%$ 52 $15%$ 57 $71%$ 101 $29%$ 316 $87%$ 52 $15%$ 57 $75%$ 91 $24%$ 316 $93%$ 51 $12%$ 29 $75%$ 91 $24%$ 21 316 $91%$ 361 $80%$ 51 $12%$ 233 $75%$ 91 $24%$ $21%$ 316 $91%$ 361 $80%$ 21 $12%$ 317 $81%$ $21%$ $21%$ 335 $90%$ 321 $80%$ 31 $11%$ $21%$ $21%$ 335 $90%$ 301 $90%$ $21%$ $21%$ <td< th=""><th>284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 311 85% 279 79% 74 21% 52 15% 73% 101 29% 316 87% 297 78% 60 16% 273 75% 89 253 316 87% 301 87% 51 17% 46 12% 293 76% 101 29% 336 93% 371 88% 51 12% 22 8% 306 74% 106 26% 346 91% 361 88% 51 12% 22 8% 317 8% 113 27% 355 90% 301 80% 71 12% 317 8% 113 21% 355 90% 20% 10% 23% 317 83% 67 11% 341 90% <td< th=""><th>284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 311 85% 279 79% 74 21% 52 15% 75% 101 29% 316 87% 307 79% 62 17% 66 13% 75% 91 24% 316 87% 307 75% 51 12% 57 75% 91 24% 366 91% 317 88% 51 12% 23 8% 312 75% 91 24% 365 90% 331 79% 81 21% 32 8% 317 83% 67 11% 24% 355 90% 301 80% 74 20% 73% 106 24% 355 90% 301 80% 74 21% 75% 24% 333 90% 31 10% 23</th><th>284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 311 88% 279 74% 21 21% 52 15% 273 71% 101 29% 316 87% 300 83% 62 17% 66 13% 273 75% 91 24% 316 87% 301 83% 51 12% 32 75% 91 24% 365 93% 351 88% 51 12% 32 75% 113 24% 365 90% 301 80% 51 12% 32 76% 113 27% 365 90% 301 10% 317 83% 51 12% 323 76% 137 24% 365 90% 301 70% 317 83% 51 10% 24% 317 81% 301 <</th><th>284 81% 259 74% 91 26% 19% 249 71% 101 29% 301 85% 239 79% 74 213% 52 15% 233 75% 101 29% 316 81% 320 83% 62 15% 46 13% 233 75% 91 24% 336 93% 371 88% 51 12% 23 75% 113 24% 336 93% 371 88% 51 12% 33 76% 113 24% 345 90% 301 80% 51 12% 33 76% 113 24% 355 90% 301 80% 51 12% 31 24% 24% 355 90% 301 80% 31 10% 24% 24% 355 90% 246 10% 23 76%</th><th>284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 310 85% 279 74% 91 227 74% 101 29% 3116 87% 300 83% 62 17% 66 19% 273 75% 89 255 316 87% 300 83% 51 12% 52 15% 101 29% 316 99% 369 84% 51 12% 32 8% 317 76% 101 29% 355 90% 312 88% 51 12% 32 8% 113 27% 355 90% 312 80% 74 10% 323 76% 113 27% 355 90% 301 70% 317 76% 81 21% 341 90% 206 71% 317 83% 71%</th><th>284 81% 259 74% 91 266 199 249 71% 101 296 301 85% 279 74% 91 21% 52 15% 101 29% 316 87% 300 83% 62 17% 46 13% 273 75% 91 29% 316 87% 300 83% 51 12% 53 75% 91 24% 396 91% 367 84% 53 12% 32 8% 317 78% 113 27% 396 91% 304 79%
 81 21% 33 79% 84 21% 341 90% 304 79% 317 78% 84 21% 341 90% 304 79% 81 21% 79% 84 21% 341 90% 304 79% 84 21% 71% 87%</th><th>284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 310 85% 271 73% 62 15% 275 71% 101 29% 316 87% 300 83% 51 17% 61 13% 273 75% 91 29% 316 87% 300 83% 51 12% 23 75% 91 24% 101 29% 316 91% 321 88% 51 12% 23 75% 101 24% 316 91% 321 88% 51 12% 332 76% 101 24% 316 91% 301 80% 53 12% 332 76% 105 24% 317 84% 301 13% 34 90% 317 76% 107 25% 314 90% 301 90%</th><th>284 81% 559 74% 91 26% 10 29% 101 29% 310 89% 279 79% 71 21% 52 15% 75 74% 101 29% 316 87% 300 83% 62 17% 46 13% 755 74% 101 29% 316 97% 301 83% 62 17% 46 13% 75% 89 25% 316 91% 317 88% 51 12% 32 76% 113 27% 317 91% 301 80% 51 12% 32 76% 113 27% 318 91% 301 80% 71 32 76% 113 27% 314 90% 301 80% 71 9% 12% 21% 314 90% 301 79% 317 89% 71% 113%</th><th>284 81% 259 74% 91 26% 64 19% 239 71% 101 29% 301 86% 279 78% 6 13% 773 77% 101 29% 316 87% 300 83% 62 17% 46 13% 77% 101 29% 316 93% 51 12% 30 78% 30 78% 91 24% 20% 316 93% 317 88% 51 12% 30 78% 81 27% 78% 113 27% 317 93% 81 21% 31 96% 317 78% 81 27% 318 91% 301 80% 81 21% 317 78% 81 21% 314 90% 301 79% 81 21% 317 78% 81 21% 314 90% 211 7</th><th>81% 259 74% 91 26% 66 19% 249 71% 101 29% 84% 279 73% 62 17% 66 13% 273 74% 101 29% 84% 270 83% 62 17% 66 13% 273 74% 101 29% 84% 371 88% 53 12% 6 13% 273 75% 89 25% 91% 371 88% 53 12% 23 73% 113 73% 113 73% 91% 317 83% 53 12% 35 90% 331 73% 133 73% 134 23% 91% 311 80% 33 130% 331 83% 61 13% 23% 91% 301 80% 73 317 83% 61 13% 23% 91% 301 80% <t< th=""></t<></th></td<></th></td<></th></t<> | 284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 311 85% 279 74% 91 21% 52 15% 29 74% 101 29% 311 85% 279 78% 62 17% 60 15% 273 75% 91 29% 316 87% 361 83% 51 12% 46 13% 273 75% 91 29% 316 91% 361 83% 51 12% 29 76% 101 29% 316 91% 367 367 32 87% 305 76% 101 29% 355 90% 321 10% 12% 32 87% 317 84% 21% 355 90% 301 80% 76% 107 27% 24% 355 90% 306 76% | 284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 301 85% 279 79% 74 21% 52 15% 273 71% 101 29% 319 87% 300 87% 51 17% 60 16% 273 77% 89 25% 316 87% 301 88% 51 12% 29 7% 91 29% 316 91% 351 86% 51 12% 29 7% 312 75% 81 24% 316 91% 317 86% 51 12% 29 7% 101 29% 355 90% 324 80% 31 28% 312 24% 21% 355 90% 301 80% 312 10% 323 79% 84 21% 355 90% 307 7 | 284 $81%$ 259 $74%$ 91 $26%$ 66 $19%$ 249 $71%$ 101 $29%$ 311 $87%$ 279 $74%$ 101 $24%$ 101 $29%$ 316 $87%$ 327 $87%$ 52 $15%$ 57 $71%$ 101 $29%$ 316 $87%$ 52 $15%$ 57 $75%$ 91 $24%$ 316 $93%$ 51 $12%$ 29 $75%$ 91 $24%$ 21 316 $91%$ 361 $80%$ 51 $12%$ 233 $75%$ 91 $24%$ $21%$ 316 $91%$ 361 $80%$ 21 $12%$ 317 $81%$ $21%$ $21%$ 335 $90%$ 321 $80%$ 31 $11%$ $21%$ $21%$ 335 $90%$ 301 $90%$ $21%$ $21%$ <td< th=""><th>284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 311 85% 279 79% 74 21% 52 15% 73% 101 29% 316 87% 297 78% 60 16% 273 75% 89 253 316 87% 301 87% 51 17% 46 12% 293 76% 101 29% 336 93% 371 88% 51 12% 22 8% 306 74% 106 26% 346 91% 361 88% 51 12% 22 8% 317 8% 113 27% 355 90% 301 80% 71 12% 317 8% 113 21% 355 90% 20% 10% 23% 317 83% 67 11% 341 90% <td< th=""><th>284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 311 85% 279 79% 74 21% 52 15% 75% 101 29% 316 87% 307 79% 62 17% 66 13% 75% 91 24% 316 87% 307 75% 51 12% 57 75% 91 24% 366 91% 317 88% 51 12% 23 8% 312 75% 91 24% 365 90% 331 79% 81 21% 32 8% 317 83% 67 11% 24% 355 90% 301 80% 74 20% 73% 106 24% 355 90% 301 80% 74 21% 75% 24% 333 90% 31 10% 23</th><th>284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 311 88% 279 74% 21 21% 52 15% 273 71% 101 29% 316 87% 300 83% 62 17% 66 13% 273 75% 91 24%
 316 87% 301 83% 51 12% 32 75% 91 24% 365 93% 351 88% 51 12% 32 75% 113 24% 365 90% 301 80% 51 12% 32 76% 113 27% 365 90% 301 10% 317 83% 51 12% 323 76% 137 24% 365 90% 301 70% 317 83% 51 10% 24% 317 81% 301 <</th><th>284 81% 259 74% 91 26% 19% 249 71% 101 29% 301 85% 239 79% 74 213% 52 15% 233 75% 101 29% 316 81% 320 83% 62 15% 46 13% 233 75% 91 24% 336 93% 371 88% 51 12% 23 75% 113 24% 336 93% 371 88% 51 12% 33 76% 113 24% 345 90% 301 80% 51 12% 33 76% 113 24% 355 90% 301 80% 51 12% 31 24% 24% 355 90% 301 80% 31 10% 24% 24% 355 90% 246 10% 23 76%</th><th>284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 310 85% 279 74% 91 227 74% 101 29% 3116 87% 300 83% 62 17% 66 19% 273 75% 89 255 316 87% 300 83% 51 12% 52 15% 101 29% 316 99% 369 84% 51 12% 32 8% 317 76% 101 29% 355 90% 312 88% 51 12% 32 8% 113 27% 355 90% 312 80% 74 10% 323 76% 113 27% 355 90% 301 70% 317 76% 81 21% 341 90% 206 71% 317 83% 71%</th><th>284 81% 259 74% 91 266 199 249 71% 101 296 301 85% 279 74% 91 21% 52 15% 101 29% 316 87% 300 83% 62 17% 46 13% 273 75% 91 29% 316 87% 300 83% 51 12% 53 75% 91 24% 396 91% 367 84% 53 12% 32 8% 317 78% 113 27% 396 91% 304 79% 81 21% 33 79% 84 21% 341 90% 304 79% 317 78% 84 21% 341 90% 304 79% 81 21% 79% 84 21% 341 90% 304 79% 84 21% 71% 87%</th><th>284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 310 85% 271 73% 62 15% 275 71% 101 29% 316 87% 300 83% 51 17% 61 13% 273 75% 91 29% 316 87% 300 83% 51 12% 23 75% 91 24% 101 29% 316 91% 321 88% 51 12% 23 75% 101 24% 316 91% 321 88% 51 12% 332 76% 101 24% 316 91% 301 80% 53 12% 332 76% 105 24% 317 84% 301 13% 34 90% 317 76% 107 25% 314 90% 301 90%</th><th>284 81% 559 74% 91 26% 10 29% 101 29% 310 89% 279 79% 71 21% 52 15% 75 74% 101 29% 316 87% 300 83% 62 17% 46 13% 755 74% 101 29% 316 97% 301 83% 62 17% 46 13% 75% 89 25% 316 91% 317 88% 51 12% 32 76% 113 27% 317 91% 301 80% 51 12% 32 76% 113 27% 318 91% 301 80% 71 32 76% 113 27% 314 90% 301 80% 71 9% 12% 21% 314 90% 301 79% 317 89% 71% 113%</th><th>284 81% 259 74% 91 26% 64 19% 239 71% 101 29% 301 86% 279 78% 6 13% 773 77% 101 29% 316 87% 300 83% 62 17% 46 13% 77% 101 29% 316 93% 51 12% 30 78% 30 78% 91 24% 20% 316 93% 317 88% 51 12% 30 78% 81 27% 78% 113 27% 317 93% 81 21% 31 96% 317 78% 81 27% 318 91% 301 80% 81 21% 317 78% 81 21% 314 90% 301 79% 81 21% 317 78% 81 21% 314 90% 211 7</th><th>81% 259 74% 91 26% 66 19% 249 71% 101 29% 84% 279 73% 62 17% 66 13% 273 74% 101 29% 84% 270 83% 62 17% 66 13% 273 74% 101 29% 84% 371 88% 53 12% 6 13% 273 75% 89 25% 91% 371 88% 53 12% 23 73% 113 73% 113 73% 91% 317 83% 53 12% 35 90% 331 73% 133 73% 134 23% 91% 311 80% 33 130% 331 83% 61 13% 23% 91% 301 80% 73 317 83% 61 13% 23% 91% 301 80% <t< th=""></t<></th></td<></th></td<> | 284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 311 85% 279 79% 74 21% 52 15% 73% 101 29% 316 87% 297 78% 60 16% 273 75% 89 253 316 87% 301 87% 51 17% 46 12% 293 76% 101 29% 336 93% 371 88% 51 12% 22 8% 306 74% 106 26% 346 91% 361 88% 51 12% 22 8% 317 8% 113 27% 355 90% 301 80% 71 12% 317 8% 113 21% 355 90% 20% 10% 23% 317 83% 67 11% 341 90% <td< th=""><th>284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 311 85% 279 79% 74 21% 52 15% 75% 101 29% 316 87% 307 79% 62 17% 66 13% 75% 91 24% 316 87% 307 75% 51 12% 57 75% 91 24% 366
 91% 317 88% 51 12% 23 8% 312 75% 91 24% 365 90% 331 79% 81 21% 32 8% 317 83% 67 11% 24% 355 90% 301 80% 74 20% 73% 106 24% 355 90% 301 80% 74 21% 75% 24% 333 90% 31 10% 23</th><th>284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 311 88% 279 74% 21 21% 52 15% 273 71% 101 29% 316 87% 300 83% 62 17% 66 13% 273 75% 91 24% 316 87% 301 83% 51 12% 32 75% 91 24% 365 93% 351 88% 51 12% 32 75% 113 24% 365 90% 301 80% 51 12% 32 76% 113 27% 365 90% 301 10% 317 83% 51 12% 323 76% 137 24% 365 90% 301 70% 317 83% 51 10% 24% 317 81% 301 <</th><th>284 81% 259 74% 91 26% 19% 249 71% 101 29% 301 85% 239 79% 74 213% 52 15% 233 75% 101 29% 316 81% 320 83% 62 15% 46 13% 233 75% 91 24% 336 93% 371 88% 51 12% 23 75% 113 24% 336 93% 371 88% 51 12% 33 76% 113 24% 345 90% 301 80% 51 12% 33 76% 113 24% 355 90% 301 80% 51 12% 31 24% 24% 355 90% 301 80% 31 10% 24% 24% 355 90% 246 10% 23 76%</th><th>284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 310 85% 279 74% 91 227 74% 101 29% 3116 87% 300 83% 62 17% 66 19% 273 75% 89 255 316 87% 300 83% 51 12% 52 15% 101 29% 316 99% 369 84% 51 12% 32 8% 317 76% 101 29% 355 90% 312 88% 51 12% 32 8% 113 27% 355 90% 312 80% 74 10% 323 76% 113 27% 355 90% 301 70% 317 76% 81 21% 341 90% 206 71% 317 83% 71%</th><th>284 81% 259 74% 91 266 199 249 71% 101 296 301 85% 279 74% 91 21% 52 15% 101 29% 316 87% 300 83% 62 17% 46 13% 273 75% 91 29% 316 87% 300 83% 51 12% 53 75% 91 24% 396 91% 367 84% 53 12% 32 8% 317 78% 113 27% 396 91% 304 79% 81 21% 33 79% 84 21% 341 90% 304 79% 317 78% 84 21% 341 90% 304 79% 81 21% 79% 84 21% 341 90% 304 79% 84 21% 71% 87%</th><th>284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 310 85% 271 73% 62 15% 275 71% 101 29% 316 87% 300 83% 51 17% 61 13% 273 75% 91 29% 316 87% 300 83% 51 12% 23 75% 91 24% 101 29% 316 91% 321 88% 51 12% 23 75% 101 24% 316 91% 321 88% 51 12% 332 76% 101 24% 316 91% 301 80% 53 12% 332 76% 105 24% 317 84% 301 13% 34 90% 317 76% 107 25% 314 90% 301 90%</th><th>284 81% 559 74% 91 26% 10 29% 101 29% 310 89% 279 79% 71 21% 52 15% 75 74% 101 29% 316 87% 300 83% 62 17% 46 13% 755 74% 101 29% 316 97% 301 83% 62 17% 46 13% 75% 89 25% 316 91% 317 88% 51 12% 32 76% 113 27% 317 91% 301 80% 51 12% 32 76% 113 27% 318 91% 301 80% 71 32 76% 113 27% 314 90% 301 80% 71 9% 12% 21% 314 90% 301 79% 317 89% 71% 113%</th><th>284 81% 259 74% 91 26% 64 19% 239 71% 101 29% 301 86% 279 78% 6 13% 773 77% 101 29% 316 87% 300 83% 62 17% 46 13% 77% 101 29% 316 93% 51 12% 30 78% 30 78% 91 24% 20% 316 93% 317 88% 51 12% 30 78% 81 27% 78% 113 27% 317 93% 81 21% 31 96% 317 78% 81 27% 318 91% 301 80% 81 21% 317 78% 81 21% 314 90% 301 79% 81 21% 317 78% 81 21% 314 90% 211 7</th><th>81% 259 74% 91 26% 66 19% 249 71% 101 29% 84% 279 73% 62 17% 66 13% 273 74% 101 29% 84% 270 83% 62 17% 66 13% 273 74% 101 29% 84% 371 88% 53 12% 6 13% 273 75% 89 25% 91% 371 88% 53 12% 23 73% 113 73% 113 73% 91% 317 83% 53 12% 35 90% 331 73% 133 73% 134 23% 91% 311 80% 33 130% 331 83% 61 13% 23% 91% 301 80% 73 317 83% 61 13% 23% 91% 301 80% <t< th=""></t<></th></td<> | 284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 311 85% 279 79% 74 21% 52 15% 75% 101 29% 316 87% 307 79% 62 17% 66 13% 75% 91 24% 316 87% 307 75% 51 12% 57 75% 91 24% 366 91% 317 88% 51 12% 23 8% 312 75% 91
 24% 365 90% 331 79% 81 21% 32 8% 317 83% 67 11% 24% 355 90% 301 80% 74 20% 73% 106 24% 355 90% 301 80% 74 21% 75% 24% 333 90% 31 10% 23 | 284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 311 88% 279 74% 21 21% 52 15% 273 71% 101 29% 316 87% 300 83% 62 17% 66 13% 273 75% 91 24% 316 87% 301 83% 51 12% 32 75% 91 24% 365 93% 351 88% 51 12% 32 75% 113 24% 365 90% 301 80% 51 12% 32 76% 113 27% 365 90% 301 10% 317 83% 51 12% 323 76% 137 24% 365 90% 301 70% 317 83% 51 10% 24% 317 81% 301 < | 284 81% 259 74% 91 26% 19% 249 71% 101 29% 301 85% 239 79% 74 213% 52 15% 233 75% 101 29% 316 81% 320 83% 62 15% 46 13% 233 75% 91 24% 336 93% 371 88% 51 12% 23 75% 113 24% 336 93% 371 88% 51 12% 33 76% 113 24% 345 90% 301 80% 51 12% 33 76% 113 24% 355 90% 301 80% 51 12% 31 24% 24% 355 90% 301 80% 31 10% 24% 24% 355 90% 246 10% 23 76% | 284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 310 85% 279 74% 91 227 74% 101 29% 3116 87% 300 83% 62 17% 66 19% 273 75% 89 255 316 87% 300 83% 51 12% 52 15% 101 29% 316 99% 369 84% 51 12% 32 8% 317 76% 101 29% 355 90% 312 88% 51 12% 32 8% 113 27% 355 90% 312 80% 74 10% 323 76% 113 27% 355 90% 301 70% 317 76% 81 21% 341 90% 206 71% 317 83% 71% | 284 81% 259 74% 91 266 199 249 71% 101 296 301 85% 279 74% 91 21% 52 15% 101 29% 316 87% 300 83% 62 17% 46 13% 273 75% 91 29% 316 87% 300 83% 51 12% 53 75% 91 24% 396 91% 367 84% 53 12% 32 8% 317 78% 113 27% 396 91% 304 79% 81 21% 33 79% 84 21% 341 90% 304 79% 317 78% 84 21% 341 90% 304 79% 81 21% 79% 84 21% 341 90% 304 79% 84 21% 71% 87% | 284 81% 259 74% 91 26% 66 19% 249 71% 101 29% 310 85% 271 73% 62 15% 275 71% 101 29% 316 87% 300 83% 51 17% 61 13% 273 75% 91 29% 316 87% 300 83% 51 12% 23 75% 91 24% 101 29% 316 91% 321 88% 51 12% 23 75% 101 24% 316 91% 321 88% 51 12% 332 76% 101 24% 316 91% 301 80% 53 12% 332 76% 105 24% 317 84% 301 13% 34 90% 317 76% 107 25% 314 90% 301 90% | 284 81% 559 74% 91 26% 10 29% 101 29% 310 89% 279 79% 71 21% 52 15% 75 74% 101 29% 316 87% 300 83% 62 17% 46 13% 755 74% 101 29% 316 97% 301 83% 62 17% 46 13% 75% 89 25% 316 91% 317 88% 51 12% 32 76% 113 27% 317 91% 301 80% 51 12% 32 76% 113 27% 318 91% 301 80% 71 32 76% 113 27% 314 90% 301 80% 71 9% 12% 21% 314 90% 301 79% 317 89% 71% 113% | 284 81% 259 74% 91 26% 64 19% 239 71% 101 29% 301 86% 279 78% 6 13% 773 77% 101 29% 316 87% 300 83% 62 17% 46 13% 77% 101 29% 316 93% 51 12% 30 78% 30 78% 91 24% 20% 316 93% 317 88% 51 12% 30 78% 81 27% 78% 113 27% 317 93% 81 21% 31 96% 317 78% 81 27% 318 91% 301 80% 81 21% 317 78% 81 21% 314 90% 301 79% 81 21% 317 78% 81 21% 314 90% 211 7 | 81% 259 74% 91 26% 66 19% 249 71% 101 29% 84% 279 73% 62 17% 66 13% 273 74% 101 29% 84% 270 83% 62 17% 66 13% 273 74% 101 29% 84% 371 88% 53 12% 6 13% 273 75% 89 25% 91% 371 88% 53 12% 23 73% 113 73% 113 73% 91% 317 83% 53 12% 35 90% 331 73% 133 73% 134 23% 91% 311 80% 33 130% 331 83% 61 13% 23% 91% 301 80% 73 317 83% 61 13% 23% 91% 301 80% <t< th=""></t<> |

Table 1. Kenai River commercial operator trends and numbers, 1982-2013.



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Year				Cook In	Cook Inlet to Skilak Lake outlet	Lake outly	et			Skilak to Kenai Lake
		May	May-June				July		Aug - Sep	Year-round
	Days	Trips	Resident	Nonres.	Days	Trips	Resident	Nonres.	Days	Days
2006	9,053	2,205	15%	85%	21,375	2,205	11%	89%	8,600	6,214
2007 8	8,129	2,435	15%	85%	20,339	2,435	13%	87%	8,386	6,202
2008	7,437	2,251	16%	84%	19,277	2,251	13%	87%	9,487	7,512
2009	4,968	1,548	22%	78%	13,991	1,548	16%	86%	7,450	6,779
2010 4	4,047	1,222	17%	83%	13,533	1,222	15%	85%	9,537	6,830
2011 4	4,495	1,392	17%	83%	13,458	1,392	13%	87%	006'6	7,032
2012	2,085	653	21%	%62	5,635	531	10%	%06	10,037	7,202

Kenai River guided angler days, trips and resident/nonresident proportion 2006-2012 from freshwater guide logboak data. Table 2.



Guided freshwater logbook data from 2006-2012 for the Kenai River during the month of May, June, and July. Table 3.

			Мау				June				ylul	<u>ار</u>	
	I		Number of	er of Anglers	ŝ		Numt	Number of Anglers	SLi		Numl	Number of Anglers	ers
		No.		-uoN		No.		-uoN		No.	i	-non-	
		Trips	Resident	Resident	Total	Trips	Resident	Resident	Total	Trip	Resident	Resident	Total
	Mouth to Bridge	146	129	364	493	2,041	1,080	6,071	7,151	5,279	2,361	17,654	20,015
	Bridge to Moose R.	9	2	15	17	274	119	787	906	217	54	969	750
90	Moose R. to Skilak Lk.	12	1	36	37	113	38	305	343	225	58	642	700
υZ	Skilak Lk. To Kenai Lk.	1	0	4	4	336	101	901	1,002	640	146	1,885	2,031
	Unknown Reach	0	0	0	0	10	4	22	26	52	17	164	181
	Total	165	132	419	551	2,774	1,342	8,086	9,428	6,413	2,636	21,041	23,677
	Mouth to Bridge	151	101	350	451	1,832	906	5,252	6,158	5,024	2,586	15,750	18,336
	Bridge to Moose R.	7	2	18	20	271	140	714	854	259	63	853	916
200	Moose R. to Skilak Lk.	16	9	33	39	158	60	406	466	247	71	711	782
JZ	Skilak Lk. To Kenai Lk.	0	0	0	0	370	96	1,031	1,127	601	137	1,751	1,888
	Unknown Reach	17	13	31	44	88	19	238	257	226	99	691	757
	Total	191	122	432	554	2,719	1,221	7,641	8,862	6,357	2,923	19,756	22,679
	Mouth to Bridge	139	70	332	402	1,715	1,015	4,773	5,788	4,773	2,409	14,713	17,122
	Bridge to Moose R.	2	0	9	9	225	70	631	701	347	61	1,118	1,179
80(Moose R. to Skilak Lk.	12	2	32	34	132	39	363	402	216	54	617	671
JZ	Skilak Lk. To Kenai Lk.	9	1	6	10	410	116	1,126	1,242	694	182	2,016	2,198
	Unknown Reach	1	0	£	'n	43	18	113	131	55	23	146	169
	Total	160	73	382	455	2,525	1,258	7,006	8,264	6,085	2,729	18,610	21,339
	Mouth to Bridge	138	120	271	391	1,154	828	2,930	3,758	3,514	2,113	10,280	12,393
	Bridge to Moose R.	4	£	9	6	133	56	358	414	242	103	711	814
600	Moose R. to Skilak Lk.	ŝ	1	6	10	114	61	245	306	196	91	498	587
DZ	skilak Lk. To Kenai Lk.	0	0	0	0	457	205	1,175	1,380	869	235	1,846	2,08
	Unknown Reach	2	2	2	4	32	22	73	95	82	26	245	27
	Total	149	126	288	414	1,890	1,172	4,781	5,953	4,732	2,568	13,580	16,14

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Number of Anglers Number of Anglers No. Non- Non- Non- Non- Non- Trips Resident Total Trips Resident Total Total th o Bridge 125 148 247 395 792 387 2,553 2,640 th o Bridge 129 12 0 0 40 147 1,017 1,164 e.e. to Skilak Lk 1 0 0 0 136 526 613 338 e.e. to Skilak Lk 1 0 0 0 140 1,017 1,164 own Reach 0 0 1 1 1 1 1,164 own Reach 129 154 255 1,051 675 2,166 3,381 th to Bridge 129 154 2,510 1,510 5,296 3,481 th to Bridge 12 1 2 2 2 2 2 <td< th=""><th></th><th></th><th></th><th>May</th><th>-</th><th></th><th></th><th>June</th><th>e</th><th></th><th></th><th>ylul</th><th>lγ</th><th></th></td<>				May	-			June	e			ylul	lγ	
No. No. No. No. No. No. Trips Resident Trips Resident Trips Resident Total 1 Mouth to Bridge 125 148 247 395 792 387 2,253 2,640 3,0 Bridge to Moose R. 1 0 4 4 116 52 286 338 3 Skilak L. To Kenai LK. 0 0 0 1 4 147 1,017 1,164 6 Skilak L. To Kenai LK. 0 0 0 1 404 1,47 1,017 1,164 6 Unknown Reach 1 2 91 1,510 612 2,869 3,481 3,3 Mouth to Bridge 125 91 2 40 1,164 6 4,5 Mouth to Bridge 12 2 408 1,164 8 2 5 2 5 1 1 1 1 1	-	1		Numb	er of Anglei	S.		Num	ber of Angle	rs		Num	Number of Anglers	ers
Trips Resident Resident Resident Total Trips Resident Total Total <thtotal< th=""> Total Total<th></th><th></th><th>No.</th><th></th><th>-noN</th><th></th><th>No.</th><th></th><th>Non-</th><th></th><th>No.</th><th></th><th>Non-</th><th></th></thtotal<>			No.		-noN		No.		Non-		No.		Non-	
Mouth to Bridge 125 148 247 395 792 387 2,253 2,640 3,0 Bridge to Moose R. 3 6 3 9 185 84 529 613 4 Moose R. to Skiak Lk. 1 0 4 4 116 52 286 338 3 Kilak Lk. To Kenai Lk. 0 0 0 0 1316 52 286 343 3 Unknown Reach 0 0 0 154 254 408 1,510 676 4,120 4,796 4,5 Mouth to Bridge 125 91 264 355 1,051 612 2,869 3,481 3,3 Mouth to Bridge 125 91 264 305 1,49 6 2,24 3,3 3,3 Bridge to Moose R. 1 2 8 1,510 6,72 8 3,43 3,3 Mouth to Bridge 1 3 2			Trips	Resident	Resident	Total	Trips	Resident	Resident	Total	Trip	Resident	Resident	Total
Bridge to Moose R. 3 6 3 9 185 84 529 613 4 Moose R. to Skilak Lk. 1 0 4 4 116 52 286 338 3 Koose R. to Skilak Lk. 0 0 0 0 404 147 1,017 1,164 6 Unknown Reach 0 0 0 13 6 35 41 Unknown Reach 1 129 154 254 408 1,510 676 4,796 4,796 4,796 Mouth to Bridge 129 154 254 355 1,051 612 2,869 3,481 3,34 Mouth to Bridge 1 2 0 2 114 30 294 13 Moose R. to Skilak Lk. To Kenai Lk. 1 0 2 2 2 5 5 2 Moose R. to Skilak Lk. To Kenai Lk. 1 0 2 2 2 2 5		Mouth to Bridge	125	148	247	395	792	387	2,253	2,640	3,036	1,874	8,835	10,709
Moose R. to Skilak Lk1044116522863383Skilak Lk To Kenai Lk.00004041471,0171,1646Unknown Reach000013635413341Unknown Reach1291542544081,5106764,1204,7964,5Unknown Reach121291542544081,5106764,1204,7964,5Kouth to Bridge125912643551,0516122,8693,48133Mouth to Bridge12912643551,0516122,8693,48133Moose R. to Skilak Lk10223991491,9976Vilak Lk To Kenai Lk1000023643241,6Unknown Reach00000055555Mouth to Bridge122802863665313591,6871,64Mouth to Bridge122802863665313591,6871,6Mouth to Bridge122802863665313591,6871,6Mouth to Bridge122802863665313591,61,6Mouth to Bridge13111011161,97,8<		Bridge to Moose R.	m	9	n	6	185	84	529	613	462	154	1,418	1,572
Skilak Lk. To Kenai Lk. 0 0 0 404 147 1,017 1,164 6 Unknown Reach 0 0 0 13 6 35 41 Unknown Reach 0 0 0 129 154 254 408 1,510 676 4,120 4,796 4,5 Total 125 91 264 355 1,051 612 2,869 3,481 3,3 Mouth to Bridge 125 91 264 355 1,051 61 4,796 4,796 4,796 4,796 4,796 4,796 4,796 4,5 Mouth to Bridge 125 91 264 32 1 1 4	UL'		Ч	0	4	4	116	52	286	338	314	123	921	1,044
Unknown Reach 0 0 0 13 6 35 41 Total 129 154 254 408 1,510 676 4,120 4,796 4,5 Mouth to Bridge 125 91 264 355 1,051 612 2,869 3,481 31 33 Mouth to Bridge 12 2 5 7 98 54 230 284 2 Moose R. to Skilak Lk. 1 0 0 2 114 30 294 324 1 Moose R. to Skilak Lk. To Kenai Lk. 1 0 0 0 2 399 149 1,078 6 5,291 4,4 Unknown Reach 0 0 0 0 2 0 5			0	0	0	0	404	147	1,017	1,164	688	227	1,864	2,091
Total1291542544081,5106764,1204,796Mouth to Bridge125912643551,0516122,8693,481Bridge to Moose R.120211430294324Moose R. to Skilak Lk.32579854230284Moose R. to Skilak Lk.10223991491,0481,197Moose R. to Skilak Lk.1000023991491,0481,197Unknown Reach00000023991491,0481,197Unknown Reach130952713661,6648454,4465,291Mouth to Bridge122802863665313591,3281,687Mouth to Bridge to Moose R.3365313591,3281,687Mouth to Bridge to Moose R.3365313591,3281,687Mouth to Bridge to Moose R.333615648454,4465,291Mouth to Bridge to Moose R.33361,5648454,4465,291Mouth to Bridge to Moose R.33361,5648454,4465,291Mouse R. to Skilak Lk.333361,5696,4966,4956,485Mono		Unknown Reach	0	0	0	0	13	9	35	41	60	13	177	190
Mouth to Bridge 125 91 264 355 1,051 612 2,869 3,481 Bridge to Moose R. 1 2 6 2 1 30 294 324 Moose R. to Skilak Lk. 3 2 5 7 98 54 230 284 Moose R. to Skilak Lk. 1 0 2 2 399 149 1,048 1,197 Unknown Reach 0 0 0 2 399 149 1,048 1,197 Unknown Reach 130 95 271 366 1,664 845 4,446 5,291 Mouth to Bridge 122 80 286 366 531 359 1,687 Mouth to Bridge 122 80 286 366 531 359 1,687 Mouth to Bridge 122 80 286 566 531 369 1,687 Moose R. to Skilak Lk. 3 3 6 1,99		Total	129	154	254	408	1,510	676	4,120	4,796	4,560	2,391	13,215	15,606
Bridge to Moose R. 1 2 0 2 114 30 294 324 Moose R. to Skilak Lk. 3 2 5 7 98 54 230 284 Skilak Lk. To Kenai Lk. 1 0 2 2 399 149 1,048 1,197 Unknown Reach 0 0 0 0 2 399 1,496 1,197 Unknown Reach 0 0 0 0 2 399 1,496 1,197 Votal 130 95 271 366 1,664 845 4,446 5,291 Mouth to Bridge 122 80 286 366 531 359 1,587 Bridge to Moose R. 3 1 10 11 58 1,687 Moose R. to Skilak Lk. To Kenai Lk. 3 3 1 59 1,348 1,485 Moose R. to Skilak Lk. To Kenai Lk. 0 0 1 1 1 1		Mouth to Bridge	125	91	264	355	1,051	612	2,869	3,481	3,357	1,650	10,302	11,952
Moose R. to Skilak Lk. 3 2 5 7 98 54 230 284 Skilak Lk. To Kenai Lk. 1 0 2 2 399 149 1,048 1,197 Unknown Reach 0 0 0 0 2 399 149 1,048 1,197 Unknown Reach 0 0 0 0 2 399 1,496 1,048 1,197 Total 130 95 271 366 1,664 845 4,446 5,291 Mouth to Bridge 122 80 286 366 531 359 1,328 1,687 Moose R. to Skilak Lk. 3 1 10 11 58 1,687 365 Moose R. to Skilak Lk. To Kenai Lk. 3 3 6 159 64 419 483 Skilak Lk. To Kenai Lk. 0 0 0 0 0 0 0 0 0 0 0 0		Bridge to Moose R.	Ч	2	0	2	114	30	294	324	175	26	525	551
Skilak Lk. To Kenai Lk.10223991491,0481,197Unknown Reach000005555Total130952713661,6648454,4465,291Mouth to Bridge122802863665313591,3281,687Bridge to Moose R.311011588163171Moose R. to Skilak Lk.33615964419483Skilak Lk. To Kenai Lk.000000000Total128842993831,2383,3533,32533,826			m	2	5	7	98	54	230	284	263	104	746	850
Unknown Reach 0 0 0 0 5 1 5 5 1 5 5 1 5 1 5 1 1 1 1 <	06		1	0	2	2	399	149	1,048	1,197	612	202	1,690	1,892
Total 130 95 271 366 1,664 845 4,446 5,291 Mouth to Bridge 122 80 286 366 531 359 1,328 1,687 Bridge to Moose R. 3 1 10 11 58 8 163 171 Moose R. to Skilak Lk. 3 3 6 159 64 419 483 Skilak Lk. To Kenai Lk. 0 0 0 0 0 0 0 0 Unknown Reach 0 128 84 299 383 1,238 3,253 3,826		Unknown Reach	0	0	0	0	2	0	ъ	5	00	2	24	26
Mouth to Bridge 122 80 286 366 531 359 1,328 1,687 Bridge to Moose R. 3 1 10 11 58 8 163 171 Moose R. to Skilak Lk. 3 3 3 6 159 64 419 483 Skilak Lk. To Kenai Lk. 0 <		Total	130	95	271	366	1,664	845	4,446	5,291	4,415	1,984	13,287	15,271
Bridge to Moose R. 3 1 10 11 58 8 163 171 Moose R. to Skilak Lk. 3 3 5 159 64 419 483 Skilak Lk. To Kenai Lk. 0 0 0 0 142 1,343 1,485 Unknown Reach 0 0 0 0 0 0 0 0 Total 128 84 299 383 1,238 573 3,253 3,826		Mouth to Bridge	122	80	286	366	531	359	1,328	1,687	1,629	539	4,982	5,521
Moose R. to Skilak Lk. 3 3 6 159 64 419 483 Skilak Lk. To Kenai Lk. 0 0 0 0 0 1,343 1,485 Unknown Reach 0 0 0 0 0 0 0 0 0 Total 128 84 299 383 1,238 573 3,253 3,826		Bridge to Moose R.	'n	1	10	11	58	00	163	171	444	67	1,352	1,419
Skilak Lk. To Kenai Lk. 0 0 0 0 490 142 1,343 1,485 Unknown Reach 0 0 0 0 0 0 0 0 0 0 Total 128 84 299 383 1,238 573 3,253 3,826	C٢		m	ε	m	9	159	64	419	483	604	208	1,840	2,048
own Reach 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1.238 573 3,826	76		0	0	0	0	490	142	1,343	1,485	731	206	2,035	2,241
128 84 299 383 1,238 573 3,253 3,826		Unknown Reach	0	0	0	0	0	0	0	0	9	4	13	17
		Total	128	84	299	383	1,238	573	3,253	3,826	3,414	1,024	10,222	11,246



		4	Aug				Sept			J	Oct	
		NUN	Number of Anglers	ers		NUN	Number of Anglers	SIS		Num	Number of Anglers	rs
	No. Trins	Resident	Non- Resident	Total	No. Trins	Recident	Non- Besident	Totol	No. Tripe	Docidont	Non- Docidoot	Lata
Mouth to Bridge	1,243	1	4,040	4,366	310	119	845	964	2	2		10
Bridge to Moose R.	250	48	738	786	77	23	189	212	10	21	7	28
Moose R. to Skilak Lk.	447	87	1,343	1,430	233	119	575	694	39	64	44	108
5kilak Lk. To Kenai Lk.	594	126	1,711	1,837	401	190	974	1,164	10	9	14	20
Unknown Reach	15	4	43	47	6	11	14	25	0	0	0	0
Total	2,549	591	7,875	8,466	1,030	462	2,597	3,059	64	96	70	166
Mouth to Bridge	1,210	520	3,542	4,062	221	62	615	694	-	0	- m	m
Bridge to Moose R.	286	50	840	890	56	32	119	151	6	17	12	29
Moose R. to Skilak Lk.	506	159	1,397	1,556	289	174	702	876	44	73	59	132
Skilak Lk. To Kenai Lk.	581	182	1,623	1,805	391	236	950	1,186	37	24	73	97
Unknown Reach	169	64	517	581	52	23	146	169	1	0	2	2
Total	2,752	975	7,919	8,894	1,009	544	2,532	3,076	92	114	149	263
Mouth to Bridge	1,587	571	4,836	5,407	340	172	905	1,077	5	9	10	16
Bridge to Moose R.	173	39	502	541	44	30	95	125	12	23	15	38
Moose R. to Skilak Lk.	466	138	1,322	1,460	233	155	548	203	45	81	51	132
Skilak Lk. To Kenai Lk.	771	268	2,178	2,446	479	290	1,176	1,466	18	20	31	51
Unknown Reach	44	12	130	142	29	8	79	87	'n	1	ø	6
Total	3,041	1,028	8,968	9,996	1,125	655	2,803	3,458	83	131	115	246
Mouth to Bridge	1,012	504	2,826	3,330	312	266	702	968	9	5	15	20
Bridge to Moose R.	160	30	439	469	73	51	161	212	2	£	2	ц
Moose R. to Skilak Lk.	470	180	1,277	1,457	324	222	694	916	19	46	13	
Skilak Lk. To Kenai Lk.	671	238	1,734	1,972	421	336	902	1,238	35	45	34	
Unknown Reach	41	21	91	112	49	25	117	142	2	'n	2	27
Total	7354	973	6367	7 340	1 179	000	7 576	3 176	ЕЛ	501	22	of

Guided freshwater logbook data from 2006-2012 for the Kenai River during the month of August, September, and October. Table 4.

			A	Aug			S	Sept			J	Oct	
			Num	Number of Anglers	ers		Num	Number of Anglers	irs		Num	Number of Anglers	Ś
		No.		-noN		No.		-noN		No.		-noN	
		Trips	Resident	Resident	Total	Trips	Resident	Resident	Total	Trips	Resident	Resident	Total
	Mouth to Bridge	1,550	620	4,632	5,252	371	319	825	1,144	13	20	25	45
	Bridge to Moose R.	170	36	507	543	45	∞	121	129	0	0	0	0
οt	Moose R. to Skilak Lk.	444	192	1,229	1,421	318	251	651	902	38	64	43	107
50	Skilak Lk. To Kenai Lk.	726	260	2,025	2,285	396	296	801	1,097	43	30	64	94
	Unknown Reach	26	12	75	87	16	6	38	47	0	0	0	0
	Total	2,916	1,120	8,468	9,588	1,146	883	2,436	3,319	94	114	132	246
	Mouth to Bridge	1,410	679	4,139	4,818	377	290	899	1,189	2	0	4	4
	Bridge to Moose R.	249	59	724	783	77	23	191	214	0	0	0	0
π	Moose R. to 5kilak Lk.	577	199	1,677	1,876	317	290	645	935	34	50	52	102
50	Skilak Lk. To Kenai Lk.	786	332	2,154	2,486	458	319	1,073	1,392	46	60	66	126
<u> </u>	Unknown Reach	23	œ	57	65	ŋ	9	13	19	0	0	0	0
	Total	3,045	1,277	8,751	10,028	1,238	928	2,821	3,749	82	110	122	232
	Mouth to Bridge	1,514	585	4,550	5,135	319	224	771	995	80	11	15	26
	Bridge to Moose R.	295	47	884	931	83	36	204	240	2	4	H	Ŋ
21	Moose R. to Skilak Lk.	567	206	1,615	1,821	288	181	628	608	41	86	47	133
50	Skilak Lk. To Kenai Lk.	747	261	1,985	2,246	400	227	910	1,137	41	38	69	107
	Unknown Reach	-	0	4	4	4	0	10	10	0	0	0	0
	Total	3,124	1,099	9,038	10,137	1,094	668	2,523	3,191	92	139	132	271





Table 5.Effort, catch, and harvest of late-run salmon as estimated from a creel survey of
both guided and unguided anglers on the Kenai River from the mouth upstream to
the Soldotna Bridge from July 1 through July 31, 1981–2013.

		Unguided	•=····		Guided	
Year	Effort	Catch	Harvest	Effort	Catch	Harvest
1981	66,309	ND	1,988	30,351	ND	2,162
1982	92,931	ND	2,083	34,897	ND	2,257
1983	110,172	ND	3,405	54,756	ND	4,919
1984	208,309	ND	3,888	42,062	ND	2,614
1985	171,109	ND	4,395	40,398	ND	2,705
1986	159,943	ND	4,855	47,379	ND	3,198
1987	193,630	ND	5,573	69,622	ND	5,194
1988	235,043	ND	8,042	88,331	ND	8,393
1989	186,382	ND	3,281	86,507	ND	4,727
1990	161,071	ND	2,269	85,477	ND	3,544
1991	147,293	ND	2,985	82,706	ND	3,864
1992	112,091	ND	2,504	75,324	ND	4,176
1993	201,695	ND	7,413	92,213	ND	7,866
1994	244,729	10,502	7,760	110,049	8,037	6,628
1995	200,397	7,126	4,914	123,585	6,773	5,211
1996	128,438	2,631	2,131	110,057	4,352	3,853
1997	137,226	5,740	4,480	126,416	6,796	5,856
1998	89,8 54	10,502	2,406	98,872	8 <i>,</i> 037	3,575
1999	134,264	6,613	4,422	118,196	10 <i>,</i> 584	7,605
2000	134,020	6,907	5,480	114,362	8,228	6,585
2001	127,395	8,458	5,496	109,238	11,294	8,240
2002	100,808	7,282	4,917	90,868	9,584	6,436
2003	115,688	12,652	6,200	91,768	16,117	7,637
2004	127,725	8,185	5,003	110,690	14,329	9,491
2005	125,235	12,248	6,893	105,550	13,416	8,420
2006	140,490	9,516	5,895	117,210	10,272	7,295
2007	112,575	5,27 3	2,853	106,644	8,135	6,405
2008	98,903	4,437	3,525	99,597	6,491	5,748
2009	99 <i>,</i> 938	4,786	3,124	77,238	5,566	4,254
2010	88,995	3,141	2,748	69,194	2,898	2,627
2011	81,005	5,000	3,080	67,208	4,581	3,378
2012	11,520	553	44	20,834	697	59
2013	21,730	689	334	38,180	1,855	1,243
10-yr avg	90,812			81,235		



Table 6.Effort, catch, and harvest of early-run king salmon as estimated from a creel survey
of both guided and unguided anglers on the Kenai River from the mouth upstream
to the Soldotna Bridge from May 16 through June 30, 1981–2013.

		Unguided			Guided	
Year	Effort	Catch	Harvest	Effort	Catch	Harvest
1981	47,913	ND	1,618	19,857	ND	1,846
1982	76,329	ND	2,144	22,799	ND	1,797
1983	64,651	ND	1,729	43,823	ND	3,526
1984	89,549	ND	1,695	40,610	ND	2,211
1985	87,199	ND	2,591	50,339	ND	4,181
1986	100,371	ND	2,958	41,724	ND	3,379
1987	122,876	ND	5,806	48,078	ND	5,418
1988	134,807	ND	5,601	66,636	ND	6,348
1989	104,702	ND	1,833	93,927	ND	4,878
1990	33,807	ND	153	38,992	ND	570
1991	24,320	ND	298	23,279	ND	593
1992	28,217	ND	653	26,113	ND	712
1993	76,500	ND	2,784	46,773	ND	4,062
1994	72,433	2,259	1,524	61,766	4,140	3,198
1995	90,073	4,679	3,009	75,917	6,681	4,724
1996	58,551	1,461	981	71,629	4,091	3,185
1997	37,792	1,991	1,282	64,451	4,791	3,660
1998	17,506	736	157	38,631	1,133	491
1999	40,816	1,634	993	69,972	5,562	4,541
2000	27,371	562	289	54,248	1,747	860
2001	24,215	257	148	45,988	1,580	1,280
2002	5,232	125	91	9,780	294	285
2003	23,840	973	628	35,218	1,840	1,320
2004	30,523	1,168	773	34,768	2,633	1,512
2005	32,492	1,176	651	47,000	3,254	2,226
2006	27,985	1,419	833	44,786	3,104	2,564
2007	25,460	917	710	44,796	3,027	1,934
2008	28,838	1,408	900	43,736	2,145	1,702
2009	23,703	388	334	29,336	670	564
2010	16,345	286	193	23,394	918	645
2011	16,255	309	155	28,108	782	661
2012	7,205	124	86	13,476	348	227
2013	1,196	15	0	1,948	25	0
10-yr avg.	21,000			31,135		
'03-'13 Avg.	21,258	744	478	31,506	1,704	1,214

Table 7. Kenai River guided and unguided effort (angler days) by river section, 1984-2012.

	Cook Inle	Cook Inlet to Soldoma	Soldotre	dotna Bridge to	Moose Ri	Monse River to Skilak			Kenai Riv	Kenai River Reach Not		
	Е	Bridge	Moo	Moose River	0	Outlet	Skilak Inlet	Skilak Inlet to Kenai Lake	Spe	Specified ^a	Kenai R	Kenai River Total
;	_	Unguided		Unguided	_	Unguided	_	Unguided		Unguided	Guided	Unguided
Year	Effort	Effort	Effort	Effort	Effort	Effort	Effort	Effort	Effort	Effort	Effort	Effort
1984	15,662	135,162	2,442	40,202	1,209	39,767	2,317	33,661	Ð	R	21,630	248,792
1985	19,126	144,564	5,185	<u>60,915</u>	2,514	53,390	262	35,738	₽	Ð	27,623	294,607
1986	23,956	157,079	5,443	58,433	2,202	48,969	3,126	35,843	Ð	Ð	34,727	300,324
1987	15,357	125,848	8,638	58,169	1,939	39,190	1,724	38,303	Ð	R	27,658	261,510
1988	22,028	181,700	7,767	11,960	1,673	53,661	4,256	31,214	Ð	Ø	35,724	338,535
1989	26,990	171,707	9,566	83,942	2,354	50,781	3,511	28,051	Ð	Ð	42,421	334,481
1990	18,336	151,482	9,268	73,063	2,963	40,438	4,100	43,012	Ð	Ð	34,667	307,995
1661	25,525	126,067	11,234	71 ,318	4,977	40,090	4,622	39,535	Ð	Ð	46,358	277,010
1992	28,733	121,516	11,987	69,481	6,455	43,319	5,570	45,602	₽	Ð	52,745	279,918
1993	38,099	124,072	12,874	57,479	4,391	34,192	7,436	45,577	Ð	Ð	62,800	261,320
1994	38,331	132,613	14,542	56,898	5,883	33,339	6,696	52,602	2	R	65,452	275,452
1995	57,490	148,637	16,162	65,118	5,871	37,561	6,691	40,180	Ð	đ	86,214	291,496
1996	34,108	97,643	13,495	47,564	3,624	28,841	5,216	35,495	₽	Ð	56,443	209,543
1997	30,759	90,114	11,420	47,198	3.938	28,707	4,331	31,431	Ð	2	50,448	197,450
1998	21,208	74,170	11,058	45,284	4,205	32,013	3,846	24,866	Ð	R	40,317	176,333
1999	26,259	131,234	10,246	59,085	2,308	39,265	4,327	34,722	Ð	R	43,140	264,306
2000	30,383	148,077	11,706	80,350	2,501	39,410	4,234	41,908	Ð	Ð	48,824	309,745
2001	25,985	127,371	10,002	65,247	3.468	31,450	5,475	29,819	Ð	Ð	44,930	253,887
2002	20,582	121,910	7,561	70,604	3,630	<u>29,5</u> 98	6,684	46,253	743	5,220	39,200	273,585
2003	23,267	119,877	10,589	79,483	3,056	32,748	4 ₅ 89	36,226	186 ا	8,931	43,482	277,265
2004	25,829	140,373	12,090	88,090	3,616	47,572	5,733	44,081	2,182	5,804	49,450	325,920
2005	28,539	140,031	11,063	100,743	6,423	34,480	6,656	45,236	3,074	11,730	55,755	332,220
2006	28,777	122,846	11,500	80,412	4,777	30,890	6,584	34,040	3,191	5,142	54,829	273,330
2007	29,851	134,560	11,492	98,607	4,814	56,006	10,120	57,044	1,702	6,123	57,979	352,340
2008	28,511	133,096	8,861	81,950	4,193	43,011	8,053	42,602	1,694	8,373	51,312	309,032
2009	21,769	110,290	7,626	79,734	6,237	42,424	7,632	52,687	1,297	7,521	44,561	292,656
2010	23,371	110,485	9,820	95,275	6,424	46,951	8,650	34,694	1,154	11,114	49,419	298,519
2011	28,220	131,034	12,065	95,056	5,168	48,147	8,333	35,417	67	2,356	53,853	312,010
2012	22,417	125,304	16,643	110,955	5,805	48,219	7 <u>962</u>	35,260	873	1,294	53,700	321,032
Average (2003–2012)	26,060	126,790	11,170	91,030	5,050	43,040	7,430	41,730	1,720	6,840	51,430	309,430
Average (1984–2012)	26,880	130,310	10,430	72,160	4,020	40,500	5,490	39,000			47,440	284,500
Source: State-V	Vide Harvest	Surveys from Mil	lls 1979–199.	4: Howe et al 1	995, 1996. 20	01a-d: Walker e	t al. 2003: Jen	Source: State-Wide Harvest Surveys from Mills 1979–1994: Howe et al. 1995, 1996. 2001a-d: Walker et al. 2003: Jennings et al. 2004. 2006a-b. 2007. 2009a-b. 2010a-b. 2011. In Prena-h	2006a-b. 200	7. 2009a-b. 201	0a-b. 2011. In	Prena-h.
Catch estimates	from 1984-	1989 are unpublisl	hed estimates	from the SWH	S data base M.	J. Mills, Sport Fi	sh Biometricia	Catch estimates from 1984-1989 are unpublished estimates from the SWHS data base M.J. Mills, Sport Fish Biometrician, ADF&G, Anchorage; personal communication.	orage; persons	il communicatio	л. ч, то т., т. Л.	
a SWHS began o	onsistently n	^a SWHS began consistently reporting in 2002.										
<u>. Vote:</u> ND = по data available	data availabl	<u>ə</u>										

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			Ке	nai River Reach	า	
		Cook Inlet	Soldotna	Moose River	Skilak inlet	
		to Soldotna	Bridge to	to Skilak	to Kenai	Unspecified
Year	Month(s)	Bridge	Moose River	outlet	Lake	Kenai River
2006	May-June	7,726	945	382	1,054	29
	July	20,191	802	706	2,085	183
	August-Sept	5,402	1,059	2,139	3,075	73
2007	May-June	6,729	890	510	1,179	311
	July	18,596	941	802	1,954	771
	August-Sept	4,823	1,087	2,476	3,069	764
2008	May-June	6,276	719	442	1,292	135
	July	17,357	1,231	689	2,250	180
	August-Sept	6,602	699	2,186	3,970	233
2009	May-June	4,214	427	327	1,403	100
	July	12,566	822	603	2,127	274
	August-Sept	4,371	683	2,396	3,249	256
2010	May-June	3,073	631	343	1,219	41
	July	10,863	1,598	1,072	2,150	191
	August-Sept	6,494	684	2,359	3,461	134
2011	May-June	3,873	330	292	1,233	5
	July	12,050	554	854	1,905	28
	August-Sept	6,071	1,001	2,828	3,894	86
2012	May-June	2,085	182	491	1,510	0
	July	5,635	1,452	2,113	2,274	17
	August-Sept	6,194	1,182	2,661	3,418	14

Table 8. The number of guided Angler Days on the Kenai River by month and reach, 2006 -2012.1

¹ An angler who f ished multiple reaches will be counted multiple times.

2014 Board Members

Mark Hamilton Chair President, University of Alaska-Retired

Reuben Hanke Vice Chair Owner, Harry Gaines Kenal River Fishing

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Robert Penney Founding Member

Marilyn Romano Regional Vice President Alaska Airlines

Doug Smith CEO, Little Red Services





KENAL RIVER SPORTFISHING

January 16, 2014

Alaska Department of Fish & Game Board Support Attn: Francis 1255 W. 8th Street Juneau, AK 99811-5526

Dear Francis:

Attached please find KRSA's 2014 UCI Fishery Management Proposals Report for the Alaska Board of Fisheries meeting beginning January 31, 2014.

We will also forward you an electronic copy in pdf format. Should you need a different format let me know and we can send that as well.

Regards,

Kelly Hanké Office & Event Manager

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	JAN 1 6 2014.	
	BOARDS	

Dedicated to preserving the greatest sportfishing river in the world, the Kenai.



2014 Uppend Cook findet

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Kenai River Sportfishing Association

KRSA is a membership-based, non-profit, fishery conservation organization dedicated to preserving the greatest fishing river in the world – the Kenai – through program work in habitat protection, fisheries management, research, and angler education.

The association supports sustainable and balanced management of Upper Cook Inlet (UCI) sport, personal use, and commercial salmon fisheries based on sound science and verifiable studies. Toward this end, KRSA funds scientific research, seeks independent peer review of fishery management practices and proposals by scientific experts, and participates in public involvement processes for fish conservation and fishery regulation conducted by the Alaska Department of Fish and Game (ADFG) and the Alaska Board of Fisheries (BOF).

	KRSA Proposals	
<u>Num.</u>	······································	<u>Pg.</u>
103	UCI Salmon Management Plan – Clarify priorities	11
112	Fishing Seasons – Correct trigger for goal change	51
126	Gillnet specifications – Prohibit permit stacking	51
156	Kasilof River Salmon Management Plan – Fishing time	45
161	Kenai Late-run Sockeye Management Plan – In-river goal tiers	35
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Summary & Recommendations

This booklet describes proposals submitted by Kenai River Sportfishing Association (KRSA) for changes in management plans to address issues of particular concern to the sport and personal use fishery community of the Kenai region and Upper Cook Inlet. Five major issues drive the agenda for the 2014 meeting of the Alaska Board of Fisheries:

- 1. Management of the salmon fisheries of the Upper Subdistrict of the Central District of Upper Cook Inlet during these times of low abundance of late-run king salmon.
- 2. Management of the commercial Drift Gillnet Fishery in a manner necessary to allow passage of enough salmon through to the Northern District of Upper Cook Inlet to achieve management objectives established for systems within that area.
- 3. Management of harvest of surplus Kasilof and late-run Kenai sockeye salmon that may be available as a consequence of adoption of strategies to address issues #1 and #2.
- 4. Providing for an orderly transition in early August from management of the Central District primarily for the commercial utilization of sockeye to management of the entire Upper Cook inlet primarily for the sport and guided sport fisheries for coho salmon.
- 5. Assuring that ADFG has the appropriate management tools and direction for their use during this period of low abundance of early-run king salmon in the Kenai River.

To address these issues, KRSA proposes:

- A. Prioritizing achievement of the lower end of escapement goals (proposal #103).
- B. Maintaining a precautionary optimal escapement goal (OEG) for early-run Kenai kings (proposal #188).
- C. Establishing a precautionary OEG for late-run Kenai kings (proposal #207).
- D. Adopting paired prescriptive restrictions in sport, personal use and commercial fisheries to share the conservation burden for late-run Kenai kings (proposal #209).
- E. Providing ADFG with authority to regulate set net gear for management flexibility during periods of low king abundance (proposal #211).
- F. Incorporating additional king protection measures in the Kasilof set net fishery (proposal #156).
- G. Rolling back expansion of commercial fishing power due to permit stacking (proposal #126).
- H. Clarifying priorities of in-river goals and OEGs for late-run Kenai sockeye (proposal #161).
- I. Increasing sport bag limits on surplus Kenai sockeye returns runs (proposal #168).
- J. Correcting Kasilof sockeye triggers for changes in sonar counting currency (proposal #112).
- K. Restoring Kenai coho bag limits to three during August (proposal 248).



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INTRODUCTION

Upper Cook Inlet (UCI) salmon support the largest public (non-commercial) fishery in the state whether measured by participation, harvest or economic value. Demand will continue to increase as the population and participation of Southcentral Alaska continues to grow. Commercial fisheries remain integral to the economy and social fabric of the local community. However, economic values of sport and personal use salmon fisheries now greatly surpass those of the commercial salmon fisheries by every available measure.

Allocation and management in UCI has long been dominated by commercial values. Management practices and priorities in UCI have been slow to respond to evolving needs. The state constitution mandates conservation of the fisheries resource and optimization of associated recreational, social and economic values. The constitutional goal of "maximum benefit" accruing from these common property resources is not nearly achieved by current salmon fishery management strategies.

Management Plans

UCI is home to some of the most complex management plans in Alaska. The various management plans also are intricately interconnected such that even seemingly minor changes can have significant biological and allocation ripple effects. Current plans are the product of extensive policy deliberation, negotiation, refinement, and compromise. They reflect the historical wisdom of a series of fishery boards and a generation of sport and commercial fishery managers. However, management plans must continue to evolve to adapt to changing demands, conditions, unforeseen events, and new information.

Current management in UCI is instituted through a series of management plans including an overarching "Umbrella Plan" that provides general guidance and a series of "step-down plans" that provide fishery or stock specific direction (Figure 1).

Early Season (May and June)

- □ The salmon stocks moving through Cook Inlet prior to July 1 have primarily been allocated to sport fisheries since the 1970s.
- □ Related management plans address early-run Kenai and Kasilof king salmon, northern district kings, and early-run Russian River sockeye.

Late Season (July through September)

- □ The commercial salmon fisheries are primarily concentrated on stocks returning around or after July 1.
- □ Kenai and Kasilof sockeye dominate the commercial harvest during this time period followed in number by a mixed stock of coho salmon and late-run Kenai and Kasilof kings.
- □ Salmon numbers and harvest returning after July 1 dwarf those of the earlier period, even for the sport and personal use fisheries.
- □ A number of management plans address the July-September period (Figure 1).





Figure 1. Organization of Upper Cook Inlet Fishery Management Plans.

Recent Management History

2011 Board of Fisheries

- The Board adopted an expanded drift fishery corridor (terminal harvest area) and limits on district-wide openers during the middle of July to focus harvest on abundant Kenai and Kasilof sockeye and provide a conservation corridor through the central inlet for the Susitna sockeye stock-of-concern.
- Declining king runs led several northern king runs to be designated as stocks of concern.
- The late-run Kenai sockeye OEG and in-river goals were revised to account for changes in the sonar measurement currency. (The old sonar was undercounting.)

2011 Season

- Incorrect translation by ADFG of BOF changes to drift net regulations resulted in a delay of implementation and additional Board involvement.
- The Kenai sockeye run came in much larger than expected but timing was delayed.
- This resulted in heavy commercial set net fishing into August and large returns to the Kenai and Kasilof.

2012 Season

• Then-record low king numbers and run size uncertainty led to devastating, first-ever restriction and closure of the eastside set net (ESSN) and Kenai king sport fisheries in mid to late July.



- Hindsight and a record late run timing of kings produced an escapement comfortably above the minimum goal but there was no way to predict that in-season.
- Late king returns resulted in a reopening of the set net fishery in August against the objections of the sport community who had been largely closed.
- Liberal use of the expanded Kenai and Kasilof sections for the drift fleet, including decoupled openers from the set net fishery, was successful in controlling Kenai sockeye escapement.

Cook Inlet Task Force

- A task force was convened by the BOF attempted to shape a central district fishery strategy during low king runs.
- A paired prescriptive step-down strategy for sport and commercial fisheries was discussed but fishery sectors could not reach a consensus on specific components.

2013 Statewide meeting

- The BOF attempted to shape a fishery strategy for low king runs but was unsuccessful.
- Considerations were also confounded by effective reductions in king escapement goals resulting from a new analysis by ADFG.

2013 Season

- Kenai king runs fell to a new record low resulting in substantial restriction of commercial set net and sport fisheries.
- ADFG generally followed a paired step-down fishing strategy similar to that considered by the Cook Inlet Task Force.
- The Kenai king sport fishery was restricted to no bait from the start of the season (and no retention above Soldotna Bridge), went to catch and release on July 25, and closed on July 28.
- The set net fishery was largely limited to regular periods through the middle of the sockeye run and then closed after July 23.
- The drift net fishery again enjoyed liberal fisheries and significant use of the expanded corridor (terminal harvest area.)
- Escapements of late-run Kenai kings came in just above the new lower SEG established by ADFG.
- The Kenai sockeye OEG was met despite fishery limitations following a lower-thanaverage Kenai sockeye return (3.3 million).

2014 Forecasts

- Kenai sockeye are forecast to be substantially larger than 2013 (about 4.6 million).
- A new record low Kenai king run is projected (perhaps 20,000 or less).
- The stage is set for a collision of sockeye and king objectives, unless the BOF provides clear guidance on a strategy for sharing the king conservation burden.



			2011	2012	2013
Kenai kings	Numbers	Forecast			29,000
		Actual	35 <i>,</i> 780	28,550	~20,000
		Didson sonar	19,000	21,914	17,028
		Escapement	19,680	27,710	15,395
(en	Harvest	In-river sport ^a	7,373	196	1,620
×		East side set net	5,596	484	2,256
		Drift net	593	191	426
	Numbers	Forecast	3,941,000	4,026,000	4,374,000
Ae		Run	6,199,394	4,487,414	3,264,000
cke		Sonar	1,599,217	1,581,555	1,354,554
Š		Escapement	1,275,369	1,197,518	1,055,000
Kenai sockeye	Harvest	Sport above sonar	~280,000	~300,000	~250,000
¥		Sport below sonar	na	na	na
		Personal use	537,765	526,992	347,222
	Numbers	Forecast	929,000	754,000	903,000
of		Run	823,248	727,751	1,298,000
Kasilof sockeye		Sonar	245,721	374,523	489,262
Š X	Harvest	Personal use	76,546	89,057	99,967
		Special harvest area	0	0	67,145
le sye	Harvest	Personal use	625,000	629,300	454,300
		Sport	na	na	na
Total sockeye		Drift net	3,201,035	2,924,144	1,662,561
so		East side set net	1,877,939	96,639	921,533
		Commercial total ^b	5,277,995	3,133,803	2,683,224

Table 1. Recent run, harvest, and escapement numbers for late-run Kenai kings, late-run Kenai sockeye, and Kasilof sockeye.

^a includes catch & release mortality.

^b includes drift, east side set net, Kalgin, west side & northern district.



GROUP 1 - THE UPPER COOK INLET MANAGEMENT PLAN¹

"I'm charging each one of you to make sure every stream in your district is filled to the maximum spawning capability. Now, if you allow an over-escapement, depriving the fishermen of their livelihood, you can expect to be criticized. But on a personal level, gentlemen, I want you to understand that if you allow an under-escapement, you can expect to be fired."

-- Andy Anderson, ADFG's first commissioner²

Issues

Complex fisheries involve six user groups (drift and set net commercial, unguided and guided sport, personal use and subsistence) and five salmon species. Challenges are unique among all of the fisheries regulated by the BOF. This situation exists nowhere else in Alaska. This complexity requires specific management plans to achieve both biological and allocative goals.

This complexity was first addressed by the BOF in 1977 with the adoption Policy 77-27-FB. That policy allocated fish in UCI "primarily" to sport users prior to July 1st and to commercial users after that date. An additional requirement directed the department "to manage the upper Cook Inlet commercial fisheries to minimize the incidental take of Susitna coho, Kenai king and early Kenai coho." This policy was put into regulation later in 1997 and stands today as 5 AAC 21.363.

The term "minimize" was also addressed in the later versions of the Upper Cook Inlet Salmon Management Plan by providing prescriptive directions for the in-season management of Northern District coho, late-run Kenai King and early-run Kenai Coho. Now these prescriptive management directives are found in the various sockeye, king and other step-down management plans for various drainages.

Boards recognized that commercial users were primarily focused on sockeye while sport users were most interested in king and coho salmon. While this focus has not changed, the precipitous decline in numbers of early and late-run king salmon, the addition of the personal use fisheries coupled with the growth of our local and tourist populations, has added even more complexities to the management of these fisheries.

The purpose of prescriptive "step-down" management plans has been two fold, first to meet the constitutional mandate of "sustained yield" and second provide the "maximum benefit" to the people of Alaska. It is absolutely essential that UCI fisheries be managed to insure minimum escapements for all species. Once that goal is achieved, to maximize the benefits to all Alaskans, the BOF must afford all users a fair and equitable opportunity to harvest a common property resource.

During its 2008 UCI meeting, the BOF developed specific regulatory language for the area at the request of ADFG to address occasions when achieving the objectives or implementing the prescriptive tools of one management plan conflicts with or compromises the department's

¹ Group 1 also includes Stocks of Concern. KRSA supports designation of stocks of concern and development of substantive actians plans as directed in the Sustainable Salmon Fisheries Policy.

² Alaska Fish and Wildlife News, January 2014, <u>http://www.adfg.alaska.gov/index.cfm?adfg=wildlifenews.main</u>



ability to achieve the objectives of another plan. Additional clarifications are needed in this language.

The prescriptive management directives found in the various step-down plans also need to be protected at this meeting from continuing assaults from commercial fishing interests.

KRSA Proposal 103

This proposal would amend the Upper Cook Inlet Salmon Management Plan to clarify priorities among various plan provisions and goals:

- 1) drop in-river goals from list of escapement goals,
- prioritize achieving the lower end over exceeding the upper end of an escapement goal, and
- require the department to utilize all prescriptive elements found in codified plans before going outside of codified plans to achieve established escapement goals.

In-river goals are allocative in nature and the department should not be put in a position of trying to favor one allocation strategy over another without consultation of the Board.

Prioritizes lower goals over upper goals and formalizes established practice.

The department should be required to use the tools spelled out in prescriptive plans and not normally go outside plans until all tools are utilized.

Explanation

This provision effectively applies only to late-run Kenai king, and Kenai and Kasilof sockeye fisheries. These stocks have goals that can be measured by sonar during the season. That allows for in-season management to achieve BEGs, SEGs, OEGs and allocation objectives stated as "in-river goals". This regulation, in practice, has never been applied to any other UCI stock or river system and was rejected as a tool to use statewide by the BOF at the 2013 Statewide Finfish Meeting.

This provision allows ADFG to use emergency order authority to go outside of any other UCI management plans in order to meet escapement goals that include "in-river goals" and "OEGs". In-river goals are allocation directives, not biological goals.

With this regulation in place, it no longer matters what the BOF requires in any management plan. ADFG is permitted to use its emergency order authority to override specific and prescriptive management directives designed to protect all species of salmon and make allocations to all users in Upper Cook Inlet.

These management plans have been adopted and amended over many years in response to extensive public involvement in the BOF process. These plans represent the collective wisdom and will of users, managers and Board members. They should never be ignored. All of the provisions should be used in every circumstance in order to address the biological and



allocative competing demands on these complex fisheries. To do otherwise is to denigrate the BOF process. If it becomes a common necessity to go "outside" of the prescriptive step-down plans ADFG should consider it their responsibility to bring the issue to the BOF not just continue to act under their Emergency Order Authority.

The emergency order authority set forth in (e) should only be used when there are no available tools in the various management plans and a circumstance exists which would make it impossible to meet minimum escapement goals. Emergency order authority should not be used to increase harvest of one species when doing so would have an adverse effect on other species or on other users.

It is not true that the proposed revisions would require fisheries to be closed unless every escapement goal is met. This is a red herring argument promulgated by opponents of this proposal so that the upper end of the late-run Kenai sockeye escapement goal can continue to be used to set aside every other biological and allocative provision of every other plan. One or another escapement goal is regularly not met despite management plan direction already says achieving established escapement goals for the management plans remains the primary management objective. Nothing in this proposal changes this prime directive of this plan or requires additional fisheries closures to ensure that every goal is met. The proposed change does prevent the upper end of the Kenai sockeye goal being used to trump every other management objective in the inlet.

Other Proposals

- **#103** [KRSA] Amend management plan to drop in-river goals from list of escapement goals, prioritize achieving the lower end over exceeding the upper end of an escapement goal, and require the department to utilize all prescriptive elements found in codified plans before going outside of codified plans to achieve established escapement goals. [KRSA] Supports]
- **#104** [Mark Drucker] Repeal the Upper Cook inlet Salmon Management Plan. Plan needs to be bolstered by incorporating all the priority language in the step-down plans. The overarching plan has been watered down as the preamble language was moved out of the upper Cook Inlet plan. We would prefer to put it all back in and keep it in the step-downs too. [KRSA opposes]
- **#105** [South K-Beach Independent Fisherman's Association] Amend management plan to establish a harvest allocation between commercial set and drift gillnet fisheries in Upper Cook Inlet. Exacerbated by need to use drift fleet to harvest sockeye in periods of king low abundance. *Explicit allocations have not been historically incorporated into UCI plans.* [KRSA opposes]
- **#106** [Central Peninsula AC] Repeal management plan and replace with a flexible management plan. *Proposal does not identify specific changes.* **[KRSA opposes]**



Upper Cook Inlet Management Plan Language [5 AAC 21.363]³

- (a) The department should receive long-term direction in management of upper Cook Inlet salmon stocks and salmon species. Divisions within the department must receive longterm direction in order to accomplish their missions and plan management, research, administrative, and other programs.
 Upper Cook Inlet stakeholders should be informed of the long-term management objectives of the Board of Fisheries (board). Therefore, the board establishes the following provisions for the management and conservation of upper Cook Inlet salmon stocks:
 - (1) consistent with the statutory priority for subsistence, the harvest of upper Cook inlet salmon for customary and traditional subsistence uses will be provided for specific species in appropriate areas, seasons, and periods to satisfy subsistence needs; other beneficial uses, to the extent they are consistent with the public interest and overall benefit of the people of Alaska, will be allowed in order to maximize the benefits of these resources;
 - (2) to provide for the management and allocation of the upper Cook Inlet salmon resources, the harvest of the upper Cook Inlet salmon will be governed by specific and comprehensive management plans adopted by the board for salmon stocks and species, on a Cook Inlet basin wide basis, for different areas, and drainages and for different types of fisheries;
 - (3) in adopting the specific management plans described in(2) of this subsection the board will consider:
 - (A) the need for sustainable fisheries for all salmon stocks and salmon species throughout the Cook Inlet basin;
 - (B) the protection of the fisheries habitat both in the fresh water and the marine environment throughout the Cook Inlet basin; and
 - (C) the various needs and demands of the user groups of the salmon resources of upper Cook Inlet;
 - (4) in these management plans, the board may, as appropriate, address the following considerations:

This plan, commonly referred to as the "Umbrella Plan" provides overarching guidance to UCI salmon management.

<u>Maximize beneficial uses</u> Benefits are not defined in terms of maximum yield.

<u>Defers details to specific</u> <u>plans</u>

<u>Considerations</u>: Sustainability, habitat, & need

Allocation among and within

user groups

³ As amended by KRSA proposal.



(A) the need to allocate the harvestable surplus among commercial, sport, guided sport and personal use	
fisheries; and	
 (B) the need to allocate the harvestable surplus within user groups; 	
(5) in the absence of a specific management plan, it is the intent of the board that salmon be harvested in the fisheries that have historically harvested them, according to the methods, means, times, and locations of those fisheries;	Importance of historical fisheries
(6) consistent with 5 AAC 39.220(b), it is the intent of the board that, in the absence of a specific management plan, where there are known conservation problems, the burden of conservation shall, to the extent practicable, be shared among all user groups in close proportion to their respective harvest on the stock of concern.	<u>Equal sharing of conservation</u> <u>burden</u>
(b) Repealed 6/13/99.	
(c) In this section "upper Cook Inlet salmon stocks" means those salmon that move through the Northern and Central Districts as defined in 5 AAC 21.200(a) and (b) and spawn in waters draining into those districts.	
(d) Repealed 6/11/2005.	
(e) Notwithstanding any other provision of this chapter, it is the intent of the board that, while in most circumstances the department will adhere to the management plans in this chapter, and utilize to the extent practicable, all prescriptive elements found in the codified plans, no provision within a specific management plan is intended to limit the commissioner's use of emergency order authority under AS 16.05.060 to achieve established escapement goals for the management plans as the primary management objective.	This section was revised by the 2008 BOF to explicitly elevate the <u>escapement</u> <u>goal priorities</u> over other step-down plan provisions. This would include both minimum and maximum goals
Achieving the lower end of all escapement goals shall take priority over not exceeding the upper end of any	Proposed additions are in
escapement goal. For the purpose of this subsection,	<u>underline</u>
"escapement goals" includes [INRIVER GOAL,] biological escapement goal, sustainable escapement goal, and optimal escapement goal as defined in 5 AAC 39.222.	[PROPOSED DELETIONS ARE IN BRACKET CAPITALS]



GROUP 2 - KENAI LATE-RUN KING SALMON MANAGEMENT PLAN

Issues

Management of sport and commercial fisheries during years with low numbers of late-run king salmon is clearly the most important issue before the BOF at this meeting. Failure to effectively address this problem risks severe fishery disruptions and significant reductions in future fish production.

The current management plan was written in a period of consistently high king run sizes and does not effectively address low run sizes seen in recent years. Lack of direction in the current management plan for periods of low king returns:

- places an undue burden on ADFG to make highly-allocative fishery restrictions;
- fails to share the burden of conservation among sport and commercial fisheries; and
- increases risks of commercial fishery closures during low run years.

KRSA has introduced three proposals to manage fisheries while also protecting king salmon during periods of low abundance. These proposals address:

- 1. Optimum escapement goal to ensure long-term sustainability of late-run Kenai kings.
- 2. A simple paired prescriptive step-down strategy for equitable sharing of fishery management burdens during periods of low abundance.
- 3. ADFG management authority to regulate set net fishing methods in order to avoid disastrous fishery closures like those experienced in 2012.



Figure 2. Harvest of Kenai late-run kings in commercial and sport fisheries (commercial king harvest as per ADFG genetic stock composition assessment).



KRSA Proposal 207 – Kenai Late-Run King OEG

This proposal establishes an optimal escapement goal (OEG) for Kenai late-run king salmon:

Old SEG	Current SEG	Proposed OEG	
17,800 – 35,700	15,000 - 30,000	20,000 – 40,000	

Just because the new goal might be sustainable, doesn't mean it's a good idea.

- A lower goal will reduce future king returns, prolong the period of king limitations, and damage king fisheries.
- We would be managing too close to an uncertain edge where production drops precipitously.
- We do not have the in-season management certainty to avoid falling off the cliff when we attempt to manage too close to it.

Explanation

An escapement goal range of 20,000 to 40,000 is the goal ADFG should have set as an SEG if they would have followed established practice. It provides a high measure of precautionary protection in the face on continuing record low returns. It recognizes a high risk to future production associated with considerable uncertainty in our ability to measure king numbers and use models to predict future returns based on poor data.

- □ The proposed goal includes ADFG's model-derived estimates of Maximum Sustained Production (MSP) and Maximum Sustained Yield (MSY) and thus recognizes both the commercial and sport fishery significance of Kenai kings.
- Management to avoid low escapements under 20,000 provides a precautionary reduction relative to the lowest historical escapement where returns have been estimated.
- □ An upper goal of 40,000 includes the historical average escapement and maintains high production and yield according the Department's recent escapement goal analysis.

An escapement of 15,000 late-run Kenai kings is no more desirable than an escapement of two million Kenai sockeye. Both are sustainable but both come with significant fishery costs. The new goal would also allow sport and commercial fisheries to increase harvest of kings over historical levels as the run rebounds from current low levels.



The new SEG of 15,000 – 30,000 is very obviously an effective reduction from historical levels.

- □ The lower end (15,000) is less than any historical escapement for which production has been estimated (26,550).
- 70,000 60,000 40,000 30,000 20,000 10th percentile 10th percentile
- The top end (30,000) is less than the historical average escapement (37,000).

Figure 3. Comparison of ADFG SEG and historical escapement distribution.

The SEG was based on subjective interpretations of the available data and is inconsistent with similar interpretations in other stocks (e.g. Kuskokwim kings, early-run Kenai kings). Establishing a goal outside the range of data is statistically questionable and contrary to standard ADFG practice. ADFG also made an allocative decision to base the king goal on maximum sustained yield rather than maximum sustained production as would have been consistent with the sport fishery priority for kings.

A new expert peer review has affirmed that the modeling methods used to analyze salmon production curves were technically sound. However, this peer review did not consider the quality of the data used in the model or the management implications of inferences from model results. These problems were identified by independent reviewers during the first round of peer review.

The proposed OEG represents the ideal management target for management of Kenai kings. KRSA also recognizes that the realities of Cook Inlet mixed stock fisheries must balance competing species and fishery objectives.



KRSA Proposal 209 – Paired Prescriptive Step-down Measures

This proposal establishes paired prescriptive restrictions in sport, personal use, and commercial fisheries to:

- □ Achieve spawning escapement consistent with established goal.
- □ Share burden of conservation equitably during this period of low abundance.
- Provide for fishing opportunity in both the in-river and set net fisheries over the course of their seasons.
- □ Maintain parity of total harvest of late-run Kenai River king salmon.

Prescriptive pairing of step-downs is essential during years of low abundance because of the near certainty of significant restrictions.

- 1) In the upper bound of the SEG the normal regulations would govern fisheries just as they do now.
- 2) In the first step-down bait would be prohibited in-river and the set net fishery would be limited to 24 hours per week with reduced gear. Regular periods and the Tuesday window would be set aside to focus set net fishing on sockeye when fish hit the beach.
- 3) If the projected escapement continues to fall down toward the SEG of 15,000, managers would implement the next step-down. This pairing would include catch and release and 12 hours only per week with reduced set net gear.
- 4) If restrictions are in place in the set net fishery on July 31, those restrictions will remain in effect through August 10 if the minimum escapement goal is assured.
- 5) The third step-down takes us below the bounds of the precautionary zone and results in closures for the major fisheries. KRSA does not support any level of fishing that risks escapement less than 15,000.

Explanation

Everyone will benefit by clear management direction:

- ✓ The sport fishery will benefit by sharing the conservation burden through paired prescriptive restrictions rather than shouldering the entire share of restrictions to meet king escapement goals.
- ✓ The commercial set net fishery will benefit relative to the current plan because stepdowns will provide the opportunity to avoid total closure when king numbers are not adequate to prosecute a full fishery.
- ✓ The sharing of the conservation burden among respective fisheries depends on the details of the regulatory actions in each step.
- ✓ In this proposal, the commercial set net step-downs were designed to produce similar catches of kings to those of the corresponding sport regulations at low king numbers.
- ✓ Higher levels of set net fishing time will result in their catching a disproportionate number of Kenai kings and triggering an earlier closure of all fisheries at low run sizes.

East Side Set net Commercial	 Based on abundance as per late-run sockeye salmon management plan Managed to minimize harvest of late-run kings (Windows/EO hours as per sockeye plan) 	 No more than 24 hours per week (fishing by Emergency Order on abundance). Reduces gear from three to two nets. Friday Window (36 hours) remains in place. Aug 1 - 10 with restrictions in place at end of season. 	 12 hours maximum per week. Reduces gear to one net per permit. Friday Window (36 hour) remains in place. Aug 1 - 10 with restrictions in place at end of season. 	o Glosed Drift Fleet restricted to off shore.
Personal Use Fishery	One king per permit per year	No king retention	No king retention	NG થિંમનુટ તહાંસનોઉંગન
Sport Fishery	 Season = July 1-31 Bait allowed, single hook Mouth to Skilak Lake open Seasonal limit two per year Saltwater normal 	 Bait prohibited for Kenai kings* Bait prohibited in Saltwater Reduction in harvest potential of about 50% if implemented from start of season 	 Catch and Release for Kenai kings** Saltwater bait prohibited Saltwater in Release mortality estimated at ≤ 300 fish if implemented early on river return of 15,000 	 No fishing in Kenal for kings Saltwater closed north of Bluff Point within 1 mille of shoreline
	Normal	r⊣ anoz Yien	Precautio	(na)

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KRSA Proposal 211 – Set Net Gear Restriction Authority

This proposal adds a provision to the Kenai late-run king salmon management plan allowing ADFG to adopt set net gear restrictions appropriate to provide fishing opportunity while also meeting established escapement goals. Restriction can include:

- two set gillnets that are not more than 70 fathoms in aggregate length;
- one set gillnet that is not more than 35 fathoms in length; and
- set gillnets that are not more than 29 meshes in depth.

Explanation

ADFG currently does not have the authority to restrict set net gear. During periods of low king salmon returns, the authority to limit fishing methods will provide added flexibility to continue to fish without placing king escapements at risk or triggering the need for complete fishery closures like those so disastrously experienced in 2012. The BOF considered a proposal to allow greater management authority to regulate gear in the eastside set net fishery at the 2013 Statewide Board meeting but this effort was sidetracked by controversy regarding escapement goals.



- □ Shallower nets used in other Alaska commercial fisheries including Bristol Bay where a 29 inch mesh regulation has been in place in since at least the 1970's [5 AAC 06.331].
- Research was conducted in UCI during 1996 on the effects of mesh depth (Bethe and Hansen 1998). This work found that Chinook catch can be substantially reduced by the use of 29-mesh nets instead of 45-mesh nets.
- Subsequent to the study, research protocols have been challenged, particularly by the commercial fishing industry. The Bethe study lends support for the hypothesis that shallower nets catch fewer Chinook relative to sockeye. However, the magnitude of potential benefits has not been documented.



Other Proposals

- **#207** [KRSA] Establish an optimal escapement goal (OEG) of 20,000–40,000 Kenai River laterun king salmon. *[See above for further explanation]*
- **#208** [Scott Miller] Establish a biological escapement goal (BEG) of 17,800–35,700 late-run Kenai River king salmon. *Similar to KRSA proposal #207 although BEGs are established by ADFG.* [KRSA Supports Concept]
- **#209** [KRSA] Establish paired restrictions in sport, personal use, and commercial fisheries to meet sustainable escapement goal (SEG) and modify sport fishing liberalizations when goal is projected to be exceeded. *[See above for further explanation]*
- **#210** [Mark Drucker] Remove preamble language, establish a biological escapement goal (BEG) of 12,000–28,000 king salmon, increase emergency order (EO) hours for commercial fishing, and delete habitat and EO provisions. *Goals are not sustainable. Nor do we support the removal of habitat assessments.* **[KRSA opposes]**
- **#211** [KRSA] Establish certain set gillnet gear restrictions implemented by ADFG to meet escapement goal. *[See above for further explanation]*
- **#212** [Warren Brown] Allow restrictions to set gillnetters in the Upper Subdistrict when the late-run Kenai River king salmon sport fishery has gone to catch and release, including limiting how many nets a permit holder can fish; closing fishing within one-half mile offshore; and non-retention or sale of king salmon. [KRSA Supports Concept see #209]
- **#213** [Bruce Morgan] Close set gillnet fishery in the Upper Subdistrict, if the late-run Kenai River king salmon sport fishery is restricted to catch and release. [KRSA Supports Concept – see #209]
- **#214** [ADFG] Amend the management plan to clarify provisions within the Kasilof River Salmon Management Plan exempt under this plan. *KRSA believes that king provisions of this plan should apply to Kasilof section and also the KRSHA due to impacts on Kasilof kings. This proposal addresses the section but allows an exemption for the special harvest area.* **[KRSA Supports Concept – see #209]**
- **#215** [Brian Nelson] Allow set gillnet fishing to occur in East Forelands Section of the Upper District if projected inriver return is less than 40,000 king salmon, projected escapement is less than 15,000 king salmon, and inriver sport fishery is closed. [KRSA opposes additional harvest of kings when escapement is projected to be less than the goal]
- **#216** [S K-Beach Independent Fishermen] Amend management plan to change effective dates of provisions in the plan; delegate authority to manage restrictions by time, area, methods, and means during times of low king salmon abundance. [KRSA opposes]
- **#217** [Central Peninsula AC] Delete language in Cook Inlet management plans that restrict department's flexibility to manage salmon fisheries based on inseason abundance and add language that states the department shall manage common property fisheries for a reasonable opportunity to harvest salmon resources. [KRSA opposes]
- **#218** [Lynn Whitmore] Use the southern Anchor River marker instead of the Bluff Point marker when restricting the marine king salmon fishery. *This is a substantial expansion of this area.* [KRSA supports what board adopted at the LCI meeting]



Kenai River Late-Run King Salmon Management Plan Language [5 AAC 21.359]

- (a) The purposes of this management plan are to ensure an adequate escapement of late-run king salmon into the Kenai River system and to provide management guidelines to the department. The department shall manage the late-run Kenai River king salmon stocks primarily for sport and guided sport uses in order to provide the sport and guided sport fishermen with a reasonable opportunity to harvest these salmon resources over the entire run, as measured by the frequency of in-river restrictions.
- (b) The department shall manage the late run of Kenai River king salmon to achieve a sustainable escapement goal of 15,000-30,000 king salmon, as follows:
 - (1) in the Kenai River sport fishery
 - (A) if the sustainable escapement goal is projected to be exceeded, the commissioner may, by emergency order, <u>increase the harvest potential of the in river sport</u>
 <u>fishery by establishing periods by emergency order during</u>
 <u>which time, season, area, gear and/or bag and possession</u>
 <u>limits are liberalized</u> [EXTEND THE SPORT FISHING SEASON UP TO SEVEN DAYS DURING THE FIRST WEEK OF AUGUST];
 - (B) From July 1 through July 31, a person may not use more than one single hook in the Kenai River downstream from Skilak Lake;
 - (C) <u>the commissioner may, by emergency order, establish</u> <u>periods where bait is prohibited, retention is prohibited, or</u> <u>fishing for king salmon is closed.</u>
 - (2) in the sport fishery, that portion of the Kenai River downstream from Skilak Lake is open to unguided sport fishing from a nonmotorized vessel on Mondays in July; for purposes of this section a non-motorized vessel is one that does not have a motor on board;
 - [(3) IF THE PROJECTED ESCAPEMENT IS LESS THAN 15,000 KING SALMON, THE DEPARTMENT SHALL]
 - [(A) CLOSE THE SPORT FISHERIES IN THE KENAI RIVER AND IN THE SALT WATERS OF COOK INLET NORTH OF THE LATITUDE OF BLUFF POINT TO THE TAKING OF KING SALMON;]
 - [(B) CLOSE THE COMMERCIAL DRIFT GILLNET FISHERY IN THE

This plan primarily concerns management priorities, goals, and a schedule of actions in the event that goals are not met or exceeded

This proposal does not include separate recommendation for a precautionary OEG

⁴ This language is an amendment to the original proposal.


CENTRAL DISTRICT WITHIN ONE MILE OF THE KENAI PENINSULA SHORELINE NORTH OF THE KENAI RIVER AND WITHIN ONE AND ONE-HALF MILES OF THE KENAI PENINSULA SHORELINE SOUTH OF THE KENAI RIVER; AND] [(C) CLOSE THE COMMERCIAL SET GILLNET FISHERY IN THE UPPER SUBDISTRICT OF THE CENTRAL DISTRICT.] (3) in the marine sport fishery, the commissioner shall by emergency order,	
(A) <u>establish periods during which bait is prohibited when</u> <u>fishing for king salmon in the salt waters of Cook Inlet north</u> <u>of the latitude of Bluff Point, at such time as the Kenai River</u> <u>sport fishery is restricted by prohibition of bait;</u>	Bluff Point reference was changed in the LCI meeting
(B) <u>establish periods during which retention is prohibited when</u> <u>fishing for king salmon in the salt waters of Cook Inlet north</u> <u>of the latitude of bluff point, at such time as the Kenai River</u> <u>sport fishery is closed to retention;</u>	
(C) <u>close the salt waters of Cook Inlet north of an ADF&G</u> regulatory marker located two miles south of the Anchor <u>River at 59°45.94' N. lat. to the taking of king salmon when</u> <u>Kenai River sport fishery is closed to fishing for king salmon.</u>	
(4) <u>in the Kenal River personal use fishery, the commissioner shall</u> <u>by emergency order, prohibit the retention of king salmon</u> <u>when the Kenai River sport fishery is restricted by prohibition of</u> <u>bait, retention or fishing for king salmon.</u>	
(5) in the commercial set gillnet fishery in the Upper subdistrict, the commissioner shall by emergency order,	
(A) restrict fishing periods to no more than 24 hours of aggregate fishing time per week, with a 36-hour continuous closure as described in 5 AAC 21.360(c)(2)(C), when sport fishing for king salmon in the Kenai River is restricted by prohibition of the use of bait.	
(i) The department shall also restrict the limit of set gill net gear to two set gillnets that are not more than 70 fathoms in aggregate length or only one set gillnet that is not more than 35 fathoms in length when restrictions are deemed necessary based on projected escapement of king salmon.	Modification of original proposal to include gear restriction
(B) <u>restrict fishing periods to no more than 12 hours of</u> aggregate fishing time per week, with a 36-hour continuous	



	Contract of the second s
closure as described in 5 AAC 21.360(c)(2)(C), when sport	
fishing for king salmon in the Kenai River is restricted by	
prohibition of retention;	
(i) The department shall also restrict the limit of set gill net	Modification of
gear to one set gillnet that is not more than 35 fathoms	original proposal to
in length.	include gear restriction
(C) After July 31 the ESSN fishery could only fish if the	
escapement goal is assured. Fishing by the set net fishery	
shall be restricted as follows:	
(i) <u>Should July end with a closure in effect then there will</u>	
be no commercial set net fishing in August.	
(ii) <u>Should July end with catch and release then the</u>	
commercial set net fishery shall be limited to up to 12	
hours with one net of no more than 35 fathoms in length	
per week.	
(iii) Should July end with no bait then the commercial set net	
fishery shall be limited to up to 24 hours. The	
department shall also restrict the limit of set gill net gear	
<u>to two set gillnets that are not more than 70 fathoms in</u>	
aggregate length or one set gillnet that is not more than	
<u>35 fathoms in length.</u>	
(D) The provisions of this section supersede provisions of the	Clarification of the
Kasilof River Salmon Management Plan including the Kasilof	original proposal to
<u>River Special Harvest Area.</u>	include the Kasilof section.
(6) in the commercial drift net fishery in the Central District, the	
commissioner shall by emergency order, close the fishery within	
one mile of the Kenai peninsula shoreline north of the Kenai	
<u>River and within one and one-half miles of the Kenai peninsula</u>	
shoreline south of the Kenai River when the commercial set	
gillnet fishery in the Upper subdistrict is closed.	
(c) [FROM JULY 20 THROUGH JULY 31,] <u>Repealed (<i>date</i>)</u>	
[(1) REPEALED 6/22/2002;]	
[(2) IF THE PROJECTED INRIVER RETURN OF LATE-RUN KING SALMON	
IS LESS THAN 40,000 FISH AND THE INRIVER SPORT FISHERY	
HARVEST IS PROJECTED TO RESULT IN AN ESCAPEMENT BELOW	
17,800 KING SALMON, THE DEPARTMENT MAY RESTRICT THE	
INRIVER SPORT FISHERY;]	
[(3) REPEALED 6/22/2002;]	



	[(4) IF THE INRIVER SPORT FISHERY IS CLOSED UNDER (2) OF THIS SUBSECTION, THE COMMERCIAL SET GILLNET FISHERY IN THE UPPER SUBDISTRICT SHALL BE CLOSED;]		
	[(5) REPEALED 6/11/2005.]		
(d) Repealed 6/22/2002.		
(e) Consistent with the purposes of this management plan and 5 AAC 21.360, if the projected inriver return of king salmon is less than 40,000 fish, the department may not reduce the closed waters at the mouth of the Kenai River described in 5 AAC 21.350(b). 		
(f) [THE PROVISIONS OF THE KASILOF RIVER SALMON MANAGEMENT PLAN (5 AAC 21.365) ARE EXEMPT FROM THE PROVISIONS OF THIS SECTION.] <u>Repealed (<i>date</i>)</u>	The intent of the original proposal was to also apply to the Kasilof section	
(g) The department will, to the extent practicable, conduct habitat assessments on a schedule that conforms to the Board of Fisheries (board) triennial meeting cycle. If the assessments demonstrate a net loss of riparian habitat caused by noncommercial fishermen, the department is requested to report those findings to the board and submit proposals to the board for appropriate modification of this plan.		
	h) The commissioner may depart from the provisions of the management plan under this section as provided in 5 AAC 21.363(e) <u>except achieving the lower end of the Kenai late-run king</u> <u>escapement goal shall take priority over not exceeding the upper</u> <u>end of Kenai late-run sockeye or Kasilof sockeye escapement goals.</u>	Modification of original proposal to clarify priority of minimum king escapement goals.	
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GROUP 3 - KENAI & KASILOF EARLY-RUN KING MANAGEMENT PLAN

lssues

Early-run Kenai king salmon numbers have declined to very low levels, along with many other Alaska kings in the current period of poor ocean productivity. At the same time, the historical assessment methodology has proven unreliable and we are in a period of transition to a newer methodology. New methods are as yet unproven and current assessments of run strength, escapement, and optimum escapement levels are highly uncertain.

During this period of low numbers and high uncertainty, ADFG will need a full range of management tools and direction on the use of these tools, so that they can achieve escapement objectives and effectively optimize the sport fishing opportunity that can be realized from the early-run of king salmon to the Kenai River.

In the early-run fishery, the adoption of an OEG that results in a substantially larger spawning population than would occur with the use of the lower SEG in the management plan needs to be carefully considered when subsequent discussions of spawning quality or size selectivity issues take place in the specific regulations. The science makes a very strong case that putting more fish on the spawning ground is more important than putting regulatory focus on specific age or size classes that comprise a small proportion of the total run to begin with.



Figure 4. Escapement of early-run Kenai River king salmon campared to the current OEG, 1986-2007.



KRSA Proposal 188 – Early-run Kenai King OEG

This proposal establishes an optimal escapement goal (OEG) for early-run Kenai king salmon:

Current OEG	Current SEG	Proposed OEG
5,300 – 9,000	3,800-8,500	5,300 – 9,000

This OEG provides a high measure of precautionary protection for early-run Kenai kings in the face on continuing record low returns. It recognizes the high risk to future production associated with considerable uncertainty in our ability to measure king numbers and use model to predict future returns based on poor data during a period of low returns and transition in assessment methodology.

Explanation

Problems with the historical assessment methodology led ADFG to undertake a comprehensive reanalysis of the historical data which has provided new estimates of fish number and productivity. This analysis incorporated new research data including mark-recapture estimates of abundance and Didson sonar counts. The Didson sonar substantially improves the capability of ADFG to assess run strength in real time and regulate fisheries in-season to meet management goals. At the same time, the historical data is very limited. As a result, estimates of historical run size and productivity are extremely uncertain.

Very low escapement goals identified by ADFG (3,800-8,500) and alarmingly lower Didsonequivalent counts (2,450-5,500) must be considered with a healthy degree of skepticism. Recent low run sizes and escapements and historical run reconstruction uncertainties warrant a highly precautionary approach to management of the early-run kings in the interim until more reliable information can be developed using the more-reliable Didson sonar assessment technology.





KRSA Proposal 190 -- Early-run Kenai King Fishery Strategy

At this time, KRSA withdraws support for this proposal that would reduce management flexibility during a period of low abundance of early-run Kenai kings.

- ✓ This proposal identified a series of management plan measures for stabilizing predictability and scaling opportunity to fish availability.
- ✓ This proposal was, out of necessity, submitted prior to the 2013 fishing season.
- ✓ In light of the very small total run of early-run king salmon observed in 2013 and small runs probable for the next few years, KRSA is hesitant to reduce the flexibility of ADFG to manage at this time.

Explanation

New information on the status of early-run Kenai king salmon warrants a careful reconsideration of provisions in the current management plan. Problems with the historical assessment methodology led the department to undertake a comprehensive reanalysis of the historical data which has provided new estimates of fish number and productivity. This analysis incorporated new research data including mark-recapture estimates of abundance and Didson sonar counts. The Didson sonar is expected to substantially improve the capability of the department to assess run strength in real time and regulate fisheries in-season to meet management goals.

At the same time, current information indicates that the slot limit regulation, while wellintentioned, was founded on faulty assumptions and warrants reconsideration. Identification of similar reductions in average age of return across much of Alaska indicates that ocean conditions rather than fishery selectivity is responsible for the decline in average size of Kenai early run kings. Fishery restrictions have reduced differential harvest rates by fish size to low levels. The large majority of fish in the slot range would spawn even if the regulation were removed – the benefits of the regulation are for practical purposes negligible.

However, the historical data is very limited and significant questions regarding the accuracy of the current assessment program in estimating abundance of all size and age groups of kings. Recent low run sizes and escapements and historical run reconstruction uncertainties warrant a highly precautionary approach to management of the early king run in the interim and until more reliable information can be developed using the more-reliable Didson sonar assessment technology.



Other Proposals

- **#190** [KRSA] Revise the management plan with measures that stabilize fisheries during lowrun years, increase opportunities during large-run years, and eliminate the "slot limit" for king salmon. **[KRSA withdraws support – see above discussion]**
- **#186** [ADFG] Add a reference to the existing optimal escapement goal (OEG) for Kenai River early-run king salmon and provide department additional management flexibility. *This proposal would clarify that the plan is managing for an OEG of 5,300 9,000 which is consistent with KRSA's proposal #188. However, it makes sport fishery liberalization to bait option when the OEG is being met. It is perplexing why the fishery would not be liberalized when a precautionary OEG that is larger than the Department's SEG is being met, unless the Department has no confidence in their modeling and assessment methodology for early run kings. There are also questions as to whether this change should apply to the entire area downstream from Skilak Lake or just from Slikok Creek to Skilak Lake. [KRSA supports further discussion]*
- **#187** [Kenai Area Fisherman's Coalition] Modify the Kenai River early-run king salmon plan to provide the department more flexibility when liberalizing the sport fishery. This is essentially the same as #186.
- **#188** [KRSA] Maintain existing optimal escapement goal (OEG) of 5,300–9,000 Kenai River early-run king salmon. *[See above for further explanation]*
- **#189** [Scott Miller] Modify Kenai River early-run king salmon optimal escapement goal (OEG) to 9,000–14,000 fish. *[KRSA Opposes]*
- **#191** [Joe Hanes] Repeal slot limit for Kenai River early-run king salmon. A comprehensive discussion of the problems with the science behind the slot limit is appropriate. [KRSA supports further discussion]
- **#192** [Greg Brush] Increase Kenai River early-run king salmon slot-limit size requirement. *OEG* is the most effective way of accomplishing protection. Science behind slot is not sound. Slot is a back door strategy for controlling participation. **[KRSA Opposes]**
- **#193** [Greg Brush] Increase the Kenai River early-run king salmon slot-limit size requirement and extend slot limit through July 31. *OEG is the most effective way of accomplishing protection. Science behind slot is not sound. Need during July is not established.* **[KRSA Opposes]**
- **#194** [Greg Davis] Prohibit retention of early-run and late-run Kenai River king salmon 42 inches or greater in length. OEG is the most effective way of accomplishing protection. Science behind slot is not sound. [KRSA Opposes]
- #196 [Greg Davis] Extend Kenai River early-run king salmon regulations through July 9. [KRSA Opposes]



Kenai River and Kasilof River Early-Run King Salmon Management Plan [5 AAC 57.160]

- (a) The purpose of this management plan is to ensure an adequate escapement of early-run king salmon into the Kenai and Kasilof Rivers, to conserve the unique large size early-run king salmon in the Kenai River, and to provide the department with management guidelines.
- (b) The department shall manage the Kenai River early-run king salmon sport and guided sport fisheries to achieve the optimal escapement goal, to provide reasonable harvest opportunities over the entire run, and to ensure the age and size composition of the harvest closely approximates the age and size composition of the run.
- (c) The department shall manage the Kasilof River early-run king salmon sport and guided sport fisheries to achieve the sustainable escapement goal, to provide reasonable harvest opportunities over the entire run while ensuring adequate escapement of naturallyproduced king salmon, and to minimize the effects of conservation actions for the Kenai River on the Kasilof River.
- (d) In the Kenai River,
 - (1) the seasons, bag, possession, and size limits, and other special provisions for king salmon are set out in out in 5 AAC 57.120 5 AAC 57.123 and in (4) of this subsection;
 - (2) if the spawning escapement is projected to be less than the lower the end of the optimal escapement goal, the commissioner shall, by emergency order, restrict as necessary the taking of king salmon in the sport and guided sport fisheries in the Kenai River to achieve the optimal escapement goal using one of the following methods:
 - (A) prohibit the retention of king salmon less than 55 inches in length, except king salmon less than 20 inches in length, downstream from the outlet of Skilak Lake through June 30, and require that upstream from the Soldotna Bridge to the outlet of Skilak Lake and in the Moose River from its confluence with the Kenai River upstream to the northernmost edge of the Sterling Highway Bridge, from July 1 through July 14, only one unbaited, single-hook, artificial lure may be used and only king salmon less than
 - (i) 46 inches in length and 55 inches or greater in length may be retained; or
 - (ii) 20 inches in length and 55 inches or greater in length may be retained; or
 - (B) close the sport and guided sport fisheries to the taking of king A second option is

ArmonKenal OEG is 5,300 toment9,000 as measured inire run,sonar equivalents.elyHighlights age & size

See alsa special

57.120 - 1231.

provisions for seasons,

bag, possession, and size limits set [5 AAC

SEG is 650-1,700 naturally produced fish to the spawning grounds above the Crooked Creek weir

selectivity concern

<u>Kenai general</u> <u>provisions</u>

Restriction options

55 inches represents potential record sized fish (typically none or few seen per year)



salmon in the Kenai River

- (i) downstream from the outlet of Skilak Lake through June 30; and
- (ii) from July 1 through July 14, upstream from the Soldotna Bridge to the outlet of Skilak Lake and in the Moose River from its confluence with the Kenai River upstream to the northernmost edge of the Sterling Highway Bridge;
- (3) if the spawning escapement is projected to fall within the optimal escapement goal, the commissioner shall, by emergency order, liberalize the sport fishery downstream from the outlet of Skilak Lake, by allowing the use of bait if the department projects that the total harvest under a liberalized sport fishery will not reduce the spawning escapement below the optimal escapement goal; only king salmon less than 46 inches in length or 55 inches or greater in length may be retained;
- (4) a person may not possess, transport, or export from this state, a king salmon 55 inches or greater in length taken from the Kenai River from January 1 through July 31, unless the fish has been sealed by an authorized representative of the department within three days after the taking; the person taking the fish must sign the sealing certificate at the time of sealing; the seal must remain on the fish until the preservation or taxidermy process has commenced; a person may not falsify any information required on the sealing certificate; in this paragraph,
 - (A) "sealing" means the placement of an official marker or locking tag (seal) by an authorized representative of the department on a fish and may include
 - (i) collecting and recording biological information concerning the conditions under which the fish was taken;
 - (ii) measuring the specimen submitted for sealing; and
 - (iii) retaining specific portions of the fish for biological information, including scales, fin rays, and vertebrae;
 - (B) "sealing certificate" means a form used by the department for recording information when sealing a fish.
- (e) In the Kasilof River, the seasons, bag, possession, and size limits, and other special provisions for king salmon are set out in 5 AAC 56.120(a) and 5 AAC 56.122(8).

closure to all retention

<u>Provision for bait</u> Allowed when inseason projections estimate OEG will be achieved

<u>Sealing requirement</u> This regulation allows for the Department to inspect any very large fish that may be harvested.



GROUP 4 - KENAI RIVER EARLY- & LATE-RUN KING SPORT FISHERY

Issues

While the codified plans provide ADFG with the basic instructions for management of the sport fisheries for king salmon in the Kenai River such as the escapement objectives and the list of tools for adjusting fishing power, there are numerous other regulations that provide for the specific character of these fisheries. It is critical that development and adoption of the plan itself and those regulations that provide for the specific character of the fisheries occur hand-inhand.

For example, in the Late-run, the management plan creates a sharing of the burden of conservation between the commercial set net fishery and the in-river sport fishery. This sharing is based on the relative historical conduct of the respective fisheries. Should the Board adopt proposals that call for closure of a substantial component of the area in the river now open to fishing for king salmon or further restrict either the use of power boats or guided anglers this would be viewed as a substantial change from the historical character and likely result in a demand for changes in the character of the commercial fishery as well.

KRSA Recommendation

Great care needs to be taken to assure that the balance of maintaining sustained yield and providing for the optimal economic benefit of these fisheries is achieved. No other specific proposals were offered by KRSA at this time.

Other Proposals

Kenai River Early and Late-Run King Salmon Sport Fishery

- **#195** [Christine Brandt] Prohibit retention of female king salmon greater than 33 inches in length in the Kenai River sport fishery. **[KRSA Opposes]**
- **#197** [Greg Brush] Modify the Kenai River early- and late-run king salmon sport fisheries to begin seasons without bait and catch-and-release only. *Not tied to specific goals.* **[KRSA Opposes]**
- **#198** [Greg Davis] Begin early- and late-run king salmon seasons with catch-and-release only and then liberalize during the season. *Not tied to specific goals.* **[KRSA Opposes]**
- **#199** [Mel Erickson] Allow catch-and-release fishing for king salmon on the Kenai River when runs are projected to be below the escapement goal. No justification for fishing below the goal. The goal is the goal whether it is an OEG or an SEG. [KRSA Opposes]
- **#200** [John McCombs] Prohibit catch-and-release fishing for king salmon on the Kenai River. Acknowledge token nature of catch-and-release when it continues to allow significant commercial fishing. *[KRSA Opposes]*
- **#201** [ADFG] Establish the lower Slikok Creek king salmon sanctuary area as the lower boundary for restrictive actions in July to conserve early-run king salmon and prohibit bait for an additional two weeks in July in those waters. Change from bridge currently used. [KRSA supports as long as this is the current Slikok sanctuary]



- **#202** [Kenai Area Fisherman's Coalition] Increase Slikok Creek king salmon sanctuary area an additional 200 yards. *Extends down below Sunken Island. Removes significant fishing area without clear benefit.* **[KRSA Opposes]**
- **#203** [John McCombs] Increase Slikok Creek king salmon sanctuary area an additional 600 feet. **[KRSA Opposes]**
- **#204** [John McCombs] Increase Killey River king salmon sanctuary area an additional 600 feet. Originally tried to get this to the upper Killey. This is basically what KRSA asked for originally. *Not clear which direction it would be extended.* **[KRSA Opposes]**
- **#205** [Homer AC] Close Kenai River tributaries to all fishing July 1–August 30, and the Kenai River mainstem upstream of river mile 13 from July 10–September 20. *[KRSA Opposes]*
- **#206** [Krogseng, Weilbacher, Payne] Close the Kenai River upstream of the Soldotna Bridge to sport fishing for king salmon. **[KRSA Opposes]**

Kenai River Late-Run King Salmon Sport Fishery

- **#219** [Kenai Area Fisherman's Coalition] Close sections of the Kenai River to sport fishing for king salmon during July. *KRSA continues to support the ability of the Department to close two thirds of the fishable area based on abundance as necessary.* **[KRSA Opposes]**
- **#220** [Dennis Randa] Prohibit sport fishing for king salmon every other mile on the Kenai River between Eagle Rock and the Soldotna Bridge. **[KRSA Opposes]**
- **#221** [John McCombs] In times of low king escapement, close or create conservation zones where king salmon spawn. *Unimplementable as written.* [KRSA Opposes]
- **#222** [Christine Brandt] Prohibit use of eggs for bait in the Kenai River king salmon sport fishery. *Need this tool in the box.* [KRSA Opposes]
- **#223** [Krogseng & Weill] Prohibit use of bait in the Kenai River king salmon sport fisheries. *[KRSA Opposes]*
- **#224** [John McCombs] Require barbless hooks when use of bait is prohibited on the Kenai River. *Science doesn't support.* **[KRSA Opposes]**
- **#225** [Scott Miller] Modify Kenai River king salmon annual limit to two fish, of which only one may be greater than 28 inches in length. *Addressed via other management actions. Significant change in the character of the fishery.* **[KRSA Opposes]**
- **#226** [Greg Davis] Prohibit proxy fishing for king salmon in the Kenai River. Unclear whether Board has authority to do this. [KRSA is neutral]
- **#227** [Mel Erickson] Require ADFG to demonstrate a significant savings of fish when restricting Kenai River king salmon sport fisheries. *Can't support fishing below escapement goals. Related to August no bait in coho fishery when set net fishery was ongoing.* **[KRSA Opposes]**
- **#228** [John McCombs] Stock the Kenai River with 50,000 king salmon smolt. *Outside Board* authority as well as being a really bad idea. **[KRSA Opposes]**



GROUP 5 - KENAI RIVER LATE-RUN SOCKEYE MANAGEMENT PLAN

Issues

It is imperative that the management of the ESSN fishery be thoroughly and completely discussed in the context of developing a late-run king salmon management plan. Proposals to change regulations grouped within this section must be carefully weighed against the balance of burden sharing established by the Late-run Kenai River King Salmon Management Plan.

Therefore KRSA has offered two proposals for limited modification of this plan:

One proposal allows for earlier liberalization of the sport sockeye bag limit in the Kenai when it is obvious that in-river returns will be large. If we are really concerned with the effects of exceeding sockeye escapement goals then we should use every available tool to help control sockeye escapements in years of high sockeye returns. We propose to increase the sport bag before we are heading over the goal rather than later in the season after it is too late to do much about it.

The second proposal aligns the upper bound of Kenai River sockeye salmon in-river goals at 1.5 million to correct for current harvest levels and remove confusion over goal priorities. When ADFG converted the Kenai sockeye goals to Didson currency, the BOF did not correct for more restrictive in-river goal ranges or increasing levels of sport sockeye harvest above the sonar. These corrections were overlooked in the confusion over the Didson sonar changeover. Twice as many sockeye are being harvested above the sonar than when the in-river goals were originally established. As a result, we are effectively managing for lower escapement goals than intended. Escapement goals are being met even while more restrictive in-river goals are being escapements in the top end. This also contrives an artificial situation where other provisions of the plan may be set aside to meet in-river goals when escapement goals are already being met.



Figure 5. Sport harvest of Kenai late-run sockeye upstream from the sonar (2010-2013 are approximate).



KRSA Proposal 161 - In-river goals

When Kenai sockeye are over the in-river goal but below the OEG, which takes precedence?

In this circumstance, should other set net fishery limitations be set aside regardless of the impact on other species escapements or fisheries?

This proposal would amend the management plan by aligning in-river and escapement goals:

- For consistency among each other based on current harvest levels, and
- To eliminate continuing confusion regarding the respective priority of in-river and escapement goals.

The lower end of in-river goals for each tier should be retained as is, in order to continue to ensure that escapements are distributed throughout the goal range and large runs are shared among fisheries.

The upper end of the in-river goal should be corrected from 1,350,000 to 1,500,000. This equals to the upper end of the SEG (1.2 million) plus the current sport harvest of above the sonar (300,000).

This will also require adjustment to the upper ends of the other tiers. We propose aligning the top end of each tier at 1.5 million to eliminate confusion over the relative priorities of in-river goals and other plan provisions.



	Run size	Current		Proposed	
Goal	(millions)	Lower	Upper	Lower	Upper
SEG		700,000	1,200,000	Sar	ne
OEG		700,000	1,400,000	Sar	ne
In-river ^a	< 2.3	900,000	1,100,000	900,000	<u>1,500,000^b</u>
	2.3 – 4.6	1,000,000	1,200,000	1,000,000	1,500,000 ^b
	> 4.6	1,100,000	1,350,000	1,100,000	<u>1,500,000^b</u>

^a In-river goals are measured at the sonar counter

^b Proposed change





Figure 6. Recent spawning escapements of Kenai late-run sockeye relative to current optimum escapement goal range of 700,000 – 1,400,000 (Didson equivalents).

Explanation

The SEG, OEG, and in-river goals are based on old numbers and are not consistent with themselves. The top of the in-river goal (1,350,000) is actually less than the top of the OEG (1,400,000). As a result, we are effectively managing for a lower OEG than has been identified. ADFG is being unfairly criticized for failing to meet in-river goals even when escapements are comfortably within the SEG and well below the top end of OEG.

The main problem is that the sport fishery now catches more sockeye above the sonar than when the in-river goal ranges were originally established. There are only 150,000 fish between the upper end of the SEG and the top in-river goal tier as measured at the sonar. However in recent years as many as 300,000 have been harvested by the sport fishery above the sonar.

Interpretation and application of in-river goals and the OEG in the Kenai late-run sockeye salmon management plan continues to be a source of confusion. It is unclear which goal should drive management when both cannot be achieved. In-river goal ranges are relatively narrow (only 200,000 fish wide and did not expand appropriately when ADFG converted to Didson currency) and can be difficult to hit given uncertain run forecasts and wide variation in run timing. Exceeding in-river goals can trigger out-of-plan actions that conflict with the intent of management plans for other stocks including Kenai kings and Susitna sockeye. In-river goals are themselves allocative targets designed to distribute harvest among commercial and in-river fisheries. However, out-of-plan actions inevitably impact the allocation balance among commercial drift, commercial set net, personal use, and sport fisheries. This places ADFG in the no-win situation of having to decide between one set of allocative targets and similarly allocative out-of-plan actions. We are asking the BOF to clarify the allocative priority of the respective goals.

With this change, commercial harvest of sockeye will no longer be prioritized over other UCI management objectives in years when large forecast errors or abnormal sockeye run timing make it difficult to manage for both in-river and escapement goals. Kenai river personal use and sport fisheries will avoid effective reductions in king and sockeye allocation due to out-of-plan



actions in the ESSN fishery triggered by sockeye in-river goals. Central District drift gillnet fisheries may realize expanded fishing opportunity in the Kenai/Kasilof expanded corridor to access large runs of Kenai sockeye in order to control escapements.

Even with this change, the commercial fishery will continue to harvest the large majority of sockeye at among the highest exploitation rates in the state, consistent with their designated priority. ADFG has plenty of discretionary emergency order authority (108 hours per week at runs over 4.6 million) to manage to the lower ends of in-river goals, unless doing so conflicts with the provisions of other management plans.

EXPLANATION OF KENAI SOCKEYE GOALS

Sustainable Escapement Goal

- The SEG of 700,000-1,200,000 was based on stock-recruitment analysis of historical production data using the controversial "brood-year interaction" model.
- The goal changed in 2011 from 500,000-800,000 with the Bendix to DIDSON conversion.
- Included are all wild tributary and mainstem spawners including Russian R. and Hidden Lake.

Optimum Escapement Goal

- The lower end of the current OEG matches the SEG lower bound of 700,000 Didson fish.
- An upper OEG was originally set by the 1999 BOF at 1 million which was 200,000 fish greater than the top of the SEG at the time. This number was based on a 10% probability of harvest of less than 1 million at higher escapements from the brood-year interaction model.
- The 2011 BOF added the same 200,000 fish to the top of the SEG for the current OEG (although this effectively reduced the upper goal by 100,000 fish due to the mathematics of Didson conversion).

In-river Sonar Goals

- In-river goals are designated for three run size tiers in order to distribute escapements throughout the range and share the bounty of large runs among fisheries.
- In-river goals include increments above escapement goals that provide a *de facto* allocation for sport harvest of sockeye above the sonar.
- Sport harvest of sockeye has grown significantly since goals were originally established.



KRSA Proposal 168 – Sockeye Bag Limit

Automatically increase the Kenai sport fishery bag limit from three sockeye to six sockeye when the run is forecast to exceed 2.3 million fish.

Corresponding changes in regulatory language are:

(h)(2) the bag and possession limit for the sport fishery is three sockeye salmon, unless the department forecasts or determines that the abundance of late-run sockeye salmon exceeds 2,300,000 fish, at which time the commissioner [MAY] <u>shall</u>, by emergency order, increase the bag and possession limit <u>to six or twelve sockeye</u> as the commissioner determines to be appropriate;

Explanation

Sport fishing opportunity for sockeye is unnecessarily foregone in the Kenai River during years of moderate to large runs when numbers can exceed in-river goals. For instance, king constraints to commercial sockeye fisheries in recent years have resulted in large numbers of sockeye entering the Kenai River. The potential of sport fishing to help limit escapement to target levels is not being fully utilized.

The season begins with a sport bag and possession limit of 3 sockeye even when moderate to large runs are forecast. In mid-July after ADFG determines that the abundance of late run sockeye will exceed 2.3 million, the management plan has allows for the sockeye bag limit to be raised. However, liberalization of the sockeye limits often lags behind increases in commercial emergency order time in response to large numbers of sockeye. Sport fishery opportunities to take advantage of large early pulses of sockeye are often and unnecessarily missed. The sport fishery has the potential to harvest substantial numbers of sockeye in large run years but the fishing power is such that longer periods are needed to achieve significant exploitation rates. Large daily sockeye counts and increased bag limits in the middle of the system also create a derby mentality and increase crowding that could otherwise be avoided by a more orderly implementation of the regulation.

Everyone will benefit from full utilization of sockeye and escapements that maximize future yield. The commercial fishery will contend that they have priority access to sockeye but the proposed change in regulation is significant only in years when commercial sockeye harvest has otherwise been limited by unforeseen run patterns or other constraints. The commercial fishery still has first crack at the sockeye.

There is no downside risk to increasing bag limits even at the start of the season on moderate to large run sizes. Sport fishery effort and catch rates for sockeye are contingent on large pulses of sockeye moving through the river. If there is not a surplus of sockeye entering the river, then large effort doesn't mobilize and higher bag limits cannot be filled.



Other Proposals

KRSA opposes any liberalization of Kenai sockeye commercial fisheries at the expense of other stocks or fisheries, particularly under current circumstances of low king abundance. Changes in this plan can also substantially impact the current allocation balance among UCI fisheries.

- **#157** [Central Peninsula AC] Remove references to other stocks; manage for a reasonable opportunity to harvest salmon resources; and increase SEG). *[KRSA Opposes]*
- **#158** [Central Peninsula AC] Remove references to other stocks & manage for a reasonable opportunity to harvest salmon resources. **[KRSA Opposes]**
- **#159** [UCIDA] Reduces OEG, in-river goals, and run-strength trigger points & modify restrictions on the sport fishery. *[KRSA Opposes]*
- **#160** [KPFA] Manage solely for a single optimum escapement goal. *In-river goal ranges are* valuable ensure that escapements will be distributed throughout the range and that large runs will be shared among fisheries. If goal ranges are too narrow, proposal #161 provides an effective alternative remedy. **[KRSA Opposes]**
- **#161** [KRSA] Amend management plan to change the upper end of the three in-river goals (tiers) for Kenai River late-run sockeye salmon to 1,500,000. [See above for further explanation]
- **#162** [John McCombs] Amend management plan to manage late-run Kenai River sockeye salmon for an escapement goal of 550,000–750,000 sockeye salmon. *[KRSA Opposes]*
- **#163** [Mark Ducker] Modify management plan to achieve late-run Kenai River sockeye salmon sustainable escapement goal (SEG) of 700,000–1,200,000 instead of the optimum escapement goal (OEG) of 700,000–1,400,000; modify the in-river goal; and remove some provisions in the plan. *[KRSA Opposes]*
- **#164** [John McCombs] Amend management plan to re-establish commercial priority for sockeye salmon in Upper Cook Inlet. *The plan already explicitly recognizes a commercial priority for Kenai late-run sockeye.* **[KRSA Opposes]**
- #165 [KPFA] Amend management plan to allow the 24-hour closure period (or "window") to be scheduled at any time during the week, and change the 36-hour closure period to 24 hours and allow it to be scheduled between 7:00 p.m. Thursday and 11:59 p.m. Sunday. Effectively voids benefits of windows as fish don't have time to transit beaches. Allowing discretion to move a short window allows schedule to minimize effectiveness. [KRSA Opposes]
- **#166** [Johnson & Hollier] Amend management plan to allow the 24-hour window, when the commercial set gillnet fishery is closed in the Upper Subdistrict, to be scheduled between the regular Monday and Thursday fishing periods. *Purposefully scheduling windows to avoid passing sockeye is contrary their purpose of passing fish including sockeye into the rivers.* **[KRSA Opposes]**



- **#167** [South K-beach Fisherman's Association] Remove 24- and 36-hour closure periods ("windows") in the Upper Subdistrict set gillnet fishery after July 31. *The value of windows has been well proven.* **[KRSA Opposes]**
- **#168** [KRSA] Liberalize the Kenai River sockeye salmon bag and possession limit when the run is forecasted to exceed 2.3 million fish. *[See above for further explanation]*
- **#169** [Randy Berg] Increase Kenai River sockeye salmon bag and possession limit to six fish when commercial fishing is opened by emergency order (EO) after July 1. [KRSA supports in concept]
- **#170** [George Maltz] Increase possession limit for Kenai River sockeye salmon from three to six fish. Possession limit is same as daily bag. **[KRSA supports in concept]**
- **#171** [John McCombs] Amend management plan to require fishing closures ("windows") to Kenai River in-river sport fish and personal use fisheries when there are closure periods for the Upper Subdistrict set gillnet fishery. *[KRSA Opposes]*



Kenai River Late-Run Sockeye Salmon Management Plan Language [5 AAC 21.360]

(a) The department shall manage the Kenai River late-run sockeye salmon stocks primarily for commercial uses based on abundance. The department shall also manage the commercial fisheries to minimize the harvest of Northern District coho, late- run Kenai River king, and Kenai River coho salmon stocks to provide personal use, sport, and guided sport fishermen with a reasonable opportunity to harvest salmon resources.	Provisions for Kenai lote- run sockeye under this plan effectively dominates management of all UCI fisheries.
(b) The Kenai River late-run sockeye salmon commercial, sport, and personal use fisheries shall be managed to	
 (1) meet an optimum escapement goal (OEG) range of 700,000 - 1,400,000 late-run sockeye salmon; 	SEG is 700,000 – 1,200,000
(2) achieve inriver goals as established by the board and measured at the Kenai River sonar counter located at river mile 19; and	
(3) distribute the escapement of sockeye salmon evenly with the OEG range, in proportion to the size of the run.	Intent of tier structure of plon
(c) Based on preseason forecasts and inseason evaluations of the total Kenai River late-run sockeye salmon return during the fishing season, the run will be managed as follows:	
(1) at run strengths of less than 2,300,000 sockeye salmon,	Runs <2.3 million: 20% of
(A) the department shall manage for an inriver goal range of 900,000 – [1,100,000] <u>1,500,000</u> sockeye salmon past the sonar counter at river mile 19; and	the time KRSA proposal #161
(B) subject to the provisions of other management plans, the Upper Subdistrict set gillnet fishery will fish regular weekly fishing periods, as specified in 5 AAC 21.320, through July 20, unless the department determines that the minimum inriver goal will not be met, at which time the fishery shall be closed or restricted as necessary; the commissioner may, by emergency order, allow extra fishing periods of no more than 24-hours per week, except as provided in 5 AAC 21.365;	Window occurs automatically due to EOs ot low run size
(2) at run strengths of 2,300,000 - 4,600,000 sockeye salmon,	Runs 2.3 – 4.6 million: 65%
 (A) the department shall manage for an inriver goal range of 1,000,000 – [1,200,000] <u>1,500,000</u> sockeye salmon past the sonar counter at river mile 19; 	of the time KRSA proposal #161
(B) subject to the provisions of other management plans, the	



	44 01 82
Upper Subdistrict set gillnet fishery will fish regular weekly fishing periods, as specified in 5 AAC 21.320, through July 20, or until the department makes a determination of run strength, whichever occurs first; if the department determines that the minimum inriver goal will not be met, the fishery shall be closed or restricted as necessary; the commissioner may, by emergency order, allow extra fishing periods of no more than 51-hours per week, except as provided in 5 AAC 21.365; and	Early season limits protect escapement in the event forecasts are overestimates.
 (C) the Upper Subdistrict set gillnet fishery will be closed for one continuous 36-hour period per week beginning between 7:00 p.m. Thursday and 7:00 a.m. Friday and for a 24-hour closure on Tuesday from 12:00 a.m. until 11:59 p.m.; 	Windows provision
(3) at run strengths greater than 4,600,000 sockeye salmon,	Runs > 4.6 million: 15% of
 (A) the department shall manage for an inriver goal range of 1,100,000 – [1,350,000] 1,500,000 sockeye salmon past the 	the time
sonar counter at river mile 19;	KRSA proposal #161
 (B) subject to the provisions of other management plans, the Upper Subdistrict set gillnet fishery will fish regular weekly fishing periods, as specified in 5 AAC 21.320, through July 20, or until the department makes a determination of run strength, whichever occurs first; if the department determines that the minimum inriver goal will not be met, the fishery shall be closed or restricted as necessary; the commissioner may, by emergency order, allow extra fishing periods of no more than 84-hours per week, except as provided in 5 AAC 21.365; and 	
(C) the Upper Subdistrict set gillnet fishery will be closed for one continuous 36-hour period per week, beginning between 7:00 p.m. Thursday and 7:00 a.m. Friday.	Windows provision
(d) The sonar count levels established in this section may be lowered by the board if noncommercial fishing, after consideration of mitigation efforts, results in a net loss of riparian habitat on the Kenai River. The department will, to the extent practicable, conduct habitat assessments on a schedule that conforms to the Board of Fisheries (board) triennial meeting cycle. If the assessments demonstrate a net loss of riparian habitat caused by noncommercial fishermen, the department is requested to report those findings to the board and submit	



proposals to the board for appropriate modification of the Kenai River late-run sockeye salmon inriver goal.	
(e) Repealed 6/11/2005.	
(f) Repealed 6/11/2005.	
(g) Subject to the requirement of achieving the lower end of the optimal escapement goal, the department shall provide for a personal use dip net fishery in the lower Kenai River as specified in 5 AAC 77.540.	Personal use fishery
 (h) Subject to the requirement of achieving the lower end of the optimal escapement goal, the department shall manage the sport fishery on the Kenai River, except that portion of the Kenai River from its confluence with the Russian River to an ADF&G regulatory marker located 1,800 yards downstream, as follows: 	Sockeye sport fishery
(1) fishing will occur seven days per week, 24 hours per day;	
 (2) the bag and possession limit for the sport fishery is three sockeye salmon, unless the department <u>forecasts or</u> determines that the abundance of late-run sockeye salmon exceeds 2,300,000 fish, at which time the commissioner [MAY] <u>shall</u>, by emergency order, increase the bag and possession limit to <u>six or twelve sockeye</u> as the commissioner determines to be appropriate; and 	Authority to increase sport limits at average to large runs sizes as appropriate based on in-river returns. KRSA proposal #168
 (3) if the projected inriver run of sockeye salmon above the Kenai River sonar counter located at river mile 19 is less than 900,000 fish and the inriver sport fishery harvest is projected to result in an escapement below the lower end of the optimal escapement goal, the commissioner may, by emergency order, decrease the bag and possession limit, as the commissioner determines to be appropriate, for sockeye salmon in the sport fishery above the Kenai River sonar counter located at river mile 19. 	Authority to step-down sport limits low sonar counts.
 (i) For the purposes of this section, "week" means a calendar week, a period of time beginning at 12:00:01 a.m. Sunday and ending at 12:00 midnight the following Saturday. 	
(j) The commissioner may depart from the provisions of the management plan under this section as provided in 5 AAC 21.363(e).	



GROUP 5 - KASILOF RIVER SALMON MANAGEMENT PLAN

Issues

This plan does not provide adequate protection for late-run Kenai or Kasilof kings. The ESSN fishery catches significant numbers of kings from late June to July 8 when management becomes regulated by the Kenai late-run sockeye management plan. To protect kings during periods of low abundance, either additional restrictions need to be added to the Kasilof Salmon Management Plan or the Kenai late-run King Salmon Management Plan needs to take precedence over the Kasilof salmon plan.

New telemetry data shows that most Kenai kings are passing directly through the Kasilof section as the move and mill northward along the coast. Benefits of king protection measures in the Kenai section can be substantially offset by set net harvests in the Kasilof section.

New genetics data shows that the Kasilof supports a substantial run of late-run kings and a significant portion of the set net harvest. No basis for in-season management of Kasilof exists. Run strength is not assessed nor have escapement goals been identified.

It is imperative that the management of the ESSN fishery be thoroughly and completely discussed in the context of developing a late-run king salmon management plan. Proposals to change regulations grouped within this section must be carefully weighed against the balance of burden sharing established by the Late-Run Kenai River King Salmon Management Plan.



Figure 7. Trends in Kasilof late-run sockeye run size and sonar counts.



KRSA Proposal 156 – Kasilof Plan King Protections

This proposal incorporate precautionary restrictions into the Kasilof Salmon Management Plan designed to avoid excessive harvest of Kasilof late-run kings and to allow more Kenai late-run sockeye to transit the Kasilof set net area.

These include:

- An additional Tuesday 24-hour window in the Kasilof area prior through July 7.
- Limitations on extra fishing periods in the Kasilof area after July 7 when the Kenai area is closed.
- Limitations on use of the Kasilof River Special Harvest Area.

Explanation

The Kasilof system continues to support robust sockeye returns despite an extended period of escapements exceeding established escapement goals. Analysis of production from large escapements previously showed that escapement goals were too low and goals were increased as a result. Current data shows no significant risk to future production of large sockeye escapements. No escapement since 1985 has failed to replace itself. In fact, the recent record escapement of 522,000 in 2004 produced a 1.5 million sockeye return (4th largest in 40 years).

The Kasilof River Special Harvest Area (KRSHA) at the mouth of the river is intended to target Kasilof sockeye as a last resort when escapements are large. This area was rarely used before 2005. Subsequent use proved unpopular with both commercial and in-river users and led the BOF to direct to that other measures be used in priority to the special harvest area. Unfortunately, the KRSHA was heavily fished in 2013 due to king-related restrictions in other areas.

The KRSHA has proven to be very effective at harvesting significant numbers of king salmon including fish destined for the Kasilof and Kenai. King catches in the Kasilof sport fishery drop way off during periods of intensive fishing in the special harvest area. Escapements must be declining accordingly. Extensive use of the special harvest area should be avoided at all costs where king protection is a concern.



Management Brief – Commercial Fishery Windows

Windows are periodic, regular closures in commercial fisheries designed to pass fish for escapement and harvest by in-river fisheries. Windows are specified in both the Kenai and Kasilof sockeye salmon management plans, and are either floating at the discretion of the commercial fishery manager or fixed at the end of the week to feed weekend fisheries. Windows of 36 hours (three tides) are generally needed to pass significant numbers of fish into the rivers. Shorter windows may just reload the beaches for the next commercial opener.



sockeye sonar counts in 2005.

Biological benefits: Windows protect escapement of stocks that are monitored inseason (i.e. Kenai sockeye) and those that are not (i.e. Kasilof late-run kings). Inherent genetic and life history diversity of stocks and normal ecosystem function are conserved by distributing escapement throughout the run.

Allocative benefits: Windows provide periodic pulses of salmon to sustain opportunity in sport and personal use fisheries. Windows effectively reallocate a greater harvest share of sockeye and kings to the in-river user groups.

Commercial success is measured by maximum yields in pounds of fish. Maximum yields are provided by extended fishery openers to harvest all fish surplus to escapement needs.

Sport and personal use success is measured in numbers of angler trips and catch per unit effort rather than simply the total number of fish harvested. Optimum in-river fisheries are achieved by providing a periodic supply of fish sufficient to support meaningful levels of opportunity over the course of the run. Windows are working as intended in UCI. They interrupt sustained periods of set net fishing along the east-side beaches to reduce unpredictable boom or bust patterns that severely impact in-river fisheries. In-river fisheries benefit from a regular influx of fish, which provides reasonable opportunity to catch fish.

Since 2005, the fixed "Friday" window has provided an influx of fish for weekend sport and personal use. Particularly popular with people from Anchorage and the Mat-Su, windows have resulted in increased harvest rates and participation, and better success in managing for escapement goals.

Initial concern that windows would either unnecessarily constrain management flexibility to attain escapement goals or increase the chances of missing unpredictable large pulses of fish onto the beach, into the river, and over the escapement goal, have not been realized. However, UCI sockeye management has a long history of consistently failing to meet Kenai sockeye goals that predates the advent of windows.



Figure 9. Frequency with which Kenai late-run sockeye in-river goals were either not reached or exceeded.

Commercial fishing windows have proven to be an effective tool for achieving the biological and allocation objectives of OSY management in UCI. OSY management recognizes that total fishery value is greatest where harvest and opportunity is shared among all fisheries. It accepts the inevitable tradeoffs among biological and allocation objectives. Overall, windows have proven effective in UCI fisheries management to optimize the region's recreational, social and economic values from salmon.



Other Proposals

KRSA opposes any liberalization of Kasilof sockeye commercial fisheries at the expense of other stocks or fisheries, particularly under current circumstances of low king abundance. Changes in this plan can also substantially impact the current allocation balance among UCI fisheries.

- **#148** [KPFA] Amend management plan to include a biological escapement goal (BEG) of 160,000–340,000 sockeye salmon and clarify intent of provision regarding meeting lower end of optimum escapement goal (OEG) over exceeding upper end of OEG. The higher sockeye OEG provides a significant measure of protection to both Kenai and Kasilof kings and comes at no cost to future sockeye production. Previous large escapements actually increased rather than decreased Kasilaf sockeye returns. **[KRSA Opposes]**
- **#149** [Mark Drucker] Direct the department to manage late-run Kasilof River sockeye salmon to achieve a sustainable escapement goal (SEG) of 160,000–340,000; remove the optimum escapement goal (OEG) of 160,000–390,000; and remove some provisions in the management plan. [*KRSA Opposes*]
- **#150** [South K-Beach Independent Fishermen] Modify management, including changing effective dates and reference for Kasilof River sockeye salmon from optimal escapement goal (OEG) to biological escapement goal (BEG). *[KRSA Opposes]*
- **#151** [UCIDA] Modify management plan after July 15 such that the trigger point for Kenai River late-run sockeye salmon run strength is changed from 2,300,000 to 2,000,000 and the 24-hour restriction on additional fishing time is removed. [KRSA Opposes]
- **#152** [Central Peninsula AC] Amend management plan to allow department to manage Kasilof River sockeye salmon primarily for commercial uses based on abundance and meet a spawning escapement goal of 150,000–250,000 sockeye salmon. *[KRSA Opposes]*
- **#153** [KPFA] Amend management plan to allow set gillnets to be operated and restrict drift gillnets within 1,200 feet of the mean high tide mark in Kasilof River Special Harvest Area. In a period of low king abundance, lack of assessment and known impact, why are we talking about fishing in this area? [KRSA Opposes]
- **#154** [South K-Beach Independent Fishermen] Amend management plan to open the set gillnet fishery in the South K-Beach statistical area (244-10) when the Kasilof River Special Harvest Area is opened. This area has been shown to harvest substantial numbers of Kenai and Kasilof king salmon which are particularly vulnerable to nets in shallower water claser to shore. [KRSA Opposes]
- **#155** [South K-Beach Independent Fishermen] Modify management plan to change effective dates and require 36-hour closure periods ("windows") take place after July 1. [KRSA Opposes]
- **#156** [KRSA] Establish an additional 24-hour window in the Kasilof area prior to July 7, limit extra fishing periods in the Kasilof area after July 7 when the Kenai area is closed, and limit use of the Kasilof River Special Harvest Area. [See explanation above]

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Kasilof River Salmon Management Plan Language [5 AAC 21.365]

- (a) This management plan governs the harvest of Kasilof River salmon excess to spawning escapement needs. It is the intent of the Board of Fisheries that Kasilof River salmon be harvested in the fisheries that have historically harvested them, including the methods, means, times, and locations of those fisheries. Openings in the areas historically fished must be consistent with escapement objectives for upper Cook Inlet salmon and with the Upper Cook Inlet Salmon Management Plan (5 AAC 21.363).
- (b) Achieving the lower end of the Kenai River sockeye salmon escapement goal shall take priority over not exceeding the upper end of the Kasilof River optimal escapement goal range of 160,000 to 390,000 sockeye salmon.
- (c) The commercial set gillnet fishery in the Kasilof Section shall be managed as follows:
 - (1) fishing will be opened as described in 5 AAC 21.310(b) (2) for regular weekly fishing periods, as specified in 5 AAC 21.320;
 - (2) from the beginning of the fishing season through July 7,
 - (A) the commissioner may, by emergency order, open additional fishing periods or extend regular weekly fishing periods to a maximum of 48 hours of additional fishing time per week;
 - (B) the fishery shall remain closed for at least one continuous
 36-hour period per week to begin between 7:00 p.m.
 Thursday and 7:00 a.m. Friday and for a 24-hour closure on
 Tuesday from 12:00 a.m. until 11:59 p. m.;
 - (3) beginning July 8, the set gillnet fishery in the Kasilof Section will be managed as specified in 5 AAC 21.360(c) ; in addition to the provisions of 5 AAC 21.360(c) , the commissioner may, by emergency order, limit fishing during the regular weekly periods and any extra fishing periods to those waters within one-half mile of shore, if the set gillnet fishery in the Kenai and East Forelands Sections are not open for the fishing period; if the commissioner determines that further restrictions are necessary to aid in achieving the lower end of the Kenai River escapement goal, the commissioner may, in an emergency order under this paragraph further restrict fishing to within 600 feet of the high tide mark in the Kasilof Section;

(4) after July 8, if the Kasilof Section set gillnet fishery is restricted

This plan primarily concerns sockeye in the east side set net commercial fishery but also impacts other species and fisheries in the Kasilof and Kenai rivers.

Prioritizes minimum Kenai gaal over maximum Kasilof gaal

SEG is 160,000 - 340,000

Kasilof section is S of Blanchard line

Jun 25 – Aug 15 (Jun 20 by EO) Mondays & Thursdays

With regular periods, allows for about 5 fishing days per week príor to run assessment

Fixed window before weekend to feed in-river fisheries & escapement **KRSA Proposal #156**

Linkage to Kenai management when Kenai sections open in July

Openings closer to shore are intended to catch Kasilof sockeye and avoid Kenai sockeye



to fishing within the first one-half mile of shore, the commissioner may, by emergency order, open the KRSHA described in (f) of this section to both set and drift gillnet fishing using only one gillnet, for fishing periods not to exceed [48] <u>24</u> hours in duration without one period of 24 consecutive hours of closure; the provisions in (f)(1) - (8) of this section apply during these openings;

- (5) after July 15, if the department determines that the Kenai River late-run sockeye salmon run strength is projected to be less than 2,300,000 fish and the 390,000 optimal escapement goal for the Kasilof River sockeye salmon may be exceeded, the commissioner may, by emergency order, open fishing for an additional 24 hours per week in the Kasilof Section within onehalf mile of shore and as specified in 5 AAC 21.360(c).
- (d) The personal use fishery will be managed as specified in 5 AAC 77.540(b) and (c).
- (e) Repealed 6/4/2008.
- (f) The commissioner may, by emergency order, open the Kasilof River Special Harvest Area (KRSHA) to the taking of salmon by gillnets when it is projected that the Kasilof River sockeye salmon escapement will exceed 365,000 fish. It is the intent of the Board of Fisheries (board) that the KRSHA should rarely, if ever, be opened under this subsection and only for conservation reasons. Before the commissioner opens the KRSHA, it is the board's intent that additional fishing time be allowed in the remainder of the Kasilof Section first, and secondly that the mandatory closures specified in regulation be reduced in duration, if necessary to meet the escapement goals contained within this and other management plans. The Kasilof River Special Harvest Area is defined as those waters within one and one-half miles of the navigational light located on the south bank of the Kasilof River, excluding waters of the Kasilof River upstream of ADF&G regulatory markers located near the terminus of the river and waters open to set gillnetting under 5 AAC 21.330(b) (3)(C)(ii) and (iii). The following apply within the special harvest area when it is open:
 - (1) set gillnets may be operated only within 600 feet of the mean high tide mark;
 - (2) a set gillnet may not exceed 35 fathoms in length;
 - (3) drift gillnets may not be operated in waters within 600 feet of

Terminal area at the mouth of the river may be opened when goals are being exceeded.

KRSA Proposal #156

Extra fishing time in the Kasilof area when Kenai is weak and Kasilof is strong

Gear and area limitations

in the special harvest area for both set and drift

net fisheries



	COLOR DE COLOR
the mean high tide mark;	
(4) no more than 50 fathoms of drift gillnet may be used to take salmon;	
(5) a permit holder may not use more than one gillnet to take salmon at any time;	
(6) a person may not operate a gillnet outside the special harvest area when operating a gillnet in the special harvest area;	
(7) there is no minimum distance between gear, except that a gillnet may not be set or operated within 600 feet of a set gillnet located outside of the special harvest area; and	
(8) a vessel may not have more than 150 fathoms of drift gillnet or 105 fathoms of set gillnet on board.	
(g) The commissioner may depart from the provisions of the management plan under this section as provided in 5 AAC - 21.363(e).	Affirms authority to set aside portions of plan based on escapement goal priorities
(h) For the purposes of this section, "week" means a calendar week, a period of seven consecutive days beginning at 12:01 a.m. Sunday and ending at 12:00 midnight the following Saturday.	A week starts on Sunday (for purposes of EO limitations)



GROUP 5 – COMMERCIAL SEASONS, PERIODS & PERMIT STACKING

KRSA Proposal 112 – Early Kasilof Trigger

Increase the early opening trigger consistent for the Kasilof set net fishery consistent with the increase in the Kasilof sockeye escapement goal:

[5 ACC 21.310] (b)(2)(C)(i) Kasilof Section: from June 25 through August 15, unless closed earlier by emergency order under (iii) of this subparagraph; however if the department estimates that [50,000] **70,000** sockeye salmon are in the Kasilof River before June 25, but on or after June 20, the commissioner may immediately, by emergency order, open the fishery; from August 11 through August 15, the fishery is open for regular periods only;

The Central District set gillnet fishery in the Kasilof District can begin on or after June 20, rather than June 25, in years when large numbers of early timed Kasilof sockeye enter the river. However, the 50,000 sockeye trigger was never corrected for the increase in the Kasilof sockeye OEG from 150,000-300,000 to 160,000-390,000 at the last UCI Board meeting in 2011. Early closure of the fishery can be prematurely triggered with concomitant undesirable impacts commercial harvest of early-run kings.

KRSA Proposal 126 – Net Stacking

Prohibit the practice of permit stacking in the Upper Cook Inlet area.

The Alaska Board of Fisheries has, during the past two cycles, deliberated and subsequently adopted a series of commercial salmon fishery proposals dealing with the practice commonly called "permit stacking". Starting in 2011, stacked permit operations have been allowed in the Cook Inlet set gillnet fishery. The Commercial Fisheries Entry Commission has documented significant and growing use of stacked permits in 2011 and 2012. Use doubled from 2011 to 2012. Stacked permits constituted 15% of the combined effort in 2012 (CFEC 2013).

While at times it seemed clear that a purpose such as keeping an active permit in the family while a permit holder is serving their country in the military was the justification. In UCI, it was hoped stacking was designed to remove gear from the water and pool expenses. However, it appears likely that allowing permit stacking would bring long-time latent permits back into the fishery. Approximately 25% of the total commercial permits issued for the Upper Cook Inlet area can be considered long-term latent.

Upper Cook Inlet salmon fisheries are fully utilized and fully allocated. Stock status of various species of salmon in Upper Cook Inlet is in question. Permit stacking has increased the fishing power of the gear group where this practice occurs. This increase of fishing power will further complicate already complex management strategies and allocation disputes.



Other Proposals

- **#126** [KRSA] Prohibit permit stacking in the commercial set and drift gillnet fisheries in Upper Cook Inlet. *[See above explanation]*
- **#111** [Mark Drucker] Modify fishing seasons and remove restrictions on commercial set gillnet fishing in the Upper Subdistrict. [KRSA Opposes]
- **#112** [KRSA] Change the estimated number of sockeye salmon in the Kasilof River that allows the department to open the Kasilof Section of the Upper Subdistrict to set gillnetting on or after June 25. [See above explanation]
- #113 [Kenai River Professional Guide Association] Change the estimated number of sockeye salmon in the Kasilof River from 50,000 to 60,000, which allows the department to open the Kasilof Section of the Upper Subdistrict to set gillnetting on or after June 25. [KRSA Supports Concept]
- **#114** [South K-Beach Independent Fishermen] Allow weekly fishing periods for the set gillnet fishery in the Central District to end at 10:00 p.m. instead of 7:00 p.m. *Might be appropriate with reduction in EO authority.* **[KRSA Opposes]**
- **#115** [KPFA] Change when the set gillnet fishery opens in the Kenai and East Forelands sections of the Upper Subdistrict from July 8 to July 1 and remove the reference that closes the fishery by emergency order (EO) under the "one-percent rule". [KRSA Opposes]
- **#118** [Gary Hollier] Open North-Kenai Beach (244-32) to commercial set net fishing on July 1– 7 for regularly scheduled 8-hour periods, fishing predominately during ebb tides, with set net gear restricted to 29 meshes deep. *KRSA supports the use of shallow gill nets as a for king protection but notes that this proposal would be an expansion of commercial set net fishing time in a period of low king abundance.* **[KRSA Opposes]**



GROUP 6 - CENTRAL DISTRICT DRIFT GILLNET FISHERY

Issue

The primary challenge to this fishery is how to access abundant Kenai and Kasilof sockeye while also moving salmon north. Drift nets are the most effective harvester of the mixed stocks of UCI salmon but large numbers northern sockeye and coho are intercepted. Drift harvests have compounded chronic low escapements of the Susitna sockeye stock of concern. The fishery also heavily exploits early coho upon which the northern district sport fisheries rely.

The second challenge is how to effectively transition management from commercial-priority sockeye in July to sport-priority coho in August. The management plan explicitly directs that "the department shall also manage the commercial fisheries to minimize the harvest of northern district coho, late-run Kenai River king and Kenai River coho salmon stocks in order to provide personal use, sport, and guided sport fishermen with a reasonable opportunity to harvest salmon resources." However, without more specific regulations in management plan, the ADFG has struggled to achieve this aim.

Expanded Kenai and Kasilof drift sections were adopted by the BOF in 2011 as a terminal drift harvest area for Kenai and Kasilof sockeye. This created an unfished conservation corridor through the center of the inlet for passage of northern-bound salmon. Expanded corridors were not implemented by ADFG in 2011 but was used extensively in 2012 when low king numbers closed east side set nets. This experience showed that expanded sections can produce large sockeye harvests, particularly with openers decoupled with the set net fishery. Expanded sections are also an important tool for assessing run strength and managing escapement of Kenai sockeye.

It remains to be determined whether the expanded corridors are effective in avoiding northern salmon. The current area was a negotiated compromise at the 2011 meeting. Scientific information on the stock composition in this area is only now becoming available from genetic sampling of the catch and a new northern offshore test fishery line that has been implemented since the last Board meeting.



Figure 10. Harvest of sockeye in the Central District commercial drift and set net fishery



KRSA Recommendation

KRSA has submitted no related proposals but is supportive of a number of proposals and concepts submitted by others. KRSA supports focus of the drift gillnet fishery in terminal fishing areas to harvest surplus Kenai and Kasilof sockeye and to provide an unfished conservation corridor for passage of northern stocks of sockeye and coho. KRSA also supports decoupled use of the expanded drift net corridor for the same purposes.

Other Proposals

- **#135** [UCIDA] Modify management plan to remove provisions 5 AAC 21.353(a)(2)(A), (B), and (C) in the management plan. This is a *complete repeal conservation corridor language* which is perplexing because this regulation has allowed the drift net fishery to benefit greatly from set net restriction to protect kings. The drift net fishery has enjoyed a substantial increase in sockeye harvest share and very high revenues during the last two years. **[KRSA Opposes]**
- **#136** [UCIDA] Modify management plan to change dates of drift fishery to June 19– September 1 and run-strength trigger points for late-run Kenai River sockeye salmon; remove area restrictions in July; and modify provisions affecting additional fishing periods. This would explicitly eliminate priority sport priority language for coho and effectively reprioritize their use by the commercial fishery. This would be a fundamental realignment of UCI priorities. **[KRSA Opposes]**
- **#137** [UCIDA] Modify management plan to remove area restrictions and change expanded corridor area. *If this is an attempt to stay into compliance then it might be OK. If it is an attempt to significantly extend the area into east side rip, then it is not appropriate. [KRSA supports additional discussion]*
- **#138** [Matanuska Valley AC] Restrict drift gillnet fishery to the Expanded Kenai and Expanded Kasilof sections from June 19–August 10. [KRSA Supports Concept]
- **#139** [Matanuska-Susitna Borough Fish & Wildlife Commission] Restrict drift gillnet fishery to the Expanded Kenai and Expanded Kasilof sections. *This proposal represents a modest expansion of the expanded drift corridor concept building on apparent benefits during implementation over the last two years.* [KRSA Supports]
- **#140** [Howard Delo] Amend management plan to restrict drift gillnet fishery to the Expanded Kenai and Expanded Kasilof sections. *Drift Gillnet additional area restrictions variation on #139.* [KRSA Supports Concept]
- **#141** [Northern District Set netter's Association] Modify management plan to provide reasonable opportunity for Northern District set gillnetters to harvest all salmon stocks. Any changes in northern set net fisheries should be contingent on additional relief in the corridor; otherwise northern concessions just come out of the in-river return because central district is still run the same. [KRSA Opposes]
- **#142** [South Central Dipnetters Association] Amend management plan to provide Northern Cook Inlet Management Area subsistence users and personal use dipnetters a reasonable opportunity to harvest salmon by restricting commercial gillnet fishing to the Expanded Kenai and Expanded Kasilof sections of the Upper Subdistrict from June 19



through August 10. The proposed period of area restriction might be much more than is necessary. **[KRSA Supports Concept]**

- **#143** [Tony Russ] Require drift permit holders to register to fish in one of two specific Central District drift fisheries. *Implementation difficulties and unintended consequences.* **[KRSA Opposes]**
- **#144** [Alaska Outdoor Council] Amend management plan to provide reasonable subsistence, personal use, and commercial set netting harvest opportunity and manage the drift gillnet fishery so that any commercial drift fishing opportunity outside the Expanded Kenai and Expand Kasilof sections is based on abundance of Northern District sockeye and coho salmon. [KRSA Supports Concept]
- **#145** [Joseph Wright] Amend management plan to add a section about mixed-stock salmon management, using the long-term commercial harvest report as a tool to reduce harvest of salmon stocks by the drift gillnet fishery in the Central District. *KRSA supports the concept of meeting established escapement goals. However, the proposal lacks specificity required for implementation.*
- **#146** [Bruce Knowles] Develop an in-season harvest estimate. KRSA supports the concept of developing in-season harvest estimates by stock and managing accordingly. However, the proposal lacks specificity required for implementation.
- **#147** [Mark Glassmaker] Amend management plan to reduce sport fish bag limit to two coho salmon in all sport fisheries on the west side of Cook Inlet and restrict drift gillnet fishing to the Expanded Kenai and Expanded Kasilof sections, if sport fishing for coho salmon is restricted or closed in the Little Susitna River. *KRSA supports consistency of commercial and sport harvest opportunities for coho*.

Fishing periods and permit stacking

- **#122** [UCIDA] Allow weekly fishing periods for the drift gillnet fishery in the Central District to be moved up to 36 hours when the NOAA forecast for Area 140, Cook Inlet north of Kamishak Bay and English Bay, is calling for winds above 23 knots, including small craft advisory, and gale or storm force winds. *ADFG already has authority to regulate openers as needed.* [KRSA Opposes]
- **#127** [UCIDA] Allow one individual to hold two limited entry drift gillnet permits and fish both at the same time from the same vessel. *This would add significant fishing power to the drift fleet. Until we can figure out how to assure fish passage north don't want to add fishing power.* [KRSA Opposes]



Central District Drift Gillnet Fishery Management Plan [5 AAC 21.353]

- (a) The purpose of this management plan is to ensure adequate escapement of salmon into the Northern District drainages and to provide management guidelines to the department. The department shall manage the commercial drift gillnet fishery to minimize the harvest of Northern District and Kenai River coho salmon in order to provide sport and guided sport fishermen a reasonable opportunity to harvest these salmon stocks over the entire run, as measured by the frequency of inriver restrictions. The department shall manage the Central District commercial drift gillnet fishery as follows:
 - (1) weekly fishing periods are as described in 5 AAC 21.320(b);
 - (2) the fishing season will open the third Monday in June or June 19, whichever is later, and
 - (A) from July 9 through July 15,
 - (i) fishing during the first regular fishing period is restricted to the Expanded Kenai and Expanded Kasilof Sections; additional fishing time is allowed only in the Expanded Kenai and Expanded Kasilof Sections of the Upper Subdistrict;
 - (ii) fishing during the second regular fishing period is restricted to the Kenai and Kasilof Sections of the Upper Subdistrict and Drift Gillnet Area 1;
 - (iii) at run strengths greater than 2,300,000 sockeye salmon to the Kenai River, the commissioner may, by emergency order, open one additional 12-hour fishing period in the Kenai and Kasilof Sections of the Upper Subdistrict and Drift Gillnet Area 1;
 - (B) from July 16 through July 31,
 - (i) at run strengths of less than 2,300,000 sockeye salmon to the Kenai River, fishing during one regular 12-hour fishing period will be restricted to the Expanded Kenai and Expanded Kasilof Sections of the Upper Subdistrict;
 - (ii) at run strengths of 2,300,000 4,600,000 sockeye salmon to the Kenai River, fishing during one regular 12-hour fishing period per week will be restricted to either or both the Expanded Kenai and Expanded

Mon. & Thu. @ 12 hrs.

Timed for 1st influx of laterun sockeye (Kasilof)

2nd week of July is peak passage period for Susitna sockeye

Expanded terminal area sections adopted in 2011

Traditional Kenai & Kasilof sections are narrow Area 1 is S. of Kalgin Island

Additional fishing time is provided at average or larger Kenai runs to share harvest and control escapement.

Kenal sockeye run strength typically estimated

Area restrictions to protect northern fish

Additional fishing time is allowed at average Kenai runs



Kasilof Sections of the Upper Subdistrict or Drift Gillnet Area 1;

- (iii) at run strengths greater than 4,600,000 sockeye salmon to the Kenai River, there will be no mandatory restrictions during regular fishing periods;
- (C) from August 16 until closed by emergency order, Drift Gillnet Areas 3 and 4 are open for fishing during regular fishing periods;
- (D) from August 11 through August 15, there are no mandatory area restrictions to regular periods, except that if the Upper Subdistrict set gillnet fishery is closed under 5 AAC 21.310(b) (2)(C)(iii), regular fishing periods will be restricted to Drift Gillnet Areas 3 and 4.

(b) For the purposes of this section,

- "Drift Gillnet Area 1" means those waters of the Central District south of Kalgin Island at 60ø 20.43' N. lat.;
- (2) "Drift Gillnet Area 2" means those waters of the Central District enclosed by a line from 60ø 20.43' N. lat., 151ø 54.83' W. long. to a point at 60ø 41.08' N. lat., 151ø 39.00' W. long. to a point at 60ø 41.08' N. lat., 151ø 24.00' W. long. to a point at 60ø 27.10' N. lat., 151ø 25.70' W. long. to a point at 60ø 20.43' N. lat., 151ø 25.70' W. long. to a point at 60ø 20.43' N. lat., 151ø 28.55' W. long.;
- (3) "Drift Gillnet Area 3" means those waters of the Central District within one mile of mean lower low water (zero tide) south of a point on the West Foreland at 60ø 42.70' N. lat., 151ø 42.30' W. long.;
- (4) "Drift Gillnet Area 4" means those waters of the Central District enclosed by a line from 60ø 04.70' N. lat., 152ø 34.74' W. long. to the Kalgin Buoy at 60ø 04.70' N. lat., 152ø 09.90' W. long. to a point at 59ø 46.15' N. lat., 152ø 18.62' W. long. to a point on the western shore at 59ø 46.15' N. lat., 153ø 00.20' W. long., not including the waters of the Chinitna Bay Subdistrict.
- (c) The commissioner may depart from the provisions of the management plan under this section as provided in 5 AAC 21.363(e).

Big Kenai sockeye runs trump northern stocks

Extended fishing in limited western inlet areas

Area restrictions no longer needed because Susitna sockeye have passed (ignores coho)

Drift areas 1, 2, 3 & 4 defined



GROUP 6 - PINK SALMON

lssue

Historically low pink salmon values currently provide little incentive for commercial drifters to target pink salmon in August. A special August pink salmon drift net fishery authorized from 2002 to 2008 has demonstrated that pink salmon values are not adequate to justify significant fishing effort based on pinks alone. In fact, low values historically resulted in many drift gill netters actively avoiding harvest of pinks when other species are available (Fox and Shields 2003). Price improvements in recent years have led to a renewed interest by some in additional pink salmon commercial fishing opportunity in UCI.

August commercial fisheries harvest a mixed bag of species and catch large numbers of coho. August commercial fisheries delay and constrict coho fisheries in the Kenai River just as numbers are beginning to build to fishable numbers. Coho have comprised a significant portion of the commercial salmon harvest in years when the special pink salmon drift fishery plan was in effect. Risks of overfishing coho in late July and early August commercial fisheries are increased by the inability to estimate run size in-season and to regulate fisheries to protect escapement. Concentrated commercial harvest of the early part of the coho run could also have long term biological impacts if these early fish are a unique substock.



Figure 11. Trend in pink salmon harvest in UCI commercial fisheries.


KRSA Recommendation

KRSA recommends that commercial fisheries during August continue to be managed to minimize harvest of sport priority coho salmon.

If addition pink salmon opportunity it is deemed appropriate by the BOF to establish a pink salmon target fishery, KRSA recommends reauthorization of the Cook Inlet Pink Salmon Management Plan [5 AAC 21.356]. This plan was first adopted in 2002 and reauthorized in 2005 to provide access to pink salmon while minimizing harvest of sport fishery priority coho from the Northern District and Kenai. The plan provided fishery opportunity for this commercial priority species in an area off the Kenai and Kasilof where August commercial fisheries were restricted by the 1999 and 2002 BOFs. This plan was repealed in 2008 due to lack of participation and reduced demand with extension of commercial fishing periods to the middle of August.

Other Proposals

- **#173** [ADFG] Modify confusing provisions of the management plan to reference the Upper Subdistrict to ensure they meet board intent as originally adopted. [KRSA Supports]
- **#174** [UCIDA] Modify pink salmon management and/or develop a new management plan to allow for harvests of earlier-arriving Northern pink salmon and later-arriving Kenai and Kasilof pink salmon. Additional pink salmon harvest during July could substantially impact northern sockeye and coho. [KRSA Opposes]
- **#175** [Central Peninsula AC] Designate Cook Inlet pink salmon stocks primarily for commercial uses to provide an economic yield from the harvest of these salmon resources based on abundance. *Pink are already managed primarily for commercial uses. The problem is that pink fisheries also provide an opportunity for coho target fisheries or substantial incidental coho impacts.* [KRSA would support restoration of priority language for all species including pink salmon in the UCI Umbrella Plan]
- **#176** [KPFA] Remove restrictions on set gillnet fishing in the Kenai, Kasilof, and East Forelands sections of the Upper Subdistrict in August, and change mesh size from four and threequarters inches to four and seven-eighths inches when fishing for pink salmon. *There is no way to add mesh size and fishing periods through Aug 15 without increasing harvest of coho.* [KRSA Opposes]
- **#177** [South K-Beach Independent Fisherman's Association] Expand pink salmon harvest from August 1–15 during even-numbered years, with mesh-size restrictions; no restrictions relative to shore; and manage pink salmon based on harvest or escapement goals. Unrestricted pink salmon fishery at a time of substantial coho impact. [KRSA Opposes]
- **#178** [Chris Every] Remove the 600-foot restriction and allow set gillnets to be operated from shore for pink salmon in the Upper Subdistrict. *This was eliminates a 2011 compromise agreement designed to protect coho.* [KRSA Opposes]
- **#179** [Cliff Dejax] Remove restriction that only allows operation of set gillnets 600 feet or greater from the shoreline. **[KRSA Opposes]**
- **#180** [John McCombs] Develop a management plan to harvest pink salmon in Upper Cook Inlet. [KRSA Opposes]



GROUP 6 - COHO SALMON COMMERCIAL & SPORT FISHERIES

lssue

It is extremely critical to understand that in the first week of August, in the UCI Central District there is a rapid transition from the truncated entry pattern of late-run sockeye that peaks in late July to the protracted entry pattern of coho that begins about August 1.

It is also very important to understand that in this period of low abundance of king salmon and severely restricted sport fisheries for that species stemming from June through July that coho in August is now much more important to the recreational fishery and to maintaining the economic contribution of the fishery than in the past.

While KRSA proposals for management of the July fishery strive to provide at least time equal to historical "regular periods" to the commercial set net fishery during these time of low abundance of king salmon, likewise, KRSA asks for focus on providing coho, "primarily" for the sport and guided sport fisheries, as instructed in the codified plans once 99 percent of the commercial sockeye harvest has been completed.



Figure 12. Recent annual commercial harvest of coho salmon in the Upper Cook Inlet.



KRSA Proposal 248

Increase the coho daily bag and possession limit in the Kenai River (drainage) from two fish to three fish beginning on August 15 rather than September 1.

Corresponding regulatory changes include:

5 AAC 57.120. General provisions for season, bag, possession, and size limits, and methods and means for the Kenai River Drainage Area)

(4)(A)(iv) from [SEPTEMBER 1] <u>the first day after closure of the east side set net</u>
 <u>fishery but no later than August 15</u> — November 30, in the following waters of the Kenai River, excluding the tributaries, the bag and possession limit for coho salmon is three fish per day;

5 AAC 57.170. Kenai River Coho Salmon Management Plan

- (b)(3)(C) from July 1 through August [31] <u>14</u>, the daily bag and possession limit for coho salmon 16 inches or greater in length is two fish;
- (D) from <u>the first day after closure of the east side set net fishery but no</u>
 <u>later than</u> [SEPTEMBER 1] <u>August 15</u> through November 30, the daily bag and possession limit for coho salmon 16 inches or greater in length is three fish;

Explanation

Increasing the bag and possession limit from 2 to 3 fish in August would not jeopardize the sustained yield for the resource, would provide increased opportunity for harvest and likely result in additional economic value for the fishery.

For nearly forty years the daily bag and possession limit for coho salmon in the Kenai River was 3 fish, 16 inches or greater in length. In response to a decline in abundance of coho salmon during the late 1990s, the bag and possession limit was reduced to 2 fish as part of a comprehensive plan that included restrictions on commercial fisheries.

Since that time, abundance has improved and commercial fisheries are no longer restricted specifically to conserve Kenai River coho salmon, yet the sport fishery still operates under the lowered bag and possession limit for the first part of the run in August.

If there are enough coho salmon to support significant commercial harvest during August of this sport priority species, then there are enough to restore the bag limit to 3 coho. If there aren't enough coho to restore the 3-fish bag limit, then there aren't enough to justify expansion of the commercial fishery during August.



Other Proposals

- **#107** [David Chessik] Allow commercial set gillnet fishing to occur in areas where commercial drift gillnetting is allowed in the Central District of Upper Cook Inlet. *Concerns Kalgin Island. Our concern is whether this change will increase gillnet fishing effort and harvest of king stocks which are currently at very low levels.* **[KRSA Opposes]**
- **#108** [Central Peninsula AC] Allow commercial salmon fishing in the Central District to remain open until closed by emergency order (EO). *Substantial expansion in commercial harvest of sport-priority coho.* [KRSA Opposes]
- **#109** [Central Peninsula AC] Allow commercial salmon fishing in Central District to remain open until closed by emergency order (EO). *Substantial expansion in commercial harvest of sport-priority coho.* [KRSA Opposes]
- **#110** [John McCombs] Allow commercial salmon fishing in the Central District to remain open until closed by emergency order (EO). *Substantial expansion in commercial harvest of sport-priority coho.* [KRSA Opposes]
- **#116** [KPFA] Remove provision where the set gillnet fishery in the Kenai, Kasilof, and East Forelands sections of the Upper Subdistrict will close after July if less than one percent of the total season's sockeye is harvested in two consecutive fishing periods ("one-percent rule") and end fishing season on August 15. *Eliminates the 1% rule which was designed to provide an orderly transition to coho. While the ESSN fishery on the aggregate coho run has been estimated to be relatively low, it can takes of very large proportion of the early part of the coho run and substantially delay sport fishery opportunities. [KRSA Opposes]*
- **#117** [KPFA] Remove provision where the set gillnet fishery in the Kenai, Kasilof, and East Forelands sections of the Upper Subdistrict will close after July if less than one percent of the total season's sockeye is harvested in two consecutive fishing periods ("one-percent rule"); end fishing season on August 15; and allow regular fishing periods only from August 11–15. [KRSA Opposes]
- **#119** [North K-Beach Fishermen] Change how the department determines if less than one percent of the season's total sockeye salmon harvest has been taken in the Upper Subdistrict. [KRSA Opposes]
- **#120** [Central Peninsula AC] Allow commercial salmon fishing in the Central District to remain open on Mondays and Thursdays until closed by emergency order (EO). Substantial expansion in commercial harvest of sport-priority coho. [KRSA Opposes]
- **#131** [Matanuska Valley AC] Close waters within one statute mile of the Little Susitna River to commercial fishing. One mile closures are in place around many other area rivers but not the Little Su. The Little Su has had a variety of fish conservation issues. **[KRSA Supports]**



- **#132** [Matanuska-Susitna Borough Fish & Wildlife Commission] Close waters within one statute mile of the Little Susitna River to commercial fishing. One mile closures are in place around many other area rivers but not the Little Su. The Little Su has had a variety of fish conservation issues. [KRSA Supports]
- **#248** [KRSA] Start the three coho salmon bag limit on the Kenai River two weeks earlier on August 15. [See above explanation]
- **#263** [Kenneth Bingaman] Allow fishing for coho salmon from a guided vessel in the Kenai River on Labor Day. Mondays are currently closed to guide fishing. Guide logbook data indicates that this change will not substantially impact coho escapements. [KRSA Supports]
- **#264** [Kenai River Professional Guide Association] Allow anglers on the Kenai River to fish for coho salmon from a registered guide vessel on Mondays beginning September 1. *Mondays are currently closed to guide fishing. Guide logbook data indicates that this change will not substantially impact coho escapements.* **[KRSA Supports]**
- **#265** [Cooper Landing AC] Allow Kenai River anglers upstream of the inlet of Skilak Lake inlet to fish for coho salmon from a registered guide vessel on Mondays beginning August 1. *Mondays are currently closed to guide fishing. Guide logbook data indicates that this change will not substantially impact coho escapements.* **[KRSA Supports]**
- **#319** [ADFG] Define area open to fishing within the Jim Creek drainage, limit sport fishing from 6 a.m. to 6 p.m. during the coho salmon season, close specific lakes to fishing, and prohibit continued fishing after taking a bag limit of salmon. Conservation measures are appropriate for <u>Jim Creek coho which have missed escapement goals in 3 of the last 4 years. Is there a complementary restriction of the commercial fishery that goes along with this? [KRSA Supports]</u>
- **#320** [Brian Bohman] Limit hours open to sport fishing in Jim Creek from 6:00 a.m. to 6:00 p.m. This would be particularly hard on people with a regular work schedule. Escapement goals can most effectively be met through other means. [KRSA Opposes]



COMMITTEE A - UCI PERSONAL USE FISHERY MANAGEMENT PLAN

Issues

The Kenai and Kasilof personal use fishery has proven to be a tremendous success and should be protected. It provides Alaskan residents with the best opportunity to harvest fish for their dinner table. The fishery currently provides 300,000 to 500,000 sockeye per year salmon to Alaskan families. KRSA strongly supports the access that resident Alaskan's have to valuable food resources through participation in these personal use fisheries and opposes any attempt to reduce access to dip net fisheries in the Kenai and Kasilof rivers.

It is unfortunate that the dip net fisheries have gone from being the opportunity of choice to harvest high quality salmon for personal consumption to being the fisheries of necessity for so many Alaskans. A quick look around the most populated areas of the state finds king runs down and fisheries restricted or closed. Bag limits for coho salmon are restricted to two fish even though commercial fisheries for this species are not restricted for coho abundance. Chum salmon are harvested commercially without limit but are only available to sport anglers as part of an aggregate bag limit for salmon other than kings.

There are two areas of concern associated with the management of personal use fisheries during this time of low abundance of both early and late-run king salmon. First, the set gill net fishery off the mouth of the Kasilof River has the potential to harvest king salmon. The department closed this fishery by Emergency Order in 2013 for king protection. KRSA supported this closure by EO at the time it was implemented and supports continuation of that approach in future years. There is no proposal to further address this issue.

Second, during years of low king salmon abundance and restrictions to sport and commercial fisheries that harvest king salmon, KRSA supports the recommendation made by the personal use representative of the Upper Cook Inlet Task Force process, 2013 which stated that retention of king salmon taken in the personal use fisheries should be prohibited. This issue was addressed in Group II of the Committee of the Whole.



Figure 13. Personal use fishery harvest of sockeye.



Box 1. Application of the BOF's allocation criteria [AS 16.05.251(e)] to the Cook Inlet personal use fisheries for sockeye.

1) The history of each sport, personal use and commercial fishery;

Sport, personal use, and commercial fisheries each have a long history in UCI. All fisheries have evolved over time in response to changing values, demands, and opportunities. For instance, commercial fisheries have evolved with reduced dependence on chum and pink salmon and increosed focus on the ESSN. The growth of the sockeye sport ond personal use fishery results fram increasing demand from the growing population in South Central Alaska.

2) The characteristics and number of participants in the fisheries;

Personal use fishery permits have been issued to 35,000 households in 2013. The Kenai and Russian rivers are the most heavily sport fished waters in the state, averaging over 300,000 angler days per year for all species (Begich & Pawluk 2007). At least 100,000 anglers fish each year in the Kenai River system (Haley et al. 1999). Coak Inlet commercial fisheries included 569 drift and 736 set gill net permits registered in 2013 (Shields 2013). Commercial fishers number abaut three aperatars and crew numbers per permit with an estimated 3,000 total commercial fishers in 1994 (ISER 1996).

3) The importance of each fishery for providing residents the opportunity to obtain fish for personal and family consumption;

The Kenai and Kasilof personal use fisheries represent one of the few opportunities for a majority of Alaska residents to obtain fish for personal and family consumptian.

4) The availability of alternative fisheries resources;

The Kenai sport and personal use fisheries for sockeye are particularly impartant with the frequent closure of the Fish Creek personal use fishery. The only other alternative is the Chitina personal use fishery on the Copper River.

5) The importance of each fishery to the economy of the state;

Recent economic analyses have highlighted the economic significance of sport, personal use ond commercial fisheries to the state's economy. The Kenai fisheries are readily accessible ta the nearly two-thirds of the state's population that lives in the Cook Inlet area. UCI commercial salmon fisheries account for a small fraction of the total Alaska salmon catch.

6) The importance of each fishery to the economy of the region and local area in which the fishery is located;

Sport, personal use, and commercial fisheries for sockeye are all vital parts of the local Kenai economy. The Kenai Peninsula Borough estimated the economic effect of sportfishing in the borough in 2003 at \$664 million. The ex-vessel value of the UCI commercial catch has averaged appraximately \$28 millian over the last ten years.

7) The importance of each fishery in providing recreational opportunities for residents and nonresidents.

In-river spart and personal use fisheries pravide significant recreational opportunities for Alaska residents. This fishery has grown into a tremendausly popular family activity. These sockeye sport fisheries provide significant recreational opportunity for both residents and nonresidents.



KRSA Recommendations

KRSA has submitted no proposals for revision of this plan but strongly supports the personal use fisheries of both the Kenai and Kasilof rivers. KRSA will be active participants of serious effort to address these issues.

Commercial fishery advocates have offered a variety of proposals intended to reduce opportunity and harvest of the Kenai, Kasilof and Fish Creek personal use fisheries. KRSA will actively oppose any effort to reduce their harvest potential. We recognize that people management issues need to be addressed any time large numbers of individuals and families gather anywhere.

Other Proposals

- **#269** [ADFG] Update sockeye salmon numbers within the personal use salmon management plan to align with the Kenai River Late-Run Sockeye Salmon Management Plan. *Housekeeping.* [KRSA Supports]
- **#270** [ADFG] Clarify when a person is required to record their harvest within Upper Cook Inlet personal use salmon fisheries regulations. *Clarification for enforcement purposes.* [KRSA Supports]
- **#271** [Margie Anderson] Direct department to provide permit holder information to enforcement officials if permit holder fails to return their permit. *[KRSA Opposes]*
- **#272** [Brandie Ware] Require a person to show proof of residency prior to a permit being issued and require personal use fishery to be closed if more than five percent of permits are not returned. [KRSA Opposes]
- **#273** [John McCombs] Exempt a person obtaining a personal use dipnet permit for Cook Inlet from requirement that the person is the holder of a valid resident sport fish license or is a resident exempt from licensing under AS 16.05.400. [KRSA Opposes]
- **#274** [John Higgens] Require online permitting for personal use permits, establish penalties for violations, and reduce household limit to 15 per head of household and 5 for each additional member. *[KRSA Opposes]*
- **#275** [John McCombs] Limit the number of Cook Inlet personal use permits that can be issued to 30,000 permits. *[KRSA Opposes]*
- **#276** [John McCombs] Open Kenai River personal use fishery after 350,000 sockeye salmon escapement has been reached. *[KRSA Opposes]*
- **#277** [John McCombs] Open Kenai River personal use fishery after escapement has been met. *[KRSA Opposes]*
- #278 [Linda Lemanski] Prohibit emergency order (EO) authority liberalizing personal use salmon fishery to 24 hours per day, but allow for increased harvest limits. [KRSA Opposes]
- **#279** [John McCombs] Modify existing Kenai River personal use fishery hours from 6:00 a.m.– 10:00 p.m., to 7:00 a.m.–7:00 p.m. *[KRSA Opposes]*
- **#280** [Brandie Ware] Reduce Kenai River personal use fishing season, establish paired restrictions with commercial fishery to achieve in-river goal, and prohibit retention of king salmon. [KRSA Opposes]



- **#172** [KPFA] Close the Kenai River personal use fishery when it is announced the sockeye salmon optimal escapement goal (OEG) may not be met. *Within existing authority.* [KRSA Opposes]
- **#281** [Debbie Petroze] Prohibit retention of king salmon in the Kenai River personal use fishery. *King restrictions in the personal use fishery may be appropriate in periods of low abundance in conjunction with step-down measures in other fisheries. At other times, personal use fishery should be allowed to share in the harvestable surplus of kings.* [KRSA supports concept in times of low king abundance]
- **#282** [South Central Dipnetters Association] Extend the Kenai River personal use fishery into August. While there are some years when significant numbers of sockeye are still returning during August, KRSA recommends optimizing time and area opportunities within the existing timeframe. Coho impacts must be considered in any extension of the personal use dipnet fishery.
- **#283** [UCIDA] Reduce household limits for Kenai River personal use fishery based upon Kenai River sockeye salmon run size. *[KRSA Opposes]*
- **#284** [South K-Beach Independent Fishermen] Establish harvest allocations for the Kenai River personal use fishery based upon Kenai River sockeye salmon run size. [KRSA Opposes]
- **#285** [UCIDA] Prohibit dipnetting from boats in the Kenai River personal use fishery. **[KRSA Opposes]**
- **#286** [Preston Williams] Establish a no-wake zone and maximum speed limit on the Kenai River between river mile 3 and 4.5 during the personal use fishery. [KRSA Opposes]
- **#287** [John McCombs] Reduce allowable mesh size to 2-inch mesh in Cook Inlet personal use dipnet fisheries. *[KRSA Opposes]*
- **#288** [UCIDA] Prohibit release of salmon caught in Cook Inlet personal use fisheries. **[KRSA Opposes]**
- **#289** [John McCombs] Require fish waste from the Kenai River personal use fishery to be ground up to three-quarters inch. [KRSA Opposes]
- **#290** [Mark Glassmaker] Change dates for the Kasilof River personal use (PU) set gillnet fishery from June 15–24 to June 20–30, and close the PU set gillnet fishery and require release of all king salmon in the PU dipnet fishery when sport fish restrictions are placed on king salmon in the Kenai or Kasilof rivers. *KRSA supports paired restrictions of personal use, commercial and sport fisheries in time of low king abundance but opposes moving the personal use gillnet fishery later in June.*
- **#291** [Lyon, Berger, McCaslin] Extend fishing season for personal use smelt fishery from April 1 through June 15. The current regulation provides adequate opportunity for hooligan harvest without the potential for incidental impacts on other species. [KRSA Opposes]
- **#318** [South Central Dipnetters Association] Open the Fish Creek personal use fishery unless the sockeye salmon escapement is projected to be less than 50,000 fish. *KRSA supports review of the Fish Creek personal use fishery regulations but opposes fishing when minimum escapement goals cannot be assured.*



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

 (a) Salmon may be taken for personal use under this section only under a personal use permit issued under 5 AAC 77.015 and 5 AAC 77.525; in addition to the requirements under 5 AAC 77.015, a person 	
 (1) shall, before a permit may be issued, show the person's resident sport fish license, or proof, satisfactory to the department, that the person is exempt from licensing under AS 16.05.400; the person's sport fish license number shall be recorded on the permit; 	Alaska residents only
(2) shall record all fish harvested on the permit, in ink, immediately upon harvesting the fish; for the purpose of this paragraph, "immediately" means before concealing the salmon from plain view or transporting the salmon from the fishing site;	Harvest recording
(3) shall return the permit to the department by the date specified on the permit.	Harvest reporting
(b) Salmon may be taken with a set gillnet in the Central District as follows:	<u>Kasilof qillnet personal</u> <u>use fishery</u>
(1) from June 15 through June 24;	June opener consistent
(2) fishing periods will be daily from 6:00 a.m. to 11:00 p.m.;	with the earlier Kasilof
(3) repealed 6/22/2002;	sockeye run timing
(4) salmon may be taken only from ADF&G regulatory markers located at the mouth of the Kasilof River to ADF&G commercial fishing regulatory markers located approximately one mile from the mouth on either side of the Kasilof River; fishing is prohibited beyond one mile from the mean high tide mark and is also prohibited within the flowing waters or over the stream bed or channel of the Kasilof River at any stage of the tide;	Limited to beaches adjacent to river mouth
(5) salmon may be taken only by set gillnets as follows:	
(A) a set gillnet may not exceed 10 fathoms in length, six inches in mesh size, and 45 meshes in depth;	
(B) no part of a set gillnet may be operated within 100 feet of another set gillnet;	
(C) a person may not operate more than one set gillnet; the permit holder shall attend the set gillnet at all times when it is being used to take fish;	



(D) only one	e set gillne	t may be operate	ed per hous	sehold;

- (6) the annual limit is as specified in 5 AAC 77.525.
- (c) Salmon may be taken by dip net in the Kenai and Kasilof Rivers as follows:
 - (1) in the Kenai River, as follows:
 - (A) from July 10 through July 31, seven days per week, from
 6:00 a.m. to 11:00 p.m.; the commissioner may extend, by
 emergency order, the personal use fishery to 24-hours per
 day if the department determines that the abundance of
 the Kenai River late-run sockeye salmon is greater than two
 million fish;
 - (B) the annual limit is as specified in 5 AAC 77.525, except that only one king salmon may be retained per household;
 - (C) from a boat, in the area from an ADF&G regulatory marker located near the Kenai city dock upstream to the downstream side of the Warren Ames Bridge, except that salmon may not be taken from a boat powered by a two stroke motor other than a motor manufactured as a direct fuel injection motor;
 - (D) from shore, in the area from ADF&G regulatory markers located on the Cook Inlet beaches outside the terminus of the river upstream to the downstream side of the Warren Ames Bridge, except dipnetting is closed on the north shore from an ADF&G regulatory marker located below the end of Main Street, upstream to an ADF&G regulatory marker located near the Kenai City Dock;
 - (2) in the Kasilof River, as follows:
 - (A) from June 25 through August 7, 24-hours per day;
 - (B) the annual limit is as specified in 5 AAC 77.525, except that king salmon may not be retained and any king salmon caught must be released immediately and returned to the water unharmed;
 - (C) from ADF&G regulatory markers located on the Cook Inlet beaches outside the terminus of the river upstream for a distance of one mile.

(d) Salmon may be taken by dip net in Fish Creek only as follows:

(1) the commissioner may open, by emergency order, the

Annual limits: 25 household head & 10 / dependent.

<u>Kenai dip net fishery</u>

Ending date was originally established in 1996 to limit the harvest of coho.

One king per household

Motor type restrictions to reduce hydrocarbon pollution (adopted 2008)

<u>Kasilof dipnet fishery</u> Fishery switches from gillnet to dip net as fish numbers increase

Fish Creek dipnet fishery

No king retention

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personal use dip net fishery in Fish Creek from July 10 through July 31, if the department projects that the escapement of sockeye salmon into Fish Creek will be more than 50,000 fish;	SEG is 20,000 – 70,000
(2) the annual limit is a specified in 5 AAC 77.525, except that no king salmon may be retained and any king salmon caught must be returned to the water unharmed;	No king retention
(3) from a boat or shore, in those waters upstream from ADF&G regulatory markers located on both sides of the terminus of Fish Creek, to ADF&G regulatory markers located approximately one-quarter mile upstream from Knik-Goose Bay Road.	
(e) Repealed 6/22/2002.	
(f) A person may retain flounder incidentally caught when fishing for salmon in the Cook Inlet Area under this section. A person may retain up to 10 flounder under this subsection per year and must record those flounder retained by the person on that person's permit specified in (a) of this section.	Flounder are common bycatch
(g) In the Beluga River, salmon may be taken by dip net only as follows:	<u>Beluga dipnet fishery</u> (adopted 2008)
(1) salmon, other than king salmon, may be taken only by a person 60 years of age or older; a person authorized to take salmon under this subsection may not authorize a proxy to take or attempt to take salmon on behalf of that person under 5 AAC 77.016 and AS 16.05.405;	Age restrictions, no proxies
(2) from July 10 through August 31, the fishery is open 24 hours per day from an ADP&G regulatory marker located approximately one-quarter mile upstream of the Beluga River Bridge, downstream to an ADF&G regulatory marker located approximately one mile below the bridge;	This is a small-scale, localized, low impact fishery established for opportunity
(3) the annual limit is as specified in 5 AAC 77.525, except that within the total annual limit one king salmon may be retained per household;	No king retention
(4) the commissioner will close, by emergency order, the fishery when 500 salmon, other than king salmon, have been harvested;	
(5) a permit holder for this fishery shall report weekly to the department as specified in the permit.	



COMMITTEES B, C, D & E

Committee B. Cook Inlet Commercial Fishing

The challenge when addressing this group of proposals is to reflect back on what action was taken in Group II, Kenai River Late-run king salmon, Group IV, Kenai River sport salmon, Group V, Kenai and Kasilof commercial sockeye, and Group VI, commercial Drift gill net and assure that any action considered on proposals included in this section does not conflict with either the policy level direction or the prescriptive implementation strategies already established.

KRSA has submitted no related proposals but is supportive of a number of proposals and concepts submitted by others.

Fishing Districts, Seasons, Periods, Gear, Gillnet Specifications, Registration, Closed Waters, and Reporting Requirements

- **#121** [John McCombs] Allow regularly-scheduled commercial fishing periods on Mondays and Thursdays, through July 18. [KRSA Opposes]
- **#123** [Kent Harmon] Change regularly-scheduled fishing periods in the Kalgin Island and Western subdistricts to 7 a.m. to 7 p.m. on Wednesday and Saturday. *[KRSA Opposes]*
- **#124** [ADFG] Correct errors in regulation regarding regulatory marker locations and fixed positions of area boundaries. *[KRSA Supports]*
- **#125** [Brent Johnson] Allow selective harvest modules (SHM), under certain specifications and operations, to be used to commercially harvest salmon in the Upper Subdistrict of the Central District. *This topic warrants additional discussion.* [KRSA Supports Consideration of this Concept]
- **#81** [Don Johnson] Establish various management measures to address decline in returning king salmon to Cook Inlet, including requiring net gear be certified as avoiding king salmon interception and closing commercial herring fisheries. (The finfish aspects of this proposal were discussed at the Lower Cook Inlet meeting. The king and Tanner crab aspects of this proposal will be considered during the Statewide King and Tanner Crab meeting.) [*KRSA Opposes*]
- **#128** [ADFG] Amend references to registration requirements for set and drift gillnetting in Upper Cook Inlet. *[KRSA Supports]*
- **#129** [ADFG] Remove registration requirement for joint operation of drift gillnet gear. **[KRSA Supports]**
- **#130** [Mark Glassmaker] Require CFEC set net permit holders registered in the Upper Subdistrict to fish in only one section (Kasilof or Kenai) for the entire season. [KRSA Opposes]
- **#133** [Smith, Smith, Every, Every] Require the number of commercially-harvested king salmon to be recorded by length (under 20" and over 20") on fish tickets. Unnecessary burden to industry when age, sex and length sampling is already conducted by ADFG, *[KRSA Opposes]*



West Side Rivers

- **#134** [Mark Harmon] Amend management plan to include all waters of the Kalgin Island Subdistrict and reduce fishing time from three days a week to two days a week. *[KRSA Opposes]*
- **#79** [Mark Glassmaker] Close waters to commercial fishing within one statute mile of the terminus of any anadromous fish stream in Cook Inlet as measured from mean lower low tide, not mean high tide. (This proposal was also discussed at the Lower Cook Inlet Finfish meeting.) *River mouth sanctuaries are in place for some but not all rivers. In areas with large tidal zones, current protections are not adequate as commercial fisheries can harvest of concentrations of fish in flooded river channels during high tides.* [KRSA Supports]

Northern Pike

- 181 [John McCombs] Establish a commercial fishery for Northern pike in Upper Cook Inlet. [KRSA Opposes]
- 182 [John McCombs] Establish a five-dollar bounty for northern pike. [KRSA Opposes]

Committee C. Kenai River Resident Species, Guides, Boundaries and Habitat

The challenge when addressing this group of proposals is to reflect back on what action was taken in Group II, Kenai River Late-run king salmon, Group IV, Kenai River sport salmon, Group V, Kenai and Kasilof commercial sockeye, and Group VI, commercial Drift gill net and assure that any action considered on proposals affecting sport fishing for salmon, included in this section, does not conflict with either the policy level direction or the prescriptive implementation strategies already established. <u>KRSA has submitted no related proposals but is supportive of a number of proposals and concepts submitted by others.</u>

<u>Sport – Kenai River Resident Species</u>

- **#252** [ADFG] Open rainbow trout fishing year-round in the Kenai River downstream of an ADF&G marker located upstream of the Lower Killey River, and increase rainbow trout spawning closure area below the Upper Killey River by approximately three-quarters of a river mile. [KRSA Supports]
- **#253** [KPGA] Open rainbow trout fishing year-round in the Kenai River downstream of an ADF&G marker, designating the upper end of the Killey River king salmon sanctuary, and increase the rainbow trout spawning closure area located above the Upper Killey River. *[KRSA Supports]*
- **#254** [James Dicken] Allow fishing for trout on the Kenai River below Moose River using bait beginning June 1 and restrict gear. **[KRSA Opposes]**
- **#255** [ADFG] Move Hidden Lake Creek and Hidden Lake special provisions from the Lower Section management area to the Middle Section management area. [KRSA Supports]
- #256 [ADFG] Reduce spawning closure period on Crescent Lake/Crescent Creek. [KRSA Supports]
- **#257** [ADFG] Create a spawning closure period on Bench Lake and Bench Creek for Arctic grayling.
- **#258** [ADFG] Remove liberal gear limits of five lines allowed while fishing through ice on Stormy Lake for northern pike.



Guides – Kenai and Kasilof Rivers

- **#259** [Monte Roberts] From May 1 to July 31, limit hours allowed for boat anglers; limit guides to 10 starts per week; and clarify department emergency order (EO) authority. No support for increasing fishing pressure at this time. **[KRSA Opposes]**
- **#260** [Mel Erickson] Allow guided fishing on the Kenai River seven days per week, but guides can only operate during five days of their choosing. No support for increasing fishing pressure at this time. *[KRSA Opposes]*
- **#261** [Mel Erickson] Allow five anglers to fish from a registered guide vessel on the Kenai River during the month on July. This is an issue with families with three kids. No support for increasing fishing pressure at this time. Boat wake issue in July. [KRSA Neutral]
- **#262** [Robin Collman] Prohibit sport fishing from a registered guide vessel downstream from the outlet of Kenai Lake on Sundays and Mondays. Already limited to 15 guides. Crowding is public issue. *[KRSA Opposes]*
- **#266** [Cooper Landing AC] Prohibit a registered guide who guides on the Kenai River from guiding on the Kasilof River when the Kenai River is closed to guided fishing on Sundays and Mondays. Info available from logbooks on king catch in July. **[KRSA Opposes]**
- **#267** [John McCombs] Limit the number of guides on the Kenai River to 200. Not Board authority. *[KRSA Opposes]*
- **#268** [Smith, Smith, Every, Every] Placeholder proposal to allow stakeholders, department, and board to discuss proposed regulatory action based on results of 2012 Kenai River Freshwater Logbook data. No detail to assess. [KRSA Opposes]

Sport – Kenai River Boundaries and Habitat

- **#229** [ADFG] Modify description of the Lower Section of the Kenai River to denote the mouth of the Kenai River. *[KRSA Supports]*
- **#230** [ADFG] Add a reference to an ADF&G regulatory marker at the outlet of Skilak Lake. *[KRSA Supports]*
- **#231** [ADFG] Remove a small section of water in the Moose River open to king salmon fishing. *[KRSA Supports]*
- **#232** [ADFG] Modify the boundary for prohibiting sport fishing from a boat around the Moose River.
- **#233** [City of Soldotna] Prohibit sport fishing within the Soldotna Centennial Campground boat launch lagoon. Brings state regulation in line with city of Soldotna. [KRSA is Neutral]
- **#234** [ADFG] Establish a new Kenai River riparian habitat area closed to fishing July 1–August 15. [KRSA Supports]
- **#235** [Smith, Smith] Require the department to conduct habitat assessments on Upper Cook Inlet rivers related to sport and personal use fisheries. Not board authority to direct dept. to spend money. *[KRSA Opposes]*
- **#236** [Smith, Smith, Every, Every] Require submission of findings and proposals if the Kenai River riparian habitat assessment demonstrates a loss of riparian habitat. May be redundant with existing language? [KRSA Opposes]



Committee D. Northern Cook Inlet Escapement Goals, and Commercial, Sport and Subsistence Fishing

KRSA has submitted no related proposals but is supportive of a number of proposals and concepts submitted by others.

Escapement Goals

- **#300** [Matanuska AC] Establish an optimal escapement goal (OEG) for Deshka River coho salmon. KRSA supports establishment of a BEG or SEG when and if the ADFG has acquired the level of information necessary to determine an escapement goal in a scientifically standard. KRSA has no position establishment of an OEG without additional information.
- **#301** [Matanuska AC] Adopt a sustainable escapement goal (SEG) established by the department or establish an optimal escapement goal (OEG) for Kashwitna River king salmon. KRSA supports establishment of a BEG or SEG when and if the ADFG has acquired the level of information necessary to determine an escapement goal in a scientifically standard manner. KRSA has no position on establishment of an OEG without additional information.
- **#309** [Mark Glassmaker] Develop and adopt a sustainable escapement goal (SEG) or optimal escapement goal (OEG) for Big River and Kustatan River coho salmon. *KRSA would support establishment of a BEG or SEG when and if the ADFG has acquired the level of information necessary to determine an escapement goal in a scientifically standard manner. KRSA has no position on establishment of an OEG without additional information.*
- **#313** [Matanuska AC] Adopt a sustainable escapement goal (SEG) established by the department or establish an optimal escapement goal (OEG) for Little Susitna River sockeye salmon. KRSA would support establishment of a BEG or SEG when and if the ADFG has acquired the level of information necessary to determine an escapement goal in a scientifically standard manner. KRSA has no position on establishment of an OEG without additional information.
- **#315** [Matanuska AC] Adopt a sustainable escapement goal (SEG) established by the department or establish an optimal escapement goal (OEG) for Little Susitna River chum salmon. *KRSA would support establishment of a BEG or SEG when and if the ADFG has acquired the level of information necessary to determine an escapement goal in a scientifically standard manner. KRSA has no position on establishment of an OEG without additional information.*
- **#321** [Matanuska AC] Adopt a sustainable escapement goal (SEG) established by the department or establish an optimal escapement goal (OEG) for Moose Creek king salmon. KRSA would support establishment of a BEG or SEG when and if the ADFG has acquired the level of information necessary to determine an escapement goal in a scientifically standard manner. KRSA has no position on establishment of an OEG without additional information.



Northern District Commercial Salmon

- **#292** [Mat-Su Fish & Wildlife Commission] Modify management plan to restrict commercial king salmon fishing in the Northern District if sport fishing in the Deshka River is restricted to artificial lures, or close commercial king salmon fishing in the Northern District if sport fishing is restricted to catch and release or closed in Susitna River tributary streams upriver from the Deshka River. *This is the kind of management plan construction that KRSA supports. KRSA has no position on the specific steps in the plan.*
- **#293** [Andy Couch] Modify management plan to restrict commercial set gillnet fishing to one regular 12-hour period per week in the Northern District if sport fishing in the Deshka River is restricted to artificial lures; or close the Northern District to commercial fishing, if sport fishing is closed in the Little Susitna River, Fish Creek, Jim Creek, or Deshka River. *See #292*
- **#294** [AOC] Modify management plan to manage Northern District commercial salmon fisheries based on abundance of Northern District sockeye and coho salmon. *This is the kind of management plan construction that KRSA supports. KRSA has no position on the specific steps in the plan.*
- **#295** [Central Peninsula AC] Amend management plan to remove references to Northern District coho, late-run Kenai River king, Kenai River coho salmon stocks, and add language that states the department shall manage common property fisheries for a reasonable opportunity to harvest salmon resources. **[KRSA Opposes]**

Susitna River Drainage Sport Fisheries

- **#296** [Mat-Su Fish & Wildlife Commission] Adopt a Deshka River king salmon management plan. *Support concept, no position on the specifics.*
- **#297** [Matanuska AC] Adopt a Deshka River king salmon management plan. See #296
- **#298** [Mat-Su Fish & Wildlife Commission] Allow use of bait in the Deshka River on June 1 instead of May 15. [*No position*]
- #299 [John McCombs] Stock Deshka River with king salmon. [KRSA Opposes]
- **#302** [UCIDA] Prohibit sport fishing for all salmon in Larson Creek and its confluence with the Talkeetna River from June 1–September 30. *[KRSA Opposes]*
- **#303** [Steve Vanek] Prohibit sport fishing in Larson Creek and its confluence with Talkeetna River from June 15–August 15. [KRSA Opposes]
- **#304** [John McCombs] Prohibit sport fishing at the outlet of Larson Lake. [KRSA Opposes]
- **#305** [Mat Schwab] Close the Fish Creek drainage to sport fishing for salmon. [KRSA Opposes]
- **#306** [ADFG] Move several lakes from Unit 4 of the Susitna River drainage to Unit 1. *Housekeeping*



Subsistence – Susitna Salmon

- **#307** [Tom Payton] Extend subsistence salmon fishery from July 31 to the first Monday, Wednesday, and Friday in August. *KRSA supports the subsistence priority and the process used to determine the amount necessary for subsistence*.
- **#308** [SCADA] Allow salmon to be harvested by dipnet upstream of the Yentna/Susitna confluence to an ADF&G marker located 300 feet downstream of the department's Yentna River sonar. KRSA supports optimizing personal use opportunity wherever reasonably possible but cannot support this proposal at this time because of the recent difficulty in achieving escapement goals for sockeye salmon.

Sport Fisheries – Knik River Area, Anchorage Area

- **#310** [UCIDA] Allow harvest of king and coho salmon only on Tuesdays, Wednesdays, and Thursdays in the Little Susitna River, and reduce harvest limits. *[KRSA Opposes]*
- **#311** [Jack Harrison] Direct the department to begin stocking coho salmon into the Little Susitna River. **[KRSA Opposes]**
- **#312** [Thane Humphrey] Direct the department to begin stocking coho salmon into the Little Susitna River. **[KRSA Opposes]**
- **#314** [Andy Couch] Open Little Susitna River sockeye salmon sport fishery by emergency order (EO) and only when escapement of 2,500 sockeye salmon can be projected. [No position]
- **#316** [Central Peninsula AC] Require use of four-stroke outboard motors on Little Susitna River and limit the number of outboards on the river per day. **[KRSA Opposes]**
- **#317** [Steve Tyler] Prohibit sport fishing from a boat during the coho salmon season on the Little Susitna River. *[KRSA Opposes]*
- **#322** [ADFG] Amend area open to sport fishing for king salmon in the Eklutna Tailrace. [No position]
- **#323** [Ehmann] Create a youth-only king salmon fishery in the Eklutna Tailrace. [No position]
- **#324** [ADFG] Update stocked lakes list for the Knik Arm drainage area.
- **#325** [ADFG] Reduce bag limit for landlocked king and other salmon in Anchorage stocked lakes.



Committee E. Upper Cook Inlet/Kenai/Kasilof Sport Fish

KRSA has submitted no related proposals but is supportive of a number of proposals and concepts submitted by others.

Cook Inlet – Areawide Sport Fisheries

- **#47** [Central Peninsula AC] Prohibit use of barbed hooks while sport fishing for salmon in Cook Inlet fresh waters. (This proposal was also discussed at the Lower Cook Inlet Finfish meeting.) [*KRSA Opposes*]
- **#48** [UCIDA] Designate all waters where catch-and-release fishing occurs on salmon as single, unbaited, barbless-hook waters. (This proposal was also discussed at the Lower Cook Inlet Finfish meeting.) *[KRSA Opposes]*
- **#49** [UCIDA] Establish criteria to designate waters in Cook Inlet as single, unbaited, barbless hooks waters. (This proposal was also discussed at the Lower Cook Inlet Finfish meeting.) [*KRSA Opposes*]
- **#50** [Central Peninsula] Prohibit catch-and-release fishing for coho salmon in all Cook Inlet fresh waters. (This proposal was also discussed at the Lower Cook Inlet Finfish meeting.) [KRSA Opposes]
- **#52** [Central Peninsula] Prohibit catch-and-release fishing for salmon in all Cook Inlet fresh waters. (This proposal was also discussed at the Lower Cook Inlet Finfish meeting.) [*KRSA Opposes*]
- **#53** [Homer AC] Prohibit anglers who are releasing a fish from removing the head of a fish out of the water. (This proposal was also discussed at the Lower Cook Inlet Finfish meeting.) *[KRSA Opposes]*
- **#54** [Central Peninsula AC] Prohibit sport fishing in major spawning areas where spawning fish are present in Cook Inlet salmon waters. (This proposal was also discussed at the Lower Cook Inlet Finfish meeting.) **[KRSA Opposes]**
- **#183** [David Chessik] Adopt a policy that prohibits sport fishing within 50 percent of identified salmon spawning areas in all Upper Cook Inlet salmon waters. *[KRSA Opposes]*
- **#55** [Mary Adami] Decrease Cook Inlet king salmon annual limit to two king salmon 20 inches or greater in length, of which only one can be from the Kenai River. (This proposal was also discussed at the Lower Cook Inlet Finfish meeting.) **[KRSA Opposes]**
- **#56** [Mary Adami] Decrease the Cook Inlet saltwater king salmon bag and possession limit to one king salmon and reduce the annual limit to two king salmon. (This proposal was also discussed at the Lower Cook Inlet Finfish meeting.) [KRSA Opposes]
- **#184** [Bruce Morgan] Require sport, personal use, and subsistence fishermen to record and report king salmon harvest information within a 24-hour period. **[KRSA Opposes]**
- **#185** [Smith, Smith, Every, Every] Require daily reporting of all salmon harvested in Upper Cook Inlet salmon fisheries by all user groups. *[KRSA Opposes]*
- **#57** [John McCombs] Limit amount of sport-caught fish that may be exported to 100 pounds of fillets. (This proposal was also discussed at the Lower Cook Inlet Finfish meeting.) [*KRSA Opposes*]



Sport – Kenai River Vessel Restrictions

- **#237** [City of Kenai] Add an additional drift boat-only day (Thursdays) on the Kenai River. No biological basis. Effective reallocation of harvest between sport and commercial fisheries. Drift boats can already be used. Also drift only opportunities in upper Kenai and Kasilof. **[KRSA Opposes]**
- **#238** [KAFC] Add an additional drift boat-only day (Thursdays) on the Kenai River. **[KRSA Opposes]**
- **#239** [John McCombs] Add an additional drift boat-only day on the Kenai River. **[KRSA Opposes]**
- **#240** [Shaun Jensen] Prohibit sport fishing from a vessel on Mondays in the Kenai River downstream of Skilak Lake during May, June, and July. No support additional restrictions on the sport fishing public. *[KRSA Opposes]*
- **#241** [Shaun Jensen] Prohibit fishing from a vessel on the Kenai River from 10:00 p.m. to 4:00 a.m. during May, June, and July. No support additional restrictions on the sport fishing public. [KRSA Opposes]
- **#242** [Dennis Randa] Restrict outboard motor use on the Kenai River to 10 horsepower or less. *[KRSA Opposes]*
- **#243** [Dennis Randa] Beginning in 2015, prohibit outboard motor exhaust from being discharged into the waters of the Kenai River. *[KRSA Opposes]*

<u>Sport – Kenai and Kasilof Rivers Salmon</u>

- **#244** [ADFG] Close Hidden Lake Creek and Jean Lake Creek to salmon fishing. Clarification of regulation. *[KRSA Supports]*
- **#245** [Robin Collman] Prohibit sport fishing for salmon in Russian River upstream of the power line. *[KRSA Opposes]*
- **#246** [Robin Collman] Prohibit barbed hooks when sport fishing in the Middle Section of the Kenai River drainage, including Russian River. [KRSA Opposes]
- **#247** [Joe Hanes] Allow snagging of sockeye salmon in the Kenai River. Recognize related issues on both sides. [KRSA Opposes]
- **#249** [Christine Brandt] Prohibit use of eggs for bait in the Kasilof River king salmon sport fishery. **[KRSA Opposes]**
- **#250** [Christine Brandt] Prohibit retention of female king salmon greater than 33 inches in length in the Kasilof River sport fishery. **[KRSA Opposes]**
- **#251** [Homer AC] Reduce king salmon bag and possession limit to one fish on the Kasilof River. Hatchery fish are intended to be caught. **[KRSA Opposes]**



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Mike Dunleavy Senator

Comments of Senator Mike Dunleavy

For the Board of Fish meeting of January 31, 2014

Loffer these comments in a constructive manner with the understanding that you are much more immersed in the details of the issue and perhaps have a different perspective than L. I cannot overstate the importance of fish, or the lack thereof, to maintain the lifestyle and economy of my constituents as well as those surrounding the Inlet. During my campaign, and throughout my term, fishing has been at the very top of the list of issues important to my constituents and they feel very passionate about it. These segregated my thoughts into two categories: (1) Board related; and (2) Proposal related.

BOARD ISSUES

- I took office in January 2014 and your timetable deadlines required proposals to be filed by April. With all that was going on during session, it was virtually impossible to meet that deadline, and as a result, my specific recommendations were not available for public discussion and debate. Please consider implementing a change in this process to allow legislators a month after the close of session to submit any proposals that they would like considered by the Board.
- 2) The Board relies almost exclusively upon the Department for analysis and data to meet the seven statutory criteria for allocation. Several of these criteria require economic impact be taken into consideration, and yet, neither the Board nor the Department have such expertise available on staff. Further, the Board has no executive authority over the Department and cannot direct that the Department supply specified information or analysis. I have earlier communicated with each of you and the majority of your Board has recognized the need to have such expertise available at your direction. Please consider having the full Board comment on what staffing or independent contracting for economic modeling would be the most helpful in its deliberative process. Perhaps using the staffing approach utilized for the North Pacific Fisheries would work well for this Board. Any recommendations would be greatly appreciated. There may need to be a statutory change needed to accomplish this.



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but I am willing to undertake that effort if it would result in better scientific and economic data and analysis being made available to this Board.

3) When the Senate was organizing, I specifically set my goal on being a member of the Finance Committee and as being Chair of the Finance Subcommittee on Fish and Game. The fact that I now occupy both positions is not happen-chance. As I stated earlier, fish in the Valley is a huge issue for my constituents and I will remain aggressive in doing all that I can to see consistent strong returns of salmon into the Susitna and westside drainages. I sponsored amendments to the Department budget to research specific issues that had been identified as lacking and which are essential to your deliberations. I solicit your input to identify any and all additional areas where data is not up to what you need to make sound scientific based decisions.

PROPOSAL COMMENTS

I would like to preface my remarks by stressing that my objective is to get more fish into the natal waters for future generations. It is not productive to continue the "Cook inlet fish wars" nor will much long-lasting change occur until all sides come together and make a concerted effort to reach consensus. It is to all our benefit to do all we can to assure strong consistent runs for ourselves, our children and their children.

If the Department and Board do not establish well-based escapement goals for ALL Cook Inlet tributaries, my objective will not be sustainable over the long haul.

If the Board, in its allocative decisions, does not assure passage of salmon to meet mid-level escapement THROUGHOUT THE SYSTEM, we will be unnecessarily risking the continued production of those rivers and lakes.

Additionally, the State needs to address the high-seas intercept as well as documented habitat issues in our breeding and rearing waters and the Board should reinforce the need for scientific data that would establish the impact each has on the fishery. With this information, the Board would be much better equipped to render better informed allocative decisions.

Even though I am of the opinion that there are other issues which need addressing by the Board, the following are what I consider to be the most critical related to the UCI and are listed in order of my priorities.

 Establishing that meeting low end escapement of any and all species has much higher priority than avoiding exceeding high end for any species in the Cook Inlet drainages. Proposal 103 submitted by KRSA (page 107 of the green booklet) addresses this in a very concise and direct manner. For instance, before the Department is allowed to open up more harvesting of the Kenai sockeye, it must first conclude that such an opening is not going to jeopardize meeting the escapement goals of the Susitna sockeye or the Susitna coho.

I would actually advocate that the Department should be prohibited from utilizing its EO authority to address over-escapement of any of the species in Cook Inlet unless and until it



can demonstrate that the best scientific evidence strongly supports meeting the half-way level of any other species that may be expected to be harvested in that EQ opening. Halfway level would be the midpoint between the low and high end established escapement goals.

2) We all recognize that we have some very serious problems with the low returns in the Susitna drainage. Until we can successfully re-establish historic levels to these rivers and lakes, I would join with others in further restricting the drift gillnet fishery to the Expanded Kenal and Expanded Kasilof corridors. There are three proposals that approach this allocation issue differently. Of those three, Proposal 143 submitted by Tony Russ (found on page 156) raises an entirely different approach that is most likely too far reaching for the BOF at this meeting but is certainly something to consider for future meetings. Both Proposal 142 submitted by Dipnetters Association (found on page 154) and Proposal 138 submitted by MVF&G Advisory Comm (found on page 148) would restrict to these two corridors from June 19th through August 10th. This is the approach that I believe gives the best opportunity for northern bound coho and sockeye to pass through to their breeding waters. Neither of these proposals would allow fishing in Area 1 which is well known as a mixing zone and where a highly disproportionate amount of coho (92% by testimony of Pat Shields) were harvested during this past summer's restrictions.

There is also Proposal 139 submitted by MSB Fish& Wildlife Comm (found on page 149) but it differs in several important areas in that in that: (1) it restricts drift net fishing from July 16th (as opposed to June 19th) through July 31st (as opposed to August 10th); (2) it maintains Area 1 within the restricted area whereas both of the other proposals eliminate that fishing zone. The Board should not overlook that when the Department opened the Area 1 last season, the cohos were absolutely slammed! And (3) it maintains the tier system hinged upon the run of Kenai sockeye whild both of the other proposals eliminate this system and maintain the same fishing restriction throughout the entire time period regardless of the number of sockeye into the Kenai.

If a tiered system is allowed to remain in place, any loosening of the restrictions need to be based on sockeye and coho returns to the Susitna in addition to any other threshold levels such as Kenai sockeye. To reiterate my earlier advocacy, BEFORE any loosening of the drift net fishery restrictions, the Susitna sockeye and the Susitna coho need to be protected.

- 3) It is of paramount importance to protect and even enhance the personal use opportunites of our Southcentral families. Proposal 142 submitted by the Dipnetters Assoc. (found on page 154) puts them on par with protecting the coho to provide the sport and guided sport fishermen the same reasonable opportunity to harvest. It goes without saying that there are literally thousands of Alaskans that fill their freezers and smokers with these fish and rely upon them for their dinner table.
- 4) Habitat issues are clearly important and an integral part of the overall picture impacting our fisheries throughout the Cook inlet. Recently, a preliminary habitat assessment was done for the MSBF&G Comm and the data was of high value. Similar data would be most helpful to the Board so that it could judge the effectiveness of its allocative decisions. Proposal 235 submitted by Todd & Megan Smith (found on page 268) would expand on that but on a



more thorough examination throughout the area. I believe that this information will prove extremely valuable for the Board and the Department to manage and allocate the fish resources into the future.

 5) I believe it to be very important to establish escapement goals for all main tributaries in the Susitna drainage. Particular emphasis should be placed upon establishing coho, chlook and sockeye goals for such major tributaries as the Deshka, Yentna, Talkeetna, Little Su, Montana Willow and Alexander that have sustained historic major fishing opportunities for the sports fishery. I would also advocate that these goals reflect historic based calculations rather than figures predicated upon today's low returns.

In concluding, I would urge the Board to create a allocative system based upon Discreet Fishery management practices much like what was done in Bristol Bay. Having lived many years in rural Alaska, I am acutely aware of the importance that fish plays in Alaskan's life. If is no different there than it is in the Valley even though the fish may be put to a different use. "In-river" runs must be protected and that means not only quantity but also quality. Nobody is going to spend money and resources to go catch a 20 pound Kenai King or a 12 inch Susitna Coho.

Thank you for considering my input and thank you for your service. It is both noticed and appreciated. If there is any of you believe is needed to better do your job, please do call. While neither I nor my staff can break away for the full two weeks of your upcoming meeting, I as well as John Wood with my staff plan on attending at some point.

Best regards,

Sen. Mike Dunleavy